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JCT DESIGN & BUILD 2024 – CONTRACT DOCUMENTS REGISTER

I/ we hereby confirm that the documents listed below have been read, understood and recognised as the JCT Design & Build contract and appendices for the Tipner (Victory Quay) Phase 1 package of work.

1.0 ***Contract***
1.1 JCT DB Contract 2024 as amended (Trowers & Hamlins) – ***Hard Copy & Electronic File (Memory Stick)***

2.0 ***Employer's Requirements***
2.1 ER's Tipner Victory Quay Phase 1 ERs version T (Ph1 DB) – ***Electronic File (Memory Stick)***
2.2 ER's Rev T Appendices (where not in body of main document) – ***Electronic File (Memory Stick)***
2.3 25240 – 25.08.27 – Tipner ER's derogation schedule v3- ***Electronic File (Memory Stick)***

3.0 ***Contractor's Proposals***
3.1 2025.07.30 Victory Quay, Portsmouth – Contractors Proposals (Rev A) – ***Electronic File (Memory Stick)***

4.0 ***Contract Sum Analysis***
4.1 Victory Quay, Portsmouth (Phase 1) – CSA – Rev B – ***Hard Copy & Electronic File (Memory Stick)***
4.2 2025.08.13 Victory Quay, Portsmouth – Phase 1 Forecast Cashflow (Rev Org) - ***Hard Copy & Electronic File (Memory Stick)***

5.0 ***Drawings***
5.1 2025.08.13 Tipner East, Portsmouth – Schedule of Information – ***Hard Copy & Electronic File (Memory Stick)***
5.2 All drawings listed in document - 2025.08.13 Tipner East, Portsmouth – Schedule of Information (Architects, BCA, Civil, Structural) – ***Electronic File (Memory Stick)***

APPENDICES

A ***Site Plans***
22.152-HGP-XX-00-D-A-1073-P3-Site plan – residential extent – ***Hard Copy & Electronic File (Memory Stick)***
Logistics Plan 30-07.2025 Rev A – ***Hard Copy & Electronic File (Memory Stick)***
Storage Area Vacation Plan 30-7-2025 – ***Hard Copy & Electronic File (Memory Stick)***
Phase 1 Residential & Logistics Combined Plan 20-08-2025 - ***Hard Copy & Electronic File (Memory Stick)***
25048-HGP-XX-XX-D-A-1018-P02-Site Tenure Plan - ***Hard Copy & Electronic File (Memory Stick)***
Homes England Proposed Land Transfers (Boundary Areas) 65828_001_Rev A - ***Hard Copy & Electronic File (Memory Stick)***

B ***Contract Programme***
Contract programme 17-7-2025 - ***Hard Copy & Electronic File (Memory Stick)***

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C ***Completion Date Drawing***
Completion Date Drawing 07-07-2025 - ***Hard Copy & Electronic File (Memory Stick)***

D ***Draft JCT DB 2024*** – For Reference Only

Signatures

Contractor – PMC Construction & Development Services Ltd

Director Signature -

Witness Signature – C Marchant

Employer – Vestal Developments Ltd

Director Signature -

Witness Signature -

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dated 5TH SEPTEMBER 2025

Vestal Developments Limited

and

PMC Construction and Development Services Limited

JCT Design and Build Contract, 2024 edition as amended

in relation to the development of 183 homes across Blocks F, L, G and H and House Blocks 2, 3 and 5 with associated hard and soft landscaping and supporting on and off-site infrastructure (Phase One) at Victory Quay, Tipner, Portsmouth

Trowers & Hamlins LLP
3 Bunhill Row
London
EC1Y 8YZ
t +44 (0)20 7423 8000
f +44 (0)20 7423 8001
www.trowers.com

trowers & hamlins

Agreement

dated

Parties

(1) **Vestal Developments Limited** (registration number 05509078) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB (the **Employer**, which expression shall include its successors in title and assigns); and

(2) **PMC Construction and Development Services Limited** (company number 01675790) whose registered office address is 80a High Street, Cosham, Portsmouth, Hampshire, United Kingdom, PO6 3FL (the **Contractor**)

Recitals

First Following the issue of a Transparency Notice 2025/S 000-016784 and a Contract Award Notice 2025/S 000-016789 published in the Find a Tender Service on 24 April 2025 published by VIVID Housing Limited (**VIVID**) for an on behalf of VIVID and the Employer, the Employer wishes to have the design and construction of 183 homes of mixed tenure to include houses and apartments across blocks F, G H & L and house blocks 1,2,3 & 5 along with associated landscaping and infrastructure to include the spine road, secondary roads, drainage, coastal path and bird conservation area carried out at Victory Quay, Tipner, Portsmouth (the **Works**) in accordance with the conditions and schedules annexed to the JCT Design and Build Contract (2024 edition) subject to the amendments and insertions set out in Appendix 1 to this Agreement (hereinafter together called the **Conditions**) and the Employer has supplied to the Contractor documents showing and describing or otherwise stating its requirements (the **Employer's Requirements**). This Contract is entered into pursuant to section 41 and paragraph 6 of Schedule 5 to the Procurement Act 2023.

Second In response to the Employer's Requirements the Contractor has supplied to the Employer:

- documents showing and describing the Contractor's proposals for the design and construction of the Works (the **Contractor's Proposals**); and
- an analysis of the Contract Sum (the **Contract Sum Analysis**).

Third The Contractor has examined the Employer's Requirements and confirms:

1. subject to the Conditions, is satisfied that the Contractor's Proposals and the Contract Sum Analysis meet the Employer's Requirements; and
2. the Contractor shall be fully responsible in all respects for the design of the Works (whether contained in the Employer's Requirements or the Contractor's Proposals) and design development, selection of goods and materials and satisfaction of performance specifications.

Fourth For the purposes of the Construction Industry Scheme (**CIS**) under the Finance Act 2004 the status of the Employer is, as at the Base Date, that stated in the Contract Particulars.

Fifth The division of the Works into Sections is shown in the Employer's Requirements or in such other documents as are identified in the Contract Particulars.

Sixth Where so stated in the Contract Particulars this Contract is supplemented by the Framework Agreement identified in those particulars.

Seventh Whether any of the Supplemental Provisions 1 to 10 apply is stated in the Contract Particulars.

Articles

Now it is hereby agreed as follows:

Article 1 Contractor's obligations

The Contractor shall complete the design for the Works and carry out and complete the construction of the Works in accordance with the Contract Documents.

Article 2 Contract Sum

The Employer shall pay the Contractor at the times and in the manner specified in the Conditions the VAT exclusive sum of [redacted] (the **Contract Sum**) or such other sum as becomes payable under this Contract.

Article 3 Collaborative Working

The Parties shall work with each other and with the other project team members in a co-operative and collaborative manner, in good faith and in a spirit of trust and respect. To that end, each shall support collaborative behaviour and address behaviour which is not collaborative.

Article 4 Employer's Agent

For the purposes of this Contract the Employer's Agent is Rund Partnership Limited of 16 East Links, Tollgate Chandlers Ford, Eastleigh, Hampshire, SO53 3TG or such other person as the Employer nominates in its place. Save to the extent that the Employer may otherwise specify by written notice to the Contractor the Employer's Agent shall have full authority to receive and issue applications, consents, instructions, notices, requests or statements and otherwise to act for the Employer under any of the Conditions.

Article 5 Employer's Requirements and Contractor's Proposals

The Employer's Requirements, the Contractor's Proposals and the Contract Sum Analysis are those referred to in the Contract Particulars (except to the extent that the Contractor's Proposals are developed and completed after the date of this Contract)..

Article 6 CDM Regulations - Principal Designer and Principal Contractor

For the purposes of the CDM Regulations:

The Principal Designer is Scott White Hookins LLP or such replacement as the Employer at any time appoints to fulfil that role.

The Principal Contractor is the Contractor or such replacement as the Employer appoints at any time to fulfil that role.

The Contractor warrants to the Employer that it has the necessary skills, knowledge and experience to undertake the roles of Principal Designer and Principal Contractor as defined in the CDM Regulations (as the case may be) and has sufficient resources and will allocate those resources to the fulfilment of its duties as Principal Designer and

Principal Contractor.

Article 7 Building Regulations – Principal Designer and Principal Contractor

For the purposes of the Building Regulations:

The Principal Designer is the Contractor or such replacement as the Employer at any time appoints to fulfil that role.

The Principal Contractor is the Contractor or such replacement as the Employer appoints at any time to fulfil that role.

The Contractor warrants to the Employer that it has the necessary skills, knowledge and experience to undertake the roles of Principal Designer and Principal Contractor as defined in the Building Regulations (as the case may be) and has sufficient resources and will allocate those resources to the fulfilment of its duties as Principal Designer and Principal Contractor.

Article 8 Adjudication

If any dispute or difference arises under this Contract, either Party may refer it to adjudication in accordance with clause 9.2.

Article 9 Legal proceedings

Subject to Article 8, the English courts shall have exclusive jurisdiction over any dispute or difference between the Parties which arises out of or in connection with this Contract.

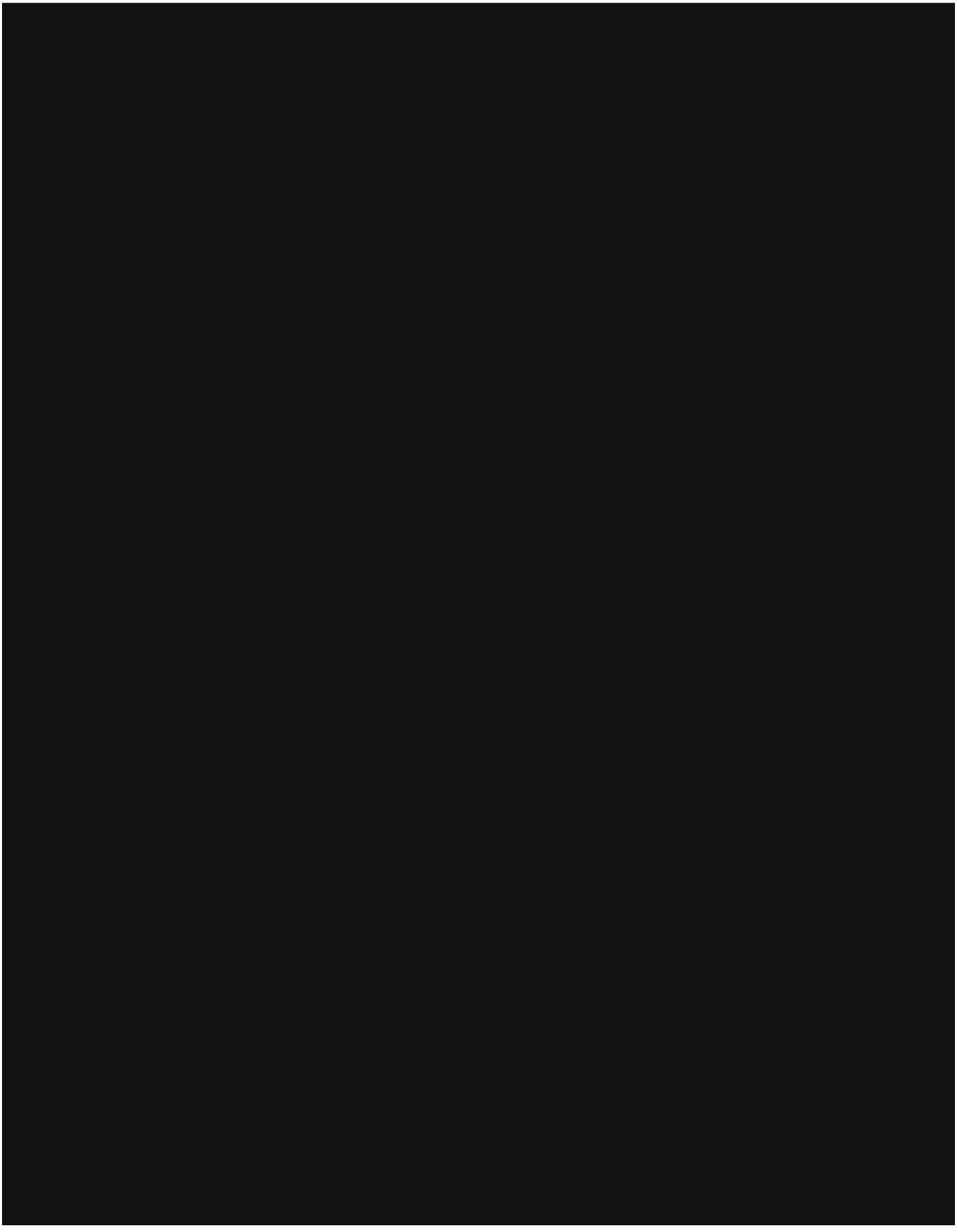
Article 10 Retrospective effect and letters of intent

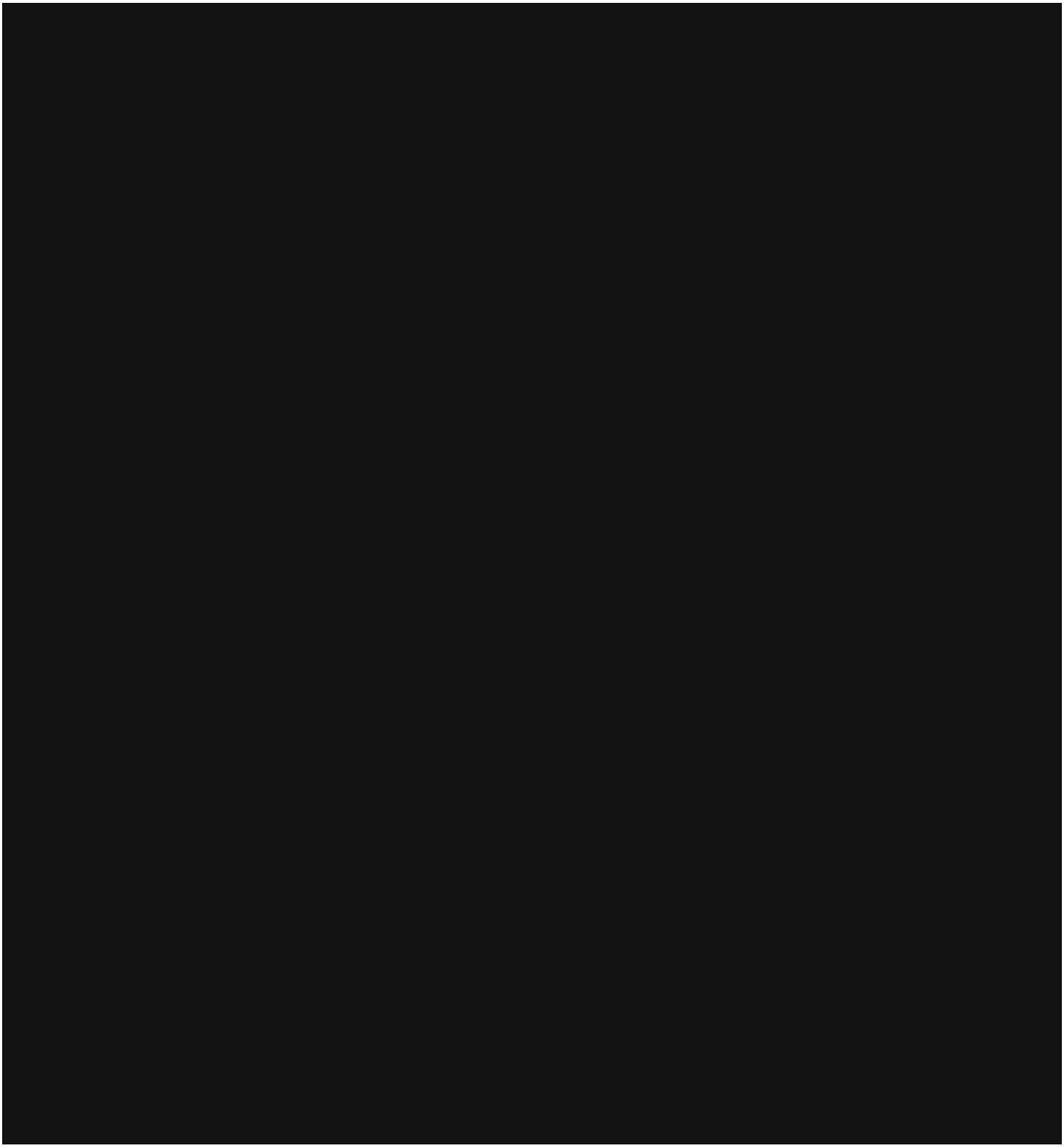
Notwithstanding the date of this Contract it shall have effect as if it had been executed upon the date the Contractor first performed any work (including design enabling, temporary or other preliminary demolition or permanent works) or activities in relation to the Works (whether under the pre – construction services agreements dated 19 May 2025 the first letter of intent dated 6 August 2025 and/or the second letter of intent dated on or around the date of this Contract or otherwise) and the Enabling Works and accordingly the duties and obligations contained in this Contract shall be deemed to have applied to the carrying out of any of those works and/or the Works and/or the Enabling Works prior to the date of this Contract. All payments made in respect of works carried out prior to the date of this Contract shall be treated as payments on account of sums due under this Contract.

Article 11 Enabling Works

The Contractor has undertaken enabling, remediation and design works on and around the site of the Works pursuant to a pre-construction services agreement dated 16 May 2022 made between Vivid Housing Limited and the Contractor (the **Enabling PCSA)** in respect of the remediation of the site (the **Enabling Works**). The Contractor shall take full liability for the Enabling Works as though the Enabling Works had been carried out by the Contractor as part of the Works pursuant to this Contract and the Contractor shall not be entitled to any adjustment to the Contract Sum, extension of time and/or

loss and expense in respect of any defect or issue arising out of the Enabling Works.





Contract Particulars

Clause	Subject	
Fourth Recital and clause 4.5	Construction Industry Scheme (CIS)	Employer at the Base Date is a 'contractor' for the purposes of the CIS
Fifth Recital	Description of Sections (if any) *(if not shown or described in the Employer's Requirements, state the reference numbers and dates or other identifiers of documents in which they are shown.)*	Section 1 – PCSA works Section 2 – Infrastructure/Bird Conservation Area Section 3 – Housing blocks 1 Section 4 – Housing blocks 2 Section 5 – Housing blocks 3 Section 6 – Housing blocks 5 Section 7 – Block F Section 8 – Block G Section 9 – Block H Section 10 – Block L
Sixth Recital	Framework Agreement (if applicable) *(State date, title and parties)*	Not applicable
Seventh Recital and Part 1 of Schedule 2	Supplemental Provisions – part 1 *(Where neither entry against one of the Supplemental Provisions 1 to 3 below is deleted that Supplemental Provision does not apply)*	
	Named Sub-Contractors	Supplemental Provision 1 does not apply
	Valuation of Changes – Contractor's estimates	Supplemental Provision 2 applies
	Loss and expense – Contractor's estimates	Supplemental Provision 3 applies
Seventh Recital and Part 2 of	Supplemental Provisions – Part 2 *(Where neither entry against one of the Supplemental Provisions 4 to 10 below is*	

Clause	Subject	
Schedule 2	*deleted that Supplemental Provision applies)*	
	Acceleration Quotation	Supplemental Provision 4 applies
	Health and safety	Supplemental Provision 5 applies
	Cost savings and value improvements	Supplemental Provision 6 applies
	Performance indicators and monitoring	Supplemental Provision 7 applies
Article 4	Employer's Requirements *(State the reference numbers and dates or other identifiers of the relevant documents)*	as appended to this Agreement
Article 4	Contractor's Proposals *(State the reference numbers and dates or other identifiers of the relevant documents)*	as appended to this Agreement
Article 4	Contract Sum Analysis *(State the reference numbers and dates or other identifiers of the relevant documents.)*	as appended to this Agreement
1.1	Base Date	17 July 2025
1.1	BIM Protocol (where applicable) *(State title, edition, date or other identifiers of relevant documents)*	Not applicable
1.1	Sections: Dates for Completion of Sections	Section 1 : [redacted] Section 2 : [redacted] Section 3 : [redacted] Section 4 : [redacted] Section 5 : [redacted] Section 6 : [redacted] Section 7 : [redacted] Section 8 : [redacted] Section 9 : [redacted] Section 10 : [redacted]

Clause	Subject	
1.7.3	Addresses for service of notices etc. by the Parties *(if a Party's address is not stated subject to clause 1.7.3, it shall be that shown at the commencement of the Agreement.)* The respective email addresses for the Parties are as stated or, subject to 1.7.3, such other email address as each Party may notify to the other from time to time	Employer: Peninsular House, Wharf Road, Portsmouth PO2 8HB Contractor: 80a High Street, Cosham, Hampshire PO6 3DR Employer : [redacted] Contractor: [redacted]
2.3	Sections: Dates of Possession of Sections	Section 1 : the date of this Agreement Section 2 : the date of this Agreement Section 3 : the date of this Agreement Section 4 : the date of this Agreement Section 5 : the date of this Agreement Section 6 : the date of this Agreement Section 7 : the date of this

Clause	Subject	
		Agreement Section 8 : the date of this Agreement Section 9 : the date of this Agreement Section 10 : the date of this Agreement
2.4	Sections: deferment of possession of Sections	Clause 2.4 does not apply
2.29.2	Sections: rate of liquidated damages for each Section	Section 1 : [redacted] Section 2 : [redacted] Section 3 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 4 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 5 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 6 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 7 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 8 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 9 : £[redacted] per week for the first six weeks of delay and £[redacted] per week or part thereof thereafter Section 10 : £[redacted] per week for the first six weeks of delay and £[redacted]

Clause	Subject	
		per week or part thereof thereafter
2.34	Sections: Section Sums	Section 1 : [redacted] Section 2 : £[redacted] Section 3 : £[redacted] Section 4 : £[redacted] Section 5: £[redacted] Section 6 : £[redacted] Section 7 : £[redacted] Section 8 : £[redacted] Section 9 : £[redacted] Section 10 : £[redacted]
2.35	Sections: Rectification Periods	Section 1 : 24 months Section 2 : 24 months Section 3 : 24 months Section 4 : 24 months Section 5 : 24 months Section 6 : 24 months Section 7 : 24 months Section 8 : 24 months Section 9 : 24 months Section 10 : 24 months from the date of practical completion of each Section
2.40	New Homes Warranty Provider	Premier or such other provider of new home warranties with the following options included: (a) insolvency cover

Clause	Subject	
		(b) professional fees cover (c) extended period (12 year cover)
4.2, 4.12 and 4.13	Fluctuations Provision	No Fluctuations provision applies
4.6	Advance payment	Clause 4.6 does not apply
4.6	Advance Payment Bond *(where an advance payment is to be made, an advance payment bond is required unless stated that it is not required)*	An advance payment bond is not required
4.7.1	Method of Payment – alternatives *(if no Alternative is selected, Alternative B applies)*	periodically in accordance with Alternative B (clause 4.13)
	Alternative A: Stage Payments	Not applicable
4.7.2	Interim Payments - Interim Valuation Date *(the dates apply for each Alternative: if no date is stated, the first Interim Valuation Date is one month after the Date of Possession)*	The first Interim Valuation Date is [*insert date one month from the date of contract*] and thereafter the same date in each month or the nearest Business Day in that month
4.15.4	Listed Items – uniquely identified *(Delete the entry if no bond is required)*	Not applicable
4.15.5	Listed Items – not uniquely identified *(Delete the entry if clause 4.15.5 does not apply)*	Not applicable
4.17	Contractor's Retention Bond *(Not applicable unless stated to apply with relevant particulars given below.)*	Clause 4.17 does not apply
4.18.1	Retention Percentage *(The percentage is 5 per cent unless a different rate is stated; if no retention is required, insert 'Nil' or '0')*	Three (3) per cent

Clause	Subject	
4.21.6 and 4.21.7	Relevant Matters (*In the case of each of the two clauses, where neither entry against the clause is deleted, that clause does not apply*)	Clause 4.21.6 (*the effects of an epidemic on the execution of the Works etc.*) does not apply Clause 4.21.7 (*exercise of a statutory power etc.*) does not apply
5.5	Daywork	The Percentage Additions to each section of the prime cost or, if they apply in respect of labour, the All Inclusive Rates are set out in the following documents: None applicable
6.4.1	Contractor's Public Liability insurance: injury to persons or property – the required level of cover is not less than	£10,000,000 for any one occurrence or series of occurrences arising out of one event
6.5.1	Insurance – liability of Employer	Not required
6.7 and Schedule 3	Works insurance – Insurance Option applicable	Schedule 3: Insurance Option A applies
	Percentage to cover professional fees *(If no other percentage is stated, it shall be 15 per cent.)*	15 per cent
	Where Insurance Option A applies and cover is to be provided under the Contractor's Annual Policy (paragraph A.2) the annual policy renewal date is *(as supplied by the Contractor)*	31 October
	Where Insurance Option C applies, paragraph C.1 (unless other stated, paragraph C.1 applies. If it is not to apply, state the reference number and date or other identifier of the replacement document(s)	Not applicable
6.10 and Schedule 3	Terrorism Cover – details of the required cover unless otherwise	Are set out in the following documents:

Clause	Subject	
	stated, Pool Re Cover is required	Pool Re Cover is required
6.15	Professional indemnity insurance	
	Level of cover	Amount of indemnity required relates to claims or series of claims arising out of one event and is £10,000,000 (ten million pounds)
	Sub-limits within the overall level of cover	Not applicable
	Specific exclusions listed in the relevant schedule(s) (or other policy document(s)) to the relevant policy	Not applicable
	Expiry of required period of Professional Indemnity insurance	the period for which the Contractor is liable under this Contract pursuant to clause 1.14
6.17	Joint Fire Code	The Joint Fire Code does not apply
	If the Joint Fire Code applies, state whether the insurer under Insurance Option A, B or C (paragraph C.2) has specified that the Works are a 'Large Project	Yes
6.20	Joint Fire Code – amendments/revisions *(The cost shall be borne by the Contractor unless otherwise stated.)*	The cost, if any, of compliance with amendment(s) or revisions(s) to the Joint Fire Code shall be borne by the Contractor
7.3.1	Performance bond or guarantee from bank or other approved surety *(If this entry is not completed or the required form is not specified, a performance bond or guarantee is not required)*	Three performance bonds are required, one in respect of the Section 7, one in respect of Section 8 and one in respect of Section 9
	The required form of the bond or guarantee is set out in	Appendix 2
	Initial value	10 per cent of the applicable

Clause	Subject	
		Section Sum
	Period of validity – if not specified in the required form, the expiry date of the performance bond or guarantee is to be	the date of Practical Completion in respect of the applicable Section of the Works
	Reduction in value – if not specified in the required form and if expiring later than the date of practical completion of the Works, the percentage reduction in the initial value on that date is	not applicable
7.3.2	Guarantee from the Contractor's parent company	is not required
	Parent company's name and registration number	not applicable
	The required form of the guarantee is set out in	not applicable
7.4	Third Party Rights and Collateral Warranties – details of the requirements for the grant by the Contractor of P&T Rights, Funder Rights and/or in respect of the Works, either as third party rights or by collateral warranties ("Rights Particulars") are set out below:	

Rights to be granted by Contractor

Identity of Beneficiaries		Mode of Grant
Purchasers/Tenants (P&T)	To be confirmed	by Collateral Warranty
(specify by name or category)		by Collateral Warranty
		by Collateral Warranty
Funder (F)	Homes England	by Collateral Warranty
	Any additional funders to be confirmed	by Collateral Warranty

8.9.2	Period of suspension *(If none is stated, the period is 2 months)*	2 months
8.11.1.1 to 8.11.1.7	Period of suspension *(If none is stated, the period is 2 months)*	2 months

Clause	Subject	
9.1	Notification and negotiation of disputes	The respective nominees of the Parties are Employer's nominee: [redacted] Contractor's nominee: [redacted] Or such replacement as each Party may notify to the other from time to time
9.3.1	Adjudication	The Adjudicator is not named
	Nominating body – where no Adjudicator is named or where the named Adjudicator is unwilling or unable to act (whenever that is established) the nominating body is (*If a nominating body has not been selected from those listed opposite or another body chosen and inserted, the nominating body shall be one of the bodies listed opposite selected by the Party requiring the reference to adjudication.)*	The Royal Institution of Chartered Surveyors

This Agreement has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it

Signed as a deed by
Vestal Developments Limited
acting by , director
in the presence of:

Director

Witness signature:

name:

address:

occupation:

Executed as a deed by

PMC Construction and Development

Services Limited acting by

a Director and its Secretary/two Directors:

Director Steve Cripps

Director/~~Secretary~~ Matthew McGee

Appendix 1

Amendments

Section 1 – definitions and interpretation

Clause 1.1

Delete the definitions of **Agreement, Conditions**, **Development Control Requirements**, **Employer, Finance Agreement**, **Funder**, **Purchaser**, **Principal Contractor, Principal Designer**, **Statutory Requirements**, **Tenant**, **VAT** and **Works**

Insert:

"**Access Licence** : means the access licence to carry out works between (1) Vivid Housing Limited and (2) Vestal Developments Limited to be entered into on or around the date of this Agreement.

Adoptable Works : that part of the Works which is or are required to be adopted and maintainable at public expense and any works which are ancillary to those works.

Agreement : the Agreement to which these Conditions are annexed including its Recitals, Articles and Contract Particulars and appendices 1 to 5.

Associated Person : a person (including an employee, agent or subsidiary) who performs services for or on the Contractor's behalf.

Best Environmental Practice : best practice as generally followed by design and build contractors skilled and experienced in the remediation and redevelopment of contaminated sites and shall be deemed to include (as a minimum) compliance with all Environmental Laws.

Bribery Act : the Bribery Act 2010.

Boundary Areas : the areas identified on the plan annexed to this Agreement at Appendix 8.

Building Control Applications : in respect of the planning, design, construction and completion of the Works, the applications to be made and approvals to be received by the Employer to and from the Building Safety Regulator and/or building control which are required by the Building Safety Legislation and which are necessary for the carrying out and completion of the Works in accordance with the Building Safety Legislation.

Building Liability Order : a building liability order as defined in s.130 of the Building Safety Act 2022.

Building Safety Legislation : insofar as relevant to the Works, the Building Safety Act 2022 and any other associated legislation or regulations supplementing or implementing that Act (including for the avoidance of doubt the Building Act 1984), together with any guidance, regulations, codes of practice or directions issued by the Building Safety Regulator, the Health and Safety Executive, The Secretary of State for Levelling Up, Housing and Communities or any of their respective statutory successors carrying out a similar regulatory function.

Building Safety Regulator : the regulatory body established pursuant to Part 2 of the Building Safety Act 2022 who carries out regulatory functions under the Building Safety Legislation.

Competency Regulations : the Building Regulations etc. (Amendment) (England) Regulations 2023.

Competency Requirements : that the Contractor, any sub-consultants, any sub-contractors and any suppliers (including the individuals employed or appointed by them to carry out any works or services in relation to the Works) have the skills, knowledge, experience, behaviours and capabilities required to properly and competently perform the functions of a Dutyholder in relation to the Works in accordance with the Competency Regulations, together with any further competency standards published from time to time by any authorised body, including without limitation, the British Standards Institution.

Conditions : the conditions as defined in the First Recital in the Agreement, as amended by the Agreement.

Contract Award Notice means the notice that the Employer published in the Find a Tender Service pursuant to regulation 50 of the PA23;

Consents : the planning permissions referred to in the Employer's Requirements or any other planning permissions relating to the Works, approval of reserved matters and all details pursuant thereto, building regulation approval, fire officer approval and any other permissions, approvals, authorisations, consents, exemptions, permits, registrations, road closures, certificates and/or licences that may be necessary pursuant to the Statutory Requirements or otherwise to the carrying out of the Works and if they are destroyed or damaged, the reinstatement of the Works.

Considerate Constructors Scheme : means the "Code of Considerate Practice" promoted by the construction industry a copy of which is to be found on the Considerate Constructors Scheme website.

Construction Products Regulations : the Construction Products Regulations 2013 (SI 2013/1387), the Construction Products Regulation (305/2011/EU), the Construction Products Regulations 1991 (SI 1991/1620) and the Construction Products Directive (89/109/EC) or such other regulations for or scheme of product compliance, marking and designation as may amend or replace or succeed the same after 31 December 2020.

Corrupt Activity : extortion, fraud, deception, collusion, cartels, abuse of power, embezzlement, trading in influence, money-laundering or any similar activity, bribery and/or corruption including, without limitation, any activity, practice or conduct which would or could constitute an offence under sections 1, 2 or 6 of the Bribery Act and/or would constitute a UK or foreign tax evasion offence or UK or foreign tax evasion facilitation offence under sections 45 and 46 of the Criminal Finances Act whether in connection with the Works or otherwise.

Covid-19 Related Event: any localised or widespread occurrence of an infectious disease caused by any pathogen, whether bacterial, viral, or any other biological or natural agent which results, directly or indirectly, from the strain of coronavirus known as coronavirus infectious disease 2019 (Covid-19) and/or the causative virus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), including any mutations of Covid-19 and/or SARS-CoV-2.

Covid-19 Related Matter: any of the following matters arising after the Base Date from a Covid-19 Related Event:

(a) the implementation of mandatory public health measures by any government, local, national or supranational agency, authority, court, inspectorate, minister, ministry, regulator, official or public or statutory person (save where such measures are occasioned by any act, omission or default of the Contractor) which result in:

(i) the inability of the Contractor to obtain sufficient labour or supervision required for such labour; or

(ii) unavoidable site closure, restricted access or amended working methods;

(b) material shortages of plant or materials due to delays in their manufacture, importation or transportation

PROVIDED THAT the Contractor proves that the Covid-19 Related Matter could not reasonably have been foreseen by either party or, in the case of the Contractor, by any competent design and build contractor experienced in the carrying out of works for projects of a similar size, scope, value, character and complexity to the Works, as at the Base Date.

Criminal Finances Act : the Criminal Finances Act 2017.

Design Sub-Contractor : any sub-contractor or sub-consultant whose obligations include a contribution to the design of the Works including, without limitation, any sub-consultants undertaking services that are the responsibility of the Principal Designer under either the CDM Regulations and/or the Building Regulations.

Development Control Requirements : any statutory provisions and any decision of a relevant authority thereunder which controls the right to develop the site and any statutory codes of practice and statutory guidance notes.

Data Protection Legislation : all applicable data protection and privacy legislation in force from time to time in the UK including but not limited to the General Data Protection Regulation ((EU) 2016/679) (the **GDPR**); the UK GDPR (as such term is defined in the Data Protection, Privacy and Electronic Communications (Amendments etc.) (EU Exit) Regulations 2019) (such legislation being referred to in this Agreement as the **UK GDPR**), the Data Protection Act 2018; the Privacy and Electronic Communications Directive 2002/58/EC (as updated by Directive 2009/136/EC) and the Privacy and Electronic Communications Regulations 2003 (SI 2003/2426), along with any associated guidance and Codes of Practice, in each case as may be amended, updated or supplemented from time to time.

Data Subject's Rights : any rights of individuals under the Data Protection Legislation.

Data Controller, Data Subjects, Personal Data and **Processing** shall have the meaning as provided in the Data Protection Legislation.

Dutyholder : the function of a dutyholder as prescribed under the Competency Regulations.

Employer : the person named as Employer in the Agreement and their successors in title and assigns.

Environment : all and any of the following media being water, air or land (wherever situated) as well as any eco-systems; organisms, including (without limitation) humans, and their property, including natural and man-made structures.

Environmental Laws : all rules of common law, principles of equity and rules of any court or other tribunal of competent jurisdiction, all statutes, standards or codes of practice that have the force of law, all notices, directions, impositions or requirements of any competent authority relating to the protection of human health and safety, the protection of property and proprietary rights or the protection of the Environment or the generation, transportation, storage, use, treatment or disposal of Hazardous Substances.

Flood Risk Activity Permit : the permit issued to the Contractor by the Environment Agency pursuant to the Environmental Permitting (England & Wales) Regulations 2016 dated 23 July 2024 in respect of the construction of the sea defence wall and the ecological platform along the foreshore at the site of the Works.

Funder : Homes England and any other person (whether acting for itself and/or where leading for a syndicate of persons as agent and trustee for such persons) who is providing or shall provide interim or other finance for the carrying out of the Works itself and/or for the acquisition of the Site.

Good Industry Practice : means that degree of skill, care, prudence and foresight and operating practice which would reasonably and ordinarily be expected from time to time of a skilled and experienced contractor (engaged in the same type of undertaking as that of the Contractor) under the same or similar circumstances.

Grant Funding Agreement : means the "Brownfield, Infrastructure and Land Grant Agreement" dated 28 March 2025 and made between (1) Homes England and (2) Vivid Housing Limited.

Group Company : means any subsidiary company or holding company of the Employer or another subsidiary or holding company of such company as subsidiary and holding company are defined in section 1159 Companies Act 2006.

Hazardous Substance : means waste (as defined in the Environmental Protection Act 1990) and any substance whatsoever in any form (whether alone or in combination with any other substance) which is capable of causing harm to man or to any living organism supported by the Environment or of damaging the Environment or public health or welfare or the presence of which would be a breach of any Environmental Law.

HMRC : means HM Revenue & Customs.

Homes England : means the Homes and Communities Agency (trading as Homes England).

Human Trafficking Statement : a statement made in accordance with section 54 of the Modern Slavery Act 2015 together with any guidance issued by the Secretary of State.

KPIs : the key performance indicators (if any) included in the Employer's Requirements.

Manufacturers' and Suppliers' Warranties : warranties in favour of the Employer from manufacturers and suppliers of materials and equipment installed as part of the Works as particularised in the Employer's Requirements.

Marine Management Licence : the licence issued to the Contractor by the Marine Management Organisation pursuant to the Marine and Coastal Access Act 2009 dated 20 December 2024 in respect of the construction of the sea defence wall, the bird conservation area and the installation of protection to the East Barge at the site of the Works.

Modern Slavery Legislation : the legislation referred to in section 54 of the Modern Slavery Act 2015.

Moral Rights : moral rights under Chapter IV Part 1 Copyright Designs and Patents Act 1988.

New Homes Warranty Documents : documents offering cover under the warranty operated by the New Homes Warranty Provider comprising the offer of cover, the acceptance of cover and all other documentation provided by the New Homes Warranty Provider.

New Homes Warranty Provider : the provider stated in the Contract Particulars.

Order : means the Value Added Tax (Section 55A) (Specified Services and Excepted Supplies) Order 2019 (SI 2019 No. 892).

PA23 : means the Procurement Act 2023.

Planning Responsibility Matrix : the planning responsibility matrix included in the Employer's Requirements.

Practical Completion : takes place when the Works or Section are complete for all practical purposes pursuant to clause 2.27 and, in particular:

- the relevant Statutory Requirements have been complied with and any necessary consents or approvals obtained;
- neither the existence nor the execution of any minor outstanding works would affect their use;
- any stipulations identified in the Employer's Requirements as being essential for Practical Completion to take place have been satisfied;
- as applicable for the Works or the relevant Section, any certification or approval for compliance with the Building Safety Legislation has been obtained; and
- as applicable for the Works or the relevant Section, the relevant Third Party Agreements have been complied with including (without limitation) the practical completion requirements set-out in the Grant Funding Agreement,

and Practically Complete shall be construed accordingly.

Principal Contractor: the Contractor or other contractor named in Article 6 and 7 or any successor appointed by the Employer.

Principal Designer: the entity named in Article 6 and 7 or any successor appointed by the Employer.

Purchaser : a person who has acquired or has agreed to acquire or may later acquire or agree to acquire a freehold or long leasehold interest in the whole or any part of the Site (and/or any premises constructed or to be constructed on the Site) and "Purchasers" shall be construed accordingly.

Reverse Charge : means, in relation to a supply, that under section 55A(6) of the Value Added Tax Act 1994 it is for the recipient, on the supplier's behalf, to account for and pay VAT on the supply and not for the supplier.

Section 278 Agreement : means the agreement or agreements in respect of highways relating to the Works to be entered into by the Employer in respect of the Works.

Site : means the site as set-out in the Site Plan provided that it is acknowledged that certain areas within the Site shall be used for storage and other ancillary purposes and it is agreed that (by agreement of the Parties) these parts of the Site may be released back to the Employer by the Contractor during the carrying out of the Works.

Site Plan : means the site plan annexed to this Agreement at Appendix 7.

Statutory Agreements: an agreement pursuant to section 38 and/or 278 Highways Act 1980 and/or an agreement pursuant to section 104 Water Industry Act 1991 and/or an agreement pursuant to section 106 Town and Country Planning Act 1990 and/or section III Local Government Act 1972.

Statutory Requirements : any Acts of Parliament and any instruments, rules, orders, regulations notices, directions, bye-laws, permissions and plans for the time being made under or deriving validity from them (including any which although they have not yet come into effect whether in whole or in part will or may do so as to affect the Works and/or the buildings and structures the subject of the Works once built), any retained EU legislation legally enforceable in England and Wales, and any rules, regulations, building regulations, orders, bye-laws or codes of practice of any local or other competent authority or of any statutory undertaker which has jurisdiction with regard to the Works or with whose systems the same are or will be connected including Development Control Requirements.

Supply : means a supply made for VAT purposes under or in connection with this Agreement by the Contractor and "Supplies" shall be construed accordingly.

Tenant : a person who has taken or has agreed to take or may later take or agree to take a lease of the whole or any part of the Site (and/or any premises constructed or to be constructed on the Site) and "Tenants" shall be construed accordingly.

Third Party Agreements : the Section 278 Agreement, the Flood Risk Activity Permit, the Marine Management Licence, the Grant Funding Agreement, the Access Licence and any and all other agreements relating to or affecting the Works or the completed Works (including the execution of the Works and their design) or any part of the Works which have been entered into by the Employer and/or any of the Employer's associated group, subsidiary or holding companies (as defined by section 1159 Companies Act 2006 (as re-enacted, replaced or substituted)) before the date of this Contract and disclosed to the Contractor on or before the date of this Contract including any agreements referred to as such in the Employer's Requirements.

Transparency Notice means the notice published by the Employer to the Find a Tender Service in accordance with section 44 of the PA23.

UK Designated Standards : means all applicable standards or guidance applicable to the Works and in force from time to time in the UK including but not limited to the Construction Products Regulations and the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 (SI 2019/465) as may be amended, updated or supplemented from time to time.

VAT : means value added tax chargeable under the Value Added Tax Act 1994 and any similar or replacement tax.

Clause 1.3

Delete clause 1.3 and insert:

"1.3.1 The Agreement and these Conditions are to be read as a whole. Subject to clause 2.14 in the event of any inconsistency occurring between Appendix 1 to the Agreement, the Agreement, the Contract Particulars, the clauses set out in sections 1 to 9 of the printed JCT Design & Build Contract 2024 edition and the schedules thereto, the Supplemental Provisions, the Employer's Requirements, the Contractor's Proposals and the Contract Sum Analysis, the contents of the document appearing earlier in the preceding order shall prevail over any document appearing later in the preceding order.

1.3.2 This Contract represents the entire agreement between the Employer and the Contractor and supersedes any previous agreement or understanding between them in relation to the Works (including, but not limited to any letter of intent or pre-construction services agreement). In entering into this Contract, the Contractor does not rely upon any antecedent or collateral representation or promise made by or on behalf of the Employer, and (in the absence of fraud) the Contractor shall not have any claim, right or remedy (including any claim for rescission or damages for innocent or negligent misrepresentation) arising out of any such antecedent or collateral representation or promise."

Clause 1.6

Delete clause 1.6 and insert:

"1.6.1 Other than such rights of any Purchasers, Tenants and/or Funders and/or any of the Employer's associated group, subsidiary or holding companies as take effect pursuant to clauses 7A, 7B and/or 1.6.2 respectively and such rights as take effect pursuant to clause 1.15 nothing in this Contract confers or purports to confer any rights on any person pursuant to the Contracts (Rights of Third Parties) Act 1999.

1.6.2 The parties agree that any of the Employer's associated group, subsidiary or holding companies (as defined by section 1159 Companies Act 2006 (as re-enacted, replaced or substituted)) may in its own right enforce the provisions of this Contract.

1.6.3 Without limiting any other rights it may have the Contractor shall not have available to it by way of set off or counterclaim against any claim brought by any of the Employer's associated group, subsidiary or holding companies (as referred to in clause 1.6.2) those matters that would be available to the Contractor by way of set off or counterclaim against any claim brought by the Employer.

1.6.4 The rights of the Employer's associated group, subsidiary or holding companies (as referred to in clause 1.6.2) shall be subject to the same conditions, limitations and exclusions as apply to the Employer's rights under this Contract."

Clause 1.7

Delete and substitute:

1.7.1 All notices, requests, demands, approvals, consents and other communications under this Contract (**Notices**) shall be in writing.

1.7.2 It is hereby acknowledged and agreed by the Parties that, save in respect of notification pursuant to the provisions of clauses 8 (suspension/termination) and 9 (disputes) where notification shall be via both email and Recorded Signed for or Special Delivery post, the Parties intend to use e-mail which shall be deemed for the purposes of clause 1.7.1 to constitute notice in writing.

1.7.3 The addresses and contact details for the purposes of service of Notices are identified in the Contract Particulars.

1.7.4 Notices and/or communications sent by:

(a) Recorded Signed for or Special Delivery post shall be deemed to have been given or served on the second working day after the date of delivery/posting;

(b) email shall be deemed to have been given or served on the date of transmission if sent/served on a working day before 1600 hours on the date of service/transmission and if sent/transmitted on a non-working day and/or after 1600 hours, on the next working day after the date of transmission save in respect of Notices issued by both email and Recorded Signed for or Special Delivery post (pursuant to clause 1.7.2) where, notwithstanding the email Notice, the deemed service will be the period set out in clause 1.7.4a.

1.7.5 Should such Notices be proved to have been received later than the time periods noted under clause 1.7.4, they shall be treated as given or served on the proven date of receipt.

Clause 1.8.1.1

Delete clause 1.8.1.1 and insert "Not used."

Clause 1.9

In line 1 delete "Save as stated in clause 1.8 no" and insert "No"

Clause 1.11

Delete clause 1.11 and insert:

"1.11.1 The Parties agree that this Contract and any dispute or claim arising out of or in connection with this Contract, its negotiation or subject matter or any non- contractual obligation arising in connection with the foregoing, shall be governed by and construed in accordance with English law.

1.11.2 Each of the Parties irrevocably agrees to submit to the exclusive jurisdiction of the courts of England and Wales in relation to any claim or matter arising out of or in connection with this Contract, its negotiation or subject matter, or any non-contractual obligation arising in connection with the foregoing."

Clause 1.12

Insert new clause 1.12:

"Fluctuations

All references to arbitration, fluctuations and fluctuation provisions in this Contract (including the relevant definitions in clause 1.1) shall be deemed to be deleted."

Clause 1.13

Not used.

Clause 1.14

Insert new clause 1.14:

Liability period

"Without prejudice to any action or proceedings against the other that arise from a breach of the Defective Premises Act 1972 or section 38 of the Building Act 1984 in respect of which the limitation period for bringing such contractual claims shall be the same as the applicable limitation period if the action or proceedings were commenced under that legislation or under the Civil Liability (Contribution) Act 1978 if later, neither Party shall commence any action or proceedings against the other under this Contract after 12 years from the date of practical completion of the Works, and any adjudicator's decision under clause 9.2 shall be finally binding on them unless either Party has referred that dispute for final determination by legal proceedings, or has commenced any action or proceedings to recover any overpayment to which the decision has led, before that date."

Clause 1.15

Insert new clause 1.15:

"Building Liability Orders

1.15.1 To the extent that the High Court issues a Building Liability Order against any associate of the Employer (as defined in s.131 of the Building Safety Act 2022), the Contractor shall indemnify such associate in respect of any loss, expense, claim or damage incurred by such associate to the extent such loss, expense, claim or damage is caused by a breach by the Contractor of its obligations pursuant to this Contract provided that, for the avoidance of doubt, this indemnity shall not apply to losses, expenses, claims or damages incurred as a consequence of poor maintenance of the completed Works.

1.15.2 The Parties agree that any associate of the Employer as defined in clause 1.15.1 shall be entitled to enforce for its benefit the provisions of clause 1.15.1 pursuant to the Contracts (Rights of Third Parties) Act 1999."

Section 2 – Carrying out the Works

Clause 2.1.1

In line 2 after "Statutory Requirements" insert "(including, to the extent relevant, the requirements of clause 2.1A and Appendix 6) and in accordance with Good Industry Practice and the requirements of the New Homes Warranty Provider"

In line 3 after "for that purpose shall" insert "carry out and"

In line 3 delete "complete the design" and insert "shall verify any design in the Employer's Requirements and shall complete such design"

Clause 2.1.3

Insert at the start of the clause:

"The Contractor shall be responsible for obtaining all Consents to enable the Works to be completed in accordance with the Employer's Requirements (including, without limitation, the works required pursuant to the Section 278 Agreement which, for the avoidance of doubt, shall include the negotiation and agreement of the Section 278 Agreement with the relevant local authority provided that the Section 278 Agreement shall, once approved by the Employer (acting reasonably), be entered into by the Employer and not the Contractor)."

At the end of the clause before "." insert "and when requested to do so by the Employer the Contractor shall provide the Employer with evidence that it has complied with all Statutory Requirements and given all notices required by the Statutory Requirements."

Clause 2.1.5

In line 1, delete "is encouraged to" and insert "shall"

Clause 2.1.6

Insert new clause 2.1.6:

"2.1.6 The Contractor shall carry out and complete the Works and perform all of their obligations pursuant to this Contract in compliance with the Considerate Constructors Scheme."

Clause 2.1A

Insert new clause 2.1A:

"2.1A Without prejudice to the generality of clause 2.1.1 and insofar as relevant to the Works, the Contractor shall observe and comply with:

2.1A.1 the provisions of the Building Safety Legislation; and

2.1A.2 the provisions of Appendix 6."

Clause 2.2.1

Delete clause 2.2.1 and insert:

"All materials, goods and workmanship used in the execution of the Works shall be of such kinds and of such quality as are necessary to enable the Contractor to comply with its obligations under this Contract and shall comply with, insofar as relevant to the Works, any 'construction product requirement' as defined by the Building Safety Legislation."

Clause 2.2.6

Insert a new clause 2.2.6:

"Without prejudice to clause 2.2.1, the Contractor warrants that it has not used and shall not use and that it has not and shall not authorise, cause or allow to be used in the Works any products or materials which:

2.2.6.1 do not conform with UK Designated Standards (where appropriate) or Codes of Practice (or where no such standard exists do not conform with a British Board of Agrèment Certificate); and/or

2.2.6.2 are generally known to the construction industry to be deleterious, in the particular circumstances in which they are specified for use, to health and safety and/or the durability of buildings or structures; and/or

2.2.6.3 do not comply with the guidance set out in the publication by the British Council of Offices entitled "Good Practice in the Selection of Construction Materials 2011",

the Contractor shall as soon as reasonably practicable notify the Employer and the Employer's Agent if it becomes aware of any proposed or actual specification and/or use in the Works of any products or materials which do not comply with this clause 2.2.6."

Clause 2.7.3

In line 1 after "Employer's Agent" insert "and/or any surveyor engaged in respect of the Grant Funding Agreement"

Clause 2.7.6

Insert new clause 2.7.6:

"2.7.6.1 The Contractor shall not (and shall procure that the sub-consultants and/or any sub-contractors shall not) disclose to any person or publish or make any statement concerning this Contract, any Third Party Agreement and/or the Works or any matters arising from or relating to the Contract any Third Party Agreement and/or the Works directly or indirectly without the prior written authority of the Employer during the Works or at any time thereafter (except as may be required by law or in order to properly perform its obligations under this Contract (or in the case of sub-consultants and/or any sub-contractors as may be required in order to properly perform their obligations under their contracts/terms of engagement in relation to the Works)).

2.7.6.2 Both the Employer and the Contractor shall keep confidential and shall not without the other's written consent disclose to any third party any trade or business secrets or similar confidential information supplied by the other Party except as shall be absolutely necessary for the proper performance of this Contract and/or necessary to comply with any disclosure requirement under the Freedom of Information Act 2000, and any subordinate legislation made under this Act from time to time together with any guidance and/or codes of practice issued by the Information Commissioner (as defined in the Data Protection Legislation) in relation to such legislation.

2.7.6.3 The Contractor shall provide (without charge to the Employer but subject to such third party covering the Contractor's reasonable administrative and copying costs) to any third party acquiring an interest in the Works, the site and/or the property or properties comprising the Works or any part or parts of the Works upon request by the Employer such documents and information as may be reasonably requested to demonstrate the Contractor's compliance with this Contract.

2.7.6.4 The provisions of clause 2.7.4, 2.7.5 and this clause 2.7.6 shall continue in full force and effect notwithstanding any suspension or determination of the employment of the Contractor and/or the determination of this Contract."

Clause 2.9

Delete clause 2.9 and insert:

"2.9.1 The Employer shall define the boundaries of the site by reference to a plan or drawing and the Contractor shall be responsible for accurately marking-out the boundaries of the site. The Contractor shall ensure that the relevant Works are completed within such boundaries.

2.9.2 The Contractor shall comply with any restrictions on the carrying out of the Works including, without limitation, scaffold and crane over-sailing arrangements, site access, working hours, noise levels and any other constraints on working space or conditions set out in or reasonably inferred from the Employer's Requirements or the Contractor's Proposals and any such costs incurred by the Contractor for such compliance or restrictions shall be deemed to be included in the Contract Sum."

Clause 2.11

Delete clause 2.11 and insert:

"The Contractor shall be responsible for the contents of the Employer's Requirements and for verifying the adequacy of any design contained in them."

Clause 2.12.1

In lines 1-2 delete "and the Contractor under clause 2.11 is not responsible for verifying its adequacy,"

Clause 2.12.2

Delete clause 2.12.2 and insert:

"Any correction or, alteration or modification under clause 2.12.1 shall not be treated as a Change."

Clause 2.14.2

In line 1 before "discrepancy" insert "the inadequacy as referred to in clause 2.12 or"

In line 4 before "discrepancy" insert "inadequacy or"

In line 7 delete "and treated as a Change" and insert "and the Contractor shall entirely at its own cost complete the design and construction of the Works in accordance with the amendment"

Clause 2.15.1

In second sentence delete "entirely at his own cost" and insert "at no additional cost to the Employer"

Clause 2.15.2.1

In line 3 insert the word "not" between the words "shall" and "be"

Clause 2.15.2.2

In line 1 insert the words "or the Employer's Requirements" between the words "Proposals" and "becomes"

In line 5 before "." insert "and provided always that any amendment to the Contractor's Proposals necessary for conformity with Building Regulations or for conformity with any requirement or decision of a building control officer and/or fire officer and which the Contractor could have reasonably foreseen at the Base Date shall not be treated as a Change."

Clause 2.15.3

Insert new clause 2.15.3:

"2.15.3 The Contractor shall:

2.15.3.1 to the extent marked as the Contractor's responsibility pursuant to the Planning Responsibility Matrix, obtain approval for any reserved matters and shall discharge all specified planning conditions in respect of the full planning permission; and

2.15.3.2 complete the design of and obtain all Statutory Requirements approvals including those for any changes made to the Employer's Requirements by the Contractor's Proposals; and

2.15.3.3 provide the Employer with copies of the approval notices and pay all fees in connection with this clause and such fees are deemed to be included in the Contract Sum."

Clause 2.15.4

Insert new clause 2.15.4:

"Any amendments to the Contractor's Proposals arising from the provisions of clause 2.15.3 and any Statutory Requirements shall be notified to the Employer prior to implementation. Such amendments shall not be regarded as a Change."

Clause 2.17

Delete clause 2.17 and insert:

"2.17.1 The Contractor shall (to the extent set out in clause 2.17.2.1 below) be fully responsible in all respects for the design of the Works including but not limited to:

2.17.1.1 any design contained in the Employer's Requirements and for any discrepancy in or divergence between the Employer's Requirements and/or the Contractor's Proposals and/or any drawings, details, documents and other information submitted by the Contractor in accordance with clause 2.8 and Schedule 1;

2.17.1.2 the co-ordination and integration of all design and the interface between design elements for the Works whether carried out by the Contractor or by any other party engaged on the Works and the Contractor shall adopt and take responsibility for any design work in relation to the Works which may be carried out or which may have been carried out by sub-consultants or sub-contractors or by any other person at the request of the Employer;

2.17.1.3 all aspects of design development, selection of goods and materials and the satisfaction of performance specifications or requirements included or referred to in the Employer's Requirements, the Contractor's Proposals, this Contract or any Change;

2.17.1.4 ensuring that the Works satisfy any performance specification set out in the Employer's Requirements; and

2.17.1.5 ensuring that the Works, when completed, are suitable for the purpose set out in the Employer's Requirements.

2.17.2 Without prejudice to any expressed or implied warranties or conditions or to the generality of clause 2.17.1, the Contractor warrants to the Employer that:

2.17.2.1 the design of the Works (including any design carried out by any design consultant or any sub-contractor with design responsibility or by any other person whether or not employed or engaged by the Contractor) has been and will be carried out using all the reasonable skill and care to be expected of a professionally qualified and competent design and build contractor experienced in the carrying out of such work for projects of a similar size, scope, value character and complexity to the Works;

2.17.2.2 the Contractor shall design and construct the Works in compliance with all Consents (including without limitation, the discharge of any reserved matters in planning consents relating to the Works), Statutory Agreements, Statutory Requirements, relevant codes of practice, UK Designated Standards and manufacturers' recommendations and the requirements of the insurers of the Employer (insofar as details have been provided to the Contractor at the date of this Contract).

2.17.3 Where and to the extent this Contract involves the Contractor taking on work for or in connection with the provision of a dwelling(s) the Contractor shall have the same liability to the Employer under this Contract as the Employer shall have under the Defective Premises Act 1972 save to the extent that such liability arises as a consequence of failure to maintain the completed Works."

Clause 2.21

In second sentence delete "Interim Payment" and insert "Gross Valuation in respect of which the Interim Payment due has been paid or discharged"

Insert at the end of clause 2.21:

"Payment for such goods and materials shall be subject to clause 4 and subject to the Contractor demonstrating to the Employer's satisfaction that:

2.21.1 such materials and goods are intended for inclusion in the Works;

2.21.2 nothing remains to be done to such materials or goods to complete the same up to the point of their inclusion in the Works;

2.21.3 where such materials or goods were ordered from a supplier by the Contractor or a sub-contractor, the contract for their supply is in writing and expressly provides that the property in such goods or materials shall pass unconditionally to the Contractor or sub-contractor (as the case may be) upon their delivery to or placing on or adjacent to the Works;

2.21.4 where such materials or goods were ordered from a supplier by a sub-contractor, the relevant sub-contract is in writing and expressly provides that on the property in such materials or goods passing to the sub-contractor the same shall immediately pass to the Contractor;

2.21.5 where such materials or goods were manufactured or assembled by a sub-contractor, the sub-contract is in writing and expressly provides that the property in such materials

or goods shall pass unconditionally to the Contractor upon their delivery to or placing on or adjacent to the Works;

2.21.6 the goods and materials are in accordance with this Contract;

2.21.7 the Contractor provides the Employer with reasonable proof that the property in such materials or goods is vested in the Contractor, that it has paid any sums due in respect of such materials or goods and that the relevant conditions set out in clauses 2.21.1 to 2.21.6 have been complied with."

Clause 2.22

In lines 1-2 delete "Interim Payment" and insert "Gross Valuation in respect of which the Interim Payment due has been paid or discharged"

Clause 2.25.1.2

At the end of clause 2.25.1.2 delete "," and replace with "; and".

Clause 2.25.2

In line 7, delete "8" and insert "10"

Clause 2.25.1.3

Insert new clause 2.25.1.3:

"2.25.1.3 provided that any delay caused by a Relevant Event which is concurrent with another delay for which the Contractor is responsible shall not be taken into account,"

Clause 2.25.2

In line 7, delete "8" and insert "10"

Clause 2.26

In line 1 after "clause 2.24 and 2.25" insert "(but only to the extent that such events are not consequent upon or necessitated by any omission, default, negligence or breach of contract or breach of statutory duty of the Contractor, its servants or agents or any sub-contractor, sub-consultant or supplier or their respective servants or agents)"

Clause 2.26.2.3

Insert at the end of the clause "or unless the opening up for such inspection or test was reasonably required by reason of any similar, equivalent or associated work, materials or goods having been shown by a previous inspection or test not to be in accordance with this Contract"

Clause 2.26.7

In line 6, insert "substantially" before "limiting"

In line 7, delete "necessary" and insert "essential".

Clause 2.26.8

In line 3, after "passing into law" insert "and coming into effect"

In line 5, after "existing law" delete the semi-colon and insert "and which the Contractor could not have reasonably foreseen at the Base Date; or"

In line 9, after "guidance" insert "with which it is mandatory for the Contractor to comply"

In lines 12-13, delete ", or in the case of guidance by the Construction Leadership Council or its successor"

Clause 2.26.9

At the end of the clause insert "provided that the Contractor shall have supplied any information required, placed any necessary orders and otherwise performed its obligations under this Contract in respect of such work as soon as reasonably practical so as not to delay or disrupt the Statutory Undertaker in relation to such work"

Clause 2.26.13

Delete clause 2.26.13 and insert "Not used."

Clause 2.26.15

At the end of the clause delete "." and insert ";"

Clause 2.26.16

Insert new clause 2.26.16:

"Boundary Areas Adverse Conditions."

Clause 2.27

Delete clause 2.27 and insert:

"2.27.1 The Contractor shall give to the Employer at least 8 weeks' written notice and 4 weeks' written notice of the anticipated date of Practical Completion of the Works or a Section.

2.27.2 As soon as the Contractor considers that Practical Completion of the Works or a Section has been reached (but no later than 14 days before the date of anticipated Practical Completion) and that it has complied sufficiently with clauses 2.27A, 3.16.2, 3.16.5 and the handover procedures contained in the Employer's Requirements (if applicable) it shall notify the Employer of such date.

2.27.3 On the date of anticipated Practical Completion of the Works or a Section stated in the notice issued pursuant to clause 2.27.2 or such other date as may be agreed by the Employer's Agent and the Contractor, the Employer's Agent shall inspect the Works or Section and if in its reasonable opinion it is satisfied that the Works or a Section are Practically Complete it shall so confirm to the Contractor within three (3) Business Days of such inspection and:

2.27.3.1 Subject to any requirement stated in the Employer's Requirements in the case of the Works the Employer shall forthwith issue a statement to that effect (the **Practical Completion Statement**);

2.27.3.2 Subject to any requirement stated in the Employer's Requirements in the case of a Section it shall forthwith issue a statement of practical of that Section (a **Section Completion Statement**); and

2.27.3.3 Practical Completion of the Works or the Section shall be deemed for all the purposes of this Contract to have taken place on the date stated in that statement.

2.27.4 If on such inspection the Employer's Agent does not consider that the Works or a Section are Practically Complete it shall within five (5) Business Days of such inspection give written notice to that effect to the Contractor setting out its reasons where upon the Contractor shall without delay proceed to remedy and/or carry out the works specified in such notice.

2.27.5 The procedures set out in clauses 2.27.3 and 2.27.4 shall be undertaken as often as is necessary until the Employer's Agent is satisfied, acting reasonably, that the Works or a Section are Practically Complete and so notifies the Contractor.

2.27.6 The Employer shall instruct the Employer's Agent to give due consideration but shall not be bound by any representations made by the Contractor during such inspection as to whether or not the Works or a Section is Practically Complete."

Clause 2.27A

Insert new clause 2.27A:

"Notwithstanding anything expressed or implied elsewhere in this Contract the Employer shall not be obliged to issue the Practical Completion Statement or any Section Completion Statement in accordance with clause 2.27 and Practical Completion of the Works or a Section shall not for any purpose of this Contract have occurred unless and until the Contractor shall first supply to the Employer all documentation and items listed in the Employer's Requirements in relation to the properties forming part of the Works or the relevant Section."

Clause 2.27B

Insert new clause 2.27B:

"2.27B.1 In the event that one or more of the items referred to in clause 2.27A have not been supplied in full but a written statement of Practical Completion of the Works (or any Sections) is issued, then the Employer may retain the sum of either:

2.27B.1.1 £[redacted]); or

2.27B.1.2 such amount ascertained by the Employer (acting fairly and reasonably) to procure such items independently, but in the event of a dispute or difference as to the ascertained amount or, in any event, the amount shall be not less than £[redacted]

against each and every item referred to in clause 2.27A (the **Retention Amount**) which has not been supplied in full to the reasonable satisfaction of the Employer provided that such Retention Amount shall not exceed £[redacted]).

2.27B.2 The Retention Amount shall be added to and be part of the Retention pursuant to this contract save that the Retention Amount relevant to an item which has been subsequently provided shall be released in the next Interim Payment pursuant to clause 4.7.3 up to the Notice of Completion of Making Good.

2.27B.3 Any items not provided at Practical Completion pursuant to clause 2.27B.1 shall be deemed to be listed in the schedule of defects pursuant to clause 2.35 and the Notice of Completion of Making Good shall not be issued unless and until the listed items have been provided unless at the end of the Rectification Period the Contractor and the Employer agree an appropriate deduction from the Contract Sum for those listed items which have not been provided at the end of the Rectification Period."

Clause 2.29.2

Delete clause 2.29.2 and insert:

"2.29.2 A notice from the Employer under clause 2.29.1 shall state that for the period between the Completion Date and the date of practical completion of the Works (or the relevant Section) by the Contractor, or the date of termination of the Contractor's employment under this Contract (whichever is earlier):

2.29.2.1 it requires the Contractor to pay liquidated damages at the rate stated in the Contract Particulars, or lesser rate stated in the notice, in which event the Employer may recover the same as a debt; and/or

2.29.2.2 that it will withhold or deduct liquidated damages at the rate stated in the Contract Particulars, or at such lesser stated rate, from sums due to the Contractor."

Clause 2.29.3

In line 3 before "." insert "provided that the fixing of such later Completion Date shall not invalidate the Employer's notice as to deduction of liquidated and ascertained damages and the payment or repayment of the amounts under this clause shall be limited to the net difference between the amounts deducted and the amounts properly due after the fixing by the Employer of the later completion date. Interest shall not be payable by the Employer on any amounts payable or repayable under this clause 2.29.3"

Clause 2.30

In the sub-heading delete "Contractor's consent" and insert "Employer's notice"

In lines 2-3 delete "and the Contractor's consent has been obtained"

In line 4 after "the Employer may" insert "(at the Employer's sole discretion)"

In lines 5-6 delete "The Contractor shall thereupon give to the Employer" and insert "The Employer shall thereupon give to the Contractor"

Clause 2.31

Insert at end of clause "provided however that the Rectification Period for the relevant part shall be deemed to be extended and shall run until the issue by the Employer of the Notice of Completion of Making Good in respect of the whole of the Works"

Clause 2.32

Insert at end of clause "provided that the Employer shall not be required to issue such notice any earlier than 14 days after the end of the Rectification Period applicable to such Relevant Part"

Clause 2.35

In line 1 of the final paragraph before "a reasonable time" insert "within any time period specified in the Employer's Requirements commensurate with such defect, shrinkage or fault and, in any event,"

Clause 2.35A

Insert new clause 2.35A:

"The Employer may, in the event of any breach by the Contractor of clause 2.35 and/or the provisions of the Employer's Requirements in respect of the rectification of defects, arrange for any defects, shrinkages or other faults to be rectified (other than by the Contractor) in order to meet its obligations to any Funder, any Purchaser or any Tenant and, in such circumstances, an appropriate deduction in respect of such remedial works shall be made from the Contract Sum."

Clause 2.38.2

In line 1 delete "Subject to all sums due and payable under this Contract to the Contractor having been paid, the" and insert "The"

Clause 2.38.3

Delete clause 2.38.3 and insert:

"The copyright licence referred to in clause 2.38.2 shall carry the right to grant sub-licences and shall be transferrable to third parties and shall subsist notwithstanding the determination (for any reason) of the Contractor's employment under this Contract."

Clause 2.38.5

Insert new clause 2.38.5:

"To the extent that the Contractor does not have ownership of the copyright in any Contractor's Design Documents the Contractor shall procure from the copyright holder a licence with full title guarantee to the Employer in respect of the relevant Contractor's Design Documents in the same terms as are set out in clause 2.38.2."

Clause 2.38.6

Insert new clause 2.38.6:

"The Contractor waives absolutely all Moral Rights the Contractor may have in the Contractor's Design Documents and/or the Works and where it is not the author shall procure a waiver from the author of any Moral Rights the author may have in respect of the Contractor's Design Documents."

Clause 2.39

Insert new clause 2.39:

"**Site Conditions**

2.39.1 Subject to clause 2.39.2, the Contractor shall be deemed to have satisfied himself as to all matters affecting the site of the Works including, without limitation, state and condition of the buildings, structures, soil and rock strata comprising the site of the Works and no matter arising therefrom shall give rise to any adjustment of the Contract Sum, or to any extension of time or to any entitlement on the part of the Contractor to loss and expense or to any entitlement on the part of the Contractor to determine his employment under this Contract.

2.39.2 To the extent that any obstructions or other adverse conditions are encountered in the ground below the Boundary Areas by the Contractor in carrying out the Works and such discovery delays the carrying out of the Works by the Contractor (**Boundary Areas Adverse Conditions**) then the Contractor may be entitled to an extension of time pursuant to clause 2.26.16 and/or loss and expense pursuant to clause 4.21.9 in respect of such Boundary Areas Adverse Conditions."

Clause 2.40

Insert new clause 2.40:

"**New Homes Warranty Documents**

2.40.1 The Employer shall procure in respect of each and every part of the Works which is intended for occupation as a residential dwelling and the common parts relating thereto the New Homes Warranty Documents with the relevant options as stated in the Contract Particulars to apply and the Contractor shall promptly provide all reasonable assistance and co-operation necessary to procure such documents.

2.40.2 The Contractor shall assist with the New Homes Warranty Provider's construction quality reviews at the Employer's request and shall promptly provide to the Employer all information (including in relation to building control) required by, and respond to any quality concerns raised in, such reviews."

Clause 2.41

Insert new clause 2.41:

"**Survey Documents**

2.41.1 The Employer gives no warranty or representation as to the condition of the Site or any adjoining property or any services in or under the Site or as to the accuracy or sufficiency of any soils or survey data contained in any document made available to the Contractor by the Employer or as to any recommendations or conclusions made or reached in any such document.

2.41.2 The Contractor shall not have or make any claim whether in contract or by way of negligent or innocent misrepresentation or otherwise in respect of information provided or statements made by or on behalf of the Employer in respect of such risks contingencies or circumstances relating to the Site."

Clause 2.42

Insert new clause 2.42:

"**Third Party Agreements**

2.42.1 The Contractor shall be supplied, within a reasonable time having due regard to the progress of the Works, with copies of any Third Party Agreements (or such extracts as shall be relevant to the Employer's obligations under those Third Party Agreements) and subject to the Contractor receiving copies of such agreements (or extracts) the Contractor shall use the level of skill and care referred to in clause 2.17.1 in the discharge of its duties and obligations so as not by any action, inaction or omission by the Contractor to cause or contribute towards a breach of the duties and obligations of the Employer under the Third Party Agreements.

2.42.2 The Contractor shall provide such assistance as the Employer may reasonably require to enable the Employer to comply with the terms of the Third Party Agreements including, without limitation, attending meetings, providing cost and/or programme projections, providing health and safety information and liaising with and reporting to any monitoring surveyors in respect of the Works.

2.42.3 The Contractor shall keep separate books of account (from those relating to any business, activity or operation carried on by the Contractor and which do not directly relate to the Works) in accordance with good accountancy practice with respect to the Works and to provide access to such books and records to Homes England, if required pursuant to the Grant Funding Agreement.

2.42.4 The Contractor shall carry out and complete the Works and perform all of their obligations pursuant to this Contract in compliance with the Flood Risk Activity Permit including, without limitation:

2.42.4.1 compliance with the written management system;

2.42.4.2 compliance with the requirements of the methodology approved by the Environment Agency;

2.42.4.3 using appropriate measures to:

(a) minimise sediment mobilisation;

(b) minimise impact on diversity;

(c) ensure no increase to flood risk or detrimental impact on drainage;

(d) storage and disposal of waste produced; and

(e) prevent and minimise environmental harm;

2.42.4.4 undertaking reviews every 12 months to assess whether the measures at clause 2.42.4.3 need to be amended or any further measures be taken (provided that this obligation shall cease upon Practical Completion in respect of the whole of the Works);

2.42.4.5 serving all notices required pursuant to the Flood Risk Activity Report,

and shall maintain records evidencing compliance with the same for a minimum of 6 years from completion of the Works.

2.42.5 The Contractor shall carry out and complete the Works and perform all of their obligations pursuant to this Contract in compliance with the Marine Management Licence including, without limitation:

2.42.5.1 compliance with timing restrictions for works which impact upon the overwintering bird population;

2.42.5.2 compliance with the "Construction Environmental Management Plan" which formed part of the application for the Marine Management Licence;

2.42.5.3 compliance with all storage, disposal and reporting requirements in respect of oil, chemicals and waste;

2.42.5.4 compliance with the "Written Scheme of Investigation" and the "Protocol for Archaeological Discoveries" in respect of marine archaeological finds.

2.42.5.5 The Contractor shall not be entitled to any adjustment to the Contract Sum, extension of time and/or loss and expense in respect of:

(a) compliance with this clause 2.42;

(b) any variation, replacement and/or extension required in respect of the Flood Risk Activity Permit and/or the Marine Management Licence; and/or

(c) any fines, fees, penalties or charges levied against the Contractor pursuant to the Flood Risk Activity Permit and/or the Marine Management Licence.

Clause 2.43

Insert new clause 2.43:

"Environmental law

2.43.1 The Contractor shall carry out and complete the Works in accordance with Best Environmental Practice and Environmental Laws.

2.43.2 The Contractor shall:

2.43.2.1 carry out such further environmental investigation works as necessary;

2.43.2.2 provide the Employer with a copy of any report and/or recommendations arising from the carrying out of such further investigations pursuant to clause 2.43.2.1;

2.43.2.3 comply with any recommendations arising from the further investigations pursuant to clause 2.43.2.1; and

2.43.2.4 provide such reasonable evidence to the Employer that the recommended environmental works have been carried out and completed to the satisfaction of the relevant Statutory Requirements and Development Control Requirements.

2.43.3 The Contractor shall be liable for and shall indemnify and keep indemnified the Employer against any liability, damage, loss, expense, cost, claim or proceedings arising on or after the date of this Contract in respect of any act or omission on the Contractor's part which results, whether directly or indirectly, in damage to the Environment and/or a breach of or failure by the Contractor to comply with its obligations under Environmental Laws insofar as such loss, injury or damage arises out of or in the course of or by reason of the carrying out the Works and to the extent that the same is due (wholly or partly) to any act or omission of the Contractor, any of its sub-contractors or their respective employees, servants or agents employed or engaged upon or in connection with the Works or any part or parts of the Works.

2.43.4 The Contractor shall not use, dispose of, generate, store, transport, dump, release, deposit, bury or emit at, on or from the site of the Works or any adjoining land any natural or artificial substance (whether in the form of a solid, liquid, gas or vapour) the generation, transportation, storage, treatment, use or disposal of which (whether alone or in combination with any other substance) gives rise to a risk of causing harm to man or any other living organism or causing damage to the Environment or public health and includes any Hazardous Substance."

Clause 2.44

Insert new clause 2.44:

"**Adoptable works**

2.44.1 The Contractor shall:

2.44.1.1 use his best endeavours to procure that all Adoptable Works are adopted by or vested in the relevant authority as maintainable at public expense including, but without limitation, the negotiation of and submission to the Employer for execution of adoption agreements with the relevant authority, (the Contractor leading all negotiations in that regard) the carrying out of the Adoptable Works in accordance with the terms of such adoption agreements and compliance with the requirements of the relevant authority in relation to the rectification of defects in the Adoptable Works (and which shall be maintained by the Contractor during the Defects Liability Period to the satisfaction of the adopting authority) and the provision of a surety or sureties in respect of all such adoption agreements and all costs in connection therewith (save that, for the avoidance of doubt, all contribution payments and/or costs associated with the procuring of bonds in respect of any agreements pursuant to section 38 and/or 278 of the Highways Act 1980 shall be payable by the Employer); and/or

2.44.1.2 shall be liable for and shall indemnify the Employer against any properly incurred and reasonably mitigated expense, liability, loss, claim or proceedings whatsoever incurred by the Employer arising from the Adoptable Works and any adoption agreements and sureties provided in connection with the Adoptable Works save for the costs of the

Employer or its legal advisers incurred in the approval and execution of such adoption agreements and save to the extent that the same is due to any act or neglect of the Employer.

2.44.2 Notwithstanding any other provision of this Contract, no matter arising from any of the matters noted in clause 2.44.1 and whether arising directly or indirectly as a result of such matters nor any instructions which the Employer may issue (acting reasonably) consequent upon the discovery of any such matter shall give rise to any adjustment to the Contract Sum or to any extension of time or to any entitlement on the part of the Contractor to loss and expense and/or to any entitlement on the part of the Contractor to determine its employment under this Contract."

Clause 2.45

Insert new clause 2.45:

"Without prejudice to the generality of clause 6.2 the Contractor shall at all times take all reasonable steps to prevent any nuisance (including, but without limitation, any noisy working operations, noxious fumes or the deposit on public highways of any material or debris) or other interference with the rights of any adjoining landowner, tenant or occupier or any statutory undertaker arising out of the carrying out of the Works or of any obligation pursuant to clauses 2.35 to 2.36 and shall defend or, at the Employer's option, assist the Employer in defending any action or proceeding which may be instituted in relation thereto. The Contractor shall be liable for and shall indemnify the Employer from and against any and all expenses, liabilities, losses, claims and proceedings resulting from any failure or default by the Contractor in performing its obligations under this clause 2.45 save only where such nuisance or interference is the consequence of a Change or other instruction of the Employer (which is not itself the result of any negligence, default or breach of contract by or on behalf of the Contractor) and which could not have been avoided by the Contractor using all reasonable and practical means."

Clause 2.46

Insert new clause 2.46:

"Without prejudice to the Contractor's obligations under clause 2.45 if the carrying out of the Works or of any obligation pursuant to clauses 2.35 to 2.36 is likely to necessitate any interference with the rights of adjoining or neighbouring landowners tenants or occupiers then (save in respect of (1) the agreement between the Employer and the Crown Estate in respect of the bird conservation area; and (2) the collaboration agreement between the Employer and Homes England where the Employer shall be responsible for procuring such agreements) the Contractor shall without cost to the Employer obtain the prior written agreement of such landowner, tenants and/or occupiers and such agreement shall be subject to the approval of the Employer before execution (save in respect of any oversailing agreement required with Homes England in respect of the Works where the reasonably and properly incurred costs of procuring such agreement shall be borne by the Employer). The Contractor shall comply in every respect with any conditions contained in such agreement."

Clause 2.47

Insert new clause 2.47:

"Without prejudice to the obligations of the Contractor under clauses 2.45 and 2.46 the Contractor shall at all times ensure that there is no trespass by the Contractor, its servants, agents, sub-

contractors, consultants or suppliers (including without limitation the over sailing of tower crane jibs) on or over any adjoining or neighbouring property arising out of, or in the course of, or caused by the carrying out of the Works and shall take all reasonable safety and other measures to prevent damage or injury to any persons (including but without limitation) the occupiers of adjoining or neighbouring property and members of the public."

Clause 2.48

Insert new clause 2.48:

"2.48.1 The Parties will each act in the capacity of Data Controller in respect of the Personal Data Processed under this Agreement and each will Process the Personal Data as independent Data Controllers.

2.48.2 The Parties (including their employees, agents or officers) shall at all times during the period of this Agreement comply with the provisions and obligations imposed by this clause 2.48 and the Data Protection Legislation generally, including any requirement to obtain registrations, consents, and provide notifications and relevant privacy information to Data Subjects as required for the purposes of their obligations under this Agreement.

2.48.3 The Parties warrant and represent that they each have in place appropriate technical and organisational measures to protect the Personal Data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, and which provide a level of security appropriate to the risk represented by the processing and the nature of the data to be protected.

2.48.4 Each Party shall notify the other without undue delay on becoming aware of any breach of the Data Protection Legislation in relation to the Personal Data Processed under this Agreement.

2.48.5 Whilst each Party shall be responsible for responding to any complaint in relation to the Personal Data Processed pursuant to this Agreement, or any request by individuals to exercise the Data Subject's Rights, the Parties will co-operate with each other and provide reasonable assistance with any request, proceedings or inquiry by any affected Data Subject and/or the Information Commissioner or other body authorised by statute which are concerned with the Data Protection Legislation in connection with data processed under this Agreement.

2.48.6 The provision of this clause 2.48 shall apply during the continuance of the Agreement and indefinitely after its termination."

Section 3 – Control of the Works

Clause 3.4.2.5

Delete clause 3.4.2.5 and insert:

"that if the sub-contractor is a Design Sub-Contractor they shall execute and deliver within twenty (20) Business Days of a written request as deeds a collateral warranty or collateral warranties in the respective forms contained in Appendix 5 to the Agreement in favour of the Employer and/or Purchaser and/or Tenants and/or Funder;"

Clause 3.5.1

Delete clause 3.5.1 and insert "Not used".

Clause 3.9.1

Delete clause 3.9.1 and insert "Subject to clause 3.9.4 the Employer may issue instructions effecting a change in the Employer's Requirements."

Clause 3.9.2

Delete clause 3.9.2 and insert "Not used."

Clause 3.13.1

In line 1 after "removal from the site" insert "or rectification"

Clause 3.13.3

At the end of clause insert "or unless the opening up for such inspection or test was reasonably required by reason of any similar, equivalent or associated work materials or goods having been shown by a previous inspection or test not to be in accordance with this Contract"

Clause 3.13.4

Insert new clause 3.13.4:

"Without prejudice to clause 3.12 and this clause 3.13, the Contractor shall give reasonable notice (being not less than 3 Business Days) to the Employer that part of the Works will be permanently covered-up in order that Employer may be given a reasonable opportunity to inspect the relevant Works."

Clause 3.16

Re-number clauses 3.16.1, 3.16.2 and 3.16.3 as clauses 3.16.3, 3.16.4 and 3.16.5 respectively and clause 3.16.4 as clause 3.16.9 and insert the following new clauses before and after them:

3.16.1 the Contractor agrees to act as the Principal Designer and Principal Contractor and to perform all the duties and functions required to be performed by the principal contractor and principal designer under the CDM Regulations and Part 2A of the Building Regulations;

3.16.2 the Contractor warrants that the Contractor's Persons are competent and shall remain competent to perform all duties and functions required to be performed by them under the Building Regulations.

3.16.6 as and when requested to do so by the Employer, the Contractor shall give to the Employer a written record of the steps taken under regulation 11E(2) of the Building Regulations when appointing each of the Contractor's Persons;

3.16.7 whether or not the Contractor is the Principal Designer for the purposes of the CDM Regulations but is the Principal Contractor for the purposes of the CDM Regulations and the CDM Principal Designer's appointment concludes before practical completion of the Works, the Contractor shall review, update and revise the health and safety file in

accordance with regulations 12(8) to (10) of the CDM Regulations at no cost to the Employer and which shall not entitle the Contractor to an extension of time;

3.16.8 compliance by the Contractor with its duties under the CDM Regulations and Part 2A of the Building Regulations shall be at no cost to the Employer and shall not entitle the Contractor to an extension of time; and"

In clause 3.16.2, now re-numbered at 3.16.3, after "remains the Principal Designer" insert "(in respect of either or both of the CDM Regulations and the Building Regulations)"

Clause 3.16.9

Insert new clause 3.16.9

"The Contractor hereby agrees to indemnify and indemnifies the Employer against all properly incurred and reasonably mitigated costs expenses proceedings and/or claims howsoever arising as a result of non-compliance by the Contractor of its obligations under this clause 3.16."

Clause 3.17

Insert new clause 3.17:

"The Contractor acknowledges that the Contractor's liability under this Contract shall not be released, diminished or in any other way affected by:

3.17.1 any direction, admission, approach, consent, approval, confirmation, comment, sanction, acknowledgement or advice made or given by or on behalf of the Employer or the Employer's Agent;

3.17.2 any act, omission or delay by or on behalf of the Employer in inspecting approving or informing itself about anything relating to the Works;

3.17.3 any enquiry or inspection into any relevant matter which may be made or carried out by or on behalf of the Employer or the Employer's Agent;

3.17.4 the inclusion of the value of any work, materials or goods in any Interim Payment;

3.17.5 the appointment or failure to appoint any clerk of works or other person to inspect or otherwise report in respect of the Works or by any act or omission of any clerk of works or other person whether or not such act or omission might give rise to an independent liability of such clerk of works or another person to the Employer, the Employer's Agent and/or any third party;

3.17.6 the issue of the Practical Completion Statement, any Section Completion Statement and/or the Notice of Completion of Making Good."

Clause 3.18

Insert new clause 3.18:

"Should the Employer issue an instruction pursuant to this Contract which could in any way be deemed, but for the provisions of clause 3.17, to relieve the Contractor from its liabilities or obligations or be against statute or good building practice, then the Contractor shall notify the

Employer in writing of the effect of such instruction and the Employer shall then confirm whether or not the instruction remains effective within 5 Business Days."

Clause 3.19

Insert new clause 3.19:

"The Contractor shall obtain the Employer's approval to the form of the appointment of any Design Sub-Contractor (in addition to the approval required by clause 3.3). To the extent that the Contractor has already engaged any Design Sub-Contractors prior to the date of this Contract and the terms of such engagements are not acceptable to the Employer the Contractor shall use all reasonable endeavours to negotiate replacement appointments on terms that are acceptable to the Employer as soon as reasonably practical following the date of this Contract."

Section 4 – Payment

[1]Delete clause 4.4 and insert:

"4.4.1 The Parties agree and confirm that the procedure for the payment of VAT (if any) by either Party to the other shall be governed entirely and exclusively by the provisions of this clause 4 notwithstanding any other provision of this Agreement.

4.4.2 Any consideration (whether monetary consideration or non-monetary consideration) paid or provided under or in connection with this Agreement is to be treated as exclusive of any VAT. If the person making the supply (or the representative member of the VAT group of which it is a member) is required to account for VAT on any supply, the recipient of the supply shall pay (in addition to paying or providing any other consideration) an amount equal to the amount of that VAT upon the later of:

4.4.2.1 the time for payment or provision of the consideration; and

4.4.2.2 the receipt by the recipient of the supply of a VAT invoice in respect of that VAT.

4.4.3 The Employer confirms that the requirements specified in article (8)(1)(b) of the Order will be satisfied in respect of any Supply and the Parties consider that the Reverse Charge will not apply to the Supplies so that it is for the Contractor to account for and pay VAT to HMRC.

4.4.4 Notwithstanding clause 4.4.3, where the Contractor has accounted for VAT on Supplies (on the understanding that the Reverse Charge did not apply) but HMRC notifies the Employer in writing that:

4.4.4.1 the Reverse Charge did apply in respect of those Supplies, and

4.4.4.2 notwithstanding that the Contractor has accounted for VAT to HMRC in respect of those Supplies, the Employer has to account for VAT under the Reverse Charge on those Supplies,

[1] Drafting note: clause 4.4 needs to be checked with Vivid's tax advisors on a project by project basis.

the Contractor shall, within two Business Days of receipt of a copy of such notice, issue a credit note to the Employer in respect of those Supplies and at the same time pay to the Employer the amount of VAT included in such credit note."

Clause 4.7.3

At end of clause insert:

"A copy of each Interim Payment Application shall be submitted to the Employer's Agent at the same time as to the Employer."

Clause 4.7.4

At end of clause insert:

"and such further information as the Employer's Agent may reasonably require."

Clause 4.9.1

Delete clause 4.9.1 and insert:

"The final date for payment of each Interim Payment and the final payment shall be 28 days from its due date"

Clause 4.9.6

At the end of the clause insert "The Contractor confirms that the interest paid pursuant to this clause is a substantial remedy for late payment in compliance with section 9 of the Late Payment of Commercial Debts (Interest) Act 1998."

Clause 4.10.4

In line 1 delete "The Employer's fiduciary interest in the Retention as stated in clause 4.16 shall not prevent the Employer from exercising" and insert "The Employer may exercise"

Clause 4.13.1.1

In line 1 after "work properly executed" insert "and incorporated into the Works"

Clause 4.13.1.2

In line 2 before "and they are not on the Works prematurely" insert ", the Contractor has complied with clause 2.21"

Clause 4.15.2.1

After ";" delete "and"

Clause 4.15.2.2

After ";" insert "and"

Clause 4.15.2.3

Insert new clause 4.15.2.3 "nothing remains to be done to such Listed Items to complete the same up to the point of their inclusion in the Works;"

Clause 4.16

Delete clause 4.16 and insert:

"The Employer's interest in the Retention shall not be fiduciary and the relationship of the Employer and the Contractor with regard to the same shall be solely that of debtor and unsecured creditor. The Employer shall:

4.16.1 have no obligation to invest the Retention or any part of it;

4.16.2 have no obligation to segregate the Retention or any part of it in a separate bank account or in any other manner;

4.16.3 be entitled to the full and unencumbered beneficial interest in the Retention or any part of it."

Clause 4.19.1

In line 4, after "Relevant Matter" add "and the Contractor has made reasonable and proper efforts to avoid or reduce such loss and expense."

In line 4, after " subject to clause 4.19.2" add " and clause 4.19.3".

Clause 4.19.3

Insert new clause 4.19.3:

"No such entitlement arises to the extent the loss and/or expense includes any element of loss and/or expense which was contributed to by a cause other than a Relevant Matter."

Clause 4.21

At the end of line 1 insert "(but only to the extent that such matters are not consequent upon or necessitated by any omission, default, negligence or breach of contract or breach of statutory duty of the Contractor, his servants or agents or any sub-contractor, sub-consultant or supplier or their respective servants or agents)"

Clause 4.21.2.2

In line 2 after "or test" insert "or series of inspections or tests"

At the end of clause before ";" insert "or unless the inspection or test was reasonably required as a result of a previous inspection or test or series thereof"

Clause 4.21.4

Delete clause 4.21.4 and insert "Not used."

Clause 4.21.6

In line 6, insert "substantially" before "limiting"

In line 7, delete "necessary" and insert "essential".

Clause 4.21.7

In line 3, after "passing into law" insert "and coming into effect"

In line 5, after "existing law" delete the semi-colon and insert "and which the Contractor could not have reasonably foreseen at the Base Date; or"

In line 9, after "guidance" insert "with which it is mandatory for the Contractor to comply"

In lines 12-13, delete ", or in the case of guidance by the Construction Leadership Council or its successor"

Clause 4.21.8

Insert new clause 4.21.8 as follows: [redacted]

Clause 4.21.9

Insert new clause 4.21.9:

"Boundary Areas Adverse Conditions."

Clause 4.24.2

In line 3 of the final paragraph before "." insert "and to what it relates"

Clause 4.25

Insert new clause 4.25:

"4.25.1 In this clause 4.25 the **payment due date** shall be the date of any invoice submitted by the Client pursuant to clause 4.25.2.

4.25.2 Any sums:

4.25.2.1 due to the Employer pursuant to clauses 2.18, 2.19, 3.16.6, 6.1, 6.2, 8.6A.2, 8.7.5, 8.8.2 and/or 8.12.5; and/or

4.25.2.2 which the Employer may seek to recover as a debt pursuant to clause 6.5.3 and/or clause 6.15.2;

shall be due for payment on demand, such demand to take the form of an invoice from the Employer to the Contractor specifying the sum that the Employer considers to be due on the payment due date and the basis on which that sum is calculated. Within 5 days of the payment due date the Contractor shall issue a notice confirming the sum that it considers to have been due on the payment due date and the basis on which that is calculated provided that if the Contractor fails to serve such notice the Employer's demand shall be treated as the payment notice. The final date for payment for any such sum so demanded shall be 28 days after the payment due date."

Section 6 – Injury, damage and insurance

Clause 6.7

Insert at end of clause "Option A, B or C whichever is applicable shall not affect the responsibility of the Contractor under this Contract for any loss or damage not covered by any Joint Names Policy."

Clause 6.8

In line 1 of the definition of Joint Names Policy after "the Contractor" insert "and any Funders/Purchasers and Tenants"

Clause 6.11.3

Delete from "Works," in line 2 to the end of the clause and insert:

6.11.3.1 (where the Contractor has notified a reduction in the scope or level of cover pursuant to clause 6.11.1) the Contractor shall continue to maintain Terrorism Cover at such reduced level or scope of cover;

6.11.3.2 the Employer may instruct the Contractor to effect and maintain any alternative or additional form of Terrorism Cover then reasonably obtainable by the Contractor, the net additional cost to the Contractor of any such cover and its renewal shall be added to the amounts payable to the Contractor."

Clause 6.12

In line 3 after "at the request of the other Party supply" insert ", within (3) three Working days of a request,"

Clause 6.15

Delete clause 6.15 and insert:

"6.15.1 The Contractor shall effect and maintain professional indemnity insurance in the sum and on the basis set out in the Contract Particulars without unusual or onerous conditions or excesses with reputable insurers carrying on business in the UK with effect from the date of commencement of the Works and for a period equivalent to the period for which the Contractor is liable under this Contract pursuant to clause 1.14, provided that such insurance remains available to organisations of equivalent size and type to the Contractor's business at commercially reasonable rates and on commercially reasonable terms.

6.15.2 The Contractor undertakes, within (5) five Working days of a request, to provide to the Employer on demand from time to time such evidence as the Employer may reasonably require to satisfy itself that the insurance required by clause 6.15.1 is being maintained.

6.15.3 The Contractor shall inform the Employer if the insurance required by clause 6.15.1 is not maintained or renewed or for any reason becomes void or unenforceable or ceases to be available at commercially reasonable rates and terms and shall agree with the Employer the best means of protecting the Contractor's and the Employer's respective interests and carry out such actions as shall be necessary to implement any agreed actions.

6.15.4 The Contractor shall not compromise settle or waive any insurance claim it may have relating to any liability under this Contract without the Employer's prior consent provided that nothing in this clause shall prevent the Contractor's insurers from taking over (in the Contractor's name) the defence of any claim made by the Employer under this Contract (in that capacity) from conducting and settling it as they see fit.

6.15.5 The above obligations shall continue notwithstanding termination of this Contract or determination of the Contractor's employment under this Contract in either case for any reason whatsoever."

Section 7 – Assignment, performance bonds and guarantees, third party rights and collateral warranties

Clause 7.1

Delete clause 7.1 and insert:

"7.1.1 The Employer may assign and/or charge its entire rights and benefits under this Contract, without the consent of the Contractor, on 2 (two) occasions to any person having or acquiring an interest in the Works provided that assignments by way of security to Funders (including any reassignment on redemption of security) and assignments to a Group Company shall not count towards this allocation of "without consent" assignments. The Contractor may not assign the benefit of this Contract without the written consent of the Employer.

7.1.2 The Contractor undertakes with the Employer not to contend that any person to whom this Contract may be assigned will be precluded from recovering under this Contract any loss resulting from any breach of this Contract either by reason that the person is an assignee and not the original party to this Contract or by reason that the Employer named in this Contract or any intermediate owner of the Employer's interest in the Works shall escape loss resulting from such breach by reason of the disposal of its interest in the Works."

Clause 7.2

Delete clause 7.2 and insert "Not used."

Clause 7.3A

Insert new clause 7.3A:

"It shall be a precondition to the Contractor's entitlement to payment under this Contract that the Contractor has delivered to the Employer:

7.3A.1 the executed performance bond or guarantee pursuant to the terms of clause 7.3.1 in the form required by this Contract; and

7.3A.2 not used; and

7.3A.3 not used."

Clause 7.3B

Insert new clause 7.3B:

"In the event that the Employer elects to waive (at its sole discretion) any or all of the preconditions to the Contractor's entitlement to payment described in clauses 7.3A.1 to 7.3A.3 (each a **Precondition** and together the **Preconditions**) then the Employer shall be entitled to withhold:

7.3B.1 a sum of [redacted] in respect of each Precondition that has not been satisfied from the value of the Interim Payment which follows the relevant waiver until the relevant Precondition has been satisfied; and

7.3B.2 ten per cent (10%) of the value of each and every subsequent Interim Payment or final payment pursuant to clause 4.9.4 as the case may be until the Preconditions been satisfied.

If the Preconditions are not satisfied by practical completion of the Works the amounts withheld pursuant to this clause 7.3B shall belong to the Employer unconditionally and the Contractor shall have no entitlement or other rights in respect of such amounts."

Clause 7.7.2

In final line after "Purchaser or Tenant" insert "or third party referred to in clause 1.6.2"

Clause 7.9

Delete clause 7.9 and existing heading and insert:

"7.9.1 Unless P&T Rights have been conferred on the relevant Purchaser or Tenant or Funder Rights have been conferred on the relevant Funder pursuant to clause 7.7 or clause 7.8 (as applicable) the Contractor shall execute and deliver to the Employer within ten (10) Business Days of a written request to do so from or on behalf of the Employer from time to time collateral warranties in favour of any:

(a) Purchaser; and/or

(b) Tenant; and/or

(c) Funder.

Such collateral warranty or warranties shall be in the appropriate form set out in Appendix 4 to the Agreement with only such changes as the Employer may approve.

7.9.2 It shall be a precondition to the Contractor's entitlement to payment under this Contract that the Contractor has delivered to the Employer the executed collateral warranties requested pursuant to this clause 7.9."

Clause 7.10

Delete clause 7.10 and insert "Not used."

Clause 7.11

Delete clause 7.11 and insert:

"7.11.1 The Contractor shall procure that each and every Design Sub-Contractor shall execute and deliver to the Employer within 20 (twenty) Business Days of a request to do so from or on behalf of the Employer from time to time a collateral warranty or warranties in favour of

(a) the Employer; and/or

(b) any Purchaser; and/or

(c) any Tenant; and/or

(d) any Funder.

Such collateral warranty or warranties to be in the appropriate form set out in Appendix 5 to the Agreement with only such changes as the Employer may approve (such approval not to be unreasonably withheld or delayed).

7.11.2 The Contractor shall provide to the Employer within five (5) Business Days of completion of the same a certified copy of each sub-contract between the Contractor and each Design Sub-Contractor and such evidence as the Employer may reasonably require (or may require pursuant to any Third Party Agreement) to satisfy itself that the insurances required pursuant to the sub-contract are being maintained provided that the Contractor shall be entitled to redact the sub-contract sum and any commercially sensitive information from the certified copy of the sub-contract documentation provided in accordance with this clause.

7.11.3 If the Contractor fails to procure the execution and delivery to the Employer of such deed or deeds of warranty within 20 (twenty) Business Days of the request to do so the Employer shall be entitled to withhold any sums relating to the services of the relevant Design Sub-Contractor then in default and which would otherwise be due and payable under the terms of this Contract in each and every following Interim Payment or Final Statement or Employer's Final Statement as the case may be. Any amounts so retained shall become due to the Contractor on the due date of the Interim Payment or the final payment following the provision of the warranties from the relevant Design Sub-Contractor duly executed to the Employer."

Clause 7.12

Insert new clause 7.12:

“The Contractor shall obtain all Manufacturers' and Suppliers' Warranties for all goods and equipment forming part of the Works whether or not expressly indicated in the Employer’s Requirements and shall ensure that the same are issued in favour of the Employer and its successors in title and handed over to the Employer within two (2) weeks of Practical Completion of the Works"

Section 8 - Termination

Clause 8.1.4.1

Delete "it enters into an arrangement, compromise or composition in satisfaction of its debts" and insert:

"it commences negotiations with all or any class of its creditors with a view to rescheduling any of its debts, or makes a proposal for or enters into any compromise or arrangements with any of its creditors"

Clause 8.4.1.4

Delete "7.1" and insert "7.1.1"

Clause 8.5.4

Insert new clause 8.5.4:

"Ownership in all existing Contractor's Design Documents and other physical embodiments of designs relating to the Works shall transfer from the Contractor to the Employer immediately prior to the Contractor becoming Insolvent."

Clause 8.6

Delete clause 8.6 and insert:

"The Contractor undertakes to the Employer that:

8.6.1 it has not and its current and former directors, officers and employees have not and shall not engage in any Corrupt Activity;

8.6.2 it has not and its current and former directors, officers and employees have not and shall not engage in any activity, practice or conduct which could or would place the Employer in breach of section 7(1) of the Bribery Act or sections 45(1) or 46(1) of the Criminal Finances Act;

8.6.3 it has and shall maintain and implement:

8.6.3.1 procedures to ensure compliance with clauses 8.6.1 and 8.6.2; and

8.6.3.2 (in the case of section 7 of the Bribery Act) adequate procedures and (in the case of sections 45 and 46 of the Criminal Finances Act) reasonable procedures designed to prevent any Associated Person from undertaking any Corrupt Activity and/or conduct that would give rise to an offence under section 7 of the Bribery Act or sections 45(1) or 46(1) of the Criminal Finances Act;

8.6.4 it shall include undertakings similar to those contained in this clause 8.6 in any contract it may enter into with sub-contractors and suppliers;

8.6.5 from time to time, at the reasonable request of the Employer, it will confirm in writing that it has complied with its undertakings under clauses 8.6.1 to 8.6.3 inclusive and will provide any information reasonably requested by the Employer in support of such compliance;

8.6.6 it shall maintain adequate records to assist in verifying its compliance with the provisions of this clause 8.6 (including without limitation books of account showing all payments made by the Contractor in connection with this Contract) and shall permit the Employer and its third party representatives, on reasonable notice during normal business hours, but without notice in the case of any reasonably suspected breach of clauses 8.6.1 to

8.6.3 inclusive, to access and take copies of such records and to meet with the Contractor's personnel to audit the Contractor's compliance with its obligations under this clause 8.6. The Contractor shall give all necessary assistance to the conduct of such audits."

Clause 8.6A

Insert new clause 8.6A:

"8.6A.1 Audit access by any third party representative of the Employer in accordance with clause 8.6.6 shall be subject to such representative agreeing to be bound by confidentiality obligations equivalent to those in clause 2.7.4 in respect of the information obtained **provided that** all information obtained may be disclosed to the Employer.

8.6A.2 The Contractor shall indemnify the Employer against any losses, liabilities, damages, costs (including but not limited to legal fees) and expenses incurred by, or awarded against, the Employer as a result of any breach of clause 8.6 by the Contractor or any breach of provisions equivalent to clause 8.6 in any contract with a sub-consultant or sub-contractor."

Clause 8.6B

Insert new clause 8.6B:

"The Employer may by notice to the Contractor terminate the Contractor's employment under this Contract and (if applicable) any other contract between the Employer and the Contractor:

8.6B.1 in the event of breach of clauses 8.6.1 to 8.6.4 inclusive; and/or

8.6B.2 if an Associated Person (or anyone employed by or acting on behalf of them) engages or has engaged in Corrupt Activity or any activity, practice or conduct which could or would place the Employer in breach of section 7(1) of the Bribery Act or sections 45(1) and 46(1) of the Criminal Finances Act; and/or

8.6B.3 where the Employer is a local authority if the Contractor gives or has given any fee or reward the receipt of which is an offence under section 117(2) Local Government Act 1972."

Clause 8.6C

Insert new clause 8.6C as follows:

8.6C.1 The Employer shall be entitled by notice to the Contractor to terminate the Contractor's employment under this or any other contract with the Employer if this Contract is one to which section 78 of the PA23 applies and the circumstances set out in section 78(2)(a) of the PA23 apply.

8.6C.2 The Contractor shall notify the Employer immediately upon becoming aware at any time prior to practical completion that it is an 'excluded supplier' or an 'excludable supplier' each within the meaning given to such term in section 57 of the PA23.

Clause 8.7

In line 1 delete "8.6" and insert "8.6B or 8.6C"

Clause 8.11.1.1

In clause 8.11.1.1, delete "force majeure" and insert "a Covid-19 Related Matter".

Clause 8.11.1.5

In line 7, insert "substantially" before "limiting"

In line 9, delete "necessary" and insert "essential".

Clause 8.11.1.6

In line 3, after "passing into law" insert "and coming into effect"

In line 5, after "existing law" delete the semi-colon and insert "and which the Contractor could not have reasonably foreseen at the Base Date; or"

In line 9, after "guidance" insert "with which it is mandatory for the Contractor to comply"

In lines 12-13, delete ", or in the case of guidance by the Construction Leadership Council or its successor"

Clause 8.11.3

Delete and insert:

"Where this Contract is one to which section 78 of the PA23 applies the Employer shall be entitled by notice to the Contractor to terminate the Contractor's employment under this Contract where any of the grounds set out in:

(a) section 78(2)(b) of the PA2023 apply or

(b) section 78(2)(c) of the PA2023 apply provided that before exercising its right to terminate the Contractor's employment pursuant to this clause 8.11.3(b) the Employer shall give the Contractor reasonable opportunity to cease sub-contracting to the excluded or excludable sub-contractor, and if necessary, find an alternative sub-contractor to which to sub-contract the relevant sub-contract works, and if the Contractor does so to the Employer's reasonable satisfaction the ground for termination pursuant to this clause 8.11.3(b) shall no longer be applicable."

Clause 8.12.6

Insert new clause 8.12.6

"The Employer shall not be liable for any other losses or damage arising out of or in connection with the termination of the Contractor's employment under this Contract."

Clause 8.14

Insert new clause 8.14:

"Notwithstanding clause 2.3 upon any determination of the Contractor's employment under this section 8 or if this Contract is determined, repudiated or discharged in any other manner and notwithstanding that the validity of such determination, repudiation or discharge may be disputed by the Contractor, the Contractor shall immediately deliver to the Employer possession of the Site."

Section 9 – Settlement of disputes

Clause 9.1

In line 3, inset a new second sentence after "dispute or difference": "Such notice shall include proposals for avoiding or mitigating such matter.

Renumber the clause as 9.1.2, delete "avoidance or" and insert "avoiding potential disputes and/or differences and the".

Insert above clause 9.1.2 a new clause 9.1.1:

Each Party shall each notify the other as soon as it becomes aware of any matter adversely affecting this Contract or either Party's performance of it. Such notice shall include proposals for avoiding or mitigating such matter. In addition with"

Clauses 9.3 to 9.9 inclusive

Delete clauses 9.3 to 9.9 inclusive and insert "Number not used." next to each.

Insert as a new Section 10

"Section 10 Compliance with Modern Slavery Legislation

10 Modern Slavery Legislation

10.1 The Contractor undertakes to the Employer that:

10.1.1 it has not and its current and former directors, officers and employees have not and shall not engage in activity which would amount to a breach of the Modern Slavery Legislation or activity which would constitute an offence under the Modern Slavery Legislation if the conduct took place in the United Kingdom;

10.1.2 it has not and its current and former directors, officers and employees have not and shall not engage in any activity, practice or conduct which could or would place the Employer in breach of the Modern Slavery Legislation or activity which would constitute an offence under the Modern Slavery Legislation if the conduct took place in the United Kingdom;

10.1.3 it has and shall maintain and implement:

(a) procedures to ensure compliance with the Modern Slavery Legislation; and

(b) adequate procedures designed to prevent conduct that would give rise to an offence under the Modern Slavery Legislation;

10.1.4 it shall include undertakings similar to those contained in these clauses 10.1 and 10.2 in any contract it may enter into with sub-consultants and/or sub-contractors and provisions similar to those contained in clauses 10.3 and 10.4;

10.1.5 from time to time, at the reasonable request of the Employer, it will confirm in writing that it has complied with its undertakings under clause 10.1 and will provide any information reasonably requested by the Employer in support of such compliance.

10.2 The Contractor shall maintain adequate records to assist in verifying its compliance with the provisions of this clause 10 and shall permit the Employer and its third party representatives, immediately upon request during normal business hours to access and take copies of such records and to meet with the Contractor's personnel to audit the Contractor's compliance with its obligations under this clause 10. The Contractor shall give all necessary assistance to the conduct of such audits.

10.3 Audit access by any third party representative of the Employer in accordance with clause 10.2 shall be subject to such representative agreeing to be bound by confidentiality obligations equivalent to those in clause 2.7.5.2 in respect of the information obtained provided that all information obtained may be disclosed to the Employer.

10.4 In the event of breach of clauses 10.1.1, 10.1.2 or 10.1.3 by the Contractor and/or breach by any sub-consultant or sub-contractor of equivalent clauses required under clause 10.1.4 and/or if the Contractor, sub-consultant or sub-contractor is convicted of an offence under the Modern Slavery Legislation in relation to this Contract or any other contract (whether or not the Employer is a party to that contract), the Parties agree that the Employer may at its sole discretion terminate the Contractor's employment under:

10.4.1 this Contract and the provisions of clause 8.7 shall apply; and

10.4.2 (if applicable) any other contract between the Parties (whether in relation to the Works or otherwise) and any such termination shall be deemed to be termination for default by the Contractor.

10.5 The Contractor further undertakes to the Employer that:

10.5.1 If required by law to do so, it shall, for each and every financial year of the Contractor, comply with its obligations under section 54 of the Modern Slavery Act by publishing a Human Trafficking Statement;

10.5.2 It shall include an undertaking similar to that contained in this clause 10.5 in any contract it may enter into with sub-consultants, sub-contractors and/or suppliers.

10.6 In the event of breach of clauses 10.1.4, 10.1.5, 10.2 and/or 10.5, the Parties agree that the Employer may by notice in writing to the Contractor require that such breaches will be rectified within 7 days of receipt. If the Contractor fails to rectify such breaches in accordance with the notice the Employer may in its sole discretion terminate the Contractor's employment under:

10.6.1 this Contract and the provisions of clause 8.7 shall apply; and

10.6.2 (if applicable) any other contract between the Parties (whether in relation to the Works or otherwise) and any such termination shall be deemed to be termination for Contractor default.

10.7 The Contractor shall indemnify the Employer against any losses, liabilities, damages, costs (including but not limited to legal fees) and expenses incurred by, or awarded against, the Employer as a result of:

10.7.1 any breach of clauses 10.1, 10.2 or 10.5 by the Contractor;

10.7.2 any breach of provisions equivalent to clauses 10.1, 10.2 or 10.5 in any contract with a sub-consultant or sub-contractor; or

10.7.3 any act or omission by a sub-consultant or sub-contractor which would have amounted to a breach of the relevant sub-contract had the Contractor complied with its undertaking set out in clause 10.1.4."

Schedule 1 – Design Submission Procedure

Paragraph 2

In line 1 delete both references to "14 days" and replace with "10 Business Days"

Paragraph 5

Delete paragraph 5.2 and replace with:

"5.2 if it is marked 'B' the Contractor must not carry out the Works (unless instructed by the Employer to do so) and shall incorporate the Employer's comments into the document and promptly re-submit it to the Employer for comment in accordance with Paragraph 1;"

Paragraph 6

In the second line after "marked" insert "'B' (unless instructed by the Employer to do so) or".

In the final line, delete "or 'B'".

At the end of the paragraph insert:

"For the avoidance of doubt the costs of remedying any Works carried out by the Contractor in accordance with a 'B' marked (where the Contractor was not instructed to proceed by the Employer) or a 'C' marked Contractor's Design Document shall be borne by the Contractor."

Paragraph 7

In line 2 delete "7 days" and insert "5 Business Days"

In line 5 delete "7 days" and insert "5 Business Days"

Paragraph 8

At the end of paragraph 8.3 insert:

"For avoidance of doubt no stamping, comment or authorisation by or on behalf of the Employer on or in respect of any document, drawing, calculation or sample submitted by the Contractor shall relieve the Contractor of any liability which he would otherwise have in relation thereto."

Paragraph 9

Insert new paragraph 9 as follows:

"9.1 The Employer will provide copies of further drawings, details and instructions in accordance with the Employer's Requirements.

9.2 Such further drawings, details and instructions shall be provided or given at the time it is reasonably necessary for the Contractor to receive them, having regard to the progress of the Works, or, if in the Employer's opinion practical completion of the Works or relevant Section is likely to be achieved before the relevant Completion Date, having regard to that Completion Date.

9.3 Where the Contractor has reason to believe that the Employer is not aware of the time by which the Contractor needs to receive such further drawings, details or instructions, the Contractor shall, so far as reasonably practicable, advise the Employer sufficiently in advance as to enable the Employer to comply with this paragraph 9."

Paragraph 10

Insert new paragraph 10 as follows:

"If the Contractor shall find errors in or require any alteration to the Contractor's Design Documents after they have been returned marked by the Employer with either 'A' or 'B' it shall notwithstanding that the errors have become part of the design of the Works resubmit such Contractor's Design Documents together with its corrections to the Employer for comment in accordance with paragraph 1."

Schedule 2 – Supplemental provisions

Supplemental Provision 6 – cost savings and value improvements

In line 1 of paragraph 6.2, after "The Contractor shall" insert ", at its own cost"

At the end of paragraph 6.2 insert "together with such information as the Employer may reasonably request"

Supplemental Provision 7 – performance indicators and monitoring

Insert new paragraphs 7.4 to 7.6 as follows:

7.4 Where this Contract is one to which s.52 of the PA23 applies the Employer shall set and publish the Key Performance Indicators to the Find a Tender Service.

7.5 Where the Employer has set and published Key Performance Indicators in accordance with paragraph 7.4 above, the Employer will monitor and report on Contractor's performance against the Key Performance Indicators in accordance with s.71 of the PA23 and regulation 39 of the Procurement Regulations 2024 (as amended from time to time) (the **PR24**) and shall publish ratings against those KPIs in accordance with the ratings set out in regulation 39(5) of the PR24.

7.6 The Contractor shall provide all reasonable assistance in allowing the Employer to comply with any of the Employer's obligations relating to transparency or publication arising out of the PA23 or PR24, and the Contractor acknowledges and agrees that the Employer may be required to publish information relating to the Agreement (and the Contractor's performance under the Agreement) during the Term of this Agreement (including but not limited to the circumstances set out in paragraphs 7.4 and 7.5 above).

Supplemental Provision 9 – Public Contracts Regulations 2015

Delete Supplemental Provision 9 in its entirety and insert:

Supplemental Provision 9 – Procurement Act 2023

9.1 Where this Contract is one to which s.73 of the PA23 applies the Contractor shall include in any sub-contract it enters into suitable provisions to impose the requirements of s.73(1) of the PA23.

9.2 Where this Contract is one to which the PA23 applies the Contractor shall include in any sub-contract it enters into suitable provisions requiring the sub-contractor to provide any information reasonably required by the Employer to enable it to fulfil its obligations under the PA23.

Schedule 5 - Third Party Rights

Part 1: Third Party Rights for Purchasers and Tenants

Delete paragraph 1.1.2 and insert:

"the Contractor shall in addition to the costs referred to in paragraph 1.1.1 be liable for any other losses incurred by the Purchaser or Tenant."

Delete paragraph 1.3 and insert "Not used"

In lines 1-3 of paragraph 4 delete ", insofar as it is the purchaser or tenant of any part(s) of the site, and subject to the Contractor having been paid all sums due and payable under this Contract, shall in respect of such parts" and replace with "shall"

In paragraph 8 delete from ":" to the end of the paragraph and insert "12 years."

Part 2: Third Party Rights for a Funder

Delete paragraph 1.1 and insert "Not used"

At the start of paragraph 8 delete "Subject to the Contractor having paid all sums due and payable under the Contract, the" and insert "The"

In paragraph 12 delete from ":" to the end of the paragraph and insert "12 years."

Schedule 6 – forms of bond

Part 1 – advance payment bond

In paragraph 3.2 delete final sentence.

Delete paragraph 8 and insert "The Bond and the benefit of the Bond shall be capable of being assigned by the Employer without the consent of the Surety to a party to whom the benefit of the Contract has been assigned. The Surety shall not assign the Bond or the benefit of the Bond."

At the start of paragraph 9 insert "Subject to paragraph 8"

In Schedule to advance payment bond delete "The above signatures to be authenticated by the Employer's Bankers"

Part 2 – bond in respect of payment for off-site materials and/or goods

In paragraph 4 delete the final sentence.

Delete paragraph 10 and insert "The Bond and the benefit of the Bond shall be capable of being assigned by the Employer without the consent of the Surety to a party to whom the benefit of the Contract has been assigned. The Surety shall not assign the Bond or the benefit of the Bond."

At the start of paragraph 11 insert "Subject to paragraph 10"

In Schedule to bond for payment for off-site materials and/or goods delete "The above signatures to be authenticated by the Employer's Bankers"

Part 3 – retention bond

In paragraph 4.1 delete ", and with the signature(s) therein authenticated by the Employer's bankers"

Delete paragraph 4.3 and insert "Not used."

Delete paragraph 4.4 and insert "Not used."

Delete paragraph 5 and insert "The Bond and the benefit of the Bond shall be capable of being assigned by the Employer without the consent of the Surety to a party to whom the benefit of the Contract has been assigned. The Surety shall not assign the Bond or the benefit of the Bond."

At the start of paragraph 8 insert "Subject to paragraph 5"

Schedule 7 – Fluctuations

Delete schedule 7 and insert "Not used."

Appendix 2

Performance Bond

The Guarantee Bond is made as a deed between the following parties whose names and registered office addresses are set out in Schedule to this Bond (the **Schedule**)

(1) The **Contractor** as principal

(2) The **Guarantor** as guarantor, and

(3) The **Employer**

Introduction

(A) By a contract (the **Contract**) entered into or to be entered into between the Employer and the Contractor particulars of which are set out in the Schedule the Contractor has agreed with the Employer to execute works (the **Works**) upon and subject to the terms and conditions therein set out

(B) The Guarantor has agreed with the Employer at the request of the Contractor to guarantee the performance of the obligations of the Contractor under the Contract upon the terms and conditions of this Guarantee Bond subject to the limitation set out in clause 2

Now this deed witnesses as follows:

1 The Guarantor guarantees to the Employer that in the event of a breach of the Contract by the Contractor and/or in the event that the Contractor becomes Insolvent the Guarantor shall subject to the provisions of this Guarantee Bond satisfy and discharge the damages sustained by the Employer either as agreed between the Contractor, the Guarantor and the Employer or as established in accordance with clause 9 and/or clause 10 or as established and ascertained pursuant to and in accordance with the provisions of or by reference to the Contract and taking into account all sums due or to become due to the Contractor. In the case of sums established in accordance with clause 10 any written notice from the Employer shall, if the sum has been established by an adjudicator, be accompanied by a copy of the adjudicator's decision.

2 The maximum aggregate liability of the Guarantor and the Contractor under this Guarantee Bond shall not exceed the sum set out in the Schedule (the **Bond Amount**) but subject to such limitation and to clauses 3 and 4 the liability of the Guarantor shall be as co-extensive with the liability of the Contractor under the Contract.

3 The Guarantor shall not be discharged or released by any act, omission, matter or thing which, but for this clause, would or might reduce, release or prejudice any of its obligations under this Guarantee Bond including, without limitation:

3.1 any alteration and/or variation of any of the terms conditions and provisions of the Contract or in the extent or nature of the Works;

3.2 any allowance of time by the Employer under or in respect of the Contract or the Works;

3.3 any advance payment of sums which may become due and owing under or in respect of the Contract or the Works;

3.4 the suspension or termination of the Contract or of the employment of the Contractor under the Contract;

3.5 any disclaimer of the Contract by any liquidator or administrator appointed to the Contractor (and the Contract shall for the purposes of this Guarantee Bond be deemed to continue notwithstanding any such disclaimer);

3.6 the liquidation, bankruptcy, administration, absence of legal personality, dissolution, incapacity, amalgamation, reconstruction or change in the name, composition, status, function, ownership or control of the Contractor or the Guarantor.

4 Whether or not this Guarantee Bond shall be returned to the Guarantor the obligations of the Guarantor under this Guarantee Bond shall be released and discharged absolutely upon Expiry (as defined in the Schedule) save where the Contractor becomes Insolvent and/or in respect of any breach of the Contract which has occurred and in respect of which a claim in writing containing particulars of such breach and/or the fact that the Contractor has become Insolvent has been made upon the Guarantor before Expiry.

5 The Contractor having requested the execution of this Guarantee Bond by the Guarantor undertakes with the Guarantor (without limitation of any other rights and remedies of the Employer or the Guarantor against the Contractor) to perform and discharge the obligations on its part set out in the Contract.

6 This Guarantee Bond and the benefit thereof shall be capable of being assigned without the prior written consent of the Guarantor and/or the Contractor to a party to whom the benefit of the Contract has been assigned always provided that the Guarantor is notified of any such assignment. The Guarantor and/or the Contractor shall not be entitled to assign this Guarantee Bond or the benefit thereof.

7 The parties to this Guarantee Bond do not intend that any of its terms will be enforceable by virtue of The Contracts (Rights of Third Parties) Act 1999 or otherwise by any person not a party to it save for permitted assignees pursuant to clause 6.

8 This Guarantee Bond shall be governed by and constructed in accordance with the laws of England and Wales and only the courts of England and Wales shall have exclusive jurisdiction hereunder.

9 The Employer shall not be obliged to pursue any means of recourse against the Contractor before being entitled to enforce this Guarantee Bond against the Guarantor **provided that** if the Employer does seek recourse against the Contractor before seeking recourse under this Guarantee Bond any money judgment of the court or arbitrator's award or decision of an adjudicator against the Contractor in favour of the Employer under the Contract shall be conclusive evidence for the purposes of this Guarantee Bond as to any liability of the Contractor to which such judgment award or decision relates (unless and until the same is set aside by any competent tribunal) but on condition that if the Employer commences any proceedings in court or arbitration proceedings or adjudication against the Contractor under or in connection with the Contract, it shall so notify the Guarantor within 28 days (or 7 days in the case of adjudication) after their commencement.

10.1 In the event of the Contractor becoming Insolvent the Employer's loss shall be as agreed between the Guarantor and the Employer or, in default of agreement within [ ] days of the

Employer submitting a written notice stating that the Contractor has become Insolvent, either the Employer or the Guarantor may refer the Employer's claim to adjudication for resolution in accordance with the following provisions:

10.1.1 the adjudication shall be carried out in accordance with the adjudication provisions contained in the Scheme for Construction Contracts (England and Wales) Regulations 1998 (as amended) (the **Scheme**);

10.1.2 for the purposes of the Scheme the adjudicator shall be [ ] and the nominating body shall be the [ ];

10.1.3 the adjudicator shall have jurisdiction only to determine whether the Contractor is Insolvent and the amount of the Employer's loss.

10.2 For the purposes of this clause the Employer's loss shall also include damages sustained and/or which may be sustained by the Employer.

11 Any payment by the Guarantor to the Employer of sums established pursuant to clause 10 shall be an interim payment on account of any further sums due and payable pursuant to clause 1.

12 Any claim or notice under this Guarantee Bond may be served personally, by first class post and shall be sent to the Guarantor at [ ] or to such other address within the United Kingdom or facsimile number as the Guarantor may have previously notified in writing to the Employer. Any claim or notice if delivered personally shall be deemed to have been served at the time of delivery, if sent by post, shall be deemed to have been served on the second business day following posting.

13 The Employer may make any number of claims under this Guarantee Bond but the total of amounts due shall not exceed the Bond Amount.

In witness whereof the Contractor, the Employer and the Guarantor have executed and delivered this Guarantee Bond as a deed this day of 20

The Schedule

The Contractor:	**[*Insert Contractor's full company name*]** (registration number [*insert contractor's registered company number*]) whose registered office is at [*insert contractor's registered address*]
The Guarantor:	**[*Insert Guarantor's full company name*]** (registration number [*insert guarantor's registered company number*]) whose registered office is at [*insert guarantor's registered address*]
The Employer:	[**VIVID Housing Limited** (registered under the Cooperative and Community Benefit Societies Act 2014 with registration number 7544) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB] *Or* [**Vestal Developments Limited** (registration number 05509078) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB]
The Contract:	A contract dated between the Employer and the Contractor in the form of a JCT Design and Build Contract, 2024 edition as amended for the construction of works comprising [ ] for the original contract sum of [ ] pounds (£[ ])
The Bond Amount:	The sum of [ ] pounds sterling
Expiry:	the issue Notice of Completion of Making Good for the Works pursuant to and in accordance with the Contract which shall be conclusive for the purposes of this Guarantee Bond
Insolvent:	shall have the same meaning as in the Contract

Appendix 3

Parent Company Guarantee

dated [ ]

Parties

(1) [ ] (registration number [ ]) whose registered office is at [ ] (the **Guarantor**)

(2) [**VIVID Housing Limited** (registered under the Cooperative and Community Benefit Societies Act 2014 with registration number 7544) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB (the **Beneficiary**)]

Or

[**Vestal Developments Limited** (registration number 05509078) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB (the **Beneficiary**)]

Introduction

(A) The Beneficiary has entered into the Building Contract (defined below) with the Contractor (defined below) for the carrying out of the Project for the sum mentioned in the Building Contract.

(B) The Guarantor has agreed to guarantee the due performance of the Building Contract in the manner set out in this guarantee.

Agreed terms

1 **Interpretation and definitions**

In this guarantee the following terms have the following meanings unless inconsistent with the context:

Beneficiary shall include successors and assigns;

Contractor means [ ] (registration number [ ]) whose registered office is at [ ];

Building Contract means the JCT Design and Build Contract, 2024 edition as amended entered into between the Beneficiary and the Contractor dated [ ] relating to the Project as amended or varied;

Obligations means the obligations, duties, undertakings, covenants and conditions by or on the part of the Contractor contained in the Building Contract and to be observed and performed by the Contractor;

Project means the design, construction, completion and defects rectification to be carried out at the Site pursuant to the Building Contract including any variations to the Building Contract;

Site means [ ].

2 **Consideration**

In consideration of the payment of £10.00 (ten pounds) by the Beneficiary to the Guarantor (receipt of which the Guarantor hereby acknowledges) the Guarantor covenants with the Beneficiary as set out in this guarantee.

3 **Guarantee**

3.1 The Guarantor (as primary obligor and not merely as surety) irrevocably and unconditionally:

3.1.1 guarantees the due and proper performance of the Building Contract by the Contractor;

3.1.2 the due observance and punctual performance of all the Obligations to be observed and performed by the Contractor.

3.2 The Guarantor undertakes with the Beneficiary that:

3.2.1 if the Contractor fails to pay any debt, damages, interest or costs due from the Contractor to the Beneficiary under or in connection with the Building Contract including pursuant to any judgement of a court or arbitrator's award or decision of an adjudicator against the Contractor in favour of the Beneficiary the Guarantor shall, within 5 Working Days of receipt of written demand, without deduction or withholding pay to the Beneficiary that amount as if it was the principal obligor;

3.2.2 if the Contractor fails to perform any of the Obligations (other than those referred to in clause 3.2.1) and/or the employment of the Contractor under the Building Contract is terminated by operation of clauses 8.4, 8.5 and/or 8.6B of the Building Contract the Guarantor shall immediately on demand procure that a subsidiary of the Guarantor or that the Guarantor itself carries out, observes and performs all of the Obligations in substitution for the Contractor.

3.3 The guarantee set out in clause 3.1 shall extend to include any variation or addition to the Building Contract.

4 **Indemnity**

4.1 The Guarantor (as principal obligor and as a separate, primary and independent obligation from the obligations set out in clause 3) undertakes to indemnify and keep indemnified the Beneficiary within 5 Working Days of demand against any cost, loss or liability suffered and expenses suffered or incurred by the Beneficiary:

4.1.1 as a result of the Contractor's failure to carry out, observe or perform all or any of the Obligations; and/or

4.1.2 if the Contractor fails to pay any debt, damages, interest or costs due from the Contractor to the Beneficiary under or in connection with the Building Contract; and/or

4.1.3 if the employment of the Contractor under the Building Contract is terminated by operation of clauses 8.4, 8.5 and/or 8.6B of the Building Contract; and/or

4.1.4 if any of the Obligations are or become unenforceable, invalid or illegal on any ground whatsoever as if the Obligations had not become unenforceable, invalid or illegal

provided that the amount payable by the Guarantor under this clause shall not exceed the amount which would have been payable by the Contractor under the Building Contract (excluding rights of deduction, set-off and counterclaim) and on the basis that the Building Contract is valid and enforceable.

5 **Waiver of defences**

The Guarantor shall not be discharged or released from this guarantee by any act, omission, matter or thing which, but for this clause, would or might reduce, release or prejudice any of its obligations under this guarantee including, without limitation, the occurrence of any one or more of the following:

5.1 any alteration to the nature or extent of the Project or any amendment to or variation, express or implied, waiver or release of the terms of the Building Contract;

5.2 any allowance of time, forbearance, indulgence or other concession granted to the Contractor under the Building Contract or any other compromise or settlement of any dispute between the Beneficiary and the Contractor **provided that** the Beneficiary shall not pursue against the Guarantor a remedy contrary to the terms of any such compromise or settlement insofar as the Contractor shall have complied with the terms of such compromise or settlement;

5.3 the liquidation, bankruptcy, administration, absence of legal personality, dissolution, incapacity, amalgamation, reconstruction or any change in the name, composition, status, function, ownership or control of the Contractor or the Guarantor;

5.4 any disclaimer of the Building Contract by any liquidator or administrator appointed to the Contractor (and the Building Contract shall for the purposes of this guarantee be deemed to continue notwithstanding any such disclaimer);

5.5 any provision of the Building Contract being or becoming illegal, invalid, void, voidable or unenforceable for any reason whatsoever;

5.6 the suspension or termination of the Building Contract or of the employment of the Contractor under the Building Contract for any reason whatsoever; and

5.7 any failure to take or to realise (or fully to take or to realise), or any release, discharge, exchange or substitution of, any security, guarantee or indemnity in respect of the Building Contract.

6 **Continuing guarantee**

This guarantee is a continuing guarantee and shall remain in operation until all the obligations, duties, undertakings, covenants, conditions and warranties now or hereafter to

be carried out or performed by the Contractor under the Building Contract shall have been satisfied or performed in full.

7 **Calls on the guarantee**

The Beneficiary:

7.1 will not be bound first to make demand on or enforce any rights against the Contractor or any other guarantor or other person before enforcing this guarantee;

7.2 may make more than one (1) demand under this guarantee;

7.3 shall not be obliged to pursue any means of recourse against the Contractor before being entitled to enforce this guarantee against the Guarantor **provided that** if the Beneficiary does seek recourse against the Contractor any money judgement of a court or arbitrator's award or decision of an adjudicator against the Contractor in favour of the Beneficiary under the Building Contract shall be conclusive evidence for the purposes of this guarantee as to any liability of the Contractor to which such judgement, award or decision relates (unless and until the same is set aside by any competent tribunal).

8 **Representations**

The Guarantor represents and warrants to the Beneficiary that:

8.1 this guarantee constitutes a valid and legally binding obligation of it in accordance with its terms;

8.2 it has the power and has taken all corporate and other action required to enter into this guarantee and to authorise its execution and delivery and the performance of its obligations under it;

8.3 the execution, delivery and performance of this guarantee does not violate its constitution, any law applying to it or any agreement or other obligation binding on the Guarantor or any of its assets;

8.4 it is not insolvent or in liquidation or administration or subject to any other insolvency procedure and no receiver, manager, trustee, custodian or analogous officer has been appointed in respect of any part of its property, undertaking or assets in any jurisdiction.

9 **Deferral of guarantor's rights**

9.1 Insofar as any sums are payable (contingently or otherwise) by the Contractor to the Beneficiary under the Building Contract the Guarantor shall not exercise any right of set-off or counterclaim against the Contractor or any other person or prove in competition with the Beneficiary in respect of any payment by the Guarantor under this guarantee. If the Guarantor receives any sums from the Contractor or any other person in respect of any payment of the Guarantor under this guarantee the Guarantor shall hold such monies in trust for the Beneficiary so long as any sums are payable (contingently or otherwise) under this guarantee.

9.2 The Guarantor will not, without the prior written consent of the Beneficiary, hold any security from the Contractor or any other person in respect of the Guarantor's liability under this guarantee or in respect of any liability or other obligations of the Contractor to

the Guarantor. The Guarantor will hold any security held by it in breach of this provision in trust for the Beneficiary.

10 **Additional security**

This guarantee is in addition to and not in substitution for any present and future guarantee lien or other security held by the Beneficiary. The Beneficiary's rights under this guarantee are in addition to and not exclusive of those provided by law.

11 **Interest on late payment**

If the Guarantor defaults in the payment when due of any sum payable under this guarantee (whether determined by agreement or pursuant to an order of court or otherwise) its liability shall be increased to include interest on such sum from the date when it is due for payment up to and including the date of actual payment (After as well as before judgement) at the rate of 4% above the bank rate from time to time of the Bank of England. Interest shall accrue on a daily basis and shall be compounded monthly.

12 **Invalidity of any of the terms of this guarantee**

If any provision of this guarantee is held by any competent authority to be invalid unlawful or unenforceable in whole or in part, the validity lawfulness and enforceability of the other provisions of this guarantee and the remainder of the provision in question shall not be affected thereby.

13 **Assignment**

The Beneficiary shall be entitled to assign this guarantee and/ or the benefit of it to a party to whom it has simultaneously assigned the benefit of the Building Contract in accordance with the terms of the Building Contract or to a person who has replaced the Beneficiary by the exercise of its right to step into the Building Contract, or that party's nominee.

14 **Contracts (Rights of Third Parties) Act 1999**

The parties hereby confirm that nothing in this guarantee shall confer on any person any right to enforce any term of this guarantee which that person would not have had but for the Contracts (Rights of Third Parties) Act 1999.

15 **Law and jurisdiction**

This guarantee and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of England and Wales and the parties hereby submit to the exclusive jurisdiction of the English courts. Nothing in this clause shall affect the ability of the Beneficiary to enforce any judgement against the Guarantor in any jurisdiction.

16 **Notices**

16.1 Any notice to be given under this guarantee shall be in writing and shall be deemed to be duly given if delivered in the case of a corporation to the parties' registered office for the time being or in any other case to the parties' principal place of business.

16.2 Notices shall be delivered by:

16.2.1 hand delivery; or

16.2.2 pre-paid registered or recorded delivery mail; or

16.2.3 facsimile transmission (transmitted before 4.00 pm on a working day) and confirmed by first class pre-paid post.

16.3 Notices and communications shall be deemed to have been delivered or received in the case of:

16.3.1 hand delivery on the date of delivery;

16.3.2 pre-paid registered or recorded delivery mail on the second working day after the notice of communication is posted;

16.3.3 facsimile transmission sent in accordance with clause 16.2.3 on the date and time the facsimile is successfully transmitted as evidenced by the sender's facsimile transmission slip.

This guarantee has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it

Appendix 4

Contractor Collateral Warranty

dated

Parties

(1) **[*Insert Contractor's full company name*]** (registration number [*insert contractor's registered company number*]) whose registered office is at [*insert contractor's registered address*] (the **Contractor**)

(2) **[*Insert Beneficiary's full company name*]** (registration number [*insert beneficiary's registered company number*]) whose registered office is at [*insert beneficiary's registered address*] (the **Beneficiary**)

[(3) [**VIVID Housing Limited** (registered under the Cooperative and Community Benefit Societies Act 2014 with registration number 7544) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB (the **Employer**); and]

Or

[**Vestal Developments Limited** (registration number 05509078) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB (the **Employer**); and]][2]

Introduction

(A) The Employer has procured the carrying out of the Project at the Property (both as hereinafter defined).

(B) The Contractor carries on business as a building contractor and has been appointed as such by the Employer to carry out the Works upon the terms and conditions contained in the Building Contract (both as hereinafter defined).

(C) The Beneficiary has an interest/will have an interest in the Property or a part or parts of the Property and/or the Project and has entered into the Agreement (as hereinafter defined) in respect of the Property.

(D) The Contractor has agreed to enter into this warranty in favour of the Beneficiary.

Agreed terms

1 **Interpretation and definitions**

1.1 In this warranty the following terms have the following meanings unless inconsistent with the context:

[Agreement means the finance agreement between the Beneficiary and the Employer whereby the Beneficiary has agreed to provide finance for the carrying out and completion of the Project;][3]

[2] To be included in the Funder collateral warranty only
[3] To be included in the Funder collateral warranty only

[Agreement means the agreement between the Beneficiary and the Employer whereby the Beneficiary has agreed to purchase the Property or part of the Property;][4]

Building Contract means the JCT Design and Build Contract, 2024 edition as amended dated [ ] entered into between the Employer and the Contractor (and any further agreement(s) varying or supplementing it) for the Works;

Documents means all drawings plans models specifications schedules reports calculations and other works (including without limitation any such items retained on or in any computer software or other electronic medium) which have been or will be prepared by or on behalf of the Contractor in the course of the carrying out of the Works whether in existence or to be made or produced and including all amendments and additions to them;

[Employer means

[**VIVID Housing Limited** (registered under the Cooperative and Community Benefit Societies Act 2014 with registration number 7544) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB]

[**Vestal Developments Limited** (registration number 05509078) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB]][5]

Group Company means any subsidiary company or holding company of the Beneficiary or another subsidiary or holding company of such company as subsidiary and holding company are defined in section 1159 Companies Act 2006;

Moral Rights means moral rights under Chapter IV of Part 1 of the Copyright Designs and Patents Act 1988;

Practical Completion means the date of practical completion of the whole of the Works pursuant to the Building Contract;

Project means [ ] at the Property;

Property means [ ];

Working Day means any day except Saturday Sunday and bank or other public holidays in England;

Works means the works of design, construction, completion and defects rectification to be carried out on the Property pursuant to the Building Contract.

1.2 The clause headings in this warranty are for convenience only and do not affect its interpretation.

1.3 Words importing the singular meaning include where the context so allows the plural meaning and vice versa.

1.4 Words of one gender include both genders and words denoting natural persons include firms and companies and all are to be construed interchangeably in that manner.

[4] To be included in the Purchaser/Tenant collateral warranty only
[5] To be included in the Purchaser/Tenant collateral warranty only

1.5 A reference to any statute or statutory instrument shall include a reference to any modification extension or re-enactment of it.

1.6 References in this warranty to numbered clauses are references to the relevant clause in this warranty.

2 **Consideration**

In consideration of the payment of £10.00 (ten pounds) by the Beneficiary to the Contractor (receipt of which the Contractor hereby acknowledges) the Contractor covenants to the Beneficiary as set out in this warranty.

3 **Duty of care**

The Contractor warrants and undertakes to the Beneficiary that:

3.1 it has performed and shall continue to perform all of its duties and obligations under or arising out of the Building Contract; and

3.2 (to the extent that it has design responsibility in relation to the Works or any part of the Works) the design has been and shall be carried out using all the reasonable skill and care to be expected of a properly qualified and competent design and build contractor experienced in the carrying out of such work for projects of a similar size scope value character and complexity to the Project; and

3.3 it shall owe a duty of care to the Beneficiary in respect of all matters which lie within the scope of the Contractor's responsibilities in relation to the Project **provided that** the Contractor shall owe no greater duty of care to the Beneficiary under this warranty than it would have done if, in lieu of this warranty, the Beneficiary had been named as employer instead of the Employer in the Building Contract; and

3.4 the Beneficiary shall be deemed to have relied and shall continue to rely upon the Contractor's skill and judgement in respect of all matters which lie within the scope of the Contractor's responsibilities in relation to the Project.

4 **Prohibited materials**

4.1 The Contractor warrants that it has not used and shall not use and that it has not and shall not authorise, cause or allow to be used in the Project any products or materials which:

4.1.1 do not conform with UK Designated Standards (where appropriate) or Codes of Practice (or where no such standard exists do not conform with a British Board of Agrèment Certificate); and/or

4.1.2 are generally known to the construction industry to be deleterious, in the particular circumstances in which they are specified for use, to health and safety and/or the durability of buildings or structures; and/or

4.1.3 do not comply with the guidance set out in the publication by the British Council of Offices entitled "Good Practice in the Selection of Construction Materials 2011".

4.2 The Contractor shall as soon as reasonably practicable notify the Beneficiary if it becomes aware of any proposed or actual specification and/or use in the Project of any materials which do not comply with clause 4.1.

5 **[Step-in**

5.1 The Contractor covenants with the Beneficiary that if any event of default shall occur under the Agreement at any time the Contractor shall, if so required by notice in writing given by the Beneficiary in accordance with clauses 5.4.1 to 5.4.3 inclusive, accept the instructions of the Beneficiary or its appointee to the exclusion of the Employer upon the terms and conditions of the Building Contract and the Employer acknowledges that the Contractor shall be entitled to rely on the notice given to the Contractor by the Beneficiary as conclusive evidence for the purpose of this warranty that these circumstances have occurred permitting the Beneficiary to give such notice.

5.2 The Contractor hereby covenants that it shall not exercise nor seek to exercise any right to terminate or treat as terminated the Building Contract and/or its employment or discontinue or suspend the performance of any of its obligations under the Building Contract without first giving to the Beneficiary prior written notice specifying the Contractor's ground for terminating or treating as terminated the Building Contract and/or its employment and/or discontinuing or suspending its performance under the Building Contract. If the grounds are that sums which are due have not been paid by the final payment date and no effective notice to withhold payment has been given the Contractor shall give 7 days' notice otherwise the Contractor shall give 15 Working Days' notice.

5.3 Compliance by the Contractor with the provisions of clause 5.2 shall not be treated as a waiver of any breach on the part of the Employer giving rise to the right of determination discontinuance or suspension nor otherwise prevent the Contractor from exercising its rights after the expiration of the notice unless the right of determination discontinuance or suspension shall have ceased pursuant to the provision of clause 5.4.

5.4 Within the relevant notice period referred to in clause 5.2 the Beneficiary or its appointee may give written notice to the Contractor:

5.4.1 acknowledging that it assumes all the obligations of the Employer;

5.4.2 requiring the Contractor to continue with the performance of its duties and obligations under the Building Contract;

5.4.3 undertaking unconditionally to the Contractor to pay to the Contractor within 15 Working Days after the date of the notice under this clause 5.4 any sums which have become properly due and payable to the Contractor under the Building Contract but which are at the date of such notice unpaid and in the case of a notice from an appointee of the Beneficiary the Beneficiary shall guarantee all payments due to the Contractor from the appointee[;] [.]

[**provided that** the rights of [ ] under clause 5 of the warranty given or to be given by the Contractor to [ ] shall have priority over the rights of the Beneficiary under this clause whether such are exercised by [ ] before or after the exercise by the Beneficiary of its rights under this clause *(only use this clause if there is more than one party who has the right to step in)*.]

5.5 In the event of the Beneficiary or their appointee giving notice to the Contractor in accordance with clause 5.4 the Building Contract shall continue in full force and effect and in all respects as if the Building Contract had been made between the Contractor and the Beneficiary or its appointee (as applicable) to the exclusion of the Employer (but without prejudice to any rights of recovery as between the Contractor and the Employer) and the provisions of this clause shall apply notwithstanding any dispute or doubt as to the validity of such rights of determination or discontinuance.

5.6 The Employer confirms its agreement to the terms and conditions of this warranty and its concurrence with the arrangements made and contemplated by this warranty.][6]

6 **Copyright and moral rights**

6.1 The Contractor hereby grants to the Beneficiary an irrevocable royalty-free non-exclusive licence to use copy and reproduce the Documents for any purpose whatsoever connected with the Project and/or the Property including but without limitation the execution, completion, extension, maintenance, letting, management, sale, advertisement, alteration, reinstatement and repair of the Project and/or the Property **provided always** that the Contractor shall not be liable for any such use by the Beneficiary of the Documents for any purpose other than that for which the same were prepared and provided by the Contractor.

6.2 The licence referred to in clause 6.1 carries the right to grant sub-licences, shall be transferable to third parties and shall continue in force notwithstanding any termination of the Building Contract and/or the Contractor's employment under the Building Contract.

6.3 The Contractor warrants that the use of the Documents for the purposes of the Project and/or pursuant to the licence granted pursuant to clause 6.1 shall not infringe the rights of any third party.

6.4 The Contractor waives absolutely all Moral Rights the Contractor may have in the Documents and/or the Works and where it is not the author shall procure a waiver from the author of any Moral Rights the author may have in respect of the Documents and/or the Works.

6.5 When requested to do so by the Beneficiary the Contractor shall provide to the Beneficiary copies of the Documents subject to the Beneficiary paying the Contractor's reasonable copying charges in connection with complying with such request.

7 **Insurance**

7.1 The Contractor shall effect and maintain professional indemnity insurance in the sum of [ ] pounds (£ [ ]) [for each and every claim] [for each occurrence of series of occurrences arising out of each and every event] [in the aggregate for each year of insurance] [**provided that** such limit of indemnity may be [in the aggregate for each year of insurance] [[ ] pounds (£ [ ])] in respect of claims for pollution contamination and date recognition] without unusual or onerous conditions or excesses with reputable insurers carrying on business in the UK with effect from the date of commencement of the Works and for a period equivalent to the period for which the Contractor is liable under this warranty pursuant to clause 14 **provided that** such insurance remains available to

[6] To be included in the Funder collateral warranty only

organisations of equivalent size and type to the Contractor's practice/organisation at commercially reasonable rates and on commercially reasonable terms.

7.2 The Contractor undertakes to provide to the Beneficiary on demand from time to time such evidence as the Beneficiary may reasonably require to satisfy himself that the insurance required by clause 7.1 is being maintained.

7.3 The Contractor shall inform the Beneficiary if the insurance required by clause 7.1 is not maintained or renewed or for any reason becomes void or unenforceable or ceases to be available at commercially reasonable rates and terms and shall agree with the Beneficiary the best means of protecting the Contractor and the Beneficiary's respective interests and carry out such actions as shall be necessary to implement any agreed actions.

7.4 The Contractor shall not compromise settle or waive any insurance claim it may have relating to any liability under this warranty without the Beneficiary's prior consent **provided that** nothing in this clause shall prevent the Contractor's insurers from taking over (in the Contractor's name) the defence of any claim made by the Beneficiary under this warranty and (in that capacity) from conducting and settling it as they see fit.

8 Assignment

8.1 The Contractor shall not without the consent of the Beneficiary assign its rights under this warranty.

8.2 The Beneficiary may (without the consent of the Contractor [and the Employer][7]) assign its rights under this warranty:

8.2.1 to any mortgagee and by way of re-assignment on redemption;

8.2.2 to any Group Company;

8.2.3 on two other occasions only.

8.3 In this warranty references to the Beneficiary shall include where the context admits its permitted assignees but not so as to permit more than two assignments under clause 8.2.3.

8.4 The Contractor undertakes with the Beneficiary not to contend that any person to whom this warranty may be assigned will be precluded from recovering under this warranty any loss resulting from any breach of this warranty either by reason that the person is an assignee and not the original party to this warranty or by reason that the Beneficiary named in this warranty or any intermediate owner of the Beneficiary's interest in the Project shall escape loss resulting from such breach by reason of the disposal of its interest in the Project.

9 Additional warranties

Within 10 Working Days of a request to do so from the Beneficiary the Contractor shall execute as a warranty and deliver to the Beneficiary a warranty or warranties in favour of any Tenant (as that term is defined in the Building Contract) in the same form as this

[7] To be included in the Funder collateral warranty only

warranty (save that this clause and the step-in provisions shall be deleted and the recitals amended to reflect the correct factual position).

10 **Notices**

10.1 Any notice to be given under this warranty shall be in writing and shall be deemed to be duly given if it is delivered to the parties' registered office for the time being.

10.2 Notices may be served by:

10.2.1 personal delivery; or

10.2.2 pre-paid registered or recorded delivery mail; or

10.2.3 facsimile transmission (transmitted before 4.00 pm on a Working Day) and confirmed by first class pre-paid post.

10.3 Notices and communications shall be deemed to have been served or received in the case of:

10.3.1 personal delivery on the date of delivery;

10.3.2 pre-paid registered or recorded delivery mail on the second Working Day after the notice of communication is posted;

10.3.3 facsimile transmission sent in accordance with clause 10.2.3 on the date and time the facsimile is successfully transmitted as evidenced by the sender's facsimile transmission slip.

11 **Continuing effect**

Notwithstanding the completion of the Project or any part of the Project this warranty shall continue to have effect.

12 **Miscellaneous**

12.1 Nothing in this warranty shall limit or affect any other rights or remedies (whether under any contract, at law, at equity or otherwise) which the Beneficiary would have against the Contractor in the absence of this warranty.

12.2 The Contractor's liability under this warranty shall not be released, diminished or in any other way affected by:

12.2.1 the appointment by the Beneficiary of any person to survey the Property or to monitor the carrying out of the Works or to inspect any documents relating to the Property and/or the Works on behalf of the Beneficiary or the failure to appoint such a person; or

12.2.2 any approval or consent given or withheld or purported to be given or withheld by or on behalf of the Beneficiary.

13 **Contracts (Rights of Third Parties) Act 1999**

13.1 Nothing in this warranty confers or purports to confer any rights on any person pursuant to the Contracts (Rights of Third Parties) Act 1999.

14 **Liability period**

14.1 Without prejudice to any action or proceedings that arise from a breach of the Defective Premises Act 1972 or section 38 of the Building Act 1984 in respect of which the limitation period for bringing such contractual claims shall be the same as the applicable limitation period if the action or proceedings were commenced under that legislation or under the Civil Liability (Contribution) Act 1978 if later, no action or proceedings shall be commenced under this warranty after 12 years from Practical Completion.

15 **Law**

15.1 This warranty shall and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) be governed by and construed in accordance with the laws of England and Wales and the parties hereby submit to the exclusive jurisdiction of the English courts.

This warranty has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it

Appendix 5

Design Sub-Contractor Collateral Warranty

dated

Parties

(1) **[*Insert Sub-Contractor's full company name*]** (registration number [*insert sub-contractor's registered company number*]) whose registered office is at [*insert sub-contractor's registered address*] (the **Sub-Contractor**)

(2) **[*Insert Beneficiary's full company name*]** (registration number [*insert beneficiary's registered company number*]) whose registered office is at [*insert beneficiary's registered address*] (the **Beneficiary**)

[(3) **[*Insert Contractor's full company name*]** (registration number [*insert contractor's registered company number*]) whose registered office is at [*insert contractor's registered address*] (the **Contractor**)][8]

Introduction

(A) The Sub-Contractor carries on business as a [ ] and has been appointed as such by the Contractor to carry out the Sub-Contract Works upon the terms and conditions contained in the Sub-Contract (as hereinafter defined).

(B) [The Beneficiary has an interest/will have an interest in the Property or a part or parts of the Property and/or the Project and has entered into the Agreement (as hereinafter defined) in respect of the Property.][9] [The Beneficiary is the Client of the Project.][10]

(C) The Sub-Contractor has agreed to enter into this warranty in favour of the Beneficiary.

Agreed terms

1 **Interpretation and definitions**

1.1 In this warranty the following terms have the following meanings unless inconsistent with the context:

[Agreement means the finance agreement between the Beneficiary and the Client whereby the Beneficiary has agreed to provide finance for the carrying out and completion of the Project;][11]

Building Contract means the JCT Design and Build Contract, 2024 edition as amended dated [ ] entered into between the [Client][12] [Beneficiary][13] and the Contractor (and any further agreement(s) varying or supplementing it) for the Works;

[8] To be included in the Employer and Funder collateral warranties only
[9] To be included in the Funder and Purchaser/Tenant collateral warranties only
[10] To be included in the Employer collateral warranty only
[11] To be included in the Funder and Purchaser/Tenant collateral warranties only
[12] To be included in the Funder and Purchaser/Tenant collateral warranties only
[13] To be included in the Employer collateral warranty only

[Client means

[**VIVID Housing Limited** (registered under the Cooperative and Community Benefit Societies Act 2014 with registration number 7544) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB]

[**Vestal Developments Limited** (registration number 05509078) whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB]][14]

[Contractor means **[*Insert Contractor's full company name*]** (registration number [*insert contractor's registered company number*]) whose registered office is at [*insert contractor's registered address*]][15]

Documents means all drawings plans models specifications schedules reports calculations and other works (including without limitation any such items retained on or in any computer software or other electronic medium) which have been or will be prepared by or on behalf of the Sub-Contractor in the course of the carrying out of the Sub-Contract Works whether in existence or to be made or produced and including all amendments and additions to them;

Group Company means any subsidiary company or holding company of the Beneficiary or another subsidiary or holding company of such company as subsidiary and holding company are defined in section 1159 Companies Act 2006;

Moral Rights means moral rights under Chapter IV of Part 1 of the Copyright Designs and Patents Act 1988;

Practical Completion means the date of practical completion of the whole of the Works pursuant to the Building Contract;

Project means [ ] at the Property;

Property means [ ];

Sub-Contract means the [ ] entered into between the Contractor and the Sub-Contractor dated [ ] (and any further agreement(s) varying or supplementing it) for the Sub-Contract Works;

Sub-Contract Works means the Sub-contract works of [ ] to be carried out by the Sub-Contractor under the Sub-Contract in relation to the Project;

Working Day means any day except Saturday Sunday and bank or other public holidays in England;

Works means the works of design, construction, completion and defects rectification to be carried out on the Property pursuant to the Building Contract.

1.2 The clause headings in this warranty are for convenience only and do not affect its interpretation.

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[14] To be included in the Funder and Purchaser/Tenant collateral warranties only
[15] To be included in the Purchaser/Tenant collateral warranties only

1.3 Words importing the singular meaning include where the context so allows the plural meaning and vice versa.

1.4 Words of one gender include both genders and words denoting natural persons include firms and companies and all are to be construed interchangeably in that manner.

1.5 A reference to any statute or statutory instrument shall include a reference to any modification extension or re-enactment of it.

1.6 References in this warranty to numbered clauses are references to the relevant clause in this warranty.

2 **Consideration**

In consideration of the payment of £10.00 (ten pounds) by the Beneficiary to the Sub-Contractor (receipt of which the Sub-Contractor hereby acknowledges) the Sub-Contractor covenants to the Beneficiary as set out in this warranty.

3 **Duty of care**

The Sub-Contractor warrants and undertakes to the Beneficiary that:

3.1 it has performed and shall continue to perform all of its duties and obligations under or arising out of the Sub-Contract; and

3.2 (to the extent that it has carried out any design of the Sub-Contract Works or any part of the Sub-Contract Works) it has exercised and shall continue to exercise all the reasonable skill and care to be expected of a properly qualified and competent Sub-contractor and designer experienced in the carrying out of such work for projects of a similar size scope value character and complexity to the Project; and

3.3 it shall owe a duty of care to the Beneficiary in respect of all matters which lie within the scope of the Sub-Contractor's responsibilities in relation to the Project; and

3.4 the Beneficiary shall be deemed to have relied and shall continue to rely upon the Sub-Contractor’s judgement in respect of all matters which lie within the scope of the Sub-Contractor's responsibilities in relation to the Project.

4 **Prohibited materials**

4.1 The Sub-Contractor warrants that it has not used and shall not use and that it has not and shall not authorise, cause or allow to be used in the Project any products or materials which:

4.1.1 do not conform with UK Designated Standards (where appropriate) or Codes of Practice (or where no such standard exists do not conform with a British Board of Agrément Certificate); and/or

4.1.2 are generally known to the construction industry to be deleterious, in the particular circumstances in which they are specified for use, to health and safety and/or the durability of buildings or structures; and/or

4.1.3 do not comply with the guidance set out in "Good Practice in the Selection of Construction Materials 2011" published by the British Council of Offices.

4.2 The Sub-Contractor shall as soon as reasonably practicable notify the Beneficiary if it becomes aware of any proposed or actual specification and/or use in the Project of any materials which do not comply with clause 4.1.

5 **[Step-in**

5.1 The Sub-Contractor covenants with the Beneficiary that if an event of default by the Contractor shall occur under the Building Contract at any time the Sub-Contractor shall, if so required by notice in writing given by the Beneficiary in accordance with clauses 5.4.1 to 5.4.3 inclusive accept the instructions of the Beneficiary or its appointee to the exclusion of the Contractor upon the terms and conditions of the Sub-Contract and the Contractor acknowledges that the Sub-Contractor shall be entitled to rely on the notice given to the Sub-Contractor by the Beneficiary as conclusive evidence for the purpose of this warranty that these circumstances have occurred permitting the Beneficiary to give such notice.

5.2 The Sub-Contractor hereby covenants that it shall not exercise nor seek to exercise any right to terminate or treat as terminated the Sub-Contract and/or its employment or discontinue or suspend the performance of any of its obligations under the Sub-Contract without first giving to the Beneficiary prior written notice specifying the Sub-Contractor's ground for terminating or treating as terminated the Sub-Contract and/or its employment and/or discontinuing or suspending its performance under the Sub-Contract. If the grounds are that sums which are due have not been paid by the final payment date and no effective notice to withhold payment has been given the Sub-Contractor shall give 7 days' notice otherwise the Sub-Contractor shall give 15 Working Days' notice.

5.3 Compliance by the Sub-Contractor with the provisions of clauses 5.1 and 5.2 shall not be treated as a waiver of any breach on the part of the Contractor giving rise to the right of determination discontinuance or suspension nor otherwise prevent the Sub-Contractor from exercising its rights after the expiration of the notice unless the right of determination discontinuance or suspension shall have ceased pursuant to the provision of clause 5.4

5.4 Within the relevant notice period referred to in clause 5.2 the Beneficiary or its appointee may give written notice to the Sub-Contractor:

5.4.1 acknowledging that it assumes all the obligations of the Contractor;

5.4.2 requiring the Sub-Contractor to continue with the performance of its duties and obligations under the Sub-Contract;

5.4.3 undertaking unconditionally to the Sub-Contractor to pay to the Sub-Contractor within 15 Working Days after the date of the notice under this clause 5.4 any sums which have become properly due and payable to the Sub-Contractor under the Sub-Contract but which are at the date of such notice unpaid and in the case of a notice from an appointee of the Beneficiary the Beneficiary shall guarantee all payments due to the Sub-Contractor from the appointee.][16]

[16] To be included in the Employer and Funder collateral warranties only

[provided that the rights of the Client under clause 5 of the warranty given or to be given by the Contractor to the Client shall have priority over the rights of the Beneficiary under this clause whether such are exercised by the Client before or after the exercise by the Beneficiary of its rights under this clause.][17]

5.5 [In the event of the Beneficiary or the appointee giving notice to the Sub-Contractor in accordance with clause 5.4 the Sub-Contract shall continue in full force and effect and in all respects as if the Sub-Contract had been made between the Sub-Contractor and the Beneficiary or its appointee (as applicable) to the exclusion of the Contractor (but without prejudice to any rights of recovery as between the Sub-Contractor and the Contractor) and the provisions of this clause shall apply notwithstanding any dispute or doubt as to the validity of such rights of determination discontinuance or suspension.

5.6 The Contractor confirms its agreement to the terms and conditions of this warranty and its concurrence with the arrangements made and contemplated by this warranty.][18]

6 Copyright and moral rights

6.1 The Sub-Contractor hereby grants to the Beneficiary an irrevocable royalty-free non-exclusive licence to use copy and reproduce the Documents for any purpose whatsoever connected with the Project and/or the Property including but without limitation the execution, completion, extension, maintenance, letting, management, sale, advertisement, alteration, reinstatement and repair of the Project and/or the Property **provided always** that the Sub-Contractor shall not be liable for any such use by the Beneficiary of the Documents for any purpose other than that for which the same were prepared and provided by the Sub-Contractor.

6.2 The licence referred to in clause 6.1 carries the right to grant sub-licences, shall be transferable to third parties and shall continue in force notwithstanding any termination of the Sub-Contract and/or the Sub-Contractor's employment under the Sub-Contract.

6.3 The Sub-Contractor warrants that the use of the Documents for the purposes of the Project and/or pursuant to the licence granted pursuant to clause 6.1 shall not infringe the rights of any third party.

6.4 The Sub-Contractor waives absolutely all Moral Rights the Sub-Contractor may have in the Documents and/or the Sub-Contract Works and where it is not the author shall procure a waiver from the author of any Moral Rights the author may have in respect of the Documents and/or the Sub-Contract Works.

6.5 When requested to do so by the Beneficiary the Sub-Contractor shall provide to the Beneficiary copies of the Documents subject to the Beneficiary paying the Sub-Contractor’s reasonable copying charges in connection with complying with such request.

7 Insurance

7.1 The Sub-Contractor shall effect and maintain [professional indemnity] [and] [product liability] insurance in the sum of [ ] pounds (£ [ ]) [for each and every claim] [for each occurrence of series of occurrences arising out of each and every event] [in the aggregate for each year of insurance] without unusual or onerous conditions or excesses with

[17]To be included in the Employer collateral warranty only
[18] To be included in the Employer and Funder collateral warranties only

reputable insurers carrying on business in the UK with effect from the date of commencement of the Sub-Contract Works and for a period equivalent to the period for which the Sub-Contractor is liable under this warranty pursuant to clause 14**that** such insurance remains available to organisations of equivalent size and type to the Sub-Contractor's practice/organisation at commercially reasonable rates and on commercially reasonable terms.

7.2 The Sub-Contractor undertakes to provide to the Beneficiary on demand from time to time such evidence as the Beneficiary may reasonably require to satisfy himself that the insurance required by clause 7.1 is being maintained.

7.3 The Sub-Contractor shall inform the Beneficiary if the insurance required by clause 7.1 is not maintained or renewed or for any reason becomes void or unenforceable or ceases to be available at commercially reasonable rates and terms and shall agree with the Beneficiary the best means of protecting the Sub-Contractor and the Beneficiary's respective interests and carry out such actions as shall be necessary to implement any agreed actions.

7.4 The Sub-Contractor shall not compromise settle or waive any insurance claim it may have relating to any liability under this warranty without the Beneficiary's prior consent **provided that** nothing in this clause shall prevent the Sub-Contractor's insurers from taking over (in the Sub-Contractor's name) the defence of any claim made by the Beneficiary under this warranty and (in that capacity) from conducting and settling it as they see fit.

8 **Assignment**

8.1 The Sub-Contractor shall not without the consent of the Beneficiary assign its rights under this warranty.

8.2 The Beneficiary may (without the consent of the Sub-Contractor [or the Contractor][19]) assign its rights under this warranty:

8.2.1 to any mortgagee and by way of re-assignment on redemption; and/or

8.2.2 to any Group Company; and/or

8.2.3 on two other occasions only.

8.3 In this warranty references to the Beneficiary shall include where the context admits its permitted assignees but not so as to permit more than two assignments under clause 8.2.3.

8.4 The Sub-Contractor undertakes with the Beneficiary not to contend that any person to whom this warranty may be assigned will be precluded from recovering under this warranty any loss resulting from any breach of this warranty either by reason that the person is an assignee and not the original party to this warranty or by reason that the Beneficiary named in this warranty or any intermediate owner of the Beneficiary's interest in the Project shall escape loss resulting from such breach by reason of the disposal of its interest in the Project.

[19] To be included in the Employer and Funder collateral warranties only

9 **Additional warranties**

Within 10 Working Days of a request to do so from the Beneficiary the Sub-Contractor shall execute as a deed and deliver to the Beneficiary a warranty or warranties in favour of any tenant and/or purchaser and/or funder of the Project in the same form as this warranty (save that this clause and the step in provisions shall be deleted and the recitals amended to reflect the correct factual position).

10 **Notices**

10.1 Any notice to be given under this warranty shall be in writing and shall be deemed to be duly given if it is delivered to the parties' registered office for the time being.

10.2 Notices may be served by:

10.2.1 personal delivery; or

10.2.2 pre-paid registered or recorded delivery mail; or

10.2.3 facsimile transmission (transmitted before 4.00 pm on a Working Day) and confirmed by first class pre-paid post.

10.3 Notices and communications shall be deemed to have been served or received in the case of:

10.3.1 personal delivery on the date of delivery;

10.3.2 pre-paid registered or recorded delivery mail on the second Working Day after the notice of communication is posted;

10.3.3 facsimile transmission sent in accordance with clause 10.2.3 on the date and time the facsimile is successfully transmitted as evidenced by the sender's facsimile transmission slip.

11 **Continuing effect**

Notwithstanding the completion of the Project or any part of the Project this warranty shall continue to have effect.

12 **Miscellaneous**

12.1 Nothing in this warranty shall limit or affect any other rights or remedies (whether under any contract, at law, at equity or otherwise) which the Beneficiary would have against the Sub-Contractor in the absence of this warranty.

12.2 The Sub-Contractor's liability under this warranty shall not be released, diminished or in any other way affected by:

12.2.1 the appointment by the Beneficiary of any person to survey the Property or to monitor the carrying out of the Sub-Contract Works or to inspect any documents relating to the Property and/or the Sub-Contract Works on behalf of the Beneficiary or the failure to appoint such a person; or

12.2.2 any approval or consent given or withheld or purported to be given or withheld by or on behalf of the Beneficiary.

13 **Contracts (Rights of Third Parties) Act 1999**

Nothing in this warranty confers or purports to confer any rights on any person pursuant to the Contracts (Rights of Third Parties) Act 1999.

14 **Liability period**

Without prejudice to any action or proceedings that arise from a breach of the Defective Premises Act 1972 or section 38 of the Building Act 1984 in respect of which the limitation period for bringing such contractual claims shall be the same as the applicable limitation period if the action or proceedings were commenced under that legislation or under the Civil Liability (Contribution) Act 1978 if later, no action or proceedings shall be commenced under this warranty after 12 years from Practical Completion.

15 **Law**

This warranty and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of England and Wales and the parties hereby submit to the exclusive jurisdiction of the English courts.

This warranty has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it.

Appendix 6

(referred to in clause 2.1A)

1 Competency Regulations

1.1 The Contractor warrants to the Employer that it meets and shall continue to meet for the duration of the Works the Competency Requirements.

1.2 The Contractor has completed and returned to the Employer an assessment questionnaire to confirm that Contractor has sufficient skills, knowledge, experience and organisational capability to carry out its duties under the Competency Requirements. The Contractor further warrants that the assessment questionnaire is an accurate and complete representation of its skills, knowledge and experience and organisational capability to properly and competently perform the functions of a Dutyholder in relation to the Works.

1.3 The Employer confirms that it understands its obligations in respect of the Competency Requirements and has provided information to the other Dutyholders.

1.4 The Contractor shall include in each appointment of a sub-consultant and in each sub-contract of a sub-contractor a warranty equivalent to that set out in paragraph 1.1 of this Appendix 6.

1.5 The Employer may at any point during the term of this Agreement require the Contractor to provide details and evidence of the professional qualifications of any persons employed on or appointed to carry out works or services in relation to the Works to ensure that the Contractor and any such persons comply with and continue to meet the Competency Requirements, and the Contractor agrees to provide all reasonable assistance to the Employer or its authorised inspectors as may be required from time to time to ensure compliance with this paragraph 1.4.

1.6 The Contractor shall notify the Employer as soon as reasonably practicable when there is any change in the organisational status or performance or professional accreditation of its employees or any individual or organisation performing works or services in relation to the Works that affects or could reasonably affect the Contractor's ability, or the ability of those persons or organisations, to meet the Competency Requirements.

1.7 If the Employer considers that any individual employed or appointed by the Contractor or any sub-consultant or sub-contractor does not meet the Competency Requirements then the Contractor shall at the Employer's direction replace or procure the replacement of such individual within a reasonable period.

1.8 The Contractor shall not and shall procure that any sub-consultant or sub-contractor shall not sub-contract any Dutyholder responsibilities to any third party.

2 Provision of assistance and compliance

2.1 Each Party undertakes to the other that it shall fulfil its respective responsibilities under the Building Safety Legislation including without limitation its responsibilities as a Dutyholder or otherwise, including without limitation the preparation of any construction control plan, fire emergency plans or building insurance certificate applications.

2.2 The Contractor shall (and shall procure that any sub-consultant, sub-contractor or supplier shall) at no cost to the Employer comply and cooperate with and provide all reasonable assistance to the Building Safety Regulator; building control; the Minister for Levelling Up, Housing and Communities; and the Employer in respect of any matters falling within the scope of this Appendix 6, the Building Safety Legislation, or the Contractor's and any sub-consultant's or sub-contractor's functions as Dutyholders.

2.3 The Contractor shall (and shall procure that any sub-consultant, sub-contractor or supplier shall) at no cost to the Employer comply or cooperate with and provide all reasonable assistance to the Employer to allow the Employer to comply (as the case may be) with any requirements of the Building Safety Legislation to the extent that they apply to the Works.

2.4 The Contractor shall comply and shall procure that any sub-consultants and sub-contractors comply at no cost to the Employer with the requirements of any building safety plan and any Residents' Engagement Strategy.

2.5 The Contractor shall at no cost to the Employer provide all reasonable assistance and supply such information and documentation to the Employer in a timely manner (and in any event to ensure compliance with any timescales required under the Building Safety Legislation) following any written request submitted by the Employer as is reasonably required in relation to the Works in order to satisfy the requirements of the Building Safety Legislation and/or the Building Safety Regulator.

2.6 The Contractor shall:

2.6.1 comply with any Compliance Notice or any Urgent Action Notice (each as defined in the Building Safety Act 2022) issued by the Building Safety Regulator and/or provide all reasonable assistance to the Employer in complying with any such notice subject always to any right to appeal the Building Safety Regulator's decision; and

2.6.2 notify the Employer if it becomes aware of anything that is or could be:

(a) a contravention of any Compliance Notice or Urgent Action Notice;

(b) a contravention of the Building Safety Legislation; or

(c) a contravention of the Building Safety Legislation where occupation or use of the Works without the contravention being remedied would be likely to present a risk of serious harm to people on or about the Works.

2.7 The Contractor shall procure that each sub-consultant, sub-contractor or supplier provides all reasonable assistance and supplies such information and documentation to the Employer at no cost to the Employer in a timely manner (and in any event to ensure compliance with any timescales required under the Building Safety Legislation) following any written request submitted by the Employer as is reasonably required in respect of any Building Control Applications or any registration requirements or any inspections (time being of the essence) relating to any Higher-Risk Buildings comprising the Works in order to satisfy the requirements of the Building Safety Legislation and/or the Building Safety Regulator.

3 **Provision of information**

3.1 In addition to its obligations under paragraph 2.1 of this Appendix 6, the Contractor shall (and shall procure that each sub-consultant, sub-contractor and supplier shall) share and supply (at no cost to the Employer) in a digital format reasonably accessible to the Employer (and for the avoidance of doubt, in such a format that complies with any requirements set out in the Employer's Requirements) in a timely manner (and in any event to ensure compliance with any timescales required under the Building Safety Legislation) all information and documents (including without limitation any notices, certificates, plans, drawings, specifications, orders, consents, demands, and documents relating to any Building Control Applications, construction control plans, and fire emergency plans) required by or in connection with the Building Safety Legislation.

3.2 In complying with its obligations under paragraph 3.1 of this Appendix 6 the Contractor shall where required utilise any information exchange facility prescribed by the Building Safety Regulator for the exchange of any relevant information and/or documents which is required to satisfy any matters or obligations owed under the Building Safety Legislation.

3.3 The Contractor acknowledges and agrees that any documentation and/or information produced in connection with the Works and falling within the scope of the Building Safety Legislation may be provided to and retained by the Building Safety Regulator and made available on a public register.

4 **Termination**

4.1 In the event that the Contractor is at any time in material breach of any of its obligations set out in this Appendix 6 and the Contractor fails to remedy such breach within ten (10) Business Days from the date of notice from the Employer specifying the relevant breach, the Employer may terminate the Contractor's employment under this Contract by further notice to the Contractor with immediate effect and the provisions of clause 8.7 shall apply.

Appendix 7

Site Plan

Appendix 8

Boundary Areas Plan

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd
Contractor: PMC Construction & Development Services Ltd

Current Cost Plan - EXCLUDING INFLATION & CONDITION 17	£	[redacted]
Add Cost for PCSA Nr 2		[redacted]
Sub-Total	£	[redacted]
Target cost - As PCSA agreement	£	0
Variance	-£	[redacted]

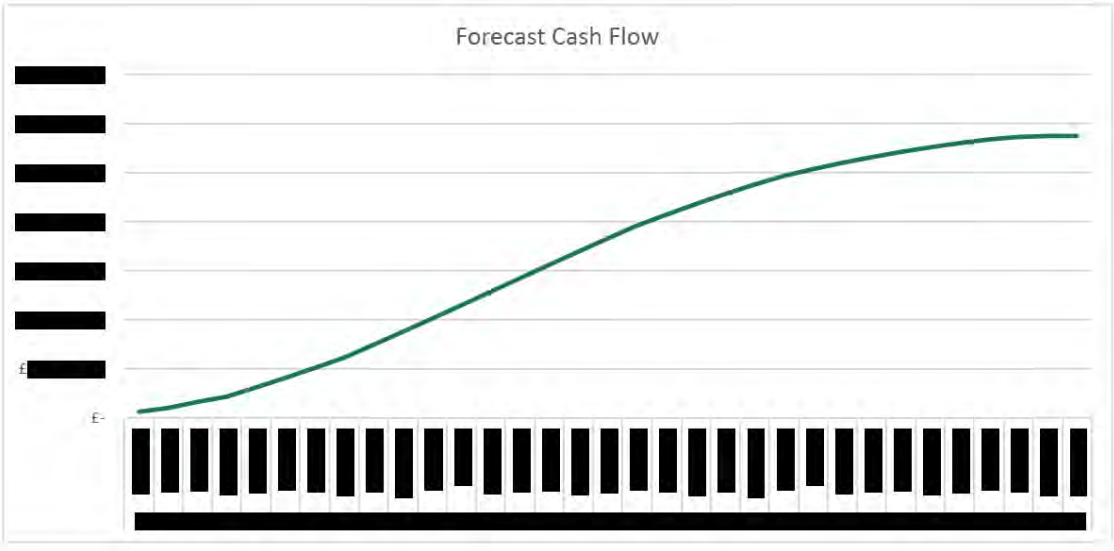
PCSA - Page 1 Benchmark Figure from RLND
-2.35%

Victory Quay - Tipner			House Block 1	House Block 2	House Block 3	House Block 5	Block F	Block G	Block H	Block L	Infrastructure/BCA	Comments
		GIFA	464.88	973.00	973.00	1,406.49	1,687.32	5,450.02	5,450.02	939.36		
		£/m²	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		
			Phase 1									
Facilitating Works		£ [redacted]									£ [redacted]	
Building Works Estimate												
1. Substructure		[redacted]					£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2. Superstructure												
2.1 Frame [Traditional, Timber & Concrete]		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.2 Upper Floors		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.3 Roof		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.4 Stairs and Ramps		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.5 External Walls		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.6 Windows and External Doors		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.7 Internal Walls and Partitions		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.8 Internal Doors		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
3. Internal Finishes												
3.1 Wall Finishes		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
3.2 Floor Finishes		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
3.3 Ceiling Finishes		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
4. Fittings, Furnishings and Equipment		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
5. Services		£ [redacted]	[redacted]							[redacted]		
6. Prefabricated Buildings and Building Units	Excluded											
7. Works to Existing Buildings	Excluded											
8. External Works												
8.1 Site Preparation Works		£ -									[redacted] -	
8.2 Roads, Paths, Paving and Surfacing		£ [redacted]									£ [redacted]	
8.3 Soft Landscaping, Planting and Irrigation Systems		£ [redacted]									£ [redacted]	
8.4 Fencing, Railings and Walls		£ [redacted]									£ [redacted]	
8.5 External Fixtures		£ [redacted]									£ [redacted]	
8.6 External Drainage		£ [redacted]									£ [redacted]	
8.7 External Services		£ [redacted]									£ [redacted]	
8.8 Minor Building Works and Ancillary Buildings		£ [redacted]									£ [redacted]	
9 Section 278 & 104 Works including Of Site Works- See Comments & Provisional Sums		£ [redacted]									£ [redacted]	
10 *Deduct Prov Sums for City wide s278 works as per Client requested*		-£ [redacted]									-£ [redacted]	
11 Design Development Contingency - Blocks G,H&F		Excluded									£ -	
Total Buildings Works Estimate		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Main Contractor's Preliminaries Estimate - This Phase Only	12.5%	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Main Contractor's Overheads and Profit Estimate - Excluding BCA	6.5%	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Works Cost Estimate		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Project / Design Team Fees Estimate												
(a) Fees, Surveys & Investigations	3.1%	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
(b) Main Contractor's Pre-construction Fees		£ -										
(c) Main Contractor's Design Fees - Provisional		£ -										
Sub-Total		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Base Cost Estimate		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Project / Design Team Fees Estimate												
(a) MSC Design & Construction Risk	See Item 10 above											
(b) SUR Design, Construction & Development Risk	Excluded	£ -										
(c) Employer Other Risks	Excluded	£ -										
Sub-Total		£ -										
Total Estimated Cost - [Excluding Below the line Items]		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
All costs are net and subject to OH&P												
Add provisional sum allowances for off site s278 Works - Planning Condition Nr 17 - Further discussion required		£ [redacted]										
Total Estimated Project Cost (Exc Vat)												

Project: Victory Quay, Portsmouth
Date: 13-Aug-25
Revision: Org

Valuation Nr	Payment Month	Gross
[redacted]		

All Costs exclude: Professional Fees
Loose Fittings and Furniture
VAT



Project: Tipner East, Portsmouth (Phase 1)
Date: 13-Aug-25
Rev: A

Schedule of Information

Note:
PMC Construction and Development Services Ltd, confirm that our CSA Rev A, issued on the 16th July 2025, was based on the following information.

Item	Description
1.0	**Architect Drawings**
	House Block 1
1.1	25048-HGP-H1-00-D-A-2001-P01-House Block 1 - Ground Floor
1.2	25048-HGP-H1-01-D-A-2011-P01-House Block 1 - First Floor
1.3	25048-HGP-H1-02-D-A-2021-P01-House Block 1 - Second Floor
1.4	25048-HGP-H1-XX-D-A-3050-P2-House Type 1 Courtyard Elevations
	House Block 2
1.5	25048-HGP-H2-00-D-A-2001-P03-House Block 2 - Ground Floor 1_2
1.6	25048-HGP-H2-00-D-A-2002-P03-House Block 2 - Ground Floor 2_2
1.7	25048-HGP-H2-01-D-A-2011-P03-House Block 2 - First Floor 1_2
1.8	25048-HGP-H2-01-D-A-2012-P02-House Block 2 - First Floor 2_2
1.9	25048-HGP-H2-02-D-A-2021-P03-House Block 2 - Second Floor 1_2
1.10	25048-HGP-H2-02-D-A-2022-P02-House Block 2 - Second Floor 2_2
1.11	25048-HGP-H2-B1-D-A-1501-P03-House Block 2 - Substructure 1_2
1.12	25048-HGP-H2-B1-D-A-1502-P02-House Block 2 - Substructure 2_2
1.13	25048-HGP-H2-XX-D-A-3001-P03-House Block 2 Elevations
1.14	25048-HGP-H2-XX-D-A-3501-P02-House Block 2 Sections
	House Block 3
1.15	25048-HGP-H3-00-D-A-2001-P03-House Block 3 - Ground Floor 1_2
1.16	25048-HGP-H3-00-D-A-2002-P03-House Block 3 - Ground Floor 2_2
1.17	25048-HGP-H3-01-D-A-2011-P03-House Block 3 - First Floor 1_2
1.18	25048-HGP-H3-01-D-A-2012-P02-House Block 3 - First Floor 2_2
1.19	25048-HGP-H3-02-D-A-2021-P03-House Block 3 - Second Floor 1_2
1.20	25048-HGP-H3-02-D-A-2022-P02-House Block 3 - Second Floor 2_2
1.21	25048-HGP-H3-B1-D-A-1501-P03-House Block 3 - Substructure 1_2
1.22	25048-HGP-H3-B1-D-A-1502-P02-House Block 3 - Substructure 2_2
1.23	25048-HGP-H3-XX-D-A-3001-P03-House Block 3 Elevations
1.24	25048-HGP-H3-XX-D-A-3050-P02-House Type 3 Courtyard Elevations
1.25	25048-HGP-H3-XX-D-A-3501-P02-House Block 3 Sections
	House Block 5
1.26	25048-HGP-H5-00-D-A-2001-P03-House Block 5 - Ground Floor 1_3
1.27	25048-HGP-H5-00-D-A-2002-P03-House Block 5 - Ground Floor 2_3
1.28	25048-HGP-H5-00-D-A-2003-P03-House Block 5 - Ground Floor 3_3
1.29	25048-HGP-H5-01-D-A-2011-P02-House Block 5 - First Floor 1_3
1.30	25048-HGP-H5-01-D-A-2012-P02-House Block 5 - First Floor 2_3
1.31	25048-HGP-H5-01-D-A-2013-P03-House Block 5 - First Floor 3_3
1.32	25048-HGP-H5-02-D-A-2021-P02-House Block 5 - Second Floor 1_3
1.33	25048-HGP-H5-02-D-A-2022-P02-House Block 5 - Second Floor 2_3
1.34	25048-HGP-H5-02-D-A-2023-P03-House Block 5 - Second Floor 3_3
1.35	25048-HGP-H5-B1-D-A-1501-P02-House Block 5 - Substructure 1_3
1.36	25048-HGP-H5-B1-D-A-1502-P02-House Block 5 - Substructure 2_3
1.37	25048-HGP-H5-B1-D-A-1503-P03-House Block 5 - Substructure 3_3
1.38	25048-HGP-H5-XX-D-A-3001-P03-House Block 5 Elevations (1 of 2)
1.39	25048-HGP-H5-XX-D-A-3002-P03-House Block 5 Elevations (2 of 2)
1.40	25048-HGP-H5-XX-D-A-3501-P02-House Block 5 Sections
	Block F
1.41	25.048-HGP-FX-00-D-A-2000-P3- Ground Floor GA Plan sheet 1
1.42	25.048-HGP-FX-00-D-A-2001-P3- Ground Floor GA Plan sheet 2
1.43	25.048-HGP-FX-00-D-A-2002-P3- Ground Floor Plan
1.44	25.048-HGP-FX-00-D-A-2500-P1- Ground Floor Structural Co-ord sheet 1
1.45	25.048-HGP-FX-00-D-A-2501-P1- Ground Floor Structural Co-ord sheet 2

1.46	25.048-HGP-FX-00-D-A-2502-P1- Ground Floor Structural Co-ord
1.47	25.048-HGP-FX-00-D-A-2512-P1- First Floor Structural Co-ord
1.48	25.048-HGP-FX-00-D-A-2010-P3- First Floor GA Plan sheet 1
1.49	25.048-HGP-FX-00-D-A-2011-P3- First Floor GA Plan sheet 2
1.50	25.048-HGP-FX-00-D-A-2012-P3- First Floor Plan
1.51	25.048-HGP-FX-00-D-A-2022-P2- Second Floor Plan
1.52	25.048-HGP-FX-00-D-A-2032-P2- Third Floor Plan
1.53	25.048-HGP-FX-00-D-A-2020-P3- Second Floor GA Plan sheet 1
1.54	25.048-HGP-FX-00-D-A-2021-P3- Second Floor GA Plan sheet 2
1.55	25.048-HGP-FX-00-D-A-2030-P3- Third Floor GA Plan sheet 1
1.56	25.048-HGP-FX-00-D-A-2031-P3- Third Floor GA Plan sheet 2
1.57	25.048-HGP-FX-00-D-A-2200-P1- Roof Plan sheet 1
1.58	25.048-HGP-FX-00-D-A-2201-P1- Roof Plan sheet 2
1.59	25.048-HGP-FX-ZZ-D-A-3000-P2- North West GA Elevations
1.60	25.048-HGP-FX-ZZ-D-A-3001-P2- East GA Elevation
1.61	25.048-HGP-FX-ZZ-D-A-3002-P2- South GA Elevation
1.62	25.048-HGP-FX-ZZ-D-A-3003-P2- West GA Elevation
1.63	25.048-HGP-FX-ZZ-D-A-3004-P2- South West GA Elevation
1.64	25.048-HGP-FX-ZZ-D-A-3005-P2- North East GA Elevation
1.65	25.048-HGP-FX-ZZ-D-A-3200-P1- GA Section F1-F1
1.66	25.048-HGP-FX-ZZ-D-A-3201-P1- GA Section F2-F2
1.67	25.048-HGP-FX-ZZ-D-A-3202-P1- GA Section F3-F3
1.68	25.048-HGP-FX-ZZ-D-A-3203-P1- GA Section F4-F4
1.69	25.048-HGP-FX-ZZ-D-A-3204-P1- GA Section F5-F5
1.70	25.048-HGP-FX-ZZ-D-A-4000-P02-Block F - Flat Type F1
1.71	25.048-HGP-FX-ZZ-D-A-4001-P02-Block F - Flat Type F2
1.72	25.048-HGP-FX-ZZ-D-A-4002-P02-Block F - Flat Type F3
1.73	25.048-HGP-FX-ZZ-D-A-4003-P02-Block F - Flat Type F4
1.74	25.048-HGP-FX-ZZ-D-A-4004-P02-Block F - Flat Type F5
1.75	25.048-HGP-FX-ZZ-D-A-4005-P02-Block F - Flat Type F6
	Block G *(Drawings used for Block H also)*
1.76	25.048-HGP-GX-00-D-A-2000-P3-Block G - Ground Floor GA Plan sheet 1
1.77	25.048-HGP-GX-00-D-A-2001-P3-Block G - Ground Floor GA Plan sheet 2
1.78	25.048-HGP-GX-01-D-A-2010-P3-Block G - First Floor GA Plan sheet 1
1.79	25.048-HGP-GX-01-D-A-2011-P3-Block G - First Floor GA Plan sheet 2
1.8	25.048-HGP-GX-02-D-A-2020-P1-Block G - Second Floor GA Plan sheet 1
1.81	25.048-HGP-GX-02-D-A-2021-P1-Block G - Second Floor GA Plan sheet 2
1.82	25.048-HGP-GX-03-D-A-2030-P1-Block G - Third Floor GA Plan sheet 1
1.83	25.048-HGP-GX-03-D-A-2031-P1-Block G - Third Floor GA Plan sheet 2
1.84	25.048-HGP-GX-04-D-A-2040-P1-Block G - Fourth Floor GA Plan sheet 1
1.85	25.048-HGP-GX-04-D-A-2041-P1-Block G - Fourth Floor GA Plan sheet 2
1.86	25.048-HGP-GX-05-D-A-2050-P1-Block G - Fifth Floor GA Plan sheet 1
1.87	25.048-HGP-GX-05-D-A-2051-P1-Block G - Fifth Floor GA Plan sheet 2
1.88	25.048-HGP-BGH-ZZ-D-A-3000-P1-Block G - East GA Elevation
1.89	25.048-HGP-BGH-ZZ-D-A-3001-P2-Block G - South & North GA Elevation
1.90	25.048-HGP-BGH-ZZ-D-A-3002-P1-Block G - West GA Elevation
1.91	25.048-HGP-GX-ZZ-D-A-4000-P02-Block G - Flat Type G9
1.92	25.048-HGP-GX-ZZ-D-A-4001-P02-Block G - Flat Type G10
1.93	25.048-HGP-GX-ZZ-D-A-4002-P02-Block G - Flat Type G1
1.94	25.048-HGP-GX-ZZ-D-A-4003-P02-Block G - Flat Type G2
1.95	25.048-HGP-GX-ZZ-D-A-4004-P02-Block G - Flat Type G3
1.96	25.048-HGP-GX-ZZ-D-A-4005-P02-Block G - Flat Type G4
1.97	25.048-HGP-GX-ZZ-D-A-4006-P02-Block G - Flat Type G5
1.98	25.048-HGP-GX-ZZ-D-A-4007-P02-Block G - Flat Type G6
1.99	25.048-HGP-GX-ZZ-D-A-4008-P02-Block G - Flat Type G7
1.100	25.048-HGP-GX-ZZ-D-A-4009-P02-Block G - Flat Type G8
	Block L
1.101	25.048-HGP-BL-B1-D-A-1900-T1-Block L - Substructure sheet 1
1.102	25.048-HGP-BL-B1-D-A-1901-T1-Block L - Substructure sheet 2
1.103	25.048-HGP-BL-RF-D-A-2200-T1-Block L - Roof Plan sheet 1
1.104	25.048-HGP-BL-RF-D-A-2201-T1-Block L - Roof Plan sheet 2
1.105	25.048-HGP-LX-00-D-A-2000-T1-Block L - Ground Floor GA Plan sheet 1
1.106	25.048-HGP-LX-00-D-A-2001-T1-Block L - Ground Floor GA Plan sheet 2

1.107	25.048-HGP-LX-01-D-A-2010-T1-Block L - First Floor GA Plan sheet 1
1.108	25.048-HGP-LX-01-D-A-2011-T1-Block L - First Floor GA Plan sheet 2
1.109	25.048-HGP-LX-02-D-A-2020-T1-Block L - Second Floor GA Plan sheet 1
1.110	25.048-HGP-LX-02-D-A-2021-T1-Block L - Second Floor GA Plan sheet 2
1.111	25.048-HGP-BL-ZZ-D-A-3000-T1-Block L - North East GA Elevation
1.112	25.048-HGP-BL-ZZ-D-A-3001-T1-Block L - East GA Elevation
1.113	25.048-HGP-BL-ZZ-D-A-3002-T1-Block L- South GA Elevation
1.114	25.048-HGP-BL-ZZ-D-A-3003-T1-Block L - West GA Elevation
1.115	25.048-HGP-BL-ZZ-D-A-3200-T1-Block L - GA Section L1-L1
1.116	25.048-HGP-BL-ZZ-D-A-3201-T1-Block L - GA Section L2-L2
1.117	25.048-HGP-BL-ZZ-D-A-4000-T02-Block L - Flat Type L1
1.118	25.048-HGP-BL-ZZ-D-A-4001-T02-Block L - Flat Type L2
1.119	25.048-HGP-BL-ZZ-D-A-4002-T02-Block L - Flat Type L3
1.12	25.048-HGP-BL-ZZ-D-A-4003-T02-Block L - Flat Type L4
1.121	25.048-HGP-BL-ZZ-D-A-4004-T02-Block L - Flat Type L5
1.122	25.048-HGP-BL-ZZ-D-A-4005-T02-Block L - Flat Type L6
	Site Wide
1.123	22.152-HGP-XX-00-D-A-1073-P3-Site plan - Phase 1 residental extent
2.0	**Structural Engineer Drawings**
	House Block 1 *(Note, only used for foundation information, superstructure was HGP)*
2.1	2225-HRW-H1-00-DR-S-0109-P7- Foundation Plan
2.2	2225-HRW-H1-00-DR-S-0110-P7- Ground Floor General Arrangement
2.3	2225-HRW-H1-01-DR-S-0111-P7- First Floor General Arrangement
2.4	2225-HRW-H1-02-DR-S-0112-P7- Second Floor General Arrangement
2.5	2225-HRW-H1-03-DR-S-0113-P7- Roof General Arrangement
2.6	2225-HRW-H1-XX-DR-S-0001-P7- 3D View
2.7	2225-HRW-H1-XX-DR-S-0002-P4- 3D View
2.8	2225-HRW-H1-XX-DR-S-0200-P7- Section A-A
2.9	2225-HRW-H1-XX-DR-S-0201-P7- Section B-B & C-C
2.10	2225-HRW-H1-XX-DR-S-0300-P6- Ground Floor, Sections & Details, Sheet 1
2.11	2225-HRW-H1-XX-DR-S-0310-P6- First Floor, Sections & Details, Sheet 1
2.12	2225-HRW-H1-XX-DR-S-0311-P6- First Floor, Sections & Details, Sheet 2
	House Block 2 *(Note, only used for foundation information, superstructure was HGP)*
2.13	2225-HRW-H2-00-DR-S-0108-P4- Foundation Plan
2.14	2225-HRW-H2-00-DR-S-0109-P4- Foundation Plan
2.15	2225-HRW-H2-00-DR-S-0110-P4- Ground Floor General Arrangement
2.16	2225-HRW-H2-00-DR-S-0111-P4- Ground Floor General Arrangement
2.17	2225-HRW-H2-01-DR-S-0112-P4- First Floor General Arrangement
2.18	2225-HRW-H2-01-DR-S-0113-P4- First Floor General Arrangement
2.19	2225-HRW-H2-02-DR-S-0114-P4- Second Floor General Arrangement
2.200	2225-HRW-H2-02-DR-S-0115-P4- Second Floor General Arrangement
2.21	2225-HRW-H2-03-DR-S-0116-P4- Roof General Arrangement
2.22	2225-HRW-H2-03-DR-S-0117-P4- Roof General Arrangement
2.23	2225-HRW-H2-XX-DR-S-0001-P3- 3D View
2.24	2225-HRW-H2-XX-DR-S-0002-P2- 3D View
2.25	2225-HRW-H2-XX-DR-S-0200-P4- Section A-A
2.26	2225-HRW-H2-XX-DR-S-0201-P4- Section B-B & C-C
2.27	2225-HRW-H2-XX-DR-S-0300-P3- Ground Floor, Sections & Details, Sheet 1
2.28	2225-HRW-H2-XX-DR-S-0301-P3- Ground Floor, Sections & Details, Sheet 2
2.29	2225-HRW-H2-XX-DR-S-0310-P3- First Floor, Sections & Details, Sheet 1
2.300	2225-HRW-H2-XX-DR-S-0311-P3- First Floor, Sections & Details, Sheet 2
2.31	2225-HRW-H2-XX-DR-S-0312-P2- First Floor, Sections & Details, Sheet 3
2.32	2225-HRW-H2-XX-DR-S-1000-P1- Ground Beams RC Details - Sheet 1
2.33	2225-HRW-H2-XX-DR-S-1001-P1- Ground Beams RC Details - Sheet 2
	House Block 3 *(Note, only used for foundation information, superstructure was HGP)*
2.34	2225-HRW-H3-00-DR-S-0108-P4- Foundation Plan
2.35	2225-HRW-H3-00-DR-S-0109-P4- Foundation Plan
2.36	2225-HRW-H3-00-DR-S-0110-P4- Ground Floor General Arrangement
2.37	2225-HRW-H3-00-DR-S-0111-P4- Ground Floor General Arrangement
2.38	2225-HRW-H3-01-DR-S-0112-P4- First Floor General Arrangement

2.39	2225-HRW-H3-01-DR-S-0113-P4- First Floor General Arrangement
2.400	2225-HRW-H3-02-DR-S-0114-P4- Second Floor general Arrangement
2.41	2225-HRW-H3-02-DR-S-0115-P4- Second Floor General Arrangement
2.42	2225-HRW-H3-03-DR-S-0116-P4- Roof General Arrangement
2.43	2225-HRW-H3-03-DR-S-0117-P4- Roof General Arrangement
2.44	2225-HRW-H3-XX-DR-S-0001-P3- 3D View
2.45	2225-HRW-H3-XX-DR-S-0002-P2- 3D View
2.46	2225-HRW-H3-XX-DR-S-0200-P4- Section A-A
2.47	2225-HRW-H3-XX-DR-S-0201-P4- Section B-B & C-C
2.48	2225-HRW-H3-XX-DR-S-0300-P3- Ground Floor, Sections & Details, Sheet 1
2.49	2225-HRW-H3-XX-DR-S-0301-P3- Ground Floor, Sections & Details, Sheet 2
2.500	2225-HRW-H3-XX-DR-S-0310-P3- First Floor, Sections & Details, Sheet 1
2.51	2225-HRW-H3-XX-DR-S-0311-P3- First Floor, Sections & Details, Sheet 2
2.52	2225-HRW-H3-XX-DR-S-0312-P2- First Floor, Sections & Details, Sheet 3
2.53	2225-HRW-H3-XX-DR-S-1000-P1- Ground Beams RC Details - Sheet 1
2.54	2225-HRW-H3-XX-DR-S-1001-P1- Ground Beams RC Details - Sheet 2
	House Block 5
2.55	2225-HRW-H5-00-DR-S-0107-P4- Foundation Plan
2.56	2225-HRW-H5-00-DR-S-0108-P4- Foundation Plan
2.57	2225-HRW-H5-00-DR-S-0109-P4- Foundation Plan
2.58	2225-HRW-H5-00-DR-S-0110-P4- Ground Floor General Arrangement
2.59	2225-HRW-H5-00-DR-S-0111-P4- Ground Floor General Arrangement
2.600	2225-HRW-H5-00-DR-S-0112-P4- Ground Floor General Arrangement
2.61	2225-HRW-H5-01-DR-S-0113-P4- First Floor General Arrangement
2.62	2225-HRW-H5-01-DR-S-0114-P4- First Floor General Arrangement
2.63	2225-HRW-H5-01-DR-S-0115-P4- First Floor General Arrangement
2.64	2225-HRW-H5-02-DR-S-0116-P4- Second Floor General Arrangement
2.65	2225-HRW-H5-02-DR-S-0117-P4- Second Floor General Arrangement
2.66	2225-HRW-H5-02-DR-S-0118-P4- Second Floor General Arrangement
2.67	2225-HRW-H5-03-DR-S-0119-P4- Roof General Arrangement
2.68	2225-HRW-H5-03-DR-S-0120-P4- Roof General Arrangement
2.69	2225-HRW-H5-03-DR-S-0121-P4- Third Floor General Arrangement
2.70	2225-HRW-H5-RF-DR-S-0122-P4- Roof General Arrangement
2.71	2225-HRW-H5-XX-DR-S-0001-P3- 3D View
2.72	2225-HRW-H5-XX-DR-S-0002-P2- 3D View
2.73	2225-HRW-H5-XX-DR-S-0200-P4- Section A-A & B-B
2.74	2225-HRW-H5-XX-DR-S-0201-P4- Section C-C & D-D
2.75	2225-HRW-H5-XX-DR-S-0300-P2- Ground Floor, Sections & Details, Sheet 1
2.76	2225-HRW-H5-XX-DR-S-0301-P2- Ground Floor, Sections & Details, Sheet 2
2.77	2225-HRW-H5-XX-DR-S-0310-P2- First Floor, Sections & Details, Sheet 1
2.78	2225-HRW-H5-XX-DR-S-0311-P2- First Floor, Sections & Details, Sheet 2
2.79	2225-HRW-H5-XX-DR-S-0312-P2- First Floor, Sections & Details, Sheet 3
	Block F
2.80	2225-HRW-BF-00-DR-S-0106-P1- Block F Piling GA Sheet 1 south
2.81	2225-HRW-BF-00-DR-S-0107-P1- Block F Piling GA Sheet 1 south
2.82	2225-HRW-BF-00-DR-S-0108-P1- Block F Foundations GA Sheet 1 south
2.83	2225-HRW-BF-00-DR-S-0109-P1- Block F Foundations GA Sheet 2 north
2.84	2225-HRW-BF-00-DR-S-0110-P2- Block F Ground Floor GA Sheet 1 south
2.85	2225-HRW-BF-00-DR-S-0111-P2- Block F Ground Floor GA Sheet 2 north
2.86	2225-HRW-BF-01-DR-S-0112-P2- Block F First Floor GA Sheet 1 south
2.87	2225-HRW-BF-01-DR-S-0113-P2- Block F First Floor GA Sheet 2 north
2.88	2225-HRW-BF-02-DR-S-0114-P2- Block F Second Floor GA Sheet 1 south
2.89	2225-HRW-BF-02-DR-S-0115-P2- Block F Second Floor GA Sheet 2 north
2.90	2225-HRW-BF-03-DR-S-0116-P2- Block F Third Floor GA Sheet 1 south
2.91	2225-HRW-BF-03-DR-S-0117-P2- Block F Third Floor GA Sheet 2 north
2.92	2225-HRW-BF-04-DR-S-0118-P2- Block F Roof GA Sheet 1 south
2.93	2225-HRW-BF-04-DR-S-0119-P2- Block F Roof GA Sheet 2 north
2.94	2225-HRW-BF-XX-DR-S-0200-P1- Sections
2.95	2225-HRW-BF-XX-DR-S-0201-P1- Sections
2.96	2225-HRW-BF-XX-DR-S-0202-P1- Sections
	Block G
2.97	2225-HRW-BG-00-DR-S-110G-P2- Ground Floor General Arrangement Sheet 1

2.98	2225-HRW-BG-01-DR-S-111G-P1- Ground Floor General Arrangement Sheet 2
2.99	2225-HRW-BG-02-DR-S-112G-P1- First FloorGeneral Arrangement Sheet 1
2.100	2225-HRW-BG-03-DR-S-113G-P1- First FloorGeneral Arrangement Sheet 2
2.101	2225-HRW-BG-04-DR-S-114G-P1- Second Floor General Arrangement Sheet 1
2.102	2225-HRW-BG-05-DR-S-115G-P1- Second Floor General Arrangement Sheet 2
2.103	2225-HRW-BG-06-DR-S-116G-P1- Third Floor General Arrangement Sheet 1
2.104	2225-HRW-BG-XX-DR-S-108G-P1- Pile Layout Sheet 1
2.105	2225-HRW-BG-XX-SH-S-107G-P1- Pile Schedule
2.106	2225-HRW-BG-XX-SH-S-109G-P1- Pile Layout Sheet 2
2.107	2225-HRW-BG-XX-SH-S-117G-P1- Third Floor General Arrangement Sheet 2
2.108	2225-HRW-BG-XX-SH-S-118G-P1- Fourth Floor General Arrangement Sheet 1
2.109	2225-HRW-BG-XX-SH-S-119G-P1- Fourth Floor General Arrangement Sheet 2
2.110	2225-HRW-BG-XX-SH-S-120G-P1- Fifth Floor General Arrangement Sheet 1
2.111	2225-HRW-BG-XX-SH-S-121G-P1- Fifth Floor General Arrangement Sheet 2
2.112	2225-HRW-BG-XX-SH-S-122G-P1- Roof General Arrangement Sheet 1
2.113	2225-HRW-BG-XX-SH-S-123G-P1- Roof General Arrangement Sheet 2
	Block L
2.114	2225-HRW-BL-00-DR-S-0109-P4- Foundation Floor - Sheet 1
2.115	2225-HRW-BL-00-DR-S-0110-P4- Foundation Floor - Sheet 2
2.116	2225-HRW-BL-00-DR-S-0111-P4- Ground Floor General Arrangement - Sheet 1
2.117	2225-HRW-BL-00-DR-S-0112-P4- Ground Floor General Arrangement - Sheet 2
2.118	2225-HRW-BL-01-DR-S-0113-P5- First Floor General Arrangement - Sheet 2
2.119	2225-HRW-BL-01-DR-S-0114-P4- First Floor General Arrangement - Sheet 2
2.120	2225-HRW-BL-02-DR-S-0115-P5- Second Floor General Arrangement - Sheet 1
2.121	2225-HRW-BL-02-DR-S-0116-P4- Second Floor General Arrangement - Sheet 2
2.122	2225-HRW-BL-03-DR-S-0117-P5- Roof General Arrangement - Sheet 1
2.123	2225-HRW-BL-03-DR-S-0118-P4- Roof General Arrangement - Sheet 2
2.124	2225-HRW-BL-XX-DR-S-0200-P4- Section A
2.125	2225-HRW-BL-XX-DR-S-0201-P4- Section B
2.126	2225-HRW-BL-XX-DR-S-0300-P1- Ground Floor Sections & Details, sheet 1
2.127	2225-HRW-BL-XX-DR-S-0310-P1- First & Second Floor Sections & Details, sheet 1
2.128	2225-HRW-BL-XX-DR-S-0320-P1- Roof Sections & Details, sheet 1
3.0	**Civil Engineer Drawings**
	Civil Engineers Drawings *(Note that the drainage/civil allowance is only to the extent of Phase 1, including the sea wall drainage and pumping station, ref to PMC Mark-up Item 3.53)*
3.1	146.0003.0001.P2- Tracking Fire Appliance
3.2	146.0003.0002.P1- Tracking Refuse Vehicle
3.3	146.0003.0004.P1- Tracking Delivery
3.4	146.0003.0009.P2- Tracking Refuse Van
3.5	146.0003.0010.P1- P.STN. Tracking
3.6	146.5005.0001-P1- Car Tracking
3.7	146.5005.0102.P1- Section 278 Works- Long Section
3.8	146.5005.0500.P1- S104 Location Plan
3.9	146.5005.0500-P1- S104 Location Plan-Layout1
3.10	146.5005.0501.P4- Phase 1A Drainage Layout
3.11	146.5005.0502.P4- Phase 1A Drainage Layout
3.12	146.5005.0502.P4- Phase 1A Drainage Layout
3.13	146.5005.0504.P2- Phase 1A Drainage Layout
3.14	146.5005.0505.P2- Phase 1A Drainage Layout
3.15	146.5005.0506.P1- Phase 1A Drainage Layout
3.16	146.5005.0506.P1- Phase 1A Drainage Layout
3.17	146.5005.0506.P1- Phase 1A Drainage Layout
3.18	146.5005.0506.P1- Phase 1A Drainage Layout
3.19	146.5005.0509.P1- Phase 1A Drainage Layout
3.20	146.5005.0510.P1- Phase 1A Drainage Layout- A0
3.21	146.5005.0510.P1- Phase 1A Drainage Layout- A0
3.22	146.5005.0520-P1-S104-FW Rising Main Layouts Sheet 1
3.23	146.5005.0521.P1-S104-FW Rising Main Layouts Sheet 2
3.24	146.5005.0551.P1-Sitewise Drainage Layout
3.25	146.5005.0552.P1-Sitewise Drainage Layout
3.26	146.5005.0553.P1-Sitewise Drainage Layout
3.27	146.5005.0554.P1-Sitewise Drainage Layout

3.28	146.5005.0555.P1-Sitewise Drainage Layout
3.29	146.5005.0556.P1-Sitewise Drainage Layout
3.30	146.5005.0557.P1-Sitewise Drainage Layout
3.31	146.5005.0558.P1-Sitewise Drainage Layout
3.32	146.5005.0559.P1-Sitewise Drainage Layout
3.33	146.5005.0560.P1-S104-FW Rising Main long Section
3.34	146.5005.0565.P1-Phase 1A Manhole Schedules
3.35	146.5005.0701.P1- Phase 1A Levels Layout
3.36	146.5005.0702.P1- Phase 1A Levels Layout
3.37	146.5005.0703.P1- Phase 1A Levels Layout
3.38	146.5005.0704.P1- Phase 1A Levels Layout
3.39	146.5005.0705.P1- Phase 1A Levels Layout
3.40	146.5005.0706.P1- Phase 1A Levels Layout
3.41	146.5005.0707.P1- Phase 1A Levels Layout
3.42	146.5005.0708.P1- Phase 1A Levels Layout
3.43	146.5005.0721.P1- Phase 1A Levels Layout
3.44	146.5005.0722.P 1-Phase 1A Levels Layout
3.45	146.5005.0723.P1- Phase 1A Levels Layout
3.46	146.5005.0724.P1- Phase 1A Levels Layout
3.47	146.5005.0725.P1-Phase 1A Long Sections
3.48	146.5005.0726.P1-Phase 1A Long Sections
3.49	146.5005.0727.P1-Phase 1A Long Sections
3.50	146.5005.1700.P1-Sea Wall Cross Section
3.51	146.5005.SK.104.P1-Section A-A
3.52	S278 146.5005.0100.P1 Updated 20-3-2024
3.53	146.5005.0510.P01_Phase 1A Drainage Layout_A0 - PMC Mark-up Extent of Works (13.08.25)
4.0	**BCA Platform Designs**
4.1	PC3679_RHD-ZZ-RR-RP-0017-S3-P01_TipnerEastDevelopment_DRA
4.2	PC3679-RHD-XX-XX-RP-X-0031-Tipner BCA - Detailed Design Report - P01
4.3	PC3679-RHD-XX-ZZ-DR-C-2000-S3-P01 - Plan-Layout1
4.4	PC3679-RHD-XX-ZZ-DR-C-2001-S3-P01 - Plan and Sections
4.5	PC3679-RHD-XX-ZZ-DR-C-2010-S3-P01 - Typical Sections
4.6	PC3679-RHD-XX-ZZ-DR-C-2011-S3-P01 - Sections - Sheet 1 of 3
4.7	PC3679-RHD-XX-ZZ-DR-C-2012-S3-P01 - Sections - Sheet 2 of 3
4.8	PC3679-RHD-XX-ZZ-DR-C-2013-S3-P01 - Sections - Sheet 3 of 3
4.9	PC3679-RHD-XX-ZZ-DR-C-2015-S3-P01 - Long Section
4.10	PC3679-RHD-XX-ZZ-DR-C-2020 - Ground Improvement Sequencing
4.11	PC3679-RHD-ZZ-ZZ-SP-C-0035-Tipner BCA - Technical specification_P01



Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party. HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Dwellings cannot be finalised until approval / confirmation by relevant authorities and client

Proposed site hoarding for phase 1

VIVID

Rev	Description	Date	DR	CK
P3	Construction Information updated	16.12.24	JKR	MJW
P2	Preliminary issue	05.12.24	JKR	MJW
P1	Preliminary issue	04.12.24	JKR	MJW

Site plan - Phase 1 residental extent

PROJECT	JOB NO
TIPNER EAST REGENERATION	22.152
SCALE	DATE
1:500, 1:1@A0	Dec 24
DRAWN BY/CHECKED BY	REVISION
JCR / MJW	P3
DWG#	STATUS
22 152 HGP XX 00 D A 1073	PRELIMINARY

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Notes:

LYNGS and Amherst (base surveys are not electronically at our same source. Due to the Bishop survey not including an OS grid there will be marginal discrepancies when aligning the two drawings as there is no common data point.

VIVID boundary line

New Allotments boundary

VIVID

Rev	Description	Date	Drn	Chk
P1	Site update	10.10.23	HC	MLE
P0	Initial issue	15.08.23	JRR	MLE

Site plan - Ground

PROJECT	JOB NO
TORNER EAST REGENERATION	22.152
SCALE	DATE
1:500@A0	Aug-23
DRAWN BY/CHECKED BY	REVISION
JCR / MLE	P2
DWG#	STATUS
22.152 HGP XX 00 D A 1000	PRELIMINARY

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Site plan - Ground

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P0	Initial issue	15.08.23	JRR	MLE

Site plan - Ground

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This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by vsPrank. Costings cannot be finalised until approval / commitments by relevant authorities and client

Private Tenure

Shared Ow ership

Social Rent

VIVID

Rev	Description	Date	Drn
P02	Updates to Tenure	22.05.23	LW / MLE
P01	Initial issue	28.03.23	IC / MLE

Site Tenure Plan

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.049
SCALE	DATE
1:500@A1	15.07.22
DRAWN BY/CHECKED BY	REVISION
IC / MLE	P02
DWG#	STATUS
25048 HGP XX XX D A 1018	PRELIMINARY

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JCT DESIGN & BUILD 2024 – CONTRACT DOCUMENTS REGISTER

I/ we hereby confirm that the documents listed below have been read, understood and recognised as the JCT Design & Build contract and appendices for the Tipner (Victory Quay) Phase 1 package of work.

1.0 ***Contract***
1.1 JCT DB Contract 2024 as amended (Trowers & Hamlins) – ***Hard Copy & Electronic File (Memory Stick)***

2.0 ***Employer's Requirements***
2.1 ER's Tipner Victory Quay Phase 1 ERs version T (Ph1 DB) – ***Electronic File (Memory Stick)***
2.2 ER's Rev T Appendices (where not in body of main document) – ***Electronic File (Memory Stick)***
2.3 25240 – 25.08.27 – Tipner ER's derogation schedule v3- ***Electronic File (Memory Stick)***

3.0 ***Contractor's Proposals***
3.1 2025.07.30 Victory Quay, Portsmouth – Contractors Proposals (Rev A) – ***Electronic File (Memory Stick)***

4.0 ***Contract Sum Analysis***
4.1 Victory Quay, Portsmouth (Phase 1) – CSA – Rev B – ***Hard Copy & Electronic File (Memory Stick)***
4.2 2025.08.13 Victory Quay, Portsmouth – Phase 1 Forecast Cashflow (Rev Org) - ***Hard Copy & Electronic File (Memory Stick)***

5.0 ***Drawings***
5.1 2025.08.13 Tipner East, Portsmouth – Schedule of Information – ***Hard Copy & Electronic File (Memory Stick)***
5.2 All drawings listed in document - 2025.08.13 Tipner East, Portsmouth – Schedule of Information (Architects, BCA, Civil, Structural) – ***Electronic File (Memory Stick)***

APPENDICES

A ***Site Plans***
22.152-HGP-XX-00-D-A-1073-P3-Site plan – residential extent – ***Hard Copy & Electronic File (Memory Stick)***
Logistics Plan 30-07.2025 Rev A – ***Hard Copy & Electronic File (Memory Stick)***
Storage Area Vacation Plan 30-7-2025 – ***Hard Copy & Electronic File (Memory Stick)***
Phase 1 Residential & Logistics Combined Plan 20-08-2025 - ***Hard Copy & Electronic File (Memory Stick)***
25048-HGP-XX-XX-D-A-1018-P02-Site Tenure Plan - ***Hard Copy & Electronic File (Memory Stick)***
Homes England Proposed Land Transfers (Boundary Areas) 65828_001_Rev A - ***Hard Copy & Electronic File (Memory Stick)***

B ***Contract Programme***
Contract programme 17-7-2025 - ***Hard Copy & Electronic File (Memory Stick)***

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C ***Completion Date Drawing***
Completion Date Drawing 07-07-2025 - ***Hard Copy & Electronic File (Memory Stick)***

D ***Draft JCT DB 2024*** – For Reference Only

Signatures

Contractor – PMC Construction & Development Services Ltd

Director Signature -

Witness Signature –

Employer – Vestal Developments Ltd

Director Signature -

Witness Signature -

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C ***Completion Date Drawing***
Completion Date Drawing 07-07-2025 - ***Hard Copy & Electronic File (Memory Stick)***

D ***Draft JCT DB 2024*** – For Reference Only

Signatures

Contractor – PMC Construction & Development Services Ltd

Director Signature -

Witness Signature – CMarchant

Employer – Vestal Developments Ltd

Director Signature -

Witness Signature -

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EMPLOYER'S REQUIREMENTS FOR

DEVELOPMENT AT VICTORY QUAY – Phase 1

Prepared for:

Vestal Developments Limited
Peninsular House
Wharf Road
Portsmouth
PO2 8HB

CHANGE HISTORY			
REF:	REV.	ISSUE DATE	CHANGE RECORD
JC	A	22/5/2018	EPC requirement updated and H+S file amendment
JC	B	23/5/2018	3.5.2 Use of glass balustrade not to be permitted
JC	C	27/6/2018	Update to Appx 13: handover procedures: Failure to provide keys documents 2 weeks prior to PC
JC	D	24/12/2018	Update to notice board specification. Addition of hometour at handover (4.8.13) and multi-trade operative at EOD
KH	E	29/05/2019	Pre handover viewing visit requirements added in Appendix 13, section 2
KH	F	25/07/2019	Requirement for non-combustible balcony decking, soffit etc. added
RB	G	05/11/2019	NHBC documents clarification, Data Protection and Preconditions to Payment added.
RB	H	25/11/2019	ZM references removed, landlord cupboard locks and keys specified, communal cupboards lock and keys specified, key safes to flats added
KH	I	27/11/2019	Tided up communal cupboard key requirements within the document so there is no contradiction
KH	J	13/02/2020	New Business/Delivery/Sales review and updates of Section 3
KH	K	080/6/2020	Key safe wording updated to confirm the internal key safe is ideally to be positioned inside a ground floor communal cupboard
JC	L	01/07/2020	Preferred supplier of door entry system: Comelit added as a preferred supplier as approved by Head of asset
KH	M	16/07/2020	Updated external key safe requirement to be to LPS 1175 standard and amend hyperlinks to acceptable key safes (April 25 – clarified that LPS 1175 is for communal key safes only, not individual). RM
JC	N	16/02/2022	2.17.5 Insolvency cover increased to Full contract value. 2.23.4 APC bond costs added to contractor responsibility
JC	O	05/07/2022	Updated guidance re cladding clause 3.6.15 inserted: EPC min B inserted
JC	P	14/11/2022	Communal Heat metering and billing details updated clause 3.19.17 as requested by Head of Sustainability
JC	Q	27/01/2023	Update to defects response time for D+M cases in Appendix 12 . D+M procedure added as Appendix 40. Both superseded as at April 2025
JC	R	16/02/2023	2.16.1 Second stairwell to be designed in for blocks with 10 storeys and above (30m)
HK (RUND) RM (VIVID)	S	03/04/2025	Appendices re-ordered and renumbered. Update to incorporate Building Safety Regulator requirements and additional fire safety measures and to incorporate various comments from other departments within VIVID. Competency assessment form added for Building Regs Principal Designer and Principal Contractor roles (section 2.18 and Appendix 41). Building Regulations completion notice added (Appendix 42). Defects response times updated. Requirement to provide electronic user manuals for any appliances installed. Amendments to internal finishes for communal areas in flats. Gas removed from document and heating and sustainability requirements added to Appendix 40. Clarification that LPS 1175 rating for key safes is for communal key safes only, not individual. Amendments to flooring and paint for communal areas. Various other general clarifications.
RM	T	09/05/2025	JCT amendments now incorporate 2 years Defects Liability Period. ERs wording adjusted slightly to reflect. See new clause 3.0.02. Different requirements for external communal areas (12 months), plus additional maintenance provisions for soft landscaping in the first 12 months added to sections 3.27.24 - 3.27.34. A few tweaks throughout the document have aligned the ERs with JCT 2024.

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SECTION 1: PROJECT DETAILS

SECTION 1: PROJECT DETAILS

1.0 **GENERALLY,**

1.0.1 This Section of the Employer's Requirements sets out the details of the project to be delivered, details of the parties involved and other general information concerning the delivery of the project.

1.1 **DESCRIPTION OF THE WORKS**

The Works

1.1.1 The Works comprise the design and construction of 183 residential units within phase 1 at Victory Quay comprising house block no.s 1, 2, 3 and 5 and apartment blocks F, G, H and L with associated landscape and primary infrastructure.

1.1.2 The Contractor shall be entirely responsible for the final design and construction of all Victory Quay Phase 1 residential units, external works, infrastructure, open spaces, services etc. including the administration of all approvals and agreements with various parties to complete the Works satisfactorily.

1.1.3 Refer to **Appendix 6:** Schedule of Accommodation including GIA m2 and tenures.

1.1.4 All Section 106 contributions shall be paid by the Employer direct to the Local Authority, all other costs arising from compliance with the planning consent and s106 are deemed to be included in the Contract Sum. The Contractor shall provide the Employer with evidence that the planning permission and s106 agreement have been complied with prior to Practical Completion.

1.2 **PROJECT PARTICULARS**

1.2.1 **The Project:**

Victory Quay – Phase 1

1.2 **PROJECT PARTICULARS**

1.2.2 **Employer (Client) and Responsible Person:**

Vestal Developments Limited
Peninsular House
Wharf Road
Portsmouth
PO2 8HB

1.2.3 **Employer's Agent (hereafter referred to as "EA"):**

Rund Partnership Limited

1.2.4 **Principal Contractor (CDM):**

Will be the Contractor.

1.2.5 **Principal Designer (CDM):**

HGP Architects

1.2.6 **Architect (Pre-Contract Services):**

HGP Architects

1.2.7 **Contractor's Civil And Structural Engineer (Pre-Contract Services):**

HRW Engineers

1.2.8 **Party Wall Surveyor**

N/A

1.2.9 **Principal Contractor (Building Regulations)**

Will be the Contractor

1.2.10 **Principal Designer (Building Regulations)**

HGP Architects

1.2.11 **Clerk Of Works (if applicable)**

Rund Partnership Limited

1.3 **TENDER AND CONTRACT DOCUMENTS**

Tender and Contract Drawings:

1.3.1	**Drawing Description**	**Drawing Number and Revision**
	Architectural, Engineering, Civil and BCA	Drawing List – PMC Schedule of Information drawing list 16-Jul-25 Org

1.3.2 The drawings are used to illustrate and expand the Employer's Requirements in respect of the site layout and unit type plan arrangements, elevation treatment, and, external works. For the purposes of this document they are referred to as the `tender' drawings and should be the contract drawings. It is the Employer's strict requirement that the design principles identified in all of the drawings are adhered to in the Contractor's Proposals.

1.4 **THE SITE / EXISTING BUILDINGS**

The Site: Tipner East (Victory Quay Phase 1)

The Site

1.4.1 The area of land to be developed is defined by drawing no. 22.152-HGP-XX-00-SK-A-1070

Site Boundaries:

1.4.2 The Contractor shall be responsible for checking and setting out the site boundaries, including all necessary attendant labour, measuring instruments etc. and shall submit two copies of a detailed drawing marked up and adequately dimensioned to define the boundaries.

Schedule of Condition

1.4.3 The Contractor shall also be responsible for carrying out a full description and photographic schedule of condition relating to the existing boundaries and other adjacent areas, to record their condition prior to any commencement of work on site. Provide a copy of the schedule of condition to the EA. The Contractor is required to leave the existing boundaries and other adjacent areas where no new works or upgrading is included in the Contract in no worse a condition at Practical Completion than at the commencement of the Works.

Site Visit:

1.4.4 Before tendering the Contractor is required to ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works. Arrangements for visiting the site are to be made with the EA.

Site Use and Site Restrictions:

Neighbours

1.4.5 The Contractor shall carry out the works in such a manner as to cause the least possible inconvenience or nuisance to the occupiers of other adjacent land or buildings or the public generally and shall take all reasonable precautions in this respect.

1.4.6 The siting of temporary buildings, storage areas, spoil heaps etc. should be kept away from properties, boundaries and areas which may be considered to cause an inconvenience or nuisance to the occupier of other land or buildings in the vicinity or to the public at large.

Resident Liaison

1.4.7 The Contractor shall be responsible for liaising with all adjoining residents and for establishing and advising them of a formal complaints procedure in relation to the site works. It is the strict requirement of the Employer that all adjoining residents are made aware of the fact that if they have any problems or concerns over the site management or the Works that they are to raise these first with the Contractor. A copy of the complaints procedure shall be submitted to the Employer for approval prior to distribution to the adjoining residents.

1.4.8 The Contractor shall be responsible, in co-ordination with the Employer, to liaise with residents affected by the Works. This includes the development and distribution of newsletters and letters advising of the progress of the works, areas which shall be affected (e.g. loss of parking spaces etc.) and also hold bi-monthly resident drop in evenings. The Contractor is to allow to clean cars and windows affected during the demolition stage of the Works and to erect any temporary protection where working in close proximity to existing buildings and car parking areas.

Parking

1.4.9 The Contractor is required to implement a vehicle parking policy for all site personnel and trades. The policy shall minimise the vehicle parking impact on local residents and the local environment.

Site abnormalities

1.4.10 The Employer will make The Contractor aware of any known requirements in relation to UXO, for MMO, Marine Management Organisation obligations, any licences needed for highways etc. known oil and gas pipelines, where this information is held by the Employer. The Contractor should satisfy themselves as to the accuracy of the information.

1.4.11 The Contractor will be responsible for all costs relating to any BAPA/APA/any equivalent agreements and will be responsible for leading on the obligations set out within it.

Existing Buildings on/Adjacent to the Sites

1.4.12 The Contractor shall make themselves familiar with adjacent sites and make due allowance in their tender.

1.4.13 Where the Works include demolishing existing structure or buildings the Contractor shall:

- Arrange for a qualified and competent person to carry out a Refurbishment and Demolition asbestos survey in accordance with HSG264 Second Edition, unless this information is included in Appendix 18.

- Arrange for a qualified and competent person to carry out a structural survey and provide a method statement to safely demolish the building.

Submit a Section 80 Notice to the Local Authority of intended demolition and pay all costs.

1.5 EMPLOYER'S PROVISIONAL SUMS

1.5.1 There are no Provisional Sums.

1.6 MODERN METHODS OF CONSTRUCTION

1.6.1 The use of Modern Methods of Construction (MMC) shall be considered unless prescribed otherwise by the Employer. In all cases the type and form of MMC shall be agreed with the Employer from the outset of the design process. A Pre-Manufactured Value (PMV) of above 55% must be achieved if using Cat 1 or Cat 2 MMC, in accordance with the Modern Methods of Construction introducing the MMC definition framework document.

1.6.2 A BOPAS certificate will be required for Cat 1 and Cat 2 MMC installations.

1.6.3 Note: If Cat 1 or Cat 2 MMC is being considered and the development is over 3 storeys OR has a rebuild value over £2.5m, the Employer's insurers will need to be consulted on the design and have confirmed that they will insure the end product if constructed.

1.7 COPYRIGHT

1.7.1 The copyright of this document lies with VIVID Housing Limited. No use or copying of this document or part of this document shall be permitted without the prior written consent of VIVID Housing Limited.

1.7.2 The Contractor shall ensure that the Employer has permission to use any drawn or illustrative material available for promotional and marketing purposes.

1.7.3 The Contractor shall ensure that the Employer has the right to use any drawings or documents produced by them and/or their sub-contractor / sub-consultant for use on this property free of charge or constraint.

1.8 CHARGING DOCUMENTS

1.8.1 The Employer needs to compile a 'Charging File' for this development to enable the drawing of loans against the development. The Contractor is required to provide the documents in **Appendix 38** free of charge specifically for the Charging File, if not already provided previously. Documents will be provided on request.

1.9 ASSET MANAGEMENT

1.9.1 A schedule should be provided which shows plot numbers, postal addresses and property types. This is required for all tenures so that it can be included within the component accounting spread sheet.

1.10 **ENERGY PERFORMANCE CERTIFICATES (PEAs and EPCs)**

1.10.1 Electronic copies of Predicted Energy Assessments (PEAs) shall be provided for all Shared Ownership and Open Market Sales units minimum **6 months** before the anticipated date of practical completion.

1.10.2 Electronic copies of Individual Energy Performance Certificates (EPCs) are to be provided for each unit a minimum **15 working days** before issuing Notice of Completion or Partial Possession.

1.11 **FIRE RISK ASSESSMENTS (FRA)**

1.11.1 Where internal communal/landlord areas are provided an area specific FRA in accordance with the Regulatory Reform (Fire Safety) Order is to be provided at or prior to handover.

1.11.2 A Pre-occupation FRA inspection will be commissioned by the Employer to be completed once Full Building Regulations final certification has been received. The pre-occupation inspection report, with recommendations, will be completed and forwarded to the Contractor on receipt.

1.11.3 All recommendations within the report e.g. location of fire extinguishers and signage etc. must be implemented prior to handover as a condition of Sectional or Practical Completion being achieved at nil cost to the Contract Sum. Photographic evidence of the satisfactory completion of the outstanding works are to be provided by the contractor prior to handover

1.11.4 A Fire Action Notice will be provided by the Employer, and the Contractor will allow for a copy to be placed in a prominent position in the foyer by each communal entrance to the building in accordance with the Pre-occupation FRA recommendations. The plan should be fixed to the wall in a protective case / frame.

1.11.5 The contractor will also supply and install all other signage as required by the pre-occupation FRA inspection report (see **Appendix 35** for standard signage requirements) in addition to the signage required for Building Control including "No Smoking Signs" at main entrances to all blocks.

1.12 CONVEYANCE PLANS

1.12.1 *Shared Ownership / Open Market Sales*

Where Shared Ownership or Open Market Sale properties are included within the project the Contractor shall produce suitable Conveyancing Plans in respect of each plot in accordance with the requirements of the Land Registry and at no additional cost to the Employer. Draft conveyance plans for review are to be provided a minimum of 6 months prior to handover, with the final approved version to be available 3 months prior to handover.

1.13 BENCHMARK UNIT AND SHOW PROPERTIES

1.13.1 *Benchmark unit*

A Benchmark unit will be provided for each tenure a minimum of 6 weeks prior to the offering of any unit including the show apartment for inspection. The purpose of the benchmark unit is to establish and agree the level of quality, that will be accepted by the employer and or their agent. It is permitted that the unit can become the Show unit once all defects have be rectified if practical but can be units elsewhere in the development.

1.13.2 *Shared Ownership / Open Market Sales*

A show unit is to be provided complete and fully serviced not less than 3 months prior to the commencement of handover of other units in the development. The Employer will define which units are to constitute show units, pre-contract.

1.13.3 *Affordable Rent / Open Market Rent*

Rented units (houses or flats) – allow the Employer and potential residents safe access to inspect all units to be handed over in a block as part of a partial possession a maximum of two weeks prior to anticipated handover. The Contractor shall make available PPE, as required.

The Contractor shall allow to provide safe access to show units and at least one parking space in close proximity to these units. Together with appropriate signage and temporary lighting.

The Employer's Resident Liaison Officers or Allocations Staff will decide with the Contractor / Developer convenient times to conduct viewings of the general needs rented properties.

1.13.4 *Hoarding and Show House Sign Writing Requirements*

Hoarding and show house sign writing requirements are included in **Appendix 36**.

SECTION 2: GENERAL DESIGN & TECHNICAL REQUIREMENTS

SECTION 2: GENERAL DESIGN & TECHNICAL REQUIREMENTS

2.0 GENERALLY

2.0.1 This Section of the Employer's Requirements sets out the requirements in respect of the general design obligations and standards the Contractor is required to fulfil, together with the general technical standards and requirements to be delivered.

DESIGN OBLIGATIONS AND STANDARDS

2.1 GENERAL OBLIGATIONS

2.1.1 The Employer requires good quality design in all its developments. It is essential that all residential units will be suited to and popular with their residents, the local community and can be easily managed and maintained by the Employer / Resident. Emphasis is placed on the design and standards of the individual residential units, the appearance of the buildings, the robustness quality and sustainability of the components, as well as the external environment created. The treatment and visual appearance of the external environment is crucial to the long-term success of any development and the Employer expects this aspect to be carefully considered and designed. Design of the residential units should be considered in relation to their location and setting, taking into account the character and quality of the local environment including any adjacent buildings. The project should be compatible with and enhance the surrounding environment.

2.1.2 Detailed consideration should be given to the implications of external noise sources on the project. The Employer requires that the likely sources of noise are identified and an assessment made as to the possible effects on the future occupiers. Measures to minimise the impact of the noise sources identified shall be designed into the project. Such measures may include the siting and orientation of the dwellings, interior layouts, physical sound barriers and sound insulation.

2.1.3 Consideration should also be given to all aspects effecting energy consumption and overheating risks of the residential units and the contractor must commission an independent assessment as required.

2.1.4 In any development, the design of the physical environment has a strong influence on the level and fear of crime and anti-social behaviour. The Employer requires that all designs give careful consideration to the deterrence of criminal and anti-social activities while making the environment comfortable for people to use.

2.1.5 The layout of the residential units should leave the minimum amount of land requiring maintenance by the Employer / Resident. Where open space is required, this should be adopted by the Local Authority for maintenance at their expense. The Contractor must allow for all costs associated with this requirement excluding any commuted sums which shall be payable to the Local Authority by the Employer direct.

2.1.6 Electronic gates will not be accepted to any areas.

2.1.7 Care shall be taken to avoid ledges, recesses and alcoves being created in communal areas of flats, which provide the opportunity for ad-hoc storage space and therefore create a fire risk. These should be boxed in or designed out where possible.

2.1.8 Communal roof terraces are not permitted.

2.2 PLANNING PERMISSION

2.2.1 The Employer has submitted an application for / obtained Full Planning Permission under planning reference 22/01292/FUL details of which may be viewed online. A copy of this permission shall be issued once available to the successful tenderer / is included at **Appendix 1**. The Contractor shall notify the Employer of any proposed changes to the planning consent or approved plans and drawings.

2.2.2 The Contractor will be responsible for obtaining, agreeing and finalising all matters and Conditions and obtaining full planning permission including all costs associated therewith.

2.2.3 The Contractor will be responsible for establishing with the Planning Authority their requirements in terms of Wheelchair units, as applicable. The Contractor shall establish if Wheelchair units need to be **Wheelchair Adaptable** (Approved Document M4 (2)) or **Wheelchair Accessible** (Approved Document M4 (3)). The Contractor shall allow for all costs with complying with this requirement.

2.2.4 By way of clarification to the foregoing paragraph – if any amendment to the Contractor's Proposals or Employer's Requirements becomes necessary for conformity with the terms of any permission or approval made by a decision of the relevant authority after the Base Date (identified in the Contract) for the purposes of Development Control Requirements, such amendment shall **NOT** be treated as if it were an instruction of the Employer under clause 2.15.2.2 of the Contract **– this clause has been amended in the Contract terms.** In such circumstances the Contractor must comply with any decisions at his own cost.

2.2.5 The Contractor shall provide written evidence that each planning condition has been discharged by the Local Planning Officer prior to commencement and occupation of any property. Where Conditions relate to the whole site which this Contract only forms part, then the Contractor shall obtain a 'Letter of Comfort' from the Local Planning Officer confirming that the Condition will be discharged at completion of the whole site. The same will apply where Sectional Completions are used.

To write to the Local Planning Authority at scheme completion confirming compliance with all conditions and the approved drawings and to request written confirmation that all matters are deemed to be in compliance with the relevant consent(s).

2.3 SECTION 106 AGREEMENT / CIL

2.3.1 Where Vestal is in control of the site, Vestal will make any s106/CIL financial contributions, but any non-financial obligations such as Employment and Skills Plan, Travel Plan, public art delivery, notifying the Local Authority of occupations etc (amend this paragraph on a site by site basis and update Appendix 2) will be the responsibility of the Contractor, save for the responsibility to use the affordable housing as affordable housing only, which will lie with VIVID]. See Appendix 2 for s106 responsibility matrix.

2.3.2 If any s106 Deeds of Variation are required post start-on-stie, to enable delivery of the site, the Contractor will be responsible for any associated legal or other costs. E.g. if the s106 requires the open space to be delivered by the 100th occupation but this doesn't fit in with the Contractor's sequencing plan and they need this delayed in the s106 agreement. However, if a Deed of Variation is needed due to the Employer changing tenure or other requirements, this would be down to the Employer to seek and pay for any associated legal costs.

2.3.3 The Contractor will be responsible for ensuring that their programme of works includes the trigger points within the S106 to ensure compliance.

2.3.4 Where it is not possible to meet a trigger point or condition the Contractor must notify the Employer of this at an early stage and must then apply to the Local Planning Authority to have the condition varied or removed. An updated 'tracker' shall be included in the Contractor's Monthly Progress Report.

2.4 SECURED BY DESIGN

2.4.1 The Contractor will be responsible for ensuring full compliance with Approved Document Q – Security Dwellings only.

2.4.2 The Contractor shall allow all costs in complying with this requirement in their price.

2.5 ACCESSIBILITY - BUILIDNG REGULATIONS M4

2.5.1 Where the planning permission or s106 agreement requires any homes to be built to M4(3) standard (Wheelchair User Dwellings), the Habinteg wheelchair design guide (latest edition) should be used to inform the design. On some sites, there may be a specific requirement by the Employer to include wheelchair units, and in this scenario we will specify this in the design brief on a site by site basis.

2.5.2 If there are M4(3) units in a block, we will require power assisted doors. If all homes are built to M4(2) we will need a fused spur to retrospectively install these.

2.6 SPACE STANDARDS, LAYOUTS AND INTERNAL STORAGE

2.6.1 The sizes of the residential units and the room sizes shall be as the tender drawings or as a minimum 'Technical Housing Standards - Nationally Described Space Standards dated March 2015 (NDSS)' published by DCLG. The bed spaces shall be as identified on the Tender Drawings / Accommodation Schedule. No reduction in bed spaces will be permitted. We will not accept studio flats or 1 bedroom, 1 person flats.

2.6.2 NDSS storage standards are to be provided within dwellings and the NDSS Technical Requirements also apply.

2.6.3 Floor areas shall be defined as the area of each floor enclosed by the wall of the residential unit to finished surfaces. The area includes the space, on plan, taken up on each floor by any staircase, partition, chimney breast, flue, heating appliance or fixture or fitting within the dwelling. However, the area excludes the full area of dustbin stores, fuel store, garage, balcony or any area in rooms with sloping soffits to the extent that the height of the ceiling does not exceed 1.5 metres. Areas also exclude any porch, lobby or open cover ways.

2.6.4 Specific consideration to be given to storage of pushchairs/prams within internal layouts.

2.6.5 The area of a room is that defined by the enclosing walls measured to the finished wall surface. The area shall include all space taken up in the form of storage that extends from the floor level and to a height in excess of 1.5 metres. The room area shall exclude space on the plan taken up by partitions, chimney breasts, flues, ducts or other full height obstructions within the room. All room areas shall be recorded in m² on the drawings.

2.6.6 All dwellings should be completely self-contained and all efforts should be made to ensure that entry to all rooms should be from a hall or lobby, without going through another room. Room layouts should ensure a convenient relationship between rooms and be kept in a regular shape where possible.

2.6.7 Care must be given to the siting of rooms to minimise noise transmission. Like rooms within flats should be stacked. Handing of dwellings should be considered to minimise shared walls and floors.

2.6.8 The Employer requires that floor plans should be submitted for approval, 8 weeks prior to commencement on site for each residential unit type, at 1:50 scale showing the furniture and be produced to demonstrate that compliance with the basic principles of the NHF document 'Standards and quality in development – A good practice guide' are achieved. Adequate allowance shall be made for activity zones and passing zones around all furniture. These layouts must also include radiator/heater positions and all electrical sockets, fittings and switch positions. Reasonable distance between radiator location and TV aerial sockets are required.

2.6.9 Ceiling heights shall in all cases be a minimum of 2300 mm between finished floor level and the finished ceiling level for at least 75% of the GIA, in accordance with the Technical Requirements of NDSS). Deviation from this standard is only permitted where planning constraints dictate sloping soffits caused by low roofs. Where sloping soffits occur the area of a room below 1.50 m in height shall not be taken into account when calculating the dwelling or room size.

2.6.10 Cantilevered shelving will not be accepted as counting towards storage.

2.6.11 All units are to be provided with a separate broom cupboard, minimum 600 x 600 x full height and this should not form part of the kitchen unit provision.

Kitchens to achieve minimum cubic capacity standards for occupancies:

1 Person Units:	1.3 cubic metres
2 Person Units:	1.5 cubic metres
3 Person Units:	2.0 cubic metres
4 Person Units:	2.10 cubic metres
5 Person Units:	2.20 cubic metres
6 Person Units:	2.40 cubic metres
7 Person Units:	2.60 cubic metres

Some of the above may be provided in a separate utility room if not possible within the kitchen space.

SITE INVESTIGATIONS AND SPECIALIST REPORTS

2.7 GEOTECHNICAL INVESTIGATIONS

2.7.1 The Employer has obtained a site investigation report (refer **Appendix 8**) but Contractor will be responsible for investigating the site further if required and for obtaining all necessary information to ascertain the nature of the soils, sub-strata, ground water levels and any other relevant information that may affect the building or the environmental design.

2.7.2 The Contractor will be entirely responsible for all ground and sub-structure works and due allowance should be made in the proposed Contract Sum for such matters.

2.7.3 The Contractor is to ensure that the site is free of any contamination and undertake any investigation and subsequent de-contamination or remediation works necessary to ensure that this is the case at handover. The Contractor shall provide a statement from their Engineer that all recommendations stated in the site investigation report have been incorporated into the Works.

Contractor to provide evidence of costs incurred in remediation to allow possible Land Remediation Relief claim.

2.7.4 The risks associated with the ground and substructure works including any obstructions, de-contamination or remediation works will become the sole responsibility of the Contractor. It will also be the Contractor's responsibility to satisfy any building regulations, NHBC (or equivalent) and planning conditions relating to ground conditions and all costs in within the agreed Contract Sum.

2.8 MAIN SERVICES INVESTIGATIONS AND CAPACITY CHECKS

2.8.1 The Employer has obtained Utility records and undertaken a services scan across the site, refer **Appendix 19**. If further information is required the Contractor will be responsible for contacting the relevant Utility Companies/Statutory Authorities to locate all services and drains etc. across the sites.

2.8.2 The Contractor is to make his own enquiries and assumptions, to ensure that it makes full allowance in its proposed Contract Sum for any necessary easements, wayleaves, diversions, connections or upgrading works on or off site and BWIC.

2.8.3 The risks associated with the services and drainage works is the sole responsibility of the Contractor.

2.8.4 Existing services to any units to be demolished shall be terminated internally and meters removed by the Contractor

2.9 ASBESTOS SURVEY

2.9.1 The Employer has commissioned an 'Refurbishment & Demolition' level asbestos report refer **Appendix 20**. Should additional surveys be required the Contractor shall allow in their price and programme for these to be undertaken.

2.9.2 On sites where existing buildings have been identified as containing asbestos, the Contractor shall issue all notices and remove and dispose of any asbestos in accordance with Statutory Regulations and to allow for all costs, fees and charges in this respect in its proposed Contract Sum. The Contractor shall provide a copy of the air test, validation report and consignment notes to the Employers Agent upon completion of ACM removal works.

2.9.3 The risks associated with the asbestos removal works will become the sole responsibility of the Contractor.

2.10 ECOLOGICAL AND WILDLIFE ASSESSMENTS

2.10.1 The Contractor has commissioned an Ecological Assessment of the Tipner site.

2.10.2 Where required by the Planning Authority or recommended in the Ecological Assessment the Contractor shall be responsible for obtaining a Wildlife Assessment of the site prior to the commencement of works using a UKAS registered firm and provide a copy to the Employer and the EA.

2.10.3 Where protected wildlife is identified the Contractor shall be responsible for obtaining the appropriate DEFRA License(s) (or any other statutory permissions) and provide a copy of the application and the license to the EA. The contractor shall allow for any protection measures recommended in any reports.

2.11 OTHER SPECIALIST INVESTIGATIONS AND REPORTS

2.11.1 The Contractor will be responsible for commissioning any other specialist reports, investigations, archaeological or environmental studies or surveys required by the local authority or any other statutory body. A copy of all such reports are to be provided to the Employer and EA. These reports need to be assigned to the Employer upon handover.

2.11.2 The Contractor will be responsible for all costs associated with the above and for ensuring that suitable and appropriate measures are undertaken in the development of the site to ensure that any adverse implications or costs are properly discharged, addressed and ameliorated to the complete satisfaction of the local authority or any other statutory body. Before entering into the Contract, the Contractor shall ascertain and allow for all costs associated with this requirement, excluding any commuted sums which shall be payable by the Employer direct to the local Authority, in the Contract Sum.

2.11.3 A flood risk assessment has been undertaken and is included in **Appendix 21**. The Contractor shall have due regard to the recommendation in their design.

2.11.4 A Noise Impact Assessment has been undertaken and is included in **Appendix 22**, the recommendations affecting specification which need to be priced by the Contractor and designed accordingly.

2.11.5 [A design stage Fire Risk assessment has been undertaken and is included in **Appendix 4** the recommendations affecting specification which need to be priced by the Contractor and designed accordingly].

2.11.6 [A design stage overheating assessment has been undertaken and is included in **Appendix 17** the recommendations affecting specification which need to be priced by the Contractor and designed accordingly].

2.12 PARTY WALL ETC. ACT 1996

~~2.12.1 The Employer has appointed a Party all Surveyor who shall deal with the Schedule of Condition / all Paty Wall matters in respect of this project.~~

~~2.12.2 However, any consequential works required following a PW award will be the responsibility of the Contractor].~~

~~***Note to Employer: any Provisional Sums necessary in relation to this will need to be addressed in the JCT contract if not known at the point of tender***~~

~~2.12.3 The Contractor shall provide all the necessary information requested by the Party Wall Surveyor including construction and engineering details which may be required in the serving of a notice and any subsequent Award made under the Act.~~

2.13 RIGHT TO LIGHT

2.13.1 Where the scheme has been brought to VIVID as a package deal, the Contractor is responsible for establishing whether any Right to Light exist in respect of any adjoining properties.

2.13.2 The Contractor is also responsible for negotiating the removal of any such Right to Light risks, including any indemnity insurance and compensation payments. Any such payments and all necessary legal and other professional fees involved are deemed to be included in the Contract Sum.

2.13.3 For land led projects where the Employer is in complete control of the site, the project architect will be asked to produce a shade plan and if a Right To Light survey is advisable, this will be procured by the Employer and any necessary indemnity insurance will be the responsibility of the Employer. Right to Light risks should be avoided where possible, by designing out this risk.

2.14 RIGHTS OF WAY / EASEMENTS

2.14.1 The Employer has obtained a title report, refer **Appendix 23**.

2.14.2 The Contractor shall take due notice of and maintain all Rights of Way.

TECHNICAL STANDARDS AND REQUIREMENTS

2.15 APPROVALS AND CONSENTS

2.15.1 The Contractor shall be responsible for obtaining all necessary approvals and consents required to complete the entire Works and shall include all costs, charges or fees in connection with the design and construction of the project. The Contractor shall comply with all conditions stipulated in the approvals and consents including the requirements of the NHBC (or equivalent approved).

2.16 BUILDING REGULATIONS

2.16.1 The Contractor shall be responsible for discharging all Building Regulations Conditions.

2.16.2 The Contractor shall forward the original Notice granting building regulation approval and the approved drawings, calculations and details to the Employer upon receipt from the Approving Authority.

2.16.3 Prior to issuing Notices / Statements of Partial Possession, Sectional Completion or Practical Completion the Employer requires the Contractor to obtain the 'Certificate of Completion of Works' from the Approved Inspector or Local Authority Building Control Officer.

2.16.4 Regulation 38 requirements: Contractor to issue all required Regulation 38 information to the Employer/Responsible Person for approval at least 3 weeks prior to submission to the Building Control officer. The project shall not be submitted to Building Control without our explicit approval. Contractor to supply information in line with VIVID's Reg 38 Tracker – see **Appendix 12**.

2.16.5 The Contractor shall allow for all fees, costs, and risks associated with obtaining full building regulations approval for the Works and any subsequent expense in fulfilling the stipulated conditions.

2.16.6 Final SAP calculations shall be prepared and be available upon the submission of the Building Regulations application.

2.16.7 The Contractor shall appoint at their cost an appropriately qualified person to prepare and issue Energy Performance Certificates (EPC) for each property. All new build properties must achieve a minimum EPC "B" rating, however A should be the target and in any event, the homes should be built to Option 1 of the Future Homes Standard. The Contractor shall appoint at their cost an appropriately qualified person to prepare and issue a Predicted Energy Assessment (PEA) for each outright sale or shared ownership property. PEAs shall be provided a minimum of 6 months prior to handover.

2.17 FIRE PRECAUTIONS

2.17.1 The Contractor shall take into account the following when designing and specifying:

- Fire loads in buildings must be kept to a minimum by specifying non-combustible polymer based products for insulations, lagging and fittings such as window boards, skirtings and the like.
- Gaps between fire rated doorframes and adjoining construction must be appropriately sealed as recommended by the product manufacturer. The maximum gaps between the bottom of fire doors and floor finish must be stated on drawings, in accordance with the fire door manufacturer's recommendations.
- For flats, fire resistant directional notices in strategic positions to assist the Fire Brigade in wayfarer around the building.
- Use of MVHR should be avoided wherever possible to prevent transfer of smoke between rooms. Under no circumstances should MVHR ducts breach/bye-pass fire rated walls.
- For flats which are 5 storey and above, the Contractor should appoint a fire consultant to advise on fire precautions and take their advice into account.
- Aluminium clad insulation panels will not be permitted.
- Proposed cladding systems must be listed on the BRE register of all cladding configurations which comply with BS 8414 2015 - Fire Performance of External Cladding (www.bre.co.uk/regulatory-testing).
- Gerda boxes with relevant plans should be provided near the main entrance to flats.
- Fire Strategy drawings shall be produced for all developments that have compartment walls and floors with required standards clearly annotated on the drawing for site use.
- For flats which are 10 storey or more, a second stairwell must be included into the design
- Due consideration will be given to the NFCC's National Operational Learning Guide: National Operational Learning: Good Practice Guide - NFCC

2.17.2 The Contractor must employ a FIRAS certified installation contractor to install both passive and active fire protection systems (including stopping/fire barrier work) in a building. The certified installation contractor must be ISO 9002 accredited and a member of FIRAS. All work undertaken by the FIRAS certificated installation contractor must be inspected upon completion by an approved FIRAS inspector who will be required to issue a written confirmation that the installation works have been installed in accordance with FIRAS standards.

2.17.3 A fire strategy must be provided by the Contractor for review by the Employer and their consultants. All CFD modelling and analysis must be provided as necessary and to justify escape and ventilation proposals. The fire strategy must comply with the latest Building Regulations Approved Document Part B, and current guidance from National Fire Chiefs Council (NFCC) as a minimum.

2.17.4 The Fire strategy will be set by the Fire Engineer and they will determine if the route to compliance is via the approved document or BS 9991:2024

2.17.5 Buildings which are greater than 18 metres in height require two escape staircases. This exceeds the requirement within Building Regulations Approved Document Part B.

2.17.6 The Contractor is required to appoint a fully qualified and competent person to the satisfaction of the Employer to produce and sign off EWS1 Forms. The Employer requires unhindered mortgaging and insuring of the residential units. The following requirements must be met:

- The competent person must be a member of the Institution of Fire Engineers.
- The development must achieve an A1 or A2 rating.
- A written report must be produced alongside the form in relation to each inspection and assessment.

2.17.7 Photographic records must be provided. Locations of all photographs must be labelled on copies of the floor plans or elevations as appropriate.

2.17.8 All costs of providing the completed EWS1 Form and reports in line with the above must be borne by the Contractor (including any remedial works required).

2.17.9 The building safety regulator requirement for design review gateways at key stages in the design and construction of the development must be met in a timely and efficient manner:

- Planning Gateway one – Form 1 to be completed at planning application stage.
- Gateway two – Form 2 statutory approval before building work starts.
- Gateway three – Form 3 statutory approval prior to practical completion.

2.17.10 Delays associated with approval from HSE, or other statutory consultee are at the liability of the Contractor.

2.17.11 The Contractor shall appoint a competent and accredited installer, to the satisfaction of the Employer, to install all passive fire protection and separation products and systems.

2.17.12 Each fire stopping and cavity barrier installation is required to be tagged with a plastic reference tag with a printed bar code. Each installation must be mechanically fixed in place. Push fit products will not be accepted.

2.17.13 Only CE marked products shall be used.

2.17.14 The Contractor is to provide an electronic photographic record of each bar code complete with data on the location, materials, system and detail used, the fire rating achieved, and the quality assurance checks. The full electronic record must be retrievable without the need to load any dedicated software or applications.

2.17.15 Note that there must be an initial benchmark fire stopping inspection. Once approved, inspections of all firestopping is required prior to closing up. As a minimum requirement, the following inspections must take place in the presence of the Clerk of Works, Contractor and Employer's Agents:

- 1 nr benchmark inspection.
- 2nr riser inspections per floor and per core.
- 2nr dwelling inspections per floor and per core.

2.18 BUILDING SAFETY ACT AND GATEWAYS PROCEDURE

2.18.1 In line with the Building Regulations Etc. (Amendment) (England) Regulations 2023 - Dutyholders and competence (Part 2A), The Contractor will be assessed using the SKEB competency form included at Appendix 41. The Contractor will be appointed as the Principal Contractor under the regulations. The Contractor will be expected to carry out all duties outlined under the Principal Contractor Dutyholder role in the regulations.

2.18.2 If The Contractor is also appointed as the Building Regulations Principal Designer, it shall also be expected to carry out all duties associated with this Dutyholder role. The Competency Assessment form will also be used for the Principal Designer role.

2.18.3 The Building Regulations Principal Contractor, Principal Designer and The Employer as Client will all be required to sign the Building Regulations Completion Notice at Appendix 42

(or the Building Control Approver's template form, if they have one). This is for all building work and not just Higher-Risk Buildings (HRBs).

2.18.4 The Contractor is to outline their proposed approach to achieving compliance with all requirements under the Building Safety Act. If there are any Higher-Risk Buildings (HRBs) on the scheme, this will include developing the Golden Thread of information, and inputting into the building registration at Gateway 3. All requirements are outlined in more detail below.

2.18.5 Gateway 1 (pre-planning) – where applicable, the Contractor is to provide the Employers appointed consultants with evidence of Gateway 1 sign-off, a copy of the design information submitted, and any comments provided by the Building Safety Regulator at this stage.

2.18.6 Gateway 2 (pre-start on site) – depending upon the stage of the project, the Contractor is to provide the following:

- Programme including a period for the Gateway 2 review by the Building Safety Regulator.
- Details of the anticipated submission.
- Details of how previous comments have been addressed.
- The above will be subject to the approval of the Employer and their agents.

2.18.7 Where Gateway 2 has already been achieved, the developer must provide the Employer's appointed consultants with evidence of Gateway 2 sign-off, a copy of the design information submitted, and any comments provided by the Building Safety Regulator at this stage.

2.18.8 Gateway 3 (prior to occupation) – the Contractor is to appoint a competent person as Principal Accountable Person to compile the Building Safety Case at Practical Completion. The Contractor must provide all required information including (but not limited) all Golden Thread information and information noted within the Handover Checklist requirements. The Completion Certificate from the Building Safety Regulator is a Completion Condition and required prior to practical completion.

2.18.9 Golden Thread of information – the Contractor is to ensure that the following information shall comprise the Golden Thread of digital information about the works:

- A federated 3D BIM model.
- The Fire and Emergency File.
- The Construction Control Plan.

2.18.10 The above information is to be stored securely in both physical and digital form, to be accessible to the Employer and their agents for the entire occupation period. A copy is to be retained at the site in accordance with Building Safety Regulator requirements. Additionally, a standalone, digital copy of the information is to be provided to the Employer upon practical completion.

2.18.11 The Contractor must ensure that the Principal Contractor and Principal Designer (CDM) and Principal Designer (Building Regulations) are aware of their responsibilities under the Building Safety Act and are to provide sign off to the Building Safety Regulator as required.

2.19 BUILDING GUARANTEES / WARRANTIES

2.19.1 The Contractor shall register each property with NHBC Buildmark Choice or equivalent and approved. On occasions, the Employer may choose to procure such warranty cover directly and in this event, this shall be deducted from the contract price.

2.19.2 The Contractor will ensure that the Works comply with the 'Technical Requirements' of the NHBC or other approved warranty provider current at the date of registration. The Contractor shall be responsible for complying with any conditions imposed by the Warranty Provider' and any subsequent expense in fulfilling the stipulated conditions.

2.19.3 The building warranty shall be provided from a reputable United Kingdom based provider such as the NHBC. Alternative warranty providers to the NHBC may be considered, however

the underlying Insurer must hold a minimum A-rating and must be a UK based insurer, authorised and regulated by the Prudential Regulation Authority (PRA) and Financial Conduct Authority (FCA).

2.19.4 All policies must be covered under the Financial Services Compensation Scheme (FSCS) and Financial Ombudsman Service (FOS). Alternative warranty providers must also have accreditation from a Chartered Trading Standards Institute (CTSI) Consumer Code Approval Scheme (CCHB, CCNH or equivalent), as well as acceptance from the 'majority' of lenders listed on the UK Finance Handbook, Part 2 (6.7.1)

2.19.5 All policies must be offered for a policy term of 12 years with insolvency cover (subject to availability).

2.19.6 The Latent Defects/Building Warranty Insurance Policy must be procured and comply with the following conditions:

- The development site must be registered with the warranty provider no later than the date on which the first foundations are laid in respect of the housing.
- Evidence of satisfaction of the above must be provided to the Employer within five working days of site registration.
- Procure construction and delivery of the housing units in accordance with the requirements and technical standards of NHBC Buildmark Choice (or equivalent standards).
- The policy must be taken out by the contractor who must register as 'builder' or 'main contractor' and assume responsibility under the Defects Insurance Period (or equivalent).
- The Contractor shall arrange for the cover to include the following 'options' and level of excess (where possible): extended cover (12 years), loss of rent cover, alternative accommodation, contaminated land cover, additional costs, professional fees and removal of debris, insolvency cover to the value of full contract value before practical completion (10% of the full contract value), excess of not more than £1,051.00 per claim (indexed linked from April 2017).

2.19.7 The Contractor shall arrange to register each property with and to pass all documentation to the Employer before handover of an individual property The Contractor shall allow for the registration fee and administration costs associated with the guarantee/warranty.

2.19.8 For the avoidance of doubt this shall include each and every part of the Works which is intended for occupation as a residential dwelling and the common parts relating thereto with the relevant options stated above.

2.19.9 The Contractor shall make available the site diary for the warranty scheme inspector upon Practical Completion of the project.

2.19.10 The Contractor will arrange for registration of the site for Construction Quality Reviews or equivalent and pay all fees associated with the registration.

2.20 COUNCIL OF MORTGAGE LENDERS APPROVAL

2.20.1 The Contractor shall ensure that the products used in the construction of all dwellings will allow the dwellings to be mortgaged on completion. Documentary evidence must be provided upon request.

2.20.2 CML Certificates are required for all tenures before handover of each property.

2.21 COLLATERAL WARRANTIES

2.21.1 The Employer requires the Contractor's sub-consultants and design sub-contractor's responsible for design to enter into a Collateral Warranty agreement (see **Appendix 11** for templates). The execution of the Collateral Warranties will be the same as the Contract, i.e. as a Contract Deed.

2.21.2 The Contractor shall prepare 3 copies of each Collateral Warranty for signing. Each warranty shall have the following attached.

- Copy of the Contractor's / Sub Contractor's appointment and Schedule of Services. Commercially sensitive information can be blanked out.
- Evidence of the Subcontractor's current Professional Indemnity Insurance (including run-off insurance)
- Evidence that the Sub-Contractor's Professional Indemnity Insurer has reviewed the Collateral Warranty and confirmed that nothing in the Warranty invalidates the Sub-Contractor's Professional Indemnity Insurance.

2.21.3 The Contractor shall provide a summary of all design sub-contractors providing a warranty clearly stating their design input.

2.21.4 The Contractors Designers and Sub-Contractors will be required to pay the Employer's legal fees associated with amending the standard form of warranty, where such amendments are required at the bequest of the PI insurers of the Contractors Designers and Sub-Contractors. However it should be noted that amendments are not normally permitted.

2.21.5 The Contractor shall include a Collateral Warranty Tracker in their monthly Contractor's Report recording the status of each Collateral Warranty.

2.21.6 The Contractors attention is drawn to the Employer's Contract Conditions amendments which require Warranties to be delivered within specified business days of request and is a pre-condition to the Contractor's entitlement for payment.

2.22 QUALITY OF MATERIALS AND WORKMANSHIP

2.22.1 The minimum expected design life of building elements shall be as follows:

- primary structure and fabric elements: 60 years
- secondary components: 20 years
- fixtures and fittings: 15 years
- finishes: 10 years
- decorations: 5 years

2.22.2 The design proposals and material selection should take account of the Employer's aim to develop low maintenance housing. All materials, fixtures and fittings must provide a reasonable design life normally associated with housing of this type.

2.22.3 Materials and products, which require maintenance and replacement, must be accessible and component replacements readily available from builder's merchants and suppliers. End of range products will not be accepted and will be replaced at the Contractor's expense if discovered prior to issue of the Notice of Completion of Making Good. Sanitary and kitchen fittings should be obtained from suppliers' most popular ranges to minimise the risk of ranges/colours being discontinued.

2.22.4 The Contractor will be responsible for ensuring that all materials, products, and building systems shall be suitable for their intended purpose.

2.22.5 The Contractor shall ensure that all design and workmanship meets, as a minimum, the 'Technical Standards' of the National House Building Council or approved Building Warranty Provider.

The technical guides of the selected Building Warranty provider will be regarded as a benchmark minimum standard. All work must as a minimum comply with the NHBC's 'Consistent Approach to Finishes': https://nhbc-standards.co.uk/2019/9-finishes/9-1-a-consistent-approach-to-finishes/

2.22.6 All materials must be properly protected, stored and racked in accordance with the material / products manufacturer's recommendations. Timber window cills, door thresholds and other projections which are to receive a decorative finish must be protected from mortar droppings during construction using hardboard or polythene, as appropriate. Primers / basecoats only provide protection to timber components for a limited duration when exposed to normal weathering. The Contractor must allow to re-apply primers/basecoats as recommended by the paint manufacturer to ensure full protection is maintained before final decoration.

2.22.7 Where snagging works are required in properties after floor coverings have been laid, then the floors must be suitable protected prior to any works commencing.

2.22.8 The Contractor will be responsible for ensuring that all Works are carried out in a proper, neat and workmanlike manner in accordance with BS 8000. Where BS 8000 gives recommendations on particular working methods or other matters which are properly within the province and responsibility of the Contractor, compliance therewith will be deemed to be a matter of general industry good practice and not a specific requirement of the Contract.

2.23 SOUND INSULATION

2.23.1 The Contractor must give due consideration to the transmission of airborne and impact sound within dwellings and achieve full compliance with the Building Regulations, as well as Planning Permission and the Noise Impact Assessment recommendations.

2.23.2 All works shall in addition to complying with the Building Regulations include for sound insulation quilts around soil and vent pipes passing through rooms.

2.23.3 Party walls and floors shall utilitise appropriate construction to aid noise abatement and floor coverings will not be used towards the achievement of the required standards.

2.23.4 Party walls and separating floors between flats and maisonettes shall improve upon Approved Document E minimum value by 5dB.

2.23.5 Floor construction to rooms above open car parts and integral garages shall improve upon Approved Document E minimum value by 5dB.

2.23.6 Compliance with the above should be demonstrated by sound testing of a minimum of 10% of each unit type in addition to Robust Details.

2.24 DELETERIOUS MATERIALS

2.24.1 The principles and guidance laid down in the current edition (as at the base date) of the 'Good Practice Guide in the Selection of Construction Materials' as produced by Ove Arup and Partners is to be followed as a minimum requirement.

2.24.2 Notwithstanding the foregoing clause any material known or recognised within the industry to be deleterious or potentially being deleterious cannot be used.

2.24.3 Where there is no alternative but to use materials that are known or considered to be harmful (or potentially harmful) to health during the construction process, the Contractor must draw attention

to the particular substance/material when tendering pointing out the hazards and risks involved and advising of the hazards and necessary precautions. The Contractor is required to strictly observe and follow all health and safety guidelines and instructions in connection with such materials and where applicable to comply with the COSHH Regulations. A COSHH assessment shall be properly carried out for all materials prior to their use. The COSHH assessment shall not be generic but shall take account of the position and type of use to which the material is to be put and how it is to be used or applied. Where it is known, considered or believed that any material might continue to be hazardous or harmful to health (or potentially so) following its incorporation into the Works, then that material cannot be used in any circumstance.

2.25 **ADOPTED HIGHWAYS**

2.25.1 The Contractor shall be responsible for providing estate roads and street lighting for the proposed project in accordance with the requirements of the highway authority so that they can be adopted as maintainable highways, at the public expense, by the highway authority upon satisfactory completion.

2.25.2 The Contractor shall liaise with the Employer and agree the precise agreement with the highway authority for the adoption of the estate roads.

2.25.3 The Contractor shall remain responsible for estate roads, street lighting, signage, footpaths, verges and all other items to be adopted, until the point of adoption.

2.25.4 The Contractor shall be responsible for submitting all plans as required and the showing of all necessary details of the works necessary for entering into a Section 278 agreement and / or a Section 38 Agreement and payment of all safety audit and designers' response costs associated. The Contractor shall carry out all administration associated with the adoption of the highways including charges, Performance Bonds and costs for legal arrangements, inspections, supervision and tests required by the highway authority and any costs incurred shall be deemed to be included in the Contract Sum. The Contractor must allow for all costs associated with this requirement including commuted sums which shall be payable to the Local Highways Authority. The contractor must also allow for all costs associated with an Advanced Payment Code bond in the event that the estate roads are unadopted (or on demand from the Highway Authority).

2.25.5 The Contractor shall be responsible for all costs and charges during the maintenance period prior to adoption which shall include making good damage due to reasonable wear and tear occurring during the maintenance period and cleaning at the end of the period, all to the satisfaction of the highway authority (this requirement includes any off-site highway works the subject of a Section 278 Agreement).

2.25.6 The Contractor should also include in the Contract Sum the cost for cleaning the roads at regular intervals during the maintenance period.

2.25.7 The final surfacing work must be completed by the Date of Practical Completion of the Works. If this requirement is not met then the Employer shall retain a sum of money equal to the cost of final surfacing work until this work is complete.

2.25.8 The Contractor shall provide and erect the complete lighting installation and arrange for the supply and connection of electricity to the units. The Contractor shall be responsible for all costs and charges including perpetuity payments in connection with these works.

2.25.9 The provision of a fully engrossed s278 / s38 agreement and a provisional certificate of adoption is a requirement of Sectional Completion or Phased Completion. If these documents are not provided at Sectional Completion a sum of £[redacted] shall be withheld by the Employer until such time as the agreement is issued. Final retention release shall not occur until the Final Certificate of adoption is issued to the Employer.

2.26 **ADOPTED SEWERS**

2.26.1 The Contractor shall provide sewers and associated works for the proposed site in accordance with the requirements of the Sewerage Undertaker so that they can be entirely adopted as fully maintainable sewers, at the public expense, by the Sewerage Undertaker upon satisfactory completion.

2.26.2 The Contractor shall organise all the necessary arrangements to enter into a Section 104/S102 Agreement for the adoption of the sewers and associated works.

2.26.3 The Contractor shall be responsible for submitting all information as required by the Sewerage Undertaker and carry out all administration work in connection with the adoption of the sewers. The Contractor shall include in the Contract Sum for all charges and costs for any Performance Bonds, legal arrangements, technical approvals, inspections, supervision and tests required by the Sewerage Undertaker.

2.26.4 The Contractor shall carry out any remedial works or tests which are required during the Maintenance Period and obtaining the Final Certificate from the Sewerage Undertaker.

2.26.5 The Contractor shall deal directly with all landowners affected by the Works, Highway Authority, Statutory Undertakers and the regional office of the Environment Agency and District Council(s) with regard to works affecting watercourses and inland waters.

2.26.6 The Employer will not agree to anything other than a gravity fed sewer system. **Unadopted pumping stations and the like will not be permitted** unless this has been specifically accepted by the Employer prior to the date of the Contract.

2.26.7 The provision of a fully engrossed s. 104 agreement and a provisional certificate of adoption is a requirement of Sectional Completion. If these documents are not provided at Sectional Completion a sum of £[redacted] shall be withheld by the Employer until such time as the agreement is issued. Final retention release shall not occur until the Final Certificate of adoption is issued to the Employer.

2.26.8 The Contractor shall identify if wayleave agreements/easements are required, in connection with the Sewerage Undertaker's equipment and sewers and notify the Employer accordingly. The Contractor shall include in the Contract Sum for all costs relating to this matter and for all charges that may be levied by the Sewerage Undertaker.

2.26.9 All inspections, tests etc. of the completed sewerage system and any remedial works should be carried out prior to the final surfacing of the estate roads.

2.26.10 Any unadopted drainage systems will be designed and built to an adoptable standard.

2.27 WATER AND ELECTRICITY SUPPLIES

2.27.1 The Contractor will be responsible for making his own enquiries of the utility supply companies and ensure that utility supplies shall be laid on the estate in accordance with the latest guideline for the planning and installation of all the main utility supplies to New Build Developments. For the avoidance of doubt this is to cover electricity and water supplies. Each dwelling should be supplied through a new and separate supply of adequate size to meet the residential unit's requirements.

2.27.2 The Contractor shall be responsible for providing adequate underground utility supplies to the site and making the final connection to the residential units or service equipment. The Contractor shall liaise and co-ordinate with the utility supply company to ensure that the statutory undertakings are satisfied. The utility supplies must comply with the conditions and specifications of the relevant utility supply company for the area. The Contractor shall comply with the requirements of the utility supply company in providing the necessary installation and meter positions to the site and residential units.

2.27.3 The Contractor shall identify if wayleave agreements/easements are required in connection with the utility supply company's equipment and installation generally and notify the Employer accordingly. The Contractor shall allow for all costs relating to this matter and for charges that may be levied by the utility supply company in the Contract Sum.

2.27.4 Communal Supplies: A Landlord's meter is required to be installed where there are communal parts requiring utilities. Separate landlord services to be provided for communal EV charging services.

2.27.5 EV charging requirements: Refer to **Appendix 31** for detail.

2.27.6 Meter Cabinets: Electric meter cabinets should be capable of housing a key meter if necessary at some future date. Meter should be capable of remote reading. SMART meters are preferred.

2.27.7 Water meters must be located externally to the building(s) and be fully accessible. A location plan showing all water meters is required from the Contractor at the time of handover.

2.27.8 For flats the mains supplies should rise through the communal parts of the building, not passing through flats that it does not supply.

2.27.9 The Contractor shall include in the Contract Sum the costs for all builder's work, charges and costs in connection with the utility supplies.

2.27.10 The Contractor shall provide MPAN numbers and readings, the Contractor is required to check the correct reference numbers to the Employer for each meter, including landlord supplies, prior to handover.

2.28 TELEPHONE SUPPLIES: FIBRE TO THE PROPERTY (FTTP)

2.28.1 The Contractor shall make his own enquiries in this respect and provide an underground telephone system to comply with the conditions and specification to enable FTTP to each dwelling. This includes the provision of phone lines to each unit which must be operational upon day of handover.

2.28.2 The Contractor shall provide an adequate underground telephone system across the site. The Contractor shall liaise and co-ordinate with BT Openreach to ensure that the statutory undertakings are satisfied.

2.28.3 The Contractor shall comply with the requirements of BT Openreach in providing all necessary builder's work in terms of underground ducting, equipment pits/enclosures, conduits to telephone socket outlet box etc. The Contractor shall liaise with BT Openreach to provide all cabling, equipment, connection boxes and telephone socket outlet necessary to provide a complete telephone system to each dwelling. The position of the socket outlet should be provided in the location specified.

2.28.4 The Contractor shall identify if wayleave agreements/easements are required in connection with BT Openreach's equipment and notify the Employer accordingly. The Contractor shall allow for all costs in the Contract Sum relating to this matter and for all charges that may be levied by BT Openreach.

2.28.5 The Contractor shall include in the Contract Sum the costs for all builder's work, charges and costs in connection with the telephone system. The Contractor shall ensure that all telephone points provided to each unit remain live following the final BT connection.

2.29 CABLE SUPPLIES

2.29.1 The Contractor shall make his own enquiries in this respect and contact the local cable television and internet provider and advise of the proposed development. The following clauses shall only apply if the local cable television provider will be making cable TV and internet available in the area.

2.29.2 The Contractor shall be responsible in conjunction with the local cable television company for providing adequate underground ducting to service the site and each individual house for the future provision of cable television. The Contractor shall allow in the Contract Sum for the cost of taking the duct underground to an external point terminating adjacent to the external wall of the living room area.

2.29.3 The Contractor is to provide a suitable cable T.V. outlet and concealed ducting from the location adjacent to the television outlet to a recessed connection box lining up with the cable

2.29.4 T.V. ducting externally. This work is required to ensure that there will be no surface wiring either internally or externally should the resident subscribe to cable T.V. or internet at a future date.

2.29.5 Within blocks of flats, the Contractor shall liaise with the local Cable TV provider to install prior to handover all required cabling and apparatus up to and including outlet points and for such facility to be operational upon handover should the resident subscribe to the service.

2.29.6 House residents will be individually responsible for arranging the cable television supply to be provided to their dwellings.

2.29.7 The Contractor shall identify if Wayleave agreements/easements are required in connection with the Cable Company's equipment and notify the Employer accordingly. The Contractor shall allow in the Contract Sum for all costs relating to this item and for all associated charges that may be levied.

2.29.8 The Contractor shall allow in the Contract Sum for the costs of all builder's work, charges and costs in connection with the cable television system and internet.

2.29.9 The Contractor is to ensure the cable television provider is fully aware of the programmed handover dates to ensure that the local hub has been installed and the dwellings are capable of receiving cable television at handover.

2.30 POSTAL COLLECTION / DELIVERY

2.30.1 Compliance with Secured By Design Silver and Building Regulations Part Q standards as a minimum . Located adjacent to the common entrance to apartment buildings each apartment shall be provided with a proprietary lockable delivery box (each min. 270 wide x 390 high x 130 deep) with a white factory applied paint finish capable of being opened from within the entrance hallway. A UK based manufacturer of post boxes is preferred, to minimise the cost of future replacement parts.

2.30.2 If the above is not possible, post boxes may be arranged in free standing 'banks' externally and adjacent to the main entrance, subject to approval by the Employer. Again, a UK based manufacturer is important.

2.30.3 All products must be installed strictly in accordance with the manufacturer's instructions. All accessories shall be as recommended by the manufacturer. The Contractor shall allow for obtaining any product guarantee / warranty offered by the manufacturer and included in the Building Manual.

2.30.4 Fully draught proof letter plates with internal flap and cowl to comply with Secured by Design Standards will be fitted to entrance doors to houses.

2.31 SIGNAGE

2.31.1 The Contractor is to provide signage to identify postal addresses for each property in accordance with the Local Authority's requirements. No VIVID branding will be included on any signage.

2.31.2 Good quality Perspex signage to blocks of flats with clear durable lettering for wayfinding around communal areas, with clear and consistent floor/flat numbering.

2.31.3 Metal door numbers to be a minimum of 50mm high.

2.31.4 Metal statutory signage, except for illuminated signage which should comply with the minimum statutory requirements.

2.32 The contractor is to provide signage as required by the Pre-occupation Fire Risk Assessment.

2.33 EMPLOYMENT & SKILLS PLAN

2.33.1 The Employer is committed to making the communities it serves more sustainable. One approach to achieve this goal is to maximise employment and training opportunities through their building Contracts.

2.33.2 The Contractor shall prepare and submit a works-specific Employment & Skills Plan and method statement. In preparing this plan the contractor should refer to the CITB Contractor and Developer Guidance attached at **Appendix 30.**

2.33.3 The Employment & Skills Plan shall include proposed target outputs for Employment and Skills in the format provided at Appendix F of the above-mentioned document.

2.33.4 In addition, the Contractor shall meet any requirements set out by the Local Planning Authority in terms of 'Local Labour Initiatives' and/or participation in local 'Construction Training Initiatives' and they shall include proposals for meeting these requirements in their Employment & Skills Plan.

2.33.5 The Contractor shall provide details of all employment & skills activities in their monthly Contractor's Report. The content and format of reports shall be agreed with the Employer's representative.

2.33.6 The Contractor shall itemise costs associated with the delivery of the Employment & Skills Plan within the Contract Sum Analysis.

2.34 DATA PROTECTION

2.34.1 The Contractor is fully aware of its duties and obligations as a data processor pursuant to the Data Protection Act. The Contractor shall be liable for and shall indemnify the Employer against any expense, liability, loss, claim or proceedings whatsoever incurred by the Employer arising from any act or omission of the Contractor, any of its sub-contractors or their respective employees, servants or agents employed or engaged upon or in connection with the Works which result in a breach of (or failure to comply with) the Contractor's obligations under the Data Protection Act.

2.34.2 The Contractor shall (and shall procure that its employees engaged in the Works and its sub-contractor and sub-consultants) comply with, from 25 May 2018, and the General Data Protection Regulations, including, without limitation, those obligations set out in clause 2.48 of the Contract.

2.34.3 The Contractor will be required to sign up to a Data Processing Agreement to confirm that it will take all reasonable precautions to protect our customer's data, if it is necessary to pass this on to The Contractor for the purpose of defect rectification. The template document is in **Appendix 7**.

SECTION 3: ENHANCEMENTS TO GENERAL DESIGN & TECHNICAL REQUIREMENTS

3.0 GENERALLY

3.0.1 This Section of the Design and Technical Brief sets out specific enhancements and qualifications to the general design and technical standards identified in Section 2 of this document.

3.0.2 There will be a 2-year Defects Liability Period – as further defined in the JCT Design & Build Contract (as amended) and referred to in Section 5. The only exceptions are the communal external soft landscaped areas that have a 12-month Defects Liability Period, including any play equipment (although the Contractor will be responsible for play equipment until the point of adoption, if it is being adopted). See Appendix 29 for soft landscaping specification. It is to be noted that VIVID will be undertaking any statutory, insurance or LOLER testing or inspections during the Defects Liability period to any applicable mechanical (plumbing), electrical, Life Safety Systems, lifts and public health installations. However, any defects identified remain the responsibility of the Principal Contractor during the 2-year Defects Liability Period.

3.1 SUBSTRUCTURE

General Requirements:

3.1.1 Where ground bearing in-situ concrete slabs are used a power floated finish will not be acceptable. All other forms of concrete construction shall be finished with a cement and sand screed incorporating reinforcement to prevent cracking of the screed.

3.1.2 Masonry walls below damp proof course level are to be finished with facing bricks externally to 150 mm minimum below finished ground level.

3.1.3 Damp proof membranes shall be 1200 gauge polythene or thicker where required for gas protection measures.

3.1.4 No polythene damp proof courses shall be used.

3.1.5 To the approval of NHBC / Warranty Provider and Building Control.

3.1.6 Structural Water proofing (tanking) shall be subject to an insurance backed guarantee or warranty, as follows:

a) Insurance must be from a UK based insurance company.

b) Valid for a minimum of 20 years after completion of the Works.

c) Cover the cost of failure of materials, and / or workmanship, cost of opening-up and making good.

3.2 FRAME

General Requirements:

3.2.1 Timber and steel frame will be accepted if designed, supplied and erected by a Specialist company and comply with NHBC or the Warranty Provider's Technical Standards.

3.2.2 All external metal work exposed to weathering to be hot dipped galvanised in accordance with the relevant British Standard with 2 part epoxy factory applied paint.

3.3 **UPPER FLOORS**

General Requirements:

3.3.1 Floors are to be protected at all times. Any spillages are to be thoroughly cleaned off prior to any floor coverings being laid.

3.3.2 Chipboard flooring must be moisture resistant tongued and grooved Grade Type P5 or P7 and be a minimum 22 mm thick. Fixing will include for gluing all tongued and grooved joints together and screw fixing at 200 to 300 centres to all edges and along all joists.

3.3.3 Floor construction to rooms above open car parts and integral garages shall improve upon Approved Document E minimum value by 5dB.

3.4 **ROOF**

General Requirements:

Roofs

3.4.1 Flat roofs will not normally be acceptable as a design solution ***without the Employer's express permission.*** Where they are provided, including standing seam products they shall have a 25 year insurance backed guarantee provided by a UK based bank or insurance company.

Mansafe/fall arrest system to be installed to provide safe access to flat roof (access to flats roof to be provided off communal corridor only)

The preference over a mansafe system is to have 1100mm high parapets or alternatively 1100mm high raked guarding, where possible. The design solution is to be agreed with the Employer/Employer's Agent.

3.4.2 Party walls projecting through roof coverings are not permitted.

Roof Spaces

3.4.3 Provide minimum 250 mm thick insulation at ceiling joist level within the roof void. Loose fill insulation is unacceptable. Insulation, either glass fibre or mineral wool in roll from should be used. Two thin layers are required. The first layer should be laid within the ceiling joists and the second layer at right angles. Due allowance must be given to ensuring that the two layers do not become compressed where access platforms are provided.

3.4.4 All roof spaces should be accessible from within the building and be fitted with an insulated (to the same standard) and draught proof access hatch. The hatch shall be a minimum 550 x 750 mm in size or sufficient to allow the replacement of any equipment, and be located in a circulation area that can be safely accessed. Internal walkway boarding is required from the access hatch to any installed equipment. In blocks of flats fire rated loft hatches shall only be located in communal areas and shall be lockable with suited key.

3.4.5 In houses and flats, roof and floor structure in bathrooms and bedrooms shall be designed to take future hoists and rails.

Entrance Canopies

3.4.6 Entrance canopies shall be 900mm deep covering the main entrance and any access control, or as shown on the Planning drawings. Laid to falls to a rainwater disposal system and connected to the underground surface water drainage system, as appropriate, pre-manufactured GRP porch canopies are preferred or equivalent.

Flashings / Valley Gutters etc.

3.4.7 All flashings and the like will be a minimum Code 4 lead. Valley gutters and dormer cheeks will be a minimum of Code 5 lead. All exposed lead shall be cleaned and treated with patination oil prior to Practical Completion. GRP flashings, valley gutters, dormer cheeks and the like will not be permitted.

Fascias / Soffits / Bargeboards etc.

3.4.8 Fascias, eaves boards, bargeboards etc. shall be formed using 'Swish' white UPVC or equivalent and approved. Other materials will only be permitted where specifically required by the Planning Authority or agreed with the Employer prior to the signing of the Contract.

3.4.9 Sand faced tiles will not be permitted.

Rainwater

3.4.10 Gutters and downpipes shall be PVCu system or as required by the Planning Authority. Replacement parts must be available from Local Stockists.

3.4.11 Porch / canopy roofs to be laid to falls to prevent ponding / pooling and must not shed water on to access paths.

3.4.12 Internal gutters and downpipes should be avoided.

3.4.13 A suitable and securely fixed balloon grating, of matching colour, shall be fixed to the head of all rainwater downpipes.

3.4.14 Hedgehog gutter brushes must be provided where trees are in close proximity and gutters are at risk of blockages.

3.5 STAIRS AND BALCONIES

General Requirements:

3.5.1 Stair widths should be sufficient to allow standard sized furniture to be maneuvered safely. Allow for a minimum clear width of 900 mm sufficient space should be allowed top and bottom of the stairs for the future installation of a stair lift.

3.5.2 Winders are acceptable in houses but not for communal stairs.

3.5.3 Handrails are to be provided to one side and for the entire going of any staircase unless prescribed otherwise by Building Regulations. Balustrades should be designed not to allow climbing. The use of glass balustrades for stairs and balconies may only be permitted where specifically required by the Planning Authority and agreed with the Employer prior to the signing of the Contract. Balustrade fixings to be approved by the Employer

3.5.4 19mm plywood should be fitted behind the plasterboard at handrail height to provide an adequate fixing point. This is particularly important in communal areas within flats. Surface fixed wallplate will not be permitted.

3.5.5 The stairs to the houses shall be constructed in softwood complete with 32 x 32 softwood balustrading and **hardwood** handrails. All strings and apron linings shall be softwood.

3.5.6 The communal stairs to blocks of flats shall be complete with metal balustrading and 'warm touch' UPVC or **hardwood** handrails all in full compliance with the Building Regulations. All strings and apron linings shall be softwood. Hardwood shall be decorated with a suitable varnish or stain, strictly in accordance with the manufacturer's instructions.

3.5.7 Understairs areas in the communal areas of flats should be boxed in to remove the opportunity for residents to store flammable items.

3.5.8 Only non-combustible balcony decking is permitted. Balconies shall be lined to their underside with a non-combustible self-finished decorative board material which is weather and water resistant. Fixings shall be non-corrosive either concealed or with appropriate caps. Non-combustible Soffit boards should be either tightly fitted to adjoining structure or be fitted with mesh or the like to prevent birds, insects and/or combustible material entering the balcony void.

3.5.9 Balconies to be provided to all flats where possible. Ground floor flats to have an area of private garden / terrace fenced off for their own use, where possible.

3.5.10 Any balcony fronts to be obscured (glass spec as required by Building Regulations), unless the planning permission dictates otherwise. Balcony solutions to allow a degree of privacy and be non-combustible. Brick built, integral balconies will also be considered, subject to planning.

3.6 EXTERNAL WALLS

General Requirements:

3.6.1 Facing bricks shall be low salt, frost resistant to the Planning Authorities and Employer's Approval.

3.6 **EXTERNAL WALLS**

3.6.2 Where masonry construction is being utilised the brickwork should be pointed with a suitable mortar mix in proportions to suit the brick and the location. Pointing shall be either flush or bucket handle provided this does not go against the advice of the brick manufacturer, relevant design considerations due to location and/or exposure and the approval of the Planning Authority. The mortar colour should be submitted for approval by the Planning Authority and Employer. Pointing is to be executed as work proceeds and is to be of even colour and texture. All cavities to be kept clear of mortar droppings and other debris. Weep-holes in cavity walls shall be drained with proprietary plastic fittings finished flush with surrounding level.

3.6.3 Full filled cavity wall insulation is permitted, subject to approval by the Employer/ Employers Agent.

3.6.4 Full filled cavities will only be accepted with a thermal imaging survey.

3.6.5 Sand faced clay, concrete and calcium silicate bricks will not be permitted.

3.6.6 Facing bricks from different pallets / batches shall be correctly mixed to provide a consistent colour and texture to the finished wall.

3.6.7 Cavity wall ties shall be stainless steel, no other alternative is acceptable.

3.6.8 Provide proprietary insulated cavity closers to all reveals, sills and soffits.

3.6.9 Movement joints shall be formed using Fosroc products, or equal and approved. The joint / sealant must be formed strictly in accordance with the manufacturer's instruction. Joints should be positioned behind downpipes, where possible.

3.6.10 The Employer's preferred option is not to have rendered walls, however if required as part of a planning consent the render system shall be of the through-coloured and reinforced type. Details of the system proposed by the Contractor shall be agreed by the Employer prior to sub-contractor award. The Dryvit system shall not be used. Careful detailing at run off locations will be required as staining shall be considered a snag / defect. Touch up repairs are not acceptable, the Contractor shall over paint whole affected panels in strict accordance and utilising materials provided by the render supplier.

3.6.11 Sand faced tiles will not be permitted for tile hanging.

3.6.12 Timber cladding will not be permitted.

3.6.13 Where cladding is required it must be non-combustible, low maintenance with a factory applied finish. The product must be installed in strict accordance with the manufacturer's instructions.

3.6.14 Aluminium clad composite insulation panels will not be permitted.

3.6.15 The Contractor shall provide a minimum insurance backed guarantee / warranty for all cladding products as follows:

a) Insurance must be from a UK based insurance company.

b) Valid for a minimum of 25 years after completion of the works.

c) Cover the cost of failure of materials and / or workmanship, cost of opening-up and making good.

3.6.16 Building over 11m should not consist of any form of external cladding / external wall system.

In respect of any new build under 11m we would expect the below considerations to be taken into account.

- Any external wall system (EWS) should be kept to a minimum and if possible, should not cover more than 25% of the external façade of the building.
- Any system / cladding to be used should be tested and certified in-line with the current requirements at the time of installation.
- Any system / cladding should be mechanically fixed to the building, this should be done as per the manufacturers instruction(s).
- Any fire-retardant treatment used should be certified and tested as per the requirement.
- If the system / cladding is to be painted the appropriate certified fire-retardant paint should be used.

3.7 **WINDOWS**

General Requirements:

3.7.1 Windows shall normally be manufactured from PVCu and be 'A' rated and from a supplier to be approved by the Employer. Windows and their component parts are to be British Standard 'Kite marked' to BS 7412 or BBA approved. The manufacturer and installer must be FENSA certified, membership of either the GGF or BWF. All windows shall be of all welded construction with continuous reinforcement to a minimum of 85% of the length of the frame. All PVCu windows shall have a minimum 10 year insurance backed warranty on the window and glazing units and 2 years on fittings. All windows shall comply with the Secured By Design criteria and BS 7950:1997. We will accept double or triple glazing as required to meet the Future Homes Standard.

3.7.2 Where specifically required by the Planning Authority timber windows or aluminium faced timber windows are permissible. Windows and their component parts are to be British Standard 'Kite marked' to BS 644 or BBA approved. The manufacturer and installer must be FENSA certified and have membership of either the GGF or BWF. All timber windows shall have a 25 year insurance backed warranty on framing under the BWF scheme with a 10 year insurance backed guarantee of double glazed units. All windows shall comply with the Secured By Design criteria and BS 7950:1997.

3.7.3 Where specifically required by the planning authority or the Employer aluminium windows are permissible. Windows and their component parts are to be British Standard 'Kite marked' to BS 4873 or BBA approved. The manufacturer and installer must be FENSA certified and have membership of either the GGF or BWF. All such windows shall have a minimum 10 year insurance backed warranty on the window and glazing units and 2 years on fittings. All windows shall comply with the Secured By Design criteria and BS 7950:1997.

3.7.4 Obscure glazing to bathrooms, ensuites, cloakrooms and the like using 'Cotswold' pattern glass or otherwise approved.

3.7.5 Windows must be cleanable from the inside. All windows are required to be double glazed using low emissivity type glass. All windows to be internally beaded unless an alternative means of achieving good security can be demonstrated by an externally beaded system. All window perimeters to be sealed internally and externally with suitably coloured polysulphide mastic.

3.7.6 As stated in the Building Regulations opening lights at first floor level should comply with the recommendations of BS5588 Section 1.1 Code of Practice for single family dwelling houses in relation to providing windows with sufficient clear opening for escape purposes. The BS recommends a clear opening of 500 mm x 850 mm; where this cannot be achieved due to the friction stay requirement for cleaning purposes then a Defender Egress easy clean hinge from

Securistyle Limited or approved should be used. Hinge restrictors preferred over 'stud and stay' types.

3.7.7 Opening windows should be fastened by means of a suitable espagnolette locking system, which allows the windows to be locked in the partially open position. Window operating levers to be finished in SAA. All opening windows should be capable of being locked in two positions preferably with a key lock in the handle, all locks should be suited in each dwelling and openable by the same key. A key is required for each lock. The Employer prefers the 'Elite Tri-stay Fire Escape/Easiclean/Safety Restrictor' hinge manufactured by DGS Group Plc.

3.7.8 All upper windows to be fitted with child restrictors.

3.7.9 All windows should be provided with an external cill which projects a minimum 38 mm from the face of the wall finish.

3.7.10 Windows to comply with the requirements of relevant building regs (F, K, O, M).

3.7.11 Where roof windows are to be provided they shall be of the 'Velux' type completed with integral roller blinds and telescopic reach rods.

3.7.12 No windows shall be located over or directly off staircase flights.

3.7.13 Windows which face directly onto public areas where pedestrian traffic is likely, such as footpaths other rights of way, must be sealed units with a high level fan light or similar capable of being opened for ventilation.

3.7.14 All windows (except bathroom, kitchen and WC tiled reveals) to be provided with minimum 25 mm softwood window board rebated around reveals complete with rounded leading edges, with screwed and pelleted fixings. Leading edges to extend 50 mm past reveals and 25 mm from faces of walls.

3.7.15 All opening windows must be capable of opening fully without obstruction.

3.7.16 Window handles behind sinks should be set at low level rather than mid height to enable easy opening.

3.7.17 Provide mechanical window winders mechanism where required in elderly person or wheelchair units.

3.8 EXTERNAL DOORS

General Requirements:

3.8.1 Direct entry from the front entrance door of a dwelling into a habitable room is not permitted

3.8.2 Sliding patio doors are not acceptable. French doors shall be provided in lieu. This should not be used as the only means to enable ventilation from a habitable room. An opening window must also be provided.

3.8.3 In satisfying the level threshold requirement the long-term durability of this detail is of concern to the Employer. A smooth faced concrete threshold should be used, and 'Technical Illustration 8' from the NHF document 'Standards and quality in development – A good practice guide' is required.

3.8.4 All doors to be pointed all round externally with suitably coloured polysulphide mastic and white caulking internally.

3.8.5 Individual front entrance doors shall be fitted with a draught sealed letter box with rear guard, a security chain, high and low level 180 degree door viewers, and, 50 mm high metal numerals in addition to the locks and latches required by Secured By Design standards. All door furniture SAA finish. In addition flat front entrance doors must be fire rated to meet building regulation requirements. No split lock spindles are permitted.

3.8.6 Individual front entrance doors including those of flats shall be manufactured by IG Doors or equal and approved to an agreed colour and pattern of the Employer's Choice or as part of the planning consent approval and be fully compliant with PAS 23 and 24 standards. Minimum clear opening 800mm.

3.8.7 Communal front and rear entrance doors to flats shall be either steel, aluminium or timber doors only fitted with Maglock and heavy duty overhead door closers with anti-slam facility. Door entry systems are required as noted later in this document. The doors are to be fully compliant with their door entry system and the Secured by Design requirements.

3.8.8 Doors to common parts of apartment blocks shall comply with the relevant approved document part M

3.8.9 Contractor to allow for providing the Employer with FB2 locks and keys (1 for each property within a block of flats or maisonettes and one for the Employer for each block) for communal cupboards where the residents need access (Employer to confirm such) or a M159M Mortice lock key for Landlord only cupboards (Employer to confirm such) where appropriate to meet Building Regulations and fire officer's requirements.

3.8.10 Provide a digilock to communal bike and bin stores (code to be confirmed by Employer).

3.9 PARTY WALLS

General Requirements:

3.9.1 Party Walls must be constructed to a high standard with all perpend joints fully filled with mortar to minimise sound transmission.

3.9.2 Party Walls should not be chased/recessed to the extent it adversely affects sound insulation of the construction. Services either side of the party wall need to be carefully planned.

3.9.3 Party walls shall improve upon Approved Document E minimum value by 5db for airborne sound.

3.10 INTERNAL WALLS & PARTITIONS

General Requirements:

3.10.1 Kitchens, Bathroom and WC side of partitions to be sheathed with full height minimum 18mm plywood before fixing plasterboard linings. Plasterboard in bathrooms and kitchens shall be moisture resistant grade.

3.10.2 Where heavy items such as heat pump cylinders and radiators are fixed to stud walls, the wall must be suitably braced with minimum 18mm plywood.

3.10.3 Where dry lining is used to improve the u-value, care should be taken to ensure no air circulation routes are created in the void behind the lining.

3.10.4 All stud walls shall be designed in accordance with approved document part E with insulation being provided as necessary to stud walls between habitable rooms as a minimum.

3.10.5 Wall linings shall be jointless and formed in strict accordance with the board manufacturer's instructions.

3.11 INTERNAL DOORS

General Requirements:

3.11.1 Internal door openings to all rooms except airing cupboard and store should be fitted with a standard door providing a minimum clear opening width of 775 mm. The minimum thickness of any door shall be 35 mm (unless required otherwise by Building Regulations). Doors will be 4 or 6 panel white or wood veneer pre-finished doors to the Employer's choice.

3.11.2 'Upgraded' doorset shall be provided to door openings separating downstairs from the 'means of escape' from upstairs or high risk rooms such as Lounge / Hall doors or Kitchen from Dining / Lounge doors. The upgraded door shall comprise of a 35mm thick 30 minute fire rated door hung in 32mm timber linings with hardwood stops to match other doorsets. The door shall be fitted with 1½ pair chrome plated FR steel butts and FR rated latch and furniture to match other door furniture used in dwelling.

3.11.3 All internal doors should be fitted with mortice latch and set of bolt through type lever handles and roses with 3 matching 110mm butt hinges, including store and airing cupboards. All cupboard doors shall be openable from the inside. Provide indicator bolt to bathroom door and separate cloakroom (WC) door with safety access facility operable from outside in the event of an emergency.

3.11.4 All wardrobe and cupboard doors must be openable from the inside with a 15mm clearance at the foot of the door to provide ventilation to the wardrobe or cupboard.

3.11.5 Doors should be provided with clearance after carpets have been laid by the Contractor. Maximum clearance under fire rated doors should be as recommended by the door manufacturer to maintain the fire rating of the doorset.

3.11.6 Frames and linings to internal doors to be in softwood with architraves to mask junction of frame and adjacent wall finish. Architraves shall as a minimum be 25 x 50 mm chamfered or moulded softwood.

3.11.7 The use of borrowed lights over doors will not be acceptable.

3.11.8 All doors shall be to the same standard and type as approved by the Employer.

3.11.9 All ironmongery for internal doors shall be bolt through metal bodied with a polished chrome finish.

3.11.10 All doors shall be fitted with 1½ pairs of 110mm butt hinges per leaf.

3.11.11 All internal communal doors shall be fitted with appropriate by sized glazed panels, kicking plates both sides, heavy duty aluminium with heavy duty overhead door closers with anti-slam facility, push plates and pull handles.

3.11.12 All Landlord's cupboard doors shall be fitted in accordance with the manufacturers requirements and in keeping with the rest of the building to the appropriate fire rating complete with M159M mortice lock (with 1 key for the Employer).

3.11.13 All communal cupboards that residents require access to for meter readings and the like shall be fitted in accordance with the manufacturers requirements and in keeping with the rest of the building to the appropriate fire rating complete with FB2 locks with 1 key for each flat within the block and 1 key for the Employer. For the avoidance of doubt Landlord meters and communal services must not be located in the same cupboard as the residents meters.

3.12 **WALL FINISHES**

General Requirements:

Decorations

3.12.1 All wall surfaces within properties shall be painted with a minimum of 1 no. mist coat and 2 no. full coats of Dulux Trade vinyl matt emulsion paint or equivalent.

3.12.2 Paint used in kitchens and bathrooms should be mould resistant.

3.12.3

3.12.4 In communal areas of flats all wall surfaces shall be painted with a minimum of 1 no. mist coat and 2 no. full coats. All paints to be Class 'O' for spread of fire and scrubbable.

3.12.5 Avoid brilliant white paint; pale, neutral pastel colours are preferred, to be approved by the Employer. Our preference is for:

3.12.6

- Crown Trade Timonox Scrubbable Matt for walls
- Crown Trade Timonox Acrylic Eggshell for joinery etc

Or equivalent, to be approved by the Employer.

3.12.7 All internal joinery and the internal faces of external joinery which does not come self-finished shall be knot, stopped, primed and painted with a minimum of 1 no. undercoat and 2 no. top coats of white gloss paint. All exposed pipework shall be primed and painted with a minimum of 1 no. undercoat and 2 no. top coats of white heat resistant gloss paint.

3.12.8 All windows and external doors which do not come self-finished shall be finished externally in a proprietary external stain to the Planning Authority and Employer's written approval.

3.12.9 All paint within dwellings to be manufactured by either Dulux, Johnstones, Crown or equivalent and approved. All paint and stains to be applied strictly in accordance with the manufacturer's instructions.

3.12.10 All corner beads in communal areas to be protected with corner guards to full height.

Wall Tiling

3.12.11 Grout to be stain and water resident and to resist fungal and mould growth.

3.12.12 Tiles to shower areas to be fully bonded / tanked in accordance with the tile manufacturer's recommendation depending on substrate.

3.12.13 Silicone sealant of the appropriate type must be used to seal all junctions between wall tiling and sanitaryware and kitchen worktops. In addition to mould resistant silicone sealant white 'must be used to all bath and shower to wall tile and floor junctions, and, it must be fully compressed down when fixing the first row of wall tiles so that if the bath drops at a later time then a seal will still be provided.

3.12.14 All exposed edges of wall tiling to be finished with proprietary white PVCu quadrant.

3.12.15 Wall tiles to be manufactured by H&R Johnson, Candy or Pilkington or as approved by the Employer.

Specific Requirements:

Wall Tiling

3.12.16 *Affordable Rent / Open Market Rent*

- Kitchens - wall tiling shall not be less than 150 x 150mm white tiles. Minimum 3 courses above kitchen worktops / sink and continuous behind cooker space and taken down to skirting level. Include return wall to fridge / freezer space, if applicable. Window cills to be tiled.
- Bathrooms - wall tiling shall not be less than 150 x 150mm white tiles. All enclosing walls above bath shall be fully tiled to ceiling level. Minimum 2 courses above basins. Window cills to be tiled.
- Cloakrooms - wall tiling shall be not less than 150 x 150mm white tiles. 2 courses above basins. Window cills to be tiled

3.12.17 *Shared Ownership / Open Market Sales*

- Kitchens - provide 145mm high upstands above all worktops and sink. Upstand to match worktops. Provide stainless steel or glass splash back above cooker hob to underside of extract hood.
- Bathrooms - wall tiling shall not be less than 500 x 250mm coloured tiles from the manufacturers standard range. Provide feature band. Minimum 250mm above basins. Window cills to be tiled.
- Cloakrooms - wall tiling shall not be less than 500 x 250mm coloured tiles from the manufacturers standard range. Provide feature band. Minimum 250mm above basins. Window cills to be tiled.

3.13 FLOOR FINISHES

General Requirements;

3.13.1 All floors receiving a screed finish shall be sealed with a suitable screed sealer.

Vinyl Flooring

3.13.2 All exposed edges of flooring shall be finished with a good quality aluminium diminishing / transition strip (e.g. Gradus or equivalent and approved). Wherever possible vinyl flooring should be laid without visible join. Where this is not possible every effort should be made to locate joins in appliance spaces or areas out of view.

3.13.3 Vinyl flooring must be taken into cooker, washing machine and fridge / freezer spaces and cupboards junctions between vinyl floors and kitchen plinths, bath panels and sanitaryware shall be sealed with an appropriate sealant.

3.13.4 Where the whole room is deemed a 'wet room' the vinyl sheet must be slip resistant, welded joints and integral vinyl skirtings, all in accordance with the manufacturer's recommendations.

3.13.5 In communal areas flooring must be taken into cupboards and all edges fixed as appropriate.

Communal Area Flooring – affordable housing blocks

3.13.6 For 100% affordable housing blocks (including rented and shared ownership), all communal corridors, stairs and landings shall have a heavy commercial grade, slip resistant vinyl finish, such as PolyFlor Astral PUR, Altro Walkway or equivalent approved (see datasheets in **Appendix 33**).

3.13.7 Vinyl should be dark blue colour, unless otherwise approved by the Employer.

3.13.8 Vinyl to be installed in accordance with the manufacturer's guidance.

3.13.9 Vinyl to stairs shall have metal slip resistant nosings (in grey or black, not white) and vinyl edge trim.

3.13.10 All exposed edges shall have good quality aluminium diminishing / transition strips (e.g. Gradus or equivalent).

3.13.11 All communal entrances to apartments shall have full width by 1500mm deep barrier matting, which provides a level finish with the adjoining vinyl. Recessed coir matting is not acceptable.

Skirtings

3.13.12 Softwood skirting's are required to all exposed wall surfaces of not less that 19 x 94 mm (finished) size and be of either a bullnose, moulded or splayed profile.

Specific Requirements:

Vinyl Flooring

3.13.13 *All Tenures*

Houses and flats to have Itec Isafe apex Contract Flooring or equivalent and approved in kitchens, bathrooms, ensuites, cloakrooms and stores. The flooring must be slip resistant (RRL pendulum test rating 36+), suitable for its intended use and installed in accordance with manufacturers recommendations.

3.13.14 *M4(3) homes*

If a home is provided with a walk-in shower, vinyl will enhanced anti-slip properties will be required.

Carpet Flooring

3.13.15 *All Tenures*

Houses and flats shall be fitted with carpet in all rooms, Lano Star Twist, Pembridge Twist or similar except kitchens, bathrooms, ensuites, cloakrooms and stores. The carpet shall be:

- 100% polypropylene, hessian backed carpet with good quality underlay to all areas (including cupboards and wardrobes).
- Heavy domestic rates.
- Stain resistant fibre.
- Water repellent.
- Anti-static.

3.14 **CEILING FINISHES**

General Requirements:

3.14.1 To control noise in communal halls and stairways, ceilings are required to be covered with an acoustically absorbent tile classified by BS EN ISO 11654:1997 as Class C or better.

3.14.2 Plasterboard to ceilings in bathrooms and kitchens shall be moisture resistant grade.

3.14.3 All ceilings shall be painted with a minimum of 1 no. mist coat and 2 no. full coats of vinyl matt emulsion paint. Artex or equivalent is not permitted.

3.14.4 All paint shall be manufactured by Dulux, Johnstones, Crown or equivalent and approved.

3.15 **FIXTURES AND FITTINGS**

General Requirements:

Kitchens

3.15.1 Internal kitchens are not permitted without the specific approval of the Employer.

3.15.2 All kitchen units are to be hi-line with and including a three drawer stack with metal drawer boxes as standard. All doors to be fitted with 170º hinges.

3.15.3 In all kitchens allow for a space for a washing machine and provided all necessary services. If this cannot be achieved within the kitchen space an accommodating cupboard shall be provided, with all necessary services.

3.15.4 Always provide a removable floor unit to house a dishwasher and provide all necessary services. If the kitchen is large enough to accommodate a dishwasher space without a removable base unit but whilst still achieving the minimum kitchen unit capacities specified in section 2.6.1, this option is preferred. All necessary services are required to enable connection. For 1 and 2 bedroom homes, a slimline dishwasher space / removable unit is acceptable.

3.15.5 In all kitchens allow for a space for a full height fridge/freezer and provide all necessary services.

3.15.6 Worktops are to be a minimum of 38mm thick with post formed leading edges. Any jointing of worktops in the running length or at corners shall be formed using mason's mitres.

3.15.7 Kitchens shall have stainless steel inset sink top. Separate chrome plugs are required, not with a chain. The steel will not be less than 0.9 mm thick.

3.15.8 Cooker spaces to be a minimum of 640 mm clear width. All other appliance spaces to be a minimum of 625 mm clear width.

3.15.9 Kitchen taps to be ceramic disc quarter turn monobloc sink mixer taps with lever handle and aerator.

3.15.10 In flats, provide high security, fire proof wall fixed communal letter boxes. A box should be provided for each flat. Waterproof labels and two keys per box.

Specific Requirements:

Kitchens

3.15.11 *Affordable Rent / Open Market Rent*

- Kitchens to be Howdens from their 'Greenwich' range or equal and approved from Symphony, Premier, Rixonway. Minimum 18mm matching carcase.
- Sinks will be single bowl and single drainer inset stainless steel sinks. Ceramic disc quarter turn monobloc high neck mixer with lever handle and aerator.

3.15.12 *Shared Ownership / Open Market Sales*

- Kitchens to be Howdens from their 'Greenwich' Gloss range or equal and approved from Symphony, Premier, Rixonway. Minimum 18mm matching carcase.
- Soft close hinge and drawers.
- Sinks will be one and half bowls and single drainer inset stainless steel sink or composite. Ceramic disc quarter turn monobloc high neck mixer with lever handle and aerator.
- Wall units will have pelmets, cornices and LED lights.
- The following built-in appliances shall be supplied and installed:

  - Stainless steel built-in ceramic/induction hob.

  - Stainless steel built-in electric oven.

  - Stainless steel recirculating extract hood.
- Appliances to be provided with a 2 year extended guarantee or equal and approved. Manufacturer of appliances to be approved.

General Requirements:

3.15.13 The airing cupboards should be free from apparatus which would prevent its use as an airing cupboard:

- in general be accessible from the general circulation area – no airing cupboard shall be located backing onto the head of a staircase flight.
- be heated if remote from the hot water cylinder, using electric tubular heating or similar approved.
- be provided with a minimum of 3 screw fixed slatted shelves each extending the full width and depth of the cupboard (not less than 0.40m²). The minimum height of slatted shelving above floor level is 760 mm and not less than 150 mm above the hot water cylinder. Minimum space between shelves is 375 mm. Slats to be pencil rounded softwood slats sanded to a smooth finish.
- Provide minimum 0.75m² per person shelving (mix of slatted and solid shelving).

3.15.14 Built-in wardrobes are required to main bedroom only . All wardrobes must incorporate a full width shelf and chrome plated hanging rail; and be fronted with doors hung on hinges – each leaf no wider than 686 mm. Doors are to be fitted with roller type catches housed into the head of each door on the closing side and an approved substantial 'D' handle. All wardrobe doors shall match the other internal doors within the property.

3.15.15 Provide skirting mounted white doorstops at all locations where doors when opened will strike a wall, fitting or a fixture (including communal doors). Doorstop type to Employers approval.

3.15.16 Rented units only - Softwood curtain battens 50 mm x 25 mm must be provided to all external doors and window openings. The battens must be screwed fitted and extend past the reveal by a minimum of 150 mm. Decorate as per wall colour.

3.15.17 Provide all signage to identify properties for postal and location purposes. Signage to include numbers, letters, names of blocks and street names as necessary. In communal areas of flats 'No Smoking' and apartment direction signs shall be provided as necessary at each floor level outside lifts and at head of stairwells. All signage recommended as part of the Pre-occupation Fire Risk Assessment should be provided including external fire assembly point signage where required. All signage to be flush with the wall.

3.15.18 Lockable Notice Board: To each block of flats provide a Tamper proof notice board

Situated: internal communal entrance wall. As near as possible to main entrance door for visibility.

Details:

- Designed for interior use, Class B Fire rated
- Lockable
- Anodised aluminium frame
- Usable internal depth: 18mm
- Fire retardant felt
- Strong acrylic door with excellent visibility
- For use with push pins and/or Velcro
- Grey felt colour
- Wall mounted in landscape (door opens upward)
- 1200mm x 900mm

Manufacturers – Pitts Presentation, https://www.pittspresentation.co.uk/ or similar

3.15.19 Gerda Boxes: are to be provided with relevant plans and keys in a convenient location for the fire service.

3.15.20 The Contractor is to install a key safe for each dwelling (houses and flats) prior to Practical Completion, in a location to be agreed with the Employer. These should not be fixed to the front elevation of a building unless this cannot be avoided. Codes should be randomised and set by VIVID.

3.15.21 For the avoidance of doubt, these do not need to be to LPS 1175 standard – this is a requirement for communal key safes for flats (see 3.15.24)

3.15.22 In each block of flats within a ground floor cupboard, preferably a landlords cupboard, (or in the ground floor lobby area if there is not a cupboard available) supply and fit a large key safe (combination code lock not key or battery operated) for any equipment or communal keys that need to be available within the block. Type and size to be agreed with the Employer. Code to be set by VIVID.

3.15.23 Suitable example is provided by website link below (push button operation, no key needed, not battery operated): https://www.safeoptions.co.uk/key-secure-ks20-md-push-button-slam-shut

3.15.24 If the main entrance to a block of flats does not have a door entry system with a code access facility and is key or fob operated, a small external quality LPS 1175 standard key safe (combination) is required adjacent to the main block entrance doors. 1 no fob or key is to be placed in the safe. Combination code to be agreed with the Employer on a project-by-project basis.

Suitable examples are provided by website links below:

- https://www.burtonsafes.co.uk/products/keyguard-digital-xl/
- https://keysafe.co.uk/products/key-safes/c500-keysafe.html?ppc_keyword=&gclid=EAIaIQobChMI7a2jvJ646gIVA9- yCh1HXQGvEAQYASABEgIQePD_BwE#product-page-tabs
- https://keysafe.co.uk/products/key-safes/police-accredited.html

Specific Requirements:

General Items

3.15.24 *Open Market Rent*

- Provide roller blinds to kitchen and moisture resistant blinds to the bathroom (treated wood slat venetian blinds).
- Provide 'Swish' or equivalent white plastic curtain tracks to all other window openings.

3.16 SANITARY APPLIANCES

General Requirements:

3.16.1 Baths shall be located so as not to overlap a window.

3.16.2 Thermostatic mixer showers are acceptable when a hot water cylinder is provided.

Specific Requirements:

3.16.3 *Affordable Rent / Open Market Rent*

- All sanitary fittings to be obtained from Ideal Standard 'Altro' range or equal and approved. All fittings must be from one supplier.
- Basins shall be 550mm white vitreous china with two tap holes and pedestal. Basins will be fitted with two ceramic disc pillar taps with lever handles and aerators, waste with white plug and chain.
- Basins in cloakrooms will be 400mm white vitreous china with same fittings.
- Baths shall be 1700 x 700mm white steel enamel baths with anti-slip base and two chrome grab handles. Baths will be fitted with surface mounted ceramic disc thermostatic mixer tap, waste, overflow and white plug and chain. Baths will have frame and solid bath panel. Rim of bath not to exceed 520mm above finished floor level. 200mm wide shower screen with deluxe mould resistant shower curtain and track.
- WC shall be white vitreous china close couple dual flush WC pan and cisterns with heavy duty white seat and flap.

3.16.4 *Shared Ownership / Open Market Sales*

- All sanitary fittings to be obtained from Ideal Standard 'Tempo' range or equal and approved. All fittings must be from one supplier.

- Basin shall be the 550mm white vitreous china with single tap hole. Basin will be fitted with monobloc ceramic disc mixer tap complete with chrome plated metal pop-up waste.
- Basins in cloakrooms will be appropriately sized, with single tap hole. Basin will be fitted with a monoblock ceramic dis mixer tap complete with chrome plated metal pop-up waste.
- Baths shall be same as above, but will have Mira 'Sport' electric shower complete with all fittings, including a 'Limemaser Gold Limescale reducer on cold water supply to shower. 900mm wide hinged glass shower screen.
- Shower to ensuites to have minimum 800 x 800mm low level quadrant profile GRP shower tray complete with chrome plated metal waste and low profile trap with easy clean waste / trap. Shower to have Mira 'Sport' electric sower complete with vertical rail and adjustable shower head or thermostatic mixer shower over bath. Glass shower screen with sliding doors.
- WC shall be white vitreous china close couple dual flush WC pans and cisterns, but with heavy duty white 'soft close' seat and flap.

3.17 DISPOSAL INSTALLATIONS

General Requirements:

Wastewater

3.17.1 Trapped MUPVC standpipes or spigots should be provided immediately adjacent (but not within) the washing machine and dishwasher space. If a washing machine and or dishwasher space is not adjacent to the sink unit then additional wastes/suitable waste extensions must be provided.

3.17.2 All pipes and fittings shall be PVCu with solvent welded joints, white in colour.

3.17.3 Pipework should be routed so as not to obstruct or restrict appliance spaces. Exposed pipework in bathrooms and cloakroom should be boxed in and lagged.

3.17.4 SVPs passing through habitable rooms shall be boxed-in, double boarded with proprietary access hatch for inspection and rodding points.

3.17.5 Any exposed pipework should be boxed-in.

3.17.6 Exposed pipework to basins and toilets shall be boxed-in with proprietary inspection hatches.

Rainwater

3.17.7 Gutters and downpipes shall be a PVCu or as required by the Planning Authority system. Aluminium or PVC coated steel gutters and downpipes shall be used in communal areas where there is a high risk of damage. Replacement parts must be from local stockists.

3.17.8 Porch/canopy roofs to be laid to falls to prevent ponding/pooling and must not shed water on to access paths.

3.17.9 Internal gutters and downpipes will not be permitted.

3.17.10 A suitable and securely fixed balloon grating, of matching colour, shall be fixed to the head of all rainwater downpipes.

3.17.11 Hedgehog gutter brushes must be provided where trees are in close proximity and the gutters are at risk of blockages.

3.18 HOT & COLD WATER INSTALLATIONS

General Requirements:

3.18.1 Primary heat source to be capable of raising temperature of hot water from 10 deg C to 60 deg C within one hour.

3.18.2 Hot water storage cylinders shall have a minimum capacity of 114 litres in 2 person units and a minimum capacity of 160 litres in 3 person or larger units. All hot water storage cylinders shall be fitted with 1 no. 3Kw immersion heater wired to an electrical switch point with a neon light indicator which is connected to CCU.

3.18.3 The main incoming water stopcock shall be located in an easily accessible location and clearly labelled.

3.18.4 Fit 'Surestay' switch water stop valves to wheelchair units.

3.18.5 Provide scale reducers to all installations. 'Limemaster' Gold to be fitted to supply of any electric shower.

3.18.6 All hot and cold services to have full flow 'Ballofix' or lever valves fitted immediately before each sanitary fitting, hot water tank and sink.

3.18.7 All exposed pipework in copper.

3.18.8 Flexible hose connectors are not permitted.

3.18.9 Provide hot and cold water supplies to the washing machine spaces; and cold water supplies to dishwasher spaces.

Provide capped waste fittings in close proximity to washing machine and dishwasher spaces

3.18.10 Provide an external hose bib tap in the rear garden of each house and bungalow with an isolation valve internally. Provide a lockable cold water supply and hose tap to each communal garden and communal bin store; adequately insulated from frost.

3.18.11 Provide drain valves on all pipe work legs to allow the system(s) to be fully drained down.

3.18.12 Self-extinguishing foam insulation (minimum 19 mm thick) shall be fitted in roof spaces, on cold water feeds adjacent to the incoming mains, and, on long pipe runs to outlets

3.19 SPACE HEATING INSTALLATIONS

General Requirements:

3.19.1 Space heating shall be designed using electric as the energy source, as sufficient power do so has been allocated with the energy provider.

3.19.2 Gas supply shall not be utilised as an energy supply**;** no gas heating or cooking will be permitted.

3.19.3 Please see **Appendix 39** for further information about VIVID's sustainability, energy and environmental requirements.

3.19.4 Heating and hot water shall be designed in accordance with the Building Regulations 2021 Part L where the focus is on using cleaner energy options over fossil fuels.

3.19.5 Space heating and hot water designs are to be approved by the Employer/ Employer's Agent.

3.19.6 The central heating and hot water system must be designed in accordance with BS 5449 to meet the assessed needs of the dwelling occupants. The system should provide hot water storage; a primary heat source capable of raising the temperature of water from 10ºC to 60ºC within one hour; and, a primary heat source sized to provide heating and hot water simultaneously including an adequate recovery margin. The system shall be fully pumped with no gravity circulation permitted.

3.19.7 Where heating and hot water systems are to be of the un-vented type, hot water to be supplied from a separate un-vented hot water storage unit.

3.19.8 The central heating system must be designed to achieve the following internal air temperatures assuming a base external air temperature of minus 3oC and allow individual tenant control of heating output.

Room(s)	Air temp deg C	Air changes per hour
Living Room	21	1.5
Dining Room	21	1.5
Bedroom	18	1
Hall/Landing	18	1.5
Bathroom	22	2
Toilet	21	2
Kitchen	18	2

3.19.9 All pipework except radiator tails shall be concealed in floors or in approved ducts.

3.19.10 Warm air systems are not permitted.

3.19.11 Small-bore central heating systems are preferred. Micro bore and mini-bore central heating systems are not permitted.

3.19.12 Underfloor heating is not accepted unless with prior approval by The Employer.

3.19.13 All systems shall include for Drayton or equivalent thermostatic radiator valves to all radiators or equal and approved except those in hallways. In hallways a wall mounted room thermostat shall be provided.

3.19.14 All systems including programmers, thermostats, thermostatic radiator valves must be tested for a minimum 24 hour period prior to snagging. The systems must then be flushed out and refilled, adding a manufacturer approved corrosion inhibitor.

3.19.15 The Contractor shall ensure that adequate access has been provided to inspect / maintain / replace filters, components etc.

3.19.16 The Contractor will provide boxing (with removable panels) to neatly conceal ducting and pipework etc, as appropriate.

3.19.17 Heated chrome towel rail in bathroom and ensuite of shared ownership / rent to buy and

open market sale homes only. For the main bathroom, this should be a minimum of 1.6m in height.

3.19.18 Provide minimum 2 year guarantee on electric heating components (parts and labour).

3.19.19 Installation must be installed and commissioned in accordance with manufacturers guidance, to ensure compliance with building regulations. Landlord/homeowners certification to be provided for all tenures.

3.19.20 Heating pipe runs are to be inconspicuously located and cased as necessary in all areas except storage spaces. Pipes that are cased or run in voids shall be lagged. Any plastic pipe runs to be traceable.

3.20 VENTILATION INSTALLATIONS

General Requirements:

3.20.1 All bathrooms, kitchens and internal WCs to houses and bungalows shall have mechanical extract ventilation in addition to any natural ventilation. In blocks of flats a fan assisted passive stack ventilation is preferred. Humidstats with booster facility are preferred to bathrooms.

3.20.2 Kitchen to Outright sale and shared ownership homes to be provided with stainless steel chimney hood above built in hob.

3.20.3 Mechanical extract ventilation fans shall have humidistat settings with integral temperature set back, which the occupant cannot override. Fans contained in rooms without natural ventilation must be continuous running with a boost function operated from light switch, to adequately remove any foul air from the room.

3.20.4 Fan and passive stack ventilation ducts connected to tile vents in roof coverings must be fitted with a condensation trap including an overflow pipe. Fan ducts must not exceed the distance recommended by the manufacturer.

3.20.5 Mechanical Ventilation Heat Recovery (MVHR) systems are not encouraged.

3.20.6 Where these systems are a requirement of planning then the heat exchanger must not be located in the roof space. Heat exchangers shall have a dedicate cupboard which is easily accessible for residents to change / clean filters and an engineer to carry out routine maintenance / replacement work.

3.20.7 When MVHR units are installed in flats the duct must not cross fire-rated partitions without appropriate fire protection.

3.20.8 The MVHR must be installed strictly in accordance with the manufacturer's instructions by an engineer who has been trained to install MVHR. Commissioning records must be signed by the engineer and enclosed in the building manual.

3.21 ELECTRICAL INSTALLATIONS

General Requirements:

3.21.1 Installation shall be designed, installed and tested to the latest IET Regulations. All certification shall be completed and supplied to the Employer.

3.21.2 All electrical wiring shall be concealed and all fittings shall be of the recessed type. The consumer unit should be sited in a hallway adjacent to the main entrance at the required fixing height in a key lockable fire resistant enclosure. All electrical wiring must be rewirable with minimum disruption to the structure and finishes. As a minimum plastic channel should be used to cover cables where concealed in plaster or behind dry lining – no exposed surface wiring will be permitted. Cables in suspended ceilings to be clipped with fire rated fittings to avoid cables dropping in the event of fire/ceiling collapse. Low energy light fittings shall be utilised to minimise power consumption. Where possible these shall accommodate standard lamp shades and bulbs. All light fittings to be supplied with appropriately LED rated bulbs. Please note all lighting and fire detection must be accessible from the finished floor level without the need of a ladder/scaffolding.

3.21.3 The following are the requirements in respect of power, lighting and other accessories

3.21.4 Kitchen (all tenures):

- 4 no. double switched socket outlets for free use
- 4 no. single socket outlets for appliances below worktops including switched spurs located above worktop **engraved** with appliance use (gang grid switches are acceptable).
- 1 no. cooker control unit with single switched socket outlet positioned to side of cooker space. Within space provide a single socket and unswitched cooker outlet plate.
- 1 no. mechanical extract fan with humidistat control and remote switched spur. Pull cord operation is not acceptable. Vent Axia manufacturer is preferred.
- 1 no. central heating control unit.

Affordable Rent / Open Market Rent:

- Kitchen Lighting: Provide low energy spotlights (minimum 3 No. light) and track.

Shared Ownership / Open Market Sales:

- Kitchen Lighting: Provide low energy recessed spotlights on regular grid. Transformer to be in accessible position and location described in the Building Manual.
- A minimum of one double switched socket shall include a USB charging connection.

3.21.5 Dining Area (all tenures):

- 1 no. pendant lighting point.
- 3 no. double switched socket outlets

Shared Ownership / Open Market Sales:

- A minimum of one double switched socket shall include a USB charging connection.

3.21.6 Living Room(all tenures):

- 2 no. pendant lighting points individually switched and 2-way where layout requires.
- 4 no. double switched socket outlets with at least two near the TV/FM aerial outlet
- 1 no. TV aerial point (TV, satellite & FM radio): media plates are acceptable
- 2 no. telephone points with one adjacent to the TV/FM aerial outlet.
- 1 no. Cable TV box for future connection for houses (connected by Contractor in flats)

Shared Ownership / Open Market Sales:

- A minimum of one double switched socket shall include a USB charging connection.

3.21.7 Double/ Twin Bedrooms (all tenures):

1 no. pendant lighting point.

- 3 no. double switched socket outlets with at least one near the TV/FM aerial outlet (where provided)
- 1 no. TV aerial point (TV, satellite & FM radio) (in main bedroom only).
- 1 no. telephone point
- 1 no. Cable TV box for future connection (in main bedroom only) for houses (connected by Contractor in flats).

Shared Ownership / Open Market Sales:

- A minimum of one double switched socket shall include a USB charging connection.

3.21.8 Single Bedrooms (all tenures):

- 1 no. pendant lighting point.
- 3 no. double switched socket outlets

Shared Ownership / Open Market Sales:

- A minimum of one double switched socket shall include a USB charging connection.

3.21.9 Bathroom (all tenures)

1 No extractor fan with humidistat control with isolator switch outside bathroom at 1800mm above FFL in accordance with BS7671. Vent Axia manufacturer is preferred.

1 No shaver socket

.A Thermostatic mixer shower is acceptable when a hot water cylinder is provided.

Bathroom Lighting: 1 No. vapour proof sealed unit light point with switch outside the room.

Shared Ownership / Open Market Sale:

- Bathroom Lighting: Vapour proof recessed spot lights on regular grid (minimum 4 No.) Transformer to be in accessible position and location described in the building manual.

3.21.10 Cloak Room (WC) (all tenures):
- 1 no. pendant lighting point with switch externally .

3.21.11 Linen Cupboard (all tenures):
- 1 no. 3kw immersion heater with switch with neon indicating light, **engraved** plated, located outside cupboard or an electric tubular heater and proprietary guard if no heat source.

3.21.12 Store/Understairs Cupboard (all tenures):
- 1 no. batten holder light point.
- 1 no. fused spur for future installation of a burglar alarm.
- 1 No. double switched socket outlet.

3.21.13 Landing (all tenures):
- 1 no. lighting point (2 way).
- 1 no. double switched socket outlet.
- 1 no. fused spur for future installation of a ceiling mounted hoist.

3.21.14 Roof Void (all tenures):

- 1 no. pendant lighting point with **engraved** switch located on the landing with neon indicator light.

3.21.15 Hall (all tenures):
- 1 no. pendant lighting point.
- 1 no. lockable **flush or semi-recessed** consumer unit in a fire resistant enclosure fixed 1600 mm above floor level. (Position to be agreed with Employer's Agent).
- 1 no. double switched socket outlet.
- 1 no. fused spur for future installation of a stair lift.

3.21.16 Communal Areas to Flats (all tenures):

- 1 no. vandal resistant light fitting at each floor/landing and each half space landing on staircases. To be positioned for ease of maintenance and be of low energy type incorporating LED low energy light bulbs. Lighting to be PIR and time controlled using a photoelectric cell. Vacuum time delay switches are not acceptable.
- Provide emergency lighting (fully maintained typed) as required by the Building Regulations to all communal areas.
- Provide a 'Fish Key' switch to enable the emergency lights circuit to be isolated for testing purposes.
- 1 no. lockable single socket outlet at each floor

3.21.17 External Requirement (all tenures):

- 1 no. vandal resistant waterproof low energy LED light fitting adjacent to main entrance door and all other external doors including patio doors. All lights with PIR and time switch control. Houses and ground floor maisonettes – Provide 1 external waterproof switched plug socket, to be isolated internally. Location to be agreed by Employer.

3.21.18 External Communal Stores, Communal Drying and Communal Refuse Storage Areas:

- PIR controlled vandal proof and waterproof low energy LED light fittings in sufficient quantity to afford safe and secure use of the facilities.

3.21.19 Each property should be provided with a hardwired doorbell, which is connected to a mains transformer.

3.21.20 Socket outlets to be located at 600 mm above finished floor level. In kitchens socket outlets to be located at 1125 mm (to the centre of the back boxes) above finished floor level. Light switches to be located between 1100 and 1200 mm above finished floor level.

3.21.21 Meter units for all utility supplies should be discretely located externally or alternatively meters should be provided that are capable of remote reading. All meters to be labelled with postal numbers.

3.21.22 All pendant light fittings should be located clear of opening windows or doors.

3.22 LIFT INSTALLATIONS

General Requirements:

3.22.1 Lifts are required to all blocks of flats of 4 storeys or over. Manufacturer to be agreed by Employer but should be UK based where possible, for ease of ordering parts. All lifts shall have robust vandal resistant finishes and controls with 'Open' protocols. Traction lifts are preferred. All lifts shall be provided with a dedicated emergency telephone line arranged and paid for by the Contractor. The Employer prefers GSM/mobile connection option providing the signal reception is reliable, otherwise a land line connection should be provided. All account references necessary to transfer the lift lines account from the Contractor to the Employer should be provided to the Employer 1 month prior to handover. Lift pit should be suitably treated to prevent the ingress of moisture.

3.22.2 Adaptations for wheelchair users and other special needs situations will be discussed on a project-by-project basis.

3.22.3 Provide a 24 month 24 hour emergency and maintenance contract for all lifts.

3.22.4 Where provided, all lifts shall be suitable for a wheelchair user and as such be capable of entry and exit in a forward direction.

3.22.5 For developments above four storeys, lifts shall be designed with a preferential 2.1 metre depth.

3.22.6 Where a lift installation is provided, the Developer/Contractor shall put in place in joint names with the Employer, a service contract covering all aspects of repair and maintenance to run for not less than the duration of Defects Liability Period. The service contract shall be in place at first relevant PC or Partial Possession.

3.23 PROTECTIVE INSTALLATIONS

Lightning and Surge Protection System:

3.23.1 Where a block of flats is deemed to be at 'High Risk' of lightning strike the Contractor shall design and install a lightning and surge protection system as follows:

a) Lightning protection system for the building(s) that complies with the current British Standard and good practice.
b) Surge protection on the low voltage incoming mains.
c) Surge protection on the DC line of the Photovoltaic installations, as applicable.

The Contractor's attention is drawn to the publication entitled 'Risk Assessment and Lightning Protection for PV Systems and Solar Power Plants (http://www.icrpq.com/icrepq%2712/626.tommasini.pdf.

3.24 FIRE DETECTION & ALARM

General Requirements:

3.24.1 In all halls and landings provide 1 no. mains connected smoke alarm with optical sensor with built-in rechargeable battery interconnected to other smoke alarms and as required by Building Control. Heat detectors are required in every kitchen. Domestic Installations should be designed and installed in accordance with the relevant British Standard. AICO manufacturer is preferred. Commissioning certificates shall be provided.

3.24.2 The design of flats should be undertaken to the standards set down in the relevant British Standards and the requirements of the Building Regulations and Fire Officer. Where required by Building Regulations fire alarm systems are to be provided to meet the current Regulations fire detection, fire alarm, emergency lighting, fire extinguishers, dry risers, fire blankets, notices etc. should be provided to comply with the minimum requirements of the relevant legislation.

3.24.3 AOV controls points to be lockable or break glass

3.24.4 AOVs to be bottom hung windows in corridors or roof domes only. Never located above open stairwells.

3.24.5 AOVs roof domes must have an external override switch on the roof to prevent workman being trapped on the roof.

3.24.6 When designing the AOV system, the Contractor shall take account NFCC's National Operational Learning Guide: National Operational Learning: Good Practice Guide - NFCC

3.25 COMMUNICATIONS INSTALLATIONS

General Requirements:

Telephone

3.25.1 Provide 2 No. BT outlets in Lounge and Master bedroom (4 No. in total). 1 No. BT outlet shall be positioned next to the quadplexed pattress. All BT outlets shall be positioned near a socket outlet. All points installed must remain live following the BT final connections to the master point.

3.25.2 All lifts shall be provided with a dedicated emergency telephone line arranged for and paid for by the Contractor.

Television

3.25.3 Television reception systems in houses, bungalows an maisonettes without a communal area shall be designed and installed in accordance with the recommendations of the CAI to obtain all free to air digital terrestrial channels. Provide co-axial cable in a concealed conduit running from an external television aerial via the roof space to a recessed quadplexed Sky Q Satellite / TV / DAB Aerial pattress located in the living room and main bedroom. Provide, fix and connect an external television aerial. Supply test certificates indicating the strength of signal achieved. Use PF100 or equal and approved co-axial satellite dish cable / sky compatible.

3.25.4 In addition to the last clause also provide co-axial satellite dish cables in a concealed conduit running from the roof space to a recessed quadplexed pattress located in the living room and main bedroom suitable for Sky Q. The co-axial cable should be of suitable length to enable it to be connected to an external satellite dish, minimum length of cable 7 metres. It will be the tenants responsibility to pay for the installation of the satellite dish and decoder in order to receive satellite broadcasts.

3.25.5 In flats an Integrated Reception System shall be designed and installed to support terrestrial analogue / digital / satellite, digital/FM radio, and Sky Q, with connections to all dwellings. Run all cables in a concealed conduit running from the roof space to a recessed quadplexed pattress located in the living rooms and main bedrooms of each dwelling. Test system and adjust, as required. Equipment to be located within roof space and be accessible from communal entrance

3.25.6 Supply and install concealed ducting system for cable TV system to be run to each dwelling with outlet provided adjacent to TV pattresses. The ducting system should be fully accessible and provided with draw wires to satisfy the requirements of the licensed Cable Television Company covering the area. Ducting for any one dwelling should be via the communal area and under no circumstances should ducting be routed through one dwelling to access another. In flat developments a communal system shall be provided. Liaise, organise and fully fund the provision of new cable TV supplies through to each of the units of accommodation.

Door Entry

3.25.7 A door entry system compliant with the Secured By Design standards is required to all flats where a communal entrance is utilised. Comelit door entry system preferred or equal and approved.

- A master key system is not required.
- Provide MAGLOC system and three fobs for each residents or equal and approved.
- The system should be of a design which incorporates a "fail-safe" which unlocks in the event of mains failure or fire alarm.
- The system should have an over-ride facility switch or code number for emergency access by the Police or Fire Brigade. The type and key reference should be agreed with the Fire Prevention Officer.
- The system must include an over-ride facility or code number
- The entrance phone panel should be recessed and suitably protected from the weather with a speech grille positioned at an accessible height from ground level. The phone panel should be secured in a manner which is vandal resistant particularly with regards to the speech grille and have a stainless steel face plate.
- The panel should be illuminated with heat sensitive pads of sufficient quantity to reflect the number of units the system is serving. The flat number should be either engraved or highlighted within the heat sensitive pad so that the appropriate pad/flat number corresponds.
- Handsets capable of two-way speech communication and incorporating a single push button release should be located within the halls of the flats in a position to be determined. The Contractor should make provision to allow for additional audibility facilities should the flat layout be such that a caller cannot be heard in any of the rooms.
- The door entry system should be connected to the Landlord's supply and shall be provided with a battery back up.
- All works are to be carried out in strict accordance with the Institution of Electrical Engineers and manufacturer's recommendations.
- At handover the Contractor should provide all the necessary operation documents together with a quotation for the annual maintenance of the system by the supplier or company approved by the supplier to maintain their equipment.

Warden Call

3.25.8 Where a block of flats is to be allocated as older persons general needs accommodation, allow to supply and install a warden call system to each unit to a central location. The system must be fully digital.

3.26 BUILDER'S WORK IN CONNECTION WITH SERVICES

General Requirements:

3.26.1 Where floor ducts are used these should be of a good quality proprietary system with metal tray and accessible plywood cover or similar.

3.26.2 Vertical pipework drops shall be located in corners of rooms and be boxed in.

3.26.3 Pipework must be concealed, traceable and suitably insulated to minimise heat transfer. Where pipes cannot be concealed behind wall linings / under flooring, then self-finished proprietary ducting shall be used. All concealed pipe runs must run either in a straight vertical or horizontal plane and positioned to minimise risk of being damaged by end user fixings used to hang pictures, shelves and the like or laying floor finishes.

3.27 EXTERNAL SITE WORKS

General Requirements:

Unadopted Roads & Car Parking

3.27.1 Unadopted vehicle circulation areas shall be designed to safely withstand the loadings of refuse vehicles, fire engines and the like without deforming or subsiding. The minimum total thickness of construction should not be less than 450 mm.

3.27.2 Car parking bays/spaces and their size shall be designed in accordance with planning requirements and to withstand the loadings of cars and light vans without deforming or subsiding. The minimum total thickness of construction should not be less than 325 mm. Full kerbs and/or bollards are required to restrict access to pedestrian and planting areas.

3.27.3 If the development incorporates M4(2) or M4(3) homes, an equivalent number of car parking spaces wide enough to be converted to disabled bays in the future, shall be provided (subject to space allowing).

3.27.4 Dropped kerbs are to be provided at the junctions of footpaths with car parking areas. This is in addition to any requirements of the highways authority.

3.27.5 Allocated car parking spaces must be defined using delineation in the form of coloured paving blocks or similar. Painted numbering is acceptable on tarmac surfaces. Spaces should be numbered with the postal address and not the plot number or letters. Small silver discs are not acceptable to identify parking space numbering.

3.27.6 All non-adoptable vehicle and pedestrian trafficked areas shall be constructed to adoptable standards. Porous paving systems not accepted. Gullies to soakaways are preferred.

3.27.7 Unadopted Footpaths & Pavings

3.27.8 The following provision in respect of paved areas is required:

- Path from public footpath to main entrance door.
- Path from main entrance door to garden entrance gate where this cannot be reached via another path or handstanding.
- Path from garden entrance gate to rear entrance door and garden shed.
- Path from rear entrance door to rotary drier or clothes line position.
- Path from rear entrance door to paved sitting area.
- Path adjacent to ground floor windows to enable cleaning where easy clean hinges not provided to windows. Paths shall be located sufficiently clear of windows when opened to their fullest extent.
- Path widths in any location should not be less than 900 mm if private and 1200mm if communal.
- Paved area in rear garden to accommodate refuse bin and water butt if required.

Site Lighting

3.27.9 Good exterior lighting is essential and should be provided to all communal areas and areas in need of supervision. All external lighting shall be to a standard that would be acceptable to the highway authority for adoption and meets the Secured By Design standards. Light fittings should be sited to avoid nuisance to residents. Lighting should not be positioned in close proximity to bedroom windows wherever possible. White light is preferred for security reasons. Light fittings should be low energy dusk to dawn controlled units of robust and vandal resistant construction and be readily maintainable – all to the approval of the

Employer. All external lighting which is not directly attributed to a dwelling to be from an unmetered landlords supply provided from the street lighting mains.

3.27.10 Lighting to communal parking courts and other non-adopted areas shall be of domestic scale and nature. Light fittings are to be manufactured by Urbis Lighting Limited or equal and approved by Employer and the fittings are to be selected by the Employer.

Street Furniture & Signage

3.27.11 Street name plates and direction signs should be clearly visible and be fixed at an appropriate height in accordance with the Local Authority and Employer's requirements.

3.27.12 Door numbers and road signs shall be provided in accordance with the requirements of the Post Office and Local Authority. The Contractor is to organise these matters and details shall be confirmed to the Employer no later than six months prior to Practical Completion/Partial Possession.

Walls & Fences

3.27.13 All fence posts and gravel boards shall be of concrete construction.

3.27.14 Provide 1800 mm treated timber close boarded fence complete with concrete posts and gravel boards to all rear and party boundaries and boundaries on to public areas unless otherwise shown on the planning drawings.

3.27.15 Provide 1800 mm high treated timber close boarded fences complete with gravel boards around the ends of car parking areas.

3.27.16 Provide 900 mm x 1800 mm high treated timber gates within fences or walls to give access to the private rear gardens – 900 mm clear openings required. Gates should be provided with heavy galvanised steel Norfolk latch and 'T' hinges of robust external quality with 200 mm galvanised steel barrel bolts top and bottom. The bolts should be capable of being padlocked. In addition, communal gates shall be fitted with an approved rim lock or digilock.

3.27.17 Provide fencing or walls to enclose the front gardens of all properties and any vulnerable private or communal planting areas. Unless otherwise specifically required by Planning Authority.

3.27.18 Where walls are being constructed they should have copings with double plain tile creasing course set with minimum overhang of 50 mm and brick on edge coping, and engineering brick DPC. Expansion joints should be provided as necessary. All brickwork is to be bucket handle pointed. (Refer to tender drawings.)

3.27.19 All metalwork shall be hot dipped galvanised with a two part epoxy factory applied paint finish.

3.27.20 External grade timber to be finished with appropriate weatherproofing to provide 10 year maintenance free period.

Landscaping

3.27.21 The Contractor shall comply with the NHBC Technical Requirements as a minimum.

3.27.22 All planted areas are to be regularly weeded and watered and turfed areas are also to be regularly cut between the dates of handover and adoption, within the curtilage of houses until occupation or in the case of apartment buildings, until the end of the Defects Liability Period. All works to be undertaken as per the landscaping specification - see **Appendix 29.**

3.27.23 Site landscaping specification up to the point of adoption by the Local Authority or to the end of the defects liability period where landscaping is not being adopted.

3.27.24 Notwithstanding the obligations of the Defects Liability Period, the Contractor is responsible for first 12 months maintenance to communal external areas, including watering, grass cutting and hand weeding. These communal areas will be inspected in the 12th month post Practical Completion / Partial Possession. A list of defects will be prepared at the inspection which will require rectification by the Principal Contractor. These areas will continue to be maintained by the Principal Contractor until any defects are rectified and signed off by the Employer / Employer's Agent as satisfactory. Private gardens will be maintained by residents.

3.27.25 During the 12-month Defects Liability Period for communal external areas, the following maintenance regime should be put in place unless there is a planning approved landscape/ecology management plan in place, which takes precedence.

3.27.26 Each visit must include litter removal, which should be done prior to starting a core task. It must be collected, bagged and disposed of. Including emptying any litter bins, if provided.

3.27.27 The below table provides an example schedule of maintenance visits:

Task	January	February	March	April	May	June	July	August	Septemb	October	Novembe	Decembe	Total	
Approximate site visits per month	2	1	1	2	2	2	2	2	1	1	2	1	19	Visits carried out per year
Grass cutting			1	2	2	2	2	2	1	1	1		14	
Meadow Grass cut	1												1	
Hedge/Shrub Cutting		1							1				2	
Litter picking Hard Areas	2	1	1	1	1	1	1	1	1	1	2	1	14	
Litter picking Shrub beds	2	1	1	1	1	1	1	1	1	1	2	1	14	
Hand weeding Shrub beds		1		1		1		1		1		1	6	
Spot treatment Shrub beds	1		1		1		1		1		1		6	
Blanket Spray Paved areas		1		1		1		1		1		1	6	
Spot Spray edgings	1		1		1		1		1		1		6	
Total task carried out per month	7	5	5	6	6	6	6	6	6	5	7	4	69	Total Tasks carried out per year

3.27.28 Grass Cutting and Maintenance:

- Prior to cutting, remove stones and litter. Mow all grassed areas and strim at the same time, along edges, fence lines and around obstacles. Remove clippings from hard areas afterwards. Scrape back and clear compacted grass from kerb lines, drains and gullies to leave clear and free running.
- Cut evenly and cleanly in parallel straight lines, with minimal overlap. Control mowing speed and cutting height, to prevent scalping, skidding and balding. Leave neat and tidy. Defer if weather or ground conditions risk damaging the surface.
- Cut and collect all grass areas in accordance with the following timeframes:
    - March – 1 cut
    - April-August – 2 cuts per month
    - Sept-Nov – 1 cut
    - Dec-Feb – no cuts required

- The exception to the above is for any meadow areas, which should only be cut once a year, in January.

- Grass should be cut to a height of no less than 35mm using a pedestrian rotary mower.
- Ensure all grass areas are kept watered periodically during hot spells using external water sources located on site, but where water is unavailable the Contractor will use their own supply in bowsers.
- Fill with topsoil any/all cracks that appear in the turf and seed as appropriate on each visit.
- Remove all leaves, debris & litter from all grass areas on each fortnightly visit.

3.27.29 Grass edging:

- Prior to edging, remove a small area of turf to locate the back of the path edge. Cut and edge turf to fully expose path edgings. Scrape back and clear excess turf from path surface. Remove debris afterwards.
- Cut evenly and cleanly in straight lines with well-defined edges. Leave neat and tidy. Defer if weather or ground conditions risk damaging surface edge.

3.27.30 Shrub Beds, Pruning & Maintenance:

- Ensure all shrub beds are hand weeded on a bi-monthly basis (6 visits per year).
- Prior to maintenance, remove litter, debris and leaves.
- Blanket spray or spot treat weeds as required. Hand weed tall or inaccessible weeds.
- Remove self-seeded tree saplings and bramble growing up through shrubs.
- Allow all shrubs and trees to grow to their expected mature heights and to then prune dependent on species when required.
- Build a strong framework to maintain the shape and balance of the shrub bed, so it doesn't cause a nuisance or danger.
- Clear any growth overhanging paths, car parks, roads, in front of windows, by doorways, and street signs. Collect and remove clippings from shrubs and surfaces afterwards.
- Top up bark mulch/wood chip in December of Year 1 to ensure all areas have sufficient cover.
- Ensure all shrubs and plants are watered periodically during hot spells using external water sources located on site, but where water is unavailable the Contractor will use their own supply in bowsers.
- Replace any dead shrubs within each 4 weekly cycle of discovery with that of an exact match. Should a match not be available to consult with the Employer to agree a similar replacement.

3.27.31 Hedge Maintenance, if applicable:

- Prior to maintenance, remove litter, debris and leaves.
- Blanket spray or spot treat weeds as required. Hand weed tall or inaccessible weeds.
- Remove self-seeded tree saplings and bramble growing up through the hedge.
- Allow hedges to grow to their expected mature heights and to then prune twice a year, dependent on species.
- Build a strong framework to maintain the shape and balance of the hedge, so it doesn't cause a nuisance or danger. Cut back any growth overhanging paths, car parks, roads, in front of windows, by doorways, and street signs.
- Collect and remove clippings from hedge and surfaces afterwards.
- Cut evenly and cleanly to a consistent height from ground level. To leave a well-defined uniform box-shaped hedge.
- Use pruning saws and sharp secateurs to clean up cuts.
- Leave neat and tidy.

3.27.32 Soft landscaping:

- All plans to be agreed by the Employer, no changes to be made without the Employers consent.

3.27.33 Hard Surface Maintenance:

- Ensure all hard surfaces are kept weed free on a 4 weekly basis (Car Park, Pathways & Bin stores etc) by use of hand weeding techniques and application of pesticides/herbicides.
- Blanket spraying of paved areas to be undertaken bi-monthly. Prior to spraying, remove litter, debris and leaves. Blanket spray or spot treat weeds, moss and algae as required. Includes; paths, car parks, drying and bin areas and unadopted carriageways.
- Apply herbicide evenly and cleanly in parallel lines, with minimal overlap. Defer if weather or ground conditions risk drift or surface run off.
- Remove any/all grass cuttings, leaves, debris and litter from hard surfaces on each scheduled visit.

3.27.34 Leaf Clearance:

- Prior to clearing, remove litter and debris. Clear leaves, blossom, pods and seeds etc. throughout the year, including any twigs that have fallen from trees onto any areas following gales and storms.
- Clear grass and hard areas. Scrape back and clear compacted leaves from kerb lines, drains and gullies to leave clear and free running.
- Leave neat and tidy.

3.27.35 Trees:

- Ensure all new trees are correctly staked and tied on each visit and provide new ties should they not be present.
- Check trees are not being 'strangled' by the tie. Replace damaged or tight ties and damaged, loose or rotten stakes.
- Remove all suckers and/or epicormic shoots from the roots and main stem as required.
- Keep tree bases free of vegetation by spraying a maximum margin of 250mm.
- Replace any dead trees in the appropriate planting season to be agreed, with that of an exact match. Should a match not be available to consult with the Employer to agree a similar replacement.

3.27.36 Play Areas:

- The Contractor shall be responsible for the design, approval and installation of any play areas required to secure Planning permission.
- A RoSPA report is required prior to Completion and post-Completion until adoption the play areas and play equipment must be inspected weekly by a RoSPA certified person or other suitably trained person or organisation.
- Any H&S issues arising from an inspection are to be immediately reported to the Employer.
- The Contractor is responsible for making safe the defect / damaged area by fencing off until repairs can be undertaken, at their cost. This process is to be in place to the point of adoption by the Local Authority, or to the end of the 12 month defect liability period.
- The Employer will be responsible to pay the Contractor for any issues arising as a direct result of vandalism.

3.27.37 An external cold water tap is to be provided to all rear garden areas to all houses.

3.27.38 Steeply sloping rear gardens to properties should be gently and evenly graded free of dips and undulations. Retaining walls should be constructed as required to ensure slopes do not exceed 1:12. If crib lock retaining walls are used, they must be faced with mesh (holes small enough to avoid climbing) and provided with suitable planting. Mesh to be free from sharp edges and securely fixed at every timber upright and with a batten covering all joins plus stapling between battens.

3.27.39 All areas designated for grass shall be turfed. All front and rear gardens to houses, maisonettes and communal areas to flats will be turfed. In communal areas 150 mm wide precast concrete mowing margins are to be provided against buildings.

3.27.40 Land drainage must be provided if the soil conditions are conducive to waterlogging. Land drains should be connected to a suitable outfall and lockable rodding points provided for future maintenance. This includes front and rear gardens of all new dwellings, as well as public open space and planted/turfed communal areas. Garden drainage should be designed in accordance with NHBC technical standards or equivalent.

3.28 EXTERNAL SITE STRUCTURES

General Requirements:

Bin Stores

3.28.1 Provide a minimum of 1 no. external bin of 80 litres capacity to each dwelling with a private garden unless prescribed differently by the Local Authority. Provide either a bin store to the front of the dwellings or a hardstanding area in the rear garden with a connecting path such that the bin can be wheeled to the front of the dwelling without the need for steps. In all other cases provide dustbins, wheelie bins and/or eurobins in accordance with the requirements of the Local Authority. The Contractor is responsible for the ordering, payment and taking delivery of all wheelie bins and all communal euro bins prior to handovers. Full wheelchair turning required to bins.

3.28.2 Note: From October 2026, all Local Authorities will have to have food recycling in place. As such, bin stores will have to be designed to accommodate food recycling bins.

3.28.3 It is VIVID's preference to keep bin stores in a separate building rather than integral to blocks of flats, to mitigate the risk of smells and rodents entering the building. When bin stores are in a separate building, travel distances set by Building Regulations must be complied with.

3.28.4 Bin stores to be constructed to include a roof, secure door and ventilation.

3.28.5 Locking arrangements to be agreed by the Employer.

3.28.6 Where double doors are provided to bin stores one leaf shall have top and bottom long handle (450mm) galvanised steel gate bolt (Cane bolt) slotting into a recessed metal plate / socket. The other leaf shall have a galvanised latch. Both doors will be fitted with Senior Reliance Garage Door holders or equal and approved. Both doors have been hung on galvanised steel external quality steel hinges.

3.28.7 Provide cold water supplies and lockable taps to serve each communal bin store. Provide a trapped gully connected to the foul drainage system in each communal bin store.

Garages

3.28.8 Required where shown on site plan to meet Building Regulations requirements, all garage block areas to well light from the landlord's electrical supply.

3.28.9 Where shown on planning approved drawings, detached/ block of garages to remain if all garages in that block are for Shared Ownership / Open Market Sales. Where garage(s) removed car parking shall be provided in lieu.

3.28.10 All communal cycle stores are to be accessed via a door or gate fitted with a digilock similar approved security device. Individual lockable cycle racks or stands or posts are to be provided within cycle stores. Cycle storage facilities shall be available and fully accessible at the first relevant PC or Partial Possession. The location of communal cycle stores is to be agreed with the Employer. Cycle stores to be built to Secured by Design standards.

3.28.11 Where shown on approved planning drawing, external communal cycle racks shall be covered with a proprietary roof and have a suitable drained hard surface.

Stores/Garden Sheds

3.28.12 Garden sheds are not required unless there is a planning condition for cycle storage. If required specification and position to be agreed.

Patios

3.28.13 Provide a minimum of 2.4m long x 3.0m wide patio (excluding any adjacent paths) comprising of 600x600 continuous concrete paving slabs laid on a suitable sub-base, location to be agreed with the Employer.

SECTION 4: CONTRACT PROCEDURAL REQUIREMENTS

SECTION 4: CONTRACT PROCEDURAL REQUIREMENTS

4.0 **GENERALLY**

4.0.1 This Section of the Employer's Requirements sets out the requirements in respect of the contractual procedures and the management and delivery of the project.

4.1 **TENDERING / SUBLETTING / SUPPLY**

Pricing / Submission of Documents

4.1.1 TENDERS:

The Contractor must include for all work shown or described in the Employer's Requirements as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

4.1.2 THE CONTRACT SUM ANALYSIS:

The Contract Sum Analysis must be submitted with the Contractor's Proposals in the form enclosed in **Appendix 5** of these Employer's Requirements.

4.1.3 WARRANTY SCHEME:

The Contractor shall tender on the basis of the approved warranty scheme specified later in this document.

4.1.4 PROGRAMME:

The Contractor's proposed master programme or a summary thereof showing the sequence and timing of the principal parts of the Works and itemising any work which is excluded must be submitted with the Contractor's Proposals.

4.1.5 CONTRACTOR'S PROPOSALS:

The Contractor's Proposals must include:

- Outline Specification of materials proposed where they differ from those stated in the Employer's Requirements. Submit sufficient detail to understand the quality of the product being offered to the Employer.
- **Failure to identify divergences/changes at Tender Stage will be deemed to be agreement by the Contractor to comply entirely with the Employer's Requirements.**
- Statement on proposals to meet sustainability standards; including building control as described in the Employer's Requirements.
- Where tender drawings have not been provided covering the structural solutions for foundations, retaining walls, building frame, etc. the Contractor shall provide outline drawings to a suitable scale to permit consideration at tender stage of his proposals.

4.1 TENDERING / SUBLETTING / SUPPLY

- Where tender drawings have not been provided covering foul and surface water drainage; the Contractor shall provide outline drawings to a suitable scale to permit consideration at tender stage.

- The Contractor's proposed master programme as identified in, Section 4 hereafter showing the sequence and timing of the principal parts of the Works and including the manufacturing programme for any off site fabricated elements. The programme must identify the whole procedure from the date of acceptance of the tender to Practical Completion of the project.

- The quality control information requested under Section 4.

- The health and safety information and documents requested under Section 4. hereafter.

- Value Engineering Schedule in accordance with Section 4. and **Appendix 25**. Note: The potential savings listed in the Schedule shall not be included in the tender submission.

- Site Waste Management Plan information requested under Section 4.

4.1.6 ALTERNATIVE TIME TENDERS:

In addition to and at the same time as tendering based upon the date or period specified, an alternative tender based upon a different date for completion or period may be submitted. If any such tender is accepted the date for completion inserted in the Contract will be the date stated in the alternative tender or determined from the period stated in the alternative tender.

4.1.7 ALTERNATIVE PRODUCTS:

Where the Employer's Requirements permits the substitution of a product of different manufacture or to a different Standard to that specified, but the tenderer has doubt about the acceptability of an alternative produce, he must request clarification from the EA not less than five days before the date for submission of tenders.

4.1.8 VALUE ENGINEERING SCHEDULE

The Contractor shall price the Value Engineering schedule included in **Appendix 25** so that a quick decision can be made by the Employer should the cost need to be reduced. The Contractor can add items to the list.

4.1.9 EXTRA-OVER COSTS PRICING

The Contractor will price separately the items requested in **Appendix 26** so that the Employer can make a decision on whether or not they require these items, depending on the scheme viability. We reserve the right not to instruct any of these additional spec upgrades.

4.1.10 LOCAL AUTHORITY FEES AND CHARGES:

Fees chargeable in respect of the Town and Country Planning Act and the Building (Prescribed Fees) Regulations 1980 will be paid by the Contractor. Section 106 contributions shall be paid by the Employer direct to the Local Authority.

4.1.11 QUALITY CONTROL RESOURCES:

A statement must be submitted with the Contractor's Proposals describing the organisation and resources which the Contractor proposes and undertakes to provide to control the quality of the Works, including the work of subcontractors. The statement must include the number and type of staff responsible for quality control, with details of their qualifications and duties.

4.1.12 DRAFT CONSTRUCTION PHASE HEALTH AND SAFETY PLAN:

In response to the Pre-Tender Information pack submit the Draft Construction Phase Health and Safety Plan with the Contractor's Proposals.

4.1.13 SITE WASTE MANAGEMENT PLAN

The Site Waste Management Plan Regulation 2008 was revoked under the Environmental Noise, Site Waste Management Plans and Spreadable Fats etc. (Revocations and Amendments) Regulation 2013.

Notwithstanding the Employer's wishes to follow the requirements set out in the 2008 Regulations to deliver their responsibilities in respect of the environment. The Contractor shall allow to prepare a SWMP prior to commencement of works and deliver the plan in executing the Works, as a minimum. The Contractor shall allow in their price to deliver the minimum requirements of the Local Authority in terms of Waste Management.

- Person responsible for developing the Plan: The Contractor.
- Content: Include details of:
  - Principal Contractor for the purposes of the regulations.
  - Location of the site.
  - Description of the project.
  - Estimated project cost.
  - Types and quantities of waste that will be generated.
  - Resource management options for these wastes including proposals for minimization/ reuse/ recycling.
  - The use of appropriate and licensed waste management contractors.
  - Record keeping procedures.
  - Waste auditing protocols.
  - Submit draft SWMP with tender.
  - Include Waste Management and volumes removed from site each month in the Contractor's Monthly Report.
  - Provide a monthly update on the actual waste generated (against pre-contract estimates) including on or off site reuse, on or off site recycling or disposal.

4.1.14 VALUE ADDED TAX (VAT):

The Contractor's attention is drawn to the VAT - Construction Industry, leaflet 708 issued by the Commissioners of Customs and Excise in respect of Value Added Tax provisions applicable to this Contract.

The Contractor's tendered sum shall be exclusive of Value Added Tax.

The Contractor shall be required to submit a provisional assessment of the Works that are, or likely to be supplies of goods and services some of which are zero-rated and some of which are standard rated under the VAT provisions. This assessment must be submitted along with the Contractor's Proposals.

The Contractor must notify the Employer seven days before the first application for interim payment the rate of tax to apply to the VAT - exclusive amounts in all applications for Interim Payments and in the Final Statement. Further notification is required if by statute the rate of tax given in the original notice is changed.

Subletting / Supply

4.1.15 SUB-CONSULTANTS:

Provide details of all sub-consultants and the work for which they will be responsible. Collateral Warranties as identified elsewhere in these Employer's Requirements will be required from all those exercising a design function.

4.1.16 DOMESTIC SUBCONTRACTS:

The Contractor shall comply with the Construction Industry Board 'Code of Practice for the selection of sub-contractors'; and

Provide details of all sub-contractors and the work for which they will be responsible.

Collateral Warranties as identified elsewhere in these Employer's Requirements will be required from all those exercising a design function.

4.2 PROVISION, CONTENT AND USE OF DOCUMENTS

Definition and Interpretations

4.2.1 MANUFACTURER AND PRODUCT REFERENCE:

Manufacturer: The firm under whose name the particular product is marketed.

Product reference: The proprietary brand name and/ or reference by which the particular product is identified.

Currency: References are to the particular product as specified in the manufacture's technical literature current on the date of the invitation to tender.

4.2.2 SUBSTITUTION OF PRODUCTS:

If an alternative product to that specified is proposed, obtain written approval of the Employer before ordering the product. Submit reasons for the proposed substitution.

Documentation: Submit relevant information, including:

- manufacturer and product reference;
- cost;
- availability;
- relevant standards;
- performance;
- function;
- compatibility of accessories;
- proposed revisions to drawings and specification;
- compatibility with adjacent work;
- appearance;
- copy of warranty/ guarantee.

Alterations to adjacent work: If needed, advise scope, nature and cost.

Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

4.2.3 SUBSTITUTION OF STANDARDS:

Products specified to British Standard or European Standard: Substitution may be proposed of products complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognised in the UK.

Before ordering: Submit notification of all such proposals to the Employer.

Documentary evidence: Submit for verification when requested. Any submitted foreign language documents must be accompanied by certified translations into English.

Documents Provided by Contractor / Sub-Contractor / Suppliers

4.2.4 CONTRACTOR'S DESIGN: DESIGN AND PRODUCTION INFORMATION:

Master programme: Make reasonable allowance for the time taken in completing design/production information, inspection by the EA, and any subsequent amendment(s), resubmission(s) and reinspection(s) when preparing the master programme.

Inspection by EA: Submit to EA the required number of copies of design/production information.

Amendments: Ensure that any necessary amendments to the design/production information are made without delay. Unless and until the EA confirms that resubmission is not required, submit copies of amended drawings etc. to EA, and ensure incorporation of necessary amendments all as before.

Changes: If submitted design/production information differs from the Employer's Requirements, each such difference must be the subject of a request for substitution or Change, supported by all relevant information.

Amendments/Corrections by EA: Should any amendment to design/production information required by the EA be considered to involve a Change which has not already been acknowledged as a Change by the EA, notify the EA without delay and in any case within 7 days, and do not proceed with ordering, fabrication, erection or installation until subsequently instructed.

Distribution of final version: Complete final version of all design/production information and submit to the EA the number of copies required by him.

4.2.5 DESIGN AND PRODUCTION INFORMATION:

The information to be provided must include:

A full specification of materials and workmanship.

Working drawings to an appropriate scale including, but not restricted to, the following:

- 1:50 floor plans of each property type showing compliance with the Nationally Described Space Standards (NDSS dated March 2015), including storage and minimum room dimensions and areas.
- 1:20 kitchen layouts, schedule of fittings, volume and worktop totals. Elevations and 3D drawings.
- 1:20 bathroom and WC layouts and elevation drawings.
- 1:50 floor plans showing furniture, circulation zones and activity space based on requirements stated in the National Housing Federation 'Design and Quality in Development - A Good Practice Guide'.
- 1:50 floor plans showing mechanical and electrical installations in relation to each property type in relation to the proposed furniture layout.
- 1:20 kitchen floor plans showing mechanical and electrical installations in relation to the proposed kitchen units.
- Detailed constructional sections through external walls; party walls; eaves; verges; window and door jambs, sills and heads; floors; staircases; and, roofs.
- Detailed constructional plans of floors and roofs including partitions.
- Door and window schedules giving constructional details.
- Detailed finishes schedule.
- Detailed external works layouts.
- Schedule of requirements for key components requiring regular inspection, servicing and maintenance. See template in **Appendix 32**

Any other reasonable information or details required by the Employer or the EA in order to assess the Contractor's design and proposals.

The Contractor must maintain a drawing portal which is easy to navigate and allow drawings to be opened and downloaded quickly. If the system is inefficient to use then the Contractor will be required to provide drawings on a memory stick or transferred using a File Transfer product.

Contractor shall identify to the EA which drawings need to be reviewed and what date comments are required. Notifications simply stating drawings have been updated will not accepted.

4.2.6 MAINTENANCE INSTRUCTION AND GUARANTEES:

Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.

Emergency call out services: Provide subcontractors telephone numbers for use after completion.

4.3 MANAGEMENT OF THE WORKS

Generally

4.3.1 SUPERVISION:

General: Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.

Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

4.3.2 CONTRACTOR'S KPIs

The Employer's Agent will monitor the KPIs shown in **Appendix 24** on a quarterly basis.

4.3.3 CONSIDERATE CONSTRUCTORS SCHEME:

Contractors are required to register the project with the Considerate Constructors Scheme as operated by the Construction Industry Board and to comply with the stated requirements, aims and objectives.

The Contractor shall include in the Contract Sum for the payment of all registration fees and make due allowance for all costs, and financial implications in participating in the Scheme, copies to be provided to the EA as requested.

4.3.4 CODE OF CONDUCT FOR CONTRACTORS:

All operatives working on the site must adhere to the following code of conduct:

- Pornographic, racist or other offensive material is not to be displayed in site huts or on site.
- Sexist or racist remarks or insinuations by the Contractor's operatives or anyone employed by the Contractor directed at members of staff of the Employer, their agents or tenants will not be tolerated.
- Radios are permitted at the discretion of the Employer but the volume must be set at an acceptable level at all times.

4.3.5 PARTY FENCE WORKS:

Undertake full Schedule of Condition of party boundaries where in existence and submit this to the EA.

4.3.6 INSURANCE:

Before starting work on site submit details, and/ or policies and receipts for the insurances required by the Contract.

4.3.7 CONTRACTOR'S INSURANCE OF LIABILITY OF EMPLOYER (JCT D&B 2024 6.5.1 INSURANCE OR EQUIVALENT)

Insurance under Clause 6.5.1 is required.

4.3.8 INSURANCE CLAIMS:

If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the EA and the Insurers.

4.3.9 CLIMATIC CONDITIONS:

Record accurately and retain:

- Daily maximum and minimum air temperatures (including overnight).
- Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost to be reported within the contractors monthly report.
- In the event of an application for an extension of time for exceptionally adverse weather the Contractor shall provide MET office records dating back 20 years from the nearest MET office. Such information shall form the basis of the Employers Agents assessment, not the site records.

4.3.10 OWNERSHIP:

Alteration/ clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

4.3.11 COSHH:

The Contractor must give notification of any hazardous substances to the Employer as defined in the "Control of Substances Hazardous to Health Regulations 1988" available from HMSO (SI 1988 No. 1657) likely to be used during the execution of this Contract.

Programme / Progress

4.3.12 MASTER PROGRAMME:

The master programme for the Works must be of the bar chart type and include the manufacturing programme for any off site fabricated elements. The programme must identify the whole procedure from the date of the tender to Practical Completion of the project. The programme must also include periods for all:

- Preparation of design drawings and details and general consultation and comments of the EA and the Employer.
- A clear design freeze point shall be indicated.
- Preparations of the production information and working drawings and general consultation and comments of the EA and the Employer.
- Submission for necessary consents and notification of approvals.
- Site set-up, handovers, procedures and cleaning site upon completion.
- Lead-in periods for the various packages of work including any off site design and fabrication periods.
- Work by others concurrent with the Contract, the nature and scope of which, the relationship with proceeding and following work and any relevant limitation on method, sequence or timing are suitably defined in the Contract Documents.

4.3.13 The master programme must include adequate time for the snagging and inspection process prior to handover. Following the Contractor's snagging and rectification of defects a minimum period of 14 days is required between the date of the inspection by the EA and the date of handover of residential units to the Employer. The programme shall also make due allowance for providing the Employer with the Contractor's Design Documentation and related information; and for providing information requested by the Principal Designer (CDM) in accordance with clauses 2.37 and 3.16.5 of the JCT Design and Build Contract and this Employers Requirements before the Date of practical completion.

4.3.14 The submission of programmes will not relieve the Contractor of his responsibility to apply in writing for instructions, drawings, etc. in accordance with the Conditions of Contract.

4.3.15 COMMENCEMENT OF WORK:

The Contractor shall start the Works on the Date of Possession or on a date as agreed with the Employer.

4.3.16 MONITORING:

Progress: Record on a copy of the programme kept on site.

Avoiding delays: If any circumstances arise which may affect the progress of the Works submit proposals or take other action as appropriate to minimize any delay and to recover any lost time.

4.3.17 NOTIFICATION OF COMPENSATION EVENT:

Notwithstanding the Contractor's obligations under the Contract written notice must also be given of all other causes which apply concurrently.

4.3.18 EA'S SITE MEETINGS:

The EA will hold regular site meetings to review progress and other matters arising from the administration of the Contract. Meetings will normally be held monthly on site. The Contractor shall ensure the availability of accommodation at the time of such meetings and attend all meetings and inform subcontractors and suppliers when their presence is required. The EA will chair the meetings and take and distribute minutes.

4.3.19 CONTRACTOR'S PROGRESS REPORT:

General: Distribute via email a typed progress report 2 days prior to the site meeting.

Content: Notwithstanding the Contractor's obligations under the Contract the report must include as a minimum:

- Construction and design progress against the Master Programme.
- Matters materially delaying progress since previous Progress Meeting, including weather.
- Tracker listing Planning Conditions that need to be discharged and current status.
- Tracker listing Building Control Conditions that need to be discharged and current status.
- Tracker listed Building Warranty Provider Conditions that need to be discharged and current status.
- Tracker listing Section Agreements that need to be discharged and current status.
- Tracker listing Utility connections required and current status.
- Report on health and safety, including latest health and Safety Report, Reportable Incidents, CDM matters.
- Tracker listing Collateral Warranties and current status.
- Quality and Workmanship issues.
- Compliance and Client Approvals required.
- Financial Status, including any outstanding instruction required.
- Schedule of resident complaints and action taken.

4.3.20 PHOTOGRAPHS:

Provide progress photographs electronically on a monthly basis showing the extent and general detail of the work completed in that month.

4.3.21 NOTICE OF COMPLETION:

Requirement: Give written notice of the anticipated dates of completion of the whole or parts of the Works.

Associated works: Ensure necessary access, services and facilities are complete.

Period of notice (minimum): 8 weeks prior to practical completion.

4.3.22 Where partial possession is envisaged, provide a suitable Traffic Management Plan to ensure safe and satisfactory access for both residents and site workers.

Control of Cost

4.3.23 CASH FLOW FORECAST:

Before starting work on site, submit a forecast showing the gross valuation of the Works at the date of each Interim Certificate throughout the Contract period based on the programme for the Works and update on a monthly basis during the course of the Works.

4.3.24 PROPOSED INSTRUCTIONS:

Estimates: If the Employer or Contract requires a change to the Contract Works, a Request for Change form shall be submitted, this shall be priced without delay and in any case within seven days of issue of the Request for change.

Include:

- A detailed breakdown of the cost, including any allowance for direct loss and expense.
- Details of any additional resources required.
- Details of any adjustments to be made to the programme for the Works.
- Any other information as is reasonably necessary to fully assess the implications of issuing such an instruction.

Inability to comply: Inform immediately if it is not possible to comply with any of the above requirements.

4.3.25 INTERIM VALUATIONS:

Applications: Include details of amounts due under the Contract together with all necessary supporting information.

Submission: At the monthly progress meeting.

4.3.26 PRODUCTS NOT INCORPORATED INTO THE WORKS:

Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.

Evidence: When requested, provide evidence of freedom of reservation of title.

4.3.27 FINAL ACCOUNT:

In addition to the information required under the Contract the Contractor shall provide a statement identifying sums subject to standard rated and zero rated VAT under the relevant provisions.

4.4 QUALITY STANDARDS / CONTROL

Standards of Products and Executions

4.4.1 INCOMPLETE DOCUMENTATION:

General: Where and to the extent that products or work are not fully documented, they are to be:

- Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
- Suitable for the purposes stated or reasonably to be inferred from the project documents.

Contract documents: Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

4.4.2 WORKMANSHIP SKILLS:

Operatives: Appropriately skilled and experienced for the type and quality of work.

Registration: With Construction Skills Certification Scheme.

Evidence: Operatives must produce evidence of skills/ qualifications when requested.

4.4.3 QUALITY OF PRODUCTS:

Generally: New. (Proposals for recycled products may be considered).

Supply of each product: From the same source or manufacturer.

Whole quantity of each product required to complete the Works: Consistent in kind, size, quality and overall appearance.

Tolerances: Where critical, measure a sufficient quantity to determine compliance.

Deterioration: Prevent. Order in suitable quantities to a programme and use in appropriate sequence.

4.4.4 QUALITY OF EXECUTION:

Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.

Colour batching: Do not use different colour batches where they can be seen together.

Dimensions: Check on-site dimensions.

Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.

Location and fixing of products: Adjust joints open to view so they are even and regular.

4.4.5 COMPLIANCE:

Compliance with proprietary specifications: Retain on site evidence that the proprietary product specified has been supplied.

Compliance with performance specifications: Submit evidence of compliance, including test reports indicating:

- Properties tested.
- Pass/ fail criteria.
- Test methods and procedures.
- Test results.
- Identity of testing agency.
- Test dates and times.
- Identities of witnesses.
- Analysis of results

4.4.6 INSPECTIONS:

Products and executions: Inspection or any other action must not be taken as approval unless confirmed in writing referring to:

- Date of inspection.
- Part of the work inspected.
- Respects or characteristics which are approved.
- Extent and purpose of the approval.
- Any associated conditions.

The Employer may wish to appoint additional quality control inspections by specialists during the build, for example checks on lift installation, sprinklers, fire detection systems and roof works.

4.4.7 RELATED WORK:

Details: Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is:

- Appropriately complete.
- In accordance with the project documents.
- To a suitable standard.
- In a suitable condition to receive the new work.

Preparatory work: Ensure all necessary preparatory work has been carried out.

4.4.8 MANUFACTURER'S RECOMMENDATIONS/INSTRUCTIONS:

General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.

Changes to recommendations or instructions: Submit details.

Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.

Agreement certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.

4.4.9 WATER FOR THE WORKS:

Mains supply: Clean and uncontaminated.

Other: Do not use until:

- Evidence of suitability is provided.
- Tested to BS EN 1008 if instructed.

The Contractor shall make all arrangements and obtain the necessary approvals from the Water Authority to obtain water for the Works. The Contractor shall include for all costs in their price.

Samples / Approvals

4.4.10 SAMPLES:

Products or executions: Comply with all other specification requirements and in respect of the stated or implied characteristics either:

- To an express approval.
- To match a sample expressly approved as a standard for the purpose.

4.4.11 SAMPLES:

The Employer or the LA requires to see physical samples of the following products.

- Facing materials (to include a sample panel erected on site which includes any feature bands or special bricks)

- Roof tiles.
- Windows.
- Kitchen units and worktops.
- Ironmongery.
- Wall tiles.
- Floor tiles or sheets.

In addition to the physical samples identified above the Employer requires to see the specifications and product literature of the following products unless they are specified in the Employer's Requirements:

- Rainwater goods.
- Fascias, soffits and the like.
- Staircases, balustrades and handrails.
- External doors and frames.
- Internal doors and frames.
- Sanitaryware.
- All plumbing and heating components and fittings.
- All electrical components and fittings.
- Renewables.
- Street lighting and paving.

All samples and product information must be tabled at a samples approval meeting to be held at the end of the first site progress meeting. When required by the Employer for consultation purposes the Contractor shall provide sample boards.

4.4.12 APPROVAL OF PRODUCTS:

Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.

Approval: Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.

Complying sample: Retain in good, clean condition on site. Remove when no longer required.

4.4.13 APPROVAL OF EXECUTION:

Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.

Approval: Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.

Complying sample: Retain in good, clean condition on site. Remove when no longer required.

Accuracy / Setting Out Generally

4.4.14 SETTING OUT:

General: Submit details of methods and equipment to be used in setting out the Works.

Levels and dimensions: Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.

Inform: When complete and before commencing construction.

4.4.15 APPEARANCE AND FIT:

Arrange the setting out, erection, juxtaposition of components and application of finishes (working within the practical limits of the design and the specification) to ensure that there is satisfactory fit at junctions, that there are no practically or visually unacceptable changes in plane, line or level and that the finished work has a true and regular appearance.

Wherever satisfactory accuracy, fit and/or appearance of the work are likely to be critical or difficult to achieve obtain approval of proposals or of the appearance of the relevant aspects of the partially finished work as early as possible.

4.4.16 LEVELS OF STRUCTURAL FLOORS:

Maximum tolerances for designed levels to be:

- Floors to be self-finished, and floors to receive sheet or tile finishes directly bedded in adhesive: +/- 10 m.
- Floors to receive dry board/ panel construction with little or no tolerance on thickness: +/- 10 mm.
- Floors to receive mastic asphalt flooring/ underlays directly: +/- 10 mm.
- Floors to receive mastic asphalt flooring/ underlays laid on mastic asphalt levelling coat(s): +/- 15 mm.
- Floors to receive fully bonded screeds/ toppings/ beds: +/- 15 mm.
- Floors to receive unbonded or floating screeds/ beds: +/- 20 mm.

4.4.17 RECORD DRAWINGS:

Site setting out drawing: Record details of all grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the contract and hand over on completion.

Services Generally

4.4.18 SERVICES REGULATIONS:

New or existing services: Comply with the Byelaws or Regulations of the relevant Statutory Authority.

4.4.19 WATER REGULATIONS/ BYELAWS NOTIFICATION:

Requirements: Notify Water Undertaker of any work carried out to or which affects new or existing services and submit any required plans, diagrams and details, time to call off the services needs to be allowed so not to affect the programme and hand over of the units.

Consent: Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

4.4.20 WATER REGULATIONS/ BYELAWS CONTRACTOR'S CERTIFICATE:

On completion of the work: Submit (copy where also required to the Water Undertaker) a certificate including:

- The address of the premises.
- A brief description of the new installation and/ or work carried out to an existing installation.
- The Contractor's name and address.
- A statement that the installation complies with the relevant Water Regulations or Byelaws.
- The name and signature of the individual responsible for checking compliance.
- The date on which the installation was checked.

4.4.21 MECHANICAL AND ELECTRICAL SERVICES:

Final tests and commissioning: Carry out so that services are in full working order at completion of the Works.

Supervision / Inspection / Defective Work

4.4.22 SUPERVISION:

General: In addition to the constant management and supervision of the Works provided by the Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.

Replacement: Give maximum possible notice before changing person in charge or site agent.

4.4.23 COORDINATION OF ENGINEERING SERVICES:

Suitability: Site organisation staff must include one or more persons with appropriate knowledge and experience of mechanical and electrical engineering services to ensure compatibility between engineering and the Works generally.

Evidence: Submit when requested CVs or other documentary evidence relating to the staff concerned.

4.4.24 COORDINATION OF MMC PRODUCT (where applicable):

Suitability: Site organisation staff must include one or more persons with appropriate knowledge and experience of the MMC product being used to ensure compatibility between the MMC product and the Works generally.

Evidence: Submit when requested CVs or other documentary evidence relating to the staff concerned.

4.4.25 OVERTIME WORKING:

Notice: Prior to overtime being worked, submit details of times, types and locations of work to be done.

Minimum period of notice: 5 Business Days.

Concealed work: If executed during overtime for which notice has not been given, it may be required to be opened up for inspection and reinstated at the Contractor's expense.

4.4.26 TESTS AND INSPECTIONS:

Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented.

Confirmation: One working day prior to each such test or inspection. If sample or test is not ready, agree a new date and time.

Records: Submit a copy of test certificates and retain copies on site.

4.4.27 PROPOSALS FOR RECTIFICATION OF DEFECTIVE PRODUCTS/ EXECUTIONS:

Proposals: Immediately any execution or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.

Acceptability: Such proposals may be unacceptable and contrary instructions may be issued.

4.4.28 MEASURES TO ESTABLISH ACCEPTABILITY:

General: Wherever inspection or testing shows that the work, materials or goods are not in accordance with the contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures:

- Will be at the expense of the Contractor.
- Will not be considered as grounds for extension of time.

4.4.29 QUALITY CONTROL:

Procedures: Establish and maintain to ensure that the Works, including the work of subcontractors, comply with specified requirements.

Records: Maintain full records, keep copies on site for inspection, and submit copies on request.

Content of records:

- Identification of the element, item, batch or lot including location in the Works.
- Nature and dates of inspections, tests and approvals.
- Nature and extent of nonconforming work found.
- Details of corrective action.

4.5 SECURITY / SAFETY / PROTECTION

Security, Health and Safety

4.5.1 PRE-CONSTRUCTION INFORMATION:

The Pre-Construction Information is enclosed at **Appendix 3** of these Employer's Requirements.

4.5.2 CONSTRUCTION PHASE PLAN:

Submission: Present to the Employer/ Client not less than 2 weeks before the proposed date for start of construction work.

Confirmation: Do not start construction work until the Employer has confirmed in writing that the Construction Phase Plan includes the procedures and arrangements required by CDM Regulation 23.

4.5.3 SECURITY:

Protection: From agreed date of possession of site safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.

Access: Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

4.5.4 STABILITY:

Responsibility: Maintain the stability and structural integrity of the Works during the Contract.

Design loads: Obtain details, support as necessary and prevent overloading.

4.5.5 EMPLOYER'S REPRESENTATIVES SITE VISITS:

Safety: Submit details in advance, to the Employer, the EA (and the Principal Designer where the Principal Designer is not the Contractor) of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.

Protective clothing and/or equipment: Provide and maintain on site for the Employer and other visitors to the site.

Protect Against the Following

4.5.6 EXPLOSIVES:

Use not permitted.

4.5.7 NOISE CONTROL:

Standard: Comply generally with the recommendations of BS 5228-1, clause 9.3 to minimize

noise levels during the execution of the Works.

Equipment: Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.

4.5.8 POLLUTION:

Prevention: Protect the site, the Works and the general environment including streams and waterways against pollution.

Contamination: If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

4.5.9 PESTICIDES:

Use: Only where specified or approved, and then only suitable products listed on www.pesticides.gov.uk.

Restrictions: Work near water, drainage ditches or land drains must comply with the 'Guidelines for the use of herbicides on weeds in or near watercourses and lakes'.

Containers: Comply with manufacturer's disposal recommendations. Remove from site immediately empty or no longer required.

Competence: Operatives must hold a BASIS Certificate of Competence, or work under supervision of a Certificate holder.

4.5.10 NUISANCE:

Duty: Prevent nuisance from smoke, dust, rubbish, vermin and other causes.

Surface water: Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

4.5.11 ASBESTOS CONTAINING MATERIALS:

Duty: Report immediately any suspected materials discovered during execution of the Works. Do not disturb. Agree methods for safe removal or encapsulation.

4.5.12 FIRE PREVENTION:

Duty: Prevent personal injury or death, and damage to the Works or other property from fire.

Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by the Construction Confederation and The Fire Protection Association (The 'Joint Fire Code').

4.5.13 SMOKING ON SITE:

Duty: Prevent except in designated areas, carefully controlled, equipped with fire fighting equipment and receptacles for the safe disposal of smokers' materials and inspected to guard against risk of fire.

4.5.14 BURNING ON SITE:

Not permitted.

4.5.15 MOISTURE:

Wetness or dampness: Prevent, where this may cause damage to the Works.

Drying out: Control humidity and the application of heat to prevent:

- Blistering and failure of adhesion.
- Damage due to trapped moisture.
- Excessive movement.

4.5.16 WASTE:

Includes: Rubbish, debris, spoil, containers and surplus material.

Minimize: Keep the site and Works clean and tidy.

Remove: Frequently and dispose off site in a safe and competent manner:

Non-hazardous material: In a manner approved by the Waste Regulation Authority.

Hazardous material: As directed by the Waste Regulation Authority and in accordance with relevant regulations.

Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.

Waste transfer documentation: Retain on site.

Protect the Following

4.5.17 WORK IN ALL SECTIONS:

Adequately protect all types of work and all parts of the Works, including work carried out by others, throughout the Contract. Wherever work is of an especially vulnerable nature or is exposed to abnormal risks provide special protection to ensure that damage does not occur.

4.5.18 EXISTING SERVICES:

Confirmation: Notify all service authorities, statutory undertakers and/ or adjacent owners of proposed works not less than one week before commencing site operations.

Identification: Before starting work, check and mark positions of mains/ services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.

Work adjacent to services:

- Comply with service authority's/ statutory undertaker's recommendations.
- Adequately protect and prevent damage to services: Do not interfere with their operation without consent of service authorities/ statutory undertakers or other owners.

Identifying services:

- Below ground: Use signboards, giving type and depth;
- Overhead: Use headroom markers.

Damage to services: If any results from execution of the Works:

- Immediately give notice and notify appropriate service authority/ statutory undertaker.
- Make arrangements for the work to be made good without delay to the satisfaction of service authority/ statutory undertaker or other owner as appropriate.
- Any measures taken to deal with an emergency will not affect the extent of the Contractor's liability.

Marker tapes or protective covers: Replace, if disturbed during site operations, to service authority's/statutory undertaker's recommendations.

4.5.19 ROADS AND FOOTPATHS:

Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.

Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner.

4.5.20 EXISTING TOPSOIL/ SUBSOIL:

Duty: Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.

Protection: Before starting work submit proposals for protective measures.

4.5.21 RETAINED TREES/ SHRUBS/ GRASSED AREAS:

Protection: Preserve and prevent damage, except those not required.

Replacement: Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

4.5.22 RETAINED TREES:

Protected area: Unless agreed otherwise do not:

Dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk.

Sever roots exceeding 25 mm in diameter. If unintentionally severed give notice and seek advice.

Change level of ground within an area 3 m beyond branch spread.

4.5.23 EXISTING FEATURES:

Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

4.5.24 EXISTING WORK:

Protection: Prevent damage to existing property undergoing alteration or extension.

Removal: Minimum amount necessary.

Replacement work: To match existing.

4.5.25 ADJOINING PROPERTY:

Permission: Obtain as necessary from owners if requiring to erect scaffolding on or otherwise use adjoining property.

4.5.26 ADJOINING PROPERTY:

Precautions:

- Prevent trespass of workpeople and take precautions to prevent damage to adjoining property.
- Pay all charges.
- Remove and make good on completion or when directed.

Damage: Bear cost of repairing damage arising from execution of the Works.

4.5.27 EXISTING STRUCTURES;

Duty: Check proposed methods of work for possible effects on adjacent structures inside and outside the site boundary.

Supports: During execution of the Works:

Provide and maintain all incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, that may be endangered or affected by the Works.

Do not remove until new work is strong enough to support existing structure.

Prevent overstressing of completed work when removing supports.

Adjacent structures: Monitor and immediately report excessive movement.

Standard: Comply with BS 5975.

4.6 SPECIFIC LIMITATIONS ON METHOD / SEQUENCE / TIMING

4.6.1 SCOPE:

The limitations described in this section are supplementary to limitations described or implicit in information given in other sections.

4.6.2 USE OF THE SITE:

Do not use the site for any purpose other than carrying out the Works. Do not display or permit advertisements to be displayed on site without consent of the EA.

4.6.3 WORKING HOURS:

To be in strict accordance with the requirements of the planning permission and the local authorities environmental health officer.

4.6.4 WORKING TIME REGULATIONS 1998:

The Contractor is to ensure that all operatives working hours comply with the Working Time Regulations 1998. Documentary evidence is to be maintained and produced if requested by the EA or Health and Safety Executive.

4.6.5 EMPLOYER'S CHOICE:

The Employer will wish to make a choice of colour schemes (from a limited range) for the kitchen units, worktops, wall finishes and floor finishes. The Contractor shall provide all necessary colour charts and samples and shall confirm a programme of latest dates for the provision of the relevant information from the Employer.

4.6.6 PARTIAL POSSESSION:

The Employer (at its sole discretion) may wish to take possession of parts of the Works as they are completed, provided all necessary access, services and other associated facilities are also complete. During the execution of the remainder of the Works the Contractor shall ensure that the handed over parts/sections of the Works have continuous and adequate provision of services, fire precautions, means of escape and safe access.

The Contractor shall submit to the Employer a Traffic Management Plan and show clear separation between the Works and areas accessible by members of the Public.

4.7 FACILITIES / TEMPORARY WORK / SERVICES

Generally

4.7.1 SPOIL HEAPS, TEMPORARY WORKS AND SERVICES:

Location: Give notice of intended siting.

Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

Accommodation

4.7.2 ROOM FOR MEETINGS:

Provide suitable temporary accommodation for site meetings, adequately heated and lit. The room may be part of the Contractor's own site offices. Provide table and chairs for 8 people.

4.7.3 SANITARY ACCOMMODATION:

Provide and maintain in a clean condition sanitary accommodation for the Employer's representatives, either separate or shared with the Contractor's supervisory staff.

4.7.4 TEMPORARY FENCE(S):

The Contractor shall allow for the provision of temporary fencing as necessary and to adapt as required. The Contractor will be required to secure the boundaries of the site from the outset of works on site.

4.7.5 TEMPORARY HOARDING(S):

The Contractor shall allow for the provision of temporary hoardings as necessary and adapt as required. The Contractor shall not be allowed to use the hoardings or any other part of the site for advertising or otherwise without the express consent of the Employer in writing.
For whole sites which have come to VIVID as a package deal by the Contractor (i.e. not a VIVID land-led site), VIVID requires at least 50% of the site hoarding to be VIVID branded rather than the whole hoarding being in the branding of the Contractor.

4.7.6 NAME BOARD:

Obtain approval for and provide a temporary name board/signage in accordance with the requirements of the Homes England as stipulated in their circular current at the Date of Tender and the Employer's details included in **Appendix 36/37**. The Contractor will be responsible for obtaining any planning permission required and for paying all charges involved including all sign painting costs. (Sign painting to include Employer's Agent's sign).

Note: Hoarding and show house sign writing requirements also included in **Appendix 36**, as applicable.

The information to be displayed on the Employer's signboard will be supplied to the Contractor by the Employer. The Employer's out of hours emergency telephone number must always be displayed on the signboard. The Contractor's contact telephone number during working hours must also be displayed on the signboard.

The Contractor will also be responsible for displaying a signboard from the Local Authority, details to be provided by the Employer, The Contractor is to keep all sign boards clean and free from obstruction.

Services and Facilities

4.7.7 LIGHTING:

Finishing work and inspection: Provide temporary lighting, the intensity and direction of which closely resembles that delivered by the permanent installation.

4.7.8 LIGHTING AND POWER:

The permanent electrical installation may be used by the Contractor.

The Contractor must make all arrangements for supply and separate metering of electricity for the works and pay all costs.

4.7.9 TELEPHONES:

Temporary on site telephone: Provide as soon as practicable after the Date of Possession for joint use by the Contractor, Subcontractors and those acting on behalf of the Employer.

Responses: Make arrangements (e.g. an external bell) to ensure that incoming calls are answered promptly.

Employer's call charges: Allow for the cost of a modest number of calls made by those acting on behalf of the Employer in the Contract Sum.

4.7.10 INTERNET FACILITY:

General: As soon as practicable after the Date of Possession provide a suitable internet facility on site, with a separate dedicated telephone line, for the use of the Contractor, Subcontractors and those acting on behalf of the Employer.

4.7.11 PHOTOCOPIER:

General: Provide reasonably unrestricted access to and reasonably limited free use of an on site photocopier, which may be located in the Contractor's own site offices.

4.7.12 USE OF PERMANENT HEATING SYSTEM:

Permanent heating installation: May be used for drying out the Works and controlling temperature and humidity levels.

Installation: If used:

- Take responsibility for operation, maintenance and remedial work.
- Arrange supervision by and indemnification of the appropriate

  Subcontractors. Pay costs arising.

4.7.13 METER READINGS:

Charges for service supplies: Where to be apportioned ensure that:

Meter readings are taken by relevant authority at possession and/ or completion as appropriate.

Meter readings for all landlord supplies must also be taken at completion and provided to the Employer.

Copies of readings are supplied to interested parties.

4.7.14 THERMOMETERS:

Provide on site and maintain in accurate condition a maximum and minimum thermometer for measuring atmospheric shade temperature, in an approved location.

4.8 PRACTICAL COMPLETION AND OPERATION / MAINTENANCE OF THE FINISHED BUILDING

Prior to Practical Completion

4.8.1 WORK BEFORE COMPLETION:

General: Make good all damage consequent upon the Works.

Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.

Cleaning: Clean the Works thoroughly inside and out, including all accessible ducts and voids. Remove all splashes, deposits, efflorescence, rubbish and surplus materials.
Cleaning materials and methods: As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.

COSHH dated data sheets: Obtain for all materials used for cleaning and ensure they are used only as recommended by their manufacturers.

Minor faults: Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.

Moving parts of new work: Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

4.8.2 CLEANING AND HANDOVER:

After rectifying the defects prior to handover, thoroughly clean all surfaces inside and out including clearing all gardens. Vacuum clean all floors and wash and dry all surfaces. Clean glazing inside and out to the entire satisfaction of the EA.

Refer to Handover Procedures in **Appendix 13.**

Refer to Completion Requirements in **Appendix 14.**

4.8.3 AS-BUILT DRAWINGS:

Two weeks prior to Practical Completion the Contractor must submit one set of "as-built" drawings to the EA for comment. Once approved the Employer will require the complete set of "as-built" drawings in PDF format prior to Practical Completion incorporating any amendments required by the EA.

The "as-built" drawings should show the following:

- Estate layout showing road names and postal numbers, dwelling types.
- A site plan(s) showing the actual position and route of all drainage and services together with relevant information e.g. invert levels etc.
- Typical floor layout of each dwelling type with internal gross floor areas and individual room areas indicated.
- Sections showing roof, wall and floor constructions adequately annotated to show construction.
- Elevations of each dwelling type.
- Plans showing mechanical and electrical installations including equipment and appliances with all parts annotated and coded.
- Plans of all dwellings (or dwelling types where identical) showing the actual location and route of all above and below ground drainage and services including equipment appliances, control valves, switches and the like.

Two additional copies of the estate layout and plans of all dwellings are required for final valuation and mortgage purposes.

4.8.4 OPERATIION AND MAINTENANCE MANUAL:

Two weeks prior to Practical Completion the Contractor must submit one operating and maintenance manual to the EA for comment. The Employer will require one copy of the operating and maintenance manual at Practical Completion incorporating any amendments required by the EA together in an electronic format to be agreed with the Employer but utilising the pre-populated H&S folder templates within the 'Developer's Shared Area' of the Employer's Sharepoint system.

For the avoidance of doubt, O&M manuals will be needed on a phase-by-phase basis for multi-phase schemes (property-specific information to be provided phase-by-phase, with estate-wide information acceptable at the end of the development).

Each Manual should include the following:

Principal materials and components used in the construction, together and name, address and telephone number of manufacturers and suppliers to include for example; facing bricks, roofing tiles, gutters and downpipes, doors, windows, ironmongery, sanitaryware, taps, kitchen units and fittings, floor finishes and floor covering, wall tiling, heating installations, electrical fittings, external paving, landscaping etc.

Operating and Maintenance instructions on all maintainable items including fixtures, fittings, finishes and components.

All manufacturer's guarantees or warranties.

All information for Regulation 38, as per the Regulation 38 Tracker (see **Appendix 12**)

Confirmation letters and/or certificates from the local planning authority and building control advising that the completed Works comply fully in each respect.

Completed copies of Electricity Board and Gas Board Inspection and Completion Certificates for every dwelling and communal system. All certificates must refer to the postal address and not the plot number.

Confirmation from the local Water Authority that the Water Bylaws have been complied with.

A copy of the Contractor's diary record of the visits made by the Building Control Officer and the NHBC Inspector.

Layout drawings clearly indicating the areas which are to be adopted under Section 38, 104 or any other Agreements.

Layout drawings clearly indicating the position of any trees which are subject to preservation orders.

All utility supply applications, approvals, acceptances, confirmation of sums paid and plans to be supplied to the Employer.

SUMMARY OF BUILDING MANUAL:

The Contractor shall allow to provide a summary sheet of the key information included in the Building Manual for ease of reference. The summary should include location of key equipment, isolation information, details of any maintenance agreements, warranties and emergency call out numbers.

At Practical Completion

4.8.5 PRACTICAL COMPLETION:

Practical Completion will not be granted unless:

- the properties presented are complete in every respect for occupation including any within curtilage footpaths, car parking spaces, external works and fences.
- the whole of the drainage installation has been cleaned out immediately prior to handover by jetting or other means considered appropriate.
- all the outstanding snagging items have been satisfactorily completed (unless determined otherwise by the Employer).
- all the information required by the Principal Designer (CDM) for incorporation in the Health and Safety File has been submitted.
- the Operating and Maintenance manuals described under paragraph 4/2250 have been issued, including manufacturer and suppliers warranties.
- the New Homes Manual has been issued.
- all Collateral Warranties required under the Contract have been completed and certified copies of sub-contractor contracts and sub-consultant appointments issued.
- CML and all Building Guarantee Warranties have been issued (NHBC).
- the Building Control Completion Certificates have been issued.
- evidence of compliance with Development Control and other statutory requirements has been received including discharge of planning and building regulation conditions and compliance with Section 106 requirements
- Executed s104, s38 / s278 agreements and provisional certificate of adoption.
- evidence of compliance with all recommendations detailed in any site investigation reports associated with the Works have been received.
- evidence that Secured by Design, (if applicable), EPCs and SAPs complies with the Employer's Requirements.
- All details have been received in regard to 'Adopted' areas, highways and sewers in accordance with **Appendix 14** – Completion Requirements.
- all mechanical and electrical test certificates have been provided.
- the schedule of water and electric meter readings in accordance with paragraph 4/2310 has been received.
- all 'as-built' drawings in accordance with paragraph 4/2240 have been received.
- all Keys in accordance with paragraph 4/2320 have been received.
- all results of sound test to prove compliance with the Employer's Requirements have been received.
- all documents listed under the heading 'Charging Documents' in Section 1 paragraph 1020 of this document.

4.8.6 SERVICES GENERALLY:

All services are to be fully operational at Practical Completion. The Contractor shall take and agree meter numbers and readings with the EA at Practical Completion. The Employer will be responsible for supplies consumed thereafter. Heating systems shall be run continuously for 24 hours prior to handover inspection. Arrangements may be made for draining down heating and hot and cold water systems at Practical Completion and recharging them as required by the Employer and these will be priced as an addition to the Contract Works following such instruction.

4.8.7 KEYS:

At Practical Completion the Contractor shall provide to the Employer the following keys for each dwelling in clearly and individually labelled bunches:

3 No. keys for each external door lock
3 No. keys for each key operated external door bolt
1 No. (minimum) window lock key per room
3 No. radiator keys per dwelling
1 No. electric meter cupboard key
1 No. water meter key.
1 No FB2 key where there are communal resident accessed cupboards for meters.
2 No. keys for storage of hazardous material
2 No. shed keys.(if we continue to provide these)
2 No. kitchen lockable cupboard.
2 No. external gate.
2 No. cycle stores.
2 No. bin store.
2 No. post box for flats.
4 No. landlords for each external flat entrance doors.
1 No. M159M Mortice lock key where there are landlord only communal cupboards.
Any equipment and communal keys. Spare block entrance fob or key as the communal keys will be placed by the Employer in the key safe inside the block.

4.8.8 REPAIRS DURING THE DEFECTS LIABILITY PERIOD.

Repairs necessary and arising from a defect of labour or materials and properly notified to the Developer/Contractor and which should be reasonably be attended to during the Defects Liability Period must be responded to within the proscribed timescale. If the repair is not responded to within the required period the Employer may entirely at its own discretion arrange for the repair to be carried out by others and deduct all reasonable costs and charges incurred from any payments due under the Contract.

See **Appendix 15** for a schedule of repairs and response times.

The Contractor is to advise the Employer of completion of any works, within 7 days of completion and log all defects correspondence on VIVID's contractor portal.

The Contractor shall be responsible for arranging access with the customer. The Data Processing Agreement in **Appendix 7** is to be entered into by the contractor.

4.8.9 WARRANTY CERTIFICATES:

At Practical Completion the Contractor will be required to provide the appropriate warranty scheme approval and certificates.

4.8.10 SECURITY AT PRACTICAL COMPLETION:

Leave the works secure with all accesses locked. Account for and adequately label all keys and hand over to the Employer with an itemised schedule, retaining duplicate schedule signed by Employer as receipt.

[Allow for a 24/7 security guard cover to blocks of flats for 2 weeks after partial possession or sectional or practical completion.]

4.8.11 EMERGENCY CONTACTS:

The Contractor shall provide a list of personnel in its employ who can be contacted 24 hours a day to remedy any defects requiring emergency/immediate attention during the Defects Liability Period.

4.8.12 HOME TOUR

The contractor/developer shall allow for a representative to make a convenient appointment with each ingoing customer to carry out an explanation of the appliances (heating/hot water system and programmer, thermostat, smoke detector, CO2 detector, PV, etc) within their home within one week of the customer move in date and to provide VIVID with a written signed record of when this was done or record when the offer was refused.

Work after Practical Completion

4.8.13 MAKING GOOD DEFECTS:

Make arrangements with the Employer and give reasonable notice of the precise dates for access to various parts of the Works for purposes of making good defects. Inform Employer/EA when remedial works to the various parts of the Works are completed.

The Contractor must rectify defects notified during the defects liability period in accordance with the response times stated in the Conditions of Contract.

4.8.14 OPERATIVES IDENTIFICATION CARDS:

Where the Contractors operatives are required to visit occupied dwellings to carry out repairs or attend to defect the operatives will be required to carry an official company identification card complete with a passport sized photograph of the operative. No additional costs will be entertained in cases where tenants refuse to provide access to operatives not carrying ID.

4.8.15 End of Defects Liability Period 24 month inspection

The contractor/developer shall allow for a multi tradesman to be in attendance at every end of defects liability period inspection and carry out as many minor remedials identified during or immediately after the inspection to minimise the number of items that remain to be carried out at an alternative appointment.

SECTION 5: CONTRACT DETAILS

SECTION 5: CONTRACT DETAILS

Form of Contract

The Form of Contract will be the JCT PCSA/ Design and Build Contract 2024, as amended by a schedule of amendments. Details for this project are included in **Appendix 16** of this document. The Contractor must make due allowance in their offer for all requirements stated.

Where applicable, the required documents for Performance Bond, Parent Company Guarantees and Collateral Warranties are included in **Appendix 11**.

PRECONDITIONS TO THE CONTRACTOR'S ENTITLEMENT TO PAYMENT

It shall be a precondition to the Contractor's entitlement to payment under the Contract that the Contractor has delivered to the Employer:

the executed performance bond or guarantee (pursuant to the terms of clause 7.3.1 in the form required by the Contract); and

the guarantee (pursuant to the terms of clause 7.3.2 in the form required by the Contract); and

the NHBC Documents (pursuant to the terms of clause 2.40 in the form required by the Contract).

In the event that the Employer elects to waive (at its sole discretion) any or all of the preconditions to the Contractor's entitlement to payment described in Contract clauses 7.3A.1 to 7.3A.3 (each a **Precondition** and together the **Preconditions**) then the Employer shall be entitled to withhold:

a sum of ten thousand pounds (£10,000) in respect of each Precondition that has not been satisfied from the value of the Interim Payment which follows the relevant waiver until the relevant Precondition has been satisfied; and

ten per cent (10%) of the value of each and every subsequent Interim Payment or final payment (pursuant to Contract clause 4.9.4) as the case may be until the Preconditions been satisfied.

If the Preconditions are not satisfied by practical completion of the Works the amounts withheld (pursuant to Contract clause 7.3B) shall belong to the Employer unconditionally and the Contractor shall have no entitlement or other rights in respect of such amounts.

APPENDICES

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Appendix 1: Planning Permission

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TOWN AND COUNTRY PLANNING ACTS

Portsmouth CITY COUNCIL

Reference No: 22/01292/FUL

[redacted]
Mission Town Planning
42 Constitution Hill Road
Parkstone
Poole
BH14 0QD

On behalf of: J Waterfield Vivid Housing

LOCATION:

Land At Tipner East, East Of The M275, West Of Twyford Avenue, Portsmouth

DESCRIPTION OF DEVELOPMENT:

Detailed planning application for the redevelopment of site to provide 835 residential units of 1, 2, 3 and 4 bed units across a number of buildings of between 2 and 11 storeys, to include some ground floor commercial (use class E) and community uses (use class F1 and F2), within blocks, E, F, J and K . With vehicular access from Twyford Avenue, and pedestrian, cycle and emergency access to and from the Park and Ride. To include landscaping, sea wall, improvements to the ecological barge, new coastal path, cycle lane, car parking and servicing, and other associated works. This application constitutes EIA development

In pursuance of powers under the above mentioned Acts the City Council, as Local Planning Authority, **GRANT PLANNING PERMISSION** for the development indicated above in accordance with the application, drawings and other particulars valid on 29 September 2022 **and subject also to compliance with the following conditions:-**

1) Time:
The development hereby permitted shall be begun before the expiration of 3 years from the date of this planning permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990.

2) Approved Plans and documents:
The development hereby permitted shall be carried out in complete accordance with the documents listed within the DATA Issue Register document (Doc Ref: QMS-0086 M09, Rev. 0003 dated 17/03/23) and the approved plans listed below other than where those details are altered pursuant to the conditions of this planning permission.

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Drawings:
20.104-HGP-BA-00-DR-A-2001-P6-Block A - Ground Floor
20.104-HGP-BA-01-DR-A-2011-P6-Block A - First floor

THIS IS AN IMPORTANT LEGAL DOCUMENT - READ ATTACHED NOTES CAREFULLY

20.104-HGP-BA-02-DR-A-2021-P5-Block A Second Floor
20.104-HGP-BA-03-DR-A-2031-P5-Block A Third Floor
20.104-HGP-BA-04-DR-A-2041-P5-Block A Fourth Floor
20.104-HGP-BA-05-DR-A-2051-P5-Block A - Fifth Floor
20.104-HGP-BA-06-DR-A-2061-P5-Block A - Sixth Floor
20.104-HGP-BA-07-DR-A-2071-P6-Block A - Seventh Floor
20.104-HGP-BA-08-DR-A-2081-P5-Block A - Eighth Floor
20.104-HGP-BA-09-DR-A-2091-P5-Block A - Ninth Floor
20.104-HGP-BA-XX-DR-A-3001-P2-Block A - North & South Elevation
20.104-HGP-BA-XX-DR-A-3002-P2-Block A - East Elevation
20.104-HGP-BA-XX-DR-A-3003-P2-Block A - West Elevation
20.104-HGP-BA-XX-DR-A-3010-P1-Block A & D - Bay elevation
20.104-HGP-BB-00-DR-A-2001-P5-Block B - Ground Floor
20.104-HGP-BB-01-DR-A-2011-P5-Block B - First floor
20.104-HGP-BB-02-DR-A-2021-P4-Block B - Second Floor
20.104-HGP-BB-03-DR-A-2031-P4-Block B - Third Floor
20.104-HGP-BB-04-DR-A-2041-P5-Block B - Fourth Floor
20.104-HGP-BB-05-DR-A-2051-P4-Block B - Fifth Floor
20.104-HGP-BB-06-DR-A-2061-P4-Block B - Sixth Floor
20.104-HGP-BB-07-DR-A-2071-P5-Block B - Seventh Floor
20.104-HGP-BB-08-DR-A-2081-P4-Block B - Eighth Floor
20.104-HGP-BB-09-DR-A-2091-P4-Block B - Ninth Floor
20.104-HGP-BB-10-DR-A-2101-P4-Block B - Tenth Floor
20.104-HGP-BB-XX-DR-A-3001-P2-Block B - North Elevation
20.104-HGP-BB-XX-DR-A-3002-P2-Block B - East Elevation
20.104-HGP-BB-XX-DR-A-3003-P2-Block B - South Elevation
20.104-HGP-BB-XX-DR-A-3004-P2-Block B - West Elevation
20.104-HGP-BB-XX-DR-A-3010-P1-Block B & C - Bay elevation
20.104-HGP-BB-XX-DR-A-3011-P1-Block B & C - Bay elevation
20.104-HGP-BC-00-DR-A-2001-P4-Block C - Ground Floor
20.104-HGP-BC-01-DR-A-2011-P4-Block C - First floor
20.104-HGP-BC-02-DR-A-2021-P3-Block C - Second Floor
20.104-HGP-BC-03-DR-A-2031-P3-Block C - Third Floor
20.104-HGP-BC-04-DR-A-2041-P4-Block C - Fourth Floor
20.104-HGP-BC-05-DR-A-2051-P3-Block C - Fifth Floor
20.104-HGP-BC-06-DR-A-2061-P3-Block C - Sixth Floor
20.104-HGP-BC-07-DR-A-2071-P4-Block C - Seventh Floor
20.104-HGP-BC-08-DR-A-2081-P3-Block C - Eighth Floor
20.104-HGP-BC-09-DR-A-2091-P3-Block C - Ninth Floor
20.104-HGP-BC-10-DR-A-2101-P3-Block C - Tenth Floor
20.104-HGP-BC-XX-DR-A-3001-P2-Block C - North Elevation
20.104-HGP-BC-XX-DR-A-3002-P2-Block C - East Elevation
20.104-HGP-BC-XX-DR-A-3003-P2-Block C - South Elevation

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20.104-HGP-BC-XX-DR-A-3004-P2-Block C - West Elevation
20.104-HGP-BD-00-DR-A-2001-P4-Block D - Ground Floor
20.104-HGP-BD-01-DR-A-2011-P4-Block D - First floor
20.104-HGP-BD-02-DR-A-2021-P4-Block D - Second Floor
20.104-HGP-BD-03-DR-A-2031-P4-Block D - Third Floor
20.104-HGP-BD-04-DR-A-2041-P4-Block D - Fourth Floor
20.104-HGP-BD-05-DR-A-2051-P4-Block D - Fifth Floor
20.104-HGP-BD-06-DR-A-2061-P4-Block D - Sixth Floor
20.104-HGP-BD-07-DR-A-2071-P4-Block D - Seventh Floor
20.104-HGP-BD-08-DR-A-2081-P4-Block D Eighth Floor
20.104-HGP-BD-09-DR-A-2091-P4-Block D Ninth Floor
20.104-HGP-BD-XX-DR-A-3001-P2-Block D North Elevation
20.104-HGP-BD-XX-DR-A-3002-P2-Block D - East Elevation
20.104-HGP-BD-XX-DR-A-3003-P2-Block D - South Elevation
20.104-HGP-BD-XX-DR-A-3004-P2-Block D - West Elevation
20.104-HGP-BE-00-DR-A-2001-P5-Block E - Ground Floor
20.104-HGP-BE-01-DR-A-2011-P5-Block E - First floor
20.104-HGP-BE-02-DR-A-2021-P4-Block E - Second Floor
20.104-HGP-BE-03-DR-A-2031-P4-Block E - Third Floor
20.104-HGP-BE-04-DR-A-2041-P4-Block E - Fourth Floor
20.104-HGP-BE-05-DR-A-2051-P4-Block E - Fifth Floor
20.104-HGP-BE-06-DR-A-2061-P4-Block E - Sixth Floor
20.104-HGP-BE-07-DR-A-2071-P4-Block E - Seventh Floor
20.104-HGP-BE-08-DR-A-2081-P4-Block E - Eighth Floor
20.104-HGP-BE-09-DR-A-2091-P4-Block E - Ninth Floor
20.104-HGP-BE-10-DR-A-2101-P4-Block E - Tenth Floor
20.104-HGP-BE-11-DR-A-2111-P4-Block E - Eleventh Floor 20.104-HGP-BE-XX-DR-A-3001-P2-Block E - North Elevation.
20.104-HGP-BE-XX-DR-A-3002-P2-Block E - East & West Elevation
20.104-HGP-BE-XX-DR-A-3003-P2-Block E - South Elevation
20.104-HGP-BE-XX-DR-A-3010-P1-Block E -Bay Elevation
20.104-HGP-BF-00-DR-A-2001-P4-Block F - Ground Floor
20.104-HGP-BF-01-DR-A-2011-P4-Block F - First Floor
20.104-HGP-BF-02-DR-A-2021-P3-Block F - Second Floor
20.104-HGP-BF-03-DR-A-2031-P3-Block F - Third Floor 20.104-HGP-BF-04-DR-A-2041-P2-Block F - Fourth Floor.
20.104-HGP-BF-XX-DR-A-3001-P3-Block F - North & South Elevation
20.104-HGP-BF-XX-DR-A-3002-P3-Block F - East Elevation
20.104-HGP-BF-XX-DR-A-3003-P3-Block F - West Elevation
20.104-HGP-BF-XX-DR-A-3010-P1-Block F - Bay Elevation
20.104-HGP-BG-00-DR-A-2001-P5-Block G - Ground Floor
20.104-HGP-BG-01-DR-A-2011-P5-Block G - First floor
20.104-HGP-BG-02-DR-A-2021-P4-Block G - Second Floor
20.104-HGP-BG-03-DR-A-2031-P4-Block G - Third Floor
20.104-HGP-BG-04-DR-A-2041-P4-Block G - Fourth Floor
20.104-HGP-BG-05-DR-A-2051-P4-Block G - Fifth Floor
20.104-HGP-BG-06-DR-A-2061-P4-Block G - Sixth Floor
20.104-HGP-BG-XX-DR-A-3001-P3-Block G - North & South Elevation
20.104-HGP-BG-XX-DR-A-3002-P3-Block G - East Elevation
20.104-HGP-BG-XX-DR-A-3003-P3-Block G - West Elevation
20.104-HGP-BH-00-DR-A-2001-P5-Block H - Ground Floor

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20.104-HGP-BH-01-DR-A-2011-P5-Block H - First floor
20.104-HGP-BH-02-DR-A-2021-P4-Block H - Second Floor
20.104-HGP-BH-03-DR-A-2031-P4-Block H - Third Floor
20.104-HGP-BH-04-DR-A-2041-P4-Block H - Fourth Floor
20.104-HGP-BH-05-DR-A-2051-P4-Block H - Fifth Floor
20.104-HGP-BH-06-DR-A-2061-P4-Block H - Sixth Floor
20.104-HGP-BH-XX-DR-A-3001-P3-Block H - North & South Elevation
20.104-HGP-BH-XX-DR-A-3002-P3-Block H - East Elevation
20.104-HGP-BH-XX-DR-A-3003-P3-Block H - West Elevation
20.104-HGP-BH-XX-DR-A-3010-P1-Block H & G - Bay Elevation
20.104-HGP-BJ-00-DR-A-2001-P5-Block J Ground Floor
20.104-HGP-BJ-01-DR-A-2011-P5-Block J First floor
20.104-HGP-BJ-02-DR-A-2021-P4-Block J Second Floor
20.104-HGP-BJ-03-DR-A-2031-P4-Block J - Third Floor
20.104-HGP-BJ-04-DR-A-2041-P4-Block J - Fourth Floor
20.104-HGP-BJ-05-DR-A-2051-P4-Block J - Fifth Floor
20.104-HGP-BJ-06-DR-A-2061-P4-Block J - Sixth Floor
20.104-HGP-BJ-07-DR-A-2071-P4-Block J - Seventh Floor
20.104-HGP-BJ-08-DR-A-2081-P3-Block J - Eighth Floor
20.104-HGP-BJ-09-DR-A-2091-P3-Block J - Ninth Floor
20.104-HGP-BJ-10-DR-A-2101-P3-Block J - Tenth Floor
20.104-HGP-BJ-11-DR-A-2111-P3-Block J - Eleventh Floor
20.104-HGP-BJ-XX-DR-A-3001-P2-Block J - North & South Elevation
20.104-HGP-BJ-XX-DR-A-3002-P2-Block J - East Elevation
20.104-HGP-BJ-XX-DR-A-3003-P2-Block J - West Elevation
20.104-HGP-BJ-XX-DR-A-3010-P1-Block J - Bay elevation
20.104-HGP-BK-00-DR-A-2001-P5-Block K - Ground Floor
20.104-HGP-BK-01-DR-A-2011-P5-Block K - First floor
20.104-HGP-BK-02-DR-A-2021-P4-Block K - Second Floor
20.104-HGP-BK-03-DR-A-2031-P4-Block K - Third Floor
20.104-HGP-BK-04-DR-A-2041-P5-Block K - Fourth Floor
20.104-HGP-BK-05-DR-A-2051-P4-Block K - Fifth Floor
20.104-HGP-BK-06-DR-A-2061-P4-Block K - Sixth Floor
20.104-HGP-BK-07-DR-A-2071-P3-Block K - Seventh Floor
20.104-HGP-BK-XX-DR-A-3001-P3-Block K - North & South Elevation
20.104-HGP-BK-XX-DR-A-3002-P3-Block K - East Elevation
20.104-HGP-BK-XX-DR-A-3003-P3-Block K - West Elevation
20.104-HGP-BK-XX-DR-A-3010-P1-Block K - Bay Elevation
20.104-HGP-BL-00-DR-A-2001-P3-Block L - Ground floor
20.104-HGP-BL-01-DR-A-2011-P3-Block L - First floor
20.104-HGP-BL-02-DR-A-2021-P3-Block L - Second Floor
20.104-HGP-BL-03-DR-A-2031-P3-Block L - Third Floor
20.104-HGP-BL-XX-DR-A-3001-P3-Block L - Elevations
20.104-HGP-BL-XX-DR-A-3010-P1-Block L - Bay Elevation
20.104-HGP-M1-00-DR-A-2001-P5-Maisonette Block 1 - Ground Floor
20.104-HGP-M1-01-DR-A-2011-P5-Maisonette Block 1 - First floor
20.104-HGP-M1-02-DR-A-2021-P5-Maisonette Block 1 - Second Floor
20.104-HGP-M1-03-DR-A-2031-P4-Maisonette Block 1 - Third Floor
20.104-HGP-M1-04-DR-A-2041-P4-Maisonette Block 1 - Fourth Floor
20.104-HGP-M1-XX-DR-A-3001-P3-Maisonette Block 1 - North Elevation
20.104-HGP-M1-XX-DR-A-3002-P3-Maisonette Block 1 - East & West Elevation

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20.104-HGP-M1-XX-DR-A-3003-P3-Maisonette Block 1 - South Elevation
20.104-HGP-M2-00-DR-A-2001-P5-Maisonette Block 2 - Ground Floor
20.104-HGP-M2-01-DR-A-2011-P5-Maisonette Block 2 - First floor
20.104-HGP-M2-02-DR-A-2021-P5-Maisonette Block 2 - Second Floor
20.104-HGP-M2-03-DR-A-2031-P4-Maisonette Block 2 - Third Floor
20.104-HGP-M2-04-DR-A-2041-P4-Maisonette Block 2 - Fourth Floor
20.104-HGP-M2-XX-DR-A-3001-P3-Maisonette Block 2 - North Elevation
20.104-HGP-M2-XX-DR-A-3002-P3-Maisonette Block 2 - East & West Elevation
20.104-HGP-M2-XX-DR-A-3003-P3-Maisonette Block 2 - South Elevation
20.104-HGP-M3-00-DR-A-2001-P5-Maisonette Block 3 - Ground Floor
20.104-HGP-M3-01-DR-A-2011-P5-Maisonette Block 3 - First floor

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20.104-HGP-M3-02-DR-A-2021-P5-Maisonette Block 3 - Second Floor
20.104-HGP-M3-03-DR-A-2031-P4-Maisonette Block 3 - Third Floor
20.104-HGP-M3-04-DR-A-2041-P4-Maisonette Block 3 - Fourth Floor
20.104-HGP-M3-XX-DR-A-3001-P2-Maisonette Block 3 - North Elevation
20.104-HGP-M3-XX-DR-A-3002-P2-Maisonette Block 3 - East & West Elevation
20.104-HGP-M3-XX-DR-A-3003-P2-Maisonette Block 3 - South Elevation
20.104-HGP-M4-00-DR-A-2001-P5-Maisonette Block 4 - Ground Floor
20.104-HGP-M4-01-DR-A-2011-P5-Maisonette Block 4 - First floor
20.104-HGP-M4-02-DR-A-2021-P5-Maisonette Block 4 - Second Floor
20.104-HGP-M4-03-DR-A-2031-P4-Maisonette Block 4 - Third Floor
20.104-HGP-M4-04-DR-A-2041-P4-Maisonette Block 4 - Fourth Floor
20.104-HGP-M4-XX-DR-A-3001-P3-Maisonette Block 4 - North Elevation
20.104-HGP-M4-XX-DR-A-3002-P3-Maisonette Block 4 - East & West Elevation
20.104-HGP-M4-XX-DR-A-3003-P3-Maisonette Block 4 - South Elevation
20.104-HGP-M4-XX-DR-A-3010-P1-Maisonette 1, 2, 3 & 4 Bay elevation
20.104-HGP-XX-00-DR-A-1000-P6-Site plan - Ground
20.104-HGP-XX-01-DR-A-1001-P4-Site plan - First
20.104-HGP-XX-02-DR-A-1002-P4-Site plan - Second
20.104-HGP-XX-03-DR-A-1003-P4-Site plan - Third
20.104-HGP-XX-04-DR-A-1004-P4-Site plan - Fourth
20.104-HGP-XX-05-DR-A-1005-P4-Site plan - Fifth
20.104-HGP-XX-06-DR-A-1006-P4-Site plan - Sixth
20.104-HGP-XX-07-DR-A-1007-P4-Site plan - Seventh
20.104-HGP-XX-08-DR-A-1008-P4-Site plan - Eighth
20.104-HGP-XX-09-DR-A-1009-P4-Site plan - Ninth
20.104-HGP-XX-10-DR-A-1010-P4-Site plan - Tenth
20.104-HGP-XX-11-DR-A-1011-P4-Site plan - Eleventh
20.104-HGP-XX-XX-DR-A-1017-P1-Site location plan
20.104-HGP-XX-XX-DR-A-1050-P2-Streetscene 1, 2 & 3
20.104-HGP-XX-XX-DR-A-1051-P2-Streetscene 4, 5 & 6
20.104-HGP-XX-XX-DR-A-1052-P1-Streetscene 7, 8 & 9
20.104-HGP-XX-XX-DR-A-1053-P1-Streetscene 10, 11 & 12
20.104-HGP-XX-XX-DR-A-1054-P1-Streetscene 13 & 14
20.104-HGP-XX-XX-DR-A-3010-P1-House type 1 - Bay Elevation
20.104-HGP-XX-XX-DR-A-3011-P1-House type 3 - Bay Elevation
20.104-HGP-XX-XX-DR-A-3012-P1-House type 4 - Bay Elevation
20.104-HGP-XX-XX-DR-A-3013-P1-FOG - Bay Elevation
20.104-HGP-XX-XX-DR-A-3014-P1-House type 7 M4(3) - Bay Elevation
20.104-HGP-XX-XX-RG-A-9000-P1-Data Issue Register
20.104-HGP-XX-XX-RP-A-9500-P1-Design and Access Statement (Sections 1-3)
20.104-HGP-XX-XX-RP-A-9501-P1-Design and Access Statement (Section 4)
20.104-HGP-XX-XX-RP-A-9502-P1-Design and Access Statement (Section 5)
20.104-HGP-XX-XX-RP-A-9503-P1-Design and Access Statement (Section 6)
20.104-HGP-XX-XX-RP-A-9504-P1-Design and Access Statement (Section 7)
20.104-HGP-XX-XX-RP-A-9505-P1-Design and Access Statement (Appendix 1/2)
20.104-HGP-XX-XX-RP-A-9506-P1-Design and Access Statement (Appendix 2/2)
20.104-HGP-XX-XX-SH-A-9100-Rev J-Accommodation Schedule
20.104-HGP-XX-ZZ-DR-A-4201-P5-House Type 1
20.104-HGP-XX-ZZ-DR-A-4202-P5-House Type 3
20.104-HGP-XX-ZZ-DR-A-4203-P5-House Type 3a
20.104-HGP-XX-ZZ-DR-A-4204-P5-House Type 3b

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20.104-HGP-XX-ZZ-DR-A-4205-P5-House Type 4
20.104-HGP-XX-ZZ-DR-A-4206-P5-House Type 4a
20.104-HGP-XX-ZZ-DR-A-4207-P5-House Type 4b
20.104-HGP-XX-ZZ-DR-A-4208-P5-House Type 7 M4(3)
20.104-HGP-XX-ZZ-DR-A-4209-P5-House Type FOG 1B
20.104-HGP-XX-ZZ-DR-A-4210-P5-House Type FOG 2B
20.104-HGP-XX-ZZ-DR-A-4211-P4-House Type 3c
20.104-HGP-XX-ZZ-DR-A-4212-P2-House Type 3d

Reason: To ensure the development is implemented in accordance with the permission granted

3) Phasing Plan:

Prior to the commencement of development, a phasing plan shall be submitted for approval in writing by the Local Planning Authority (referred to in the remainder of this decision notice as "the Approved Phasing Plan"). The Approved Phasing Plan shall include details of the maximum number of dwellings and other development to be implemented within each phase of the development (referred to in the remainder of this decision notice as "Phase" or "Phases" as appropriate and with applicable descriptive terminology to discriminate between different Phases). The development shall only be implemented in accordance with the Approved Phasing Plan. The Approved Phasing Plan shall not be amended without the written consent of the Local Planning Authority. Any proposal to amend the Approved Phasing Plan shall provide evidence to demonstrate that such changes would not give rise to any likely significant environmental impacts

Reason: To ensure the development is delivered in a coordinated and planned way given its scale and construction period, and with appropriate environmental protections.

4) Materials:

Details of the materials to be used for the external surfaces of the building(s) and surface material for parking areas for each relevant Phase are submitted to and approved by the Local Planning Authority prior to their installation. The development shall then be constructed in accordance with the approved materials and detailing.

Reason: To order to secure the satisfactory appearance of the development in accordance with policy PCS23 of The Portsmouth Plan.

5) Construction Environment Management Plan

All works pursuant to this permission (including Demolition) shall be carried out in accordance with the Construction Environmental Management Plan (CEMP) prepared by PMC Construction and Development Services dated 12 September 2022.

No development in any Phase shall take place (including demolition, ground works, vegetation clearance) until a construction environmental management plan (CEMP: Biodiversity) has been submitted to and approved in writing by the Local Planning Authority. The CEMP (Biodiversity) shall include the following:

a) risk assessment of potentially damaging construction activities;
b) identification of "biodiversity protection zones";

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c) practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements);
d) the location and timing of sensitive works to avoid harm to biodiversity features;
e) the times during construction when specialist ecologists need to be present on site to oversee works;
f) responsible persons and lines of communication
g) the role and responsibilities on site of an ecological clerk of works (ECoW) or similarly competent person;
h) use of protective fences, exclusion barriers and warning signs.

The approved CEMP shall be adhered to and implemented throughout the construction period in accordance with the approved details.

Reason: To minimise the impact of the development on the adjacent designated sites of nature conservation importance.

6) Construction Transport Management Plan:

No development shall take place, including any demolition works, until a construction management plan or construction method statement to include details of:

(a) parking for vehicles of site personnel, operatives and visitors
(b) loading and unloading of plant and materials
(c) storage of plant and materials
(d) programme of works (including measures for traffic management)
(e) provision of boundary hoarding behind any visibility zones
(f) HGV deliveries and hours of operation
(g) vehicle routing
(h) measures to prevent the deposit of materials on the highway (i) before and after construction condition surveys of the highway and a commitment to fund the repair of any damage caused
(j) on-site turning for construction vehicles

has been submitted to and approved in writing by the Local Planning Authority (in consultation with Highways England). Only the approved details shall be implemented during the construction of the development.

Reason: To mitigate any adverse impact from the development on the M27 Motorway and to ensure that the M27 continues to be an effective part of the national system of routes for through traffic in accordance with section 10 of the Highways Act 1980 and to satisfy the reasonable requirements of road safety

7) Contaminated Land - Risk Mitigation:

No works pursuant to the relevant Phase of the development hereby approved and as showing on the Approved Phasing Plan shall commence until there has been submitted to and approved in writing by the Local Planning Authority (or within such extended period as may be agreed with the Local Planning Authority), a further remediation method statement report and remediation phasing plan detailing the remedial scheme to be undertaken to avoid risk from contaminants, vapours, and gases when the

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development hereby authorised is completed, and its implementation. It shall include detailing proposals for future maintenance, monitoring and arrangements for contingency action as necessary. This is to include the submission of a design report, installation brief, and validation plan as detailed in BS8485:2015+A1:2019 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings and have consideration of CIRIA 735 (Good practice on the testing and verification of protection systems for buildings against hazardous ground gases). The remedial options appraisal shall have due regard to sustainability as detailed in ISO 18504:2017 Soil quality - Sustainable remediation. It shall include the nomination of a competent person to oversee the implementation of the remedial scheme, correct phasing, and detail how the remedial measures will be verified on completion (phase 3 report).

Reason: To ensure that the risks from land contamination to the future users of the land are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors, in accordance with saved Policy DC21 of the Portsmouth City Local Plan (2006), and paragraph 183 of the National Planning Policy Framework (2021). The responsibility for safe development rests with landowner / developer.

8) Contaminated Land - Verification

Each phase of the development as shown on the Approved Phasing Plan shall not be occupied until a stand-alone verification report has been submitted by the competent person approved pursuant to condition 7 'RISK MITIGATION' above. The report shall demonstrate that the remedial scheme has been implemented fully in accordance with the remediation method statement and demonstrate that site remediation criteria have been met. For the verification of gas protection schemes the applicant shall follow the agreed validation plan. Thereafter the remedial scheme shall be maintained in accordance with the details approved under conditions 1(b). Unless otherwise agreed in writing by the LPA such verification shall comprise a stand-alone report including (but not be limited to):
a) Description of remedial method statement; b) As built drawings of the implemented scheme, annotated plan showing area and table showing area (m2) remediated for each agreed phased remedial area; c) Tally of amount of subsoil and topsoil used in each phased remedial area; d) Photographs of the remediation works in progress; e) Certificates demonstrating that imported and/or material left in-situ is free of contamination, and matching the amounts involved for each phased remedial area. This report shall include an 'awareness document' provided to each end-user to retain with their property records and transfer onto future owner / occupiers detailing future maintenance, monitoring and arrangements for contingency action as necessary.

Reason: To ensure that the risks from land contamination to the future users of the land are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors, in accordance with saved Policy DC21 of the Portsmouth City Local Plan (2006), and paragraph 183 of the National Planning Policy Framework (2021). The responsibility for safe development rests with landowner / developer.

9) Contaminated Land - Watching Brief

If, during development, any signs of contamination or anthropogenic usage (which would include any heritage assets) not previously identified and assessed are suspected to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to, and approved in writing by, the Local Planning Authority.

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Reason: To ensure that the risks from land contamination to the future users of the land are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors, in accordance with saved Policy DC21 of the Portsmouth City Local Plan (2006), and paragraph 183 of the National Planning Policy Framework (2021). The responsibility for safe development rests with landowner / developer

10) Previously unidentified Contamination:

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to, and approved in writing by, the local planning authority. The remediation strategy shall be implemented as approved.

Reason: To ensure that the risks from land contamination to the future users of the land are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors, in accordance with saved Policy DC21 of the Portsmouth City Local Plan (2006), and paragraph 183 of the National Planning Policy Framework (2021). The responsibility for safe development rests with landowner / developer.

11) Flooding - Implementation of Flood Risk Assessment:

The development permitted by this planning permission shall be carried out in accordance with the revised and approved Flood Risk Assessment (FRA) (ref: PC3679RHD-ZZ-XX-RP-Z-0007-S2-C03_TipnerEastDevelopment_FRA dated 10th February 2023) and the revised Overtopping report (ref: PC3679-RHD-ZZ-XX-RP-Z-0003-S2C03_TipnerEastDevelopment_OvertoppingReport dated 10th February 2023).

In particular, the following mitigation measures detailed within the FRA shall be incorporated into the development:

- Design levels shall be no lower than those listed below and as identified in Section 1.3 and shown in Figure 1-2, of the FRA;
- Coastal flood defence wall with a crest level of 5.25mOD
- 5m wide coastal walk at 4.0mOD
- 2m wide coastal walk at 4.3mOD
- 4.6mOD ground levels on the landward edge of the coastal walkway • 4.6mOD proposed development ground level
- 4.75mOD Finished Floor Levels (FFL).

These levels must be applied to all blocks within the development, apart from the one commercial block shown in drawings 20.104-HGP-BF-00-DR-A-1056-P1-Block F - Flood resilient measures and 146.5003.608-B found in Appendix F - Levels Strategy. This block has no bedrooms on the ground floor and flood resistance and resilience mitigation measures are proposed as stated on the drawing (referenced above).

These measures need to be submitted to, and approved in writing by, the local planning authority and shall be fully implemented prior to occupation of the given Phase in accordance with the Approved Phasing Plan, or within any other period as may subsequently be agreed, in writing, by the local planning authority. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

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Reason: To reduce the risk of flooding to the proposed development and future occupants, both on and off site. This condition is in line with the Planning Practice Guidance (PPG) to the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change.

12) Flooding - Sea Wall: sea wall development and its tie-in points at both ends permitted by this planning permission shall be carried out in accordance with the details shown in the following supporting documents submitted on 10th February 2023:

- 2225-HRW-XX-XX-DR-S-0001-P4
- 2225-HRW-XX-XX-DR-S-0002-P4
- 2225-HRW-XX-XX-DR-S-0003-P3 (see comment for Drawing 20.104-HGP-XXXX-SK-A-1052-P5-Flood barrier location - Twyford Avenue below)
- 2225-HRW-XX-XX-DR-S-0004-P2
- 20.104-HGP-XX-XX-SK-A-1052-P5-Flood barrier location - Twyford Avenue
- 20.104-HGP-XX-XX-SK-A-1054-P1-Flood barrier location - M275

These mitigation measures shall be fully implemented prior to the occupation of any dwelling in the development. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reason: To reduce the risk of flooding to the proposed development and future occupants, both on and off site. This condition is in line with the Planning Practice Guidance (PPG) to the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change

13) Flooding - Ground Levels

The ground levels within the site will be raised to a general minimum of 4.6m AOD except in limited localised areas where ground levels need to be lower for operational reasons and at the boundaries of the site where tying in to lower ground is necessary. Therefore ground levels shall be implemented in accordance with the following revised supporting documents found in Appendix F - Levels Strategy submitted on 10th February 2023:

- Drawing Reference: 146.5003.601 to 608
- Drawing Reference: 146.5003.605-B

These approved levels shall be fully implemented prior to occupation of any given Phase in accordance with the Approved Phasing Plan. The levels detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reason: To reduce the risk of flooding to the proposed development and future occupants, both on and off site. This condition is in line with the Planning Practice Guidance (PPG) to the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change.

14) Prior to its installation for each relevant Phase details of the surface water drainage scheme that accords with sustainable drainage principles, are required to be submitted to, and approved in writing by, the local planning authority. The site drainage system must be designed to accommodate the required on-site storage due to tide-locking during joint probability events over the lifetime of the development and accommodate wave water due to wave over-topping along the sea front of the site

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under extreme wave conditions. Details must be provided on how the scheme will be maintained and managed after completion for the lifetime of the development.

The scheme shall be fully implemented and subsequently maintained, in accordance with the Approved Phasing Plan.

Reason: To reduce the risk of flooding to the proposed development and future occupants, both on and off site. This condition is in line with the Planning Practice Guidance (PPG) to the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change

15) Foul Water Drainage Scheme

Prior to their installation for each relevant Phase full details of a scheme for the provision of foul drainage for the site shall be submitted to and approved in writing by the local planning authority. These details shall include the phasing and implementation of that phasing to align with the delivery by Southern Water of any sewerage network reinforcement required to ensure that adequate wastewater network capacity is available to adequately drain the development.

The scheme shall be fully implemented and subsequently maintained, in accordance with the Approved Phasing Plan.

Reason: To reduce the risk of flooding to the proposed development and future occupants, both on and off site. This condition is in line with the Planning Practice Guidance (PPG) to the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change. Whilst the depth of flooding from surface water is likely to be shallow, it is important that the risk of tide-locking is mitigated against to prevent property flooding.

16) Piling Method Statement:

No piling including impact piling shall take place until a piling method statement (detailing the depth and type of piling to be undertaken and the methodology by which such piling will be carried out, including measures to prevent and minimise the potential for impact on ground water, damage to subsurface water infrastructure, and the programme for the works) has been submitted to and approved in writing by the Local Planning Authority. All piling shall be undertaken in accordance with the terms of the approved piling method statement.

Reason To ensure that the proposed piling does not harm groundwater resources in line with paragraph 174 of the National Planning Policy Framework

17) Local Highways Improvements and Estate Roads

No part of the development shall commence above slab level until the following highway improvements:

- Change the north footway of Northern Parade to a shared use path between Twyford Avenue and the pedestrian crossing opposite Gladys Avenue
- Change the pedestrian crossing at Northern Parade and Gladys Avenue to a toucan crossing
- Create a cyclist cut through at the block end of Nelson Avenue

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- Change the pedestrian crossing on the junction of Stamshaw Road/London Avenue to a toucan crossing
- Change the pedestrian crossing in Wharf Road into a tiger crossing have been carried out in accordance with an agreement under section 278 of the Highways Act 1980 (detailed in the section 106 agreement for this permission) and other estate roads and on-street parking spaces have been constructed in accordance with a scheme to be submitted to and approved in writing by the Local Planning Authority.

Reason: To ensure the safety of all highway users and for the promotion of sustainable travel in support of NPPF para 116 and Portsmouth Plan policy PCS17

18) Landscaping - Details:

Prior to commencement of each relevant Phase comprising residential development, details of both hard and soft landscape works have been submitted to and approved in writing by the local planning authority. These details shall include:
i) A statement setting out the design objectives and how these will be delivered; ii) earthworks showing existing and proposed finished levels or contours; iii)means of enclosure and retaining structures;
iv)other vehicle and pedestrian access and circulation areas; v) hard surfacing materials; vi)minor artefacts and structures (e.g. furniture, play equipment, refuse or other storage units, signs, etc.), and vi)water features; vii) a strategy for the management and maintenance of the landscape works for the lifetime of the development.

Soft landscape works shall include without limitation planting plans; written specifications (including cultivation and other operations associated with plant and grass establishment); schedules of plants noting species, plant supply sizes and proposed numbers/densities where appropriate; an implementation programme (including phasing of work where relevant).

Reason:
To ensure satisfactory landscape treatment of the site which will enhance the character and appearance of the site and the area in accordance with Policy PCS23 of the Portsmouth Plan 2012.

19) Landscape Implementation:

The landscaping works shall be carried out in accordance with the approved details under condition [18 above] during the first planting season immediately following substantial completion of the relevant Phase of the development. The completed scheme shall be managed and maintained in accordance with the approved strategy of management and maintenance.

Reason:
To ensure satisfactory landscape treatment of the site which will enhance the character and appearance of the site and the area in accordance with Policy PCS23 of the Portsmouth Plan 2012.

20) Landscape Management Plan (Roadways ETC.,)

Prior to the first occupation of the development hereby approved, a schedule of landscape maintenance and a landscape management plan to include the timing of the implementation of the schedule,

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management responsibilities, maintenance schedules, details of the future management, and procedures for the replacement of failed planting shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the landscape maintenance shall be carried out in accordance with the approved schedule.

Reason: to ensure that soft landscaping does not impede the safe operation of any of the roadways, cycle ways and footways within the development in accordance with Policies PCS17 and PCS23 of the Portsmouth Plan 2012 and the NPPF 2023

21) Lighting Scheme

Prior to the installation of the ground floor slab details of each Phase containing residential development a lighting scheme shall be submitted and approved in writing by the Local Planning Authority. The design of lighting scheme must comply with BS 54891:2020 (or superseding standard) and discharge any liabilities attached to that standard. The lighting scheme shall also incorporate measures for bat protection as set out in Chapter 12.7.83-12.7.86 of the Environmental Statement. The development shall only be carried out in accordance with the approved details and maintained thereafter.

Reason: To protect the amenities of the occupiers of existing nearby residential properties and to ensure safe and secure development and contribute to reducing crime and disorder, and in the interests of biodiversity, in accordance with the adopted Local Plan Policies PCS13 and PCS23 and the NPPF (as amended).

22) Retention of Garages:

The integral garages to the houses hereby permitted shown on Drawing No 20.104HGP-XX-00-DR-A-1000 the garage/car parking space(s) shall be retained as such and shall not be used for any purpose other than the garaging of private motor vehicles associated with the residential occupation of the property and ancillary domestic storage without the grant of further specific planning permission from the Local Planning Authority.

Reason: To ensure that private vehicle parking is maintained and to accord with the terms of the permission in accordance with Portsmouth Plan policy PCS17.

23) Permitted Development Rights:

Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended) (or any order revoking and reenacting that order with or without modification), no extensions, porches or outbuildings shall be erected other than those expressly authorised by a further specific planning permission.

Reason:
To ensure that the finished appearance of the development will enhance the character and visual amenities of the area in accordance with Policy PCS23 of the Portsmouth Plan and the NPPF 2023.

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24) Commercial Units

Prior to first occupation of the commercial units (land use class E, F1 and F2) as hereby permitted, details of the following shall be submitted to the local planning authority for approval:

a. Installation of external plant;
b. Hours of opening; and
c. Servicing

Such details as approved (or as may be amended by agreement with the local planning authority in writing) shall be fully implemented and maintained in perpetuity.

Reason:
To secure the development in accordance with the terms of the application and to add to the character and vitality of the area in accordance with Policy PCS1 of the Portsmouth Plan 2012 and the NPPF 2023.

25) Reed Bed Habitat:

Details of the proposed compensatory reed bed habitat (0.015ha) adjacent to Block J as hereby permitted shall be submitted for approval alongside full landscaping details required by Condition (16) and such details as approved to be implemented prior to first occupation of the relevant approved development Phase.

Reason: To provide acceptable replacement habitat in accordance with policy PCS13 and the NPPF 2023

26) Bird Collision Markers:

to the commencement of Blocks A, B, C, D, E and J (being over 23.0m AOD) a scheme of preventative bird collision marking is to be applied to the fenestration which shall have been submitted to the local planning authority for approval, such details as approved to be implemented in full and retained in perpetuity.

Reason: To reduce the risk of harm to overflying birds in accordance with Policy PCS13 of the Portsmouth Plan.

27) Refuse and Recycling - Provision and Retention

Prior to the occupation of any given Phase of the development comprising dwellings, details (and amended plans) of facilities to be provided for the storage, removal and recycling of refuse from the premises shall be submitted to the Local Planning Authority and approved in writing, and subsequently installed. Such facilities as approved shall be permanently maintained and retained for that purpose.

Reason:
In the interests of visual amenity, the amenities of future occupiers of the development and the occupiers of nearby properties and in the interests of highway safety and in accordance with Portsmouth Plan Policy PCS15.

28) Access:

No Phase of the development containing dwellings shall commence above slab level until final details of the highway access improvements as outlined within the Transport Assessment and subsequent

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Technical Notes have been submitted to and approved in writing by the Local Planning Authority. The approved details shall thereafter be implemented in full prior to first occupation of the development.

Reason: To ensure the safety of all highway users and for the promotion of sustainable travel in support of NPPF paras 112 & 113; and Portsmouth Plan policy PCS17.

29) Parking:

The proposed buildings contained within this application shall not be occupied, until the area shown on the submitted layout as vehicle parking space has been provided, surfaced and drained in accordance with details of each relevant Phase has been submitted to and approved in writing by the Local Planning Authority. Thereafter it shall be kept available for such use and no permanent development, whether or not permitted by the Town and Country Planning (General Permitted Development) (England) Order 2015 (or any order amending, revoking or re-enacting that Order) shall be carried out on the land so shown or in such a position as to preclude vehicular access to this reserved parking spaces.

Reason: To ensure the safety of all highway users and for the promotion of sustainable travel in support of NPPF paras 112 & 113; and Portsmouth Plan policy PCS17.

30) Electric Vehicle Charging Point:

No Phase of the development containing dwellings shall commence above slab level until details of the provision of the electric vehicle charging points for each relevant Phase has been submitted to and approved in writing by the Local Planning Authority. Details shall include the location, charging type (power output and charging speed), associated infrastructure and timetable for installation. The charging points as approved shall be implemented prior to occupation of the relevant Phase in accordance with the approved details and shall thereafter be maintained.

Reason: To ensure the promotion of sustainable travel in support of NPPF 2023 para. 111 and Portsmouth Plan policy PCS17.

31) Cycle Storage:

The development hereby permitted shall not be occupied/brought into use until bicycle storage facilities have been provided in accordance with a detailed scheme for each Phase containing dwellings has been first submitted to and approved in writing by the Local Planning Authority. The scheme shall include, but not be limited to: (a) details of any storage structures, lockers, maintenance facilities, electric changing points, security measures to protect cycles and users; and (b) The bicycle storage facilities approved pursuant to part (a) of this Condition shall thereafter be permanently retained for the storage of bicycles at all times.

Reason:
To ensure the safety of all highway users and for the promotion of sustainable travel in support of NPPF

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paras 112 & 113; and Portsmouth Plan policy PCS17.

32) Travel Plan:

Prior to the first occupation of any Phase containing dwellings or Commercial Units, a final travel plan shall be submitted to and approved in writing by the Local Planning Authority. The travel plan shall include provision of the arrangements for the appointment of a Travel Plan Coordinator, SMART targets and initiatives (including financial) for promoting sustainable transport with particular emphasis on walking, bicycle use together with details of future monitoring and update procedures. The travel plan shall be implemented upon first occupation within the respective Phase and shall be kept in place, and updated, thereafter. The approved travel plan shall be continually monitored with the results of the monitoring and any recommended actions submitted to and approved in writing to the Local Planning Authority on an annual basis starting from the date of the approval of the first travel plan, with the approved recommendations implemented as agreed as part of the annual review, improvement and reduction of car dependency.

Reason:
To ensure the safety of all highway users and for the promotion of sustainable travel in support of NPPF paras 112 & 113; and Portsmouth Plan policy PCS17.

Planning and Economic Growth
Civic Offices
Guildhall Square
Portsmouth PO1 2AU
Telephone (023) 9282 2251



Ian Maguire
Assistant Director, Planning and Economic Growth 16 May 2024 planning@portsmouthcc.gov.uk
Web: www.portsmouth.gov.uk

TOWN AND COUNTRY PLANNING ACT 1990

NOTIFICATION TO BE SENT TO AN APPLICANT WHEN A LOCAL PLANNING AUTHORITY REFUSE PLANNING PERMISSION OR GRANT IT SUBJECT TO CONDITIONS

Appeals to the Secretary of State

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- If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.

- If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice.

- Appeals can be made online at: https://www.gov.uk/planning-inspectorate. If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

- The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

- The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

- If you intend to submit an appeal that you would like examined by inquiry then you must notify the Local Planning Authority and Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK.

IT DOES NOT CONSTITUTE AN APPROVAL UNDER THE BUILDING REGULATIONS
You should also be advised that you may have obligations under the Party Wall Act 1996

THE APPLICANT IS RECOMMENDED TO KEEP THIS DOCUMENT WITH THE TITLE DEEDS OF THE PROPERTY

THE APPLICANT IS NOW ADVISED TO REMOVE ANY SITE NOTICES FROM AROUND THE PROPERTY

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Appendix 2: Section 106 Agreement and s106 Responsibility Matrix

Located within contract file

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Appendix 3: Pre-Construction Information

PCSA 16 May 2022 - Output

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Appendix 4: Design Stage Fire Risk Assessment

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Appendix 5: Contract Sum Analysis

Located within contract file

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Appendix 6: Schedule of Accommodation, including tenures

Located within contract file

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Appendix 7: Data Processing Agreement

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Appendix 8: Geotechnical Investigation

PCSA 16 May 2022 - Output

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Appendix 9: Ecological and Wildlife Assessment

PCSA 16 May 2022 - Output

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Appendix 10: Template Health and Safety File

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Appendix 11: Collateral Warranties

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Appendix 12: Regulation 38 Tracker

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Appendix 13: Handover Procedures

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1. Notice of Completion

Subject to all service connections and meter installation provide the Employer's Representative at least 8 weeks notice and 4 weeks notice of the anticipated date of practical completion of the Works. The Employer reserves the right to accept the 4 weeks notice on any properties if safe pedestrian and vehicular access is not available as determined by the Employers Agent.

The Employer reserves the right not to accept handover if Building Control certificates, CML certificates, gas certificates and EPCs are not provided 2 weeks prior to handover.

2. Handover Dates

The handover dates will be subject to agreement with the Employer.
They shall be on Mondays or Tuesdays and not between 15th December to 7th January. Homes should not be handed over individually unless unavoidable. A minimum of 5-10 homes to be handed over together and a maximum of 20, subject to the site layout and practicalities.

Viewing visits - Prior to handover with appropriate notice the Contractor shall allow for arranging safe access and accompanying VIVID staff and their perspective customers.

3. Work at Completion

Make good all damage consequent upon the Works and clean the Works thoroughly inside and out, removing all splashes, deposits, rubbish and surplus materials consequent upon execution of the Work.

The Contractor shall also properly scrub floors, clean out ducts and voids, flush out and rod drains, clean steps, yards, pavings, metalwork, glass (inside and out), boilers, cisterns, flushing cisterns, sinks, baths, basins, WC's and other sanitary fittings, clear out all gutters and down pipes, touch up paintwork and oil all locks and leave the whole of the Works in a sound and perfect condition fit for occupation and use at completion.

Cleaning materials and methods to be as recommended by manufacturer of product being cleaned.

Touch up minor faults in newly painted/repainted work, carefully matching colour, and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.

A grass cut is to take place a maximum of 1 week prior to the handover of a property.

4. Snagging Inspections

At the time when the Contractor offers the building as fit for final inspection prior to handover, the Contractor shall have previously inspected and brought it up to a standard which he anticipates will be acceptable to the Employer and which will be suitable for the immediate occupation by the prospective occupier. The Employer's Representative will then inspect, at which time it is anticipated that only minor items will be noted on any subsequently issued snagging list.

Contractors should allow in their programme a suitable period of time for making good items noted by the Employer's Representative during the snagging inspection prior to final handover.

Snagging inspections must be completed at least 2 weeks prior to handover to allow sufficient time for making good and for de-snagging inspections to be completed.

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5. Utilities and Meter Readings

The Contractor is to arrange for the installation of services meters and shall remain responsible for any standing charges and all gas, water and electricity consumed prior to Practical Completion.

The Contractor must provide confirmation to the Employer that they have notified the utility companies the date at which the Employer becomes responsible for all billing. A copy of the letter to the utility company will suffice.

Where charges for service supplies need to be apportioned ensure that meter readings are taken by the relevant authority at possession and/or completion as appropriate. Ensure that copies of readings are supplied to interested parties. The meter readings will be verified by the Contractor and Employer's Representative and logged onto the handover sheet, the Contractor is responsible for ensuring that the meters are designated to the correct properties and are fully accessible.

6. Security at Completion

Key safes

The Contractor is to install key safes for each dwelling (houses and individual flats) prior to Practical Completion, in a location to be agreed with the Employer. These should not be fixed to the front elevation unless this cannot be avoided.

- Large key safe required for permanent storage of block landlord keys (loft hatches, AOV, fire panel keys etc)
- Individual flat key safes to be installed inside bike store, unless this has mag lock closure*
- House key safes to be located on fence post inside back gate (where possible)*
- Codes set by Vivid
- Flat key safes to be numbered with Flat number

* Locations to be agreed with the Employer on a project specific basis

Keys

The Contractor shall leave the Works secure with all accesses locked. Account for and adequately label 3 sets of keys, and hand over to the Employer with an itemised schedule retaining a duplicate schedule signed by the Employer as receipt. For flats the individual flat entrance doors shall be suited with the main entrance doors and any individual stores and communal cycle stores and lockable bin stores.

Each key must be labelled, e.g. front door, rear door, shed etc.

Following receipt of the keys, the Employer's Agent is to the secure the keys to each dwelling in the clearly identified key safes.

Lifts

The Contractor shall arrange with BT for emergency telephone line to be installed for each lift prior to commissioning, or GSM unit has been checked and is working.

At least 4 weeks prior to handover the Contractor shall provide the Employer with all information necessary to transfer the account for the lift lines into the Employers name.

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LIST OF MANUFACTURERS AND PRODUCT DETAILS

Scheme _____

MATERIALS USED	MANUFACTURER	MAKE/REFERENCE
Bricks		
Roof Tiles		
Windows		
Internal Doors		
Ironmongery		
Sanitary Ware		
Boiler		
Storage Heaters		
Electric Fittings		
Consumer Unit		
Kitchen Units		
Work Tops		
Kitchen Tiles		

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MATERIALS USED	MANUFACTURER	MAKE/REFERENCE
Bathroom Tiles		
Kitchen Flooring		
Bathroom Flooring		
Kitchen Extract Fan		
Bathroom Extract Fan		
WC Extract Fan		
Taps		
White Goods (if any)		
Refrigerator		
Cooker		
Washing Machine		
Dryer		
Smoke Detectors		
External Paint/Stain		

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Appendix 14: Completion Requirements

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1. Development Records and Maintenance Manuals

The Contractor (in conjunction with the CDM Principal Designer) must provide development records and maintenance manuals at least two weeks prior to Practical Completion in accordance with the format of the Health and Safety File template in Appendix 10. This file will also include the previously provided Regulation 38 information. Property specific information to be provided phase-by-phase, with estate-wide information acceptable at the end of the development.

Such documentation shall include the following, **as electronic copies**:

a) Contact names and telephone numbers for 24 hour emergency repairs
b) Two full sets of working drawings showing site layout including drainage and service runs, floor plans, elevations, general sections and diagrammatic drawings of service systems, indicating principal plant, valves, etc.
c) The schedule of main building materials and fittings installed with manufacturers names, addresses and telephone numbers.
d) The schedule of main and sub-contractors including addresses and telephone numbers with details of work executed.
e) Copies of Electrical Test certificates for all connections.
f) Schedule of all fixed and variable equipment settings established during commissioning.
g) Copies of Landlord's Gas Safety Records for all gas installations
h) Details of NHBC and/or other guarantees on fittings or building elements including a 10 year guarantee to be issued by the window installer and the submission of NHBC Certificates/letters confirming approval at Practical Completion. Copy of the NHBC site record book.
i) A Certificate/letter confirming approval at Practical Completion issued by Building Control.
j) A statement from the Planning Department of the Local Authority confirming that the development has been completed in accordance with the Planning Consent and all or any conditions have been complied with.
k) EPC and SAP calculation for each dwelling or type of dwelling.
l) Details of any Public Authority Adopted Areas with dates works are to be, or were adopted.
m) Details of any adopted drains with dates works are to be, or were adopted.
n) Minimum twenty year guarantee cover for new roofing works with a back up insurance protection certificate.
o) User manuals for any appliances installed.

A client's charging' pack of documents will be required**.**

A sample of a maintenance manual can be inspected at the offices of the Employer's Agent.

The Contractor shall allow for the payment of any fees or costs arising from the provision of Development Records and Standard Assessment Procedure Certificates where applicable.

2. Presentation of Manuals

An electronic, indexed record of information, using the pre-populated H&S folder templates and Guidance Notes within the 'Developer's Shared Area' of the Employer's Sharepoint system. A copy of the Guidance Notes is also in **Appendix 40**, for reference.

3. Training of Employer's Staff

Before Practical Completion explain and demonstrate to the Employer's maintenance staff the purpose, function and operation of the installations including all items and procedures listed in the Operation and Maintenance Manual.

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4. Shared Ownership Properties (Sales)

Shared Ownership properties are managed by Sales, a department within VIVID Housing Limited. The Sales team have the following specific requirements:

a) Schedule of all Shared Ownership properties, including the following information:
   - Number of each home type (1/2/3/ beds).
   - GIAm^2 of each home.
   - Plot numbers and postal addressees.
   - Parking arrangements.
   - Management Company details, including service charge build-ups.
   - Maintenance Schedule.
   - Site plans, landscaping plans, front elevations, individual floor plans in PDF and hard copy formats.

b) S.106 signed and available.
c) Section 38 signed and available.
d) Conveyance plans.
e) NHBC Certificates.

The Contractor shall make due allowance to provide the above information in a timely manner.

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Appendix 15: Schedule of Defects Repairs and Response Times

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Emergencies

Day Emergencies – to be repaired within **4** hours

Emergency Repairs – to be completed within **24** hours

These are defects that threaten serious harm to people or properties. This includes (**this list is not exhaustive** and is intended to give examples only):

- No heating or hot water between 1 October and 31 March where a member of the household has a vulnerability that is severely impacted by not having these services
- Heating or hot water loss, where a member of the household has a vulnerability that is severely impacted by not having these services
- Fire damage where caused by a building defect
- A severe leak or burst pipe that cannot be contained
- A leak that is affecting the electrics
- An unsafe electrical fitting that is sparking or smoking, or bare wiring
- Leaking roof or unsafe structure
- Loss of supply of electricity, water or gas, where we have checked there are no issues with the local supplier
- Leak of sewerage
- Complete failure of communal lighting
- Lift outages should be attended in **4** hours. Where someone is stuck in the lift, there should be attendance within **1** hour
- Where a home is insecure due to a damaged dwelling door or ground floor window (communal doors that are insecure should be raised on an urgent)

If the emergency repair cannot be completed immediately it should be made safe and completed as soon as possible.

Damp and Mould in new build properties

If damp and mould is reported during the defects period, the contractor should inspect within 2 working days.

If the contractor reports back that the issue is due to factors beyond their control / not deemed to be a building defect, our process will then be initiated. The contractor's email to us, informing us of this, will be considered to be the 'contractor's report'.
Within 14 days of receiving the contractor's report, and for rented customers only, VIVID's Damp and Mould Team will investigate.

They will share a report identifying any remedial repairs and recommendations with the contractor, *if applicable*.

Leaseholders (e.g. Shared Owners) should obtain their own report and we will share this with the contractor on the customer's behalf if the report identifies any necessary remedial works.

The contractor will be then expected to put right any recommended remedial works related to the damp and mould, in the timescales shown below:

- Route cause remedial works – within 7 days of receiving our report.
- Routine repairs – within 28 days of receiving our report

If the above timescale is not adhered to, VIVID may put the contractor on notice that we'll carry out the necessary works ourselves and take the cost of these works out of any retention held.

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Urgent

Urgent defects – to be repaired within **7** days

These are repairs that could cause harm to health and safety if the repair gets worse or is not looked at promptly. In certain cases, we may require these to be upgraded to Emergency – within 24 hours - if a household member is vulnerable. This includes (**this list is not exhaustive** and is intended to give examples only):

- No hot water or/and heating (if emergency criteria are not met). You may be required to provide emergency heaters if the heating won't be working for an extended period of time.
- Partial loss of hot water (where the heating is still working). If a household member has a medical need to bathe frequently and this is not possible, this may be upgraded to an emergency.
- Partial loss of heating if a household member is vulnerable or where it is having a significant welfare impact. If the resident doesn't have vulnerabilities, partial loss of heating is a routine repair.
- Partial loss of water supply as long as there are no problems with the local suppliers.
- Rotten timber flooring or stair tread
- Replace above with: Blocked drains, sinks, basins, bath, toilet (if any of these are found to be caused by the resident and not a building defect, it is accepted that a recharge may be necessary, at an appropriate cost).
- Faulty of door entry system
- Faulty of communal TV aerials
- Partial communal lighting repairs
- Roof leaks
- Non-flushing toilet, where there is only 1 toilet in the property
- Trip hazards caused by movement in paving slabs or manhole covers

Routine

Routine repairs should be completed within **28 days**.

Any other repairs that do not class as an Emergency or Urgent defect. This includes (**this list is not exhaustive** and is intended to give examples only):

- Minor plumbing leaks and repairs
- Faulty extractor fan if only form of ventilation
- Breaches of security to internal doors and windows
- Defective cistern or overflow
- Blocked gutters
- Minor electrical faults
- Defective flooring
- Damage to stair treads or handrails or banisters
- General joinery repairs
- Repairs to doors, windows and floors
- Repairs to external walls, fences and paths
- Repairs to walls, brickworks and slates or tiles
- Repairs or clearing of gutters and downpipes
- Repairs to kitchen fittings
- Repairs to plasterwork
- Repairs to tiling
- Easing doors and windows
- Other minor day-to-day repairs or replacements

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At the end of the defects period it will be expected that the contractor remedies any significant shrinkage cracks over 2mm and nail pops, in accordance with the NHBC standards.

Appendix 16: JCT Design and Build Contract (2024) With Employer's Amendments, incorporating Performance Bond and Parent Company Guarantee as applicable.

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Appendix 17: Overheating Assessment

PCSA 16 May 2022 - Output

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Appendix 18: Details of existing buildings and structural survey for demolition

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Appendix 19: Services Information and Scan Details

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Appendix 20: Asbestos Surveys

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Appendix 21: Flood Risk Assessment

PCSA 16 May 2022 - Output

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Appendix 22: Acoustic Report and Recommendations

PCSA 16 May 2022 - Output

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Appendix 23: Title Report

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Appendix 24: Contractor's KPIs

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Appendix 25: Value Engineering Schedule (to be priced and returned with tender)

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Appendix 26: Extra-over costs pricing

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Appendix 27: Transport Assessment

PCSA 16 May 2022 - Output

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Appendix 28: Drainage Strategy

PCSA 16 May 2022 – Output

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Appendix 29: Specification for Soft Landscape Works

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SPECIFICATION FOR SOFT LANDSCAPE WORKS

1.0 PRELIMINARIES

1.1 All materials and workmanship must comply with the relevant British Standards and recognised Codes of Practice for the landscape industry. The Contractor will comply with CDM regulations where landscape work will include earthworks, hard landscaping, drainage, demolition or site clearance. In addition, the Contractor shall ensure the safety of all persons on site in connection with the work for which he is responsible and shall also protect his plant, tools and materials, in line with the regulations of the Health and Safety Executive and the Substances Hazardous to Health (COSHH) Regulations.

1.2 The Contractor will be deemed to have visited the site and to have carried out any investigations necessary on all conditions affecting the work, as no claim on the grounds of lack of knowledge will be entertained.

1.3 Before commencing the works the Contractor will inform the Employer of his timetable of operations, and shall continue to contact them to inform of variations.

1.4 The Contractor is responsible for arranging for protective fencing to be erected around retained trees, to BS 5837: 1991, during the construction period. The Contractor will carefully marry in the new soil levels to the existing levels under the trees, and will not carry out ripping or level alterations to these areas. The Contractor will be held responsible for any damage to trees, shrubs or hedges caused by his negligence. In the case of minor superficial damage, the Contractor shall arrange for any necessary surgery to be carried out by an approved tree surgeon. Should damage to any tree, shrub or hedge result in its death or serious disfigurement it shall be removed and replaced as the Employer may direct, to give the same density of cover as previously. All costs at Contractors own expense.

1.5 The Contractor shall protect all pipes, ducts, sewers, service mains etc, and make good at his own expense any damage caused by carrying out the works. Notwithstanding information which the Employer may make available to the Contractor regarding the position of the existing services, it shall be the responsibility of the Contractor to satisfy himself as to their accurate location and condition.

1.6 The Contractor must take adequate precautions to ensure protection of streams and waterways from pollution caused by carrying out the works.

1.7 The Contractor shall take all necessary measure to protect the works until handed over on completion.

2.0 GROUND PREPARATION

2.1 Any areas of in-situ topsoil or stripped topsoil is to be tested by a soil analyst to identify its suitability for re-use. Any deficiencies are to be identified and remedies carried out.

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SPECIFICATION FOR SOFT LANDSCAPE WORKS (continued)

2.2 The main Contractor will carry out ripping of subsoil within the construction area (and outside any fenced off areas under existing trees) to relieve compaction and allow free drainage. The existing ground levels within an area up to 3m beyond the branch spread of existing trees shall not be varied.

2.3 Any area of existing hard paving within the site which will form part of the soft landscape areas will be excavated to the full extent of the formation, and compacted sub-soil ripped as above, and rubble removed from site.

2.4 If there is any evidence on the site or adjacent sites of Japanese Knotweed, the Employer is to be notified immediately, and a programme agreed to eradicate the problem by chemical treatment, installation of root barriers or excavation and removal to a licensed landfill site.

2.5 Any topsoil stripped and stored on site and in-situ topsoil is to be treated with herbicide on perennial weeds and allow 2 weeks to elapse before moving or digging. All herbicides to be used strictly in accordance with the manufacturers recommendations. Any contaminated topsoil (i.e. with subsoil, rubbish, oil-based products or other toxic material) shall be removed from site.

2.6 Prior to spreading of topsoil, landscaped areas shall be prepared by excavating to remove builders rubble, subsoil, rubbish, large stones, weeds and existing turf. The minimum depth of topsoil shall be 400mm, with tree pits excavated to depth of 600mm and backfilled with topsoil and marked with a peg. The landscape sub-Contractor is to satisfy himself that the soil levels and quality are adequate before work commences, and report back to the Employer if there are any problems.

2.7 Provide imported topsoil as necessary to make up any deficiency of topsoil existing on the site and to complete the works. It shall be a sandy loam to comply with BS 3882, General Purpose Grade and chemical contamination shall be below the CLEA SGV for residential/ sensitive end users and certification for both shall be provided to the Employer. The certification shall also give recommendations on additional nutrients or lime that may be required to bring the soil to good heart. The topsoil shall be free from pernicious weeds and roots, lumps of clay, stones over 50mm size, rubbish, building waste and foreign matter.

2.8 Once subsoil ripping and topsoil spreading is carried out, no machinery shall be allowed to track over the prepared areas.

3.0 GENERAL CLAUSES

3.1 All plants supplied by the Contractor shall be obtained from a reputable nursery. Before stock is purchased the Employer reserves the right to inspect the nursery or to approve samples. All material supplied will be similar in size and quality to the approved samples and in accordance with the relevant parts of BS 3936. Any Advanced Nursery or Semi Mature trees to be supplied in accordance with BS 5236.

3.2 All plants shall be true to name as specified, i.e. variegated, laciniated varieties etc. Any variations or substitutions, unless agreed to in writing by the Employer must be replaced at the Contractors own expense. However, the submission of a tender shall imply that the Contractor is able to obtain all the materials specified in the contract documents.

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SPECIFICATION FOR SOFT LANDSCAPE WORKS (continued)

3.3 The Contractor is to ensure that all plant material is to be handled in accordance with the Plant Handling Code, from collection at the nursery to planting on site.

3.4 Attention must be paid to watering, particularly to containerised material before, during and after planting and to grassed areas, notwithstanding any restrictions by the Statutory Authorities on the use of water for plants which may prevail at the time.

3.5 Particular attention must be made to sites with clay soils to avoid compaction. Tree and shrub planting should be carried out from boards ensuring no uneven areas of compaction.

3.6 For developments that include blocks of flats planting to be kept a minimum of 600mm from the perimeter wall of the building. Pea shingle to be placed in this area for drainage over proprietary weed control membrane, a retaining board to be inserted to prevent gravel from spilling over and to give an edge for strimming where this borders grass (this will allow for gutters and windows to be accessed for cleaning).

3.7 Where grass edges to the side of a building are to be maintained by the Employer (i.e. not assigned to a resident) then a 150mm mowing strip is to be allowed for with gravel or mulch.

3.8 Shrub beds to be no more than 1500mm wide and accessible from at least three sides.

3.9 Planting to be at a density to allow for growth for 5 years before thinning out and supplied in 2L pots wherever possible. Consideration is also to be given to the natural height on maturity of plants used within 2 metres of a building, plants which naturally acquire a height of 1.75 m - 2m should not be planted where there are window sill levels of 0.75m or patio/French doors.

3.10 Where perimeter hedges are required slow growing varieties such as yew, box, copper beech are to be planted.

3.11 Water features should never be included.

3.12 If the planting season permits autumn and spring flowering bulbs to be included in the planting scheme.

3.13 If trees are to be planted both coniferous and deciduous species can be used on general sites, non-native specimen trees may be included on suitable developments (i.e. elderly complexes with little risk of vandalism).

4.0 GRASSED AREAS

4.1 All topsoil areas including undisturbed ground to be grassed shall be cleared of weeds and rubbish then rotovated to a depth of 100mm, cross harrowed with a chain harrow to produce a fine tilth and consolidated lightly with a cambridge roller and all stones over 40mm removed from the surface. Do not carry out ploughing, ripping or tipping of soil within the branch spread of existing trees and hedges.

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SPECIFICATION FOR SOFT LANDSCAPE WORKS (continued)

4.2 Unless otherwise stated, finished levels of grassed areas shall be 50mm above adjoining paving or kerb levels, 150mm below the damp proof course of adjoining buildings and married in with previous soil levels adjoining existing trees and shrubs. Levels shall be arranged to give gentle falls for drainage and any hollows developing after completion of cultivation shall be made good. The finished surface shall have a smooth and even fall.

4.3 The Contractor shall supply and spread a pre-germination fertiliser at the manufacturer's recommended rate and method. The Employer reserves the right to inspect and approve cultivations before turfing is carried out, and the Contractor is to supply a certificate of analysis if required.

4.4 The Contractor shall supply turf in accordance with BS 3963 and BS 4428.

4.5 Turfs from the stack should be wheeled to turf layers on planks laid closely side by side. Adequate planks should be provided to support workmen and barrows and provide access. Turfs should be laid on the prepared soil bed and firmed into position in consecutive rows with broken joints closely butted and to the correct levels. The turfs should be laid off planks working over previously laid turf. Where necessary the turfs should be lightly and evenly firmed with wooden beaters. A dressing of fine sandy soil should be applied and brushed into the joints. Any inequalities in finished levels due to variations in turf thickness or uneven consolidation of soil should be adjusted by raking and packing fine soil under the turf. Turf edges and margins should be laid with whole turfs. Turf is to be rolled after laying to assist successful growth and levelling. The Employer reserves the right to suspend turfing operations when weather conditions are considered suitable. If shrinkage occurs, fine sandy topsoil shall be brushed in the joints and well watered.

4.6 Banks exceeding 30 degree slope; lay turfs diagonally or horizontally and secure with pointed softwood pegs, 25mm square and 200mm long. Remove pegs when turf is established.

4.7 All necessary watering is be carried out with oscillating sprays or sprinklers to avoid washing soil from joints.

4.8 The Contractor is to carry out the first cut of turfed areas which are not within the curtilage of individual units.

4.9 The Contractor shall make good, at his own expense, all areas of grass which fail to establish, other than where failure is due to vandalism, and for making good depressions and sinkages which appear in the first twelve months.

4.10 If larger areas of grass are included on site then suitable access to these areas must be maintained, gates are to be provided wide enough to allow larger or ride on mowers access, and suitably sized gaps in planting provided.

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SPECIFICATION FOR SOFT LANDSCAPE WORKS (continued)

5.0 PLANTING GENERALLY

5.1 Planting areas shall be pegged out in accordance with the planning approved planting plans, using figured dimensions if given, or otherwise scaled dimensions.

5.2 Where the shrub beds are weedy, the beds will be hand weeded and rubbish removed.

5.3 On newly top soiled areas or undisturbed ground, beds shall be dug by hand or cultivated by machine to a depth of 300mm. Break down all lumps, fork and rake, collect and remove from site all weeds and debris to a cambered surface 50mm below surrounding levels. Well rotted farmyard manure or other approved organic material shall be spread at a rate of 50mm depth per m2 and thoroughly incorporated.

5.4 Any additional topsoil required for making up levels and backfilling shall be free from weeds, roots and stones over 50mm diameter, and shall conform to BS 3882.

5.5 Planting shall be carried out in the correct season and weather conditions as BS 4428, 8.2. The Employer reserves the right to suspend planting when the ground is frozen or waterlogged or in dry and hot conditions when the frequency of irrigation would be very high.

5.6 Once cultivation is complete, the Contractor shall supply and lay weed control fabric e.g Landscape Fabric 950 by G-Tex geotextiles Tel 01933 664411 over the whole of the shrub beds and pin as necessary.

5.7 If specified the Contractor shall supply and erect a 1.2m high cleft chestnut pale fence to BS 1722 part 4, to all exposed edges of shrub planting as indicated on the planting plans.

6.0 TREES

6.1 Tree stakes shall be set out on site according to the plan and approved by the agent to avoid damage to drainage and service runs. The Employer also reserves the right to adjust the exact position of the trees.

6.2 Tree pits shall be 600mm diameter and 600mm deep for feathered or half-standard trees, and 1000mm diameter and 600mm deep for selected or heavy standard trees. The bottom of the pits shall be broken up to 150mm deep and backfilled with 50% Fisons Tree Planting Compost. Planting shall be in accordance with BS 4428, 7:7.

6.3 Stakes shall be straight, pointed softwood stakes, 75mm diameter maximum.

i) Feathered trees up to 1.5m shall be unstaked.
ii) Feathered and ½ standard trees up to 1.8m high, shall have one stake 600mm below ground level and 300mm above ground.
iii) Standard trees, girth 8-10cm, height 2.75-3m, shall have one stake 600mm below ground level and 300mm above ground.
iv) Selected standard trees, girth 10-12cm, height 3-3.5m, shall have one stake 600mm below ground level and 1.2m above ground level.
v) Heavy standard trees shall have two stakes, 1.8m above ground level and 600mm below ground.

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SPECIFICATION FOR SOFT LANDSCAPE WORKS (continued)

6.4 Toms rubber tree ties or other approved ties shall be fixed, 50mm down from the top of the stake, two ties to heavy standard trees, and one tie to others.

6.5 The Contractor shall apply 100mg of Enmag around the base of each tree, immediately after planting.

6.6 Where trees are planted in grass they are to have an area of 500mm diameter around the base free of grass and weeds, and mulched as the shrub bed specification.

7.0 SHRUBS

7.1 Shrubs shall be set out in accordance with the planting drawing at uniform densities, and planted as detailed in BS 4428, 8.5.1. The weed control fabric shall be cut to allow the planting of each individual shrub, and replaced around the base of the shrub to prevent weed growth.

7.2 Climbing plants shall be planted in pits 450x450x450mm deep and backfilled with topsoil. Self-clinging climbers should have the supporting cane removed. Climbers requiring support should have the cane retained or have shoots fanned out and tied to supports or wires with soft rot proof twine.

7.3 The Contractor is to apply 25gm of Enmag around the base of each plant immediately after planting.

7.4 Shrub beds are to be covered with a minimum of 75mm mulch immediately after fertilising. Soil to be covered must be moist and if not, should be thoroughly saturated with water before mulching. The bark must have been stacked for an appropriate period to allow toxic tanins to break down. The mulch must not contain wood strips or peelings and must be of a uniform colour. A sample must be submitted for the approval the Employer, prior to delivery on site.

8.0 COMPLETION

8.1 The Contractor shall be responsible for maintaining all trees and shrub beds turfed and planted areas until such time as the site is accepted as complete by the Employer.

8.2 The landscaping will not be accepted as complete if for any of the following reasons the work is not up to standard;

i) if the grass is uneven or in poor condition or if the planting is not satisfactorily complete,
ii) if the grass or planted areas are damaged by failure to carry out maintenance operations,
iii) if any shrinkage below finished level has occurred,
iv) if the area has not been cleared of stones, weeds or rubbish,
v) if the sward or planted areas do not comply with the specification or drawings.

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SPECIFICATION FOR SOFT LANDSCAPE WORKS (continued)

8.3 The Contractor shall continue to maintain the landscaped areas until the defects have been rectified. Once defects have been corrected the site will be accepted for Practical Completion.

8.4 At the end of the twelve months Defects Liability Period, the Contractor shall be responsible for replacing all trees, shrubs or other plants which are not in a thriving condition due to the effects of weather, including late frost or any cause other than vandalism. Losses will be judged on whether the plants are actively growing during late summer when a check will be made. The entire cost of replacement, other than losses caused by vandalism, shall be at the Contractors expense.

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Appendix 30: Employment and Skills Training Plan Commitments

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Appendix 31: Electric Vehicle Charge Point Standards

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Appendix 32: Components Requiring Servicing

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Appendix 33: Vinyl Flooring Datasheets

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Appendix 34: Example datasheet for bike and bin store doors

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Appendix 35: Standard Fire Signage Requirements

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Appendix 36: Site Signage

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Signage Requirements

VIVID Corporate Layout For Sign Boards

On all developments a VIVID GRP sign board size 2.40 x 1.20 m should be provided by the Contractor.

All other signs must be on white board and must include a brief description of the scheme.

Homes England Layout For Sign Boards

Where the development is wholly or partly funded by the HE a sign board size 2.50 x 0.5 m or 2.40 x 1.2m must be provided in accordance with the current Homes England requirements.

Local Authority Layout For Sign Boards

Where notified by the Employer, a Local Authority sign board size 2.40 x 0.61 m must be provided in accordance with the Local Authority's standard specification.

In some instances the Local Authority may issue self-adhesive signs to the contractor, but it remains the contractor's responsibility to make enquiries and pay all costs in this respect.

Other Signs

Space shall be allocated on the sign board for main contractor's board size 2.40 x 0.60 m and consultants' and sub-contractors' (if required) boards of standard size 1.20 x 0.60 m, including space for the Employer's Representative board. The contractor is to arrange to receive and fix the Employer's Representative sign and return them on completion of the project.

No other advertising will be allowed on the sign board or site generally.

See also the Design template and guidelines 2024 PDF document in this **Appendix 36**

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Appendix 37: Homes England signboard

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Section 8 of the Capital Funding Guide:
Capital Funding Guide - 9. Procurement and Scheme Issues - Guidance - GOV.UK

Homes England logos can be found on this website. Underneath the logos is more detailed information showing what should be on the signboard:
Using the Homes England logo - GOV.UK

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Appendix 38: Charging Information

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The Employer needs to compile a 'Charging File' for this development to enable the drawing of loans against the development. The Contractor is required to provide the documents below free of charge specifically for the Charging File, if not already provided previously.

- 'As built' estate plan showing the dwellings as built, with a North point and a Scale (not floor plans).
- A Plot to Postal address schedule.
- Confirmation that the existing roadways leading into the Scheme are adopted or, if they are not, evidence from the Local Authority that any unadopted roadways are built to an adoptable standard.
- Copy of the signed and dated Section 38 or similar Road Adoption Agreement, with coloured copy plans.
- Confirmation that the existing sewers serving the Scheme are adopted or, if they are not, confirmation as to how the foul and surface water drains from the Property and confirmation that any unadopted sewers are built to an adoptable standard.
- Copy of the signed and dated Section 104 or similar Sewer Adoption Agreement, with colour copy plans.
- Evidence of any protective measures required to deal with abandoned sewers or other unusual elements.
- Section 38/104 letters from the appropriate authorities confirming acceptance of the Works/start of maintenance period/adoption.
- Planning Permission/s.
- Copy of the signed and dated Section 106 agreement, with coloured copy plans.
- Evidence from the Local Authority of compliance with all conditions in the Planning Permission.
- Evidence from the Local Authority of compliance with all obligations in the Section 106 Agreement / any CIL obligations.
- Building Control consent and copies of letters/documents confirming that Conditions have been signed off by the Local Authority or Approved Inspector, including Final Building Control Certificate (plot specific)
- Copies of all 'Cover Notes' issued by the NHBC (or equivalent Building warranty provider) confirming completion in accordance with the requirements of the Council of Mortgage Lenders (CML).
- Copy of the Owner and Lenders NHBC final certificate (or equivalent Building warranty provider) documentation.
- Soil surveys and evidence that any remediation works required by such soil surveys have been satisfactorily carried out (where there is no contamination condition in the planning permission and evidence of sign off of that contamination condition)Evidence that any third party consents required to the development of the Scheme have been obtained, e.g, the consent of BRB Residuary to build on land which adjoins a railway where there is a restrictive covenant on the Title for the Scheme requiring this.
- Copies of the Architect's, Contractor's and sub-consultants / contractor's warranties.
- Details of any commercial units in the building which is being charged and details of the basis on which these are occupied.

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Appendix 39: Sustainability, Energy and Environment

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Appendix 40: Health and Safety File – VIVID Sharepoint Guidance Notes

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Appendix 41: SKEB Competency Assessment Form

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Appendix 42: Building Regulations Completion Notice

JCT amends and ERs derogation schedule and

Scheme name:	Victory Quay (Tipner) Phase
Contractor:	PMC Construction & Development Services
EA name:	RUND (Howard Kennedy)

8/21/25

Key
Not agreed
Awaiting feedback
Agreed

Key
Not agreed
Awaiting feedback
Agreed

Clause/ Item	Topic	VIVID's Standard Requirement	Contractor comments [date]	RUND comments	Contractor comments [date]	VIVID comments [date]	Outstanding actions	Agreed Amendment	Status
JCT Schedule of Amendments									
Covered off within T&H JCT DB Schedule of amendments									
Employer's Requirements Section 1 (Project Details)									Agreed
1.4.2	Site Boundaries	Site Boundaries - The Contractor shall be responsible for checking and setting out the site boundaries, including all necessary attendant labour, measuring instruments etc. and shall submit two copies of a detailed drawing marked up and adequately dimensioned to define the boundaries.	Wording needs to be up-dated to reflect the fact that PMC have set out the red line boundary in consultation with Vivid and Homes England. However PMC cannot be responsible for boundary changes required in order to complete the works which form part of the unilateral agreement. i.e. we need Vivid to conclude this in accordance with the programme of Works.	Contractor comments noted, clause amended, PMC to agree to amended clause.			Contractor	Site Boundaries - The Contractor shall be responsible for checking and setting out the site boundaries for phase 1 in accordance with the contract plan, including all necessary attendant labour, measuring instruments etc. and shall submit two copies of a detailed drawing marked up and adequately dimensioned to define the boundaries. The contractor cannot be responsible for boundary changes required in order to complete the works which form part of the unilateral agreement	Agreed
1.4.11	Site Abnormalities	*Site Abnormalities - The Contractor will be responsible for all costs relating to any BAPA/APA/any equivalent agreements and will be responsible for leading on the obligations set out within it.*	There is no BAPA					*Site Abnormalities - The Contractor will be responsible for all costs relating to any BAPA/APA/any equivalent agreements and will be responsible for leading on the obligations set out within it.*	Agreed
1.4.13	Existing Buildings	*Existing Buildings - Arrange for a qualified and competent person to carry out a Refurbishment and Demolition asbestos survey in accordance with HSG264 Second Edition, unless this information is included in Appendix 18/ Submit a Section 80 Notice to the Local Authority of intended demolition and pay all costs.*	Not Applicable					*Existing Buildings - Arrange for a qualified and competent person to carry out a Refurbishment and Demolition asbestos survey in accordance with HSG264 Second Edition, unless this information is included in Appendix 18/ Submit a Section 80 Notice to the Local Authority of intended demolition and pay all costs.*	Agreed
1.8.1	Charging Documents	Charging Documents - The Employer needs to compile a 'Charging File' for this development to enable the drawing of loans against the development. The Contractor is required to provide the documents in Appendix 38 free of charge specifically for the Charging File, if not already provided previously. Documents will be provided on request. 1.9	PMC have reviewed but this will be a collective approach between PMC and Vivid and we agree to work collectively to buolt this pack. 10th July 2025	Appendix 38 is in the ER's document, PMC to review and comment			Contractor	No change to standard requirement	Agreed
1.11.5	FRA	FRA - The contractor will also supply and install all other signage as required by the preoccupation FRA inspection report (see Appendix 35 for standard signage requirements) in addition to the signage required for Building Control including "No Smoking Signs" at main entrances to all blocks.	pmc will supply and install building regulation compliance signage. unless listed we cannot make an allowance for information not clear	The pre occupation FRA will be undertaken in advance of any given handover allowing enough time to install any additional signage. Clause to remain			Contractor	FRA - The contractor will also supply and install all other signage as required by Appendix 35 for standard signage requirements in addition to the signage required for Building Control including "No Smoking Signs" at main entrances to all blocks.	Agreed
1.13.2	Show Properties	Show Properties - A show unit is to be provided complete and fully serviced not less than 3 months prior to the commencement of handover of other units in the development. The Employer will define which units are to constitute show units, pre-contract.	noted, for avoidance of doubt it is assumed all cost with the fit out remain with Vivid	RPL agree, unless specified prior to contract. VIVID to confirm any specific requirements.			VIVID	To confirm	Agreed
Employer's Requirements Sect. 2 (General Design & Technical Requirements)									
2.2.2	Planning	Planning Permission - The Contractor will be responsible for obtaining, agreeing and finalising all matters and Conditions and obtaining full planning permission including all costs associated therewith.	this is client led	PMC to agree to amendment				Planning Permission - The Contractor shall have responsibilities as set out in the phase 1 contract scope of work for agreeing and finalising all matters and Conditions pertaining to the full planning permission and shall bear all costs associated therewith.	Agreed
2.2.3	Planning	Planning Permission - The Contractor will be responsible for establishing with the Planning Authority their requirements in terms of Wheelchair units, as applicable. The Contractor shall establish if Wheelchair units need to be Wheelchair Adaptable (Approved Document M4 (2)) or Wheelchair Accessible (Approved Document M4 (3)). The Contractor shall allow for all costs with complying with this requirement.	this is client led. PMC will allow the basic items but exclude the more bespoke items, lifts, electronic entrance doors. These are bespoke to the incoming tenant, however, we ill allow first fix of these areas to future proof.	Noted, however PMC responsible for compliance with requirements including Portsmouth wheelchair housing design guidance.				Planning Permission - The Contractor will be responsible for establishing with the Planning Authority their requirements in terms of Wheelchair units, as applicable. The Contractor shall establish if Wheelchair units need to be Wheelchair Adaptable (Approved Document M4 (2)) or Wheelchair Accessible (Approved Document M4 (3)). The Contractor shall allow for all costs with complying with this requirement in respect of the basic items but excludes the more bespoke items such as lifts and power operated entrance doors. In addition to complying with the relevant building regulations the contractor shall comply with the Portsmouth City Council Wheelchair Housing Design Guide.	Agreed

2.5.1/2	Accessibility	Accessibility - Where the planning permission or s106 agreement requires any homes to be built to M4(3) standard (Wheelchair User Dwellings), the Habinteg wheelchair design guide (latest edition) should be used to inform the design. On some sites, there may be a specific requirement by the Employer to include wheelchair units, and in this scenario we will specify this in the design brief on a site by site basis. 2.5.2 If there are M4(3) units in a block, we will require power assisted doors. If all homes are built to M4(2) we will need a fused spur to retrospectively install these. 2.6	vivid to confirm what units require this included. As noted in 2.2.3 PMC will allow all basis items but will clarify that certain items are excluded until tenants are found and OT has been instructed. First fix will be provided to future proof the scheme but items such as lift, electronic doors will not be included. We have jumped ahead on schemes in Portsmouth before and the lift and electronic door wasn't required.	VIVID to confirm M4(2)/(3) split. PMC to also adopt Portsmouth City Council guidance for wheelchair housing. PMC to agree amended clause						Agreed
2.6.5	Room areas	The area of a room is that defined by the enclosing walls measured to the finished wall surface. The area shall include all space taken up in the form of storage that extends from the floor level and to a height in excess of 1.5 metres. The room area shall exclude space on the plan taken up by partitions, chimney breasts, flues, ducts or other full height obstructions within the room. All room areas shall be recorded in m² on the drawings	Does this include Columns	Yes this would include columns.						Agreed
2.7.3	Geotech	Geotech Investigations - The Contractor is to ensure that the site is free of any contamination and undertake any investigation and subsequent de-contamination or remediation works necessary to ensure that this is the case at handover. The Contractor shall provide a statement from their Engineer that all recommendations stated in the site investigation report have been incorporated into the Works. Contractor to provide evidence of costs incurred in remediation to allow possible Land Remediation Relief claim.	this isn't correct, and should revert back to the soil remediation plan as contamination is capped this has already been completed on another phase of works. therefore , not possible to link to this contract					Contractor	Agreed between PMC and Vestal that this obliugation does not apply to the Homes England land swop areas and Bird Conseravtion Area. An indication as to the cost to remediate these areas has been included within the contractors clarifications.	Agreed
2.9.1	Asbestos	*Asbestos Survey - The Employer has commissioned an 'Refurbishment & Demolition' level asbestos report refer Appendix 20. Should additional surveys be required the Contractor shall allow in their price and programme for these to be undertaken.*	remove not required	RPL agree not required					*Asbestos Survey - The Employer has commissioned an 'Refurbishment & Demolition' level asbestos report refer Appendix 20. Should additional surveys be required the Contractor shall allow in their price and programme for these to be undertaken.*	~~Agreed~~
2.15.1	Planning	The Contractor shall be responsible for obtaining all necessary approvals and consents required to complete the entire Works and shall include all costs, charges or fees in connection with the design and construction of the project. The Contractor shall comply with all conditions stipulated in the approvals and consents including the requirements of the NHBC (or equivalent approved).	there are land swaps outside of our control, wording needs to be amended	Wording to be agreed					The Contractor shall be responsible for obtaining necessary approvals and consents required to complete the entire Works and shall include all costs, charges or fees in connection with the design and construction of the project. The Contractor shall comply with all conditions stipulated in the approvals and consents including the requirements of the NHBC (or equivalent approved). The contractor shall not be responsible for agreeing land transfers as these will be the responsibility of VIVID/ VESTAL.	

2.16.7	Building Regulations	Building Regulations - The Contractor shall appoint at their cost an appropriately qualified person to prepare and issue Energy Performance Certificates (EPC) for each property. All new build properties must achieve a minimum EPC "B" rating, however A should be the target and in any event, the homes should be built to Option 1 of the Future Homes Standard. The Contractor shall appoint at their cost an appropriately qualified person to prepare and issue a Predicted Energy Assessment (PEA) for each outright sale or shared ownership property. PEAs shall be provided a minimum of 6 months prior to handover.	future homes not being taken forward ?	Clause amended to reflect future homes standards not being designed in this phase, EPC B as a minimum applies				Building Regulations - The Contractor shall appoint at their cost an appropriately qualified person to prepare and issue Energy Performance Certificates (EPC) for each property. All new build properties must achieve a minimum EPC "B" rating, however A should be the target and in any event. The Contractor shall appoint at their cost an appropriately qualified person to prepare and issue a Predicted Energy Assessment (PEA) for each outright sale or shared ownership property. PEAs shall be provided a minimum of 6 months prior to handover.	~~Agreed~~
2.17.1	Fire	Fire Precautions - Use of MVHR should be avoided wherever possible to prevent transfer of smoke between rooms. Under no circumstances should MVHR ducts breach/bye-pass fire rated walls.	MVHR is required and all likely do pass through fire rated walls with fire collars or dampers	Accepted, Sufficient fire detailing to be designed. Clause amended				Fire Precautions - Use of MVHR should be avoided wherever possible to prevent transfer of smoke between rooms. Design should minimise the occurrence of MVHR ducts breach/bye-pass fire rated walls. Where unavoidable sufficient passive fire detailing is to be included and designed/ approved by competent fire engineer.	~~Agreed~~
2.17.9	Fire	Fire Precautions - The building safety regulator requirement for design review gateways at key stages in the design and construction of the development must be met in a timely and efficient manner: • Planning Gateway one – Form 1 to be completed at planning application stage. • Gateway two – Form 2 statutory approval before building work starts. • Gateway three – Form 3 statutory approval prior to practical completion.	we do not have buildings over 18 m	Agreed, in the case of Phase 1 contract this can be struck through				Fire Precautions - The building safety regulator requirement for design review gateways at key stages in the design and construction of the development must be met in a timely and efficient manner: • Planning Gateway one – Form 1 to be completed at planning application stage. • Gateway two – Form 2 statutory approval before building work starts. • Gateway three – Form 3 statutory approval prior to practical completion.	~~Agreed~~
2.17.12	Fire	Fire Precautions - Each fire stopping and cavity barrier installation is required to be tagged with a plastic reference tag with a printed bar code. Each installation must be mechanically fixed in place. Push fit products will not be accepted.	this is incorrect. all fire stopping with be recorded on plan radar. Internal fire checking will be fully certified but external areas will be recorded and as built files passed to the client. GPS reference points tagged to drawings for locations. You cannot apply any fixings to cavity barriers	to discuss/ agree				Fire Precautions - Each fire stopping and cavity barrier installation is required to be tagged with a plastic reference tag with a printed bar code or sufficiently recorded. Each installation must be mechanically fixed in place. Push fit products will not be accepted.	~~Agreed~~
2.17.14	Fire	The Contractor is to provide an electronic photographic record of each bar code complete with data on the location, materials, system and detail used, the fire rating achieved, and the quality assurance checks. The full electronic record must be retrievable without the need to load any dedicated software or applications.	all records are updated onto PDF drawings which clearly define location via GPS reference	Acceptable, requirement to be worded accordingly				The Contractor is to provide an electronic photographic record of all fire stopping complete with data on the location, materials, system and detail used, the fire rating achieved, and the quality assurance checks. The full electronic record must be retrievable without the need to load any dedicated software or applications.	~~Agreed~~
2.19.1	Building Guarantees	Building Guarantees - The Contractor shall register each property with NHBC Buildmark Choice or equivalent and approved. On occasions, the Employer may choose to procure such warranty cover directly and in this event, this shall be deducted from the contract price.	vivid are taking out warranty performance, wording needs to be changed to reflect this VESTAL expected to take out policy insurance broker to confirm interlink between PMC and VESTAL	Noted, wording to be changed accordingly				Building Guarantees - The Contractor shall register each property with NHBC Buildmark Choice or equivalent and approved. On occasions, the Employer may choose to procure such warranty cover directly and in this event, this shall be deducted from the contract price.	~~Agreed~~
2.19.5	Building Guarantees	*Building Guarantees - All policies must be offered for a policy term of 12 years with insolvency cover (subject to availability).*	client taking this forward	Noted, to be struck through				*Building Guarantees - All policies must be offered for a policy term of 12 years with insolvency cover (subject to availability).*	~~Agreed~~
2.23.4 & 5	Acoustics	Party walls and separating floors between flats and maisonettes shall improve upon Approved Document E minimum value by 5dB Floor construction to rooms above open car parts and integral garages shall improve upon Approved Document E minimum value by 5dB	+3dB being proposed	VIVID/ VESTAL to approve				Party walls and separating floors between flats and maisonettes shall improve upon Approved Document E minimum value by 3dB Floor construction to rooms above open car parts and integral garages shall improve upon Approved Document E minimum value by 3dB	~~Agreed~~

2.25.4	Adopted Highways	*Adopted Highways - The Contractor shall be responsible for submitting all plans as required and the showing of all necessary details of the works necessary for entering into a Section 278 agreement and / or a Section 38 Agreement and payment of all safety audit and designers' response costs associated. The Contractor shall carry out all administration associated with the adoption of the highways including charges, Performance Bonds and costs for legal arrangements, inspections, supervision and tests required by the highway authority and any costs incurred shall be deemed to be included in the Contract Sum. The Contractor must allow for all costs associated with this requirement including commuted sums which shall be payable to the Local Highways Authority. The contractor must also allow for all costs associated with an Advanced Payment Code bond in the event that the estate roads are unadopted (or on demand from the Highway Authority).*	the 278 and 38 are in Vivids name, therefore, it would be Vivid who will instruct lawyers and pay fees. All commented sums are not included as Vivid are dealing with this direct and we haven't been part of this conversation	Wording to be agreed				*Adopted Highways - The Contractor shall be responsible for submitting all plans as required and the showing of all necessary details of the works necessary for entering into a Section 278 agreement and / or a Section 38 Agreement and payment of all safety audit and designers' response costs associated. The Contractor shall carry out all administration associated with the adoption of the highways including charges, Performance Bonds and costs for legal arrangements, inspections, supervision and tests required by the highway authority and any costs incurred shall be deemed to be included in the Contract Sum. The contractor is to present costs for approval for these these when known, post contract. Costs for bonds and legal fees will be paid by the employer. The employer will work collaboratively with the contractor to establish scheme costs with the adopting authority.*	~~Agreed~~
2.26.2	Sewers	Adopted Sewers - The Contractor shall organise all the necessary arrangements to enter into a Section 104/S102 Agreement for the adoption of the sewers and associated works.	10th july 2025. PMC are not leading this and therefore out of the loop on obligations					Adopted Sewers - The Contractor shall organise all the necessary arrangements to enter into a Section 104/S102 Agreement for the adoption of the sewers and associated works, where sewers are being adopted.	~~Agreed~~
2.26.7	Utilities	Sewers - The provision of a fully engrossed s. 104 agreement and a provisional certificate of adoption is a requirement of Sectional Completion. If these documents are not provided at Sectional Completion a sum of £20,000 shall be withheld by the Employer until such time as the agreement is issued. Final retention release shall not occur until the Final Certificate of adoption is issued to the Employer.	not agreed as a bond will be in place to PMC	To agree PMC to agree amendment			Contractor	Sewers - The provision of a provisional certificate of adoption is a requirement of Sectional Completion. If this document is not provided at Sectional Completion a sum of £20,000 shall be withheld by the Employer until such time as the agreement is issued, where a bond is not in place between the contractor and the adopting authority . Final retention release shall not occur until the Final Certificate of adoption is issued to the Employer.	~~Agreed~~
2.27.5	Utilities	Electric Supplies - EV charging requirements: Refer to Appendix 31 for detail.	We have the new guide which we are currently reviewing, however, at this stage we have been advised to provide EV Chargers to the houses only.	EV charging requirements now available. PMC to review/ comment					~~Agreed~~
2.30.1	Post Boxes	Compliance with Secured By Design Silver and Building Regulations Part Q standards as a minimum . Located adjacent to the common entrance to apartment buildings each apartment shall be provided with a proprietary lockable delivery box (each min. 270 wide x 390 high x 130 deep) with a white factory applied paint finish capable of being opened from within the entrance hallway. A UK based manufacturer of post boxes is preferred, to minimise the cost of future replacement parts.	270w x 130h x 390d being proposed - no room for specified boxes in block F	Accepted					~~Agreed~~
2.30.2	External Post Boxes	If the above is not possible, post boxes may be arranged in free standing 'banks' externally and adjacent to the main entrance, subject to approval by the Employer. Again, a UK based manufacturer is important	Can this be followed if space is limited	Accepted					~~Agreed~~
2.33.2	Employment & Skills Plan	*Employment & Skills Plan - The Contractor shall prepare and submit a works-specific Employment & Skills Plan and method statement. In preparing this plan the contractor should refer to the CITB Contractor and Developer Guidance attached at Appendix 30.*	You have provided a very old document. PMC shall supply a version that will deal with the section 106/planning condition and this will override this attachment	CITB Guidance now available. PMC to review/ comment PMC to provide copy of updated document			VIVID	Vivid to update	Awaiting feedback

Employer's Requirements Section 3 (Project Specific Enhancements to General Design &									
3.2.2	External metalwork	All external metal work exposed to weathering to be hot dipped galvanised in accordance with the relevant British Standard with 2 part epoxy factory applied paint	Not as agreed materials schedule which details powder coated	HDG more durable than powder coated. VIVID/ VESTAL to confirm			VIVID	All external metal work exposed to weathering to be hot dipped galvanised in accordance with the relevant British Standard with 2 part epoxy factory applied paint/ powder coating as an alternative accepted.	Agreed
3.4.1	Roofs	Mansafe/fall arrest system to be installed to provide safe access to flat roof (access to flats roof to be provided off communal corridor only The preference over a mansafe system is to have 1100mm high parapets or alternatively 1100mm high raked guarding, where possible. The design solution is to be agreed with the Employer/Employer's Agent.	Contractor to confirm proposal				Contractor		Agreed
3.4.6	Entrance Canopies	Entrance canopies shall be 900mm deep covering the main entrance and any access control, or as shown on the Planning drawings. Laid to falls to a rainwater disposal system and connected to the underground surface water drainage system, as appropriate, premanufactured GRP porch canopies are preferred or equivalent.	Block F - 500mm but have a 1m deep cove	VIVID/ VESTAL to approve			VIVID	Entrance canopies shall be 900mm deep covering the main entrance and any access control, or as shown on the Planning drawings with exception to block F (500mm). Laid to falls to a rainwater disposal system and connected to the underground surface water drainage system, as appropriate, premanufactured GRP porch canopies are preferred or equivalent.	Agreed
3.4.10	Rainwater	Gutters and downpipes shall be PVCu system or as required by the Planning Authority. Replacement parts must be available from Local Stockists	Aluminium proposed for blocks G&H	Acceptable					~~Agreed~~
3.4.11	Rainwater	Porch / canopy roofs to be laid to falls to prevent ponding / pooling and must not shed water on to access paths.	Block F - can only be avoided with inclusion of gutter and down pipe	Gutter and down pipe to be installed as 3.4.6			Contractor		~~Agreed~~
3.5.10	Balconies	Balconies - Any balcony fronts to be obscured (glass spec as required by Building Regulations), unless the planning permission dictates otherwise. Balcony solutions to allow a degree of privacy and be non-combustible. Brick built, integral balconies will also be considered, subject to planning.	where this conflicts will be day light calculations, suggesting wording that accepts the use of clear if day light calculations require light to pass through. This will be in accordance with the approved planning drawings	wording to be agreed PMC to agree amended clause.				Balconies - Any balcony fronts to be obscured (glass spec as required by Building Regulations), unless the planning permission and daylight calculations dictates otherwise. Balcony solutions to allow a degree of privacy and be non-combustible. Brick built, integral balconies will also be considered, subject to planning. If installing clear to address daylight calculations then the contractor is to seek approval with the LPA. Railings agreed through planning as an alternative.	~~Agreed~~
3.6.8	External Walls	Provide proprietary insulated cavity closers to all reveals, sills and soffits	This will be subject to manufacturers information but full fill to all traditional masonry blocks so no requirement for cavity closers	Accepted					~~Agreed~~
3.7.13	Windows	Windows which face directly onto public areas where pedestrian traffic is likely, such as footpaths other rights of way, must be sealed units with a high level fan light or similar capable of being opened for ventilation.	No comments provided?	To comply					~~Agreed~~
3.8.1	External Doors	Direct entry from the front entrance door of a dwelling into a habitable room is not permitted	This happens in F2 and Blocks G and H	VIVID/ VESTAL to comment			VIVID	Direct entry from the front entrance door of a dwelling into a habitable room is not permitted unless required for M4(3) units, also accepted in F2.	~~Agreed~~
3.10.1	Internal Walls	Internal Walls - Kitchens, Bathroom and WC side of partitions to be sheathed with full height minimum 18mm plywood before fixing plasterboard linings. Plasterboard in bathrooms and kitchens shall be moisture resistant grade.	osb board	OSB can be used as a cost effective alternative (not as moisture resistant as ply)				Internal Walls - Kitchens, Bathroom and WC side of partitions to be sheathed with full height minimum 18mm plywood/ OSB (to be moisture resistant grade) before fixing plasterboard linings. Plasterboard in bathrooms and kitchens shall be moisture resistant grade.	~~Agreed~~

3.10.2	Internal Walls & Partitions	Where heavy items such as heat pump cylinders and radiators are fixed to stud walls, the wall must be suitably braced with minimum 18mm plywood.	No comments provided?	To comply					~~Agreed~~
3.11.6	Internal Doors	Frames and linings to internal doors to be in softwood with architraves to mask junction of frame and adjacent wall finish. Architraves shall as a minimum be 25 x 50 mm chamfered or moulded softwood.	Premdor Speedframe architraves are only 22mm thick. Please advise. NB all styles larger than 50mm in the other direction.	22mm thick accepted					~~Agreed~~
3.15.1	Kitchens	Internal kitchens are not permitted without the specific approval of the Employer.	Does this mean separate kitchens rather than kitchen dining spaces?	VIVID/ VESTAL to clarify			VIVID		~~Agreed~~
3.15.11&12	Kitchens	*Kitchen Spec for AR & SO*	please confirm tenure so we can show the correct number of bowls to the sinks	VIVID/ VESTAL to confirm tenure			VIVID		~~Agreed~~
3.15.13	General Requirements	Airing cupboard requirements	The airing cupboards should be free from apparatus which would prevent its use as an airing cupboard. Most of the service cup'ds are fully fitted with service equipment is a tubular heater required as well?	Tubular heater not required if cupboard is full of serve equipment. Further clarify action required.			Contractor		~~Agreed~~
3.15.14	Wardrobes	Built-in wardrobes are required to main bedroom only . All wardrobes must incorporate a full width shelf and chrome plated hanging rail; and be fronted with doors hung on hinges – each leaf no wider than 686 mm. Doors are to be fitted with roller type catches housed into the head of each door on the closing side and an approved substantial 'D' handle. All wardrobe doors shall match the other internal doors within the property.	Currently we show no doors to built-in wardrobes. Should we add them & schedule them? NB 2x 686 doors will mean most will get wider as are only 1200 at the moment.	VIVID have confirmed that wardrobes are not required.					~~Agreed~~
3.15.18	Notice Board	Lockable notice board	Where are these to be located?	VIVID/ VESTAL to confirm			VIVID	Location to be agreed post contract	~~Agreed~~
3.15.20	Key Safe	The Contractor is to install a key safe for each dwelling (houses and flats) prior to Practical Completion, in a location to be agreed with the Employer. These should not be fixed to the front elevation of a building unless this cannot be avoided. Codes should be randomised and set by	Are keysafes required to houses	VIVID/ VESTAL to confirm			VIVID		~~Agreed~~
3.15.22	Key Safe	In each block of flats within a ground floor cupboard, preferably a landlords cupboard, (or in the ground floor lobby area if there is not a cupboard available) supply and fit a large key safe (combination code lock not key or battery operated) for any equipment or communal keys that need to be available within the block. Type and size to be agreed with the Employer. Code to be set by VIVID	WE were instructed to not have Landlords stores?	VIVID/ VESTAL to reconfirm that Landlord stores are not required.			VIVID		~~Agreed~~

3.16.3 & 4	Sanitaryware	Spec for AR & SO	need tenure so I can show the correct sanitaryware. NB Affordable Rent basins specified as pedestal. The Shared Ownership spec doesn't say either way (pedestal, semi-counter top or full counter top). Both specify a close-coupled WC. Should I keep the boxing full width or stop it short of the wc position?	Close coupled toilet accepted so stop boxing short of w/c. VIVID/ VESTAL to confirm tenure. ROCA in lieu of Ideal Santy ware accepted			VIVID		~~Agreed~~
3.19.3	Space Heating	Space Heating - Please see Appendix 39 for further information about VIVID's sustainability, energy and environmental requirements.	we have received and cannot commit to anything shown within the document. We were instructed to secure EPC B as a minimum and work forward from there. We were advised no PV unless really required, MVHR is standard across all units. Edel Hot Water Cylinders are provided to all units. Therefore, we cannot accept this document being included within the pack but merely reference to all units receiving a minimum of EPC B	Concerns over EDEL units due to reported failures on other schemes	PMC/ VIVID have suggested wording to state - EDEL or similar to be be approved by the client.			Space Heating - Contractor is to provide heatig systems in accordance with the planning approved SAP and Energy reports.	~~Agreed~~
3.20.5-8	Mechanical (MVHR)								
3.21.2 & 3.21.15	Electrical	Consumer units should be sited in the hallway adjacent to main entrance at the required fixing height in a key lockable fire resistant enclosure. (3.21.15 - 1600mm above floor level)	Non-combustible consumer unit located in the services cupboard of the apartment We would not recommend locking the consumer units in case of need to isolate electrics in an emergency. Note, for houses consumer unit will be in the garage/car port. We would recommend consumer units are mounted at 1450mm to the top of the MCB above floor level, at this height it is out of reach of young children yet accessible to people when standing or sitting.	to be agreed				Consumer units should be sited in the hallway adjacent to main entrance at building regulation height between 1350 & 1400mm above floor level.	Agreed
3.21.4	Electrical	4No. Single sockets for appliances below worktops including switched spurs located above (gridswitch acceptable))	Kitchen appliances will be controlled by either an engraved grid switch or engraved fused connection unit above the kitchen worktop with low level socket outlets to plug in the appliance CP quantity based on actual appliances/appliance spaces, often less than 4No.	contractor comments accepted					Agreed
3.21.4	Electrical	Affordable Rent/Open Market Rent: Kitchen lighting: Provide low energy spotlights (min. 3No. Light) & track	KSR FRD385 or equal and approved LED downlights - average illumination 300 Lux We recommend recessed LED downlights, which will match other tenures	contractor comments accepted				Affordable Rent/Open Market Rent: Kitchen lighting: Provide low energy spotlights (min. 3No. Light) & track	Agreed
3.21.6 & 3.25.6	Electrical	3.21.6 - 1No. Cable TV box for future connection for houses (connected by contractor in flats) but 3.25.6 - provide with draw wires (only)	Wireways by way of ducts and draw wires to facilitate the future installation of a cable TV system ERs have a contradiction our CPs state ducts with draw wires only	contractor comments accepted				3.21.6 - 1No. Cable TV box for future connection for houses (connected by contractor in flats) but 3.25.6 - provided with ducts and drawires	Agreed
3.21.7 & 3.25.1	Electrical	3.21.7 - Double/twin bedrooms 1No. Telephone point, but 3.25.1 - BT outlets in master bedroom (only)	Telephone outlets adjacent ... main bedroom TV .... & main bedroom bedhead ERs have a contradiction our CPs state telephone outlets in main bedroom only	contractor comments accepted				3.21.7 - BT outlets in master bedroom & lounge	Agreed
3.21.9	Electrical	Shared Ownership/Open Market Sale: Bathroom Lighting: Recessed spotlights (min 4No.)	IP Rated LED downlight - average illumination 150 Lux4No. Not generally required with new technology downlights	Providing required lux levels are met				Shared Ownership/Open Market Sale: Bathroom Lighting: Recessed spotlights (mininum no. to meet required lux levels)	Agreed
3.21.11	Electrical	Linen Cupboard 1No. 3kW immersion heater ..	As required mechanical services wiring ... to equipment supplied by others, including the heat pump ...Heat pump, no immersion heater to accord with SAP	Agreed that flexibility with kw rating to suit ASHP				Linen Cupboard 1No. 3kW immersion heater or kW rating to suit ASHP	Agreed
3.21.16	Electrical	Communal: Lighting to be PIR & time controlled	The general communal throughfares ... LED bulkheads c/w microwave sensors More energy efficient	Accepted				Communal: Lighting to be PIR & time controlled or microwave sensors	Agreed
3.21.16	Electrical	Provide a 'fish key' switch to enable the emergency lights circuit to be isolated for testing purposes	Emergency key test switch facilities will be provided ..... for non-self-test luminaires (only) Less labour intensive testing regime	Accepted					Agreed
3.21.17	Electrical	External Requirements: All lights with PIR and time switch control	Controlled by a solardial time clock with early OFF function Less maintenance & more vandal resistant solution	Accepted					Agreed
3.25.3 & 3.25.5	Electrical	Sky Q .... In living room and main bedroom	Sky set top box in main bedroom can receive Sky Q wirelessly and terrestrial TV via a coaxial cable Encompasses current technology set-up	Accepted					Agreed
3.25.7	Electrical	Comelit door entry system preferred or equal and approved	Paxton switch 2 access control system ... BPT X1 dial number & call intercom system We can change to Comelit door entry with Paxton switch 2 access control as per Ers	Accepted					Agreed
3.27.9	Electrical	All external lighting which is not directly attributed to a dwelling to be from an unmetered landlord's supply provided from the street lighting main	Access road ..... lanterns .... Connected to the blocks landlord's supply Since writing CPs we have been advised main street lanterns will be from the street lighting main and the unadopted lanterns will be from the landlord's supplies	Accepted					Agreed
	Mechanical	Ell's state thermostatic mixer showers are acceptable when a hot water cylinder is provided, however it also later asks for electric showers.	. We will be providing thermostatic mixer showers, which I assume will be acceptable?	Accepted					Agreed
3.18.5	Mechanical	Limemaster scale reducers are to be fitted before the electric shower.	As electric showers aren't being provided, scale reducers will not be required before the shower. We will fit a Calmag scale reducer on the incoming supply to the apartment.	Accepted					Agreed
	Mechanical	primary heat source to be capable of raising temperature of hot water from 10deg to 60deg within one hour	This isn't possible with the Edel cylinder. The Edel cylinder will take 7hrs 15mins to get up to temperature from 10deg.	Accepted					Agreed
3.20.1	Mechanical	mechanical extract ventilation	30.20.5 states MVHR systems are not encouraged. We propose to install MVHR systems throughout in line with the SAP assessment.	Accepted					Agreed
3.20.2	Mechanical	Close coupled W/C	HGP query raised on S/O bathrooms as cisterns are boxed in	to be agreed					

						Collectively agreed that a a schedule of finishes for each tenure is to be agreed - PMC to provides examples (lights, switches, faceplates etc.)	ALL		~~Agreed~~
Employer's Requirements Section 4 (Contract Procedural Requirements)									
4.3.7	Insurance	*CONTRACTOR'S INSURANCE OF LIABILITY OF EMPLOYER (JCT D&B 2024 6.5.1 INSURANCE OR EQUIVALENT)*	this isn't required and wasn't on previous phases. Can be removed as not applicable.	To discuss further, is there anything nearby that could potentially be affected by the construction activity?				Agreed 6.5.1 insurance not required.	~~Agreed~~
4.8.10	Security	PC Security - Leave the works secure with all accesses locked. Account for and adequately label all keys and hand over to the Employer with an itemised schedule, retaining duplicate schedule signed by Employer as receipt. [Allow for a 24/7 security guard cover to blocks of flats for 2 weeks after partial possession or sectional or practical completion.]	we wont include this at this stage as you have progressive handovers	Is this required?			VIVID	This is agreed as not required.	~~Agreed~~

5.5	Payment	Preconditions to contractors payment - a sum of ten thousand pounds (£10,000) in respect of each Precondition that has not been satisfied from the value of the Interim Payment which follows the relevant waiver until the relevant Precondition has been satisfied; and	not agreed	A precondition that has not been satisfied will prevent PC, LAD's would become effective. To discuss further					~~Agreed~~
Appendices									
39	U-Values	Roof U Value - 0.11	Roof build up exceeds at 0.09 vs 0.11	Accepted					Agreed
39	U-Values	Ext Walls - 0.18	Wall build up exceeds at 0.14 vs 0.18	Accepted					Agreed
39	U-Values	Floors - 0.13	Floors build up exceeds at rc - 0.09/ b&b 0.11 vs 0.13	Accepted					Agreed
39	U-Values	Exposed Floors	0.19	Accepted					Agreed
39	U-Values	Door & Windows	minimum 1.2 being provided						Agreed
39	Solar Panels	40% of ground floor area	None included	VIVID/ VESTAL to comment, Planning conditions to check			VIVID		Agreed

Guidance notes for using this document:

Use columns E onwards to track comments and negotiations between the contractor and VIVID.

Add in new rows as needed to capture any derogations between VIVID's JCT amends and/or ERs.

Delete any unused rows.

Update the status column with from the drop down menu and it will be linked to a traffic light colour coding rule. Everything should start off as red whilst under negotiation and when

Conversation columns can then be hidden and the original requirements versus agreed amendments columns can be inserted into the contract (or conversations included in the

Dated: 16 May **2024**

Planning obligations deed under section 106 of the
Town and Country Planning Act 1990

between

1) VIVID HOUSING LIMITED

2) PORTSMOUTH CITY COUNCIL

relating to land at

Tipner East, East of the M275, West of Twyford Avenue, Portsmouth

Planning Application Number: 22/01292/FUL (Full)

Peter Baulf
City Solicitor
Portsmouth City Council
Civic Offices
Guildhall Square
Portsmouth
PO1 2AL

This Deed is dated the 16th **day of** May **2024**

1) VIVID HOUSING LIMITED, a registered society under the Co-operative and Community Benefit Societies Act 2014 with registration number 7544 whose registered office is at Peninsular House, Wharf Road, Portsmouth PO2 8HB ("the Owner")
2) PORTSMOUTH CITY COUNCIL of Civic Offices, Guildhall Square, Portsmouth PO1 2AL ("the Council");

RECITALS

A. The Owner is the freehold proprietor of the land contained in title numbers PM2845, HP173596, HP358441, PM6001, PM6085 and part of the title number PM6002 free from incumbrance following the Transfers which completed on 20 December 2023 and comprise the Site.

B. The Owner has submitted the Transfers for registration and Applications are pending registration at HM Land Registry

C. The Council is a local planning authority for the purposes of section 106 of the Act for the area within which the Site is situated.

D. The Owner submitted the Planning Application for the Development to the Council

E. The Council resolved to grant the Planning Permission, subject to the prior completion of this Deed.

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	Phasing Plan with ref. 22.152-HGP-XX-XX-D-A-1030 Rev P10		
Sch 2 -	Commencement and Progress of Development.....	16	Nil
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	Affordable Housing Scheme		
Sch 4 -	Bird Aware Contribution.....	23	Nil
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	20.104-HGP-XX-00-DR-A-XXXX 'Site plan - Open Space'		
Sch 7 -	Ecological Management and Enhancement, Replacement Open Mosaic Habitat and Bird Conservation Area	33	4
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	'Rock Revetment and East Barge Works Concept Desing Iteration Sections - Sheet 1 of 3', drawing no.: PC3679-RHD-XX-ZZ-DR-C-SK21 Rev P01.		
	'Rock Revetment and East Barge Works Concept Design Iteration Sections - Sheet 2 of 3', drawing no.: PC3679-RHD-XX-ZZ-DR-C-SK22 Rev P01		
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	2225-HRW-XX-XX-DR-S-0001 Rev P4 - 'Sea Wall Plan'		
	2225-HRW-XX-XX-DR-S-0003 Rev. P2 - 'Flood Barrier Plan'		
	Tipner East Development Flood Risk Assessment dated 27 January 2023		
Sch 10 -	Employment & Skills Plan.....	47	Nil
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Sch 12 -	Council's Covenants.....	51	Nil

NOW THIS DEED WITNESSES as follows:

1. Definitions and Interpretation

1.1. In this deed the following words and expressions shall unless the context otherwise requires have the following meanings:

the Act	the Town and Country Planning Act 1990 (as amended);
Applications	The applications to Land Registry to register the Transfers of the Site;
Bird Aware Contribution	The total sum of £[redacted] ([redacted]) towards mitigating the recreational impact of the Development on the Portsmouth Harbour and Chichester and Langstone Harbours Special Protection Areas in accordance with the Solent Recreation Mitigation Strategy published by the Partnership for South Hampshire in 2017 (as amended and updated), updated 1 April each year with the tariff for 1 April 2024 being: 190 x 1-bed, 474 x 2-bed, 93 x 3-bed and 3 x 4-bed properties; 1 bedroom property £[redacted] 2 bedroom property £[redacted] 3 bedroom property £[redacted] 4 bedroom property £[redacted] 5 bedroom property or more £[redacted]
Commencement of Development	the carrying out of a material operation as defined in section 56(4) of the Act pursuant to the Planning Permission (irrespective of non-compliance with any condition of the Planning Permission) but excluding any works of demolition site clearance (including removal of existing landscaping), archaeological investigations, ground investigations for the purpose of assessing ground conditions, remedial action in respect of any contamination or other adverse ground conditions, site survey works, temporary access construction works, the temporary display of site notices or advertisements or the erection of any temporary means of enclosure, hoardings or fences (and phrases such as

	"Commence the Development" and "the Development having been Commenced" shall be construed accordingly);
Commencement of Phase	the carrying out of a material operation as defined in section 56(4) of the Act pursuant to a Phase defined and numbered in the Phasing Plan grounded in the relevant condition of the Planning Permission (irrespective of non-compliance with any condition of the Planning Permission) but excluding any works of demolition site clearance (including removal of existing landscaping), archaeological investigations, ground investigations for the purpose of assessing ground conditions, remedial action in respect of any contamination or other adverse ground conditions, site survey works, temporary access construction works, the temporary display of site notices or advertisements or the erection of any temporary means of enclosure, hoardings or fences (and phrases such as "Commence the Phase" and "not to Commence any Phase" shall be construed accordingly);
Deed	means this deed of agreement;
Development	835 residential units of 1, 2, 3 and 4 bed units across a number of buildings of between 2 and 11 storeys, to include some ground floor commercial (use class E) and community uses (use class F1 and F2), within blocks, E, F, J and K. With vehicular access from Twyford Avenue, and pedestrian, cycle and emergency access to and from the Park and Ride. To include landscaping, sea wall, improvements to the ecological barge, new coastal path, cycle lane, car parking and servicing, and other associated works in accordance with the Planning Permission (or otherwise in accordance with clause 13.3);
Contributions	means collectively the Twyford Avenue Junction Improvements Contribution, the Bird Aware Contribution, Travel Plan Audit Fee, the Bus Contribution and the project management fee for the Employment and Skills Plan;
Dwelling	each and every dwelling to be constructed on the Site pursuant to the Planning Permission (irrespective of any non-compliance with any condition);

Index	the indices based on the Retail Prices Index (All Items), as published by the Office for National Statistics or any other successor organisation;
Intended Commencement Date	means the date set out in the Notice of Commencement upon which the Owner intends to Commence the Development
Interest	interest at a rate equal to 4 percentage points above the Bank of England base rate from time to time;
Monitoring Costs	means the sum of £[redacted] ([redacted]) towards the Council's costs and expense in monitoring compliance with the terms of this Deed
Notice of Commencement	means a notice in writing from the Owner to the Council specifying the Intended Commencement Date;
Occupy	to first occupy or permit the first occupation of a Dwelling or building forming part of the Development for any purpose but not including occupation by personnel engaged in construction fitting out finishing or decoration of that Dwelling or building nor occupation for marketing purposes nor occupation in relation to site and building security operations and "Occupation" "Occupier" and "Occupied" shall be construed accordingly;
Phasing Plan	means the plan for the phasing of the Development in accordance with the conditions of the Planning Permission, which for indicative purposes only is indicated by the drawing numbered 22.152-HGP-XX-XX-D-A-1030 Rev P10 and appended at Schedule 1 of this Deed;
Phase	means a phase of Development in accordance with the Phasing Plan approved in accordance with the condition of the Planning Permission governing the submission and approval of a phasing plan, and phrases such as "Phase 1" or "First Phase", "Phase 2" or "Second Phase", etc., et seq, shall be construed accordingly;

Planning Application	the application for planning permission for the Development at the Site submitted to the Council by the Owner and given reference number 22/01292/FUL;
Planning Permission	the full planning permission to be granted pursuant to the Planning Application or as otherwise provided in accordance with clause 13.3;
Practical Completion	means the issue of a certificate of practical completion by the Owner's architect or other professional advisor responsible for certifying practical completion or in the event that the Development is constructed by a party other than the Owner the issue of a certificate of practical completion by that other party's architect or other professional advisor responsible for certifying practical completion;
Section 106 Compliance Officer	the Council's Section 106 compliance officer for the time being or duly appointed agent;
Seller	means the "Transferor"(s) of the Site as named in the Transfers;
Site	the land known as land at Tipner East, East of the M275, West of Twyford Avenue, Portsmouth and shown edged red on the Site Plan;
Site Plan	the plan showing the Site edged red in Schedule 1;
Transfers	means the transfer deeds of the title to the Site comprising: 1. a transfer of the whole of title numbers PM2845 and HP173596 dated 20 December 2023 between Tipner Regeneration Company Limited (1) and Vivid Housing Limited; 2. a transfer of the whole of title number HP358441 dated 20 December 2023 between (1) Tipner Regeneration Land Limited and (2) Vivid Housing Limited; and 3. a transfer of the whole of title numbers PM6001, PM6085 and part of title number PM6002 (as shown edged red on the transfer plan) dated 20 December 2023 between (1) John Henry Pounds and (2) Vivid Housing Limited.

Working Day	A day other than a Saturday or Sunday or public holiday in England.

1.2. Reference in this Deed to any recital, clause, paragraph or schedule is, unless the context otherwise requires, a reference to the recital, clause, paragraph or schedule in this deed so numbered.

1.3. Headings where they are included are for convenience only and are not intended to influence the interpretation of this Deed.

1.4. Words importing the singular meaning include the plural meaning and vice versa where the context so admits.

1.5. Words of the masculine gender include the feminine and neuter genders and words denoting actual persons include companies, corporations and firms and all such words shall be construed interchangeably in that manner.

1.6. Wherever an obligation falls to be performed by more than one person, the obligation can be enforced against every person so bound jointly and against each of them individually unless there is an express provision otherwise.

1.7. Save as is otherwise provided, references to any party shall include the successors in title to that party and any person deriving title through or under that party and in the case of the Council the successors to its statutory functions.

1.8. Words undertakings and covenants requiring a person not to do any act matter or thing ('negative requirement') or otherwise imposing a restriction or prohibition on the development, use or occupation of land include an obligation not to assist, facilitate, encourage, cause, permit or suffer any infringement of the negative requirement, restriction or prohibition.

1.9. reference to the title numbers for the Site includes any new or replacement title numbers allocated to the Site following registration of the Transfers at HM Land Registry

1.10 Any reference to an Act of Parliament shall include any modification, extension or re-enactment of that Act of Parliament for the time being in force and shall include all instruments, orders, plans, regulations, permissions and directions for the time being made, issued or given under that Act of Parliament or deriving validity from it.

2. Legal Basis

2.1. This Deed will be registered as a local land charge and is entered into pursuant to section 106 of the Act and all other statutory and other enabling powers.

2.2. This Deed creates planning obligations binding on the Owner and their interest(s) in the Site for the purpose of section 106 of the Act and those obligations are enforceable by the Council as local planning authority.

2.3. The obligations contained in this Deed shall not be binding upon or enforceable against any statutory undertaker or other person in respect of any part of the Site or any interest in it acquired for the sole purpose of the supply of electricity, gas, water, drainage, telecommunications services or public transport services.

3. Third Parties

Nothing in this Deed shall create any rights in favour of any person pursuant to the Contracts (Rights of Third Parties) Act 1999.

4. The Owner's covenants

4.1 The Owner covenants with the Council that it shall carry out and comply with the obligations as set out in this Deed.

4.2 No person shall be liable for any breach of any of the planning obligations or other provisions of this Deed after parting with his entire interest in the Site or his interest in that part of the Site on which the breach occurs, but without prejudice to liability for any subsisting breach arising before parting with that interest.

5. The Council's covenants

The Council covenants with the Owner that it shall comply with its obligations as set out in this Deed.

6. Confirmation of interests

6.1. The Owner confirms and warrants to the Council that apart from the parties to this Deed there are no other persons with any interest (legal or equitable) in the Site or any part thereof including any leasehold interest, save for the Seller who retains the legal interests in the Site until such time as the Applications have been completed AND THE OWNER FURTHER CONFIRMS that the Site shall be bound by the obligations in this Deed from the date of this Deed notwithstanding that the Applications have not completed AND THE OWNER FURTHER CONFIRMS THAT upon completion of the Applications its legal interests in the Site shall also be bound by the obligations in this Deed.

6.2. The Owner shall promptly and to the satisfaction of the Land Registry deal with any correspondence and all requisitions from the HM Land Registry in relation to the Applications and take all reasonable steps to procure the registration of the Owner as the registered proprietor of the freehold interests in the Site and shall provide the Council with copies of the registered title following completion of the Applications.

7. Conditions precedent

7.1. The obligations in this Deed are conditional upon:

7.1.1. the grant of the Planning Permission, and

7.1.2. the Commencement of Development

save in respect of any obligations in this Deed expressly requiring compliance prior to the Commencement of Development or which shall come into effect immediately upon completion of this Deed.

8. Duration

This Deed shall cease to have effect, in so far only as it has not already been complied with, if the Planning Permission is quashed, revoked or otherwise withdrawn or, without the consent of the Owner, it is modified by any statutory procedure or expires before the carrying out of a material operation as defined in section 56(4) of the Act pursuant to the Planning Permission (irrespective of non-compliance with any conditions of the Planning Permission.

9. Change of Ownership

The Owner agrees with the Council to give the Council prompt written notice of any change in ownership of any of its interests in the Site occurring before all the obligations under this Deed have been discharged such notice to contain details of the transferee's full name and registered office (if a company or usual address if not) together with the area of the Site or unit of occupation purchased by reference to a plan PROVIDED THAT this obligation shall not apply to the transfer of any individual Dwellings.

10. Notices

10.1. Any notice or other written communication to be served upon a party or given by one party to any other under the terms of this Deed shall be in legible English and be deemed to have been validly served or given if delivered by hand or sent by recorded delivery post to the party upon whom it is to be served or to whom it is to be given or as otherwise notified for the purpose by notice in writing.

10.2. A notice or communication shall be served or given:

10.2.1. Owner at its registered office from time to time or such other address as shall be notified in writing to the Council from time to time, marked for the attention of the Legal Department;

10.2.2. on the Council at the address set out above or such other address as shall be notified in writing to the parties from time to time marked for the attention of the Section 106 Monitoring Officer.

11. Approvals

Any approval in writing given by the Council under this Deed or for the purposes of this Deed shall not be or deemed to be approval for any other purposes whatsoever (nor shall approval by one constitute approval by the other).

12. Jurisdiction and legal effect

12.1. This Deed and its validity shall be governed by and interpreted in accordance with the law of England and the parties exclusively submit to the jurisdiction of the courts of England in respect of this Deed.

12.2. In so far as any clause or clauses of this Deed are found (for whatever reason) to be invalid, illegal or unenforceable, that invalidity, illegality or unenforceability shall not affect the validity or enforceability of the remaining provisions of this Deed.

12.3. The parties to this Deed agree that no waiver (whether expressed or implied) by the Council of any breach or default in performing or observing any of the covenants terms or conditions of this deed shall constitute a continuing waiver and no such waiver shall prevent the Council from enforcing any of the relevant terms or conditions or from acting upon any subsequent breach or default

13. Further planning permissions

13.1. Nothing in this deed shall prohibit or limit the right to develop any part of the Site in accordance with a planning permission (other than the Planning Permission) granted (whether or not on appeal) after the date of this Deed.

13.2. If there is a conflict between the terms of this Deed and any conditions attached to the Planning Permission which cannot be resolved by interpretation then the latter shall take precedence

13.3. In the event that any new planning permission is granted by the Council for the Site pursuant to an application made under section 73 of the Act in respect of

the Planning Permission the obligations in this Deed shall relate to and bind any such subsequent planning permission granted for the Site pursuant to section 73 of the Act and this Deed shall be construed with any necessary consequential amendments, SUBJECT ALWAYS to the absolute discretion of the Council to require a new planning obligations deed under section 106 of the Act in order to grant the subsequent planning permission in which case this clause shall not apply.

14. Interest and VAT

14.1. If any payment due under this Deed is paid late, Interest shall be payable from the date payment is due to the actual date of payment and the sum of the Interest shall be paid on the actual date of payment.

14.2. Any payment under this deed shall be given in accordance with the terms of this deed shall be exclusive of any value added tax properly payable.

15. Legal Fees

On completion of this Deed the Owner will pay to the Council its reasonable legal costs incurred in the negotiation, preparation and execution of this Deed.

16. Monitoring Costs

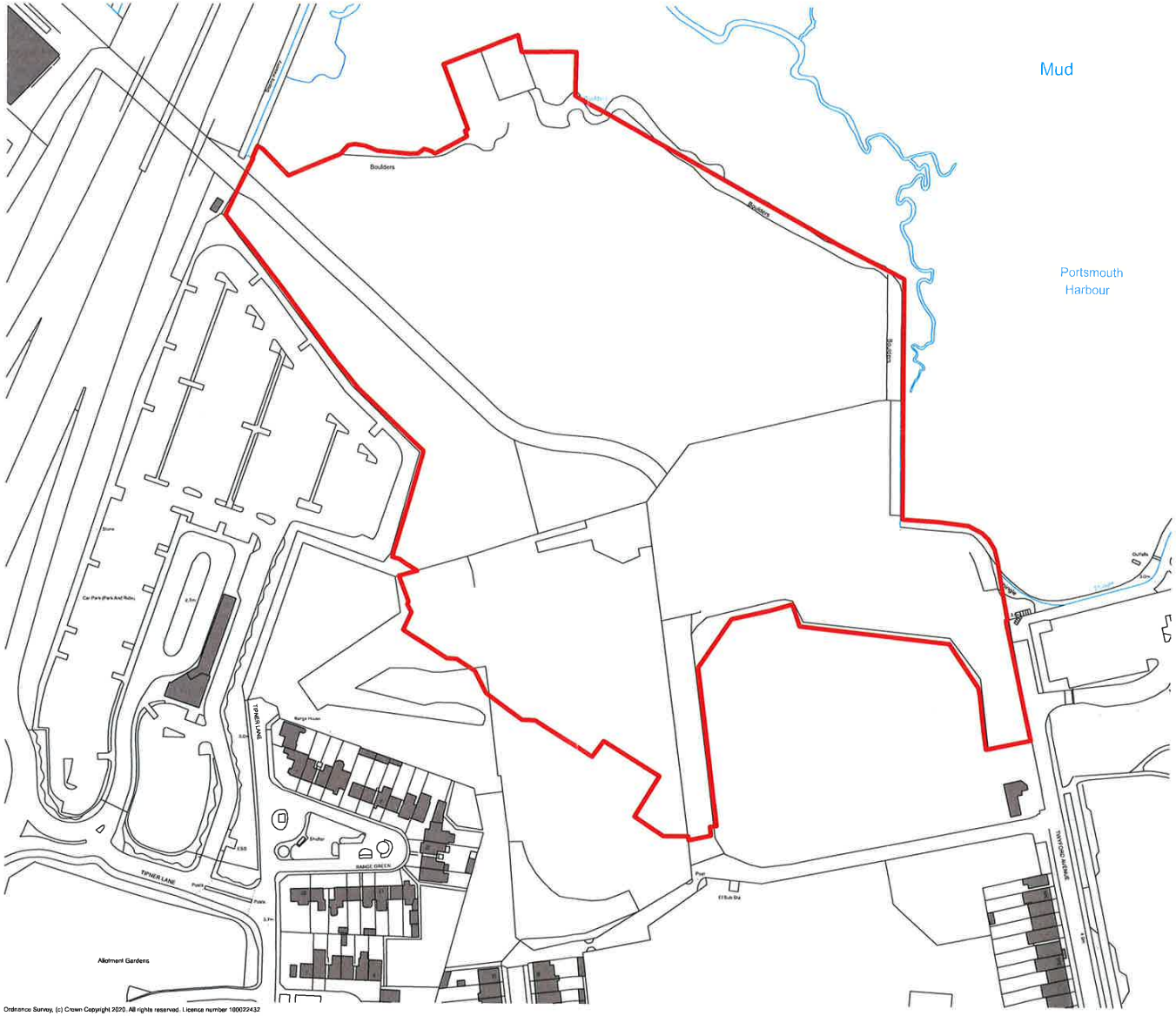
On completion of this Deed the Owner will pay to the Council the Monitoring Costs.

17. Position of future mortgagee

The parties agree and acknowledge that any mortgagee and/or chargee of the Site or part thereof from time to time derives their interest from the Owner's title bound by this Deed so that the Site or part thereof is bound by the obligations contained in this Deed and that the security of any mortgagee and/or chargee takes effect subject to this Deed provided that the mortgagee and/or chargee shall have no liability under this Deed unless it takes possession of the Site and the mortgagee and/or chargee shall not be liable for any breach of the obligations in this Deed after it has parted with or is released from its interest in the Site.

Schedule 1
Site Plan plus illustrative Phasing Plan (refer to conditioned phasing plan definitively)

This page is intentionally blank for the insertion of the site plan in the engrossment



Application Boundary

VIVID

Rev	Description	Date	DB	CB
P1	Planning Issue	16.09.22	JCR	MJW

Site location plan

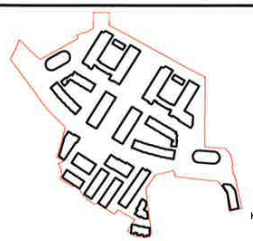
PROJECT	JOB NO
TIPNER EAST REGENERATION	20.104
SCALE	DATE
1:2000@A3	12.09.22
DRAWN BY/CHECKED BY	REVISION
VF / MJW	P1
DWG#	STATUS
20.104-HGP-XX-XX-DR-A-1017	PLANNING

hgp

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N



Key Plan NTS

Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party, HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Risk Schedule	
!	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Injury caused by incorrect handling of large / heavy items.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by Electrocution.

For further information refer to HGP's M06 & M07 documents

VIVID

Rev	Description	Date	DB	CB
P10		31.01.24	JKR	MLE

Phasing plan

PROJECT	JOB NO
TIPNER EAST REGENERATION	22.152
SCALE	DATE
@A1	Jan 24
DRAWN BY/CHECKED BY	REVISION
JKR / MLE	P10
DWG#	STATUS
22.152-HGP-XX-XX-D-A-1030	PRELIMINARY

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This page is left intentionally blank for the insertion of the illustrative phasing plan in the engrossment

Schedule 2
Commencement and Progress of Development

The Owner covenants with the Council as follows:-

1. Commencement

1.1 Not more than 20 Working Days prior to and not less than 10 Working Days prior to the date of Commencement of Development the Owner shall give the Council a Notice of Commencement.

1.2 Within seven days of Commencement of Development the Owner shall give to the Council confirmation in writing of the date the Development Commenced.

2. Occupation

2.1 To serve written notice on the Council of:

(a) the date of Occupation of 75% of Open Market Dwellings (as defined in Schedule 3) in any given Phase;

(b) the date of first Occupation of any Dwelling on the Site (and for the avoidance of doubt, the first instance of Occupation of a Dwelling on the Site is controlled by this sub-clause, not every single instance of all Dwellings becoming occupied for the first time);

(c) the date of the Practical Completion of the 384th Dwelling on the Site;

(d) the Commencement of any Phase containing the 400th Dwelling to be constructed as part of the Development.

2.2 To give the notices specified in paragraph 2.1 no later than 10 Working Days after the date of the event specified in each sub-paragraph.

Schedule 3

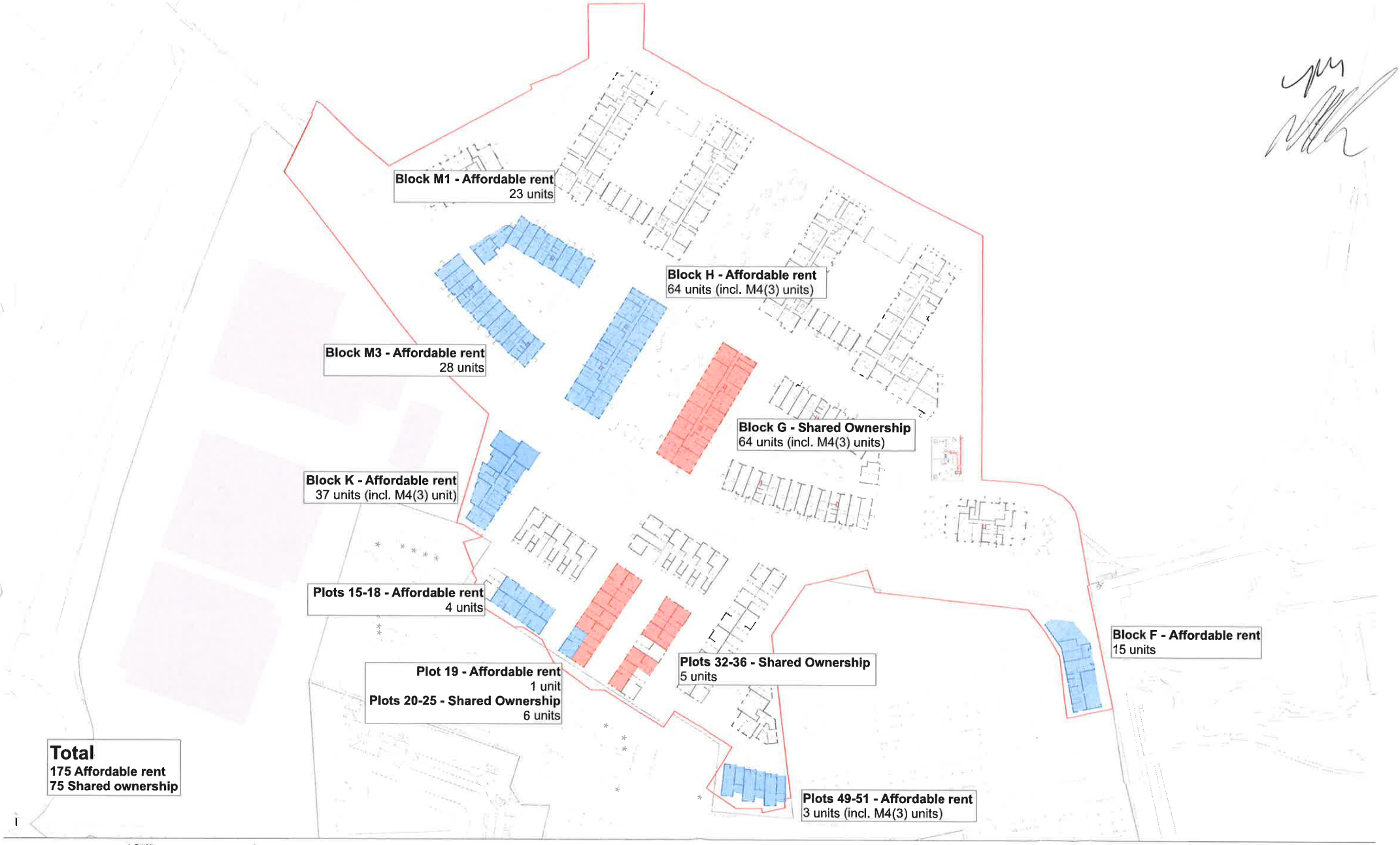
Affordable Housing

1. Definitions

In this schedule the following words shall have the following meaning in addition to the definitions provided in clause 1 of this Deed:

Affordable Housing Units	Dwellings to be provided for persons whose needs are not met by the market by way of provision at an affordable price, having regard to local incomes and local house prices;
Affordable Housing Land	Means those parts of the Site identified and shown coloured orange or blue on the Affordable Housing Plan which shall set be set aside for the Affordable Rent Units and the Shared Ownership Units (required as a minimum by this Deed and without prejudice to any voluntary overprovision of affordable housing by the Owner in excess of those required in the Affordable Housing Scheme) together with such rights and easements over the Site to provide access to the Affordable Rent Units and the Shared Ownership Units and such entrance ways corridors parking and storage areas and other ancillary areas as are necessary for their enjoyment;
Affordable Housing Plan	The plan entitled 'Site plan - Tenure plan' with drawing number 22.152-HGP-XX-00-SK-A-1029 Rev P3 annexed to this Deed;
Affordable Housing Scheme	The affordable housing scheme attached to this Deed detailing the plot numbers the tenure the type the number of bedrooms the size of the bedrooms and the floorspace of the Affordable Rent Units and Shared Ownership Units;

Affordable Rent Units	The Dwellings identified as affordable rented units in the Affordable Housing Scheme and the Affordable Housing Plan;
Homes England	A non-departmental public body formed pursuant to the Housing and Regeneration Act 2008 as an enabling and investment agency for affordable housing or any such successor agency or organisation;
Long Lease	A lease for a term of a minimum of 125 years at a peppercorn ground rent and a service charge which relates only to the building within which the Affordable Rent Units and/or Shared Ownership Units are located and any curtilage and common parts (other than those which exclusively serve any other part of the Site) and which is unencumbered;
Nominations Agreement	An agreement with a Registered Provider from time to time entitling the Council to nominate the individual occupants of the Affordable Rent Units;
Nominations Agreement (Shared Ownership)	An agreement with a Registered Provider from time to time entitling the Council to nominate the individual occupants of the Shared Ownership Units
Open Market Dwellings	All those Dwellings permitted under the Planning Permission excluding the Affordable Rent Units and the Shared Ownership Units;
Registered Provider	A provider of social housing as defined in s 80 of the Housing and Regeneration Act 2008 who is registered with the Affordable Housing Regulator pursuant to s 111 of the Housing and Regeneration Act 2008 and has not been removed from the register and who has signed a nominations agreement with the Council.


Block M1 - Affordable rent
23 units
Block H - Affordable rent
64 units (incl. M4(3) units)
Block M3 - Affordable rent
28 units
Block G - Shared Ownership
64 units (incl. M4(3) units)
Block K - Affordable rent
37 units (incl. M4(3) unit)
Plots 15-18 - Affordable rent
4 units
Plot 19 - Affordable rent
1 unit
Plots 20-25 - Shared Ownership
6 units
Plots 32-36 - Shared Ownership
5 units
Block F - Affordable rent
15 units
Plots 49-51 - Affordable rent
3 units (incl. M4(3) units)
Total
175 Affordable rent
75 Shared ownership
Shared ownership locations - 75 units
Affordable rent locations - 175 units
VIVID
Site plan - Tenure plan
PROJECT
TIPNER EAST REGENERATION
JOB NO
22-152
SCALE
1:500@A0
DATE
Oct 2023
DRAWN BY/CHECKED BY
JKR / MJW
REVISION
P3
DWG#
22-152-HGP-XX-00-SK-A-1029
STATUS
PRELIMINARY
hgp

Tipner - Vivid Regeneration Land - Victory Quay

Block ref/floor and plot nº	Unit Type /Reference	Nº of Bedrooms and persons	Unit size in M^2	Tenure	Special Need/Comments
Flats Block F					
19	S30 - 3bed house	3 bed 5 person House	86 sqmtr	LCHO/Social-Afford. Rent	Comments
F-01-01	FT23 flat	2bed 4person	79.90	Soc/Afford. Rent	
F-01-02	FT4 flat	1bed 2person	51.50	Soc/Afford. Rent	
F-01-03	FT21 flat	2bed 4person	70.00	Soc/Afford. Rent	
F-01-04	FT21 flat	2bed 4person	70.00	Soc/Afford. Rent	
F-01-05	FT56 flat	3bed 6person	94.10	Soc/Afford. Rent	
F-02-01	FT23 flat	2bed 4person	79.90	Soc/Afford. Rent	
F-02-02	FT4 flat	1bed 2person	51.50	Soc/Afford. Rent	
F-02-03	FT21 flat	2bed 4person	70.00	Soc/Afford. Rent	
F-02-04	FT21 flat	2bed 4person	70.00	Soc/Afford. Rent	
F-02-05	FT56 flat	3bed 6person	94.10	Soc/Afford. Rent	
F-03-01	FT23 flat	2bed 4person	79.90	Soc/Afford. Rent	
F-03-02	FT4 flat	1bed 2person	51.50	Soc/Afford. Rent	
F-03-03	FT21 flat	2bed 4person	70.00	Soc/Afford. Rent	
F-03-04	FT21 flat	2bed 4person	70.00	Soc/Afford. Rent	
F-03-05	FT56 flat	3bed 6person	94.10	Soc/Afford. Rent	
					Total 15 units
Flats Block G					
G-00-01	FT2 M4(3)	2bed 3person	72.90	Poss. LCHO	This is not an M4(3) - but can be used as an accessible unit. (1.5m^2 too small for W/Ch)
G-00-02	FT3 M4(3)	2bed 3person	76.4	Poss. LCHO	Full wheelchair mobility unit
G-00-03	FT1 M4(3)	1bed 2person	53.20	Poss. LCHO	This is not an M4(3) - possible accessible unit. (9m^2 too small for W/Ch)
G-00-04	FT1 M4(3)	1bed 2person	53.20	Poss. LCHO	This is not an M4(3) - possible accessible unit. (9m^2 too small for W/Ch)
G-00-05	FT1 M4(3)	1bed 2person	53.20	Poss. LCHO	This is not an M4(3) - possible accessible unit. (9m^2 too small for W/Ch))
G-00-06	FT4 M4(3)	2bed 4person	91.80	Poss. LCHO	Full wheelchair mobility unit
G-00-07	FT1 M4(3)	1bed 2person	53.20	Poss. LCHO	This is not an M4(3) - possible accessible unit. (9m^2 too small for W/Ch)
G-00-08	FT1 M4(3)	1bed 2person	53.20	Poss. LCHO	This is not an M4(3) - possible accessible unit. (9m^2 too small for W/Ch)
G-00-09	FT1 M4(3)	1bed 2person	53.20	Poss. LCHO	This is not an M4(3) - possible accessible unit. (9m^2 too small for W/Ch)
G-01-01	FT1	1bed 2person	50.10	Poss. LCHO	
G-01-02	FT53	2bed 4person	74.20	Poss. LCHO	
G-01-03	FT54	2bed 4person	70.20	Poss. LCHO	
G-01-04	FT55	2bed 4person	71.30	Poss. LCHO	

G-01-05	FT25	2bed 4person	70.40	Poss. LCHO	
G-01-06	FT25	2bed 4person	70.40	Poss. LCHO	
G-01-07	FT6	1bed 2person	50.50	Poss. LCHO	
G-01-08	FT6	1bed 2person	50.50	Poss. LCHO	
G-01-09	FT55	2bed 4person	71.30	Poss. LCHO	
G-01-10	FT18	2bed 4person	75.50	Poss. LCHO	
G-01-11	FT19	2bed 4person	73.50	Poss. LCHO	
G-02-01	FT1	1bed 2person	50.10	Poss. LCHO	
G-02-02	FT53	2bed 4person	74.20	Poss. LCHO	
G-02-03	FT54	2bed 4person	70.20	Poss. LCHO	
G-02-04	FT55	2bed 4person	71.30	Poss. LCHO	
G-02-05	FT25	2bed 4person	70.40	Poss. LCHO	
G-02-06	FT25	2bed 4person	70.40	Poss. LCHO	
G-02-07	FT6	1bed 2person	50.50	Poss. LCHO	
G-02-08	FT6	1bed 2person	50.50	Poss. LCHO	
G-02-09	FT55	2bed 4person	71.30	Poss. LCHO	
G-02-10	FT18	2bed 4person	75.50	Poss. LCHO	
G-02-11	FT19	2bed 4person	73.50	Poss. LCHO	
G-03-01	FT1	1bed 2person	50.10	Poss. LCHO	
G-03-02	FT53	2bed 4person	74.20	Poss. LCHO	
G-03-03	FT54	2bed 4person	70.20	Poss. LCHO	
G-03-04	FT55	2bed 4person	71.30	Poss. LCHO	
G-03-05	FT25	2bed 4person	70.40	Poss. LCHO	
G-03-06	FT25	2bed 4person	70.40	Poss. LCHO	
G-03-07	FT6	1bed 2person	50.50	Poss. LCHO	
G-03-08	FT6	1bed 2person	50.50	Poss. LCHO	
G-03-09	FT55	2bed 4person	71.30	Poss. LCHO	
G-03-10	FT18	2bed 4person	75.50	Poss. LCHO	
G-03-11	FT19	2bed 4person	73.50	Poss. LCHO	
G-04-01	FT1	1bed 2person	50.10	Poss. LCHO	
G-04-02	FT53	2bed 4person	74.20	Poss. LCHO	
G-04-03	FT54	2bed 4person	70.20	Poss. LCHO	
G-04-04	FT55	2bed 4person	71.30	Poss. LCHO	
G-04-05	FT25	2bed 4person	70.40	Poss. LCHO	
G-04-06	FT25	2bed 4person	70.40	Poss. LCHO	
G-04-07	FT6	1bed 2person	50.50	Poss. LCHO	
G-04-08	FT6	1bed 2person	50.50	Poss. LCHO	
G-04-09	FT55	2bed 4person	71.30	Poss. LCHO	
G-04-10	FT18	2bed 4person	75.50	Poss. LCHO	
G-04-11	FT19	2bed 4person	73.50	Poss. LCHO	
G-05-01	FT1	1bed 2person	50.10	Poss. LCHO	
G-03-02	FT53	2bed 4person	74.20	Poss. LCHO	
G-05-03	FT54	2bed 4person	70.20	Poss. LCHO	
G-05-04	FT55	2bed 4person	71.30	Poss. LCHO	
G-05-05	FT25	2bed 4person	70.40	Poss. LCHO	
G-05-06	FT25	2bed 4person	70.40	Poss. LCHO	
G-05-07	FT6	1bed 2person	50.50	Poss. LCHO	
G-05-08	FT6	1bed 2person	50.50	Poss. LCHO	
G-05-09	FT55	2bed 4person	71.30	Poss. LCHO	

G-05-10	FT18	2bed 4person	75.50	Poss. LCHO	
G-05-11	FT19	2bed 4person	73.50	Poss. LCHO	
					Total 64 units
Flats Block H					
H-00-01	FT1 M4(3)	1bed 2person	53.20	Soc/Afford. Rent	This is not an M4(3) - possible accessible unit. (9m² too small for W/Ch)
H-00-02	FT1 M4(3)	1bed 2person	53.20	Soc/Afford. Rent	This is not an M4(3) - possible accessible unit. (9m² too small for W/Ch)
H-00-03	FT4 M4(3)	2bed 4person	91.80	Soc/Afford. Rent	Full wheelchair mobility unit
H-00-04	FT1 M4(3)	1bed 2person	53.20	Soc/Afford. Rent	This is not an M4(3) - possible accessible unit. (9m² too small for W/Ch)
H-00-05	FT1 M4(3)	1bed 2person	53.20	Soc/Afford. Rent	This is not an M4(3) - possible accessible unit. (9m² too small for W/Ch)
H-00-06	FT1 M4(3)	1bed 2person	53.20	Soc/Afford. Rent	This is not an M4(3) - possible accessible unit. (9m² too small for W/Ch)
-00-07	FT3 M4(3)	2bed 3person	76.4	Soc/Afford. Rent	Full wheelchair mobility unit
H-00-08	FT2 M4(3)	2bed 3person	72.90	Soc/Afford. Rent	This is not an M4(3) - but can be used as an accessible unit. (1.5m² too small for W/Ch)
H-00-09	FT1 M4(3)	1bed 2person	53.20	Soc/Afford. Rent	This is not an M4(3) - possible accessible unit. (9m² too small for W/Ch)
H-01-01	FT19	2bed 4person	73.50	Soc/Afford. Rent	
H-01-02	FT18	2bed 4person	73.50	Soc/Afford. Rent	
H-01-03	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-01-04	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-01-05	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-01-06	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-01-07	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-01-08	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-01-09	FT54	2bed 4person	70.20	Soc/Afford. Rent	
H-01-10	FT53	2bed 4person	74.20	Soc/Afford. Rent	
H-01-11	FT1	1bed 2person	50.10	Soc/Afford. Rent	
H-02-01	FT19	2bed 4person	73.50	Soc/Afford. Rent	
H-02-02	FT18	2bed 4person	73.50	Soc/Afford. Rent	
H-02-03	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-02-04	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-02-05	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-02-06	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-02-07	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-02-08	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-02-09	FT54	2bed 4person	70.20	Soc/Afford. Rent	
H-02-10	FT53	2bed 4person	74.20	Soc/Afford. Rent	
H-02-11	FT1	1bed 2person	50.10	Soc/Afford. Rent	
H-03-01	FT19	2bed 4person	73.50	Soc/Afford. Rent	
H-03-02	FT18	2bed 4person	73.50	Soc/Afford. Rent	
H-03-03	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-03-04	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-03-05	FT6	1bed 2person	50.50	Soc/Afford. Rent	

H-03-06	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-03-07	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-03-08	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-03-09	FT54	2bed 4person	70.20	Soc/Afford. Rent	
H-03-10	FT53	2bed 4person	74.20	Soc/Afford. Rent	
H-03-11	FT1	1bed 2person	50.10	Soc/Afford. Rent	
H-04-01	FT19	2bed 4person	73.50	Soc/Afford. Rent	
H-04-02	FT18	2bed 4person	73.50	Soc/Afford. Rent	
H-04-03	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-04-04	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-04-05	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-04-06	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-04-07	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-04-08	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-04-09	FT54	2bed 4person	70.20	Soc/Afford. Rent	
H-04-10	FT53	2bed 4person	74.20	Soc/Afford. Rent	
H-04-11	FT1	1bed 2person	50.10	Soc/Afford. Rent	
H-05-01	FT19	2bed 4person	73.50	Soc/Afford. Rent	
H-05-02	FT18	2bed 4person	73.50	Soc/Afford. Rent	
H-05-03	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-05-04	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-05-05	FT6	1bed 2person	50.50	Soc/Afford. Rent	
H-05-06	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-05-07	FT25	2bed 4person	70.40	Soc/Afford. Rent	
H-05-08	FT55	2bed 4person	71.30	Soc/Afford. Rent	
H-05-09	FT54	2bed 4person	70.20	Soc/Afford. Rent	
H-05-10	FT53	2bed 4person	74.20	Soc/Afford. Rent	
H-05-11	FT1	1bed 2person	50.10	Soc/Afford. Rent	
					Total 64 units

Flats Block K

K-00-01	FT9 M4(3)	1bed 2person	57.50	S/Off. Rent	This is not an M4(3) - possible accessible unit. (4.5m^2 too small for W/Ch)
K-01-01	FT61	1bed 2person	51.70	Soc/Afford. Rent	
K-01-02	FT52a	2bed 4person	70.30	Soc/Afford. Rent	
K-01-03	FT59	2bed 3person	66.20	Soc/Afford. Rent	
K-01-04	FT58	2bed 4person	70.00	Soc/Afford. Rent	
K-01-05	FT63	2bed (4)3person	68.20	Soc/Afford. Rent	This unit does not meet NDSS for a 2b 4p flat (70m2), so can only be a 2b 3per flat
K-01-06	FT62	1bed 2person	57.10	Soc/Afford. Rent	
K-01-07	FT60	1bed 2person	50.10	Soc/Afford. Rent	
K-02-01	FT61	1bed 2person	51.70	Soc/Afford. Rent	
K-02-02	FT52a	2bed 4person	70.30	Soc/Afford. Rent	
K-02-03	FT59	2bed 3person	66.20	Soc/Afford. Rent	
K-02-04	FT58	2bed 4person	70.00	Soc/Afford. Rent	
K-02-05	FT63	2bed (4)3person	68.20	Soc/Afford. Rent	
K-02-06	FT62	1bed 2person	57.10	Soc/Afford. Rent	
K-02-07	FT60	1bed 2person	50.10	Soc/Afford. Rent	
K-03-01	FT61	1bed 2person	51.70	Soc/Afford. Rent	
K-03-02	FT52a	2bed 4person	70.30	Soc/Afford. Rent	
K-03-03	FT59	2bed 3person	66.20	Soc/Afford. Rent	
K-03-04	FT58	2bed 4person	70.00	Soc/Afford. Rent	

K-03-05	FT63	2bed (4)3person	68.20		This unit does not meet NDSS for a 2b 4p flat (70m2), so can only be a 2b 3per flat
K-03-06	FT62	1bed 2person	57.10	Soc/Afford. Rent	
K-03-07	FT60	1bed 2person	50.10	Soc/Afford. Rent	
K-04-01	FT61	1bed 2person	51.70	Soc/Afford. Rent	
K-04-02	FT52a	2bed 4person	70.30	Soc/Afford. Rent	
K-04-03	FT59	2bed 3person	66.20	Soc/Afford. Rent	
K-04-04	FT58	2bed 4person	70.00	Soc/Afford. Rent	
K-04-05	FT63	2bed (4)3person	68.20	Soc/Afford. Rent	This unit does not meet NDSS for a 2b 4p flat (70m2), so can only be a 2b 3per flat
K-04-06	FT62	1bed 2person	57.10	Soc/Afford. Rent	
K-04-07	FT60	1bed 2person	50.10	Soc/Afford. Rent	
K-05-01	FT61	1bed 2person	51.70	Soc/Afford. Rent	
K-05-02	FT52a	2bed 4person	70.30	Soc/Afford. Rent	
K-05-03	FT59	2bed 3person	66.20	Soc/Afford. Rent	
K-05-04	FT58	2bed 4person	70.00	Soc/Afford. Rent	
K-06-01	FT61	1bed 2person	51.70	Soc/Afford. Rent	
K-06-02	FT52a	2bed 4person	70.30	Soc/Afford. Rent	
K-06-03	FT59	2bed 3person	66.20	Soc/Afford. Rent	
K-06-04	FT58	2bed 4person	70.00	Soc/Afford. Rent	
					Total 37 units
Maisonettes and flats Block 1					
M1-00-01	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M1-00-02	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M1-00-03	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M1-00-04	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M1-00-05	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M1-00-06	Maisonette	3bed 6person	104.00	Soc/Afford. Rent	
M1-00-07	House	2bed 3person	70.00	Soc/Afford. Rent	
M1-00-08	House	3bed 6person	104.20	Soc/Afford. Rent	
M1 01-01	FT44	2bed 4person	71.30	Soc/Afford. Rent	
M1-02-01	FT33	1bed 2person	51.40	Soc/Afford. Rent	
M1-02-02	FT37	1bed 1person	39.30	Soc/Afford. Rent	
M1-02-03	FT33	1bed 2person	51.40	Soc/Afford. Rent	
M1-02-04	FT32	2bed 3person	65.00	Soc/Afford. Rent	
M1-02-05	FT39	1bed 2person	53.70	Soc/Afford. Rent	
M1-02-06	FT38	2bed 3person	61.10	Soc/Afford. Rent	
M1-02-07	FT31	1bed 1person	37.10	Soc/Afford. Rent	
M1-03-01	FT33	1bed 2person	51.40	Soc/Afford. Rent	
M1-03-02	FT37	1bed 1person	39.30	Soc/Afford. Rent	
M1-03-03	FT33	1bed 2person	51.40	Soc/Afford. Rent	
M1-03-04	FT32	2bed 3person	65.00	Soc/Afford. Rent	
M1-03-05	FT39	1bed 2person	53.70	Soc/Afford. Rent	
M1-03-06	FT38	2bed 3person	61.10	Soc/Afford. Rent	
M1-03-07	FT31	1bed 1person	37.10	Soc/Afford. Rent	
					Total 23 units
Maisonettes and flats Block 3					
M3-00-01	Maisonette	3bed 6person	104.00	Soc/Afford. Rent	
M3-00-02	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M3-00-03	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M3-00-04	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M3-00-05	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M3-00-06	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M3-00-07	Maisonette	3bed 6person	103.50	Soc/Afford. Rent	
M3-00-08	Maisonette	3bed 6person	104.00	Soc/Afford. Rent	
M3-01-01	FT44a	2bed 3person	67.60	Soc/Afford. Rent	
M3-01-02	FT44a	2bed 3person	67.60	Soc/Afford. Rent	
M3-02-01	FT86a	1bed 2person	51.00	Soc/Afford. Rent	

M3-02-02	FT32b	2bed 3person	63.70	Soc/Afford. Rent	
M3-02-03	FT41	1bed 2person	55.30	Soc/Afford. Rent	
M3-02-04	FT43	3bed 4person	74.00	Soc/Afford. Rent	
M3-02-05	FT43	3bed 4person	74.00	Soc/Afford. Rent	
M3-02-06	FT32a	2bed 3person	61.60	Soc/Afford. Rent	
M3-02-07	FT86	1bed 2person	52.20	Soc/Afford. Rent	
M3-02-08	FT38	2bed 3person	61.10	Soc/Afford. Rent	
M3-02-09	FT31	1bed 1person	36.40	Soc/Afford. Rent	
M3-03-01	FT44a	2bed 3person	67.60	Soc/Afford. Rent	
M3-03-02	FT44a	2bed 3person	67.60	Soc/Afford. Rent	
M3-03-01	FT86a	1bed 2person	51.00	Soc/Afford. Rent	
M3-03-02	FT32b	2bed 3person	63.70	Soc/Afford. Rent	
M3-03-03	FT41	1bed 2person	55.30	Soc/Afford. Rent	
M3-03-04	FT43	3bed 4person	74.00	Soc/Afford. Rent	
M3-03-05	FT43	3bed 4person	74.00	Soc/Afford. Rent	
M3-03-06	FT32a	2bed 3person	61.60	Soc/Afford. Rent	
M3-03-07	FT86	1bed 2person	52.20	Soc/Afford. Rent	
					Total 28 units
Houses					
TH-00-15	Type 1	3bed 6person	108.0	Soc/Afford. Rent	
TH-00-16	Type 1	3bed 6person	108.0	Soc/Afford. Rent	
TH-00-17	Type 1	3bed 6person	108.0	Soc/Afford. Rent	
TH-00-18	Type 1	3bed 6person	108.0	Soc/Afford. Rent	
TH-00-19	Type 3	3bed 6person	108.0	Soc/Afford. Rent	
TH-00-20	Type 4	3bed 6person	108.0	Poss. LCHO	
TH-00-21	Type 4	3bed 6person	108.0	Poss. LCHO	
TH-00-22	Type 3	3bed 6person	108.0	Poss. LCHO	
TH-00-23	Type 3	3bed 6person	108.0	Poss. LCHO	
TH-00-24	Type 4	3bed 6person	108.0	Poss. LCHO	
TH-00-25	Type 3a	3bed 6person	108.0	Poss. LCHO	
TH-00-32	Type 3a	3bed 6person	108.0	Poss. LCHO	
TH-00-33	Type 4	3bed 6person	108.0	Poss. LCHO	
TH-00-34	Type 4	3bed 6person	108.0	Poss. LCHO	
TH-00-35	Type 3	3bed 6person	108.0	Poss. LCHO	
TH-00-36	Type 3	3bed 6person	108.0	Poss. LCHO	
TH-00-49	HT7	4bed 6person	161.30	Soc/Afford. Rent	These are full mobility - M4(3) - Wheelchair houses
TH-00-50	HT7	4bed 6person	161.30	Soc/Afford. Rent	
TH-00-51	HT7	4bed 6person	161.30	Soc/Afford. Rent	
					Total 19 units
					Grand total 250 units

Breakdown of units:

LCHO Accommodation -

= **A total of 11 Houses and 64 flats**

Affordable/Social Rent Accommodation

= **A total of 10 houses, 14 Maisonettes and 151 flats.**

Regulator	means the body known as the Regulation Committee of Homes England, also known as the Regulator of Social Housing, or any successor organisation or body which regulates Registered Providers;
Shared Ownership Lease	means a lease in the form of Homes England's model shared ownership lease published from time to time and on terms that permit the Shared Ownership Units to be occupied partly for rent and partly by way of owner occupation on shared arrangements where the shared ownership lessee for the time being has the right to carry out staircasing and dispose of the Shared Ownership Unit on the open market
Shared Ownership Units	The Dwellings for the purposes of section 70(4) of the Housing and Regeneration Act 2008 identified as shared ownership units in the Affordable Housing Scheme and the Affordable Housing Plan

2. Owner's Covenants

The Owner covenants with the Council as follows:

Provision of Affordable Housing

2.1. The Owner covenants with the Council to provide not less than 250 of the Dwellings as Affordable Housing Units (of which 175 being Affordable Rent Units, and 75 being Shared Ownership Units) in accordance with the Affordable Housing Scheme and the Affordable Housing Plan PROVIDED THAT the Owner shall be entitled to submit an updated Affordable Housing Scheme and/or Affordable Housing Plan from time to time for the Council's written approval.

2.2. Where the Council approves an amendment to the Affordable Housing Scheme and/or Affordable Housing Plan submitted by the Owner pursuant to paragraph 2.1 the obligations in this Schedule 3 shall be construed as applying to the approved replacement Affordable Housing Scheme and/or Affordable Housing Plan and this Deed shall be endorsed by the following words:

"The Affordable Housing Scheme and/or Affordable Housing Plan [*as relevant*] has been approved by the Council on [*insert date*] and replaces the Affordable Housing Scheme and/or Affordable Housing Plan attached to the Deed", which for the avoidance of doubt shall be executed as a deed by the parties.

2.3. The Owner covenants with the Council not to Occupy more than 75% of the Open Market Dwellings in any given Phase that includes Affordable Housing Units until:

2.3.1. All of the Affordable Rent Units and Shared Ownership Units in that Phase have achieved Practical Completion and have been made ready for residential Occupation; and,

2.3.2. The freehold of the Affordable Housing Land in that Phase has been transferred to (or is already in the proprietorship of) a Registered Provider (in the case of flats a Long Lease may be granted instead if the Registered Provider agrees)

3. Affordable Rent Units

The Owner covenants as follows:

3.1. Not to let or occupy or permit the occupation of the Affordable Rent Units other than:

3.1.1. by a tenant nominated by the Council in accordance with a Nominations Agreement to a Registered Provider; and,

3.1.2. at rents (including service charges, if applicable) which in total are no more than 80% of the local market rent.

3.2. Not to let or occupy or permit the occupation of the Affordable Rent Units other than in accordance with the Nominations Agreement in force from time to time between the Council and the Registered Provider.

4. Shared Ownership Unit

The Owner covenants as follows:

4.1. Not to occupy or permit the occupation of the Shared Ownership Units other than:-

4.1.1. by a leaseholder of a Registered Provider in accordance with Nominations Agreement Shared Ownership); and

4.1.2. under a Shared Ownership Lease which includes the following terms:

4.1.2.1. initial purchase in the range of 10%-75% equity dependent upon the ability of the purchaser(s) to obtain finance;

4.1.2.2. the annual rent for the outstanding equity targeted at 2.75% per annum (but with a maximum for any individual Shared Ownership Unit of 3% per annum) of the value of the outstanding equity and thereafter increasing in accordance with the Homes England guidance for rental increases on shared ownership homes;

4.1.2.3. the annual rent for any Shared Ownership Unit shall not increase by more than the percentage increase in the Retail Price Index plus 0.5% for the year to September immediately preceding the anniversary of the day on which the Shared Ownership Lease was granted or where different such other index contained in the Shared Ownership Lease granted by a Registered Provider of the relevant Shared Ownership Unit

4.1.2.4. the ability but no obligation to purchase additional shares of equity of 1% or more at any one time at a valuation to be independently determined up to 100%.

5. Not to lease the Shared Ownership Units unless they have first been marketed by the named Registered Provider (or any successor) in accordance with the Nominations Agreement (Shared Ownership)

6. Exclusions

The obligations in this schedule are subject to the following:

6.1. The Council shall not enforce the obligations in this schedule against:

(a) A mortgagee or chargee of the Registered Provider or any receiver (including an administrative receiver) appointed by such mortgagee or chargee or any other person appointed under any security documentation to enable such mortgagee or chargee to realise its security or any administrator (howsoever appointed) including a housing administrator of the Affordable Housing Land (or part thereof) (**"Chargee"**); and,
(b) any person deriving title from a Chargee
PROVIDED THAT any such Chargee:

(i) shall have first given written notice to the Council that a power of sale has become exercisable in respect of the Affordable Housing Land (or part thereof); and

(ii) shall have used reasonable endeavours over a period of 12 weeks from the date the Council received written notice to complete the transfer of the Affordable Housing Land (or part thereof) to a Registered Provider or to the Council and for the AVOIDANCE of DOUBT such Disposal of the Affordable Housing Land (or part thereof) shall be at the price reasonably obtainable in the circumstances having regard to the restrictions as to the use of the relevant Affordable Housing Units contained in this Schedule 3 and the Affordable Housing Scheme and the Affordable Housing Plan;

For the avoidance of doubt, if the transfer to the Registered Provider or the Council has not been completed within 12 weeks from the date the Council received the written notice set out in paragraph 6.1(b)(i) the Chargee (and any person deriving title from them, except for a Registered Provider) shall be entitled to dispose of that part of the Affordable Housing Land free from the obligations in this schedule which shall cease to apply to that land/building(s).

6.2. The covenants in this Schedule 3 to this Deed shall cease to apply to any Affordable Rent Unit where that unit has been purchased by a tenant under the right to buy or the right to acquire or under the voluntary rights to purchase pursuant to the terms of the Housing and Planning Act 2016 (or such replacement voluntary right to buy scheme).

6.3. The covenants in this Schedule 3 to this Deed shall cease to apply to a Shared Ownership Unit where the leaseholder (or the Leasehold Chargee enforcing its security) has staircased to 100% ownership under their lease.

Schedule 4

Bird Aware Contribution

The Owner covenants with the Council as follows:

1. Bird Aware Contribution

1.1. Prior to the Occupation of any Dwelling(s) in a particular Phase, the Owner shall pay to the Council the Bird Aware Contribution for all of the Dwellings in that particular Phase.

1.2. The Owner shall not Occupy or permit the Occupation of any Dwelling(s) in a particular Phase unless or until the Owner has paid the Bird Aware Contribution for all of the Dwellings in that particular Phase.

2. Indexation

2.1. The Bird Aware Contribution (including part payments under paragraph 1 of this Schedule) shall be increased (rounded up to the nearest whole pound) to reflect any increases in the Index during the period from 1 April prior to the date of this Deed up to the applicable value of the Index for the 1 April preceding the date of actual payment in accordance with the following formula:

Amount payable = the Bird Aware Contribution x (A/B) where:

A is the figure for the Index that applied for 1 April immediately preceding the date the payment is due (or else on that same day when payment is due 1 April); and,

B is the figure for the Index that applied when it was last published on the 1 April immediately preceding the date of this Deed.

2.2 Where reference is made to an index and that index ceases to exist or is replaced or rebased then it shall include reference to any index which replaces it or any rebased index (applied in a fair and reasonable manner to the periods before and after rebasing under this deed) or in the event the index is not replaced, to an alternative reasonably comparable basis or index as the Council shall advise the Owner in writing.

Schedule 5

Nutrient Neutrality Mitigation

The Owner covenants with the Council as follows:

1. The following additional definitions shall apply in this Schedule:

"Nutrient Neutrality Measures"	measures to secure nutrient neutrality in accordance with the appropriate assessment under the Conservation of Habitats and Species Regulations 2017 and pursuant to the Nutrient Neutrality Mitigation Strategy by securing appropriate mitigations for the Solent Marine Habitat Sites against the impacts arising from the Development (meaning allocated mitigation offset land equivalent to 965.17kg/TN/yr as calculated by applying the Solent Nutrient Neutrality Calculator), which for the avoidance of doubt can be secured by providing evidence of the requisite legal agreement for appropriate mitigation in perpetuity;
"Nutrient Neutrality Mitigation Strategy"	The "Updated Interim Nutrient Neutral Mitigation Strategy for New Dwellings for the 2021-2023/24 period" dated June 2022 by Portsmouth City Council or where it has been superseded such replacement strategy, which is current at the time of submission of the Nutrient Neutrality Measures to the Council under this Schedule;
"Solent Marine Habitat Sites"	the Solent European Designated Sites of: (a) The Portsmouth Harbour Special Protection Area/RAMSAR Site; (b) The Chichester and Langstone Harbours Special Protection Area/RAMSAR Site; (c) The Solent and Isle of Wight Lagoons Special Area of Conservation; and, The Solent Maritime Special Area of Conservation.
"Solent Nutrient Neutrality Calculator"	the most up to date calculator published by Natural England (or its successor) as a tool for calculating the nutrient budget for new residential development in the Solent Marine Habitats Sites, which for the avoidance of doubt means current at the time of submission of the

	Nutrient Neutrality Measures to the Council under this Schedule;

2. Not to Commence the Development of any Phase containing Dwellings prior to:
   2.1. submitting the Nutrient Neutrality Measures in writing to the Council for approval; and,
   2.2. receiving written approval from the Council that the Owner has evidenced the existence and enforceability in perpetuity of the Nutrient Neutrality Measures to the Council's satisfaction;
3. Not to Occupy any Dwellings unless the Owner has:
   3.1. received written notice from the Council that the Council is satisfied that Nutrient Neutrality Measures in respect of the specific Dwellings have been secured in perpetuity.

Schedule 6

Public Open Space

Incidental Open Space	means the 'Private courtyards and incidental open spaces' to be provided within the Development shown as areas shaded yellow on the drawing numbered 20.104-HGP-XX-00-DR-A-XXXX named 'Site plan - Open Space' submitted as part of the Planning Application, which for the avoidance of doubt shall accommodate the right for members of the public to access the Play Spaces;
Long Leasehold Interest	A lease of a Dwelling for a term of more than 7 years but excluding the grant of a Shared Ownership Lease (as defined in Schedule 4);
Management Company	Refers in accordance with the elective provisions of this Schedule to EITHER: a) a management company established by the Owner and sufficiently funded by the Owner or the occupiers of the Dwellings to enable it to ensure that on completion (including by Phases) of the Open Space within the Development the Open Space shall be maintained by the management company in perpetuity and that any transfer or Long Leasehold Interest of any Dwelling shall include a provision requiring the appropriate contribution to be made on the part of each Dwelling towards any service charge levied by any management company for the upkeep of the Open Space areas and incorporating

	a restriction against transferring a freehold or Long Leasehold Interest in the Dwelling without obtaining a direct covenant with the management company in respect thereof from any such transferee or Long Leasehold Interest (on a "not for profit" basis) for management operation and maintenance of the Open Space, OR IN THE ALTERNATIVE b) the Owner accepting responsibility to fund (whether by making charges to the occupiers of Dwellings or otherwise), maintain and manage the Open Space in perpetuity in accordance with the obligations in this Schedule;
Open Space	means the Public Open Space, Incidental Open Space and Play Spaces to be provided as part of the Development;
Open Space Phase	means for the purposes of this Schedule any phase of the Development shown on the Open Space Phasing Plan;
Open Space Phasing Plan	means a plan showing how the Open Space will be implemented in detail (including the layout of any play equipment) in accordance with the Open Space Specification in phases of the construction of the Development pursuant to the Planning Permission which may be modified or replaced with the written approval of the Council from time to time;
Open Space Specification	means a specification for the delivery, management and maintenance, of the Open Space which may be modified or replaced with the written approval of the Council from time to time;
Play Spaces	means the 4 (four) play spaces (totalling up to 278m^2) within the Development to be provided in

	accordance with the Open Space Specification shown as areas shaded pink on the drawing numbered 20.104-HGP-XX-00-DR-A-XXXX named 'Site plan - Open Space' submitted as part of the Planning Application;
Public Open Space	means the 'Public open space' to be provided within the Development shown as areas shaded orange on the drawing numbered 20.104-HGP-XX-00-DR-A-XXXX named 'Site plan - Open Space' submitted as part of the Planning Application.

OBLIGATIONS RELATING TO PUBLIC OPEN SPACE

The Owner covenants with the Council as follows:

1. Not to Commence any Phase containing Dwellings unless and until the:-

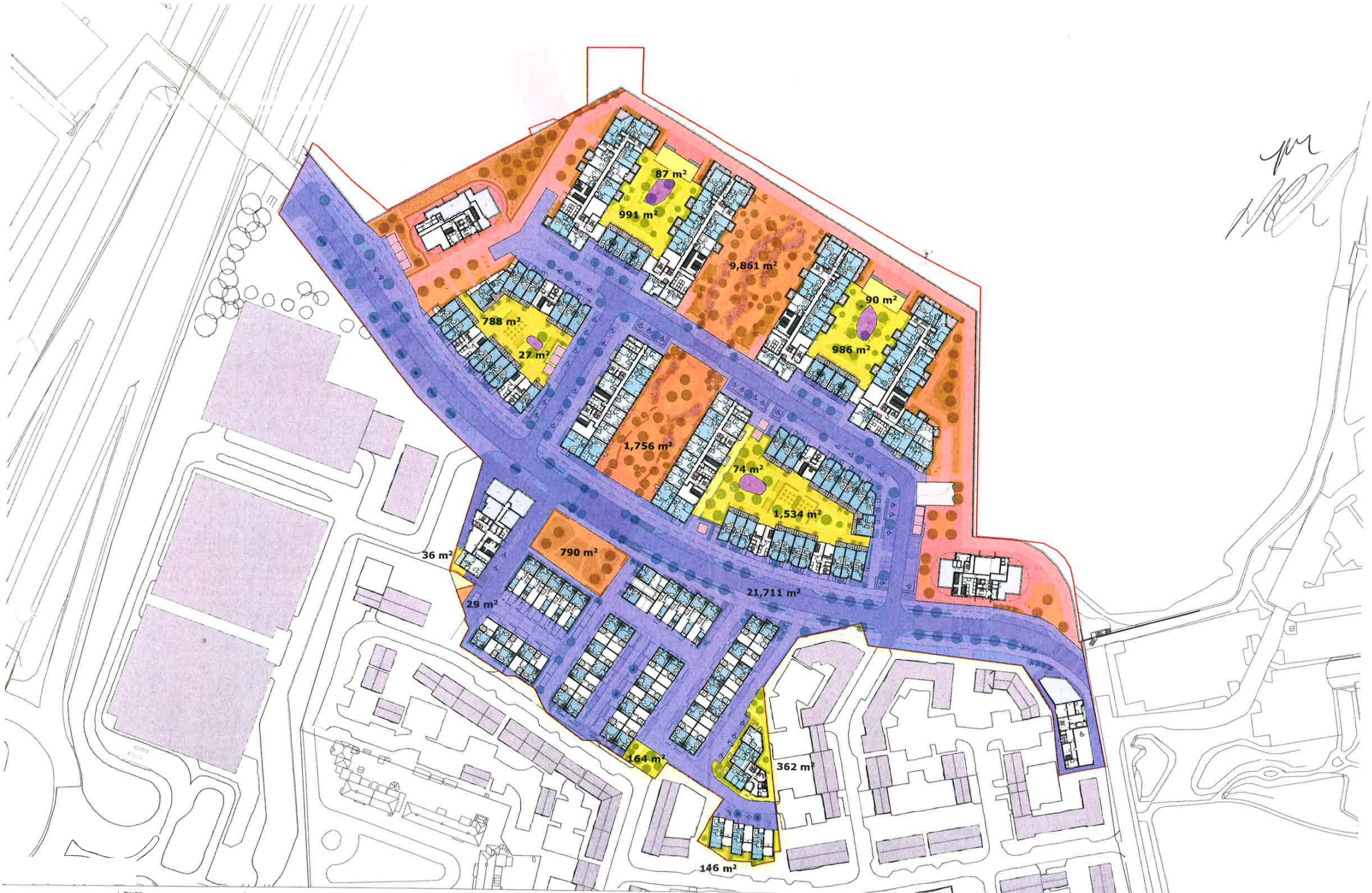
1.1 The Open Space Phasing Plan; and

1.2 The Open Space Specification;

have been submitted to and approved by the Council in writing

2. That the Owner shall not Commence any Phase containing Dwellings unless and until either:

(a) where the Owner has decided in its absolute discretion to establish a Management Company the constitutional document for the Management Company and the details of any conveyancing mechanism necessary to secure that the owner of the freehold interest in and/or Long Leasehold Interest in (as appropriate) individual Dwellings (including their successor in title) are members of the Management Company and details of any rights reserved in favour of the Management Company over any part of the Site in order to ensure it can comply with its obligations set out in this Deed have been submitted to the Council in writing; or



Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Entrance Survey information shown has been prepared by a third party. HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation subject to change by amendments. Reference material plan not to scale.

Spine road and associated car-free movement spaces and sitting areas

Private courtyards and incidental open spaces

Public open space

Play Space

VIVID

Site plan - Open Space

PROJECT	JOB NO
TIPPER EAST REGENERATION	20.104
SCALE	DATE
1:500@A1	JAN 23
DRAWN BY/CHECKED BY	REVISION

hgp

(b) where the Owner has elected to act as the Management Company, the Owner has so notified the Council in writing, including details of how it proposes to fund the maintenance and management of the Open Space in perpetuity by reference to the contributions of all tenure types and anticipated disposals.

3. Not to Occupy any Dwellings unless and until the constitutional document for the Management Company and the details referred to in paragraph 2(a) have been approved in writing by the Council, provided that this restriction shall not apply where paragraph 2(b) of this Schedule 6 applies.

4. Where paragraph 2(a) of this Schedule 6 applies not to Occupy any Dwellings unless and until the Management Company has been created (including registration at Companies House) using the constitutional documentation approved by the Council unless otherwise agreed in writing by the Council, provided that this restriction shall not apply where paragraph 2(b) of this Schedule 6 applies.

5. Where paragraph 2(a) of this Schedule 6 applies not to Occupy individual Dwellings unless and until the conveyancing mechanism for the relevant Dwelling has been implemented (including altering the title for that Dwelling at HM Land Registry in an appropriate manner to record the implementation of such mechanism) securing that the proprietor of the freehold interest or the Long Leasehold Interest (as appropriate) in that Dwelling is a member of the Management Company, provided that this restriction shall not apply where paragraph 2(b) of this Schedule 6 applies.

6. To submit the Open Space Phasing Plan for the approval of the Council prior to Commencement of Development of any Phase containing Dwellings provided that it is acknowledged that the Owner shall be allowed to request amendments to the Open Space Phasing Plan from time to time for the Council's approval.

7. To fully lay-out, complete and make available for use the Open Space in each Open Space Phase prior to Occupation of any Dwelling in that same Open

Space Phase in accordance with the Open Space Phasing Plan and the Open Space Specification which has been approved by the Council in accordance with paragraph 19 for each Phase from time to time.

8. Not to Occupy any Dwellings within the relevant Open Space Phase of the Development unless and until:
   (a) the Open Space identified in the Open Space Specification for that Open Space Phase has been provided in accordance with the Open Space Specification; and,
   (b) where paragraph 2(a) of this Schedule 6 applies the freehold interest in the land on which the Open Space is located has been transferred to the Management Company, such transfer to contain such rights of way and easements as are required to facilitate the use of the Open Space.

9. To notify the Council in writing:
   (a) each and every time that the Open Space in an Open Space Phase has been provided in accordance with this Schedule 6; and,
   (b) where paragraph 2(a) of this Schedule 6 applies the freehold interest in the land on which the Open Space is located has been transferred to the Management Company, such transfer to contain such rights of way and easements as are required to facilitate the use of the Open Space.

10. Not to use, permit nor suffer the use of the Public Open Space or the Play Spaces for anything other than as public open space.

11. Prior to Occupation of the first Dwelling in a Phase the Owner shall provide the Council with documentary evidence for the Council's approval which details how the funding towards the management and maintenance of the Open Space shall be secured for the lifetime of the Development through service charge or estate charges contained within the Long Leases and transfer deeds of the Dwellings ("**the Service Charge Mechanism**") and once such disposals are made the Owner shall to the extent that it is legally entitled to shall take all reasonable steps to enforce the approved Service Charge Mechanism against successive proprietors of the Dwellings for the lifetime of

the Development.

MANAGEMENT COMPANY

Where paragraph 2(a) of this Schedule 6 applies:

12. Once the Open Space (or part thereof accounting for phasing) has been fully laid out and completed in accordance with paragraph 7 and the Open Space Phasing Plan the Open Space shall be retained in perpetuity and maintained in accordance with the Open Space Specification by the Management Company.

13. That the disposal of each Dwelling shall be in accordance with the requirements of the Management Company provisions and details of the conveyancing mechanism as approved by the Council securing that the proprietor of the freehold interest or Long Leasehold Interest (as appropriate) in that Dwelling is a member of the Management Company.

14. The Management Company shall be limited by guarantee and shall be open to membership only by the Owner, the transferees or lessees of the Dwellings.

15. The principal object of the Management Company shall be (but not limited to) providing for the maintenance of the Open Space in accordance with the Open Space Specification.

16. As and when each Dwelling is sold or let the Owner will require that each of the purchasers or lessees become a member of the Management Company and agree to be bound by the memorandum of articles of association of the Management Company and abide by any regulations made by the said Management Company and shall include any rights reserved in favour of the Management Company in order to ensure it can comply with its obligations set out in the Deed.

17. The constitutional document of the Management Company shall ensure that the proprietor(s) of the freehold interest or Long Leasehold Interest (as appropriate) in each individual Dwelling shall have a right to vote

in the taking of strategic decisions by the Management Company in relation to the provision of the ongoing maintenance management and monitoring of the inter alia the Open Space and shall ensure that the Management Company is accountable to such owners for such decisions.

OWNER UNDERTAKING MANAGEMENT ETC

18. Where paragraph 2(b) of this Schedule applies the Owner shall act as the Management Company and once the Open Space has been laid out and fully completed in accordance with the terms of this Schedule 6 and the Open Space Phasing Plan the Open Space shall be retained and maintained and managed in perpetuity by the Owner in accordance with the Open Space Specification.

COUNCIL'S COVENANTS

19. The Council covenants with the Owner to promptly review the first Open Space Phasing Plan and to either:

    a. Approve it in writing if it is acceptable without amendments; or,
    b. Make written recommendations for re-submission by the Owner if the submitted Open Space Phasing Plan is not satisfactory in either instance within 20 Working Days

20. The Council covenants with the Owner to promptly review the first Open Space Specification and to either:

    a. Approve it in writing if it is acceptable without amendments; or,
    b. Make written recommendations for re-submission by the Owner if the submitted Open Space Specification is not satisfactory in either instance within 20 Working Days

21. The Council covenants with the Owner to promptly review any Service Charge Mechanism and to either:

    a. Approve it in writing if it is acceptable without amendments; or,
    b. Make written recommendations for re-submission by the Owner if the submitted Service Charge Mechanism is not satisfactory in either instance within 20 Working Days

Schedule 7

Ecological Management and Enhancement, Replacement Open Mosaic Habitat, Bird Conservation Area

Ecological Management and Enhancement

In this schedule the following definitions shall apply:

Bird Conservation Area	On-site and off-site improvements in accordance with Chapter 12 ES, including: (a) the enhancement and extension of the retained barge in Special Protection Area site P139 to increase its area to boost already established high tide loafing use; and, (b) the creation of new coastal pasture (0.17ha) within the intertidal area between the sea wall and the mudflats, supporting Brent Geese foraging, shown on the drawing titled 'BCA Rock Stabilisation Structure and East Barge Works Outline Design Plan' and numbered PC3679-RHD-XX-ZZ-DR-C-SK20 Rev P01.
Chapter 12 ES	means 'Environmental Statement Volume 2: Main Text Chapter 12: Ecology' authored by Temple Group Limited submitted with the Planning Application
Ecological Management and Enhancement Plan	a plan detailing by reference to the impact of relevant Phases of the Development the on-site and off-site habitat enhancements including a programme for implementation and ongoing maintenance of on-site and off-site habitat enhancements detailed in Chapter 12 ES, including but not limited to how the Owner will ensure and fund step-in rights for the Council or another appropriate body in the event of the Owner's default under the said plan which may be modified or replaced with the written approval of the Council from time to time
Sea Wall	means for the purposes of this Schedule only the sea wall shown indicatively only on the drawing titled 'BCA Rock Stabilisation Structure and East Barge Works Outline Design Plan' and numbered PC3679-RHD-XX-ZZ-DR-C-SK20 Rev P01, being the whole of the sea wall comprised in the Development.

The Owner covenants:

1. Prior to Commencement of Development the Owner shall submit to the Council the Ecological Management and Enhancement Plan.

2. Not to Commence the Development until the Ecological Management and Enhancement Plan has been approved in writing by the Council.
3. To implement the on-site habitat enhancements required within the Ecological Management and Enhancement Plan for each respective Phase in accordance with the timescales set out in the approved Ecological Management and Enhancement Plan.
4. Not to Commence Development until the off-site enhancements under the Ecological Management and Enhancement Plan have been implemented and their maintenance secured in perpetuity for the respective Phase.
5. To maintain the on-site habitat enhancements implemented in accordance with the Ecological Management and Enhancement Plan in perpetuity.

Replacement Open Mosaic Habitat

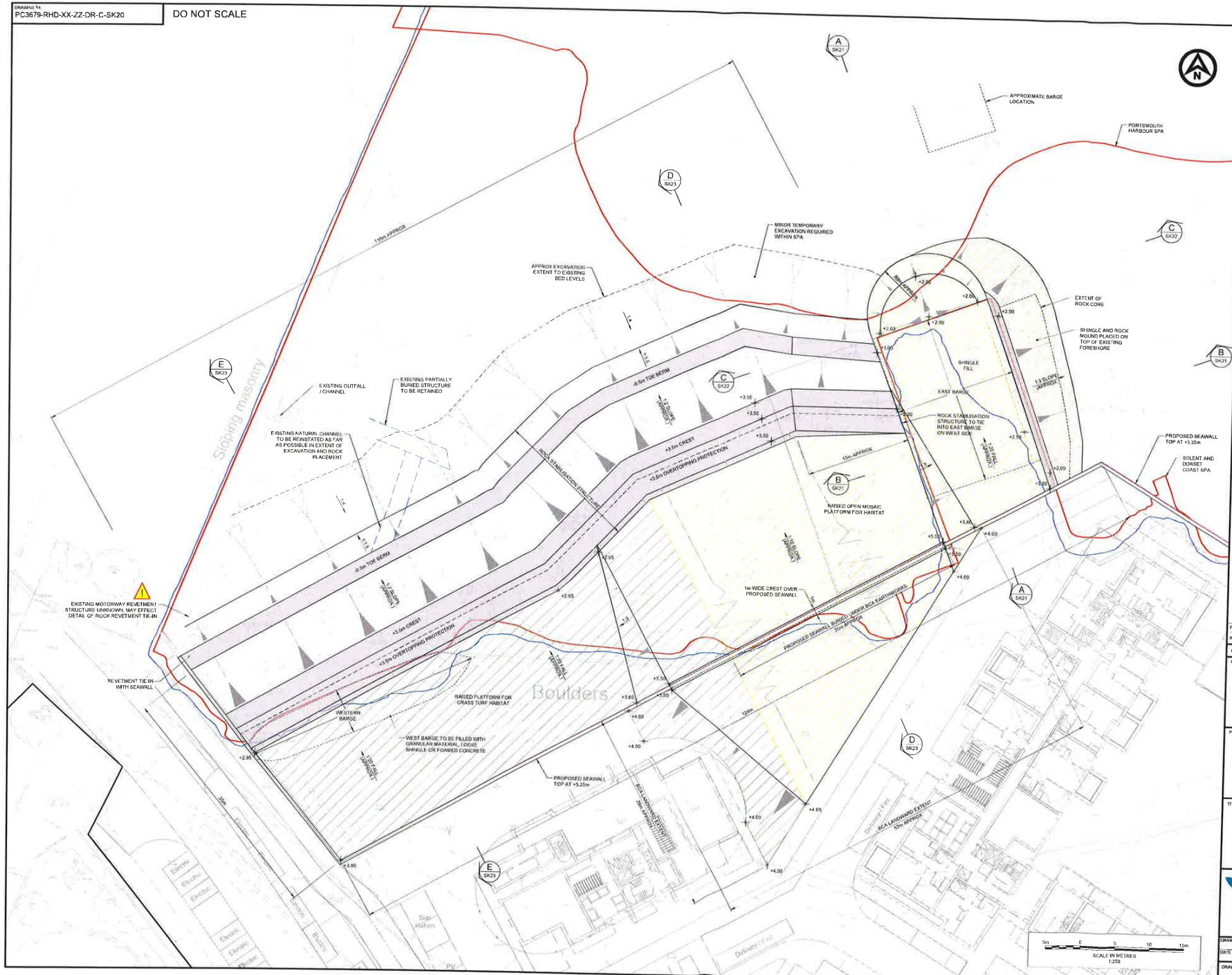
6. The Owner shall no later than 12 months from Commencement of the Sea Wall submit to the Council for written approval a scheme for the securing and implementation in perpetuity of appropriate off-site replacement of not less than 3.73ha of good condition open mosaic habitat for the loss of a mosaic of scrub and grassland to provide a close mimic of the successional habitats within the high nutrient soils that have developed at the Site ("the **Replacement Open Mosaic Habitat Scheme**").
7. Where the Council has not approved the Replacement Open Mosaic Habitat Scheme within 12 months of the Commencement of the Sea Wall the Owner shall cease all further Development of the Sea Wall unless and until the Council has approved in writing the Replacement Open Mosaic Habitat Scheme.
8. To implement the Replacement Open Mosaic Habitat Scheme approved by the Council in accordance with the timescales set out therein.

Bird Conservation Area

9. The Owner shall submit to the Council a detailed design for the Bird Conservation Area prior to Commencement of Development.
10. The Owner shall not commence the Sea Wall unless and until the Council has approved the detailed design for the Bird Conservation Area.
11. The Owner shall not Commence any Phase that contains the 400th Dwelling of the Development unless and until the Bird Conservation Area has been implemented as approved by the Council.
12. The Owner shall implement the Bird Conservation Area approved by the Council prior to completion of the Sea Wall.

DRAWING No.
PC3679-RHD-XX-ZZ-DR-C-SK20

DO NOT SCALE



NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS ARE IN METRES RELATIVE TO ORDNANCE DATUM UNLESS NOTED OTHERWISE
3. FOR SECTION DETAILS REFER TO Drg. No's.
   PC3679-RHD-XX-ZZ-DR-C-SK21
   PC3679-RHD-XX-ZZ-DR-C-SK22
   PC3679-RHD-XX-ZZ-DR-C-SK23
4. THE PROPOSED SEAWALL IS DESIGNED BY OTHERS
5. TOE BERM LOCALLY NOT CONSTRUCTED DOWN TO BED ROCK LEVEL TO LIMIT IMPACT OF EXCAVATION ADJACENT TO EAST BARGE WALL - ADDITIONAL ROCK MAY BE REQUIRED IF TOE ROCK SINKS INTO SOFT FORESHORE MATERIAL

KEY

- +2.80 PROPOSED LEVELS
- MHWS +1.67m OD
- SPECIAL PROTECTION AREA
- GRASS TURF 1602m²
- OPEN MOSAIC HABITAT 2226m²

SAFETY, HEALTH AND ENVIRONMENT INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION

- UNSTABLE EXISTING CONCRETE WALLS AT EAST BARGE.
- EXCAVATION IN-FRONT OF NEW PROPOSED SEA WALL FOR REVETMENTS AT WEST TIE-IN AREAS.
- ENSURE BARS WORKING ON TOP OF EXISTING WESTERN BARGE AREA.
- SOFT GROUND CONDITION NEAR / AT INTERTIDAL AREA
- UXO RISK

MAINTENANCE/CLEANING/OPERATION

- AS ABOVE

DECOMMISSIONING/DEMOLITION

- REMOVAL OF SOFT SEA BED ON INTERTIDAL AREA.

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	18.8.2023	FOR CLIENT REVIEW	DS	CT	CT

REVISIONS

CLIENT
PMC CONSTRUCTION & DEVELOPMENT SERVICES

PROJECT
TIPNER EAST DEVELOPMENT

TITLE
BCA ROCK STABILISATION STRUCTURE AND EAST BARGE WORKS OUTLINE DESIGN PLAN

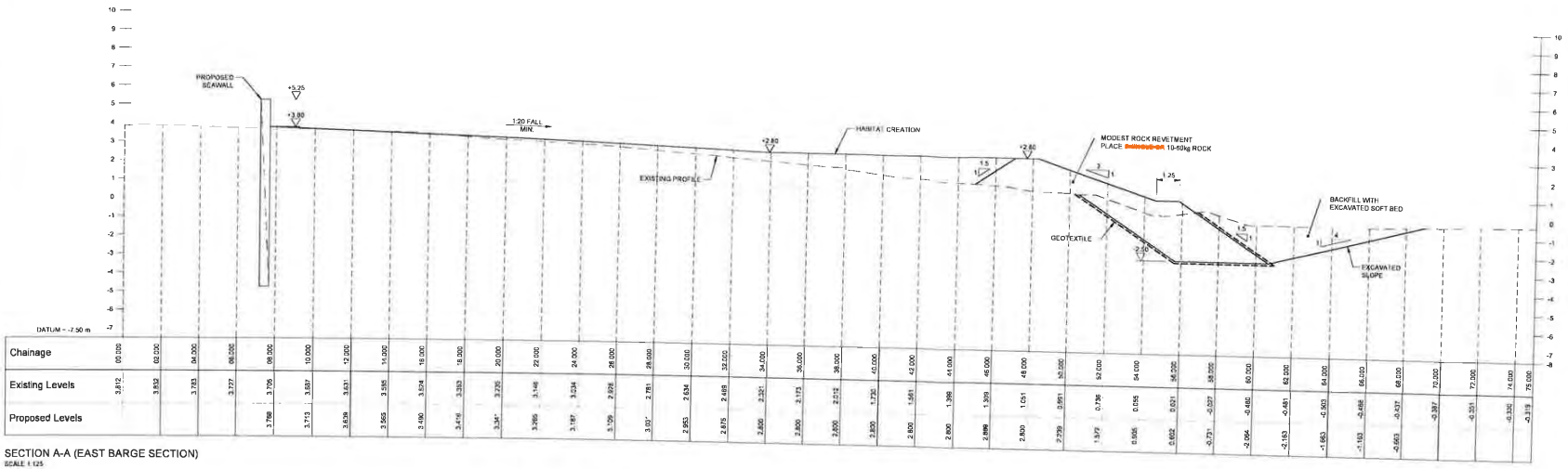
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DRAWN	DS	CHECKED	CT	APPROVED	CT
DATE	June 2023	SCALE AT A1	1:250	REF	PC3679

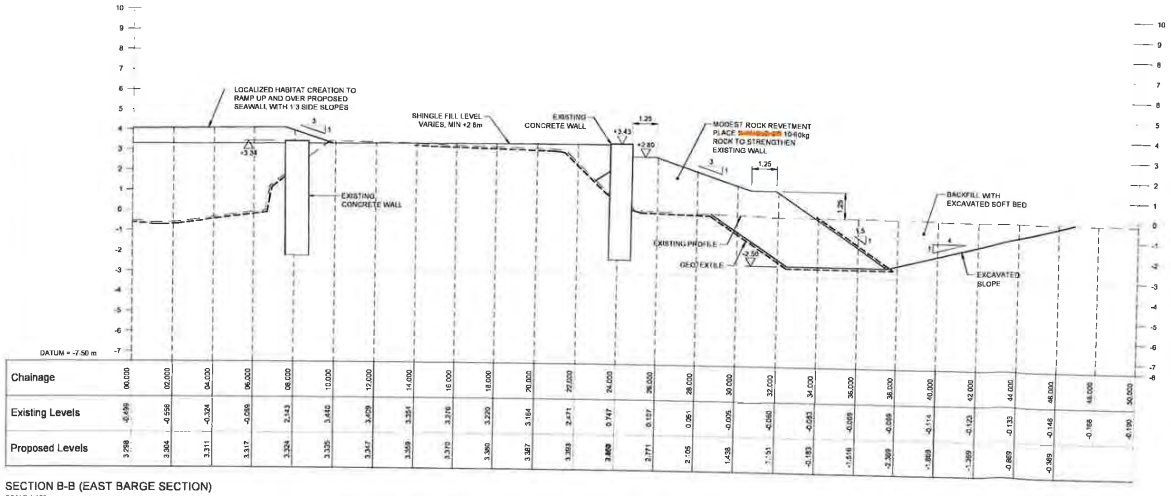
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SECTION A-A (EAST BARGE SECTION)
SCALE 1:125



SECTION B-B (EAST BARGE SECTION)
SCALE 1:125

NOTES

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- EXCAVATION IN-FRONT OF NEW PROPOSED SEA WALL FOR REVETMENTS AT BOTH TIE-IN AREAS
- ENSURE SAFE WORKING ON TOP OF EXISTING WESTERN BARGE AREA
- SOFT GROUND CONDITION NEAR / AT INTERTIDAL AREA
- UXO RISK

MAINTENANCE/CLEANING/OPERATION
- AS ABOVE

DECOMMISSIONING/DEMOLITION
- REMOVAL OF SOFT SEA BED ON INTERTIDAL AREA.

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REVISIONS

CLIENT
PMC CONSTRUCTION & DEVELOPMENT SERVICES

PROJECT
TIPNER EAST DEVELOPMENT

TITLE
ROCK REVETMENT AND EAST BARGE WORKS CONCEPT DESIGN ITERATION SECTIONS - SHEET 1 OF 3

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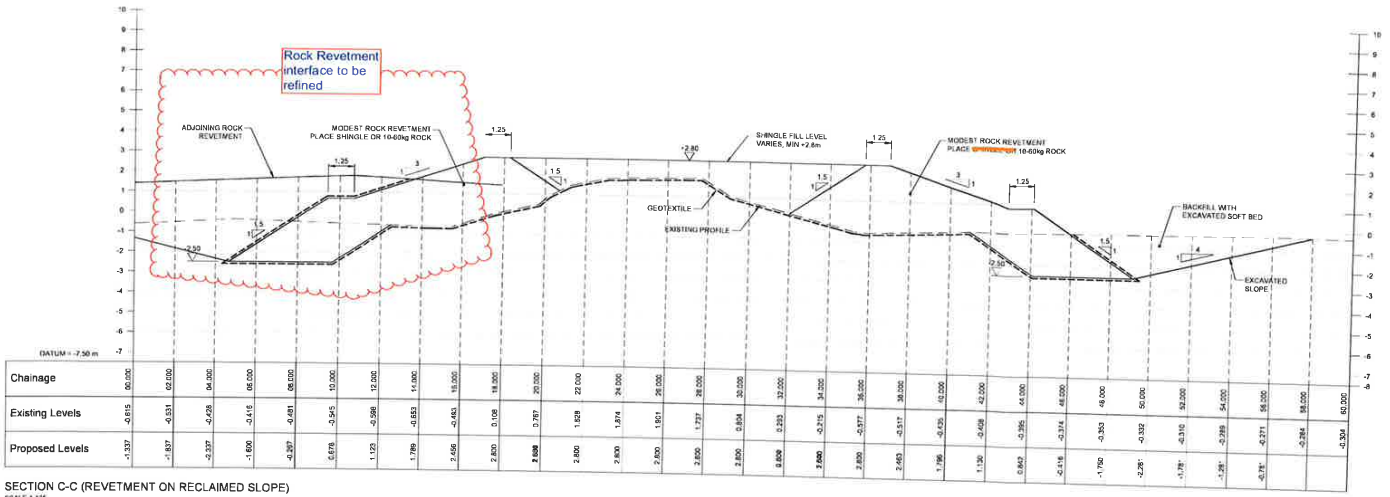
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PC3679-RHD-XX-ZZ-DR-C-SK21	S3	P01

SCALE IN METRES
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DRAWING No.
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Existing Levels	-0.615	-0.631	-0.428	-0.416	-0.481	-0.545	-0.566	-0.653	-0.463	0.108	0.787	1.628	1.874	1.801	1.737	0.884	0.293	-0.275	-0.577	-0.517	-0.435	-0.408	-0.395	-0.374	-0.353	-0.332	-0.310	-0.289	-0.271	-0.284	-0.304
Proposed Levels	-1.337	-1.837	-2.337	-1.600	-2.287	0.678	1.123	1.789	2.456	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.483	1.795	1.130	0.842	0.416	-1.750	-2.281	-1.781	-1.281	-0.781		

SECTION C-C (REVETMENT ON RECLAIMED SLOPE)
SCALE 1:125

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MAINTENANCE/CLEANING/OPERATION • AS ABOVE
DECOMMISSIONING/DEMOLITION • REMOVAL OF SOFT SEA BED ON INTERTIDAL AREA.

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REV.	DATE	DESCRIPTION	BY	CHK	APP
P01	14.06.2023	FOR CLIENT REVIEW	DS	CT	CT

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CLIENT
PMC CONSTRUCTION & DEVELOPMENT SERVICES

PROJECT
TIPNER EAST DEVELOPMENT

TITLE
ROCK REVETMENT AND EAST BARGE WORKS CONCEPT DESIGN ITERATION SECTIONS - SHEET 2 OF 3

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June 2023	1:125	PC3679

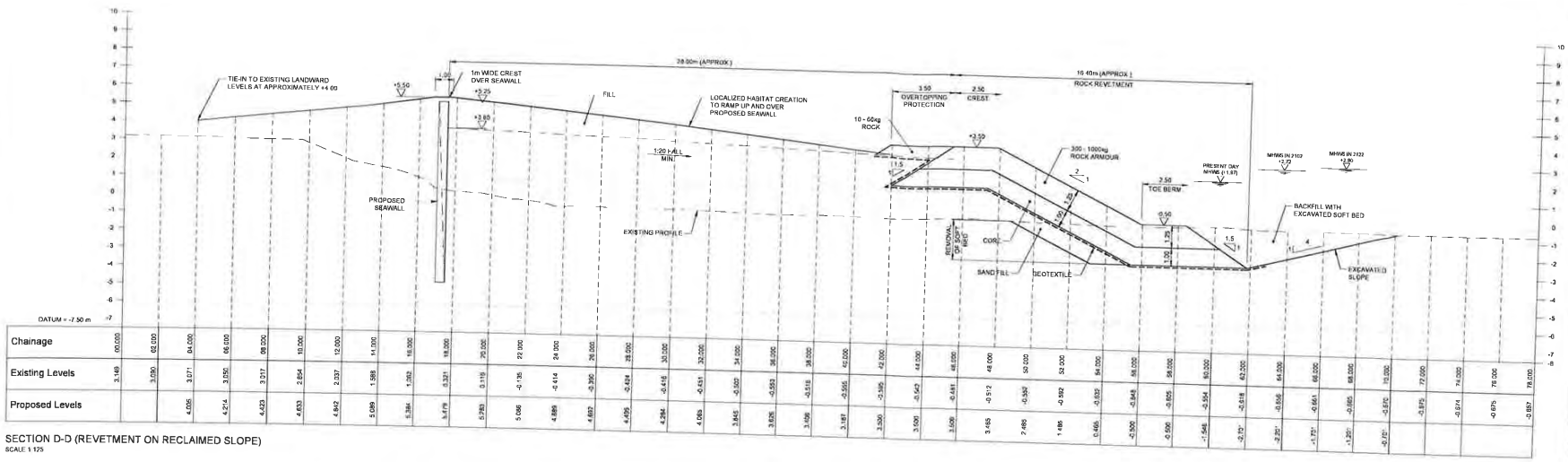
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PC3679-RHD-XX-ZZ-DR-C-SK22

SUITABILITY	REVISION
S3	P01

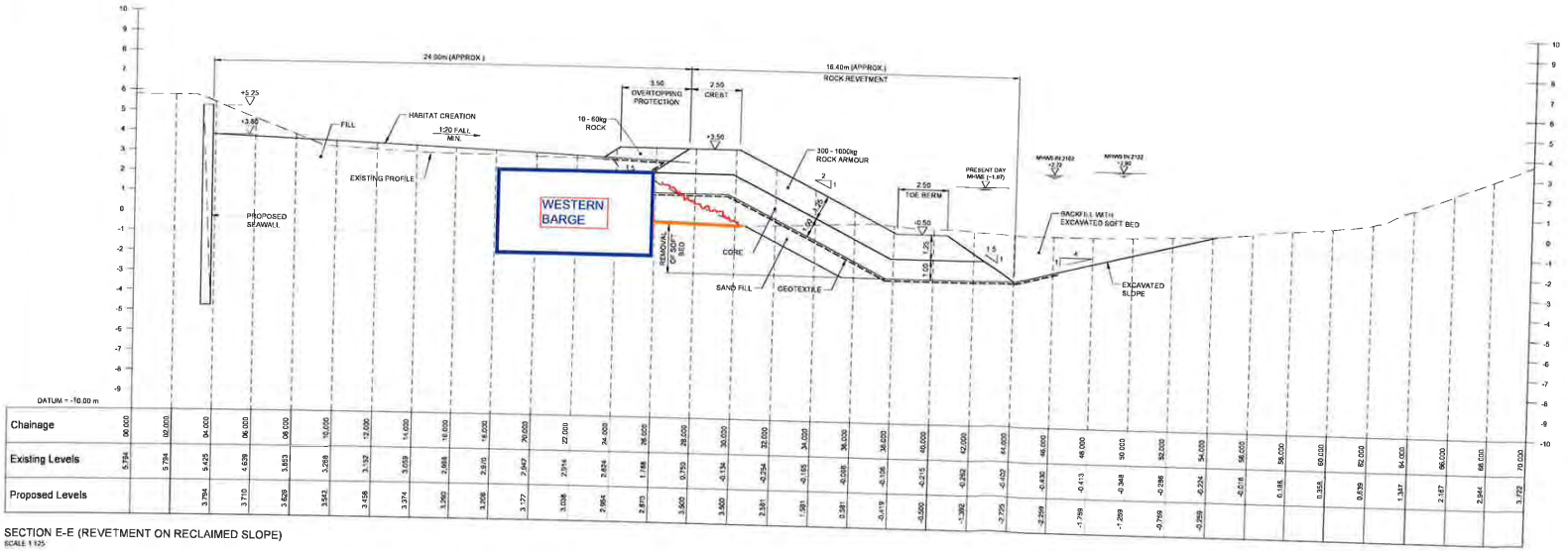
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DRAWING No
PC3679-RHD-XX-ZZ-DR-C-SK23

DO NOT SCALE



SECTION D-D (REVETMENT ON RECLAIMED SLOPE)
SCALE 1:125



SECTION E-E (REVETMENT ON RECLAIMED SLOPE)
SCALE 1:125

SCALE IN METRES
1:125

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REV	DATE	DESCRIPTION	BY	CHK	APP
P01	14.06.2023	FOR CLIENT REVIEW	DS	CT	CT

REVISIONS

CLIENT
PMC CONSTRUCTION & DEVELOPMENT SERVICES

PROJECT
TIPNER EAST DEVELOPMENT

TITLE
ROCK REVETMENT AND EAST BARGE WORKS CONCEPT DESIGN ITERATION SECTIONS - SHEET 3 OF 3

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DATE	SCALE AT A1	REF.
June 2023	1:125	PC3679

DRAWING No	SUITABILITY	REVISION
PC3679-RHD-XX-ZZ-DR-C-SK23	S3	P01

13. The Owner shall not Occupy any Dwelling until the Bird Conservation Area has been implemented in accordance with the approved detailed design for the Bird Conservation Area.

14. The Owner shall maintain the Bird Conservation Area in perpetuity in accordance with the Ecological Management and Enhancement Plan SAVE ONLY that the duty to maintain may be transferred to another party in accordance with the approved Ecological Management and Enhancement Plan.

15. The Council covenants with the Owner to:

promptly review the first Ecological Management and Enhancement Plan, the first Replacement Open Mosaic Habitat Scheme and the first detailed design for the Bird Conservation Area ("the Plan(s)") and to either:

15.1 approve each Plan in writing if it is acceptable without amendments; or,

15.2 make written recommendations for re-submission of each Plan by the Owner if the submitted Plan is not satisfactory

in either instance within 20 Working Days

Schedule 8

Highways and Transport

The following definition(s) shall apply in this Schedule:

Twyford Avenue Junction Improvements Contribution	means the sum of £[redacted] ([redacted]) (index linked in accordance with this Schedule) for the improvement of the highway in and around Twyford Avenue to mitigate the impact of the Development on highway users;

The Owner covenants with the Council to:

1. Twyford Avenue Junction Improvements Contribution

   1.1. Pay to the Council the Twyford Avenue Junction Improvements Contribution prior to Occupation of any Dwelling;

   1.2. Not to Occupy any Dwelling unless and until the Twyford Avenue Junction Improvements Contribution has been paid to the Council.

   1.3. The Twyford Avenue Junction Improvement Contribution shall be increased (rounded up to the nearest whole pound) to reflect any increases in the Index during the period from the date of this Deed up to the applicable value of the Index on the date of actual payment in accordance with the following formula:

   Amount payable = the Twyford Avenue Junction Improvements Contribution x (A/B) where:

   A is the figure for the Index that applied on the date the payment is due; and,
   B is the figure for the Index that applied on the date of this Deed.

   1.4. For the purposes of paragraph 1.3 of this Schedule, where reference is made to an index and that index ceases to exist or is replaced or rebased then it shall include reference to any index which replaces it or any rebased index (applied in a fair and reasonable manner to the periods before and after rebasing under this deed) or in the event the index is not replaced, to an alternative reasonably comparable basis or index as the Council shall advise the Owner in writing.

2. Travel Plan Audit Fee

The following definition shall apply in this Schedule:

Travel Plan Audit Fee	Means the sum of £[redacted] ([redacted]) for the purpose of the Council auditing for separate yet consecutive 12 (twelve) month periods as detailed in Schedule 8 for the duration of the travel plan required by the relevant condition(s) of the Planning Permission;

2.1. Prior to first Occupation of the Development to pay to the Council the Travel Plan Audit Fee;

2.2. Having paid the initial Travel Plan Audit Fee upon the first Occupation of the Development, to pay a subsequent Travel Plan Audit Fee on every anniversary of the first Occupation of the Development until the completion of the Development.

2.3. Not to Occupy the Development unless and until the initial Travel Plan Audit Fee has been paid to the Council;

Bus Contribution and Route

3. The Owner covenants to pay the Bus Contribution to the Council as follows:
   (a) One-third of the Bus Contribution prior to Occupation of any Dwelling; and,
   (b) One-third of the Bus Contribution on the first anniversary of the date payment was made under paragraph 3(a) (or in the case of a late payment under paragraph 3(a), the first anniversary of when payment under paragraph 3(a) fell due); and,
   (c) One-third of the Bus Contribution on the second anniversary of the date payment was made under paragraph 3(a) (or in the case of a late payment under paragraph 3(a), the second anniversary of when payment under paragraph 3(a) fell due)

   PROVIDED that the shares of the Bus Contribution due on each of the 3 (Three) dates shall be index linked to the latest available date prior to payment of each respective share in accordance with paragraph 4 below.

4. The Bus Contribution shall be increased (rounded up to the nearest whole pound) to reflect any increases in the Index during the period from the date of this Deed up to the applicable value of the Index on the date of actual payment in accordance with the following formula:

   Amount payable = the Bus Contribution x (A/B) where:

A is the figure for the Index that applied on the date the payment is due; and,

B is the figure for the Index that applied on the date of this Deed.

5. For the purposes of paragraph 4 of this Schedule, where reference is made to an index and that index ceases to exist or is replaced or rebased then it shall include reference to any index which replaces it or any rebased index (applied in a fair and reasonable manner to the periods before and after rebasing under this deed) or in the event the index is not replaced, to an alternative reasonably comparable basis or index as the Council shall advise the Owner in writing.

Spine Road

The following definitions shall apply in this Schedule:

First Road Section	means that part of the Spine Road shown for indicative purposes excluding the area defined by a broken hatched green line on plan titled 'Site plan - Spine road linkage plan' with drawing number 22.152-HGP-XX-00-SK-A-1027 Rev P3;
Second Road Section	means that part of the Spine Road shown for indicative purposes including only the area with a broken hatched green line on plan titled 'Site plan - Spine road linkage plan' with drawing number 22.152-HGP-XX-00-SK-A-1027 Rev P3;
S278 Agreement	means an agreement between the freehold owner of the land comprising the Spine Road and the Council as local highway authority under sections 278 and 38 (without limitation) of the Highways Act 1980 and all other enabling powers to secure the construction and dedication of the Spine Road as an appropriate public highway by the Owner and the adoption of the Spine Road by the Council AND such agreement shall facilitate the construction and adoption of the Spine Road in the First and Second Road Sections;
Bus Contribution	means the sum of £[redacted] ([redacted]) (index linked in accordance with this Schedule) to subsidise bus travel to and from the Development to encourage



Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party. HGP accept no responsibility for inaccuracies or omissions of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and the project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design is subject to detail development / approval. Measurements and accommodation schedules subject to amendments following sound setout by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client.

VIVID

Site plan - Spine road linkage plan

P3	Spine road updated	01.05.24	JKR / MJV
P2	Road added	27.02.24	JKR / MJV
P1	First issue	21.11.23	JKR / MJV
Rev	Description	Date	Dwn / Chk

PROJECT	JOB NO
TIPTHER EAST REGENERATION	22.152
SCALE	DATE
1:3000 @ A0	Oct 2023
DRAWN BY/CHECKED BY	REVISION
JKR / MJV	P3
DWG#	STATUS
22.152-HGP-XX-00-SK-A-1027	PRELIMINARY

hgp

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enq@hgparchitects.co.uk
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	sustainable transport and reduce reliance on private motor vehicles;
Bus Route	means passage in both directions along the Spine Road through the Development at the Site for public buses including one or more bus stops (in both directions if required) for members of the public to embark and disembark from public buses engaged in the Bus Service or otherwise;
Bus Service	means a public bus service serving the Tipner area;
Spine Road	means the road and footways through the Development at the Site shown shaded red on plan titled 'Site plan - Spine road linkage plan' with drawing number 22.152-HGP-XX-00-SK-A-1027 Rev P3 that shall facilitate the Bus Service along the Bus Route (among other things).

6. The Owner covenants to enter into the S278 Agreement prior to the Commencement of any Phase containing Dwellings
7. The Owner covenants not to Occupy any Dwellings until the First Road Section of the Spine Road has been constructed and dedicated in accordance with the Section 278 Agreement for the First Road Section of the Spine Road.
8. The Owner covenants not to Occupy more than 500 Dwellings until the Second Road Section of the Spine Road has been constructed and dedicated in accordance with the Section 278 Agreement for the Second Road Section of the Development.
9. The Owner covenants to: (1) facilitate a Bus Route along the Spine Road for use by buses engaged in the Bus Service (or other bus services) and (2) ensure that the public are able to access the Development and pass and repass over the Spine Road as of right on foot, bicycle and vehicle (without limitation).

Park & Ride Access Linkage

The Owner covenants:

10. to submit to the Council for its written approval a plan delineating pedestrian (and other modes of transport as the Owner may see fit) linkage(s) from the Site to the park and ride site to the south west of the Site (whether the said park and ride is in the same form as at the date of this Deed or is undergoing or has undergone

redevelopment) ("**the Linkage Plan**") prior to first Occupation of any of the Dwellings;

11. to implement the Linkage Plan (and any other approved modes of transport) linkage(s) approved by the Council by constructing the linkage on the Site prior to Occupation of any Dwelling.
12. to maintain in perpetuity the linkage implemented further to the Linkage Plan approved by the Council.
13. in the event that the Council returns a submitted Linkage Plan to the Owner with suggested amendments, the Owner will resubmit the Linkage Plan in accordance with paragraph 10 with consideration of and responses to the Council's proposed amendments within 20 Working Days of it being returned by the Council (or such longer period as agreed in writing by the Council).

The Council covenants:

14. to review the first Linkage Plan submitted to it by the Owner and within 20 Working Days to either:
    (a) approve in writing the Linkage Plan as submitted; or,
    (b) return the Linkage Plan to the Owner with written suggested amendments

15. to review any resubmission of the Linkage Plan in accordance with paragraph 14(b) within 15 Working Days and make a further decision in accordance with either paragraph 14(a) or 14(b).

Car Park Management Plan

The Owner covenants to:

15. prior to first Occupation of any Dwelling within the Development, submit and obtain written approval of a plan ("**the Full Car Parking Management Plan**") to the Council detailing, without limitation:
    15.1. The location of car parking spaces with reference to the Dwellings they are reserved for;
    15.2. The time limits to be enforced against visitor and drop-off car parking spaces;



Tipner Pound Site, Twyford Avenue, Portsmouth

Framework Travel Plan

September 2022

VIVID Homes Ltd

RESIDENTIAL DEVELOPMENT
TIPNER POUND SITE
TWYFORD AVENUE, PORTSMOUTH

FRAMEWORK TRAVEL PLAN

CONTROLLED DOCUMENT

Document No:	146.0003/TP/2	
Status:	Original	
	Name	*Date*
Prepared by:	Adam Ford	August 2022
Checked by:	Caitlin Turley	August 2022
Approved by:	Mark Smith	August 2022

Revision Record				
Rev.	*Date*	*By*	*Summary of Changes*	*Aprvd*
2	22.09.22	AF	Client Comments	MS

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RESIDENTIAL DEVELOPMENT
TIPNER POUND SITE
TWYFORD AVENUE, PORTSMOUTH

FRAMEWORK TRAVEL PLAN

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Appendices

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Appendix B – Action Plan

1. INTRODUCTION

1.1 This Framework Travel Plan (FTP) has been prepared by Paul Basham Associates on behalf of VIVID Homes to support a full planning application for a residential development comprising of 835 units at Tipner Pound Site, Twyford Avenue, Portsmouth.

1.2 During scoping discussions with Portsmouth City Council (PCC), it was agreed that due to the phasing of the development, an extended monitoring period be used of 10 years. However, PCC suggested that due to the length of construction, it would be more suitable to prepare a Travel Plan for the first five years of development, and a new Travel Plan be prepared after five years to include the next stage of development and incorporate any changes to the surrounding area. Therefore, this FTP covers the site as whole and provides the principles for Travel Planning across the site, with the aim two travel plans would be prepared post planning.

1.3 In addition to this Travel Plan, a Transport Assessment (TA) and Non-Motorised User survey has been undertaken. All relevant documents, including the Design and Access Statement should be read in conjunction with this report.

Phasing of the Development

1.4 The proposed development comprises 835 units and will be constructed across 6 phases, lasting 8 years. This is expected to commence in 2023 and finish in 2031.

Purpose of the Travel Plan

1.5 A TP is a strategy for managing travel demand to a development site by addressing the travel needs of its future users, reducing the impact of car travel by promoting and facilitating the use of sustainable modes of transport, encouraging a reduced need to travel and increasing sustainable travel practices where appropriate. This TP supports access to a full range of local facilities and activities for future site users, whilst encouraging good design principles and working with the local community.

1.6 A TP is an evolving process initiated by a front-loading exercise through site visits, the completion of a TP, and frequent meetings and conversations between its authors (Paul Basham Associates), the client (VIVID Homes) and the Local Authority (PCC). As such the TP will develop over time following feedback received from monitoring exercises, local developments in sustainable transport and other external factors.

Travel Plan Principles

1.7 A successful TP must follow a set of principles to be determined acceptable and create a sustainable development. A TP must be Transparent, Realistic, Achievable, Committed, Enforceable and Sustainable (TRACES), as outlined in Portsmouth City Council guidance. This TP therefore aims to demonstrate that there are sustainable local travel options available, and measures proposed, along with an implementation and monitoring strategy.

Travel Plan Structure and Approach

1.8 This TP will follow the following structure:

- Chapter 2 – Travel Plan Policy
- Chapter 3 – Existing Conditions and Local Accessibility
- Chapter 4 – Proposed Development
- Chapter 5 – Indicative Baseline and Targets
- Chapter 6 – Travel Plan Strategy
- Chapter 7 – Implementation and Monitoring

2. TRAVEL PLAN POLICY

2.1 This TP has been produced in accordance with relevant national, regional and local policy. For reference this includes:

- National Planning Policy Framework (NPPF);
- Decarbonising Transport – A better, Greener Britain
- The Portsmouth Plan (2012)
- Local Transport Plan 4 (Portsmouth Transport Strategy 2021 – 2038)
- Portsmouth City Council (PCC)'s 'Parking Standards and Transport Assessments SPD' (July2014)
- Portsmouth City Council Local Cycling and Walking Infrastructure Plan (LCWIP) (2022)

National Planning Policy Framework (NPPF)

2.2 The NPPF (July 2021) acts as the central guidance for development planning. As defined in NPPF Annex 2: Glossary, a Travel Plan is '*a long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives and is regularly reviewed*' and is a requirement for developments which generate a significant amount of movement. The following NPPF paragraphs are relevant to the Travel Plan:

Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

a) *The potential impacts of development on transport networks can be addressed;*

b) *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*

c) *Opportunities to promote walking, cycling and public transport use are identified and pursued;*

d) *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*

e) *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.*

(NPPF Para.104)

The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestions and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.

(NPPF Para.105)

All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

(NPPF Para. 113)

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the

need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

(NPPF Para.186)

Decarbonising Transport – A better, Greener Britain

2.3 This plan sets out the government's commitments and the actions needed to decarbonise the entire transport system in the UK. It includes:

- Our pathway to net zero transport in the UK
- The wider benefits net zero transport can deliver
- The principles that underpin our approach to delivering net zero transport

2.4 Part 1a states the vision which is: Clean transport is better transport. The sale of new petrol and diesel cars and vans will be phased out by 2030 and all new cars and vans will be fully zero emission at the tailpipe from 2035. The plan expands the commitments to reduce and remove the use of fossil fuels from road transport. A decarbonised transport network does not simply mean changing how we power our vehicles. It means we can make better use of limited road space for all users, and provide more mobility options, especially for short journeys that dominate UK travel.

2.5 Part 1b refers to how to deliver net zero transport. There are 6 strategic priorities:

- Accelerating modal shift to public and active transport
- Decarbonising Road Transport
- Decarbonising how we get our goods
- UK as a hub for green transport technology and innovation
- Place-based solutions to emissions reduction
- Reducing carbon in a global economy

2.6 These priorities reflect the themes and view of the future to decarbonise the transport system before 2050.

2.7 Part 2 is the plan in detail. Part 2a refers to decarbonising all forms of transport by increasing walking and cycling, providing zero emission buses and coaches, decarbonising the railways, having a zero emission fleet of cars, vans, motorcycles and scooters and accelerating maritime and aviation decarbonisation.

2.8 Part 2b refers to multi-modal decarbonisation and key enablers by delivering a zero emission freight and logistics sector, delivering decarbonisation through places, maximising the benefits of sustainable low carbon fuels, referring to Hydrogen's role in a decarbonised transport system, discussing future transport with more choice and better efficiency, supporting UK research and development as a decarbonisation enabler and unlocking green finance.

The Portsmouth Plan (adopted January 2012)

2.9 The Portsmouth Plan by PCC sets out a vision *'to make Portsmouth the premier waterfront city, with an unrivalled maritime heritage- a great place to work, live and visit'*. To achieve this vision within the Portsmouth Plan a number of objectives are identified, which should be encouraged through new developments. Those most relevant are:

1. To make Portsmouth an attractive sustainable city; and
2. To make Portsmouth an accessible city with sustainable and integrated transport.

2.10 Portsmouth Plan Core Policy 'PCS1 Tipner' highlights the requirement for the proposal to improve the accessibility of the site and ensure it becomes a sustainable location for new development, transport improvements are needed such as a new motorway junction and improved public transport links to the city centre.

Local Transport Plan 4 (Portsmouth Transport Strategy 2021 – 2038)

2.11 The Local Transport Plan 4 (LTP4) was adopted in October 2021 and details the Council's vision for travel in Portsmouth up to the period 2038. It sets out Portsmouth's priority towards sustainable travel to help deliver cleaner air and healthier lifestyles for everyone who lives, works, visits and studies in the city. The vision is: "By 2038 Portsmouth will have a people centred, connected, travel network that prioritises walking, cycling and public transport to help deliver a safer, healthier and more prosperous city".

2.12 To support the vision, there are four strategic objectives, which are further expanded upon with a set of policies. The strategic objectives are:

- Deliver cleaner air
    - Prioritise walking and cycling
    - Transform public transport and
    - Support business and protect our assets

2.13 The policies relevant to this TP are:

- Policy B: Support infrastructure for alternative fuelled vehicles.
- Policy C: Make parking easier in residential areas through encouraging fewer vehicles and supporting shared transport modes.
- Policy D: Expand Portsmouth Park & Ride to create a transport hub to reduce pollution and congestion in the city and increase transport choices
- Policy F: Deliver and support residential and business behaviour change initiatives to encourage people to walk, cycle and use public transport and to travel more safely.
- Policy G: Establish a cohesive and continuous network of attractive, inclusive, safe and accessible walking and cycling routes accompanied by cycle parking facilities.
- Policy I: Improve the city centre, local and district centres by reducing or removing general traffic, with access focused on walking, cycling and public transport
- Policy J: Prioritise local bus services over general traffic to make journeys by public transport quicker and more reliable and support demand-responsive transport services.

Portsmouth City Council (PCC)'s 'Parking Standards and Transport Assessments SPD' (July2014)

2.14 This document sets out PCC's requirements for Travel Plans and a relevant extract is shown below.

"Travel Plans should be informed by a transport assessment/statement and should address the transport impacts of development by promoting sustainable travel choices and encouraging people to consider alternatives to using their cars. The aim of the travel plan should be to reduce the overall number of single-occupancy car trips to and from the proposed developments. The plan should determine targets to that effect along with specific remedies in the event that these targets are not achieved." (Parking Standards and Transport Assessments SPD, Para 6.4)

Portsmouth City Council Local Cycling and Walking Infrastructure Plan (LCWIP) (2022)

2.15 The LCWIP is in draft form and is expected to be adopted in 2022. The plan supports the Local Transport Plan 4 as well as the central government's Cycling and Walking Investment Strategy and aims to create an inclusive, active and sustainable travel network for a safer and healthier and thriving city by 2036.

2.16 The LCWIP provides a coordinated approach over the next ten years and highlights a range of measures over the short, medium and longer term. The key outputs which from the LCWIP are:

- Cycling and walking network plans which identify preferred routes and core zones for further development.
- A prioritised schedule of infrastructure improvements for future investment.
- Background report which sets out the underlying analysis on the narrative which supports the rationale for the identified network and prioritised improvements.

2.17 This TP has been written in accordance with the above policies to meet the sustainable requirements for new developments within PCC and increase the modal share of alternative transport options for the benefit of the proposed development and wider community.

3. EXISTING SITE CONDITIONS AND LOCAL ACCESSIBILITY

Site Location

3.1 The site is located on the outskirts of Portsmouth City Centre in the residential areas known as Tipner and Stamshaw. The site is currently occupied by vacant land and on parts of the site a number of disused buildings remain. The site is located west of Twyford Avenue and east of Park and Ride Portsmouth. The site is bordered by the wider Tipner East development to the south, Park and Ride Portsmouth/M275 to the west, Tipner Lake to the north and the Mountbatten Centre to the east. The site has good access to the local facilities and is within 500m of the M275. The site and its surroundings are shown in **Figure 1**.

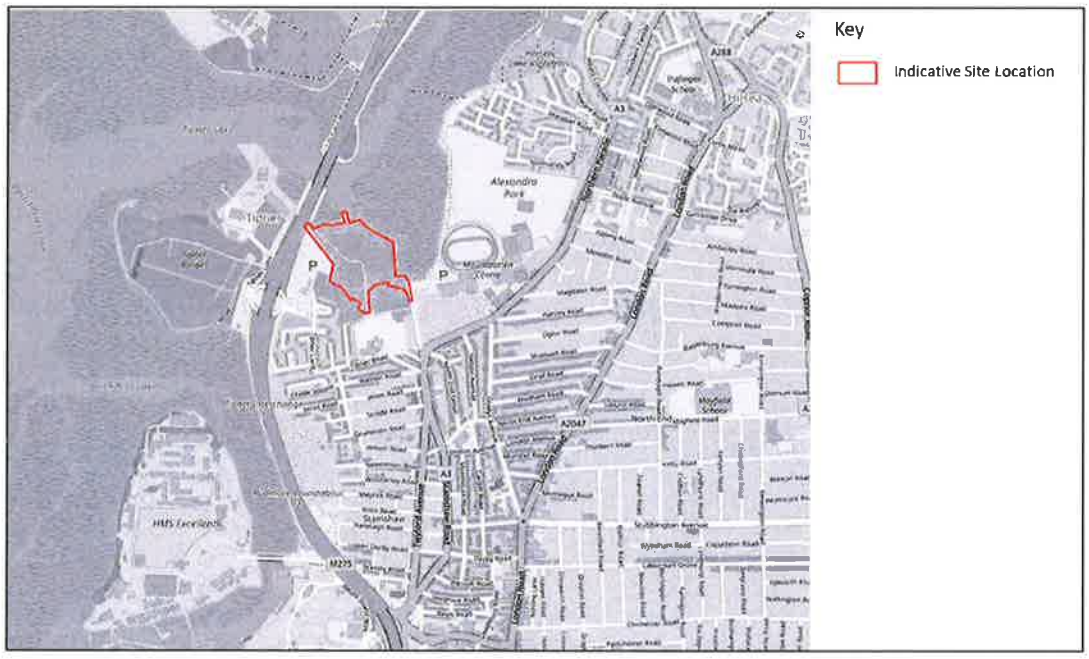


Figure 1: Site Location

Local Amenities

3.2 The application site is extremely well located to amenities and services within Portsmouth, Stamshaw, Tipner and North End. The site is located approximately 1km north of amenities on Twyford Road, circa 1.2km north of North End Local Centre and approximately 2.75km north of the Commercial Road high street in Portsmouth City Centre.

3.3 The site is located within walking and cycling distance of a number of local centres, including North End within a 20 minute walk which provides access to numerous retail units, pharmacies, doctors and food outlets. Commercial Road, which provides a wide range of retail outlets is accessible within a 10 minute cycle or a 6 minute bus ride via the Park and Ride route 1. Gunwharf Quay is accessible within a 20 minute cycle or a 12 minute bus ride on the same park and ride route. Cosham High Street is located 13 minute cycle away or a 3 minute bus ride via Blue Star route 12 from bus stops adjacent to the Twyford Avenue / Northern Parade junction.

3.4 Numerous educational institutions are located within the local area of the development. For example, Stamshaw Junior School located on Tipner Road is accessible within a 6 minute walk, Stamshaw Infant School is a 10 minute walk from the site, Kings Academy is a 17 minute walk and Trafalgar School and Mayfield School a 25 minute walk.

3.5 The site is also ideally located in relation to healthcare facilities in the local area. With the closest doctor's surgery being Derby Road Group Practice accessible via a 14 minute walk or a few stops on the 8 the STAR service. In addition, Kingston Crescent Surgery is accessible within a 20 minute walk or a 3 minute journey on the 8 the STAR bus service. In terms of Hospitals, Queen Alexandria hospital is located 4km from the site location and is accessible via a ten minute journey on the 8 the STAR service. This hospital has a 24/7 A&E department. St Mary hospital is located 3.8km distance from the site and is accessible via an 11 minute bus journey on the Bluestar 8 service from Gladys Avenue a 6 minute walk from the site location.

3.6 The site's proximity to existing local amenities, pedestrian links, public transport and cycle networks presents an excellent opportunity to encourage the use of sustainable travel modes, particularly for public transport. A summary of walking, cycling and bus times from the centre of the site is shown in **Table 1**.

Amenity	Approximate Distance from Site Access	Approximate Walking Time (80m per minute)	Approximate Cycle Time (250m per minute)	Approximate Time by Bus (minutes)
Education				
Stamshaw Junior School	550m	7	2	-
Stamshaw Infant School	900m	11	4	
Kings Academy Northern Parade	1400m	18	6	
Mayfield School	1800m	23	7	
Trafalgar School / UTC Portsmouth	1900m	24	8	
Highbury Campus	3200m	40	13	24 minutes
University of Portsmouth	3600m	45	14	24 minutes

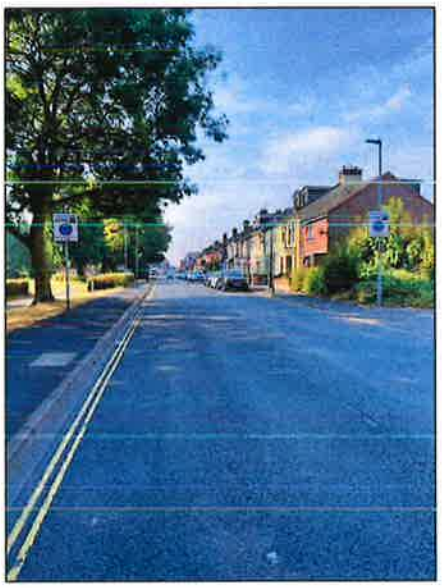
Retail				
The Co-operative Food	800m	10	3	
Tesco Express, London Road	1300m	16	5	
Post Office	1400m	18	6	
Lidl, London Road	1500m	19	6	
Cosham High Street	3400m	43	14	18 minutes
Ocean Retail Park	3200m	40	13	37 minutes
Gunwharf Quays	4400m	55	18	30 minutes
Leisure				
Alexandra Park	400m	5	2	
Mountbatten Centre	550m	7	2	
Nuffield Health Portsmouth	800m	10	3	
Healthcare				
Nuffield Health Centre	750m	9	3	
Rowlands Pharmacy	1300m	16	5	
Derby Road Group Practice	1300m	16	5	17 minutes
Hilsea Dental Clinic	1300m	16	5	
City Pharmacy	1400m	18	6	
Kingston Crescent Surgery	1800m	23	7	20 minutes
St Marys Hospital	4300m	54	17	30 minutes
QA Hospital	4300m	54	17	19 minutes
Public Transport				
Closest Bus Stop (Mountbatten Centre)	600m	8	2	
Park and Ride Portsmouth	200m	3	1	
Hilsea rail station	2800m	35	11	
Portsmouth and Southsea rail station	3400m	43	14	23 minutes
Portsmouth Harbour rail station	4300m	54	17	25 minutes
Employment Areas				
Ferry Terminal	2000m	25	8	23 minutes
		0	0	
Limberline Industrial Estate	2600m	33	10	24 minutes
Commercial Road	3000m	38	12	23 minutes
Highgrove Industrial Park	3400m	43	14	51 minutes

Table 1: Local Amenities and Facilities

3.7 **Table 1** demonstrates that there are numerous amenities located within 800m (10-minute walk), and further opportunities available within a 20-minute walk (1.6km), which is in line with the maximum anticipated distance people are willing to walk according to Sustrans "Walkable neighbourhoods: how to reduce car dependency in new developments".

Pedestrian Network

3.8 Footways are present on both side of Twyford Avenue, measuring between 2m and 2.5m in width. In addition, a further path is provided through Alexandra Park. Tactile paving is provided at the Mountbatten Centre vehicle access point to allow continuous pedestrian movement. An on-street cycle route is also delineated along the western side of Twyford Avenue at the northern end. Clear way finding is provided adjacent to the park to indicate walking and cycling routes in the vicinity of the site. The existing conditions of this footway/cycleway is demonstrated in **Photograph 1** and **2**.

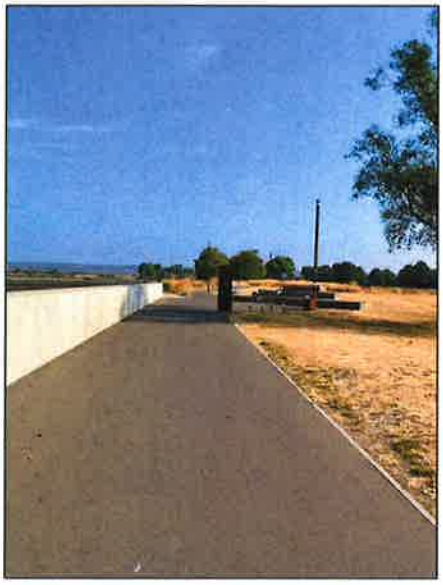


Photograph 1: Footway along Twyford Avenue

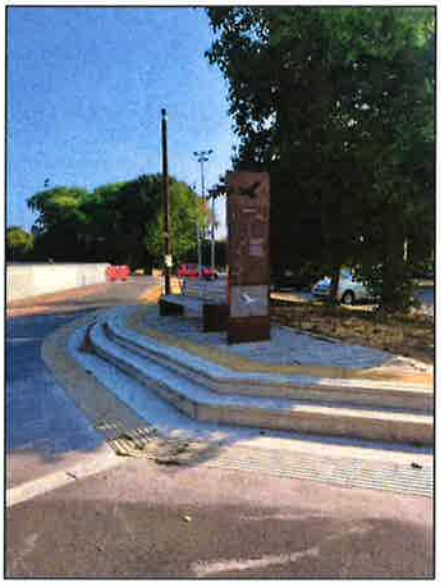


Photograph 2: Clear signage on Twyford Avenue

3.9 The sea wall which runs in a southwest / northeast direction from the northern end of Twyford Avenue towards Hilsea and Cohsam provides a wide and street lit traffic-free route. Signage and seating are provided at regular intervals throughout the route, however it is acknowledged that during poor weather conditions this may not be as attractive a route. This is shown in **Photographs 3** and **4**.



Photograph 3: Seawall Shared Cycle / Footway



Photograph 4: Seating along Sea Wall Route

3.10 To the north of the site, Northern Parade provides a key walking route towards Hilsea. Street lit footways are provided on both sides of the carriageway, with dropped kerbs and tactile paving provided at the majority of junctions. Where vehicle crossovers to rear driveways are provided, white lining on the cross over warns drivers to be aware of cyclists. At the southern end of Northern Parade, the footways are separated from the carriageway by a verge. Signage on the western side of the carriageway indicates that this is a shared cycle / footway, however it is acknowledged that the width may not meet LTN 1/20 requirements (dependant on the level of activity experienced). Advanced cycle stop lines are provided at some signalised crossing points. This is illustrated in **Photograph 5** and **6**.



Photograph 5: Shared Cycle / Footway on London Parade



Photograph 6: Advanced Cycle Stop line at Mataplan Road Junction

3.11 To the south of the site, Twyford Avenue / Stamshaw Road provide pedestrian and cycle connections southwards. These two roads form one-way routes and feature coloured on-street cycle lanes. Where parking is located on both sides of the road, the cycle lane is not present and signs on the carriageway indicate for cyclists to join the main lane of traffic. Street lit footways are provided on both sides of the carriageway, with dropped kerbs and tactile paving provided at junctions.



Photograph 7: Shared Cycle / Footway on London Parade



Photograph 8: Cycle Lane on Twyford Avenue

3.12 To the south of the site, running along the Bellway land, a shared cycle footway provides a connection between Target Road and Twyford Avenue. This is expected to be upgraded as part of the Bellway application.



Photograph 9: Cycle route from Target Road to Twyford Avenue



Photograph 10: Cycle route from Target Road to Twyford Avenue

3.13 In addition to this review of existing walking and cycling infrastructure, a detailed NMU assessment has been undertaken and is submitted under separate cover.

3.14 A number of roads to the southeast of the site are one-way and feature cycle markings indicating they are recommended for cyclists. However, there are no formal cycle lanes along these roads due to existing on-street car parking. Examples of these routes are shown in **Photograph 11** and **12.**



Photograph 11: Example Cycle Route on Oriel Road



Photograph 12: Example Cycle Route on Lyndhurst Road

Strategic Cycle Network

3.15 The roads surrounding the site have a gentle gradient and are subject to a 20mph speed limit which makes it an attractive environment for cyclists. A number of roads in the vicinity of the site are recommended by PCC as low traffic routes for cyclists, including Target Road, Tipner Lane and North End Grove. Shared cycle / footways are highlighted along the Sea Wall and along the western and eastern side of the M275, which provide traffic free routes to the south. In addition to those shown below, the presence of on-street coloured cycle routes on Twyford Avenue and Stamshaw Road should be acknowledged. Cycle routes promoted by PCC are shown in **Figure 2**.



Figure 2: PCC Promoted Cycle Routes

3.16 Furthermore, there are several local cycle routes both on and off road within close proximity to the site. The National Cycle Network Route 22 is an on-road route from Banstead to Portsmouth and the Isle of Wight. There is also National Cycle Network Route 222 located to the north-west of the site which is a mostly traffic-free route between Guildford and Shoreham.

3.17 The local area benefits from an active cycling network, with several cycle stores in close proximity to the site. The closest cycle store is Cycle World Portsmouth which is located approximately 5 minutes cycling distance east from the site. There is also Halfords Portsmouth which is approximately 3km (12 minute cycle) east of the site.

3.18 Many of the local amenities featured in **Table 1** have significant cycle parking including 5 large cycle racks at Gunwharf Quays. In Southsea, numerous Sheffield bike stands are found throughout the street scene.

Bus and Park and Ride

3.19 The site is easily accessible by bus, with stops located on London Parade (600m) and the Park and Ride facility which would have a strong pedestrian connection located 200m from the site. The existing bus routes accessible from these bus stops are shown in **Table 2**.

Service	Route	Stop	Operator	Frequency		
				Monday - Friday	Saturday	Sunday and Public Holiday
8 theSTAR	The Hard - Gunwharf - Stamshaw - Hilsea - QA Hospital - Widley - Cowplain - Horndean - Clanfield	Mountbatten Centre	First	Every 20 mins First bus: 0628 Last bus: 2324	Every 20 mins First bus: 0618 Last bus: 2324	Every 20 mins First bus: 0718 Last bus: 2324
12	Tipner - Gladys Avenue - Chichester Road - Copnor Bridge - St Mary's Hospital	Mountbatten Centre	First	Every hour First bus: 0933 Last bus: 1433	0933, 1033, 11,33	No Service
20	Portsmouth – Stamshaw – Hillsea – Queen Alexandria Hospital – Cosham – Leigh Park – Havant	Mountbatten Centre	Stagecoach	Every 30 mins First Bus: 0618 Last Bus: 1934	Every 30 mins First Bus: 0648 Last Bus: 1934	No Service
P&R 1	Park and Ride to City Centre	Park and Ride	Park and Ride	Every 15 mins 07:00 – 19:00	Every 10 mins 08:00 – 19:00	Every 15 mins 09:00 – 17:45
P&R 3	Park and Ride to Southsea	Park and Ride	Park and Ride	Every 30 mins 08:05 – 18:05	Every 30 mins	Every 30 mins

Table 2: Summary of Local Bus Services

3.20 The Mountbatten Centre bus stops benefit from shelters, seating, timetables and electronic service updates. These bus stops are shown in **Photograph 13** and **14**.



Photograph 13: Avenue Hotel Bus Stop



Photograph 14: Bus Stop Northern Parade

3.21 The proximity of these bus stops and the park and ride, with their frequent services to a range of destinations provide a very realistic opportunity for local commuters who may live at the site and work in the employment hubs described in **Table 1**.

Rail Network

3.22 The closest train station to the site is Hilsea Railway Station located approximately 2.8km north east of the site (34 minute walk). From this station services to London Waterloo, Portsmouth & Southsea, Portsmouth Harbour, Littlehampton and Southampton Central are available. This station is accessible in a 13 minute cycle, with cycle parking available at the station. Hilsea Railway Station does not have a car park which further encourages residents to travel to the station sustainably.

3.23 Hilsea Railway Station is not directly accessible by bus and is it therefore considered attractive that residents would also travel to Portsmouth and Southsea Railway Station from the site.

3.24 Portsmouth and Southsea Railway Station is located approximately 3.9km to the south of the proposed development (a 13-minute cycle) and is accessible via a 7 minute journey on the Park and Ride 1 or the number 8 the STAR bus service. Portsmouth and Southsea Railway Station provides users with 114 sheltered bicycle storage spaces, customer help points, CCTV, Wi-Fi, toilets and refreshments. The station does provide users with a pay and display car park (20 spaces). The minimal number of spaces provided at the train station act as an additional incentive for people to cycle or use public transport to access the station. Services from this station connect to London Victoria, London Waterloo, Brighton and Southampton Central.

3.25 The local railway stations provide an attractive option for commuters with direct services to London Victoria, London Waterloo and Southampton Central. Two Services operate to London Waterloo with one fast service and one stopping service. These trains typically operate once per hour from 04:44 – 22:44, with high frequency during peak hours. Journey times to London Waterloo take approximately 1 hour 40 minutes on the express service and 2 hours 10 minutes on the stopping service. The stopping service provides access to numerous smaller stations in the South Hampshire Metropolitan Area. Journeys to Southampton Central run approximately every hour between 05:05 – 21:59 with a journey time of approximately 40 minutes.

3.26 The accessible nature of rail services from the site presents an excellent opportunity for residents to engage in cycle/bus then train commuter journeys.

Summary

3.27 The site is located to the north of an existing residential area and lies in close proximity to high quality pedestrian and cycle infrastructure, benefitting from on and off-road cycle routes, footways and footway/cycleways. In addition, the site is well located to frequent public transport services and key local amenities. It is therefore considered that the site is well located to encourage the uptake of sustainable travel modes.

4. PROPOSED DEVELOPMENT

4.1 This section of the report sets out the development proposals for the scheme, including quantum and type of development, level of car and cycle parking, refuse and recycling strategy, delivery and servicing, fire access, access arrangements and internal circulation.

Vision and Transport Strategy for the Site

4.2 The vision for the proposed development is to provide a high-quality environment which promotes a healthy lifestyle with access to open space and reduces the need for the private car as much as possible. The development will support active travel through providing walking and cycling facilities and links to existing public transport services.

4.3 The Transport Strategy's objectives for Tipner Pound would be:

1. Provide clear and legible hierarchy of streets which allows permeability through the site, enabling existing and future connections to the surrounding area.
2. Provide high quality cycle and pedestrian networks and infrastructure enabling safe movement for future residents and visitors.
3. Provide access to high quality public transport within a short walking distance of the site through connections to the future Transport Hub.
4. Encourage increased level of sustainable travel by providing reduced levels of car parking.
5. Locating general parking for apartments within the future Transport Hub, so parking is equidistant from the site as public transport hub is.
6. Provision of car club spaces and initial membership to encourage lower car ownership.
7. Provide secure, covered and accessible cycle parking.
8. Support use of electric vehicles and bikes through provision of electric charging points.

Accommodation Schedule

4.4 The development proposes 835 units, comprising 51 houses, 4 flats above garages and 780 apartments / maisonettes. 30% of all units will be affordable.

4.5 43 of the proposed houses will be located in the section to the south of the internal spine road, which comprise 3 four-bedroom (m3(4) compliant) and 40 three-bedroom dwellings. A further 8 town houses would be provided to the north of the spine road which will be three-bedroom units.

4.6 The four flats above garages will be located in the southern section of the site and will comprise 2 one-bedroom units and 2 two-bedroom units.

4.7 The 780 maisonettes / apartments will be split across four maisonette blocks and 7 apartment blocks, providing a total 206 one-bedroom units, 515 two-bedroom units and 59 three bedroom units. Block K (37 units) will be located on the southern side of the spine road, adjacent to the Park and Ride. Block F (15 units) will be located on the southern side of the spine road at the entrance to the development from Twyford Avenue. The remaining apartment and maisonette blocks will be located to the north of the spine road.

4.8 In addition, Blocks F, J and K will feature ancillary commercial / community units on the ground floor including an ecology education facility. These units are shown in the site layout attached within **Appendix A** will measure the following:

- Block E – 165m^2
- Block F - 129 m^2
- Block J - 188m^2
- Block K - 235 m^2

Vehicle Access and Circulation

4.9 The principal access to the site will be via the northern end of Twyford Avenue, adjacent to Tipner Lake.

4.10 Twyford Avenue forms a connection with the main spine road within the site, which will follow an east to west alignment. This spine road will be a no through road as there will be no vehicular link to Park and Ride Portsmouth to the west.

4.11 The northern section of the site would be accessed via a secondary and tertiary access road measuring 6.0m in width. These roads would provide access to parking bays and will form a turning head in the western section of the site, accommodating a refuse vehicle turning around.

4.12 The southern section of the site would be accessed via a network of secondary and tertiary roads measuring between 3.6m and 5.5m in width. Some roads will form one-way access only, whilst others would provide two-way vehicle routes. Roads which are expected to have low vehicle usage are proposed to be shared surface. Appropriate radii will also be provided where larger vehicles are expected to require access. These roads are proposed to connect within the Bellway site in two locations. However, areas for widening have been safeguarded in the event that the Bellway site does not come forward.

Pedestrian/Cycles Connections

4.13 The site would be accessed via Twyford Avenue, however there would be strong pedestrian and cycle connections/desire lines into the neighbouring Transport Hub, which would be delivered by PCC, for which a detailed planning application is currently being progressed.

4.14 A 3.0m wide footway/cycleway will run along both sides of the man spine road in line with LTN1/20 principles (up to 300 cyclists per hour). This route would provide a segregated route from traffic and provide a connection towards the existing on-street cycle route along Twyford Avenue and the sea wall route. Three raised tables are also proposed on the main spine road to ensure permeability for pedestrians.

4.15 To ensure that the cycle route remans attractive the number of vehicle accesses along the route have been reduced, no vehicle crossovers are located along the spine road, only access points to the secondary and tertiary road network.

4.16 Further pedestrian connections are also provided into the Bellway scheme from the southern section of the site. Future non-motorised user connections into Tipner West have also been safeguarded.

Car Parking

4.17 The "Parking Standards and Transport Assessments" (2014) supplementary planning document sets out parking standards for residential units, dependant size of unit. These require 1 space per one bedroom, 1.5 spaces per two – three bedroom and 2 spaces per four bedroom unit. A further 10% is expected for visitor parking. The proposed development would provide car parking below these standards, which is set out in more detail below.

4.18 The relationship between car parking supply and car ownership is intrinsically linked. The study "Does Residential Parking Supply Affect Household Car Ownership - Journal of Transport Geography 18-28" found that the amount of parking supply has a significant influence on decisions relating to car ownership. The influence of car parking is more dominant than other influencers such as household income and demographic characteristics. Therefore, the lower car parking provision is expected to encourage lower car ownership levels.

Apartments, Maisonettes, FOGs and Townhouses

4.19 Circa 0.5 parking spaces per unit would be available for use within the Transport Hub for the apartments, maisonettes, FOGs and townhouses (northern section of site). It is anticipated that these would be managed through a permit scheme within the proposed Transport Hub, equating to circa 396 spaces. It should be noted that strategies have been developed for temporary car parking provision should the Transport Hub not be delivered prior to occupations at the Vivid Tipner Pound site.

Houses (southern section of site)

4.20 Each of these 43 houses would have a garage, with 2 of these having double garages and the remaining 41 having one on-street / on-plot car parking space each. Three of the on-street parking spaces would be disabled.

Disabled Parking

4.21 39 disabled spaces are proposed on the main site to serve the apartments. 24 of these disabled spaces are allocated to the 24 M3(4) units proposed, whilst the remaining 15 are assigned to each block respectively.

Drop Off / Short Stay / Visitor Parking / Unallocated Spaces

4.22 A total of 69 spaces would be provided across the site for visitor, drop off, short stay parking and unallocated spaces, these are split across both the westerly end of the spine road and around the access road. This is to ensure no overspill in car parking on the surrounding road network. It is proposed that some of these bays would be used for short stay use and drop off, for activities such as dropping off shopping, heavy goods or childcare commitments. Appropriate signage would be used to differential between bays.

Electric Charging Points

4.23 All car parking allocated to the 43 houses would feature electric charging points, or alternatively the proposed garages would have charging points. 40 of the 69 drop off / short stay / visitor parking / unallocated spaces and 24 of the disabled spaces would also feature electric charging points. 30% of parking for the development within the Transport Hub will feature electric charging points.

Car Club Spaces

4.24 It is anticipated that one to two car club spaces would be provided within the site. These would be located within the visitor bays provided across the development. Initial discussions have been had with Enterprise Car Club who operate within the area.

Cycle Parking

4.25 The "Parking Standards and Transport Assessments" (2014) supplementary planning document sets out cycle parking requirements for new residentials developments which are set out below:

- One bedroom / studio – 1 space per dwelling
- Two to three bedroom – 2 spaces per dwelling
- Four or more bedrooms – 3 spaces per dwelling

4.26 Cycle parking will be provided in line with these standards. Cycle parking for houses will be provided within internal storage areas. For the apartments, these will be provided within internal communal cycle stores which will be secure.

4.27 In addition, two Sheffield stands are proposed adjacent to each of Blocks E, F J and K for use by those visiting the development and the commercial units within the ground floor units in these buildings. This is in line with BREEAM UK New Construction 2018 which requires 4 spaces per small retail unit. This guidance is referred to within the PCC guidance.

Servicing Arrangements

4.28 All delivery and servicing activity will be undertaken within the site, and multiple in-set loading bays are provided along the road network.

Refuse and Recycling Collection

4.29 Refuse and recycling stores are located within each apartment / maisonette block. These are accessible from the kerbside therefore refuse vehicles are expected to either use the dedicated servicing bays or wait on street.

4.30 Town houses would have separate refuse storage areas, which are accessible from the kerb. Refuse vehicles will be able to utilise the majority of access roads, however those which are not wide enough would have small radii to discourage larger vehicles manoeuvring into the road. Where refuse stores are located outside the maximum 25m drag distance, bin presentation points are provided within a 30m carry distance of the unit.

5. INDICATIVE BASELINE AND TARGETS

Travel Plan Aim

5.1 The overall aim of the TP is:

"To support a sustainable development by reducing the need for private car trips through highlighting and promoting the use of more sustainable travel methods."

Travel Plan Objectives

5.2 Specific to this TP, the objectives are:

- Reduce vehicle trips and their subsequent impact on the local road network;
- Maximise the opportunities for travel by alternative means;
- Promote pedestrian and cycle routes both on and off-site;
- Promote local public transport; and
- Ensure safe and easy access for all site users

5.3 Meeting these objectives will help achieve a development that has a high standard of sustainable travel practices and a decreased reliance on the private car, thus reducing the impact of car travel on the local road network.

Baseline Travel Patterns

5.4 In order to establish a baseline travel pattern for future residents at the site, Census Method of Travel to Work data has been used, which is shown in **Table 3**.

Mode of Travel	Indicative Baseline from Census
Car Driver	58%
Car Share	4%
Public Transport	9%
Walking	10%
Cycling	11%
Taxi	1%
Motorcycle	2%
Other	6%
Total	**100%**

Table 3: Indicative Baseline Splits Based on 2011 Census Data

5.5 The Census Method of Travel to work demonstrates that 58% of existing residents in the surrounding area are expected to drive alone, followed by 11% walking, 10% cycling and 9% by public transport.

5.6 Residents at the future development are expected to have different travel patterns to existing residents, due the vision and Transport Strategy for the site and the car parking proposals.

5.7 The baseline modal split would be determined through a TRICS Standard Assessment Methodology (SAM) Survey undertaken at a key milestone relating to the development's occupation. The baseline survey would be conducted within 3 to 6 months of the occupation of 75% occupation of the first phase of development (Phase 1 – Apartment Blocks D, E and F plus Maisonette Blocks 2 and 3).

5.8 This survey would help to establish accurate site-specific baseline travel patterns for the development, which are expected to exhibit lower reliance on private car trips to those set out in **Table 3**. Details of the survey schedule are outlined in **Section 7**.

Travel Plan Targets

5.9 To enable the progression and assessment of the success of the travel plan, it is key that SMART targets (Specific, Measurable, Achievable, Realistic and Time-bound) are implemented.

5.10 The proposed development aims to reduce car dependency, therefore the following targets are proposed across the lifetime of the Travel Plan, shown in **Table 4**.

Mode of Travel	Year 3	Year5	Year 8	Year 10	Future target Mode Share
Car Driver	-5%	-10%	-15%	-20%	38%
Car Share	+1%	+2%	+3%	+4%	8%
Public Transport	+2%	+4%	+6%	8%	17%
Walking	+1%	+2%	+3%	+4%	14%
Cycling	+1%	+2%	+3%	+4%	15%

Table 4: Indicative Targets Based on 2011 Census Data

5.11 **Table 4** demonstrates that the Travel Plan aims to reduce private car driver trips by 20% over a 10-year period and increase car sharing by 4%, public transport by 8% and walking / cycling by 4% respectively. These targets will be updated following receipt of the first baseline travel survey. For example, if private car use is found to be significantly lower, then other modal shifts may be considered for example encouraging a shift from public transport onto active travel options.

6. TRAVEL PLAN STRATEGY

6.1 A Travel Plan is a useful tool produced to encourage residents to use alternative modes of transport to single occupancy vehicle journeys. The following provides a summary of the measures available to target users of the development site.

Measures Package

6.2 In addition to the proposed footway / cycleways which run through the site and the proposed offsite mitigation proposed as a result of the NMU, the following section proposes a package of soft measures to be implemented and refined by the TPC over the lifetime of the TP. The measures proposed are strongly influenced by the site location, the TP aim, objectives and targets and the local and national policy.

6.3 The measures set out in this section will be determined based the potential for achieving a 20% modal shift, which will help reduce greenhouse gas emissions. These measures have been identified through the master planning process and the Transport Assessment submitted as part of the application and by drawing upon community transport solutions.

Key Stages: Preliminary

6.4 In order to meet the objectives of the TP it is essential that a number of tasks are completed prior to the first occupation, as outlined within the site's Action Plan (**Appendix B**). These include:

- Appoint a Travel Plan Coordinator for the development
- Travel Plan Coordinator to contact PCC and confirm monitoring strategy and confirm action plan
- Establish contact with local service providers (cycle store, Voi scooters, Park and Ride and local bus services)
- Develop site webpage
- Prepare updated Travel Plan for the first five years of development
- Liaise with sales representatives to agree how welcome packs are to be distributed
- Liaise with car club operator to obtain details of car club credits and initiatives
- Produce Resident Welcome Pack (TPC) including:
    - Walking and cycling routes;
    - Information on public transport facilities including bus, rail and park and ride;
    - Electric charging information;
    - Car club information and benefits;
    - Details of car parking arrangements and permit system;

- Details of cycle parking storage: and
- Details of the TPC.

Key Stages: Five to Ten Years Following Occupation 75% of the Phase 1

6.5 It is proposed that the TP period would become fully active upon occupation of 75% of the first phase of development and would remain active for 5 years following that date. However, after five years the Travel Plan would be updated and renewed to incorporate any changes to the local sustainable infrastructure. After the 10 years of official monitoring has ended and PCC have signed off the TP, ownership would pass to the local community.

6.6 During these ten years, the Action Plan set at the preliminary stage would evolve to reflect the needs of the residents. Such measures would be determined by the TPC in dialogue with occupants of the site, PCC and other key players as necessary. These measures are discussed in further detail in the remainder of this section and are included in the Action Plan which is included in **Appendix B**.

Modal Measures: Walking and Cycling

6.7 This TP has summarised the local walking and cycle networks and the facilities which this TP would promote to residents. These will be detailed to residents in their welcome pack and through the biannual newsletters (as discussed later in the report).

6.8 The accessibility review and baseline modal splits indicate that active travel modes are a key travel mode for existing residents/staff in the area due to well-lit, wide footways and a number of facilities and amenities within reasonable proximity to the proposed development.

6.9 It is hoped that the proposed improvements to the physical infrastructure will help this become an even more favourable travel mode.

6.10 The TPC would work with walking and cycling campaigns and support local and national campaigns and events (i.e. Cycle to Work Day and local bike doctor events). To incentivise walking and cycling the TPC will investigate the option of discounts at local stores to maximise potential for residents to habituate walking and cycling as part of healthy lifestyle practices, whether for daily commuting or occasional leisure.

6.11 Portsmouth City Council and Hampshire Constabulary (HC) offer free security marking for bike, where, by a they are permanently marked by a unique code and added to the Bike Register Database. The Travel Plan co-ordinator will provide details of bike marking sessions and look to engage with PCC and HC to organise bike marking sessions at the development.

6.12 The TPC will also look to organise "Dr Bike" / "Bike Doctor" maintenance and repair sessions for future residents at the development, which could also be co-ordinated with the bike marking sessions.

6.13 PCC also offer free Bikeability Training up to Level 2 for every year six child in the city. In addition, the nearby Mountbatten Centre offers a range of cycling sessions for children of all ages and abilities, including junior biking academy, open biking and baby bikers. This will be promoted by the TPC.

6.14 Secure cycle stores are provided within each apartment and maisonette block. It is anticipated that a cycle toolkit will be provided within each store for use by residents.

Modal Measures: Public Transport

6.15 The baseline modal splits indicate that 9% of existing residents currently travel to work by public transport and therefore it is considered that the development provides an opportunity to promote bus travel as an alternative mode. Future residents are expected to exhibit higher levels of public transport use when compared to existing residents, and the following measures are proposed to help encourage increased level of public transport use.

6.16 The attractiveness of the bus services, particularly those from Portsmouth Park and Ride / Future Transport Hub and the Mountbatten Centre bus stop would be supported and promoted through tailored promotions.

6.17 Maximising resident use of public transport would also be supported through highlighting costs and benefits in comparison to single occupancy vehicle use through the use of the Welcome Pack and regular newsletters.

6.18 The TPC will promote rail services from Portsmouth and Southsea station as well as the potential link-trip afforded by the 8-theSTAR bus service which operates between the station and the Mountbatten Centre.

6.19 Currently PCC offer a free bus pass to those with disabilities. This will be promoted by the TPC, including criteria and information required to undertake the application.

Modal Measures: Car Sharing

6.20 Car sharing is a simple yet effective way of quickly reducing the number of single occupancy car trips, whilst bringing reductions in transport costs, congestion and pollution as well as social benefits including increasing resident interaction and creating a sense of community.

6.21 Liftshare is a well-established scheme and would be promoted to residents through newsletters, the welcome pack and the site travel plan website], to help them find potential lift sharing partners in the local area. The TPC will also look to promote the savings brought about through car sharing.

Modal Measures: Car Club

6.22 The CoMo UK England and Wales Car Club Summary Report 2020 shows that one car club bay could replace 9 cars, with 25% of respondents saying they had sold their car since joining and 22% saying they would have bought a car if they hadn't joined a car club. The implementation of such a scheme would therefore further reduce the need for residents of the proposed development to own a car.

6.23 The proposed development is expected to provide one to two car club spaces, along with those located in the future Transport Hub. These are expected to be operated by Enterprise, who are active in the area and vehicles are expected to either be low emission, electric or hybrid. As part of the Enterprise Car Club offering, each tenant is provided with a free Enterprise Car Club Membership and £50 "drive time" credit. Details of this will be provided with the Welcome Pack and will be promoted by the TPC.

6.24 PCC are also considering the implementation of their own city-wide car club scheme. Should this go ahead, details on the scheme will also be promoted.

Modal Measures: Sustainable Private Vehicle Use

6.25 Car parking across the main site will be managed by third party, to ensure no inappropriate car parking is undertaken and that visitor spaces are not misused. A permit strategy will be used to allocated car parking provided across the site and within the future Transport Hub. The parking located in the Transport Hub will be accessible within the same walking distance as the public transport facilities, which is expected to encourage sustainable travel from the outset, especially for smaller journeys.

6.26 On occasions when single occupancy vehicle use is unavoidable or where alternative travel options are significantly limited in comparison, opportunities to promote sustainable driving practices would be promoted.

6.27 A wider network of electric charging points is being explored across the County, encouraging the greater uptake of electric and hybrid vehicles. Altering the perceptions on hybrid vehicles, and in particular electric vehicles, is fundamental for creating a more sustainable development.

6.28 Electric vehicles now have significant ranges, with some vehicles achieving at least 300 miles before needing to be recharged. In addition, manufacturers are confident in the batteries that they are now offering 8-year warranties on some models.

6.29 Hybrid vehicles combine both electric motors with a standard combustion engine providing a normal driving scenario with the addition of an electric provision. Promotion of both electric and hybrid vehicles is becoming a key aspect of sustainable travel, and with Government grants available, this would be promoted as part of the TPC.

6.30 Details of electric charging points across the development will also be promoted by the TPC.

Modal Measures: Home/ Remote Working and Other Modes

6.31 Following the COVID-19 pandemic working from home and utilising technology to enable remote working in public locations such as cafes, and teleconferencing, have become a feature for many people's routines.

6.32 The TPC would continue to remind residents of the benefits of this type of work, particularly now that many individuals are spending at least one day a week at home, rather than in the office.

Personalised Travel Planning

6.33 Upon moving into their new home, households will be offered free personalised Travel Planning advice as part of their Welcome Pack. This will be provided by the TPC and will inform residents on how they can travel to destinations more sustainably in support of achieving the longer-term targets for the site. The literature provided will contain up to date information regarding public transport facilities, walking and cycling routes within the local area.

Marketing and Communication - Travel Plan Website/Newsletters/Posters

6.34 To ensure the ongoing promotion of the Travel Plan to residents, over its life a number of marketing and communication elements would be implemented.

6.35 Firstly, a dedicated Travel Plan website (e.g. https://tpc-paulbashamassociates.com) will be established prior to occupation, which provides residents with up to date information and latest changes to travel services, news and events. This would be reviewed biannually and updated as required, to ensure the latest travel information is suitably reflected.

6.36 The TPC would also produce biannual newsletters for the ten years of the Travel Plan, providing residents with updated sustainable travel information, details of any national events and offer personalised travel planning information, to their door.

Local Area and Other Site Users

6.37 The TP will promote the local area's facilities whilst actively engaging with local resident and community groups, the schools' TPC, as well as local events and businesses. Engagement with the active residential Travel Plan at the development to the south would be explored to provide an opportunity for a 'joined up working' approach to maximise resources and share best practice.

Visitors and Deliveries

6.38 As well as co-ordinating the promotion and practice of sustainable travel with the wider local community, the TP should be encouraging and extending sustainable travel opportunities to any visitors travelling to and from the site. Residents' positive sustainable travel experiences should have a knock-on effect to visitors.

6.39 Clear signage and wayfinding will be provided showing the location of loading bays and building entrances. This will also be communicated within the Welcome Pack.

Financial Incentives: Travel Voucher

6.40 The TPC would negotiate a 'Travel' Gift' incentive in the form of a sustainable travel voucher equating to a value of £100. This would be available for the first occupant of each unit. The TPC would negotiate with a number of local suppliers so that the voucher would be able to be used towards walking gear, bus passes, cycle equipment/repairs, car clubs, supermarket deliveries and Voi e-scooter credits.

6.41 To enable flexibility to residents and encourage an uptake of a range of modes it is proposed that a number of voucher options would be devised which offer a combination of travel modes. For example, a resident could request a £50 cycle voucher and a bus pass equivalent to the remaining £50.

6.42 It is proposed that the travel voucher options would be developed post planning between the TPC and PCC's TPO. The options on offer to residents would be informed by the results of the TRICS SAM survey, where feedback on the type of vouchers that residents would like to claim would be gathered. The requirement for the £100 travel voucher can be secured within the developments Section 106 agreement.

6.43 The voucher would be issued to residents and would be valid for a period of at least 6 months from request.

7. IMPLEMENTATION AND MONITORING

Implementation

7.1 The Travel Plan would be secured through a Section 106 agreement, which would confirm the proposed measures as well as any monitoring costs, required by Portsmouth City Council.

Travel Plan Coordinator

7.2 This section covers the implementation and monitoring of the development. The TPC position would be part-time over the life of the TP which at this stage is anticipated to be the Preliminary period followed by ten years of full implementation, beginning on occupation of 835 dwellings.

7.3 The TPC role and contact details will be finalised with Portsmouth City Council prior to occupation and following their appointment by the developer. The TPC would be responsible for the day-to-day implementation and monitoring of the TP to ensure targets are met. The early stages of the TP are relatively time intensive, and the budget should be 'front-loaded' to consider the work that is required to establish the TP.

7.4 More specifically, the role of the TPC requires:

- Overseeing the development and implementation of the TP and maintaining support:
- Liaising with public transport operators, local interest groups, Portsmouth City Council:
- Designing and implementing an effective marketing strategy and raising awareness:
- Attending relevant networking events:
- Organising travel-based events:
- Acting as the point of call for all TP enquiries: and
- Co-ordinating the monitoring and evaluation programme for the TP including organisation of surveys.

Surveys and Feedback

7.5 The TPC would undertake a consistent monitoring approach for the implementation of the TP, with the following aims in mind:

- Ensuring that surveys are undertaken at defined intervals;
- Ensuring that all are informed of the TP's aims and objectives including the HCC TPO, residents and the developer;
- That the TP is being adopted, at least in part by the local community/residents beyond the life of the monitoring period; and

- Resident fatigue is avoided by securing a time-efficient, user friendly and incentivised method of data collection which benefits and supports subsequent TP implementation.

7.6 With the above in mind the proposed monitoring approach of this TP is outlined in **Table 5**.

Preliminary	Baseline Resident Surveys (provided with Welcome Packs) and TRICS SAM Survey (within 3 months of 75% occupation of Phase 1)
Year 1	Resident Survey (12 months after 75% occupation)
End of Year 2	Resident Survey
End of Year 3	Resident Survey
End of Year 4	Resident Survey
End of Year 5	TRICS SAM Survey and Resident Survey
End of Year 6	Resident Survey
End of Year 7	Resident Survey
End of Year 8	Resident Survey
End of Year 9	Resident Survey
End of Year 10	TRICS SAM Survey and Resident Survey

Table 5: Survey Strategy

7.7 A TRICS SAM Survey is proposed to be undertaken within 3 months of months of the occupation 75% of Phase 1, and at the end of Year 5, 7 and 10. Additional resident surveys will be undertaken in Years 1, 4, 5, 6, 8, and 9 to compliment these surveys.

7.8 The results of the resident survey will be available for residents to view on the development's dedicated Travel Plan website and also included within newsletters, when appropriate.

7.9 The results of these TRICs surveys is proposed based on the guidance provided within the TRICs Decide and Provide approach. This will provide information to compare the results against the trip generation exercise undertaken within the submitted TA.

7.10 The site also has a role in building up the evidence base and monitoring outcomes, give the site has a strong sustainable vision and transport strategy. This is a fundamentally important aspect of the D&P approach.

7.11 An annual monitoring/progress report will be produced and submitted to Portsmouth City Council within 3 months of surveys taking place. This report will outline how the TP has been implemented for the year, along with a presentation of any survey results, analysis of the responses and information of measures implemented. The report will then conclude with an outline of the future monitoring strategy and a confirmation of targets and revisions where necessary/applicable.

Overcoming Barriers to Success

7.12 Mismanagement can become a potential barrier to the successful implementation of TP's. Whilst the TPC is responsible for the overarching management of the TP, ongoing co-ordination with Portsmouth City Council TPO will ensure that mismanagement does not occur.

7.13 Whilst specific remedial measures have not been identified within the Travel Plan, such remedial measures would be identified through discussions with Portsmouth City Council Travel Plan Officers. The 10-year budget for implementing the Travel Plan would be sufficient to ensure that remedial measures could be implemented. Such as if one measure is not working in Year 1, there would be budget in Year 2 to rectify this and change to new measures if needed.

7.14 If the five and ten-year target is not achieved, the requirement for remedial measures would be explored with Portsmouth City Council and would reflect the level of work already undertaken on the site.

Community Embedding and Handover

7.15 Following the successful completion of the TP's 10-year strategy, the site should be operating more sustainably than if a TP were not implemented. Through liaison with residents over the course of the TP it is hoped that champions would stand out and be able to continue promoting the ideals of the TP/ maintain the website etc.

7.16 Local engagement and a gradual handover is embedded within the proposed TP strategy and should form a key subject in annual liaison with Portsmouth City Council TPO as the TP draws to an end.

Appendix A


Block A
Block J
Maisonette Block 1
Block B
Block C
Maisonette Block 3
Block D
Block H
Maisonette Block 2
Block K
Block G
Maisonette Block 4
Block E
Block F
Block
1 Bed
2 Bed
3 Bed / 4 Bed
Sub Station / Maintenance Store / PV Batteries
Hydro Pumping Station
Community / Commercial Unit
VIVID
Site plan - Ground
PROJECT
DRAWN BY
CHECKED BY
SCALE
REVISION
hgp

Appendix B

Tipner East, Portsmouth

Actions	Responsibility	Timescale	Notes
TPC to contact PCC and agree Targets, monitoring and Travel Plan Action Plan	Vivid/TPC	Prior to first occupation	
Prepare Full Travel Plan to be updated at Yr 2/5	TPC	Prior to first occupation	
Establish contact with local service providers including cycle stores, Voi e-Scooters, Park & Ride, Enterprise Car Club and local bus services	TPC	Prior to first occupation	
Develop website	TPC	Prior to first occupation	
Prepare and distribute a Travel Welcome Pack (to be reviewed by PCC prior to distribution)	TPC	Prior to first occupation	
Determine communications strategy eg. personal meetings, newsletters	TPC	Prior to first occupation	
Travel Plan Night and Branding to be established	TPC	Prior to first occupation	
Prepare TP action plan for approval including Action Plans, Household details, Household Personal Travel Planning, Assistance/Communications, Local Key Players Contact Details, Survey Regime	TPC	Prior to first occupation	
Liaison with Sales Representatives to introduce TP and incentives available	TPC	Prior to first occupation	
Monitoring, Review and Evaluation			
Initial Baseline Travel Survey and TRICS SAM survey	TPC	3 month of 75% occupation of Phase 1	
End of Preliminary Phase Report and revise targets where necessary in liaison with PCC	TPC / PCC	End of Preliminary Phase	
	Preliminary Costs	£5,500	

Actions	Responsibility	Timescale	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Personal Travel Planning (General TPC Activities)													
Work within local community groups, attend meetings, share communications and liaise with other TPCS	TPC	Ongoing											
Maintain dialogue with local public transport service operators for service changes and promotions including bus, Park & Ride and train services	TPC	Ongoing											
Maintenance of local area walking / cycling route map and public transport information via online methods and newsletters	TPC	Ongoing											
Provide information on safe walking and cycle routes schools and key employment areas	TPC	Ongoing											
Keep up to date on local walking, cycling, public transport and car-sharing initiatives	TPC	Ongoing											
Promote local area key facilities, including walking and cycling	TPC	Ongoing											
Promote Walk to Work Week	TPC	Ongoing											
Promote Sustrans Big Cycle and Walk Challenge	TPC	Ongoing											
Promote local cycle events and local cycle maps	TPC	Ongoing											
Promote Bike Week	TPC	Ongoing	£ 11,690.00	£ 8,767.50	£ 8,767.50	£ 5,845.00	£ 4,383.75	£ 4,383.75	£ 5,845.00	£ 2,922.50	£ 2,922.50	£ 1,461.25	£ 56,988.75
Provision of information on local road network routes, fuel efficiency practices and fuel efficient vehicles and local electric vehicle charger provision	TPC	Ongoing											
Investigate and promote new and existing health walks	TPC	Ongoing											
Prepare cost comparison table for public transport against single car travel	TPC	Ongoing											
Promote Voi E-scooters and Park & Ride	TPC	Ongoing											
Organise Dr Bike / Bike Doctor Session	TPC	Ongoing											
Promote Bikeability Courses	TPC	Ongoing											
Promote / Organise Bike Marking Session with Hampshire Constabulary / PCC	TPC	Ongoing											
Promote sustainable travel to/from such as School	TPC	Ongoing											
Promotion of car sharing websites such as Liftshare and electric charging locations	TPC	Ongoing											
Promotion of car clubs, free membership and credits	TPC	Ongoing											
Promotion of home and remote working using case studies as possible evidence	TPC	Ongoing											
Encourage residents promotion of sustainable travel options to visitors	TPC	Ongoing											
Marketing Objectives													
Newsletters	TPC	Bi annual Event	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000
Website/ Social Media Updates	TPC	Bi annual Event	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500
Monitoring Objectives - Surveys and Travel Plan													
Annual Progress Review	TPC	End of Each Year	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 1,000	£ 5,000
Liaison with PCC	TPC	End of Each Year	£ 200	£ 200	£ 200	£ 200	£ 200	£ 200	£ 200	£ 200	£ 200	£ 200	£ 1,000
Arranging and Review of TRICS SAM Survey	TPC	Year 1, 5 and 10											
Travel Surveys	TPC	End of Each Year	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 500	£ 2,500
Handover	TPC	End of Year 10					£ 500						£ 500
		Year Estimates	£ 14,890	£ 11,968	£ 11,968	£ 9,045	£ 8,084						£ 67,489
													Preliminary Stage + Year Estimates £ 73,989

Disbursements		Cost	Estimated Quantity Required	Total
Subscription to Online Survey Tool	TPC	£300 per annum	10	£3,000
Travel Vouchers	TPC/Developer	£100 per unit	835	£83,500
TRICS Surveys (Year 1, 5 and 10)	TPC	£7,000 per survey (TBC)	3	£21,000
Pay-Back to Boats apartment / maisonette blocks	Developer	£15	54	£810
Manuals/ Printing Costs	TPC	Costs to be agreed with developer on an Ad-hoc basis		
			Disbursement 10 year total	£86,500

Project Details	
Scheme	Tipner Pound, Portsmouth
No. of Units	835
Personal Travel Planning Budget per unit	£ 70
Total Personal Travel Planning Budget	£ 58,450
1st Unit Occupation Target	TBC
Full Occupation Target	TBC
Applicant	Vivid
Local Authority	Portsmouth City Council
LA Travel Plan Officer	
Travel Plan Author	Caitlin Turley
Travel Plan Co-ordinator	TBC

Total Costs	
TPC Total Costs	£73,989
Disbursements	£86,500
TOTAL	£160,489

Version	Date	Updated By	Comment
1	29.08.22	Caitlin Turley	

15.3. Disabled parking space locations with reference to their appropriate proximity to Dwellings intended for occupation by disabled persons;

15.4. The location of the car club bay(s) and associated signage (including design and wording of signage) and appropriate ground bay markings to clearly designate the space for the car club vehicle(s) only;

15.5. An appropriate and lawful parking charge scheme to issue charges to vehicle owners or in appropriate cases remove vehicles to discourage inappropriate parking contrary to the Full Car Parking Management Plan, including appropriate signage at the Site explaining rules, charges and removal of vehicles;

15.6. The frequency and methodology for monitoring the implementation of the Full Car Parking Management Plan.

15.7. A review mechanism for the Owner or the Council to request changes to the approved Full Car Parking Management Plan.

16. To implement the approved Full Car Parking Management Plan upon Occupation of the first Dwelling.

17. To maintain the ongoing monitoring and enforcement of car parking within the Site and enforce car parking restrictions as detailed in the Full Car Parking Management Plan for the life of the development.

Council approval of plans

18. The Council covenants with the Owner to promptly review the first Full Car Parking Management Plan and to either:

18.1 approve each it in writing if it is acceptable without amendments; or,

18.2 make written recommendations for re-submission of it by the Owner if it is not satisfactory

in either instance within 20 Working Days

Car Club

The following additional definitions shall apply in this Schedule:

Car Club	means a car club facility (as described in greater detail in the Framework Travel Plan dated September 2022 submitted with the Planning Application and attached to this Deed as Schedule 8) located within the Site to encourage lower car ownership arising from

	the Development for use by residents of the Development and other residents of Portsmouth and the general public;
Traffic Regulation Order	any order required to facilitate the implementation of the Car Club pursuant to the Road Traffic Regulation Act 1984 including any amendment required to an existing order;

19. The Owner covenants to:

19.1. Submit for approval in writing by the Council a plan for the implementation of the Car Club ("Car Club Plan") within 6 months of the Commencement of ~~Development~~; a Phase containing dwellings

19.2. Implement in accordance with the approved Car Club Plan the Car Club at the Owner's expense prior to Occupation of any of the Dwellings;

19.3. Not to Occupy any of the Dwellings unless and until the Car Club has been implemented;

19.4. Make all reasonable endeavours to secure any Traffic Regulation Order(s) prior to the Occupation of any Dwelling at the Owner's expense and to implement any consequent works at the Owner's expense which may be necessary to implement the Car Club;

20. The Council covenants with the Owner to:

20.1. review the Owner's Car Club Plan produced under paragraph 19.1 of this Schedule and within 40 Working Days to either:

20.1.1. approve in writing the Car Club Plan as submitted; or,

20.1.2. return the Car Club Plan to the Owner with written suggested amendments.

20.2. to review any resubmission of the Car Club Plan in accordance with paragraph 19.1 within 15 Working Days and make a further decision in accordance with either paragraph 20.1.1 or 20.1.2.

Schedule 9

Sea Defences and Coastal Way

The following additional definitions shall apply in this Schedule:

Coastal Way	means the path for use by pedestrians and cyclists integrated with the Sea Wall as shown more particularly as a blue line on drawing 22.152-HGP-XX-00-SK-A -1028 Rev P2 'Site Plan - Coastal Way Plan';
Coastal Way Specification	A specification of the final design of the Coastal Way including but not limited to: a) Scaled drawings showing dimensions for the whole route that accord with good practice for shared pedestrian and cycle ways; b) Details of the access and egress points of the Coastal Way to and from the Development; c) Details of any signage proposed in relation to use of the Coastal Way by the public; d) Details of the maintenance arrangements for the Coastal Way; and includes any modification or replacement specification approved in writing by the Council from time to time.
Flood Risk Emergency Plan	means a plan for the mitigation of risk to the Development in the event of a flood event within the Development and users of the Coastal Way during adverse weather conditions (including the temporary closure of the Coastal Way as necessary) to be implemented in perpetuity by the Owner, subject to review agreed with the Council in writing from time to time;
Sea Wall	means the coastal flood defence wall and associated works including but not limited to the coastal walkway described more particularly in the Tipner East Development Flood Risk Assessment dated 27 January 2023 (appended to this Deed) to be constructed as part of the Development;

Off-Site West Sea Wall	means a continuation of the Sea Wall to the west outside the area of the Planning Permission adjacent to the M275 motorway to ensure that the Development is not susceptible to flooding around the Sea Wall as indicated in drawing no. 2225-HRW-XX-XX-DR-S-0001 Rev P4 - 'Sea Wall Plan';
Off-Site East Sea Wall	means a continuation of the Sea Wall outside the area of the Planning Permission from the eastern edge of the Sea Wall adjacent to the end of Twyford Avenue to link into the existing flood defences in that area to ensure that the Development is not susceptible to flooding around the Sea Wall as indicated in drawing 2225-HRW-XX-XX-DR-S-0003 Rev. P2 - 'Flood Barrier Plan'.

The Owner covenants:

Sea Wall, the Off-Site West Sea Wall and the Off-Site East Sea Wall

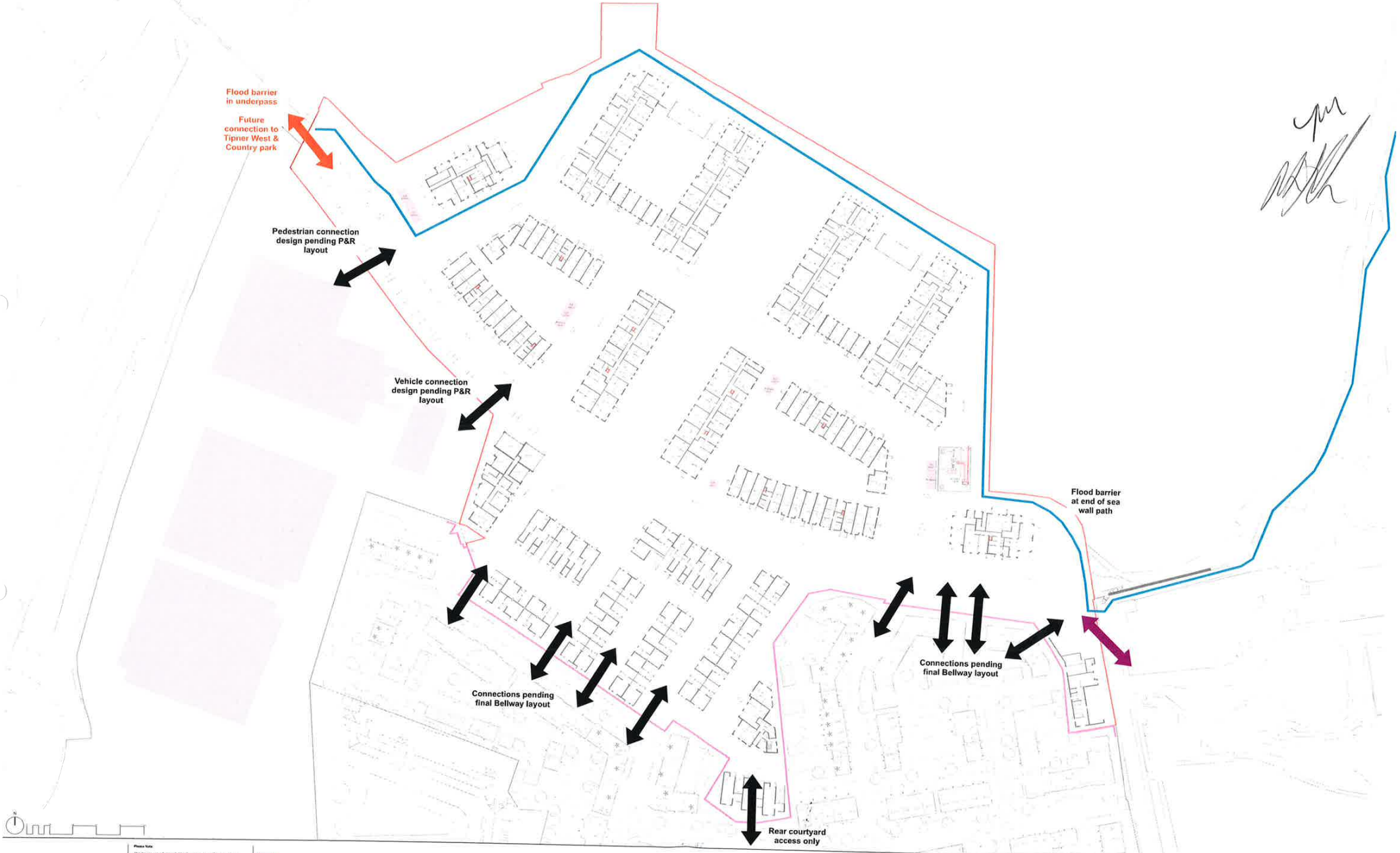
1. Not to Occupy any Dwelling prior to the completion of the Sea Wall, the Off-Site West Sea Wall and the Off-Site East Sea Wall.
2. Not to Commence the Sea Wall, the Off-Site West Sea Wall and/or the Off-Site East Sea Wall prior to receiving the Council's written approval of a build programme and a scheme of maintenance with funding in perpetuity for the Sea Wall, Off-Site West Sea Wall and the Off-Site East Sea Wall.
3. To complete the Sea Wall prior to the Occupation of any Dwelling.
4. To construct the Sea Wall in accordance with the build programme approved by the Council pursuant to paragraph 2 above.
5. To maintain the Sea Wall once constructed in perpetuity in accordance with the scheme of maintenance approved by the Council pursuant to paragraph 2 above.

Flood Risk Emergency Plan

6 To submit to the Council for its written approval a Flood Risk Emergency Plan not less than 3 months prior to completion of the Sea Wall.

7 In any event that the Council requires re-submission of the Coastal Way Specification, to re-submit the Flood Risk Emergency Plan with amendments responding to the Council's recommendations in not more than 20 Working Days.

8 To implement the approved Flood Risk Emergency Plan (and any variation approved from time to time in writing by the Council) in perpetuity from


Flood barrier in underpass
Future connection to Tipner West & Country park
Pedestrian connection design pending P&R layout
Vehicle connection design pending P&R layout
Flood barrier at end of sea wall path
Connections pending final Bellway layout
Connections pending final Bellway layout
Rear courtyard access only
Pedestrian & vehicle access
Pedestrain access
Coastal Way
VIVID
Site plan - Coastal way plan
PROJECT
TIPNER EAST REGENERATION
JOB NO
22.152
SCALE
1:500@A1
DATE
Oct 2022
DRAWN BY/CHECKED BY
JKR / MJW
REVISION
P2
DWG#
22.152-HGP-XX-00-SK-A-1028
STATUS
For Planning
hgp



Detail 1
Scale 1 : 100

1:500@A1 10m 20m 30m 40m 50m



Key Plan

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANT'S INFORMATION

Rev	Date	Description	Drn	Chk
P4	04.11.22	Planning Issue	JBH	DK
P3	17.11.22	Planning Issue	JBH	SH
P2	17.11.22	Planning Issue	JBH	SH
P1	14.10.22	Planning Issue	JBH	DK

engineersHRW

Project
Tipner East Regeneration

Drawing title
Sea Wall Plan

Scale at A0	Drawn by	Date	Chk'd by
As indicated	DJP	DEC 2022	SH

Status: Purpose For Issue
S1 COORDINATION

Drawing Number: 2225-HRW-XX-XX-DR-S-0001 Rev P4

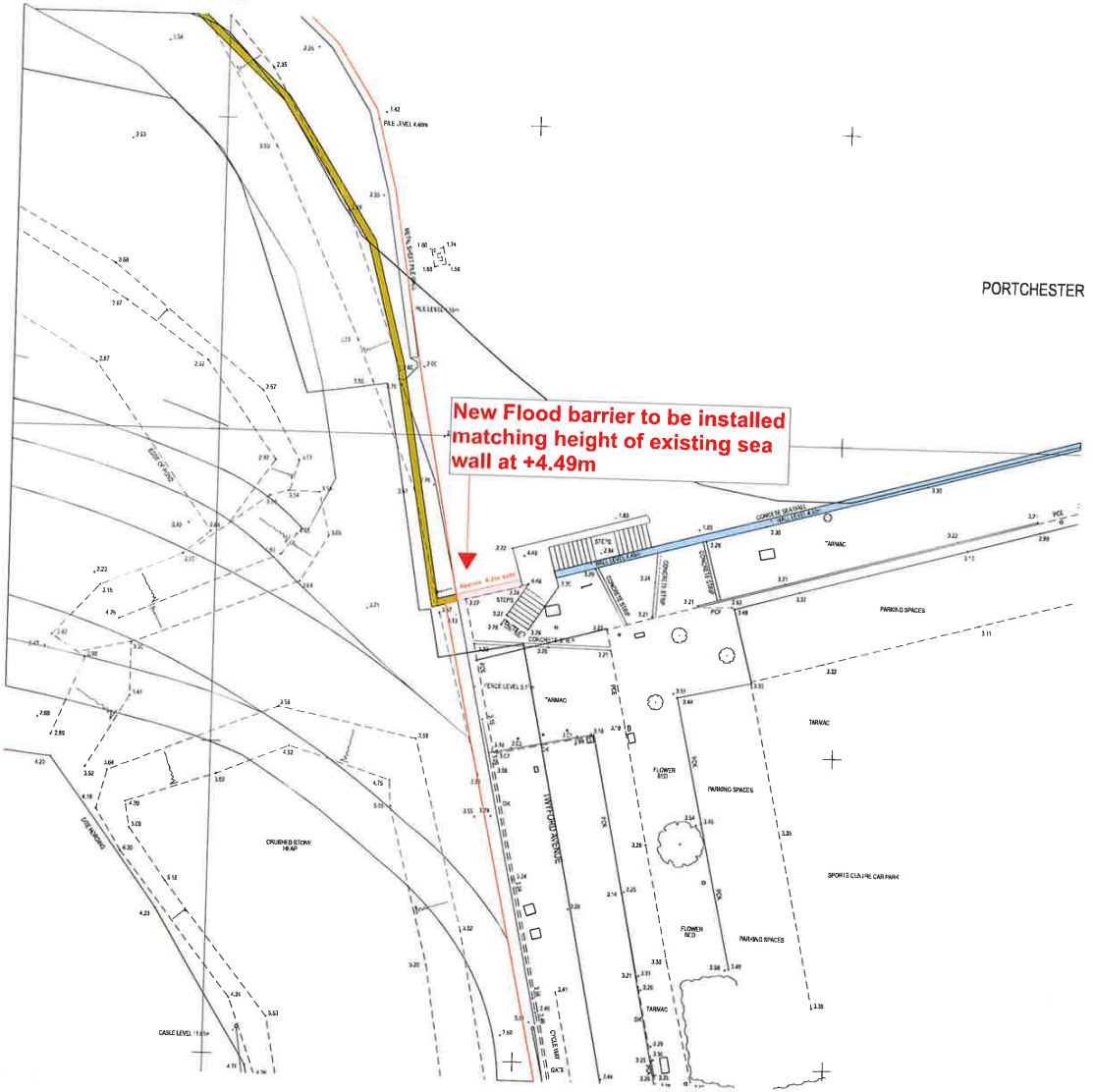
Flood barrier location



Typical slatted flood barrier



Flood barrier location



Key Plan

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Project: Tipner East Regeneration

Drawing title: Flood Barrier Plan

Status at PC	Drawn by	Date	Checked
As Indicated	DJP	DEC 2022	SH

Status: S1 COORDINATION

Drawing number: 2225-HRW-XX-XX-DR-S-0003 Rev: P2

REPORT

Tipner East Development

Flood Risk Assessment

Client: PMC Construction & Development Services Limited

Reference: PC3679_TipnerEastDevlopement_FRA
Status: S2/C02
Date: 27 January 2023

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Enhancing Society Together

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Document title: Tipner East Development

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Date / initials: 30/01/2023

Classification
Open

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1 Introduction

Royal HaskoningDHV has been commissioned by PMC Construction & Development Services Limited (the 'Applicant') to prepare a Flood Risk Assessment (FRA) for the proposed redevelopment of a site on the southern edge of Tipner Lake, Portsmouth namely, Tipner East (the 'Site').

1.1 Site Location

The Site is located on the coastal frontage of Tipner Lake. The Site is located to the east of the M275 where the road crosses Tipner Lake from Hornsea Island, to the north, towards Tipner to the south. The Site is situated to the north of the Portsmouth Park and Ride site. The Site location is shown in **Figure 1-1**.

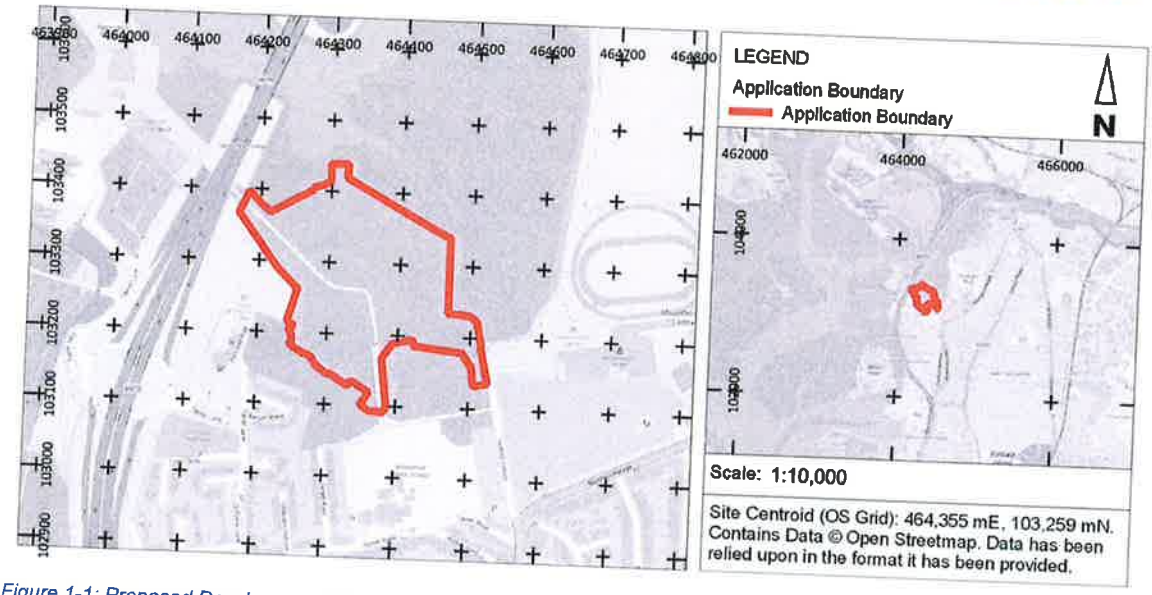


Figure 1-1: Proposed Development Application Boundary

1.2 Existing Site

The Site is approximately 5.96ha in size. The current site is relatively low-lying reclaimed land, and the shoreline is generally undefended from coastal flooding. The Site has previously been used for the storage of and break-up of ships and as such requires extensive remediation to be suitable for residential use.

1.3 Proposed Development

It is anticipated that the Proposed Development will require the re-reprofiling of the land to create a new residential estate.

The redevelopment proposals include the provision of formal coastal flood defences to defend the Site from coastal flooding both in the short-term, during remediation and construction, and in the long-term once the Proposed Development has been completed.

The proposed works for the site include:

- Coastal flood defence wall with a crest level of +5.25mOD
- 5m wide coastal walk at +4.0mOD
- 2m wide coastal walk at +4.3mOD
- +4.6mOD ground levels on the landward edge of the coastal walkway.
- +4.6mOD proposed development ground level
- +4.75mOD Finished Floor Levels (FFL)

The proposed cross section of the coastal defence and the coastal walkway to the rear of the defence are shown in **Figure 1-2**. (2225-HRW-XX-XX-DR-S-0004 (P2).

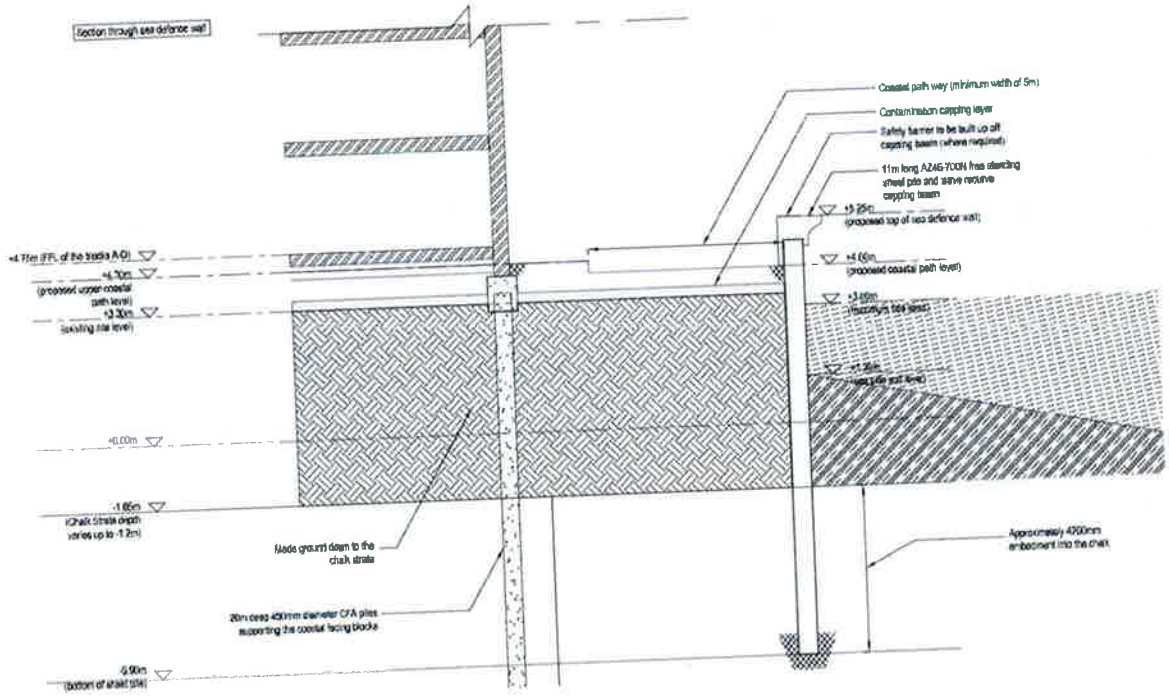


Figure 1-2: Proposed Tipner East development levels (provided by PMC Construction)

1.4 Existing Surface Water Drainage System

The land at the Site is currently undeveloped and therefore has no defined formal drainage system or connections into the wider surface water drainage network. As such, it is understood that the Site drains directly into the Tipner Lake along the northern side.

This is confirmed within the Drainage Strategy Technical Note, produced by Paul Basham Associates, dated January 2023 (Doc Ref. 146.5003/DTN/2 which notes that:

"There is little existing surface water drainage infrastructure on the development site. Rainwater falling on the site therefore percolates through the predominantly granular made ground, which is contaminated by past land uses and leaches into the tidal waters of Tipner Lake. This would continue to be the situation if the proposed development did not proceed and it is likely that there would be significant implications for ongoing pollution of the harbour including possible contamination to the groundwater at the site."

1.5 Hydrology

The Site is located on the coastal / tidal frontage of Tipner Lake, however there are no Main Rivers or Ordinary Watercourses in the vicinity of the Site. Therefore, the hydrology in this location is predominantly influenced by the coastal / tidal cycle along the frontage.

As part of this study, a wave overtopping assessment has been undertaken to support the understanding of coastal / tidal flood risk. This has been used to aid in the derivation of an appropriate coastal defence level. The results of this assessment have also been used to inform the development of this FRA.

1.6 Geology

British Geological Survey (BGS) maps identify the Site to be located on sedimentary bedrock comprising Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation Group, which is overlain by alluvium superficial deposits of sand and gravel.

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2 Development and Flood Risk

2.1 National Planning Policy Framework (NPPF)

The NPPF and the supporting Planning Practice Guidance, PPG for Flood Risk and Coastal Change (DLHC, 2021) as well as the Climate Change Allowance Guidance (Environment Agency, 2022) provide direction on how flood risk should be considered at all stages of the planning and development process. The NPPF states that a development should be made safe for the duration of its lifetime without increasing flood risk elsewhere.

This FRA sets out the planning and wider context within which the Proposed Development needs to be considered along with the flood risk to the Site.

2.2 Local Risk Management Strategy

The Flood and Water Management Act 2010 places a statutory duty on Lead Local Flood Authorities (LLFA) to "develop, maintain, implement and monitor a Local Flood Risk Management Strategy".

Portsmouth City Council are the LLFA for the Tipner area. The Portsmouth Local Flood Risk Management Strategy (LFRMS) aims to locally manage flood risk for the people, economy, and environment of Portsmouth by working in partnership to identify and deliver feasible and timely actions.

The LFRMS indicates the Site is located in the Nelson ward and for this location notes that:

"Nelson ward has an extensive network of separate surface water drainage as well as some combined drainage networks. There have been very few historical incidents of tidal flooding to properties which are well sheltered by the motorway embankment of the M275. Nelson ward has been identified for targeted groundwater investigation along the coastal side. There have been a number of historic surface water flood events in small pockets across the ward. It is thought that inadequacies in the localised sewerage system have contributed. These are presently being addressed by Southern Water and flooding has not occurred recently in the areas where it was previously an issue." (Portsmouth City Council, 2015)

2.3 Partnership for Urban South Hampshire (PUSH)

PUSH is a partnership of twelve local authorities in the Solent area which come together to improve the environmental, cultural, and economic performance of the South Hampshire area. PUSH commissioned a Strategic Flood Risk Assessment (SFRA) (PUSH, 2016) for the area which has been supplemented by local plans, to provide more detailed information on specific areas.

The Site is located within The Portsmouth Plan, which has been reviewed for relevant information to support the development of this FRA.

2.4 The Portsmouth Plan

Portsmouth City Council adopted its current Local Plan, 'The Portsmouth Plan' in 2012. The Local Plan sets out the core strategy for Portsmouth until 2027, defined by a series of policies and actions to be implemented locally.

Tipner has been identified by the Local Plan as an area for development and the Council is currently working in partnership with the Southeast of England Development Agency and landowners to develop a mixed use scheme in the area. (Portsmouth City Council, 2012)

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3 Definition of Flood Hazard

An FRA must consider the issues associated with all sources of flooding in accordance with NPPF and the supporting PPG for Flood Risk and Coastal Change. These have been considered in this FRA with respect to the Proposed Development. The following sections have reviewed information available from the Environment Agency and relevant planning documents.

3.1 Probability of Flood Risk – Flood Zones

Table 3-1 outlines the definitions of each Flood Zone and associated probability, which has been taken from Table 1 of the PPG for Flood Risk and Coastal Change (Paragraph: 078 Reference ID: 7-078-20220825). The NPPF, through the application of the Sequential Test, aims to steer development towards areas at lowest risk of flooding (Flood Zone 1) and away from medium and high flood risk areas (Flood Zone 2 and 3) (paragraph 158).

Table 3-1: Summary of Flood Zone Definitions

Flood Zone	Probability of Flooding	Return Periods
1	Low	Land having a less than 0.1% annual probability of river or sea flooding.
2	Medium	Land having between a 1% and 0.1% annual probability of river flooding; or Land having between a 0.5% and 0.1% annual probability of sea flooding.
3a	High	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea.
3b	High – Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

3.2 Historic Flooding

Upon review of the Environment Agency Historic Recorded Flood Outlines, it was noted that the Site has no previous records of flooding. Whilst this does not necessarily mean that flooding has not occurred, it is an indication that flooding in this location has not historically been an issue.

3.3 Flooding from Rivers and the Sea

As part of this FRA, the Product 4, 5 and 6 datasets were obtained from the Environment Agency. These were received on 11th August 2022. The Environment Agency Flood Map for Planning demonstrates that the Site is partially located in Flood Zone 3 (high flood risk), as shown in **Figure 3-1**.

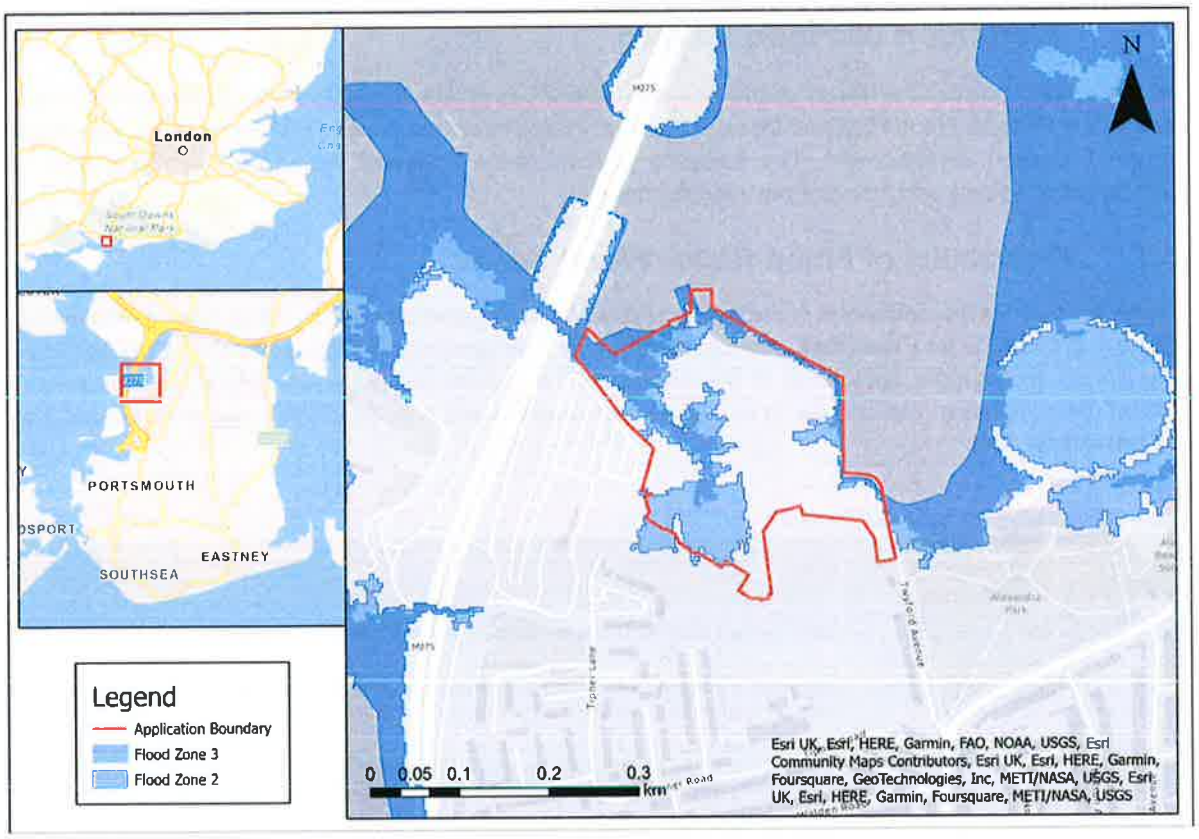


Figure 3-1: Environment Agency Risk of Flooding from Rivers and the Sea.

There are no watercourses in the vicinity of the Site therefore the tidal Tipner Lake, Portsmouth Harbour is considered as the dominant source of flood risk in this location.

3.3.1 Flooding from the Sea (Tidal)

Tidal flooding results from a combination of high tides and stormy conditions. If low atmospheric pressure coincides with a high tide, a tidal surge may happen, which can cause serious flooding.

The Environment Agency Flood Map for Planning, **Figure 3-1**, illustrates that the Site is partially located in Flood Zone 3. The existing Site does not benefit from any existing flood defences and on this basis, it could be concluded that part of the existing Site may be classified as "Functional Floodplain".

This is based on the description of the functional floodplain, as defined by PPG Paragraph 078 (DLHC and MHCLG, 2022), which defines it as:

- land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively
- land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

However, it is noted that the land will be raised, and a tidal defence constructed as part of the Proposed Development. Therefore, the existing flood zone allocation is not reflective of the flood risk to the Site, once constructed.

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On this basis, the Flood Zone within which the Site will be located once it has been constructed is the focus of this FRA.

As noted above, the Proposed Development includes the installation of a new tidal flood defence to reduce the risk of flooding to the Site.

In order to assess the risk to the Proposed Development and to inform the crest level to be adopted for the tidal flood defence, a water level and wave overtopping assessment has been undertaken, the results of which are set out in the Tipner East Overtopping Report, dated 27 January 2022, (Doc ref *PC3679-RHD-ZZ-XX-RP-Z-0003-S2-C02_TipnerEastDevelopment_OvertoppingReport)*. A summary of the main aspects of the wave overtopping assessment are set out in the following sections.

3.3.1.1 Extreme Tidal Levels

Extreme tidal water levels are a key parameter when assessing flood risk and in the setting of coastal flood defence levels for this Site. Following discussions with the Environment Agency, the baseline extreme water levels have been based on the 2018 JBA East Solent model, focussing on the 1 in 200 year event, summarised in Figure 3-2: Summary of 1 in 200 year extreme water levels (provided by the Environment Agency)**Figure 3-2**.

(All tide levels in mAOD)	Baseline (2018 JBA Model)	Including CC	Including CC	Including CC	Including CC	Cumulative rise above baseline (m)
Year	2018	2035	2065	2095	2123	2018 to 2123
Return Period (SOP)	1 : 200	1 : 200	1 : 200	1 : 200	1 : 200	1 : 200
AEP (%)	0.5	0.5	0.5	0.5	0.5	0.5
Higher Central (70th Percentile)	3.20	3.30	3.56	3.91	4.27	1.07
Upper End (95th Percentile)	3.20	3.32	3.66	4.13	4.64	1.44

Figure 3-2: Summary of 1 in 200 year extreme water levels (provided by the Environment Agency)

These values have been uplifted to derive a 2023 baseline extreme water level as follows:

- Higher Central: 2018 – 2023 comprises 5 years x 5.7mm/year = 28.5mm
- Upper End: 2018 – 2023 comprises 5 years x 6.9mm/year = 34.5mm

Therefore, the present day 2023 baseline extreme water levels are summarised as follows:

- Higher Central: +3.23mOD
- Upper End: +3.24mOD

3.3.1.2 Climate Change and Sea Level Rise

The baseline extreme water levels need to be adjusted to account for sea level rise from the base date of 2018 and subsequently into the future to 2123, assuming a 100-year development lifetime.

The Environment Agency recommends that sea level rise be represented using the UK Climate Change Projections 2018 (UKCP18) (Met Office, 2018). UKCP18 provides projections of relative mean sea level rise, and the Environment Agency recommends reviewing the UKCP18 Representative Concentration Pathway (RCP) 8.5, 70th percentile (Higher Central) and 95th percentile (Upper End) sea level rise projections for sensitivity testing.

Guidance on the consideration of future sea level rise, as a result of climate change, for various development types is provided in the Planning Practice Guidance (PPG) for Flood Risk and Coastal Change (Environment Agency, 2022).

Within this section, the baseline extreme water levels have been uplifted from the 2018 values to aid in understanding the present-day water levels and the existing risk to the Site. Any future impact, as a result of climate change to the Proposed Development, has been discussed further in **Section 0**, including the measures that have been incorporated within the design of the Proposed Development.

3.3.1.3 Summary of Extreme Water Levels

From **Figure 3-2** it can be seen that the tidal baseline water level is +3.2mOD in 2018. As noted above, the 2018 water levels have been uplifted to derive 2023 baseline values of +3.23mOD based on the Higher Central allowance and +3.24mOD based on the Upper End allowance. Both of these values have been considered when assessing the potential current flood risk to the Site.

However, as previously noted, ground levels across the Site are to be raised as part of the works for the Proposed Development. Therefore, the focus of this FRA has been on the future extreme water levels, for the lifetime of the development (i.e. 100 years into the future).

Given the crest level of the coastal defence is to be set at +5.25mOD, ground levels across the Site are to be set at +4.6mOD and the Finished Floor Levels (FFLs) are to be set at +4.75mOD, this is significantly above the extreme water levels for the 2023 1 in 200 year (i.e. +3.23mOD for the Higher Central allowance and +3.24mOD for Upper End allowance) events.

On this basis, it is concluded that the present day risk of tidal flooding once the coastal / tidal defence is constructed is considered to be low.

3.4 Flooding from Surface Water

A review of the publicly available Environment Agency surface water flood map was undertaken for this FRA. The Environment Agency surface water map indicates that there is a varying surface water flood risk across the Site.

A review of the Environment Agency mapping shows that the Site is not affected by the 1 in 30 year (High Risk) surface water event.

There are small areas of the current Site which could be affected by the 1 in 100 year (Medium Risk) surface water event, as shown in **Figure 3-3.** Analysis of the event against the application boundary for the Site, demonstrates that there are some small areas to the south and southeast of the Site which are affected and could experience depths up to 300mm.

In addition, the current Site could be affected by the 1 in 1,000 year (Low Risk) surface water event, see **Figure 3-4**. Analysis of this event against the application boundary for the Site, demonstrates that the same areas to the south and southeast of the Site are affected to a greater extent and could experience depths up to 600mm.

However, it is noted that the land will be raised, and a surface water drainage system constructed as part of the Proposed Development. Therefore, the existing surface water flood risk is not reflective of the flood risk to the Site, once constructed.

Surface water runoff has been considered during the development of the detailed drainage design and summarised in the Drainage Strategy Technical Note, produced by Paul Basham Associates, dated January 2023 (Doc Ref. 146.5003/DTN/2). Further information on the proposed drainage design is provided in **Section 6.2**.

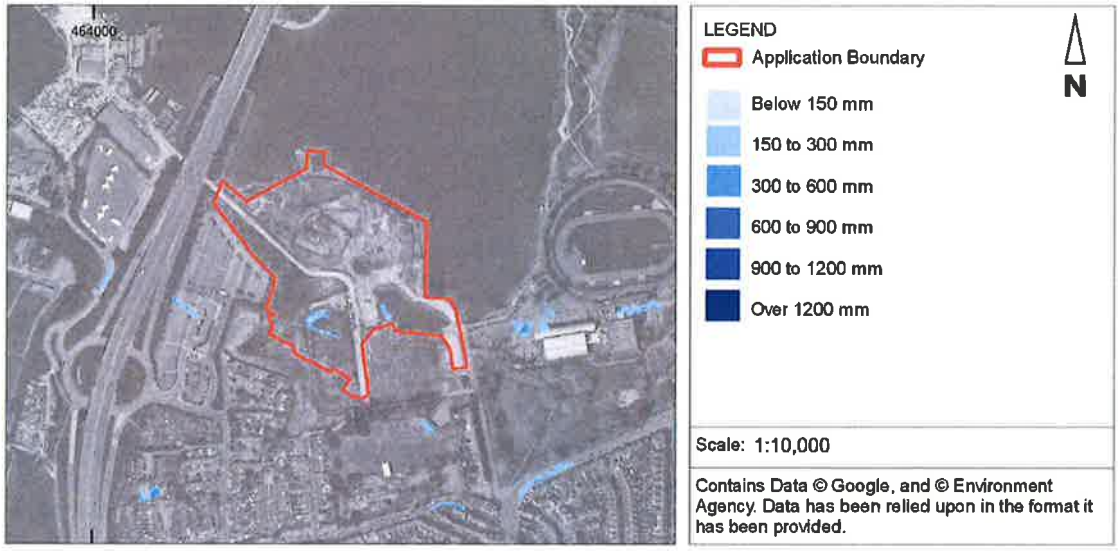


Figure 3-3: Environment Agency Risk of Surface Water Flooding 1 in 100 year event (Medium Risk)

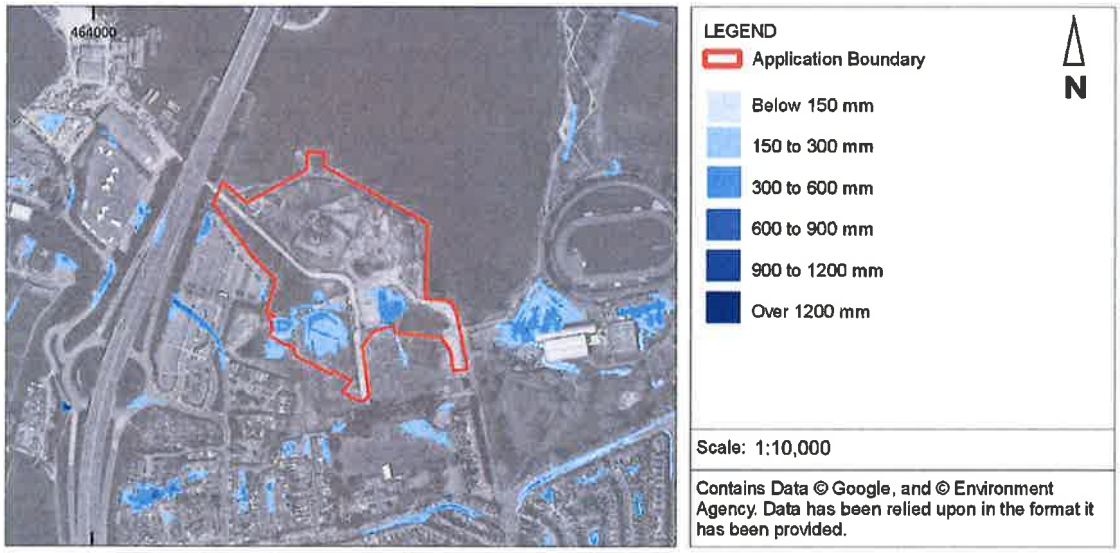


Figure 3-4: Environment Agency Risk of Surface Water Flooding 1 in 1,000 year event (Low Risk)

3.5 Flooding from Groundwater

A review of the BGS Groundwater Susceptibility dataset indicates that the Site is in an area which is susceptible to groundwater flooding. However, the bedrock is identified as a Low Productivity Aquifer. The Portsmouth Plan does not contain any records of groundwater flood incidents in the Nelson Ward.

The Proposed Development is incorporating capping to the general ground levels due to potential contamination issues, which will raise the ground levels considerably, and therefore the groundwater flood risk to the Proposed Development is considered to be low.

3.6 Flooding from Sewers

Sewer flooding can occur when there are blockages or overloading issues with the localised sewerage network.

Many of Portsmouth's sewers are of Victorian brick construction and parts of the infrastructure have started to degrade. If the pipe joints are not properly sealed, surface water and groundwater can enter the sewer network reducing its capacity and increasing the sewer flood risk.

Southern Water has delivered a £20m investment, to reduce the risk of sewer flooding in parts of Portsmouth and Southsea. The scheme refurbished some of the existing equipment on the sewer network, including the construction of two new underground pumping stations. This work reduces the risk of sewer flooding and benefits the whole city.

In addition, there are no existing sewer across the majority of the Site and new sewers will be installed to serve the Proposed Development, with these designed to ensure they have sufficient capacity. Therefore, the risk of sewer flooding to the Site is considered to be low.

3.7 Flooding from Reservoirs, Canals, and other Artificial Sources

There are no reservoirs, canals, or other artificial sources in the vicinity of the Site. A review of the Environment Agency Reservoir flood risk mapping shows that the Site is outside the extent of flooding in the event of a reservoir failure. Therefore, it is considered that there is a low risk of flooding from all these sources.

3.8 Summary of Flooding Sources

Based on the above information it is believed that the dominant risk of flooding to the Site is from the residual tidal flood risk and surface water flooding. The remaining sources of flood risk (fluvial, groundwater, sewers, and artificial sources) pose a low risk to the Site.

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4 Climate Change

The Environment Agency published guidance on climate change allowances for Flood Risk Assessments in February 2016, with the latest update in July 2022, (Environment Agency, 2022). The current Environment Agency climate change allowances are classified based on how likely that scenario is predicted to occur.

As noted above, the main sources of flood risk to the Site are considered to be tidal flooding and surface water flooding. Therefore, it is necessary to consider the impact climate change would have on these.

4.1 Tidal Climate Change Allowances

Tidal climate change allowances are determined by the predicted increases in sea levels. These are determined by regional variations, which are based on the River Basin District under considerations.

Following discussions with the Environment Agency the Tidal Climate Change allowances have been set out in **Figure 3-2**.

In summary, for the Site in 2123 the 1 in 200 year extreme water level has been calculated as being +4.27mOD based on the Higher Central scenario and +4.64mOD for the Upper End scenario.

The new tidal / coastal defence will provide a barrier to extreme water level ingress to the site. Even if there were to be a breach, given the crest level of the coastal defence is to be set at +5.25mOD and the FFLs are to be set at +4.75mOD, this is above the extreme water levels for the 1 in 200 year event in 2123. Therefore, there is no risk of water ingress into the buildings of the Proposed Development under the most conservative Upper End allowance scenario, at the end of the development lifetime.

4.2 Surface Water Climate Change Allowances

Surface water climate change allowances are determined by the predicted increase in peak rainfall intensity. These are determined by regional variations, which are based on the management catchments. The Site is located within East Hampshire catchment and the relevant peak rainfall intensity allowances are reproduced as **Table 4-1** below.

Table 4-1: Peak rainfall intensity allowance

Management Catchment	2050s Central 1 in 30 (3.3%)	2050s Upper End 1 in 30 (3.3%)	2050s Central 1 in 100 (1%)	2050s Upper End 1 in 100 (1%)	2070s Central 1 in 30 (3.33%)	2070s Upper End 1 in 30 (3.33%)	2070s Central 1 in 100 (1%)	2070s Upper End 1 in 100 (1%)
East Hampshire	20%	35%	20%	40%	25%	40%	25%	45%

The guidance also sets out which climate change allowance should be used for different development lifetimes. The Proposed Devolvement has an expected lifetime beyond 2100. The relevant guidance is outlined below:

Development with a lifetime beyond 2100
This includes development proposed in applications or local plan allocations.

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For flood risk assessments and strategic flood risk assessments assess the upper end allowances. This must be done for both the 1% and 3.3% annual exceedance probability events for the 2070s epoch (2061 to 2125).

Design the development so that for the upper end allowance in the 1% annual exceedance probability event:

- there is no increase in flood risk elsewhere
- the development will be safe from surface water flooding

For the Site, the applicable climate change allowance for peak rainfall intensity is 45% for the upper end allowance for the 2070s epoch.

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5 Flood Risk Vulnerability

5.1 Background to Sequential Test and Exception Test

The aim of the NPPF Sequential Test is to ensure that a sequential approach is adopted to steer new development to areas with the lowest probability of flooding i.e., Flood Zone 1. Where there are no reasonably available Sites in Flood Zone 1, the local authority, Portsmouth City Council, can consider reasonably available Sites in Flood Zone 2.

Only where there are no reasonably available Sites for development in Flood Zone 1 and 2, should the suitability of Sites in Flood Zone 3 be considered.

Within each flood zone, surface water and other sources of flooding also need to be taken into account in applying the sequential approach to the location of development.

Following application of the Sequential Test, if it is not possible, for the Proposed Development to be located in zones with a lower probability of flooding, the Exception Test can be applied, if appropriate. For the Exception Test to be passed it should be demonstrated that:

- The development that has to be in a flood risk area will provide wider sustainability benefits to the community that outweigh flood risk; and
- The development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Both elements of the test will have to be passed for development to be allocated or permitted. **Table 5-1** sets out when an Exception Test should be applied.

Table 5-1: The Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table as specified by NPPF

	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 1	Appropriate	Appropriate	Appropriate	Appropriate	Appropriate
Flood Zone 2	Appropriate	Exception Test Required	Appropriate	Appropriate	Appropriate
Flood Zone 3a	Exception Test Required†	Not Appropriate	Exception Test Required	Appropriate	Appropriate
Flood Zone 3b (Functional Floodplain)	Exception Test Required*	Not Appropriate	Not Appropriate	Not Appropriate	Appropriate*

"†" In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

"*" In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

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5.2 Sequential Test

In accordance with Paragraph 027 of the PPG the Site should not need to undergo application of the Sequential Test. This is on the basis that:

"The site has been allocated for development and subject to the test at the plan making stage (provided the proposed development is consistent with the use for which the site was allocated and provided there have been no significant changes to the known level of flood risk to the site, now or in the future which would have affected the outcome of the test)." (DLHC & MHCLG, 2022)

As discussed in **Section 2.3**, Tipner has been highlighted as an area for development in the Portsmouth Plan. There has been no significant increase in flood risk in the interim period and the Proposed Development includes the provision of new tidal defences which will reduce the risk of flooding both now and in the future.

5.3 Vulnerability Classification

Under the NPPF PPG on Flood Risk and Coastal Change, the Proposed Development is considered to be *'More Vulnerable'*, as shown by the classifications reproduced in **Table 5-2**.

Table 5-2: Flood risk vulnerability classification – Less Vulnerable. PPG Table 2

Classification	Description
Essential infrastructure	Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including infrastructure for electricity supply including generation, storage and distribution systems; including electricity generating power stations, grid and primary substations storage; and water treatment works that need to remain operational in times of flood. Wind turbines. Solar farms.
Highly vulnerable	Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. Emergency dispersal points. Basement dwellings. Caravans, mobile homes and park homes intended for permanent residential use. Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'.)
More vulnerable	Hospitals. Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. Non–residential uses for health services, nurseries and educational establishments. Landfill and sites used for waste management facilities for hazardous waste. Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less vulnerable	Police, ambulance and fire stations which are not required to be operational during flooding. Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure. Land and buildings used for agriculture and forestry. Waste treatment (except landfill* and hazardous waste facilities). Minerals working and processing (except for sand and gravel working). Water treatment works which do not need to remain operational during times of flood. Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place. Car parks.

Classification	Description
Water-compatible development	Flood control infrastructure. Water transmission infrastructure and pumping stations. Sewage transmission infrastructure and pumping stations. Sand and gravel working. Docks, marinas and wharves. Navigation facilities. Ministry of Defence installations. Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. Water-based recreation (excluding sleeping accommodation). Lifeguard and coastguard stations. Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

5.4 Exception Test

As the Site has been allocated in the within the Portsmouth Plan, it is not necessary for the application of the Exception Test to the Site. This is in accordance with the PPG (Paragraph: 035 Reference ID: 7-035-20220825, Revision date: 25 08 2022) that states:

"*Where a development proposal is in accordance with an allocation made in a Plan following the application of the Sequential and Exception Tests, it should not be necessary to repeat aspects of the Exception Test unless:*

- *Elements of the development that were key to it satisfying the Exception Test at the plan-making stage (such as wider sustainability benefits to the community or measures to reduce flood risk overall) have changed or are not included in the proposed development; or*
- *The understanding of current or future flood risk has changed significantly."*

Considering the Proposed Development, in the context of the updated PPG published on 25th August 2022, it is concluded that in accordance with the criteria for the need to repeat aspects of the Exception Test the Proposed Development does not need to be considered in light of this guidance.

Furthermore, should there be a need to apply the Exception Test, it can be concluded that the Proposed Development is in accordance with the criteria set out therein. The allocation of the Site in the Local Plan and the limited flood risk to the Proposed Development once constructed are such that it is concluded that the Proposed Development is being delivered in accordance with both criteria of the Exception Test, which is summarised as follows:

Criteria One: *The development that has to be in a flood risk area will provide wider sustainability benefits to the community that outweigh flood risk.'*

Currently the Site is reclaimed land which does not provide any benefit or use to the local community. The Proposed Development has been allocated in the Local Plan with the aim of building a new residential community. This will be beneficial to the local community as it will help meet the local housing requirements.

Criteria Two: *The development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.'*

The Site is at potential risk from tidal and surface water flooding, on the basis it comprises lower-lying land which will be reclaimed to deliver the Proposed Development. The nature of the Proposed Development is

such that it has been designed to be safe from flood risk for its lifetime, though the inclusion of a new tidal / coastal defence which will reduce the overall flood risk to the Site.

Furthermore, due to the residential nature of the Proposed Development, a formal surface water drainage system will be constructed, thus reducing the surface water risk to the Site.

6 Flood Risk Management Measures

There is always a potential for there to be a residual flood risk to people and property due to the failure of systems and defences. Residual risk will remain after flood management or mitigation measures have been installed. Therefore, an FRA should consider the residual flood risk and the need for mitigation measures to manage residual flood risk appropriately.

6.1 Tidal Design Mitigation

As part of the FRA, it is necessary to consider the impact of climate change on the Proposed Development. As noted previously, the Proposed Development includes the construction of a tidal / coastal defence with a crest level to be set at +5.25mOD.

It should be noted that the predicted 1 in 200 year 2123 Higher Central allowance water level is +4.27mOD. The proposed FFL of the residential buildings is +4.75mOD which is 0.48m above the Higher Central climate change allowance water level.

It should be noted that the predicted 1 in 200 year 2123 Upper End allowance water level is +4.64mOD. The proposed FFL of the residential buildings is +4.75mOD which is 0.11m above the Upper End climate change allowance water level.

On the basis that the predicted water level is significantly lower than the crest of the flood defence (i.e. +5.25mOD), under normal operating circumstances the Site can be considered to be protected from tidal flood risk.

Furthermore, should there be a breach in the flood defences, the raised FFL of the buildings would provide suitable flood resilience to mitigate this residual risk, ensuring there is no water ingress into the buildings. On this basis, it is considered that the risk to the Proposed Development throughout its lifetime has been appropriately mitigated within the design.

6.2 Surface Water Design Mitigation

Surface water runoff has been considered during the development of the detailed drainage design and summarised in the Drainage Strategy Technical Note, produced by Paul Basham Associates, dated January 2023 (Doc Ref. 146.5003/DTN/2).

The Drainage Strategy Technical Note confirms that the proposed surface water drainage system will take surface water from the development and drain it to Tipner Lake by way of a sustainable drainage system (SuDS) such that pollution is not introduced to the water environment and to ensure no flooding on the Site occurs under extreme rainfall events.

Furthermore, it notes that the surface water drainage strategy is based on the outline FRA & drainage strategy provided by IKM Consulting Ltd in August 2010. As such, within the outline drainage strategy, it was agreed that as this is a coastal site there is no requirement to attenuate site run-off for flood control purposes or to discharge to greenfield runoff rates. A discharge rate of 574 l/s was agreed, and this is the maximum discharge rate on which the proposed drainage strategy is based.

The Drainage Strategy Technical Note confirms that onsite storage is required to control water quality as part of the SuDS designs. This will be achieved through provision of a large diameter surface water storage pipe adjacent to the coastal path and swales strategically located to allow water to accumulate safely during rainfall.

As the surface water outfalls will discharge into the tidal Tipner Lake, this will require the provision of flap valves or gates to prevent ingress of tidal flood waters into the surface water drainage network. The design has considered provision for tide locking over a 12 hour cycle and the system has been designed to accommodate this potential outfall restriction - in tide-locked scenarios, residual flood depths are shallow and would not lead to the flooding of properties themselves.

6.3 Environment Agency Flood Warning Service

The Environment Agency provides an online Flood Warning Service, that provides flood warning messages directly to occupants by telephone, mobile phone, or email address.

The future occupants of the Site are recommended to register for this service (https://www.gov.uk/sign-up-for-flood-warnings). It is advised that all residents and Site users register for this service.

The Environment Agency also operate a five day county-wide forecast in relation to flood risk. It is recommended that this service is regularly checked to ensure occupants/residents are aware of any possible risks: https://flood-warning-information.service.gov.uk/5-day-flood-risk.

The Environment Agency operate a Flood Information Service which identifies whether any flood warnings or alerts have been issued for a specific postcode or place in England or Wales: https://flood-warning-information.service.gov.uk/.

The Environment Agency also operates a 24-hour telephone service on 0345 988 1188 that provides frequently updated flood warnings and associated floodplain information. Further information can be found on www.environment-agency.gov.uk/floodline.

It is important to note that the Environment Agency's flood warnings are only in relation to fluvial and tidal flooding, and do not cover other sources of flooding such as surface water or groundwater flooding.

6.4 Access / Egress and Emergency Planning

Upon receipt of a flood warning, it may be necessary to take action to reduce the risk to residents and occupiers of the Site.

For the Proposed Development, the area of the Site proposed for the residential development has been designed such that it will not be inundated during an extreme event. Therefore, there is no formal requirement for the provision of a Flood Risk Emergency Plan (FREP) or identification of appropriate access / egress and evacuation routes for this element of the Proposed Development.

However, the area of the proposed coastal walkway may be subject to some wave overtopping in the future. The wave overtopping assessment has determined that the rate in the 1 in 200 year event in 2123 would be approximately 0.39l/s/m (High Central climate change scenario), which may be considered as a low risk to those on the coastal walkway. This is in addition to the risk associated with the attenuated water collecting within the area of the coastal walkway.

As set out in the overtopping assessment, the EurOtop Wave Overtopping of Sea Defence and Related Structures: Assessment Manual (2018) has been used to consider the direct hazard of injury or death to people immediately behind the defence, whether they are pedestrian, cyclists or travelling in a vehicle.

Due to the proximity of the coastal walkway the direct hazard of injury or death to people immediately behind the defence category has been used in the analysis as presented in **Table 6-1**. For the purpose of the wave overtopping assessment the focus was on the mean discharge limit of 1-10l/s/m, given the maximum wave heights in this location are in the order of 1.5m.

Table 6-1: Tolerable wave overtopping for people and vehicles (Table 3.3 EurOtop 2018 Manual)

Hazard type and reason	Mean discharge q (l/s per m)	Max volume V_{max} (l per m)
People at structures with possible violent overtopping, mostly vertical structures	No access for any predicted overtopping	No access for any predicted overtopping
People at seawall / dike crest. Clear view of the sea.		
H_{m0} = 3 m	0.3	600
H_{m0} = 2 m	1	600
H_{m0} = 1 m	10-20	600
H_{m0} < 0.5 m	No limit	No limit
Cars on seawall / dike crest, or railway close behind crest		
H_{m0} = 3 m	<5	2000
H_{m0} = 2 m	10-20	2000
H_{m0} = 1 m	<75	2000
Highways and roads, fast traffic	Close before debris in spray becomes dangerous	Close before debris in spray becomes dangerous

Based on the above, the wave overtopping rate of 0.39l/s/m is lower than the tolerable rate and therefore can be considered acceptable. However, given water will collect within the area of the coastal walkway, a number of measures are required to ensure the risk is appropriately mitigated to users of this part of the Site, during an extreme event.

Upon receipt of a flood warning, it will be necessary to include and take actions to close access barriers/gates at each end of the coastal walkway to restrict access to the coastal frontage. Furthermore, any access points from the residential development directly onto the coastal walkway or frontage will also need to be closed and locked and / or access restricted. Measures to ensure that the coastal frontage remains closed throughout an event will need to be implemented including confirmation as to who will receive the warnings, enact the closure, and monitor it throughout an event.

As such, it is recommended that a FREP is produced to identify clear milestones and actions to be implemented upon receipt of a warning to limit the risk to users of the coastal walkway. It is expected that the FREP will be a subject to a planning condition and developed in detail post consent. It will utilise appropriate government guidance to develop the above strategy into a detailed emergency planning procedure.

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7 Conclusions and Recommendations

The following sections provide a summary of the FRA's conclusions and recommendations.

7.1 Conclusions

- Royal HaskoningDHV has been commissioned by PMC Construction & Development Services Limited (the 'Applicant') to prepare a Flood Risk Assessment (FRA) for the proposed redevelopment of a 5.96ha site on the southern edge of Tipner Lake, Portsmouth namely, Tipner East (the 'Site').
- The Site is located on the coastal frontage of Tipner Lake, east of the M275 where the road crosses Tipner Lake from Hornsea Island and north of the Portsmouth Park and Ride. It is relatively low-lying reclaimed land, and the shoreline is generally undefended from coastal flooding.
- Tipner has been highlighted as an area for development in the Portsmouth Plan. In accordance with Paragraph 027 of the PPG the Site should not need to undergo application of the Sequential Test or the Exception Test.

7.1.1 Risk of Flooding

- The Environment Agency Flood Map for Planning, indicates that the Site is partially location in Flood Zone 3b functional floodplain.
- However, it is noted that the land will be raised, and a tidal defence constructed as part of the Proposed Development. Therefore, the existing flood zone allocation is not reflective of the flood risk to the Site, once constructed.
- The dominant risk of flooding to the Site is from the residual tidal flood risk and surface water flooding.
- Risk of flooding for all other sources (Fluvial, Groundwater, Sewer, and Artificial Sources) is Low.
- The Site has no previous records of flooding.

7.1.2 Tidal Flood Risk

- The Proposed Development includes the provision of a formal coastal flood defence to defend the Site from coastal flooding, with a crest level of +5.25mOD.
- Following discussions with the Environment Agency, the baseline extreme water levels have been based on the 2018 JBA East Solent model, focussing on the 1 in 200 year event, which is +3.2mOD (2018).
- This value has been uplifted to derive a 2023 baseline extreme water level as follows:
    - Higher Central: +3.23mOD
    - Upper End: +3.24mOD
- Following discussions with the Environment Agency the future (2123) extreme water levels have been confirmed as:
    - 1 in 200 year Higher Central allowance = +4.27mOD
    - 1 in 200 year Upper End allowance = +4.64mOD

- The coastal walkway immediately behind the proposed defence is split into two levels. The lower walkway at +4.0mOD (referred to as Zone 1) and the upper areas at +4.3mOD (referred to as Zone 2). These areas have been designed to contain the flood water in extreme scenarios up to the 1 in 200 year event in 2123.
- Ground levels will be raised to +4.6mOD at the inland edge of Zone 2 or Zone 1 (where Zone 1 extends beyond Zone 2) tying into the main sea defence at the western and eastern end, so as to limit water ingress into the wider Proposed Development.
- The Proposed Development has been designed such that residential areas will not be inundated during an extreme event. The FFLs of the properties have been set at +4.75mOD which is significantly above the 1 in 200 year plus climate change extreme still water levels.
- A FREP is required to identify clear milestones and actions to be implemented upon receipt of a warning to limit the risk to users of the coastal walkway.
- The wave overtopping modelling software does not calculate overtopping due to wind-blown spray or the volume of water which may accumulate behind the defence in this scenario. These factors may slightly impact the capacity of the flood storage and/or potentially create an unforeseen hazard to users of the walkway at these times. However, the volume of spray would be minimal and is outweighed by other conservative assumptions in the design.
- The coastal walkway will be designed to enable water to drain back into the sea through the coastal defence. The coastal walkway will be closed to Site users during storm events where overtopping is occurring.
- Providing the appropriate safety measures recommended below are adopted the tidal flood risk to the Proposed Development could be considered as Low.

7.1.3 Surface Water Flood Risk

- The land at the Site is currently undeveloped and therefore has no defined formal drainage system or connections into the wider surface water drainage network.
- There are small areas of the current Site which could be affected by the 1 in 100 year (Medium Risk) surface water event but these are mitigated by the design.
- There are small areas of the current Site which could be affected by the 1 in 1,000 year (Low Risk) surface water event but these are mitigated by the design.
- Surface water runoff has been considered during the development of the detailed drainage design and summarised in the Drainage Strategy Technical Note, produced by Paul Basham Associates, dated January 2023 (Doc Ref. 146.5003/DTN/2). Even in tide-locked scenarios, residual flood depths are shallow and wouldn't lead to the flooding of properties themselves.

7.2 Recommendations

- It is advised that the Management Company and site users register for the Flood Warning service, provided by the Environment Agency. (https://www.gov.uk/sign-up-for-flood-warnings).
- The coastal walkway should be closed during periods when combined high tides and strong winds are forecast.
- The FREP will identify clear milestones and actions to be implemented upon receipt of a warning to limit the risk to users of the coastal walkway.

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8 References

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completion of the Sea Wall, the Off-Site West Sea Wall and the Off-Site East Sea Wall.

Coastal Way - Pedestrians and Cyclists

9. To submit to the Council for its written approval the Coastal Way Specification not less than 3 months prior to completion of the Sea Wall.
10. In any event that the Council requires re-submission of the Coastal Way Specification, to re-submit the Coastal Way Specification with amendments responding to the Council's recommendations in not more than 20 Working Days.
11. To complete the Coastal Way in accordance with the Coastal Way Specification approved by the Council.
12. To keep the Coastal Way in good condition and open to pedestrians and cyclists no later than the Practical Completion of the 384th Dwelling in perpetuity, SAVE THAT the Owner shall be entitled to:

    12.1 temporarily close the Coastal Way for as much time as reasonably necessary in accordance with adverse weather conditions and the Flood Risk Emergency Plan.

    12.2 temporarily close the Coastal Way (or part(s) thereof) for as much time as reasonably necessary to undertake reasonably required maintenance.

    12.3 Erect signage stating words to the effect that the Coastal Way does not form a public right of way and that the Coastal Way is for use by pedestrians and cyclists and may be subject to closures for the reasons in paragraphs 12.1 and 12.2 of this Schedule;

The Council covenants with the Owner to:

13. promptly review the Flood Risk Emergency Plan and to either:

    13.1 approve it in writing if it is acceptable without amendments; or,

    13.2 make written recommendations for re-submission by the Owner if the submitted Flood Risk Emergency Plan is not satisfactory

    in either instance within 20 Working Days

14. consider reasonable requests for changes to an approved Flood Risk Emergency Plan.

15. consider the Coastal Way Specification and to either:

15.1 Approve it in writing if it is acceptable without amendments; or,

15.2 Make written recommendations for re-submission by the Owner if the submitted Coastal Way Specification is not satisfactory.

in either instance within 20 Working Days

Schedule 10

Employment and Skills Plan

The Owner covenants with the Council as follows:

The following additional definitions shall apply in this Schedule:

"Employers"	means for the purpose of this Schedule only and including the Owner if the context allows all persons who undertake and direct the construction of the Development and all persons directing and controlling any business or trade on the Site during construction of the Development including the contractors named in the contract entered into for the construction of the whole Development.
"Employment and Skills Plan"	means a package of measures aimed at improving the training and skills and employability of the workforce to be employed for the construction of the Development by the Owner and the Employers and implemented in accordance with the provisions of this Schedule 10 in relation to the Development and includes any modification or replacement plan approved by the Council in writing from time to time.

1. Not less than six weeks prior to the Commencement of Development to submit to the Council for approval the Employment and Skills Plan which amongst other things shall make provisions for:

1.1 arrangements setting out how the Employers will work directly with employment and training agencies to provide opportunities for participation by individuals taking part in apprenticeships, pre-employment training and pre-apprenticeship training including individuals not otherwise engaged in education or training and individuals who have been unemployed in the long term;

1.2 curriculum support activities with schools and further and higher education providers;

1.3 how Employers will notify local Employment and Training Agencies of employment opportunities arising in connection with the Development;

1.4 how the Employment and Skills Plan may be reviewed and amended following each meeting between the Owner and the Council required in accordance with the provisions of paragraph 5 of this schedule.

2. Not to cause permit or allow Commencement of Development unless an Employment and Skills Plan has been approved by the Council.

3. To use reasonable endeavours to promote the objectives and aims of the Employment and Skills Plan.

4. To use reasonable endeavours to ensure that so far as is reasonably practicable the Employers comply with the requirements of the Employment and Skills Plan in a manner to achieve the objectives of the Employment and Skills Plan to the satisfaction of the Development Manager.

5. Within one month of being required to do so the Owner shall attend a meeting with the Council to review the performance of the Owner in comparison with the approved Employment and Skills Plan PROVIDED that no more than one such meeting shall be required in any year.

6. To pay to the Council prior to Commencement of Development a project management fee for the Employment and Skills Plan of £620 (Six Hundred and Twenty Pounds).

The Council covenants with the Owner to:

7. promptly review the first Employment and Skills Plan and to either:

7.1 approve it in writing if it is acceptable without amendments; or,

7.2 make written recommendations for re-submission by the Owner if the submitted Employment and Skills Plan is not satisfactory

and in either instance within 20 Working Days

Schedule 11

Adjacent Residential Site Linkage

The following additional definitions shall apply in this Schedule:

Adjacent Site	means any residential development to the south of the Site on substantially the same land as that proposed under the planning application with reference 21/01357/FUL;
Reserved Land	Land identified in an agreed Residential Site Linkage Plan in accordance with paragraph 1.2 of this Schedule that is reserved to accommodate transport linkages detailed in the Residential Site Linkage Plan to the Adjacent Site.

1. The Owner covenants to submit prior to the Commencement of any Phase containing Dwellings to the Council for written approval a plan ("**Residential Site Linkage Plan**") to:
   1.1. detail the opportunities for access and egress between the Site and the Adjacent Site by pedestrians, cyclists and vehicles;
   1.2. reserve sufficient land within the Development to accommodate transport linkages to the Adjacent Site;
   1.3. detail discussions held to date with the owner/developer of the Adjacent Site to find mutually beneficial transport linkages between the developments.
   1.4. propose a timetable for meetings between representatives of the Owner and the owner and/or developer of the Adjacent Site to negotiate the implementation of mutually beneficial transport linkages between the sites.
2. The Owner covenants not to construct upon or undertake works on the Reserved Land that would have the effect of preventing the construction of transport linkages detailed in the agreed Residential Site Linkage Plan, and the Owner further covenants not to otherwise use the Reserved Land in a way that prevents those transport linkages between the same.
3. Within 40 Working Days of request by the Council the Owner covenants to submit to the Council for written approval a detailed design ("**Residential Linkage**

Detailed Design") to implement the Residential Site Linkage Plan within the area(s) identified therein.

4. When preparing the Residential Linkage Detailed Design the Owner covenants to use reasonable endeavours to co-operate with the owner and/or developer of the Adjoining Site to produce a Residential Linkage Detailed Design that is mutually beneficial in form and function to both developments.
5. The Owner covenants to implement and make available for public use the transport linkages from the Development to the Adjacent Site in accordance with the approved Residential Site Linkage Plan and the Residential Linkage Detailed Design on the Site as soon as reasonably practical from the date that the Council approve the Residential Linkage Detailed Design provided that the Owner shall only be required to deliver those elements of the Residential Linkage Detailed Design which are capable of being implemented on the Site.

6. The Council covenants with the Owner to promptly review the first of each of the Residential Site Linkage Plan and Residential Linkage Detailed Design ("the Plan(s)") and to either:
   a) approve each Plan in writing if it is acceptable without amendments; or,
   b) make written recommendations for re-submission of each Plan by the Owner if the submitted Plan is not satisfactory

   in either instance within 20 Working Days

Schedule 12

Council's covenants

The Council covenants with the Owner:

1. At the written request of the Owner the Council shall provide written confirmation of the discharge of the obligations contained in this Deed when satisfied that such obligations have been performed within fourteen (14) days of the written request subject to the Council's reasonable costs in supplying information being met by the Owner.
2. Where all or any part of the Contributions has not been spent committed or applied by the Council in accordance with is obligations in this Deed within 20 years from the date of payment, the Council shall return the relevant Contribution (or the unspent part of such Contribution) to the party who paid the Contribution to the Council with any interest accrued.

IN WITNESS whereof the parties hereto have executed this deed as a deed and delivered it the day and year first before written.



The COMMON SEAL of)
PORTSMOUTH CITY COUNCIL)
was hereunto affixed to this deed)
pursuant to a meeting duly convened and held)

in the presence of:-)

..... Authorised Signatory

P. J. BARTER

EXECUTED as a Deed by)
TRIYA MAICHA)
as attorney for)
VIVID HOUSING LIMITED)
under a power of attorney dated)
01 April 2024)
in the presence of:)

Witness Signature

Witness Name (in BLOCK CAPITALS) CAMILLA WESTON

Witness address: DEVONSHIRES SOLICITORS
30 FINSBURY CIRCUS
LONDON EC2M 7DT.

Appendix 2 - S106 responsibility matrix

Section 106						
	Tick which applies			Who is responsible? Tick which applies		
Obligation	**Financial contribution**	**Other obligation e.g. appointment of 3rd party company (involving a cost)**	**Non-financial obligation**	**Contractor**	**VIVID/ Vestal**	**Other (specify)**
E.g. Travel plan						
Contribution towards sport pitches						
To occupy as AH only						

Community Infrastructure Levy (CIL)				
		Who is responsible? Tick which applies		
Amount due	**Stage/date**	**Contractor**	**VIVID/ Vestal**	**Other (specify)**

ACCOMMODATION SCHEDULE	
Project	Tipner regeneration
Job No.	25.048
Date	07.08.25
Rev	B

				Bedrooms							Area		Phase	Comments
Floor Level	Plot Number	Tenure	Flat Type	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	Floor Area ft²	Floor Area m²		
Block F														
Ground	F-00-01	Private	FTF2				1				754.55	70.10		
	F-00-02	Private	FTF1				1				765.31	71.10		
First	F-01-01	Private	FTF4				1				851.42	79.10		
	F-01-02	Private	FTF3		1						538.20	50.00		
	F-01-03	Private	FTF5				1				755.63	70.20		
	F-01-04	Private	FTF5				1				755.63	70.20		
	F-01-05	Private	FTF6			1					672.74	62.50		
Second	F-02-01	Private	FTF4				1				851.42	79.10		
	F-02-02	Private	FTF3		1						538.20	50.00	Phase 2	
	F-02-03	Private	FTF5				1				755.63	70.20		
	F-02-04	Private	FTF5				1				755.63	70.20		
	F-02-05	Private	FTF6			1					672.74	62.50		
Third	F-03-01	Private	FTF4				1				851.42	79.10		
	F-03-02	Private	FTF3		1						538.20	50.00		
	F-03-03	Private	FTF5				1				755.63	70.20		
	F-03-04	Private	FTF5				1				755.63	70.20		
	F-03-05	Private	FTF6			1					672.74	62.50		

		Flats	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P		
Summary		0	0.00	3.00	3.00	11.00	0.00	0.00	0.00	12240.71	1137.20
Total						17.00					

ACCOMMODATION SCHEDULE

Project	Tipner regeneration
Job No.	25.048
Date	07.08.25
Rev	B

				Bedrooms							Area		Phase	Comments
Floor Level	Plot Number	Tenure	Flat Type	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	Floor Area ft²	Floor Area m²		
Block G														
Ground	G-00-01	Private	FTG10			1					781.46	72.60		M4(3)
	G-00-02	Private	FTG9 M4(3)		1						578.02	53.70		M4(3)
	G-00-03	Private	FTG9*		1						654.45	60.80		M4(3)
	G-00-04	Private	FTG9 M4(3)		1						578.02	53.70		M4(3)
	G-00-05	Private	FTG9 M4(3)		1						578.02	53.70		M4(3)
	G-00-06	Private	FTG9 M4(3)		1						578.02	53.70		M4(3)
	G-00-07	Private	FTG9 M4(3)		1						578.02	53.70		M4(3)
	G-00-08	Private	FTG4 M4(1)				1				819.13	76.10		
	G-00-09	Private	FTG5 M4(1)				1				798.68	74.20		
First	G-01-01	Private	FTG1 M4(1)		1						547.88	50.90		
	G-01-02	Private	FTG6 M4(1)				1				804.06	74.70		
	G-01-03	Private	FTG7 M4(1)				1				762.08	70.80		
	G-01-04	Private	FTG8 M4(1)				1				779.31	72.40		
	G-01-05	Private	FTG2*				1				759.93	70.60		
	G-01-06	Private	FTG2 M4(1)				1				761.01	70.70		
	G-01-07	Private	FTG3 M4(1)		1						547.88	50.90		
	G-01-08	Private	FTG3*		1						544.65	50.60		
	G-01-09	Private	FTG8 M4(1)				1				779.31	72.40		
	G-01-10	Private	FTG4 M4(1)				1				819.13	76.10		
	G-01-11	Private	FTG5 M4(1)				1				798.68	74.20		
Second	G-02-01	Private	FTG1 M4(1)		1						547.88	50.90		
	G-02-02	Private	FTG6 M4(1)				1				804.06	74.70		
	G-02-03	Private	FTG7 M4(1)				1				762.08	70.80		
	G-02-04	Private	FTG8*				1				779.31	72.40		
	G-02-05	Private	FTG2 M4(1)				1				761.01	70.70		
	G-02-06	Private	FTG2 M4(1)				1				761.01	70.70		
	G-02-07	Private	FTG3 M4(1)		1						547.88	50.90		
	G-02-08	Private	FTG3 M4(1)		1						547.88	50.90		
	G-02-09	Private	FTG8 M4(1)				1				779.31	72.40		
	G-02-10	Private	FTG4 M4(1)				1				819.13	76.10		
	G-02-11	Private	FTG5 M4(1)				1				798.68	74.20		
Third	G-03-01	Private	FTG1 M4(1)		1						547.88	50.90	Phase 2	
	G-03-02	Private	FTG6 M4(1)				1				804.06	74.70		
	G-03-03	Private	FTG7 M4(1)				1				762.08	70.80		
	G-03-04	Private	FTG8*				1				779.31	72.40		
	G-03-05	Private	FTG2 M4(1)				1				761.01	70.70		
	G-03-06	Private	FTG2 M4(1)				1				761.01	70.70		
	G-03-07	Private	FTG3 M4(1)		1						547.88	50.90		
	G-03-08	Private	FTG3 M4(1)		1						547.88	50.90		
	G-03-09	Private	FTG8 M4(1)				1				779.31	72.40		
	G-03-10	Private	FTG4 M4(1)				1				819.13	76.10		
	G-03-11	Private	FTG5 M4(1)				1				798.68	74.20		
Fourth	G-04-01	Private	FTG1 M4(1)		1						547.88	50.90		
	G-04-02	Private	FTG6 M4(1)				1				804.06	74.70		
	G-04-03	Private	FTG7 M4(1)				1				762.08	70.80		
	G-04-04	Private	FTG8*				1				779.31	72.40		
	G-04-05	Private	FTG2 M4(1)				1				761.01	70.70		
	G-04-06	Private	FTG2 M4(1)				1				761.01	70.70		
	G-04-07	Private	FTG3 M4(1)		1						547.88	50.90		
	G-04-08	Private	FTG3 M4(1)		1						547.88	50.90		
	G-04-09	Private	FTG8 M4(1)				1				779.31	72.40		
	G-04-10	Private	FTG4 M4(1)				1				819.13	76.10		
	G-04-11	Private	FTG5 M4(1)				1				798.68	74.20		
Fifth	G-05-01	Private	FTG1 M4(1)		1						547.88	50.90		
	G-05-02	Private	FTG6 M4(1)				1				804.06	74.70		
	G-05-03	Private	FTG7 M4(1)				1				762.08	70.80		
	G-05-04	Private	FTG8*				1				779.31	72.40		
	G-05-05	Private	FTG2 M4(1)				1				761.01	70.70		
	G-05-06	Private	FTG2 M4(1)				1				761.01	70.70		
	G-05-07	Private	FTG3 M4(1)		1						547.88	50.90		
	G-05-08	Private	FTG3 M4(1)		1						547.88	50.90		
	G-05-09	Private	FTG8 M4(1)				1				779.31	72.40		
	G-05-10	Private	FTG4 M4(1)				1				819.13	76.10		
	G-05-11	Private	FTG5 M4(1)				1				798.68	74.20		

		Flats	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P		
Summary		0	0.00	21.00	1.00	42.00	0.00	0.00	0.00	45480.71	4225.30
Total						64.00					

ACCOMMODATION SCHEDULE

Project	Tipner regeneration
Job No.	25.048
Date	07.08.25
Rev	B

				Bedrooms							Area		Phase	Comments
Floor Level	Plot Number	Tenure	Flat Type	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	Floor Area ft²	Floor Area m²		
Block H														
Ground	H-00-01	Shared ownership	FTH10			1					781.46	72.60		M4(3)
	H-00-02	Shared ownership	FTH9 M4(3)		1						578.02	53.70		M4(3)
	H-00-03	Shared ownership	FTH9*		1						654.45	60.80		M4(3)
	H-00-04	Shared ownership	FTH9 M4(3)		1						578.02	53.70		M4(3)
	H-00-05	Shared ownership	FTH9 M4(3)		1						578.02	53.70		M4(3)
	H-00-06	Shared ownership	FTH9 M4(3)		1						578.02	53.70		M4(3)
	H-00-07	Shared ownership	FTH9 M4(3)		1						578.02	53.70		M4(3)
	H-00-08	Shared ownership	FTH4 M4(1)				1				819.13	76.10		M4(3)
	H-00-09	Shared ownership	FTH5 M4(1)				1				798.68	74.20		M4(3)
First	H-01-01	Shared ownership	FTH1 M4(1)		1						547.88	50.90		
	H-01-02	Shared ownership	FTH6 M4(1)				1				804.06	74.70		
	H-01-03	Shared ownership	FTH7 M4(1)				1				762.08	70.80		
	H-01-04	Shared ownership	FTH8 M4(1)				1				779.31	72.40		
	H-01-05	Shared ownership	FTH2*				1				759.93	70.60		
	H-01-06	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-01-07	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-01-08	Shared ownership	FTH3*		1						544.65	50.60		
	H-01-09	Shared ownership	FTH8 M4(1)				1				779.31	72.40		
	H-01-10	Shared ownership	FTH4 M4(1)				1				819.13	76.10		
	H-01-11	Shared ownership	FTH5 M4(1)				1				798.68	74.20		
Second	H-02-01	Shared ownership	FTH1 M4(1)		1						547.88	50.90		
	H-02-02	Shared ownership	FTH6 M4(1)				1				804.06	74.70		
	H-02-03	Shared ownership	FTH7 M4(1)				1				762.08	70.80		
	H-02-04	Shared ownership	FTH8*				1				779.31	72.40		
	H-02-05	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-02-06	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-02-07	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-02-08	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-02-09	Shared ownership	FTH8 M4(1)				1				779.31	72.40		
	H-02-10	Shared ownership	FTH4 M4(1)				1				819.13	76.10		
	H-02-11	Shared ownership	FTH5 M4(1)				1				798.68	74.20		
Third	H-03-01	Shared ownership	FTH1 M4(1)		1						547.88	50.90	Phase 2	
	H-03-02	Shared ownership	FTH6 M4(1)				1				804.06	74.70		
	H-03-03	Shared ownership	FTH7 M4(1)				1				762.08	70.80		
	H-03-04	Shared ownership	FTH8*				1				779.31	72.40		
	H-03-05	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-03-06	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-03-07	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-03-08	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-03-09	Shared ownership	FTH8 M4(1)				1				779.31	72.40		
	H-03-10	Shared ownership	FTH4 M4(1)				1				819.13	76.10		
	H-03-11	Shared ownership	FTH5 M4(1)				1				798.68	74.20		
Fourth	H-04-01	Shared ownership	FTH1 M4(1)		1						547.88	50.90		
	H-04-02	Shared ownership	FTH6 M4(1)				1				804.06	74.70		
	H-04-03	Shared ownership	FTH7 M4(1)				1				762.08	70.80		
	H-04-04	Shared ownership	FTH8*				1				779.31	72.40		
	H-04-05	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-04-06	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-04-07	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-04-08	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-04-09	Shared ownership	FTH8 M4(1)				1				779.31	72.40		
	H-04-10	Shared ownership	FTH4 M4(1)				1				819.13	76.10		
	H-04-11	Shared ownership	FTH5 M4(1)				1				798.68	74.20		
Fifth	H-05-01	Shared ownership	FTH1 M4(1)		1						547.88	50.90		
	H-05-02	Shared ownership	FTH6 M4(1)				1				804.06	74.70		
	H-05-03	Shared ownership	FTH7 M4(1)				1				762.08	70.80		
	H-05-04	Shared ownership	FTH8*				1				779.31	72.40		
	H-05-05	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-05-06	Shared ownership	FTH2 M4(1)				1				761.01	70.70		
	H-05-07	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-05-08	Shared ownership	FTH3 M4(1)		1						547.88	50.90		
	H-05-09	Shared ownership	FTH8 M4(1)				1				779.31	72.40		
	H-05-10	Shared ownership	FTH4 M4(1)				1				819.13	76.10		
	H-05-11	Shared ownership	FTH5 M4(1)				1				798.68	74.20		

		Flats	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P		
Summary		0	0.00	21.00	1.00	42.00	0.00	0.00	0.00	45480.71	4225.30
Total						64.00					

ACCOMMODATION SCHEDULE

Project	Tipner regeneration
Job No.	25.048
Date	07.08.25
Rev	B

				Bedrooms							Area		Phase	Comments
Floor Level	Plot Number	Tenure	Flat Type	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	Floor Area ft²	Floor Area m²		
Block L														
Ground	L-00-01	Social Rent	FTL1 M4(1)			1					684.58	63.60		
	L-00-02	Social Rent	FTL6 M4(3)			1					882.64	82.00		
	L-00-03	Social Rent	FTL5 M4(3)	1							629.69	58.50		
First	L-01-01	Social Rent	FTL3 M4(1)		1						580.17	53.90		
	L-01-02	Social Rent	FTL1 M4(1)			1					684.58	63.60		
	L-01-03	Social Rent	FTL2 M4(1)				1				792.22	73.60	Phase 2	
	L-01-04	Social Rent	FTL4 M4(1)			1					707.19	65.70		
Second	L-02-01	Social Rent	FTL3 M4(1)		1						580.17	53.90		
	L-02-02	Social Rent	FTL1 M4(1)			1					684.58	63.60		
	L-02-03	Social Rent	FTL2 M4(1)				1				792.22	73.60		
	L-02-04	Social Rent	FTL4 M4(1)			1					707.19	65.70		

		Flats	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P		
Summary		0	1.00	2.00	6.00	2.00	0.00	0.00	0.00	7725.25	717.70
Total						11.00					

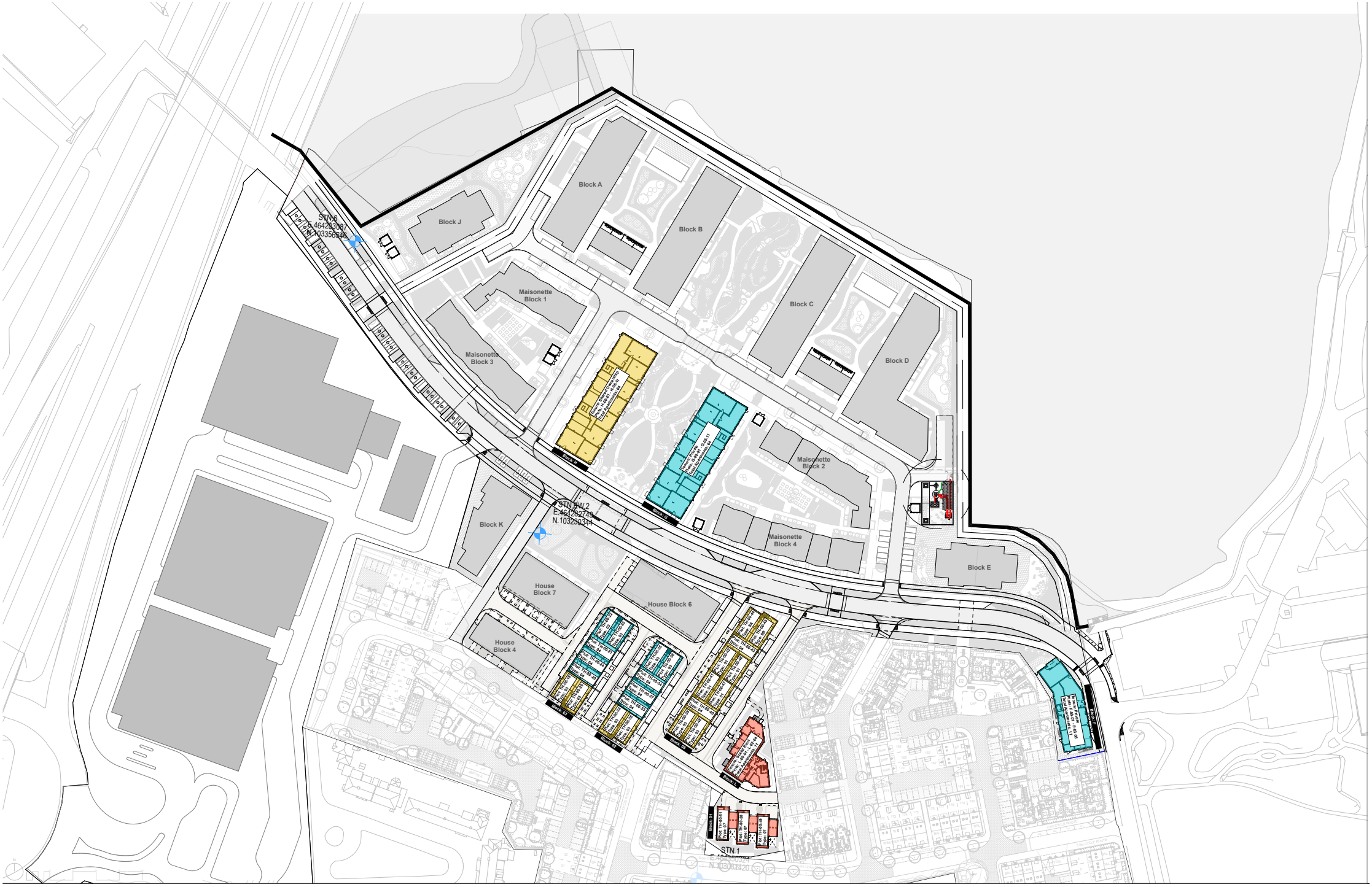
ACCOMMODATION SCHEDULE

Project	Tipner regeneration
Job No.	25.048
Date	07.08.25
Rev	B

					Bedrooms								Area		Phase	Comments
Floor Level	Plot Number	House Block	Tenure	House Type	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	4B6P	4B8P	Floor Area ft²	Floor Area m²		
Houses & FOG's																
Ground	TH-00-19	House Block 3	Shared	HT10						1			1181.88	109.80		
Ground	TH-00-20	House Block 3	Private	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-21	House Block 3	Private	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-22	House Block 3	Private	HT3 M4(1)						1			1181.88	109.80	Phase 2	
Ground	TH-00-23	House Block 3	Private	HT3 M4(1)						1			1181.88	109.80		
Ground	TH-00-24	House Block 3	Private	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-25	House Block 3	Shared ownership	HT12						1			1181.88	109.80		
Ground	TH-00-32	House Block 2	Shared ownership	HT12						1			1181.88	109.80		
Ground	TH-00-33	House Block 2	Private	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-34	House Block 2	Private	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-35	House Block 2	Private	HT3 M4(1)						1			1181.88	109.80	Phase 2	
Ground	TH-00-36	House Block 2	Private	HT3 M4(1)						1			1181.88	109.80		
Ground	TH-00-37	House Block 2	Private	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-38	House Block 2	Shared	HT10						1			1181.88	109.80		
Ground	TH-00-39	House Block 5	Shared	HT3 M4(1)						1			1181.88	109.80		
Ground	TH-00-40	House Block 5	Shared	HT4 M4(1)						1			1181.88	109.80		
Ground	TH-00-41	House Block 5	Shared	HT1 M4(1)						1			1181.88	109.80		
Ground	TH-00-42	House Block 5	Shared	HT1 M4(1)						1			1181.88	109.80		
Ground	TH-00-43	House Block 5	Shared	HT4 M4(1)						1			1181.88	109.80	Phase 2	
Ground	TH-00-44	House Block 5	Shared	HT3 M4(1)						1			1181.88	109.80		
Ground	TH-00-45	House Block 5	Shared	HT11						1			1181.88	109.80		
Ground	TH-00-46	House Block 5	Shared	HT1 M4(1)						1			1181.88	109.80		
Ground	TH-00-47	House Block 5	Shared	HT1 M4(1)						1			1181.88	109.80		
Ground	TH-00-48	House Block 5	Shared	HT3 M4(1)						1			1181.88	109.80		
Ground	TH-00-49	House Block 1	Social Rent	HT7 M4(3)							1		1424.49	132.34		
Ground	TH-00-50	House Block 1	Social Rent	HT7 M4(3)							1		1424.49	132.34	Phase 2	
Ground	TH-00-51	House Block 1	Social Rent	HT7 M4(3)							1		1424.49	132.34		

		Houses	1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	4B6P	4B8P			
Summary			0.00	0.00	0.00	0.00	0.00	24.00	3.00		32638.51	3032.22	
Total						27.00							


Bird Conservation Area
A
J
8
B
M1
C
M3
9
D
H
G
M2
Pumping station
K
M4
E
6
7
4
3
2
5
F
L
1
Social Rent
Shared Own-ership
OMS
VIVID
hgp



Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party, HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

- Private Tenure
- Shared Ownership
- Social Rent

VIVID

Rev	Description	Date	By	Chk
P02	Updates to Tenure	20.08.25	LW	MLE
P01	Initial Issue	26.03.25	IC	MLE

Site Tenure Plan

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:500@A1	15.07.22
DRAWN BY/CHECKED BY	**REVISION**
IC / MLE	P02
DWG#	**STATUS**
25048-HGP-XX-XX-D-A-1018	PRELIMINARY

hgp

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Victory Quay

17-Jul-25 V1.7

Phase Section	PHASE 1	Proposed Tenure	Proposed Tenure	Proposed Tenure
Block	Homes	OMS	SO	SR
1C-F	17	17		
1B-G	64	64	0	
1B-H	64	0	64	
1A-House Block 2	7	5	2	
1A-House Block 3	7	5	2	
1A-House Block 5	10	0	10	
1A-House Block 1	3			3
L	11			11
TOTAL PH1	183	91	78	14
		49.73%	42.62%	7.65%

Phase Section	PHASE 2	PAC Proposed	PAC Proposed	Pac Proposed
Block	Homes	PS	SO	SR
2A-House Block 4	5			5
2A-House Block 6	8		8	
2A-House Block 7	7			7
2B-E	55	55		
TOTAL PH2	75	55	8	12
		73.33%	10.67%	16.00%

Phase Section	PHASE 3	PAC Proposed	PAC Proposed	Pac Proposed
Block	Homes	PS	SO	SR
3A-M1	23			23
3A-M3	28		28	
3B-M2	27		27	
3B-M4	32			32
TOTAL PH3	110	0	55	55
		0.00%	50.00%	50.00%

Phase Section	PHASE 4	PAC Proposed	PAC Proposed	Pac Proposed
Block	Homes	PS	SO	SR
4A-C	96	86	10	
4A-House Block 9	4	4		
4A-D	96	0	72	24
4B-A	81	81		
4B-House Block 8	4	0	2	2
4B-B	96	48	36	12
4C-J	55	55		
4D-K	35			35
TOTAL PH4	467	274	120	73
		58.67%	25.70%	15.63%

PH1-4	835	420	261	154
		50.30%	31.26%	18.44%

Tenure Split

Unit Type	1 BED		51.04	2 BED		71.92	3 BED F			3 BED H			4 BED H			Total			
Phase	OMS	SO	SR	OMS	SO	SR	OMS	SO	SR	OMS	SO	SR	OMS	SO	SR	OMS	SO	SR	Total
1	25	21	3	56	43	8	0	0	0	10	14	0	0	0	3	91	78	14	183
2	8	0	2	45	2	0	2	0	0	0	6	9	0	0	1	55	8	12	75
3	0	16	18	0	17	12	0	5	8	0	17	17	0	0	0	0	55	55	110
4	56	40	24	207	78	45	7	0	2	4	2	2	0	0	0	274	120	73	467
Total	89	77	47	308	140	65	9	5	10	14	39	28	0	0	4	420	261	154	835

VIVID Data Processing Agreement

Date of this Agreement: [DATE]

Parties

(1) **"Supplier"** of and

(2) **"Customer"** VIVID Housing Limited (a registered society under the Co-operative and Community Benefit Societies Act 2014), whose registered office is at Peninsular House, Wharf Road, Portsmouth, PO2 8HB

Background

(A) The Supplier provides services to the Customer under a separate agreement (the '**Supply Agreement'**) entered into between them dated [DATE]. In order for the Supplier to provide these services, the Supplier may be required to process Personal Data on behalf of the Customer.

(B) The parties have agreed to enter into this Agreement to confirm the way in which the Supplier may use this information and the Supplier's commitment to keep this information safe and secure.

(C) This Agreement shall have precedence over any terms in the Supply Agreement or the Supplier's standard terms addressing data protection matters.

(D) This Agreement contains the mandatory clauses required by Article 28(3) of the UK GDPR.

1. **Interpretation**

1.1 The following definitions and rules of interpretation apply to this Agreement:

"Business Purposes" Means the services to be provided by the Supplier to the Customer as described in the Supply Agreement.

"Commissioner" Means the Information Commissioner.

Commissioner, Processor, Data Subject, Personal Data, Personal Data Breach and Processing	Have the same meanings given in the Data Protection Legislation.
"Personal Data"	means any personal data within the meaning given in the Data Protection Legislation and which is processed by the Supplier in connection with the provision of the Services;
"Data Controller"	means a data controller within the meaning given in the Data Protection Legislation;
"Data Loss Event"	means any event that results, or may result, in unauthorised access to or processing of Personal Data held by the Supplier under this Agreement, and/or actual or potential loss and/or destruction of Personal Data in breach of this Agreement, including any Personal Data Breach (as defined in the Data Protection Legislation);
"Data Processor"	means a data processor within the meaning given in the Data Protection Legislation;
"Data Protection Legislation"	means all applicable data protection and privacy legislation in force from time to time in the UK including the UK GDPR; the Data Protection Act 2018 ('DPA 2018') (and regulations made thereunder); and the Privacy and Electronic Communications 2003 (SI 2003 No. 2426) as amended; and all other legislation and regulatory requirements in force from time to time which apply to a party relating to the use of Personal Data (including, without limitation, the privacy of electronic communications); and the guidance and codes of practice issued by the Information Commissioner or other relevant data protection or supervisory authority and applicable to a party.
"Data Subject Access Request"	means a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data;
"Personal Data"	means any information relating to an identified or identifiable living person; an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification

	number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that person. Identification may arise from other information that is already in the possession of, or is likely to come into the possession of the Supplier or Customer.
"Personal Data Breach"	means a breach of security leading to the accidental, unauthorised or unlawful destruction, loss, alteration, disclosure of, or access to, the Personal Data.
"Protective Measures"	means appropriate technical and organisational measures to comply with the requirements of Data Protection Legislation, which may include: pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the measures adopted;
"Services"	means the services provided by the Supplier to the Customer under the Supply Agreement;
"Shared Personal Data"	The Personal Data and Special Categories of Personal Data to be shared between the parties under the terms of this Agreement.
"Sub-processor"	means any third Party appointed to process Personal Data on behalf of the Supplier related to this Agreement;
"Supply Agreement"	means the agreement between (1) the Supplier and (2) VIVID dated [DATE] relating to [nature of services].
"Supervisory Authority"	means the local, national or multinational agency, department, official, parliament, public or statutory person or any government or professional body, regulatory or supervisory authority, board or other body responsible for administering Data Privacy Laws (in the United Kingdom this is the Information Commissioner's Office ("ICO").
"UK GDPR"	has the meaning given to it in section 3(10) (as supplemented by section 205(4)) of the DPA 2018.

1.2. This Agreement is subject to the terms of the Supply Agreement. Interpretation and defined terms set forth in the Supply Agreement apply to the interpretation of this Agreement.

1.3. The Schedules form part of this Agreement and will have effect as if set out in full in the body of this Agreement. Any reference to this Agreement includes the Schedules.

1.4. A reference to writing or written includes fax and email.

1.5. In the case of conflict or ambiguity between:

1.5.1. Any provision in the body of this Agreement and any provision in the Schedules, the provision in the body of this Agreement will prevail.

1.5.2. The terms of any accompanying invoice or other documents annexed to this Agreement and any provisions contained in the Schedules, the provisions in the Schedules will prevail; and

1.5.3. Any of the provisions of this Agreement and the provisions of the Supply Agreement, the provisions of this Agreement will prevail.

2. **Personal data types and processing purposes**

2.1 The Customer and the Supplier acknowledge that for the purposes of the Data Protection Legislation, in performing the Services, the Customer is the Data Controller of the Personal Data and the Supplier acts as a Data Processor of the Personal Data.

2.2 The Customer retains control of the Personal Data and remains responsible for its compliance under the Data Protection Legislation, including but not limited to, providing any required notices and obtaining any required consents, and for the written processing instructions it gives to the Supplier.

2.3 Schedule 1 describes the subject matter, duration, nature and purpose of the processing and the Personal Data categories and Data Subject types in respect of which the Supplier may process the Personal Data to perform the Services.

3. **Supplier's Obligations**

3.1 The Supplier shall:-

3.1.1 only process the Personal Data to the extent, and in such a manner, as is necessary for the proper performance of the Business Purposes or as instructed in writing by the Customer. The only processing that the Supplier is authorised to do is listed by the Customer in the Schedule and may not be determined by the Supplier. The Schedule may be updated from time to time to reflect the processing of Personal Data being undertaken;

3.1.2 not carry out any other processing of the Personal Data unless the Supplier is required to do otherwise by law. If it is so required to process the Personal Data, the Supplier shall promptly notify the Customer before processing the Personal Data, unless prohibited by Law from notifying the Customer.

3.1.3 promptly notify the Customer if, if its opinion, the Customer's instructions do not comply with the Data Protection Legislation.

3.1.4 promptly comply with any written request by the customer requiring the Supplier to amend, transfer, delete or otherwise process the Personal Data, or to stop, mitigate or remedy any unauthorised processing.

3.1.5 at the Customer's request, provide to the Customer a copy of all Personal Data held by it (in the format and on the media reasonably specified by the Customer).

3.1.6 maintain the confidentiality of the Personal Data and do not disclose the Personal Data to any third party or allow any third party to process the Data unless at the request of the Customer under this Agreement or the Supply Agreement, or if required by domestic law, court or regulator (including the Commissioner). If a domestic law, court or regulator (including the Commissioner) requires the Supplier to process or disclose the Personal Data to a third party, the Supplier must first inform the Customer of such legal or regulatory requirement and give the Customer an opportunity to object or challenge the requirement, unless the domestic law prohibits the giving of such notice.

3.1.7 reasonably assist the Customer, at no additional cost to the Customer, with meeting the Customer's compliance obligations under the Data Protection Legislation, taking into account the nature of the Supplier's processing and the information available to the Supplier, including in relation to Data Subject rights, data protection impact assessments and reporting to and consulting with the Commissioner under the Data Protection Legislation.

3.1.8 notify the Customer promptly of any changes to the Data Protection Legislation that may reasonably be interpreted as adversely affecting the Supplier's performance of the Supply Agreement or this Agreement.

not transfer Personal Data outside of the UK unless prior written consent of the Customer has been obtained.

4. **Data Protection Impact Assessments**

4.1 The Supplier shall provide all reasonable assistance to the Customer in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the Customer's discretion include:

4.1.1 a systematic description of the envisage processing operations and the purpose of the processing;

4.1.2 an assessment of the necessity and proportionality of the processing operations in relation to the Services;

4.1.3 an assessment of the risks to the rights and freedoms of Data Subjects; and

4.1.4 the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

5. **Supplier's employees**

5.1 The Supplier will ensure that all of its employees:

5.1.1 Are informed of the confidential nature of the Personal Data and are bound by confidentiality obligations and use restrictions in respect of the Personal Data;

5.1.2 Have undertaken training on the Data Protection Legislation and how it relates to handling the Personal Data and how it applies to their particular duties; and

5.1.3 Are aware both of the Supplier's duties and their personal duties and obligations under the Data Protection Legislation and this Agreement.

6. **Security of Personal Data**

6.1 The Supplier warrants that it shall:-

6.1.1 ensure that it has and maintains appropriate Protective Measures against accidental, unauthorised or unlawful processing, access, copying, modifying, reproduction, display or distribution of the Personal Data, and against accidental or unlawful destruction, alteration, disclosure or damage of the Personal Data.

6.1.2 in particular, ensure that it has in place and maintains appropriate Protective Measures (including any specific Protective Measures required on notice by the Customer from time to time), to protect against a Data Loss Event, having taken account of the:

(a) nature of the data to be protected;

(b) the harm(s) that might result from a Data Loss Event;

(c) the state of technological development; and

(d) the cost of implementing any particular measures;

6.1.3 The Supplier must implement such measures to ensure a level of security appropriate to the risk involved, including as appropriate:

(a) The pseudonymisation and encryption of personal data;

(b) The ability to ensure the ongoing confidentiality, integrity, availability and resilience of processing systems and services;

(c) The ability to restore the availability and access to personal data in a timely manner in the event of a physical or technical accident.

(d) A process for regularly testing, assessing and evaluating the effectiveness of the security measures.

6.1.4 comply with any policies and procedures of the Customer relating to the use and/or security of Personal Data notified to the Supplier from time to time. This includes (as at the date of this Agreement) the Customer's Data Protection Policy which forms part of its Code of Conduct;

6.1.5 comply with any reasonable requirements notified to the Supplier by the Customer from time to time in relation to the use of the Personal Data;

7. **Personal Data Breach**

7.1 The Supplier will without undue delay and in any event within 24 hours notify the Customer in writing if it becomes aware of:

(a) The loss, unintended destruction or damage, corruption, or unusability of part or all of the Personal Data or Special Category Data.

(b) Any accidental, unauthorised or unlawful processing of the Personal Data or Special Category Data; or

(c) Any Personal Data Breach.

7.2 Where the Supplier becomes aware of (a), (b) or (c), it will without undue delay, also provide the Customer with the following written information:

(a) Description of the nature of (a), (b) or (c), including the categories of in-scope Personal Data and approximate number of both Data Subjects and the Personal Data records concerned;

(b) The likely consequences; and

(c) A description of the measures taken or proposed to be taken to address (a), (b) and/or (c).

7.3 The party responsible for (a), (b) or (c) will manage the resolution of (a), (b) or (c) in accordance to the party's relevant policy and in accordance with the Data Protection Legislation.

7.4 Immediately following any accidental, unauthorised or unlawful Personal Data processing or Personal Data Breach, the parties will co-ordinate with each other to investigate the matter. Further, the Supplier will reasonably co-operate with the Customer at no additional cost to the Customer, in the Customer's handling of the matter, including but not limited to:

(a) assisting with any investigation;

(b) providing the Customer with physical access to any facilities and operations affected;

(c) facilitating interviews with the Supplier's employees, former employees and others involved in the matter including, but not limited to, its officers and directors;

(d) making available all relevant records, logs, files, data reporting and other materials required to comply with all Data Protection Legislation or as otherwise reasonably required by the Customer; and

(e) taking reasonable and prompt steps to mitigate the effects and to minimise any damage resulting from the Personal Data Breach or accidental, unauthorised or unlawful Personal Data processing.

7.5 The Supplier will not inform any third-party of any accidental, unauthorised or unlawful processing of all or part of the Personal Data and/or a Personal Data Breach without first obtaining the Customer's written consent, except when required to do so by domestic law.

7.6 The Supplier agrees that the Customer has the sole right to determine:

(a) whether to provide notice of the accidental, unauthorised or unlawful processing and/or the Personal Data Breach to any Data Subjects, the Commissioner, other in-scope regulators, law enforcement agencies or others, as required by law or regulation or in the Customer's discretion, including the contents and delivery method of the notice; and

(b) whether to offer any type of remedy to affected Data Subjects, including the nature and extent of such remedy.

7.7 The Supplier will cover all reasonable expenses associated with the performance of the obligations under clause 7.1 to clause 7.4 unless the matter arose from the Customer's specific written instructions, negligence, wilful

default or breach of this Agreement, in which case the Customer will cover all reasonable expenses.

7.8 The Supplier will also reimburse the Customer for actual reasonable expenses that the Customer incurs when responding to an incident of accidental, unauthorised or unlawful processing and/or a Personal Data Breach to the extent that the Supplier caused such, including all costs of notice and any remedy as set out in Clause 7.6.

8. **Data Subject rights**

8.1 The Supplier shall notify the Customer at the first possible opportunity and in any event, within five days of receipt if it:

8.1.1 receives a Data Subject Access Request (or purported Data Subject Access Request);

8.1.2 receives a request to rectify, block or erase any Personal Data;

8.1.3 receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;

8.1.4 receives any communication from the Information Commissioner or any other regulatory authority in connection with Personal Data processed under this Agreement;

8.1.5 receives a request from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law.

8.2 The Supplier's obligation to notify under clause 8.1 shall include the provision of further information to the Customer in phases where necessary, as details become available.

8.3 Taking into account the nature of the processing, the Supplier shall provide the Customer with full assistance in relation to either Party's obligations under Data Protection Legislation and any complaint, communication or request (and insofar as possible within the timescales reasonably required by the Customer) including by promptly providing:

8.3.1 the Customer with full details and copies of the complaint, communication or request;

8.3.2 such assistance as is reasonably requested by the Customer to enable the Customer to comply with a Data Subject Access Request within the relevant timescales set out in the Data Protection Legislation;

8.3.3 to the Customer, at its request, any Personal Data it holds in relation to a Data Subject;

8.3.4 full assistance, cooperation and information as requested by the Customer following any Data Loss Event;

8.3.5 such assistance as requested by the Customer with respect to any request from the Information Commissioner's Office, or any consultation by the Customer with the Information Commissioner's Office.

9. **Sub-contracting**

9.1 Before allowing any sub-processor to process any Personal Data related to this Agreement, the Supplier must:

9.1.1 notify the Customer in writing of the intended Sub-processor and processing;

9.1.2 obtain the written consent of the Customer;

9.1.3 enter into a written agreement with the Sub-processor which give effect to the terms set out in this Agreement such that they apply to the Sub-processor, in particular, in relation to requirements for appropriate technical and organisational data security measures; and

9.1.4 provide the Customer with such information regarding the Sub-processor as the Customer may reasonably require.

9.2 The Supplier shall remain fully liable for all acts or omissions of any Sub-processor.

10. **Warranties**

10.1 The Supplier warrants and represents that:

a) its employees, subcontractors, agents and any other person or persons accessing the Personal Data on its behalf are reliable and trustworthy and have received the required training on the Data Protection Legislation;

b) it and anyone operating on its behalf will process the Personal Data in compliance with the Data Protection Legislation and other laws, enactments, regulations, orders, standards and other similar instruments;

c) it has no reason to believe that the Data Protection Legislation prevents it from providing any of the Supply Agreement's contracted services; and

d) considering the current technology environment and implementation costs, it will take appropriate technical and organisational measures to prevent the accidental, unauthorised or unlawful processing of Personal Data and the loss or damage to, the Personal Data, and ensure a level of security appropriate to:

i) the harm that might result from such accidental, unauthorised or unlawful processing and loss or damage;

ii) the nature of the Personal Data protected; and

iii) comply with all applicable Data Protection Legislation and its information and security policies, including the security measures.

10.2 The Customer warrants and represents that the Supplier's expected use of the Personal Data for the Business Purposes and as specifically instructed by the Customer will comply with the Data Protection Legislation.

11. **Audit**

11.1 The Supplier will permit the Customer and its third-party representatives to audit the Supplier's compliance with its Agreement obligations, on at least seven days' notice. The Supplier will give the Customer and its third-party representatives all necessary assistance to conduct such audits at no additional cost to the Customer. The assistance may include, but is not limited to:

11.2 physical access to, remote electronic access to, and copies of the records and any other information held at the Supplier's premises or on systems storing the Personal Data;

11.3 access to and meetings with any of the Supplier's personnel reasonably necessary to provide all explanations and perform the audit effectively; and

11.4 inspection of all records and the infrastructure, electronic data or systems, facilities, equipment or application software used to process the Personal Data.

11.5 The notice requirements in Clause 13.1 will not apply if the Customer reasonably believes that a Personal Data Breach has occurred or is occurring, or the Supplier is in material breach of any of its obligations under this Agreement or any of the Data Protection Legislation.

11.6 If a Personal Data Breach occurs or is occurring, or the Supplier becomes aware of a breach of any of its obligations under this Agreement or any of the Data Protection Legislation, the Supplier will:

a) within seven days of the triggering event, conduct its own audit to determine the cause;

b) produce a written report that includes detailed plans to remedy any deficiencies identified by the audit;

c) provide the Customer with a copy of the written audit report; and

d) remedy any deficiencies identified by the audit within seven days.

11.7 At least once a year, the Supplier will conduct site audits of its Personal Data processing practices and the information technology and information security

controls for all facilities and systems used in complying with its obligations under this Agreement, including, but not limited to, obtaining a network-level vulnerability assessment performed by a recognised third-party audit firm based on recognised industry best practices.

11.8 On the Customer's written request, the Supplier will make all of the relevant audit reports available to the Customer for review.

11.9 The Supplier will promptly address any exceptions noted in the audit reports with the development and implementation of a corrective action plan by the Supplier's management.

12. **Further compliance with Data Protection Legislation**

12.1 The Supplier shall designate a data protection officer if required by the Data Protection Legislation.

12.2 The Supplier shall maintain complete and accurate records and information to demonstrate its compliance with this agreement and demonstrable compliance with Data Protection Legislation.

12.3 The parties agree to take account of any guidance issued by the Information Commissioner's Office. The Customer may on not less than 30 Working Days' notice to the Supplier amend this agreement to ensure that it complies with any guidance issued by the Information Commissioner's Office.

13. **Indemnity**

13.1 The Supplier agrees to indemnify and keep indemnified the Customer against all costs, claims, damages, expenses, fines and penalties incurred by the Customer for which the Customer becomes liable due to any failure by the Supplier or its employees, agents or sub-contractors to comply with any of its obligations under this Agreement or Data Protection Legislation more generally.

13.2 The Supplier shall take out insurance sufficient to cover any payment that may be required under clause 13.1 (above) and produce the policy and receipt for premium paid to the Customer on request.

14. **Term and Termination**

14.1 This Agreement shall come to an end automatically on the date that the Supply Agreement comes to an end. Upon termination of this Agreement, the Supplier shall (unless notified otherwise by the Customer or required by law):-

14.1.1 immediately cease processing of the Personal Data; and

14.1.2 as requested by the Customer, securely delete or destroy or return to the Customer on suitable media all copies of the Personal Data held or controlled, in whatever form, by or on behalf of the Supplier.

15. **Records**

15.1 The Supplier will keep detailed, accurate and up-to-date written records regarding any processing of the Personal Data, including but not limited to, the access, control and security of the Personal Data, the processing purposes, categories of processing, and a general description of the technical and organisational security measures (Records).

15.2 The Supplier will ensure that the Records are sufficient to enable the Customer to verify the Supplier's compliance with its obligations under this Agreement and the Data Protection Legislation and the Supplier will provide the Customer with copies of the Records upon request.

15.3 The Customer and the Supplier must review the information listed in the Annexes to this Agreement at least once a year to confirm its current accuracy and update it when required to reflect current practices.

16. **Notice**

16.1 Any notice given to a party under or in connection with this Agreement shall be in writing and shall be:

a) delivered by hand or by pre-paid first-class post or other next working day delivery service at its registered office (if a company) or its principal place of business (in any other case);or

b) sent by email to the following addresses (or an address substituted in writing by the party to be served):

i) For the Customer: Lucy Scott, Data Protection Officer at dataprotection@vividhomes.co.uk

ii) For the Supplier: [SUPPLIER DATA PRIVACY CONTACT]

16.2 Any notice shall be deemed to have been received:

a) if delivered by hand, at the time the notice is left at the proper address; or

b) if sent by pre-paid first-class post or other, next working day delivery service, at 9:00am on the second business day after posting; or

c) if sent by email, at the time of transmission, or, if this time falls outside business hours in the place of receipt, when Business Hours resume.

16.3. This clause does not apply to the service of any proceedings or other documents in any legal action or, where applicable, any arbitration or other method of dispute resolution.

16.4. This Agreement has been entered into on the date stated at the beginning of it.

SIGNED by each of the parties or their authorised representatives on the date set out at the head of this Agreement

SIGNED for and on behalf of
COMPANY NAME

……
Signed

……
Print Name

……
Title

SIGNED for and on behalf of
VIVID

……
Signed

……
Print Name

……
Title

Schedule: Processing, Personal Data and Data Subjects

1. The Supplier shall comply with any further written instructions with respect to processing by the Customer.

2. Any such further instructions shall be deemed incorporated into this Schedule, which may otherwise be updated from time to time.

Description	Details
Subject matter of the processing	*[This should be a high level, short description of what the processing is about e.g. employment data and financial details of Vivid employees for the purposes of payroll processing and will broadly reflect the services being provided under the Supply Agreement]*
Duration of the processing	*[Clearly set out the duration of the processing including Dates* ***OR*** The term of the Supply Agreement dated [DATE]*]*
Nature and purposes of the processing	The purpose of the processing is, in general terms, the delivery of the Services under the Supply Agreement. *[Please be as specific as possible, but make sure that you cover all intended purposes.* *The nature of the processing means any operation such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction of data (whether or not by automated means) etc.* *The purpose might include: employment processing, statutory obligation, recruitment assessment etc]*

Business Purposes	*[Description of the processing purpose(s) – for example processing for HR purposes, recruitment, direct marketing and so on]*
Personal Data Categories	*[Set out types of personal data such as names, contact details, pay details, images and so on]*
Type of Personal Data	*[Examples here include: name, address, date of birth, NI number, telephone number, pay, images, biometric data etc]*
Categories of Data Subject	*[Examples include: Staff (including volunteers, agents, and temporary workers), VIVIDs/tenants/clients, suppliers, members of the public, users of a particular website etc]*
Plan for return and destruction of the data once the processing is complete	*[Describe how long the data will be retained for, how it will be returned of destroyed]*

REGULATION 38 TRACKER - FIRE SAFETY INFORMATION

DEVELOPER TO COMPLETE CELLS SHOWN IN BLUE. VIVID/VIVID'S CONSULTANT SHOULD COMPLETE THE STATUS COLUMN

Scheme name	Insert scheme name
Plots and block name/s	Insert details
Full postal address/es including post code	Insert details
Designer (BRPD)	Insert name of BRPD / contact details
Contractor (BRPC)	Insert name of BRPC / contact details
Responsible person	David Matts, Head of Building and Fire Safety, VIVID
Fire engineer/s	Insert name/company plus contact details. There may be more than 1 in here if on-site fire engineer differs from the person that produced the initial fire strategy
Fire consultant (if applicable, for the purposes of checking fire safety information only)	
Confirm that the fire engineer has been assessed for competency	

Relevant standards: Building Control Approved document B, volume 1 (& volume 2 for any non-residential buildings). BS 9999:2017 Annex H. BS 9991:2015 (soon to be replaced with 2024). RRFSO:2005.

Regulation 38 of the Building Regulations 2010 (as amended) is to ensure that the person responsible for the building has sufficient information relating to fire safety to enable them to manage the building effectively.
Compliance with Regulation 38 will be achieved when the person responsible for the building has all the information to enable them to do all of the following:
1. *Understand and implement the fire safety strategy of the building*
2. *Maintain any fire safety system provided in the building*
3. *Carry out an effective fire risk assessment of the building*

Note to contractor: Please provide accompanying documents in the file structure headings shown below for easy cross-referencing. The Developer's area within VIVID's SharePoint system has been set up with this folder structure.

Key:
- N/a
- Yes (received/ all ok)
- Yes (received - errors noted)
- Not received

< Status column/colour coding to be completed by VIVID's fire consultant/Responsible Person

Folder name	Category/requirement		Evidence	Status	Contractor comments	VIVID EA comments	VIVID consultant's comments (if applicable)	Responsible person comments / acceptance
Fire strategy	Fire strategy report to be provided.		Overview information is required to be provided to the responsible person such that the fire strategy can be implemented and maintained effectively. The fire strategy report and accompanying drawings should describe the approach to fire safety design, including the rationale for the precautions that have been provided and any specific deviations from standard approaches that require management. The evacuation philosophy should be clearly identified and justified. Where relevant (generally more complex buildings): A detailed record of the fire safety strategy, including all assumptions in the design of the fire safety systems (such as fire load). Any risk assessments or risk analysis. Escape routes (including occupant load and capacity of escape routes). Any provision to enable the evacuation of disabled people. Muster points. Procedures for operating and maintaining any fire protection measures. This should include an outline cause and effect matrix/strategy for the building. NB: Further guidance within clause 9 and Annex H of BS 9999.					
		Fire strategy contents checklist	Does it describe the fire protection contained within the construction of the building (i.e., does it state compartmentation and fire rated doors etc)?					
			Does it describe any high fire risk areas?					
			Does it describe the type of detection system installed (L1, L2 ... etc.)?					
			Does it describe fire protection systems (i.e., sprinklers, water mist etc.)?					
			Does it describe any type of evacuation process to be recommended?					
			Does it describe any fire prevention and security measures (including measures for the prevention of arson)?					
As-built drawings	As-built drawings to be provided (floor plans, sections and elevations).		**Is there a plan of the whole site that shows:** (Contractor - please insert drawing number/s in comments)					
		As-built drawings contents checklist	Access and egress					
			Emergency vehicle access route					
			Assembly point for occupants					
			Is there a plan of the internal layout of any flatted blocks, that shows:					
			Location of fire separating elements, including but not limited to compartment walls and floor, cavity barriers, dampers, separating walls, beams and columns and their associated fire-resistance, etc					
			Fire doorsets, fire doorsets fitted with a self-closing device and other doors equipped with relevant hardware					
			Fire safety signage					
			Locations of fire and/or smoke detector heads					
			Location of any alarm call points					
			Escape routes and exit capacity					
			Refuge areas with details of communication provided					
			Assembly points and/or muster stations					
			Access (exterior and interior) for the fire and rescue service					
			Fire detection and alarm system/s installed*					
			Evacuation and/or fire-fighting lifts					
			Fire-fighting stairs/shafts					
			Evacuation alert system					
			Alarm sounders					
			Fire extinguishers*					
			Location of any other firefighting equipment, and hydrants outside the building (where applicable to the building)					
			Dry or wet fire mains					
			Emergency and escape lighting*					
			Any smoke control systems, or ventilation systems with a smoke control function/AOVs, including mode of operation and control systems.					
			Any sprinkler systems, including isolating valves and control equipment (where applicable to the building)					
			Wayfinding signage					
			Secure info box					
			Emergency voice communication system					
			Any high risk areas (e.g. heating machinery)					

Fire detection and alarm	Fire detection system and/or fire detection and alarm system	Specification of system (BS 5839-1 / BS 5839-6), details of products used (control and indicating equipment, cabling and devices), diagrammatic zone plan, certificates of conformity, cable run locations, records of commissioning including sound pressure level readings, cause and effect strategy, routine maintenance schedules. A photo showing the location of the alarm system would be useful. Manufacturer's data sheet confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance. Photo of the location of the alarm system within the building.					
Smoke control	Smoke control strategy and systems	Objective of system including design assumptions, specification of system, details of products used (control and indicating equipment, cabling and devices), cable run locations, cause and effect strategy, routine maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, certificates of conformity, declaration of performance. Photographic evidence of the location of the installation.					
Sprinkler	Sprinkler / mist suppression system	Specifications including all of the following: Operational details, operators' manuals, commissioning certificates, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance. Photographic evidence of the interface panel / isolation points / valves etc.					
Escape	Means of escape arrangements	Escape hardware, escape routes, cause and effect strategy for security hardware and/or systems, escape signage, fire procedural notices, equipment and facilities to support PEEPs, assembly point location. Stay put policy if applicable.					
Emergency voice com system	Emergency voice communication system	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Wayfinding signage	Wayfinding signage for fire-fighters	Clear details of all signage provided and demonstration that this meets the recommendations set out in Approved Document B in terms of siting, font size, materials, etc.					
Secure Info Box	Secure information box	Has a secure information box been provided, if required?					
Evacuation alert	Evacuation alert system	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Dry/Wet rising mains	Dry / wet rising fire mains	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Emergency lighting	Emergency lighting.	Specifications including all of the following: Operational details, operators' manuals, lux level readings, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Evac_fire fighting lifts	Evacuation and/or fire-fighting lifts	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Structure	Structure	Details of the structural system (i.e. frame type), method of protection, certificates demonstrating performance of the structure, test evidence, installer details, competence evidence, testing and maintenance requirements. Structural fire safety provisions (for MMC, if applicable).					
Fire doors	Fire-resisting doors and door sets	Details of all fire doors including manufacturer, test evidence, installer competence evidence, hardware including closers, hinges, letter boxes, spy holes, architrave fire stopping details, method of fixing, details of strips and seals, confirmation that door has been checked and verified as operational and undamaged. Testing and maintenance requirements. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Door Schedule - detailing each door rating, plus any other attributes (FD30, FD30S, FD30S-SC, FD30-KLS etc) and their locations. Photographic evidence of installation needed, prior to architraves being installed.					
Compartment walls and floors	Compartment walls and floors, and sub-compartment walls and floors, and fire-resisting construction for means of	Details of fire-resisting walls and floors, materials used, construction method, method of protection, certificates demonstrating performance, test evidence, installer details, competence evidence, testing and maintenance requirements. Photographic evidence of compartmentalisation required.					
Cavity barriers	Cavity barriers	Details of cavity barriers including locations, materials used, fixing method, certificates demonstrating performance, test evidence, installer details, competence evidence, testing and maintenance requirements. Photographic evidence needed.					
Dampers, curtains, shutters	Fire dampers, fire curtains and shutters	Details of dampers, SVP duct dampers (if applicable), curtains and/or shutters, including locations, materials used, fixing method, certificates demonstrating performance, test evidence, installer details, competence evidence, testing and maintenance requirements. Photographic evidence of fire stopping. needed.					
Linings	Linings	Details of linings used in all areas, including demonstration that they meet the relevant recommendations set out in Approved Document B, BS 9999 and/or BS 9991, test certificates demonstrating reaction to fire classification, manufacturer details, installer details. Photographic evidence of fire stopping needed.					
Fire-stopping	Fire-stopping	Details of all fire-stopping materials used, locations, manufacturer, test evidence, installer details, installer competence and evidence of third-party certification, information relating to maintenance and repair of fire stopping. Photographic evidence of fire stopping needed.					
HVAC	HVAC systems	Specifications including all of the following: Operational details, operators' manuals, commissioning certificates, software, system zoning, routine inspection, testing and maintenance schedules, declaration of performance.					
Fire hazards	Places of special fire hazard	Details of any places of special fire hazard, the nature of the hazard, associated design risk assessment, preventive and protective measures, any required RAMS, testing and maintenance requirements.					
Installed hazards	Special hazards including photovoltaic systems or electric vehicle chargers	Full details of the design and installation of any special hazard systems, such as PV or EV charging equipment, including voltage, shut down procedures, information for fire-fighters, cut-off and isolation switches, inverter locations, materials used and reaction to fire classifications, safety systems and monitoring, manufacturer details, installer details, installer competence evidence, testing and maintenance requirements.					
External wall	External wall	Full details of the design and construction of the external wall, including all materials used for surfaces, structure, insulation, test evidence demonstrating reaction to fire classification, method of protection including cavity barriers and locations, boundary distance calculations, penetrations and the protection thereof, windows and apertures and associated protection, manufacturer details, installer details, evidence of installer competence, testing and maintenance requirements. Through-wall make up and any attachments to building (e.g. balcony, and suchlike). Photographic evidence of any facade system or rain screen.					

Roof	Roof	Full details of the design and construction of the roof, including all materials used for surfaces, structure, insulation, test evidence demonstrating reaction to fire classification, method of protection including cavity barriers and locations, any associated calculations, penetrations and the protection thereof, manufacturer details, installer details, evidence of installer competence, testing and maintenance requirements.					
Battery and energy storage	Battery and energy storage	Full details of the design and installation of any energy storage systems, including voltage, shut down procedures, information for fire-fighters, cut-off and isolation switches, materials used and reaction to fire classifications, safety systems and monitoring, manufacturer details, installer details, installer competence evidence, testing and maintenance requirements.					
Gas	Gas	Full details of gas installations, including entry points, shut-off valves, pipe run locations, gas safety certificates, materials used for pipework, testing, signed installation and commissioning certificates, manufacturer details, installer details, installer competency evidence, O&M manuals, testing and maintenance requirements.					
Lightning protection	Lightning protection	Full details of lightning protection installations, including design risk assessment, testing and commissioning certificates, manufacturer details, installer details, installer competency evidence, O&M manuals, testing and maintenance requirements. Manufacturer's data sheet for all products. Signed installation and commissioning certificates, confirming to relevant fire safety standard(s), declaration of performance.					
CCTV	CCTV	Full details of CCTV installations, testing and commissioning certificates, manufacturer details, installer details, installer competency evidence, O&M manuals.					
Fire fighter switches	Fire-fighter switches	Certification of installation, testing and commissioning, evidence of installer competence, system technical datasheet/specifications. Manufacturer's data sheet for all products. Signed installation and commissioning certificates, confirming to relevant fire safety standard(s), declaration of performance.					

**This information may be provided under separate arrangements i.e., through the Commissioning Certification documents.*
Please note additional information may be provided during the contract

VIVID'S RESPONSIBLE PERSON SIGN-OFF

NAME:	
JOB TITLE:	
DATE:	

REGULATION 38 TRACKER - FIRE SAFETY INFORMATION

#VALUE!

DEVELOPER TO COMPLETE CELLS SHOWN IN BLUE. VIVID/VIVID'S CONSULTANT SHOULD COMPLETE THE STATUS COLUMN

Scheme name	Insert scheme name
Plots and block name/s	Insert details
Full postal address/es including post code	Insert details
Designer (BRPD)	Insert name of BRPD / contact details
Contractor (BRPC)	Insert name of BRPC / contact details
Responsible person	David Matts, Head of Building and Fire Safety, VIVID
Fire engineer/s	Insert name/company plus contact details. There may be more than 1 in here if on-site fire engineer differs from the person that produced the initial fire strategy
Fire consultant (if applicable, for the purposes of checking fire safety information only)	
Confirm that the fire engineer has been assessed for competency	

Relevant standards: Building Control Approved document B, volume 1 (& volume 2 for any non-residential buildings), BS 9999:2017 Annex H, BS 9991:2015 (soon to be

Regulation 38 of the Building Regulations 2010 (as amended) is to ensure that the person responsible for the building has sufficient information relating to fire safety to enable them to manage the building effectively.
Compliance with Regulation 38 will be achieved when the person responsible for the building has all the information to enable them to do all of the following:
1. *Understand and implement the fire safety strategy of the building*
2. *Maintain any fire safety system provided in the building*

Note to contractor: Please provide accompanying documents in the file structure headings shown below for easy cross-referencing. The Developer's area within VIVID's SharePoint system has been set up with this folder structure.

Key:
- N/a
- Yes (received/ all ok)
- Yes (received - errors noted)
- Not received

< Status column/colour coding to be completed by VIVID's fire consultant/Responsible Person

Folder name	Category/requirement	Evidence	Status	Contractor comments	VIVID EA comments	VIVID consultant's comments (if applicable)	Responsible person comments / acceptance
Fire strategy	Fire strategy report to be provided.	Overview information is required to be provided to the responsible person such that the fire strategy can be implemented and maintained effectively. The fire strategy report and accompanying drawings should describe the approach to fire safety design, including the rationale for the precautions that have been provided and any specific deviations from standard approaches that require management. The evacuation philosophy should be clearly identified and justified. Where relevant (generally more complex buildings): A detailed record of the fire safety strategy, including all assumptions in the design of the fire safety systems (such as fire load). Any risk assessments or risk analysis. Escape routes (including occupant load and capacity of escape routes). Any provision to enable the evacuation of disabled people. Muster points. Procedures for operating and maintaining any fire protection measures. This should include an outline cause and effect matrix/strategy for the building. NB: Further guidance within clause 9 and Annex H of BS 9999.					
	Fire strategy contents checklist	Does it describe the fire protection contained within the construction of the building (i.e., does it state compartmentation and fire rated doors etc)?					
		Does it describe any high fire risk areas?					
		Does it describe the type of detection system installed (L1, L2 , etc.)?					
		Does it describe fire protection systems (i.e., sprinklers, water mist etc.)?					
		Does it describe any type of evacuation process to be recommended?					
		Does it describe any fire prevention and security measures (including measures for the prevention of arson)?					
As-built drawings	As-built drawings to be provided (floor plans, sections and elevations).	Is there a plan of the whole site that shows: (Contractor - please insert drawing number/s in comments)					
	As-built drawings contents checklist	Access and egress					
		Emergency vehicle access route					
		Assembly point for occupants					
		Is there a plan of the internal layout of any flatted blocks, that shows:					
		Location of fire separating elements, including but not limited to compartment walls and floor, cavity barriers, dampers, separating walls, beams and columns and their associated fire-resistance, etc					
		Fire doorsets, fire doorsets fitted with a self-closing device and other doors equipped with relevant hardware					
		Fire safety signage					
		Locations of fire and/or smoke detector heads					
		Location of any alarm call points					
		Escape routes and exit capacity					
		Refuge areas with details of communication provided					
		Assembly points and/or muster stations					
		Access (exterior and interior) for the fire and rescue service					
		Fire detection and alarm system/s installed*					
		Evacuation and/or fire-fighting lifts					
		Fire-fighting stairs/shafts					
		Evacuation alert system					
		Alarm sounders					
		Fire extinguishers*					
		Location of any other firefighting equipment, and hydrants outside the building (where applicable to the building)					
		Dry or wet fire mains					
		Emergency and escape lighting*					
		Any smoke control systems, or ventilation systems with a smoke control function/AOVs, including mode of operation and control systems.					
		Any sprinkler systems, including isolating valves and control equipment (where applicable to the building)					
		Wayfinding signage					
		Secure info box					
		Emergency voice communication system					
		Any high risk areas (e.g. heating machinery)					
Fire detection and alarm	Fire detection system and/or fire detection and alarm system	Specification of system (BS 5839-1 / BS 5839-6), details of products used (control and indicating equipment, cabling and devices), diagrammatic zone plan, certificates of conformity, cable run locations, records of commissioning including sound pressure level readings, cause and effect strategy, routine maintenance schedules. A photo showing the location of the alarm system would be useful. Manufacturer's data sheet confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance. Photo of the location of the alarm system within the building.					
Smoke control	Smoke control strategy and systems	Objective of system including design assumptions, specification of system, details of products used (control and indicating equipment, cabling and devices), cable run locations, cause and effect strategy, routine maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, certificates of conformity, declaration of performance. Photographic evidence of the location of the installation.					
Sprinkler	Sprinkler / mist suppression system	Specifications including all of the following: Operational details, operators' manuals, commissioning certificates, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance. Photographic evidence of the interface panel / isolation points / valves etc.					

Escape	Means of escape arrangements	Escape hardware, escape routes, cause and effect strategy for security hardware and/or systems, escape signage, fire procedural notices, equipment and facilities to support PEEPs, assembly point location. Stay put policy if applicable.					
Emergency voice com system	Emergency voice communication system	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Wayfinding signage	Wayfinding signage for fire-fighters	Clear details of all signage provided and demonstration that this meets the recommendations set out in Approved Document B in terms of siting, font size, materials, etc.					
Secure Info Box	Secure information box	Has a secure information box been provided, if required?					
Evacuation alert	Evacuation alert system	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Dry/Wet rising mains	Dry / wet rising fire mains	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Emergency lighting	Emergency lighting.	Specifications including all of the following: Operational details, operators' manuals, lux level readings, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Evac_fire fighting lifts	Evacuation and/or fire-fighting lifts	Specifications including all of the following: Operational details, operators' manuals, software, system zoning, routine inspection, testing and maintenance schedules. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Signed installation and commissioning certificates, declaration of performance.					
Structure	Structure	Details of the structural system (i.e. frame type), method of protection, certificates demonstrating performance of the structure, test evidence, installer details, competence evidence, testing and maintenance requirements. Structural fire safety provisions (for MMC, if applicable).					
Fire doors	Fire-resisting doors and door sets	Details of all fire doors including manufacturer, test evidence, installer competence evidence, hardware including closers, hinges, letter boxes, spy holes, architrave fire stopping details, method of fixing, details of strips and seals, confirmation that door has been checked and verified as operational and undamaged. Testing and maintenance requirements. Manufacturer's data sheet for all products, confirming relevant fire safety standard(s) adherence. Door Schedule - detailing each door rating, plus any other attributes (FD30, FD30S, FD30S-SC, FD30-KLS etc) and their locations. Photographic evidence of installation needed, prior to architraves being installed.					
Compartment walls and floors	Compartment walls and floors, and sub-compartment walls and floors, and fire-resisting construction for means of escape protection	Details of fire-resisting walls and floors, materials used, construction method, method of protection, certificates demonstrating performance, test evidence, installer details, competence evidence, testing and maintenance requirements. Photographic evidence of compartmentalisation required.					
Cavity barriers	Cavity barriers	Details of cavity barriers including locations, materials used, fixing method, certificates demonstrating performance, test evidence, installer details, competence evidence, testing and maintenance requirements. Photographic evidence needed.					
Dampers, curtains, shutters	Fire dampers, fire curtains and shutters	Details of dampers, SVP duct dampers (if applicable), curtains and/or shutters, including locations, materials used, fixing method, certificates demonstrating performance, test evidence, installer details, competence evidence, testing and maintenance requirements. Photographic evidence of fire stopping. needed.					
Linings	Linings	Details of linings used in all areas, including demonstration that they meet the relevant recommendations set out in Approved Document B, BS 9999 and/or BS 9991, test certificates demonstrating reaction to fire classification, manufacturer details, installer details. Photographic evidence of fire stopping needed.					
Fire-stopping	Fire-stopping	Details of all fire-stopping materials used, locations, manufacturer, test evidence, installer details, installer competence and evidence of third-party certification, information relating to maintenance and repair of fire stopping. Photographic evidence of fire stopping needed.					
HVAC	HVAC systems	Specifications including all of the following: Operational details, operators' manuals, commissioning certificates, software, system zoning, routine inspection, testing and maintenance schedules, declaration of performance.					
Fire hazards	Places of special fire hazard	Details of any places of special fire hazard, the nature of the hazard, associated design risk assessment, preventive and protective measures, any required RAMS, testing and maintenance requirements.					
Installed hazards	Special hazards including photovoltaic systems or electric vehicle chargers	Full details of the design and installation of any special hazard systems, such as PV or EV charging equipment, including voltage, shut down procedures, information for fire-fighters, cut-off and isolation switches, inverter locations, materials used and reaction to fire classifications, safety systems and monitoring, manufacturer details, installer details, installer competence evidence, testing and maintenance requirements.					
External wall	External wall	Full details of the design and construction of the external wall, including all materials used for surfaces, structure, insulation, test evidence demonstrating reaction to fire classification, method of protection including cavity barriers and locations, boundary distance calculations, penetrations and the protection thereof, windows and apertures and associated protection, manufacturer details, installer details, evidence of installer competence, testing and maintenance requirements. Through-wall make up and any attachments to building (e.g. balcony, and suchlike). Photographic evidence of any facade system or rain screen.					
Roof	Roof	Full details of the design and construction of the roof, including all materials used for surfaces, structure, insulation, test evidence demonstrating reaction to fire classification, method of protection including cavity barriers and locations, any associated calculations, penetrations and the protection thereof, manufacturer details, installer details, evidence of installer competence, testing and maintenance requirements.					
Battery and energy storage	Battery and energy storage	Full details of the design and installation of any energy storage systems, including voltage, shut down procedures, information for fire-fighters, cut-off and isolation switches, materials used and reaction to fire classifications, safety systems and monitoring, manufacturer details, installer details, installer competence evidence, testing and maintenance requirements.					
Gas	Gas	Full details of gas installations, including entry points, shut-off valves, pipe run locations, gas safety certificates, materials used for pipework, testing, signed installation and commissioning certificates, manufacturer details, installer details, installer competency evidence, O&M manuals, testing and maintenance requirements.					
Lightning protection	Lightning protection	Full details of lightning protection installations, including design risk assessment, testing and commissioning certificates, manufacturer details, installer details, installer competency evidence, O&M manuals, testing and maintenance requirements. Manufacturer's data sheet for all products. Signed installation and commissioning certificates, confirming to relevant fire safety standard(s), declaration of performance.					
CCTV	CCTV	Full details of CCTV installations, testing and commissioning certificates, manufacturer details, installer details, installer competency evidence, O&M manuals.					

Fire fighter switches	Fire-fighter switches	Certification of installation, testing and commissioning, evidence of installer competence, system technical datasheet/specifications. Manufacturer's data sheet for all products. Signed installation and commissioning certificates, confirming to relevant fire safety standard(s), declaration of performance.					

*This information may be provided under separate arrangements i.e., through the Commissioning Certification documents.

Please note additional information may be provided during the contract

VIVID'S RESPONSIBLE PERSON SIGN-OFF

NAME:	
JOB TITLE:	
DATE:	

Version Control

Amended by	Date	Changes made	Version
Rosie Matthews	8th Jan 2025	New document	V1

VIVID : Key Performance Indicators

On Site Construction KPIs

Key performance Indicators:
The following objectives have been defined by VIVID for the capture and assessment of KPI data

1. To maintain data collection for reporting to VIVID's Board
2. To enable transparent analysis of contractor and consultant performance and aid the future decision making on award of future contracts.

Scheme		Month	
Contractor		Project Manager	

Collected on a quaterly basis by Employers Agent with contribution by all project representatives.

					Measure of Success				
KPI 1	Performance Indicator	Target		Performance Measure 10		Performance Measure 6	Score Achieved	# Accidents / # operatives on site	Comments / Justification
	Health & Safety - # of reportable accidents in month.	*NIL reportable accidents in month.*		NIL		Above Nil			
KPI 2	Performance Indicator	Target		Performance Measure 10	Performance Measure 8	Performance Measure 6	Score Achieved		Comments / Justification
	Site Safety - tidy and safe site at all times	*Site is to remain safe and tidy at all times, supported by Health and Safety reports for site.*							
KPI 3	Performance Indicator	Target		Performance Measure 10	Performance Measure 6	Performance Measure 3	Score Achieved		Comments / Justification
	Contractor Responsiveness	*Contractor performs to exceed defined expectations of the client (programme, price and quality)*		Very little interaction required with contractor who performs to expectation with planned interaction.	Some interaction is required to maintain expectation despite clarity being available.	Frequent interaction is required to maintain expectation despite clarity being available.			
KPI 4	Performance Indicator	Target		Performance Measure 10	Performance Measure 8	Performance Measure 6	Score Achieved		Comments / Justification
	Information during construction	*The Consultant will support the Contractor by providing the best data and information available to the highest standards.*		Consultant provides all necessary information to an acceptable standard that enables the project to progress with minimal communication.	Information provided is incomplete and required investigation to establish further requirements.	Information provided is poor and required additional communications and clarifications by the contractor in order to interpret details.			
KPI 5	Performance Indicator	Target		Performance Measure 10	Measure of Success 8	Measure of Success 6	Score Achieved		Comments / Justification
	Documented Complaints	*No complaints.*		No complaints	2 complaints - received and responded to.	4 complaints received and responded to. Consulting with client.			
KPI 6	Performance Indicator	Target		Performance Measure 10	Measure of Success 8	Measure of Success 6	Score Achieved		Comments / Justification
	Cost Predictability	*Maintain clarity throughout the construction phase to ensure agreed budget is not exceeded - no suprises!*		Cost is meeting or is better than expectation against the agreed schedule of work for this stage.Programme is on target.	Cost is <102% of budget for the agreed works for this stage. Programme is on target.	Cost is >102% of budget for the agreed works for this stage. Programme is not on target. Issue early warning to client.			
KPI 7	Performance Indicator	Target		Performance Measure 10	Performance Measure 8	Performance Measure 6	Score Achieved		Comments / Justification
	Compliance to the Brief and Quality standards	*The client will approve the brief prior to project commencement and maintain a focus on compliance and high standards through the build process.*		Full compliance and very satisfied with standards acheieved.	The contractor has complied with the brief with minor changes that do not have a negative impact on quality.	The brief has not been followed in critical areas and does not meet the expectations of the client. Client intervention required on project.			
KPI 8	Performance Indicator	Target		Performance Measure 10	Performance Measure 8	Performance Measure 6	Score Achieved		Comments / Justification

	Additional works claims	*The scope is to be pre-defind to ensure greater certainty in scope and project cost. Major alterations will therefore be considered a failure in the pre-construction phase.*		No additional claims in month.	1 additional minor claims (justifiable) in month.	3 or more claims in month. Issue early warning to client.			
KPI 9	Performance Indicator	Target		Performance Measure 10	Measure of Success 8	Measure of Success 6	Score Achieved		Comments / Justification
	Construction Time Predictability	*To ensure that the project is delivered in line with the contract.*		Units completed on or before contract date	Units completed with minor delays to the contract date (30 days maximum)	Units completed more than 30 days after agreed contract date			
KPI 10	Performance Indicator	Target		Performance Measure 10	Measure of Success 8	Measure of Success 6	Score Achieved		Comments / Justification
	Defects Management	*Handover is snag free. All reported defects completed within contractual work completion dates*		Contractor actively seeks defect free development. No delays in responding to client.	Contractor is not fully proactive in identifcation and management of defects. Some delays in resolving client issues.	Contractor fails to manage prescribed defects process. Significant delays in responding to clients.			

VIVID : Key Performance Indicators

On Site Construction KPIs

Key performance Indicators:
The following objectives have been defined by VIVID for the capture and assessment of KPI data

1. To maintain data collection for reporting to VIVID's Board
2. To enable transparent analysis of contractor and consultant performance and aid the future decision making on award of future contracts.

Scheme		**Month**	
Contractor		**Project Manager**	

Collected on a quaterly basis by Employers Agent with contribution by all project representatives.

				Measure of Success					
KPI 1	**Performance Indicator**	**Target**		**Performance Measure 10**		**Performance Measure 6**	**Score Achieved**	**# Accidents / # operatives on site**	**Comments / Justification**
	Health & Safety - # of reportable accidents in month.	*NIL reportable accidents in month.*		**NIL**		**Above Nil**			
KPI 2	**Performance Indicator**	**Target**		**Performance Measure 10**	**Performance Measure 8**	**Performance Measure 6**	**Score Achieved**		**Comments / Justification**
	Site Safety - tidy and safe site at all times	*Site is to remain safe and tidy at all times, supported by Health and Safety reports for site.*							
KPI 3	**Performance Indicator**	**Target**		**Performance Measure 10**	**Performance Measure 6**	**Performance Measure 3**	**Score Achieved**		**Comments / Justification**
	Contractor Responsiveness	*Contractor performs to exceed defined expectations of the client (programme, price and quality)*		**Very little interaction required with contractor who performs to expectation with planned interaction.**	Some interaction is required to maintain expectation despite clarity being available.	Frequent interaction is required to maintain expectation despite clarity being available.			
KPI 4	**Performance Indicator**	**Target**		**Performance Measure 10**	**Performance Measure 8**	**Performance Measure 6**	**Score Achieved**		**Comments / Justification**
	Information during construction	*The Consultant will support the Contractor by providing the best data and information available to the highest standards.*		**Consultant provides all necessary information to an acceptable standard that enables the project to progress with minimal communication.**	Information provided is incomplete and required investigation to establish further requirements.	**Information provided is poor and required additional communications and clarifications by the contractor in order to interpret details.**			
KPI 5	**Performance Indicator**	**Target**		**Performance Measure 10**	**Measure of Success 8**	**Measure of Success 6**	**Score Achieved**		**Comments / Justification**
	Documented Complaints	*No complaints.*		**No complaints**	2 complaints - received and responded to.	**4 complaints received and responded to. Consulting with client.**			
KPI 6	**Performance Indicator**	**Target**		**Performance Measure 10**	**Measure of Success 8**	**Measure of Success 6**	**Score Achieved**		**Comments / Justification**
	Cost Predictability	*Maintain clarity throughout the construction phase to ensure agreed budget is not exceeded - no suprises!*		**Cost is meeting or is better than expectation against the agreed schedule of work for this stage.Programme is on target.**	Cost is <102% of budget for the agreed works for this stage. Programme is on target.	**Cost is >102% of budget for the agreed works for this stage. Programme is not on target. Issue early warning to client.**			
KPI 7	**Performance Indicator**	**Target**		**Performance Measure 10**	**Performance Measure 8**	**Performance Measure 6**	**Score Achieved**		**Comments / Justification**
	Compliance to the Brief and Quality standards	*The client will approve the brief prior to project commencement and maintain a focus on compliance and high standards through the build process.*		**Full compliance and very satisfied with standards acheieved.**	The contractor has complied with the brief with minor changes that do not have a negative impact on quality.	**The brief has not been followed in critical areas and does not meet the expectations of the client. Client intervention required on project.**			
KPI 8	**Performance Indicator**	**Target**		**Performance Measure 10**	**Performance Measure 8**	**Performance Measure 6**	**Score Achieved**		**Comments / Justification**
	Additional works claims	*The scope is to be pre-defind to ensure greater certainty in scope and project cost. Major alterations will therefore be considered a failure in the pre-construction phase*		**No additional claims in month.**	1 additional minor claims (justifiable) in month.	**3 or more claims in month. Issue early warning to client.**			
KPI 9	**Performance Indicator**	**Target**		**Performance Measure 10**	**Measure of Success 8**	**Measure of Success 6**	**Score Achieved**		**Comments / Justification**
	Construction Time Predictability	*To ensure that the project is delivered in line with the contract.*		**Units completed on or before contract date**	Units completed with minor delays to the contract date (30 days maximum)	**Units completed more than 30 days after agreed contract date**			

Appendix 26 – Extra-over costs pricing

Item to be priced	Price breakdown	Comments / assumptions
Video door entry system for flats, as an upgrade to audio entry. Comelit brand preferred.		
CCTV system for estate.		Include number of cameras assumed, locations, make and model/spec of system/method of data retrieval/ongoing system costs
Metal bike and bin shed doors in lieu of timber – spec example as per Appendix 34.		
In lieu of Digilocks to bike and bin stores, provide Maglocks with fog access, programmed to match the main communal door fob.		
Private spec upgrades as necessary (these should really be in the main document rather than be priced as E/O costs)		

Client-Based Approach

To Developing and Implementing An Employment and Skills Strategy On Construction Projects

Contractor and Developer Guidance – England

July 2017



Foreword



As construction projects become an increasing focus of attention in a growing number of opportunities within the sector for training and productivity, the National Skills Academy for Construction continues to drive partnerships between the sector and clients, creating a common dialogue to enable aspirations for improved social value and economic development to be realised.



Sarah Beale **Kevin Bennett**

The National Skills Academy for Construction, facilitated by CITB, supports public sector bodies and organisations with responsibility for procuring construction work, to embed employment and skills interventions into planning and procurement contracts. Known as the Client-Based Approach, this end-to-end guidance is designed to be used for construction procurement and planning to aid the creation of employment and skills interventions, including Apprenticeships, work placements, job creation and upskilling opportunities that are relevant and proportionate to the construction activity being procured.

The Client-Based Approach ensures that all tiers of the construction and built environment supply chain can grow their business by supporting employment, skills and Apprenticeships. The approach includes employer-led benchmarks for employment, skills and Apprenticeship delivery against procurement lot sizes of £1 million upwards, making engagement in this agenda directly accessible to small and medium enterprises (SMEs), as well as larger contractors and their supply chains. The approach also covers early contractor procurement and the re-engineering of long-term contracts which gives further scope for dialogue between the client and the contractor to achieve the best outcomes.

Covering all areas of construction, such as housing and infrastructure, our construction industry backed guidance, which is tried, tested and endorsed by local authorities in England, Scotland and Wales, offers a genuine opportunity to work in partnership with employers in the industry and training and education providers. The guidance enables partners to set relevant and proportionate targets to increase the volume and quality of employment and skills interventions through construction contracts – meeting your communities' specific needs in a fair, measureable and sustainable way.

Co-signatories

Sarah Beale, Chief Executive, CITB



Kevin Bennett, Chairman
National Construction Skills Academy Group,
Head of Training, BAM Nuttall Ltd.



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1.0 Introduction

Many Public Sector clients, including Local Authorities, registered providers and Central Government departments are playing their part to ensure that we invest in our nation's construction skills during the current downturn and beyond. That means utilising the huge power of public procurement to address the industry's skills requirements now and in the future and to support young people, adults and the businesses of this country.

The Government continues to state that it is committed to enhancing the delivery of Apprenticeships and workplace training. This means using procurement to promote investment in skills both when letting new contracts and working with existing Contractors where contracts have been awarded on a voluntary basis.

They are using the opportunity provided by the Client-Based Approach to leverage a significant amount of training and employment opportunities through their capital works programmes and through their powers under Planning Policy and Development Control.

Client-Based Approach Guidance documents for Local Authorities have been commissioned by CITB to provide information to clients on how to incorporate employment, skills and training requirements into the planning and procurement of construction projects, and include legal advice, good practice information and suggested Template Clauses for Tenders and construction contracts.

This Guide has also been commissioned by CITB to assist Contractors and developers to respond to the Employment and Skills requirements in Local and Central Government clients' procurements and development obligations (where applicable). CITB has appointed Trowers & Hamlins LLP as consultants in the production of this Guide (of whom further details are set out in Appendix F). A glossary of commonly used terms is set out in Appendix E.

This Guide includes:

- What to expect from a Local or Central Government client's Tender documents
- The documents required to respond to such Tenders
- Early Contractor Procurement and suggested methods of ensuring that Employment and Skills requirements are flowed through the supply chain
- Template Clauses for use in sub-contracts
- Advice on engagement with the client and supply chain, including Early Contractor Procurement, Re-Engineering the Supply Chain under Long-Term Contracts, inclusion of Small and Medium Enterprises (SMEs) and Supply Chain diversity
- Practical advice on the implementation during construction
- Ongoing monitoring of the Employment and Skills requirements

Reference is made throughout this Guide to its use by contractors, although it will apply equally to developers, whether they are undertaking works themselves or sub-contracting to a main contractor.

2.0 The National Skills Academy for Construction Programme

This Guide is based on the National Skills Academy for Construction programme, which integrates skills development with major construction projects. It has been established since 2007 and involves over 400 construction projects throughout Great Britain.

The Client-Based Approach requires the creation by a client of an Employment and Skills Strategy, which forms the basis of an Employment and Skills Plan (an ESP), developed to include the minimum Employment Skills Outputs (Benchmarks) specific to an individual construction project or Framework of projects. The Employment and Skills Strategy and a Template ESP will be included in a client's Tender documents and a Contractor will be required to commit to the minimum Benchmarks and exceed them, where possible. The Contractor will also need to create an Employment and Skills Method Statement to explain how the ESP will be implemented throughout the project or Framework (a Method Statement). With the advent of the Public Contracts Regulations 2015 it is also now explicitly possible for Tender Evaluation Criteria to refer to social aims and therefore the Tender may also be assessed against the employment aims of a client.

This Guidance has been based on the legislation current as at June 2016 including: EU Directive 2014/24/EU on Public Procurement; The Public Contracts Regulations 2015 (SI 2015 No 102); The Public Services (Social Value) Act 2012; Town and Country Planning Act 1990; The Planning and Compulsory Purchase Act 2004 and The Planning Act 2008.

3.0 CITB

It is recommended that in the first instance a client should contact CITB regarding its intended approach to employment and skills. Please email NSAfC@citb.co.uk

CITB are the Industry Training Board and a partner in the Sector Skills Council for the construction industry in England, Scotland and Wales". A social enterprise, devoted to building competitive advantage for the construction industry and the people who work in it" We have a clear focus – to work to ensure that the construction industry has the right skills, in the right place, at the right time. The Strategic Partnerships Team is the department of CITB that works closely with clients, developers and contractors and is conversant in the development and implementation of Employment and Skills Strategies and Employment and Skills Plans (ESPs). CITB (in partnership with CITB-Northern Ireland) covers the whole of the UK and can provide support to clients, developers and contractors in how best to utilise this guide in conjunction with existing good practice.

CITB facilitates and supports the contractor-led National Skills Academy for Construction. The Client-Based Approach is a product of the Academy and presents an industry solution to embedding employment, skills and Apprenticeships into the procurement of construction works.

CITB is uniquely positioned to improve the skills base and productivity of the UK construction industry. Through its Construction Skills Network, CITB provides the authoritative picture of the skills requirements to support the construction industry moving forward. It also aims to inform Governments at national and local levels, planning to meet future employment and skills requirements, by providing sector intelligence based upon robust data and analysing capacity, productivity and skills. In its role as an Industry Training Board, CITB uses this evidence to develop sector- specific solutions to meet emerging and identified needs.

CITB, through its Strategic Partnerships Team, offers support for contractors identifying how it should utilise this guidance to maximise employment and skills outputs across projects and contracts.

Over 400 National Skills Academy for Construction projects have already been supported across Great Britain. The Strategic Partnerships Teams are also working with clients to help embed sensible and achievable employment and skills solutions into their strategies, to develop ESPs and to engage with their supply chains.

If a client follows this guidance as an end to end process to embed the employment and skills requirements into its strategies, procurement and implementation, it may be possible for the client to apply for National Skills Academy for Construction status across the portfolio of projects in relation to which this guidance has been used. In order to receive National Skills Academy for Construction accreditation and permission to use the brand, a successful submission must be made to the National Construction Skills Academy Group (NCSAG) (the established body of contractor and client representatives from across the construction industry which form the core part of the CITB governance structure) with supporting evidence that the Client-Based Approach has been implemented. CITB's Strategic Partnerships Team can provide further details about this process and how the operational teams can support contractors meet their client obligations

High on the agenda for all public sector clients is the provision of employment and skills opportunities for local residents. As this guidance explains, public sector clients are prohibited in an EU procurement process from requiring contractors to offer local opportunities in tender documents or contract conditions. However, following contract award, clients can carry out supply chain collaboration exercises with contractors either before start on site (using Early Contractor Procurement) or over the duration of a contract (by re-engineering Long-term Contracts) in order to influence the contractor's use of a local supply chain. This is discussed further in Section 6.

CITB has also developed

- Client Based Approach guidance for planning & procurement in England , Wales and Scotland

4.0 What Requirements to Expect in a Local or Central Government Client's Tender

This section sets out the Employment and Skills-related documents that a contractor should expect to receive from a Local or Central Government client using the Client-Based Approach at each stage during an EU-compliant procurement process.

4.1 Market consultation

The EU Regulations now specifically allow clients to consult the market before publishing a Contract Notice in the OJEU. This period of pre-procurement planning and initial consultation might be used by a client to confirm that the project or framework of prospective projects is suitable for the Employment and Skills Strategy.

At this stage, the client is able to engage with prospective bidders as to how it sees the Employment and Skills Strategy being delivered through the project or framework. The client can also gauge the potential interests of SMEs, start-ups and suppliers which champion employment and skills practices. The client also needs to decide which procurement procedure is to be used – Open, Restricted, the Competitive Procedure with Negotiation, Competitive Dialogue or the Innovation Partnership Procedure. The Competitive Procedure with Negotiation and the Competitive Dialogue Procedure are only available in the limited circumstances set out in the EU Regulations.

4.2 Pre-Qualification Questionnaire

A client's Pre-Qualification Questionnaire should request details of the contractor's previous experience in implementing skills development, employment, Apprenticeships or training schemes on similar projects or programmes (in terms of value and scope of works or services). It may also require details of where the contractor has failed to meet Employment and Skills targets, and why.

4.3 Invitation to Tender

The Directive 2014/24 on Public Procurement (the Directive) and the implementing Regulations in the UK, the Public Contracts Regulations 2015 (the EU Regulations) allow clients to pursue secondary policies via procurement procedures (the primary policy in an EU-compliant process being to open up the Single Market and to subject the particular contract to an EU-wide competition) and the EU Regulations provide flexibility to consider secondary requirements (in terms of the protection of the environment, employment of the long-term unemployed and other training and skills initiatives) at all stages of a procurement, from the advertisement of the contract in the Official Journal of the European Union (OJEU) to the operation of the contract with the selected contractor or developers.

Developments enshrined in the EU Regulations now enhance the ability of clients to evaluate social and environmental objectives through a legally compliant evaluation methodology and this Guidance guides contractors and developers on how clients can incorporate this additional flexibility into their procurement procedures.

Two options therefore now exist under the Client-Based Approach which helps clients

approach the achievement of these aims: the Confirmation of Commitments option and the Evaluation option. A client has the flexibility of choosing either option and therefore the contractors will need to review the Evaluation Criteria and information included in the Invitation to Tender in order to confirm which approach the client has adopted.

As described briefly in the Introduction, a client using the Client-Based Approach will have created an Employment and Skills Strategy, which will set out its Employment and Skills Policies applicable to each of its construction projects. This should be included as part of the client's Tender documentation and should cover the following areas: Objectives and Priorities; Employment and Skills Areas; Benchmarks; Implementation; Roles and Responsibilities; Monitoring and Reporting and Review.The client should include in its Employment and Skills Strategy a Template ESP (see Appendix C) with the Summary column on the far right populated with the client's minimum Benchmarks to be met by the contractor over the duration of the Contract or Framework (see Section 4.3 and Appendix B). As part of its Tender return, each contractor should complete the remainder of the ESP, showing how the minimum requirements will be achieved and/or exceeded on a month-by-month basis. This structured approach provides the client and the contractor with a clear idea of what will be achieved and when, helping to reduce the number of misunderstandings and assist with measuring performance.

Contractors should also create a Method Statement setting out in detail how the Outcomes in the ESP will be implemented on site. This again provides the client with transparency as to how and when the Outcomes will be achieved.

Under a Framework Agreement, where the value and type of the programme or project are likely to be consistent, the client may require the contractor to create an indicative ESP and Method Statement at Tender stage, based on a model project. Where this is not possible, the contractor should be asked to create a general ESP and Method Statement covering the total Employment and Skills Outputs over the duration of the Framework Agreement. For each individual project, a more detailed ESP and Method Statement can be agreed between the parties as a pre-condition to the construction phase of that project.

Some contracts, such as PPC2000, have a pre-commencement phase built into their programme. These are referred to as Two-Stage Contracts and enable the contractor to create a more detailed Method Statement during the pre-commencement phase. This is discussed in more detail in Section 6.

1. The Confirmation of Commitments Option

As part of the Tender requirements set out by a client adopting the Confirmation of Commitments Option at the Tender stage, each contractor will be required to unequivocally commit to the implementation of the Employment and Skills Strategy, the ESP and the Method Statement in accordance with the terms of the Building Contract or Framework Agreement.

This commitment will then be an absolute requirement of the client (a minimum requirement pursuant to the EU Regulations) and if a contractor is unable to confirm its commitment to its implementation of the client's minimum Employment and Skills

requirements it is likely that its Tender will be rejected.

The exact detail of the ESP and Method Statement will then be finalised by the client and the successful contractor post-Tender, as part of the project mobilisation activities, but contractors should note that the client is unable to agree to any significant or substantial changes to the contractor's proposals post-Tender without breaching the EU Regulations and risking a challenge from one of the unsuccessful Tenderers.

2. The Evaluation Option

When the Evaluation method is used, the client will set out Evaluation Criteria in the Invitation to Tender which aim to score the Tender proposals on their ability to meet or surpass certain Employment and Skills criteria. These Evaluation Criteria should be linked to the contract and comply with EU law, and as such be proportionate and non-discriminatory.

As with the Confirmation of Commitments approach, contractors should be asked in the Invitation to Tender to:

- Confirm their commitment to implement Employment and Skills development on the contract or Framework Agreement and to complete the remainder of the ESP to show when the Benchmarks will be achieved on a month-by-month basis. The Template ESP at Appendix C provides a breakdown of the Employment and Skills areas as set out in the client's Employment and Skills Strategy
- Complete a Method Statement outlining how the ESP will be implemented on site

In addition to the ESP and Method Statement, questions may be inserted by the client in its Invitation to Tender so that their requirements are set out clearly and contractors' responses are thereby obtained in a more standardised format that can be evaluated on a like-for-like basis and can be taken forward by the parties post-Tender (e.g. for the completion of the ESP). This ensures that there is no ambiguity as to what is expected of the contractors, whilst still allowing the contractors a degree of flexibility to add value or go over and above such requirements. The Employment and Skills Strategy also creates a bottom line for any future developments under a Framework Agreement.

As part of the required responses with regard to the ESP and Method Statement, the contractors are likely to be required to state their commitment to deliver the Employment and Skills Strategy, the minimum Benchmarks set out therein and any cost of doing so. The client is then likely to use this initial requirement as a baseline and allocate scores to specific questions relating to their Employment and Skills requirements or certain sections of the ESP, Method Statement or Added Value proposals.

The minimum Benchmarks will then be evaluated by the client on a Pass/Fail basis (as minimum requirements) so that it can confirm that all Tenders submitted comply with the minimum Benchmarks set out in the client's Employment and Skills Strategy (this is identical to the Confirmation of Commitments approach and therefore if a Tenderer fails to confirm their commitment to implement the minimum Benchmarks

on the contract or Framework, the client is able to reject that Tender). It is important for contractors to note that a client is unlikely to waive any of the minimum Benchmarks once they have been declared in the procurement documents and/or Tenders have been invited, in the interests of transparency and equal treatment and clients are specifically restricted by the EU Regulations from removing minimum requirements once these have been stated.

The Tenderers should review the Evaluation information carefully in order to ascertain which elements of the Tender responses the client will be evaluating via its scoring and weighting exercise, for example:

- The completed ESP and/or
- All or certain elements of the Method Statement and/or
- Added Value proposals

A client must clearly set out in its procurement documents what Award Criteria and (ideally) the weighting it will use to evaluate the contractors' ESP and/or Method Statement and/or Added Value proposals. The weighting may not be set out if Tenders are either to be evaluated purely on price, or it is not objectively possible to set out the weighting (in which case it should set out the decreasing order of importance of each criterion).

A client should also provide a Scoring Matrix against which it will score the contractors' responses. This provides (for example) a range of scores from 1 to 5 or 1 to 10 and sets out how the client intends to evaluate Tenders against the pre-disclosed Evaluation Criteria, using the pre-disclosed Scoring Matrix.

In addition to the Scoring Matrix, the client should also set out Scoring Guidance that links back to the range of scores achievable for each question and sets out how the Tenderer could achieve an excellent or good (or poor or unacceptable) score.

In summary, the Evaluation Option requires the client to set out the minimum Benchmarks it will require in respect of the relevant contract/Framework Agreement and requires the client to make it clear that minimum Benchmarks are absolute requirements. It then requires the client to set out which elements of the Tenderers' responses it wishes to evaluate along with the relevant Evaluation Criteria, alongside all of the other qualitative Evaluation Criteria in the OJEU Notice or procurement documents, ideally with their Weightings. Where the knowledge of sub-criteria and their related Weightings could affect the preparation of a Tender, these should also be disclosed to Tenderers in advance of them preparing their Tender.

Contractors should also note that clients may include pricing requirements and price evaluation information in its Invitation to Tender, if it has chosen to evaluate the costs of delivering the ESP separately from the overall contract sum. In any event, the client is likely to expect that all commitments made by the Tenderer in its ESP and Method Statement are fully priced in the Tender proposal, unless stated otherwise.

4.4 Overview of Employment and Skills Benchmarks

The Benchmarks to be included in the client's Employment and Skills Strategy and Summary column of the ESP provide target Outputs against seven (7) Employment and Skills Areas. These Areas cover Apprenticeships, Support for schools and

colleges, Skills development for the existing workforce and Entry into employment. Please see Appendix A for details of these Employment and Skills Areas.

The Benchmarks are the cornerstone of the Client-Based Approach and have been ratified by the National Construction Skills Academy Group (NCSAG), the established body of contractor representatives which form the core part of the CITB governance structure. Benchmarks led and approved by the construction industry provide confidence to clients and contractors that the requirements are reasonable, proportionate and achievable.

The Benchmarks have been developed to reflect the ability of various categories of construction projects to support Employment and Skills development. The categories are set out in Section 4.54 and cover both new build construction and repairs and maintenance.

The Benchmarks should be used as minimum requirements for Tenderers to meet and/or exceed, and have been created to provide proportionality against the size and type of the projects on which they are to be used.

The size of the project is taken into account by the value bandings. For construction projects these range from £1 million to £100 million in terms of overall construction spend. In the case of housing projects (public and private), additional value bands have been included for projects below £1 million in construction value. In the case of repairs and maintenance projects, the value bands are based on annual spend.

CITB is able to develop bespoke Benchmarks for projects that exceed these values or are of a particular specialist nature.

A range of factors has been taken into account when developing the Benchmarks. These include the typical labour content of the work type, the nature of the workforce in terms of skills and trade categories, the availability of Apprenticeship Frameworks within the sector, and typical project durations. This work has been based on the experience gained by CITB from Employment and Skills implementation on a range of construction projects and draws extensively on the work of the National Skills Academy for Construction in this area.

The Benchmarks have been set at a level that reflects the possibility that contractors and their supply chain may be involved on numerous projects requiring Employment and Skills targets. It is recognised that there must be a balance struck between creating opportunities for people to develop skills and the ability of the industry to accommodate skills development within challenging project environments.

It is also recognised that many contractors, clients and their advisers already have the ability to deliver Employment and Skills programmes on construction projects, whereas others will need to develop the appropriate procedures and methods for implementation.

The Benchmark figures will be reviewed by CITB on a regular basis as additional performance information becomes available. This will enable the Benchmarks to be refined to reflect the capability of contractors and clients as they become more familiar with implementing the Client-Based Approach.

It may be the case that following contract award, the scope of the works is varied, so that the contract sum and the number of personnel required are increased or decreased. In this event, the Outputs in the ESP and any Key Performance Indicators may be proportionately amended by agreement, where the Building Contract allows.

4.5 Categories of Projects Covered by the Benchmarks

Benchmarks have been developed for the following thirteen categories of construction projects and four maintenance sectors.

Construction projects:

1. Residential - public and private sector housing
2. Retail, sports, leisure, entertainment - theatres, restaurants, public swimming baths, works and buildings such as sports grounds, stadiums and racecourses etc.
3. Highways and roads
4. Infrastructure (excluding highways) - water, sewerage, electricity, gas, communications, air transport, railways and harbours
5. Factories and warehouses (including garages)
6. Education - schools, colleges and universities
7. Health - hospitals including medical schools, clinics and welfare centres
8. Offices and commercial
9. Regeneration – new build involving existing communities
10. Refurbishment/Decent Homes
11. Water supply and waste disposal
12. Off-site structures
13. Judicial – Courts, young offenders institutes and prisons

Maintenance projects:

14. Housing repairs and maintenance
15. Non-housing repairs and maintenance
16. Highways
    - Structural maintenance
    - Routine cyclical maintenance
    - Routine Structures
17. Courts, young offenders' institutes and prisons' refurbishment

4.6 Key Performance Indicators (KPIs)

The client's draft construction contract included in the Tender documents may contain a set of KPIs and targets, some of which may relate to Employment and Skills. If so, it is likely that the achievement of the contractor's ESP and Method Statement for each of the Employment and Skills areas will form the basis of the Employment and Skills KPIs and the monthly targets to be attained.

In order to incentivise the achievement of the KPIs and targets, the client may link failure or attainment to:

- A breach of contract giving rise to a claim for damages
- The level of profit payable to the contractor: This approach can be a powerful incentive which needs to be integrated in the pricing structure used for payment of the contractor in relation to each project and/or
- The award of future projects pursuant to a Framework Agreement: This is another powerful incentive for contractors to treat the KPIs and targets seriously

Equivalent provisions should be included in the contractor's supply chain sub-contracts, proportionate to that sub-contractor's contribution towards the ESP.

4.7 Costing Employment and Skills Requirements

Clients should recognise that the delivery of an ESP involves certain costs. However, best practice demonstrated on a number of National Skills Academy for Construction schemes shows that although costs as a proportion of construction value should be relatively small, that figure can be considerable. It is vital therefore that the client and Tendering contractor understand how the funding of these Outcomes will be sourced.

An additional cost is the management of and delivery of the ESP. For the larger schemes this could include the role of a dedicated Project Skills Co-Ordinator together with a site-based Skills Centre. On smaller schemes, which do not justify a dedicated Skills Co-ordinator, this management role may be undertaken by a part-time Skills Co-Ordinator, the cost of which will form part of the contractor's preliminaries or overheads for the scheme. As contractors become more practised at delivering ESPs, it is likely that they will increasingly employ specialist staff to assist with this requirement.

NB: Wage costs of Apprentices can often be significantly off-set against the productivity of the Apprentices and by grants from CITB which may be drawn down by the company employing them (conditions apply).



5.0 Development of the Building Contract or Framework Agreement

Procurements in the UK (except Scotland) are regulated by the EU Regulations, which implement the EU Directive. The Regulations limit the ability of Contracting Authorities to negotiate contract terms during the procurement and after contract award so it is fundamental that information on supply chains is gained as early as possible as changes during the Tender process and after the award are restricted.

Under the Open and Restricted EU Procedures there is no opportunity to negotiate a contractor's Tender during the procurement itself and under those procedures the client may choose to adopt a two-stage process (explained in Section 6) in order to finalise its requirements with the selected Tenderer.

The Competitive Dialogue Procedure and the Competitive Procedure with Negotiation do allow some scope for structured negotiation with Tenderers and it may be that the client will finalise its requirements, and the Tenderers' related proposals, during the dialogue phase of the procurement procedure. This means final Tenders are obtained on the basis of a well-developed ESP and Method Statement that will be subject only to minor clarification post-Tender. It should be noted that, the use of these procedures is only permitted in certain circumstances, e.g. in respect of complex procurements which are usually larger-scale and require input from the Private Sector in order to finalise the Tender specification.

The finalised ESP and Method Statement should be included as contract documents forming the Building Contract or Framework Agreement with contractual obligations on the contractor, including monthly reviews of progress against the ESP and KPIs, and a final review at the end of the project or at the end of each project under a Framework.



6.0 Engaging the Supply Chain

The client will seek to achieve the best value from the contractor and its supply chain, not only in terms of prices but also in the creation of the best Employment and Skills opportunities. Local unemployment and skills deficits are likely to be high on any Local or Central Government client's agenda, and procurement of construction projects is an effective method of working towards their targets. To this end, the Crown Commercial Service has issued guidance on supporting Apprenticeships through procurement, noting that skills levels are key to sustainable development. The client's Employment and Skills Strategy will set out the priority of Employment and Skills areas to be addressed and the benchmarked Outputs that the client expects to be achieved for projects of certain types and values.

6.1 Early Contractor Procurement

In addition to the Employment and Skills Outputs obtained through the EU procurement process, a methodical approach to contractor procurement can achieve further contractor, sub-contractor and supplier contributions in the delivery of Employment and Skills.

Early Contractor Procurement is a procurement strategy which has its origins in two stage Tendering, but adopts a more systematic approach with clear conditionality and binding deadlines. It is based on a series of post-award processes which have been clearly provided for in the Tender documents (see Section 6.1.3) and are undertaken after contractor selection but prior to mobilisation on site and involves activities in which the contractor and its key supply chain members are directly involved.

A number of Public Body clients have already achieved significant results through use of this approach, including local employment and training opportunities and other community benefits.

6.1.1 What is Early Contractor Procurement?

Early Contractor Procurement is a two stage process whereby the client undertakes a procurement exercise and then enters into a conditional contract with a contractor, which will not become unconditional or permit start on site until a set of pre-conditions have been met during a pre-mobilisation phase. Such pre-conditions may include clarification and enhancement of the contractor's ESP and Method Statement. This approach can be applied to an individual project, a Framework Agreement or a Long-Term Contract.

The terms of the conditional appointment under a two stage process should set out contractual mechanisms by which the client works with the contractor to review and reengineer its proposals for direct labour, sub-contractors and supply contracts in order to establish whether better value options are available that will deliver enhanced and refined Employment and Skills Outputs. These processes should not involve client nomination of sub-contractors or suppliers but provide a transparent means by which the client can ensure that the contractor tests its proposals in detail and alters them if better value and better employment and skill commitments can be achieved.

Without Early Contractor Procurement, a client undertakes a procurement exercise and then enters straight into an unconditional contract with a contractor, which starts on site without a clear pre-mobilisation phase. The limited time and opportunities created by the constraints of a single stage Tender exercise lead to the risk of contractors not pursuing detailed reviews with their potential supply chain members to address Employment and Skills requirements, thereby depriving them of an opportunity to obtain fully developed and thought through proposals from team members.

The Client-Based Approach Guidance is designed to assist clients and contractors with the creation of clear expectations and commitments at the procurement stage and can be used whether a client is undertaking a Single-Stage procurement with immediate start on site or a Two-Stage procurement under Early Contractor Procurement.

6.1.2 How Does Early Contractor Procurement Work?

Contractor Procurement (Stage One)	Selection of the contractor following EU compliant procurement (individual Project, Framework or Term Contract).
Conditional Contractor Appointment (Stage Two)	Agreed supply chain Re-engineering processes and activities undertaken according to a contractual timetable, including review by the client and the contractor of supply chain packages for Best Value and for proposals and commitment to achieve the ESP and Method Statement.
Unconditional Contractor Appointment	Once the agreed supply chain Re-Engineering processes and activities are complete and the ESP and Method Statement have been finalised, the contractor is unconditionally appointed and proceeds with mobilisation.

The benefits of the two-stage approach are:

- A period of thinking time post-award during which the contractor can engage with the client and the supply chain members to clarify and enhance the ESP and Method Statement and improve on costs
- An opportunity for the contractor and the supply chain members to offer innovative solutions
- A period for the client to assist the contractor by liaising with Employment and Skills intermediaries and signposting the use of local training providers, employment agencies and education facilities

6.1.3 Early Contractor Procurement and the EU Regulations

The EU Regulations prohibit clients from making material changes to contract conditions once the procurement process has completed. Clients may therefore be concerned that, when using the Open or Restricted Procedures, dialogue with the contractor and supply chain post-award may give rise to a challenge from unsuccessful Tenderers. In order to minimise the risk of challenge, the client must ensure that the pre-mobilisation activities are clearly provided for in the contract conditions disclosed at Tender stage and should not depart materially from the proposals set out in the contractor's original Tender.

Whilst the Regulations prohibit material changes, they do allow for some modifications to be made to a concluded contract (Regulation 72). Amongst others, modifications which have a value of under 10% (for Services/Supply Contracts) and 15% (for Works Contracts) of the original value of the contract would be allowable, provided they do not change the overall nature of the contract, and do not exceed the defined financial thresholds for Works, Services and Supplies Contracts. The current thresholds are:

- Works Contracts: £4,104,394 (net of VAT) (for both Central and Sub-Central Government)
- Supplies and Services Contracts: £106,047 (net of VAT) (for Central Government) and £164,176 (net of VAT) (for Sub-Central Government)

The thresholds are subject to change and up-to-date information can be obtained from the Tenders Direct website (www.Tendersdirect.co.uk) These figures were updated on 1 January 2016. Local Authorities and Housing Associations are deemed to be Sub-Central Contracting Authorities.

In addition, modifications which are non-substantial are allowed. Substantial is further defined by Regulation 72(8) and includes changes which either materially affect the character of the contract or would generally have altered the Tender process by allowing/attracting other providers to submit Tenders or which would have resulted in another Tender being accepted.

If the enhancements to the ESP and/or costs cannot be achieved within the confines of the Regulation 72 grounds noted above, then there are other grounds for modification set out in Regulation 72. The rules in Regulation 72 are complex and if in doubt, specific legal advice should be sought.

6.1.4 Early Contractor Procurement and Standard Form Contracts

Early Contractor Procurement is dealt with in relatively few published contract forms.

For clients implementing a single project in line with this Guidance, Early Contractor Procurement processes are set out in detail in the PPC2000 Form of Contract, which describes a series of pre-construction activities and links these to objectives that include Employment and Skills. These processes have been successfully tested on a wide range of projects over the last fifteen years.

In November 2015 NEC published an Early Contractor Involvement Clause with related Guidance, which enables a contractor to be appointed in two stages. The Stage One appointment enables the build detailed up of designs and costs in advance of Stage Two.

JCT produced in 2011 an updated Pre-Construction Agreement, which is suitable for Early Contractor Procurement but requires clarification of the specific pre-construction phase activities and processes and creation of a timetable governing their completion. It also needs clearer links between the procurement of the Pre-Construction Agreement and procurement of the construction phase Building Contract. JCT contracts can be amended to include Early Contractor Procurement provisions.

There are no published forms of Framework Agreement that deal expressly with Early Contractor Procurement.

For Long-Term Contracts Early Contractor Procurement is provided for only in the TPC2005 Form of Contract, and recently the NEC3 Form of Contract. Other forms of Long-Term Contract such as the JCT Measured Term Contract would require adaptation to create the conditional appointments described in this Guidance.

6.2 Suggested Sub-Contract Procurement Procedure

6.2.1 Pre-Qualification of Sub-Contractors

A Pre-Qualification Questionnaire (a PQQ) may be dispatched to sub-contractors who have expressed an interest in Tendering for the sub-contract. At this stage, the PQQ should consider information relating to each sub-contractor's financial or economic standing, technical or professional ability and other issues that provide the contractor with grounds for rejection.

Contractors should carefully consider the wording of any Employment and Skills questions at this stage to ensure that they will not prejudice Small or Medium Enterprises (SMEs) or new start-up companies who do not have the requisite experience but who may nevertheless be competent to deliver Outputs including Employment, Skills, and Apprenticeship requirements under the proposed contract. This is more important now given Lord Young's report titled "Growing Your Business" which highlighted public procurement as a key avenue for growth of the economy by encouraging and harnessing SMEs.

For the purposes of the selection stage, a question could be included within the PQQ requiring prospective sub-contractors to indicate their experience of implementing employment, skills development and training on previous projects or Frameworks similar to the level required by the contractor and the client. Prospective sub-contractors should also be required to set out a short Method Statement as to how they have achieved this on previous projects or Frameworks, indicating what levels of training, including Apprenticeships, have been historically offered.

6.2.2 Sub-Contractor Tendering and Award

Once the short-list of sub-contractors has been compiled, an Invitation to Tender (ITT) should be prepared that obtains the short-listed sub-contractors' proposals for the contract.

The contractor will have produced an ESP and Method Statement in response to the Employment and Skills Strategy requirements in the client's Tender documentation. A copy of the contractor's ESP and Method Statement should be included in each sub-contract ITT to make clear the contractor's obligations to the client.

The contractor should consider how each sub-contractor can contribute to the contractor's achievement of the ESP and should set out in its Evaluation Criteria exactly what the sub-contractor's contribution is to be. It is suggested that the contractor's requirements from each sub-contractor are a minimum standard linked to the minimum requirements of the client, creating a bottom line for future contracts or Framework Agreement programmes.

Setting out the sub-contractor's Employment and Skills requirements in the ITT ensures that there is no ambiguity as to what is expected, whilst still allowing a degree of flexibility to add value or go over and above such requirements.

A Method Statement outlining how the sub-contractor's requirements will be implemented on site should also be requested within ITT in order for Tendering sub-contractors to show how they intend to ensure delivery.

The sub-contractors' responses to each ITT should state their commitment to deliver the requirements and any related costs. Contractors should provide as much information as possible to ensure that the sub-contractors are costing the implementation of the minimum requirements as accurately as they can.

Each sub-contractor's response to the Employment and Skills requirements can be scored and evaluated so as to ensure that the contractor is receiving Best Value.

The ITT should contain the contractor's standard form of Sub-Contract, including the Employment and Skills minimum requirements. Suggested Template Sub-Contract Clauses are set out in Appendix D. The authors cannot accept liability for the use of these Clauses.

6.3 Sub-Contract Requirements

In order to obtain commitment from the supply chain in achieving the ESP targets and Method Statement, the contractor should make clear the sub-contractor's minimum obligations in each sub-contract Tender. Sub-Contractors should be encouraged to exceed the contractor's requirements, in order to provide Added Value to the contractor and ultimately the client.

Where possible, the contractor's Employment and Skills requirements should be flowed through into relevant supply chain Sub-Contracts, so that they become a contractual requirement and are more easily enforceable.

The obligations and level of involvement should be plainly set out in the Sub-Contract. Appendix D to this Guidance contains suggested Template Sub-Contract Clauses for use with:

- SPC2000 Specialist Contract for Project Partnering (amended 2013)
- JCT Standard Building Sub-Contract (SBCSub/A) (2011 Edition) Articles of Agreement; JCT Standard Building Sub-Contract with Sub-Contractor's Design (SBCSub/D/A) (2011 Edition) Articles of Agreement or JCT Design and Build Sub-Contract (DBSub) (2011 Edition) Articles of Agreement
- NEC3 Engineering and Construction Sub-Contract (3rd Edition)

The detail of the Clauses will have to be adapted to suit the requirements particular to each project. They have been drafted to reflect equivalent provisions under the forms of Building Contract and Framework Agreements which have been provided as Templates in the Public Sector client and Central Government Client-Based Approach Guidance.

6.4 Sub-Contract Key Performance Indicators (KPIs)

It is likely that the client will have linked the contractor's achievement of the ESP and Method Statement to KPIs and targets contained in the Building Contract or Framework Agreement.

In order to incentivise the contributions of the contractor's supply chain towards those KPIs and targets, the contractor may wish to include a set of Employment and Skills KPIs in its sub-contracts. The assessment of a supply chain member's previous performance against the KPIs could influence the award of future sub-contracts and this is a powerful incentive for supply chain members to treat the KPIs and targets seriously.

In all cases, contractors should consider what is proportionate and reasonable to expect from a supply chain member. It is important that they take their sub-contract responsibilities seriously, but it is also important that they are not dissuaded from Tendering or encouraged to quote a risk premium.

6.5 Supply Chain Review During the Pre-Construction Phase

Although the EU Regulations prevent negotiation of contract Terms between the client and contractor post-award, an element of clarification is permissible, as set out above at Section 6.1.3. It is likely that the contractor's ESP and Method Statement will require amplification once the project parameters become more defined. So that the contractor's Employment and Skills responsibilities are clear before start on site, it is useful to conduct a review procedure during a pre-construction phase, if one has been built into the contract. See Section 6.1 for further information on two-stage contracts and early engagement.

Any post-award review of the supply chain should be undertaken on a consensual basis. The first step will be for the contractor to confirm its supply chain to establish which members can provide the best prices and value in order to achieve additional savings, including Employment and Skills Outputs. It is possible for the contractor to re-Tender works and/or supply packages, in consultation with the client, in order to determine which can offer the best value, including imposed Employment and Skills Benchmarks.

Once the preferred supply chain members have been identified, Added Value can be realised through facilitated discussions identifying the client's particular Employment and Skills requirements and clarifying the ESP and Method Statement. The success of a pre-construction supply chain review is dependent on all parties knowing what is expected of them. This is best set out in a pre-construction timetable.

6.6 Re-Engineering Long-Term Contracts

The Guidance focuses on procurement of single projects, but there are far greater opportunities for clients to maximise Employment and Skills Outputs where they are in a position to appoint contractors to Long-Term Contracts. These can comprise:

- Framework Agreements and/or
- Term Contracts

6.6.1 Use of Long-Term Contracts

Any Long-Term Contract can contain contractual mechanisms for the client to review the main contractor's proposals for Direct Labour, sub-contractors and Supply Contracts in order to establish better value options which also deliver enhanced Employment and Skills Outputs.

Without adoption of these processes it will be difficult to revisit the Employment and Skills commitments originally tendered even though, over the life of the Long-Term Contract, circumstances will change causing the client to expect improvements. These expectations would be reasonable in circumstances where:

- The contractor is receiving more work than originally anticipated
- The contractor becomes more familiar with the client's estate and objectives
- The contractor can place more confidence in data provided by the client
- Greater availability of local sub-contractors and Suppliers
- Changes in the marketplace are resulting in more economically advantageous sub-contract terms
- The main contractor's increased confidence in the work available under the Long-Term Contract translates into more opportunities for sub-contractors and Suppliers

6.6.2 Framework Agreements and Call-Off Contracts

Long-Term Contracts fall into one of the following types:

1. Under a Framework Agreement, though the client may not guarantee work to the main contractor, project contracts can be awarded (over a period up to four years) either directly against agreed prices or by Mini-Competition among a number of contractors to which Framework Agreement(s) have been awarded
2. A Term Contract is a commitment to a scope of work, subject to the ordering of particular quantities being called off. In order for a Long-Term Contract to operate as a Term Contract rather than a Framework Agreement, it must have sufficient clarity as to the brief and the pricing for the client to be able to call-off as if from a shopping list

6.6.3 How Does Supply Chain Re-Engineering Work Under Long-Term Contracts?

The Supply Chain Re-Engineering machinery in any Long-Term Contract should set out in clear contractual commitments events which will trigger Supply Chain Re-Engineering, the steps to implement the process and the timing of each of the activities.

The benefits of Supply Chain Re-Engineering are the opportunities:

- For the main contractor to revisit supply chain arrangements
- For sub-contractors and Suppliers to understand the full extent of the opportunities available to the main contractor and thereby to themselves
- For a limited list of sub-contractors and Suppliers to provide proposals to the main contractor with full visibility to the client
- To assess the Employment and Skills Outputs available from local contractors

6.6.4 How are Long-Term Contracts Relevant to Employment and Skills?

When the client invited Tenders for the Long-Term Contract, it will have stated its Employment and Skills expectations, which will have been reflected in the main contractor's ESP and Method Statement. However, at this time the main contractor will have had little scope to engage with sub-contractors and Suppliers, especially on a local basis.

A controlled process of supply chain reviews under Long-Term Contracts allows the main contractor to enhance its Employment and Skills commitments as well as other Added Value for the client.

6.6.5 Long-Term Contracts and the EU Regulations

The systems for Supply Chain Re-Engineering are unlikely to conflict with the EU Regulations or any other aspect of EU procurement law. They are predicated on the assumption that any accepted proposals will include lower prices and enhanced value as well as enhanced Employment and Skills commitments.

6.6.6 Is There a Commercial Incentive for the Supply Chain?

Supply Chain Re-Engineering also creates a commercial incentive for sub-contractors and Suppliers. Put simply, a sub-contractor/Supplier Tendering to a conditionally appointed main contractor (allowing for three sub-contractor/supplier Tenderers) has a 1 in 3 chance of appointment, whereas a sub-contractor/supplier Tendering to a main contractor that itself remains a Tenderer in relation to the original Long-Term Contract (allowing for six main contractor Tenderers) has a 1 in 18 chance of success.

For the main contractor, it is possible to create significant incentives by linking improved prices and enhanced Employment and Skills Outputs to the extension of a Long-Term Contract, contract award in a Mini-Competition or payments upon achievement of Key Performance Indicators.

6.6.7 Consortia

Where clients are working in a consortium or in an integrated alliance of clients and/or main contractors delivering related works, there are opportunities for the enhanced Outputs to be benchmarked and for best practice to be agreed and implemented.



7.0 Employment and Skills Plan (ESP) Delivery Themes

The Summary column in the client's ESP will contain Benchmarks for each of the Employment and Skills areas for the duration of the project.

It is recognised that the implementation of the ESP can be complex and that it may need management input from the client, the contractor and its supply chain.

The successful implementation of an ESP will require the following:

- Development of the contractor's Method Statement for implementation of the ESP (as outlined above)
- Review of sub-contract order requirements
- Monitoring and support from the client

7.1 Support with Delivery

Delivery of the ESP may require collaboration between a number of agencies and organisations. The client may be in a position to assist with identifying suitable delivery partners. CITB, through their network of Advisors and delivery teams, may also be able to support contractors and their supply chain partners with delivery matters. This support can be identified through a Gap Analysis Report prepared by CITB to meet the specific needs of a client, the contractor and its supply chain.

An outline of key issues relating to delivery of the Employment and Skills areas is set out in Appendix A.

7.2 Monitoring and Support from the Client

The contractor's ESP should set out, on a monthly basis, the anticipated Outputs against each of the Employment and Skills Areas (please see Appendix C for a Template ESP). This document can be used as the main monitoring tool for both the main contractor and the client to review progress.

CITB's Management Information System SPONSA allows tracking of critical Key Performance Indicators on a real time basis. It is recommended that clients review the working of the SPONSA system as it provides many benefits including best practice sharing and benchmarking against other clients and projects. The use of SPONSA is not a pre-requisite to the implementation of the Client-Based Approach but it is sanctioned by NCSAG and is highly recommended to ensure key performance information can be captured.

7.3 Site-Based Facilities and Setting up a Skills Centre

Some site-based facilities will be required for implementing an ESP. These would be used for accommodating school visits, on site assessment inductions and skills audits. On small and medium-sized projects an existing meeting room could potentially be used.

A dedicated Skills Centre could be appropriate for large projects of, say, over £25 million. This could be a site cabin fitted out with tables and chairs, a white board and computer. Establishing facilities on site, such as a Skills Centre, is not a requirement for the Client-Based Approach, but should be considered according to the requirements of individual projects.

7.4 Personnel Responsible for Delivery

The contractor's Method Statement will set out how it intends to manage the implementation of the ESP.

On small and medium-sized projects this could be the responsibility of the Site Manager with Head Office support. Some contractors may have their own personnel who have responsibility within the company for co-ordinating and facilitating activities such as training and school engagement activities.

For larger projects or Framework programmes of over £50 million there could be a case for having a dedicated Project Skills Co-Ordinator. Their role would be to co-ordinate and facilitate the range of Employment and Skills Areas. This would involve liaising with the site team, trade contractors, schools, colleges and training agencies. The cost for this post could be shared between the client and the contractor. Regardless, there is a recommendation that the client would wish to see provision for a dedicated resource costed in any submissions. This will ensure that there is a greater chance of ESP Outcomes being achieved.

7.5 Project Implementation and Review

The Project Manager working on behalf of the client should ensure that it reviews the performance of Employment and Skills Outputs throughout the project or Framework against the ESP and Method Statement.

Continuing support and interest by the client in the Employment and Skills programme will play an important role in ensuring its success. Success should be acknowledged and celebrated. Failure to deliver against the ESP may be taken into account when awarding future projects or additional work under a Framework.

7.6 Inclusion of SMEs and Supply Diversity

SMEs form the core of the construction industry and are likely to employ a higher percentage of trainees and Apprentices (compared to their own headcount) than their larger competitors. However, clients and contractors alike are at risk of inadvertently excluding such small and diverse businesses by opting for a bulk-buy or a Framework approach for their procurement needs and including skills and training requirements which SMEs are (by their nature) too small to compare favourably against larger competitors with established track records and more resources.

Furthermore, many SMEs will not have the available resources and experience of Tendering for work under structured, formal procedures and as pre-set Evaluation Criteria often concentrate on capacity and effectiveness requirements, the results tend to lead to the appointment of larger firms.

Supplier diversity via the inclusion of SMEs in a contractor's supply chain can benefit the local community and increase opportunities for employment, skills development and Apprenticeships. Therefore, Supplier diversity in procurement is central to the delivery of sustainable communities and, to overcome the potential problems arising in relation to the inclusion of SMEs, contractors should seek to open up their procurement processes to SMEs in a number of ways including:

- Improving access to Tender opportunities by advertising in the local and trade press and the contractor's website
- Simplifying the administrative processes (i.e. what questions are asked in the PQQ), and present documents in clear and concise language
- Offering coaching or Guidance Notes to all Tenderers on how to complete the documentation and how the process will run, and consider increasing the time-scales so they are long enough for the SMEs (who often have little or no administrative Tender support) to respond
- Encouraging alternative routes into the market (i.e. SMEs acting as sub-contractors to larger firms)
- Dividing a contract into Lots so that SMEs which may only be able to take on a certain level of work or have a particular specialism can Tender for specific Lots
- Encouraging SMEs to Tender for larger contracts as part of a consortium

Appendices

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Appendix A
Summary of the Employment and Skills Areas

The purpose of this section is to provide outline details of the Employment and Skills Areas that are contained within the Employment and Skills Plan (ESP) and the definitions for measuring outputs. Please refer to Appendix C for a Template ESP.

KPI 1: **Work Experience Placements**

This KPI is aimed at providing persons with the opportunity to carry out tasks agreed by their supporting organisation (where applicable) and the employer enabling the individual to gain a meaningful insight into the construction sector.

- This target describes work experience attendance on NSAfC Projects for students from schools, colleges and Universities (14 years plus) who undertake a work-experience placement for a minimum of 5 working (consecutive or non-consecutive) days. *L onger duration traineeships can be counted under KPI 5*. This KPI is aimed at providing students with the opportunity to carry out tasks agreed by the education provider and the employer enabling the learner to gain a meaningful insight into the construction sector.
- This target describes work experience attendance on NSAfC Projects for persons who are not enrolled in a course of education/study and who undertake a work-experience/pre-employment placement for a minimum of 5 working (consecutive or non-consecutive) days. This can include individuals from organisations such as Princes Trust, Probation Service, Job Centre Plus, Women into Construction, Armed Forces re-settlement programmes or local community organisations. It may also be appropriate for individuals seeking a career change.

This target relates to (data reporting lines)

- Work Experience Placement (In Education)
- Work Experience Placement (Not In Education)

KPI Measure: 1 completed work placement represents 1 outcome

Evidence:

1. Written confirmation from the learning provider or employer of the student participation in the activity, and;
2. Learner evaluation form

KPI 2: Jobs created by NSAfC Projects (new entrants)

This target describes the creation of new and sustainable job opportunities for new entrants into the sector. And as a result of the project, the successful candidate(s) are required on the project site(s) by the main contractor or subcontractor.

This target relates to (data reporting lines)

- Persons who are employed as Apprentices
- Persons previously unemployed
- Graduates

KPI Measure: 1 individual represents 1 outcome

Evidence:

1. Notification of vacancy on site, and;
2. Copy of offer of employment;
3. Confirmation letter or statement from employer following one month minimum employment (qualifying period)

KPI 3: Construction Careers Information, Advice & Guidance (CCIAG) Events

This target consists of the organisation and delivery of events focused on improving the image of the sector.
Events are aimed at increasing awareness of the opportunities available within the industry, what it is like to work in Construction and how to get into the sector. To be counted, the activity must be formally structured, agreed by the project and the participating organisation

The key target groups for delivery of this outcome are

- Entrants 14-19: (e.g. persons currently not in education, employment or training, or school students, school leavers, college students)
- Under graduates
- Influencers (e.g. schools/universities, adult influencers, careers advisors, learning providers, community groups)

KPI Measure: 1 event represents 1 outcome.

Evidence:

1. Confirmation from the participating organisation of the student engagement in the activity, and;
2. Completed documentation detailing activity delivered and numbers attended

KPI 4: Training Weeks on Site

This target relates to and counts the number of weeks of formal training being undertaken by trainees/new entrants working on a NSAfC Project. This will involve training following a recognised syllabus of study which has been accredited/certificated by either an awarding body for that qualification or by the recognised issuing organisation. *One training week = 5 working days.*

This target relates to (data reporting lines)

- New entrants undertaking apprenticeships
- New entrants undertaking traineeships (to include regional flexibilities)
- New entrants undertaking technical/higher level qualifications

KPI Measure: Total number of training weeks currently taking place on the project

Suggested Evidence:

1. Registration documents/written confirmation from training provider detailing course of study, duration and qualification, and;

2. Completion certificates

KPI 5: Qualifying the Workforce

This target relates to persons gaining a nationally recognised qualification equivalent to Level 2 or above. Achievements can include vocational awards/diplomas, apprenticeship completions, professional qualifications, leadership and management courses including ILM, Health and Safety, (including IOSH, NEBOSH, SMSTS & SSSTS). Outcomes must be accredited by a nationally recognised professional institution or awarding body

This target further relates to persons gaining industry certification. Achievements can include short duration courses; project specific learning e.g. products, installation, technologies, or may relate to occupational competence, licence to practice or sector specific training e.g. the environment, sustainability, health and safety.
Outcomes must be accredited by public education establishments, employers or other training providers and may be held externally or in-house and must be a minimum duration of 3 hours.

This target relates to (data reporting lines)

- a)Qualifications achieved– main contractor
- b)Qualifications achieved– sub contractors
- c)Short Duration training certification– main contractor
- d)Short Duration training certification– subcontractors

  NB For the client based approach the sub-contractor reporting lines are optional

KPI Measure. 1 Qualification /certification achieved represents 1 outcome

Evidence:

Completion certificates.

KPI 6: Training Plans

This target relates to the annual company plan which details the organisational structured approach to training and developing the workforce. The plan must show the start and end date so that it demonstrates that this is a plan rather than a matrix. This target can included new plans and plans to be renewed.

KPI Measure: 1 new or annually renewed company training plan

Evidence:

A copy of the training plan with start and completion dates

KPI 7: Case Studies Approved

This target consists of completing and submitting a promotional case study which describes either an example of best practice or a significant achievement on the NSAfC project. Case studies counted against this measure must be compliant with the National Skills Academy for Construction case study guidelines.

The completed case study must be approved by a representative of CITB and the client/contractor's internal communications team and be made available for inclusion on the National Skills Academy for Construction webpages and for additional promotional purposes.

KPI Measure: 1 Case Study approved represents 1 outcome

Evidence:

Copy of approved case study

Appendix B
Benchmarks

1.0 Residential		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements – persons	3	6	8	11	14	16	20	22	23	25	25	26	26
2	Jobs created by NSAfC	1	4	7	12	14	16	18	19	22	23	25	26	28
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	4	5	6	7	9	10	11	12	12	13	14
4	Training Weeks on site	47	99	167	261	365	522	731	939	1148	1357	1656	1775	1984
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	9	15	20	24	29	32	36	39	43	45	50	51
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	2	5	8	11	13	16	18	20	22	24	26	27
5(c) 5(d)	• Industry certification gained	5	7	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	4	4	5	5	5	6	6	6	7	7	7	8	8
7	Case Studies	Project Specific – to be agreed pre-approval												

2.0 Retail, sports, leisure and entertainment		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	Band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements- persons	2	4	5	6	8	9	10	11	12	13	13	14	14
2	Jobs created by NSAfC projects	0	2	4	7	8	9	10	11	11	13	13	14	15
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	3	3	4	5	6	7	7	8	8	8	9
4	Training Weeks on site	44	93	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	11	13	15	19	21	24	26	30	30	33	34
5(a) 5b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	9	10	12	12	13	14
5(c) 5(d)	• Industry certification gained	4	6	8	9	10	13	13	15	16	18	18	20	20
6	Training Plans	2	2	3	3	3	4	4	4	4	4	4	5	5
7	Case Studies	Project Specific – to be agreed pre-approval												

3.0 Highways		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements	0	2	2	3	3	4	5	5	6	6	6	6	6
2	Jobs created by NSAfC projects	0	2	4	5	7	7	9	9	11	13	13	14	14
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	0	1	2	2	3	3	4	5	5	5	5	6	6
4	Training Weeks on site	21	45	76	118	166	237	332	426	521	616	711	806	901
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	11	13	15	18	20	23	25	28	28	31	32
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	9	10	11	11	12	13
5(c) 5(d)	• Industry certification gained	4	6	8	9	10	12	12	14	15	17	17	19	19
6	Training Plans	1	1	2	2	2	2	2	2	2	2	2	2	2
7	Case Studies	Project Specific – to be agreed pre-approval												

4.0 Infrastructure		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements - persons	1	2	2	3	3	4	5	5	6	6	6	6	6
2	Jobs created by NSAfC projects	0	3	4	5	7	8	9	10	11	12	13	14	14
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	0	1	2	2	3	3	4	5	5	5	5	6	6
4	Training Weeks on site	21	45	76	118	166	237	332	426	521	616	711	806	901
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	11	13	15	18	20	23	25	28	28	31	32
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	9	10	11	11	12	13
5(c) 5(d)	• Industry certification gained	4	6	8	9	10	12	12	14	15	17	17	19	19
6	Training Plans	1	1	2	2	2	2	2	2	2	2	2	2	2
7	Case Studies	Project Specific – to be agreed pre-approval												

5.0 Factories		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements - persons	0	1	1	1	2	2	2	3	3	3	3	3	3
2	Jobs created by NSAfC projects	0	2	3	5	5	6	8	8	9	10	11	11	12
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	0	1	2	2	3	3	4	5	5	5	5	6	6
4	Training Weeks on site	12	26	44	69	97	139	194	250	306	361	417	472	528
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	4	6	9	12	14	17	19	22	23	25	25	28	29
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	9	10	11	11	12	13
5(c) 5(d)	• Industry certification gained	3	5	6	8	9	11	11	13	13	14	14	16	16
6	Training Plans	3	3	4	4	4	5	5	5	6	6	6	6	6
7	Case Studies	Project Specific – to be agreed pre-approval												

6.0 Education		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements - persons	4	7	9	13	17	20	24	27	528	30	30	31	31
2	Jobs created by NSAfC projects	1	4	5	10	11	12	14	15	18	19	19	21	22
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	5	6	7	8	11	12	13	14	14	16	17
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	9	15	20	23	28	31	35	38	42	44	49	50
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	2	5	8	10	12	15	17	19	21	23	25	26
5(c) 5(d)	• Industry certification gained	5	7	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	3	3	4	4	4	5	5	5	5	5	5	6	6
7	Case Studies	Project Specific – to be agreed pre-approval												

7.0 Health		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	2	4	5	6	9	10	12	13	13	15	15	16	16
2	Jobs created by NSAfC projects	0	2	4	8	8	10	11	12	14	14	16	16	17
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	3	4	5	6	8	9	9	10	10	11	12
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	9	13	17	20	24	27	30	32	36	37	41	42
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	2	3	5	7	8	11	12	13	15	16	17	18
5(c) 5(d)	• Industry certification gained	5	7	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	2	2	3	3	3	3	3	3	4	4	4	4	4
7	Case Studies	Project Specific – to be agreed pre-approval												

8.0 Offices		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements- persons	1	2	2	4	4	5	7	7	8	8	8	8	8
2	Jobs created by NSAfC projects	0	2	4	7	7	9	10	11	11	11	13	13	14
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	2	3	4	4	5	6	7	7	7	8	8
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5c) plus 5(d)*	6	9	13	16	19	23	25	27	29	33	34	38	39
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	6	7	9	9	10	12	13	14	15
5(c) 5(d))	• Industry certification gained	5	8	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	2	2	3	3	3	4	4	4	4	4	4	5	5
7	Case Studies	Project Specific – to be agreed pre-approval												

9.0 Regeneration		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	4	7	9	13	17	20	24	27	28	30	30	31	31
2	Jobs created by NSAfC projects	1	5	9	14	16	19	21	23	27	28	31	32	34
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	3	5	6	8	9	11	13	14	15	15	16	18
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	11	17	22	27	32	36	40	44	49	51	58	59
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	3	6	9	13	15	19	21	24	26	28	31	32
5(c) 5(d)	• Industry certification gained	5	8	11	13	14	17	17	19	20	23	23	27	27
6	Training Plans	4	4	6	6	6	7	7	7	8	8	8	9	9
7	Case Studies	Project Specific – to be agreed pre-approval												

10.0 Refurbishment / Decent Homes		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	2	4	5	7	9	10	12	14	14	16	16	17	17
2	Jobs created by NSAfC projects	1	4	7	11	13	15	16	18	20	20	22	23	25
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	4	5	6	7	9	10	11	12	12	13	14
4	Training Weeks on site	45	95	160	275	350	500	701	901	1101	1301	1502	1702	1902
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	11	16	20	24	26	28	31	32	35	39	40
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	6	8	10	12	12	14	15	17	18	19
5(b) 5(c)	• Industry certification gained	4	6	8	10	12	14	14	16	17	18	18	21	21
6	Training Plans	2	2	3	3	3	4	4	4	4	4	4	5	5
7	Case Studies	Project Specific – to be agreed pre-approval												

11.0 Water supply and waste disposal		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	1	2	2	3	3	4	5	5	6	6	6	6	6
2	Jobs created by NSAfC projects	0	2	2	5	5	5	7	7	8	9	9	9	11
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	0	1	1	1	2	2	2	3	3	3	3	3	4
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	3	5	6	8	9	11	12	14	14	16	16	18	18
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	0	1	2	3	3	4	5	6	6	7	7	8	8
5(c) 5(d)	• Industry certification gained	3	4	4	5	6	7	7	8	8	9	9	10	10
6	Training Plans	2	2	2	2	2	2	2	2	3	3	3	3	3
7	Case Studies	Project Specific – to be agreed pre-approval												

12.0 Off-site structures		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	1	2	2	3	4	5	6	6	7	7	7	7	7
2	Jobs created by NSAfC projects	0	2	3	5	6	6	8	8	9	10	10	11	12
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	3	4	4	5	6	7	8	8	8	9	10
4	Training Weeks on site	48	100	168	263	369	527	738	949	1160	1371	1581	1792	2003
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	3	3	7	8	9	12	14	15	16	17	18	21	21
5(a) 5b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	8	9	10	11	12	12
5(c) 5(d)	• Industry certification gained	2	2	4	4	4	6	6	7	7	7	7	9	9
6	Training Plans	1	1	2	2	2	2	2	2	2	2	2	2	2
7	Case Studies	Project Specific – to be agreed pre-approval												

13.0 Judicial

13.1 Courts – New Build		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	4	7	9	12	15	18	21	24	25	27	27	28	28
2	Jobs created by NSAfC projects	1	4	5	10	11	12	14	15	18	19	19	21	22
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	4	5	6	7	9	10	11	12	12	13	14
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	8	14	19	22	27	29	33	35	39	42	47	48
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	2	4	7	9	11	14	16	18	20	21	23	24
5(c) 5(d)	• Industry certification gained	5	6	10	12	13	16	15	17	17	19	21	24	24
6	Training Plans	3	3	4	4	4	5	5	5	5	5	5	6	6
7	Case Studies	Project Specific – to be agreed pre-approval												

13.2 Young Offenders – New Build		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1- 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	3	5	6	8	10	12	14	16	17	18	18	19	19
2	Jobs created by NSAfC projects	1	3	5	9	10	12	13	14	17	17	18	20	21
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	2	3	4	4	5	6	7	7	7	8	8
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	9	14	19	22	27	30	33	36	40	42	47	48
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	2	4	7	9	11	14	15	17	19	21	23	24
5(c) 5(d)	• Industry certification gained	5	7	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	3	3	4	4	4	5	5	5	5	5	5	6	6
7	Case Studies	Project Specific – to be agreed pre-approval												

13.3 Prisons – New Build		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1- 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	2	4	6	7	9	10	13	14	15	16	16	17	17
2	Jobs created by NSAfC projects	1	3	4	8	9	11	12	13	16	16	17	18	19
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	2	3	3	4	5	5	6	6	6	7	7
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	9	14	18	22	26	29	33	36	40	41	46	47
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	2	4	6	9	10	13	15	17	19	20	22	23
5(c) 5(d)	• Industry certification gained	5	7	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	3	3	4	4	4	5	5	5	5	5	5	6	6
7	Case Studies	Project Specific – to be agreed pre-approval												

14.0 Housing repairs and maintenance		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	3	4	6	9	10	12	16	17	18	19	19	20	20
2	Jobs created by NSAfC projects	0	3	4	8	8	9	11	12	13	14	15	16	17
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	4	5	6	7	9	10	11	12	12	13	14
4	Training Weeks on site	45	95	160	275	350	500	701	901	1101	1301	1502	1702	1902
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5 (d)*	2	3	6	8	10	12	13	15	15	16	17	20	20
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	0	1	3	4	5	6	7	9	9	10	11	12	12
5(c) 5(d)	• Industry certification gained	2	2	3	4	5	6	6	6	6	6	6	8	8
6	Training Plans	1	1	2	2	2	2	2	2	2	2	2	2	2
7	Case Studies	Project Specific – to be agreed pre-approval												

15.0 Non-housing repairs and maintenance		band 1 £1 - 3.5m	band 2 £3.6 – 6m	band 3 £6.1 - 10m	band 4 £10.1 - 15m	band 5 £15.1 - 20m	band 6 £20.1 – 30m	band 7 £30.1 - 40m	band 8 £40.1 – 50m	band 9 £50.1 – 60m	band 10 £60.1 - £70m	band 11 £70.1 – 80m	band 12 £80.1 – 90m	band 13 £90.1 - £100m
1	Work Placement - persons	2	4	5	7	9	10	13	15	15	16	16	17	17
2	Jobs created by NSAfC projects	0	1	3	6	6	8	8	9	11	11	12	12	14
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	2	3	4	4	5	6	7	7	7	8	8
4	Training Weeks on site	50	106	179	279	391	558	782	1005	1229	1452	1676	1899	2123
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus5(c) plus 5(d)*	2	2	5	7	8	11	11	11	12	12	13	16	16
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	0	0	2	3	3	5	5	5	6	6	7	8	8
5(c) 5(d)	• Industry certification gained	2	2	3	4	5	6	6	6	6	6	6	8	8
6	Training Plans	1	1	1	1	1	2	2	2	2	2	2	2	2
7	Case Studies	Project Specific – to be agreed pre-approval												

16. Highways maintenance

16.0 All categories		band 1 £1 - 3.5m	band 2 £3.6 – 6m	band 3 £6.1 - 10m	band 4 £10.1 - 15m	band 5 £15.1 - 20m	band 6 £20.1 – 30m	band 7 £30.1 - 40m	band 8 £40.1 – 50m	band 9 £50.1 – 60m
1	Work Placement - persons	2	3	4	5	6	7	8	9	10
2	Jobs created by NSAfC projects	1	1	3	4	5	7	8	9	10
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	3	4	5	6	7	7	7
4	Training Weeks on site	25	52	89	139	194	277	388	499	610
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	10	13	17	21	26	28	32	36
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	0	0	1	3	5	7	8	10	12
5(c) 5(d)	• Industry certification gained	6	10	12	14	16	19	20	22	24
6	Training Plans	1	2	2	3	3	4	4	4	5
7	Case Studies	Project Specific – to be agreed pre-approval								

16.1 Highways structural maintenance		band 1 £1 - 3.5m	band 2 £3.6 – 6m	band 3 £6.1 - 10m	band 4 £10.1 - 15m	band 5 £15.1 - 20m	band 6 £20.1 – 30m	band 7 £30.1 - 40m	band 8 £40.1 – 50m	band 9 £50.1 – 60m
1	Work Placement - persons	2	3	4	5	6	7	8	9	10
2	Jobs created by NSAfC projects	0	1	4	5	6	6	8	8	11
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	2	2	3	3	3	4	4
4	Training Weeks on site	25	52	89	139	194	277	388	499	610
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	10	14	17	22	24	28	32
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	0	0	1	3	4	7	8	10	12
5(c) 5(d)	• Industry certification gained	5	7	9	11	13	15	16	18	20
6	Training Plans	1	1	1	2	2	3	3	3	4
7	Case Studies	Project Specific – to be agreed pre-approval								

16.2 Highways routine cyclical maintenance		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9
		£1 - 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - 15m	£15.1 - 20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m
1	Work Placement - persons	2	3	4	5	6	7	8	9	10
2	Jobs created by NSAfC projects	1	1	2	2	4	7	7	8	10
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	2	3	4	5	5	6	6
4	Training Weeks on site	25	52	89	139	194	277	388	499	610
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	11	14	18	23	26	28	32	36
5(a) 5b)	• Qualifications gained (equiv. NVQ2 and above)	0	0	1	3	6	7	8	10	12
5(c) 5(d)	• Industry certification gained	5	11	13	15	17	19	20	22	24
6	Training Plans	1	2	2	4	4	5	5	5	6
7	Case Studies	Project Specific – to be agreed pre-approval								

16.3 Highways routine structures		band 1	band 2	band 3	band 4	band 5	band 6	band 7	band 8	band 9
		£1 - 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - 15m	£15.1 - 20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m
1	Work Placement - persons	2	3	4	5	6	7	8	9	10
2	Jobs created by NSAfC projects	1	1	3	5	6	8	10	10	12
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	2	3	5	7	9	10	10	12	12
4	Training Weeks on site	25	52	89	139	194	277	388	499	610
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	10	13	17	21	26	28	32	36
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	0	0	1	3	5	7	8	10	12
5(c) 5(d)	• Industry certification gained	6	10	12	14	16	19	20	22	24
6	Training Plans	1	2	2	3	3	4	4	4	6
7	Case Studies	Project Specific – to be agreed pre-approval								

17.1 Courts – Refurbishment		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1- 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	2	3	4	6	7	8	9	10	11	12	12	13	13
2	Jobs created by NSAfC projects	0	2	4	7	7	9	10	11	12	12	14	14	15
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	1	2	3	4	4	5	6	7	7	7	8	8
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5.	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	6	9	13	16	19	23	25	27	29	33	34	38	39
5a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	6	7	9	9	10	12	13	14	15
5(c) 5(d)	• Industry certification gained	5	8	10	12	13	16	16	18	19	21	21	24	24
6	Training Plans	2	2	3	3	3	4	4	4	4	4	4	5	5
7	Case Studies	Project Specific – to be agreed pre-approval												

17.2 Young Offenders - Refurbishment		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1- 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	1	2	3	4	4	5	6	7	8	8	8	8	8
2	Jobs created by NSAfC projects	0	2	4	6	7	8	9	9	11	12	12	14	14
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	1	2	4	5	6	7	9	10	11	12	12	13	14
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	8	11	14	16	20	22	24	25	28	29	33	33
5(a 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	8	9	10	11	12	12
5(c) 5(d)	• Industry certification gained	4	7	8	10	11	14	14	16	16	18	18	21	21
6	Training Plans	2	2	3	3	3		4	4	4	4	4	5	5
7	Case Studies	Project Specific – to be agreed pre-approval												

17.3 Prisons – Refurbishment		band 1	band 2	band 3	band 4	Band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1- 3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placement - persons	1	2	2	3	3	4	5	5	6	6	6	6	6
2	Jobs created by NSAfC projects	0	2	4	5	7	7	9	9	10	12	12	13	13
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	0	1	1	2	2	2	3	3	3	4	4	4	4
4	Training Weeks on site	44	94	157	246	345	492	690	887	1084	1281	1478	1675	1872
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	11	14	17	19	21	24	26	28	29	33	33
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	5	7	8	9	10	11	12	12
5(c) 5(d)	• Industry certification gained	4	6	8	10	12	14	14	16	17	18	18	21	21
6	Training Plans	2	2	3	3	3	4	4	4	4	4	4	5	5
7	Case Studies	Project Specific – to be agreed pre-approval												

Appendix C
Template Employment and Skills Plan (ESP)

Employment and Skills areas		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Summary. No
1	**Work Placements – Persons** *Total of 1(a) plus 1(b)*													
1(a)	Work Placements (In education)-persons													
1(b)	Work Placements (Not in Education) - persons													
2	**Jobs created by NSAfC projects** *Total of 2(a) plus 2(b) plus 2(c)*													
2(a).	Jobs created by NSAfC projects (Apprentices)													
2(b)	Jobs created by NSAfC projects (New Entrants)													
2(c)	Jobs created by NSAfC projects (Graduates)													
3	**Construction Careers Information, Advice & Guidance (CCIAG) Events**													
4	**Training Weeks on site** *Total of 4(a) plus 4(b) plus4(c)*													
4(a)	Training Weeks on site (Apprenticeships)													
4(b)	Training Weeks on site (Traineeships)													
4(c)	Training Weeks on site (New entrants)													
5	**Qualifying the Workforce – project workforce** *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*													
5(a)	Qualifications gained(equiv. NVQ2 and above) (Main contractor)													
5(b)	Qualifications gained (equiv. NVQ2 and above) (Sub-contractor)													
5(c)	Industry certification gained (main contractor)													
5(d)	Industry certification gained (Sub-Contractor)													
6	**Training Plans**													
7	**Case Studies**													

Appendix D
Template Sub-Contract Clauses

1.0 Building Contracts

- **ACA Standard Form of Contract for Partnering - PPC2000 (Amended 2013)**
- **NEC3 Engineering and Construction Contract (3rd Edition June 2005, Updated April 2013)**
- **JCT Design and Build Contract 2011**

2.0 Bespoke Framework Agreement

The authors cannot accept liability for the use of these Clauses.

1.0 Building Contracts

1.1 ACA Standard Form of Contract for Project Partnering - PPC2000 (amended 2013)

For inclusion as a Special Term in the Project Partnering Agreement by reference to Clause 28 of PPC2000 (amended 2013).

Clause	
28.1	***Employment and Skills*** *In Appendix 1 the following definitions shall be inserted: "**Employment and Skills Strategy** – the Client's Employment and Skills Strategy forming part of the Project Brief* ***ESP** - the Project-Specific Employment and Skills Plan produced by the Constructor and forming part of the Project Proposals to be complied with and implemented by the Constructor in order to execute the Employment and Skills Strategy* ***Method Statement** - the Project-Specific Method Statement produced by the Constructor and forming part of the Project Proposals which sets out in detail how the Constructor shall implement the ESP"*
28.2	*Clause 14.1 shall be amended by the insertion of the following at the end of the Clause:* *"(xiii) Development and finalisation by the Constructor of the ESP and the Method Statement"*
28.3	*Pursuant to Clause 7.6 the Constructor shall comply with and implement the ESP and Method Statement in accordance with the Employment and Skills Strategy.*
28.4	*The Constructor shall nominate an individual to liaise with the Client Representative and provide the Client Representative with information as required to demonstrate the Constructor's compliance with the ESP and Method Statement.*

28.5	*The Client Representative shall provide to the Constructor information it has available to enable the Constructor to comply with and implement the ESP and Method Statement, including the details listed in the Employment and Skills Strategy[1].*
28.6	*The Constructor shall provide to the Client Representative on a monthly basis, in accordance with the Partnering Timetable and the Project Timetable [2], a report outlining the achievements during the previous month against the ESP and Method Statement and the employment and skills KPI and Targets contained in Appendix 8, and provide details of the various Employment and Skills activities delivered in the month. The Client Representative shall be responsible for monitoring the Constructor's compliance with and implementation of the ESP and Method Statement, and such monitoring shall form part of the Client's assessment of the Employment and Skills KPI and Targets[3].*
28.7	*Insert in Clause 23.6 (Post-Project Completion Review), after the words, "KPI and Targets," the following words: "(including the Employment and Skills KPI and Targets), and its compliance with and implementation of the ESP and the Method Statement".*
28.8	*Any and all costs relating to compliance with and implementation of the ESP and Method Statement by the Constructor are included in the Price Framework[4].*
28.9	*Insert new Clause 17.9:* *"Where any Change agreed or established in accordance with this Clause 17 has the effect of substantially increasing or decreasing the Agreed Maximum Price, the Constructor may propose a corresponding and proportionate amendment to the Employment and Skills Output figures contained in the ESP, the Method Statement and any relevant KPIs and Targets. The Client and the Client Representative shall consider any such proposal made by the Constructor and shall seek to agree any amendments with the Constructor."*

1.2 NEC3 Engineering and Construction Contract 2005 (Updated April 2013)

Option Z Clause for inclusion in the NEC3 Engineering and Construction Contract 2005 (updated April 2013) (Note: NEC propose the alternative of equivalent wording in the Works Information).

[1] (PPC2000) The Client should ensure that the Project-specific information it is to assist the Constructor with the preparation of the ESP and Method Statement is included in the Contract.
[2] (PPC2000) The Client should ensure that the Project-specific information it is to assist the Constructor with the preparation of the ESP and Method Statement is included in the Contract.
[3] (PPC2000) In order to effectively monitor and continually incentivise the Constructor's achievement of the ESP and Method Statement, a suitable KPI and relevant Targets directly referring to both should be inserted into Appendix 8 ('KPIs and Targets'). Achievement of a KPI and Targets can be linked to a share of Profit in order to motivate the Constructor towards full implementation. Any KPI linked to termination must be referred to in the termination provisions at Clause 26 of the Partnering Terms.
[4] (PPC2000) The Client should be satisfied that the Constructor has included in the Price Framework all costs in relation to the implementation of the ESP and Method Statement.

Z1 Employment and Skills

Z1.1 The following new definitions shall be added to Core Clause 11

"11.20 The Employment and Skills Strategy is the Employer's Employment and Skills Strategy forming part of the Works Information

11.21 The ESP is the works-specific Employment and Skills Plan produced by the Contractor and forming part of the Works Information to be complied with and implemented by the Contractor in order to execute the Employment and Skills Strategy

11.22 The Method Statement is the works-specific Method Statement produced by the Contractor and forming part of the Works Information which sets out in detail how the Contractor shall implement the ESP;"

Z1.2 The Contractor complies with and implements the ESP and Method Statement in accordance with the Employment and Skills Strategy.

Z1.3 The Contractor nominates an individual to liaise with the Project Manager and provides the Project Manager with information as required to demonstrate the Contractor's compliance with the ESP and Method Statement.

Z1.4 The Project Manager provides to the Contractor information it has available to enable the Contractor to comply with and implement the ESP and Method Statement, including the details listed in the Employment and Skills Strategy[5].

Z1.5 The Contractor provides to the Project Manager on a monthly basis, in accordance with the relevant Key Dates[6], a report outlining the achievements during the previous month against the ESP and Method Statement and the employment and skills Key Performance Indicator contained in the [Schedule of Partners] [Incentive Schedule][7], and provides details of the various employment and skills activities delivered in the month. The Project Manager is responsible for monitoring the Contractor's compliance with and implementation of the ESP and Method Statement, and such monitoring forms part of the Employer's assessment of the employment and skills Key Performance Indicator[8].

Z1.6 The Contractor and the Project Manager attend a meeting (convened by the Project Manager) after Completion to review the completed works and the Contractor's performance against the Key Performance Indicators (including performance against the employment and skills Key Performance Indicator), and its compliance with and implementation of the ESP and Method Statement, and to consider the scope for further improvement on future projects.

ensure that the works is [illegible] the Employer should

[5] (NEC3) If the ESP and Method Statement is contained in the Employment and Skills Strategy forming part of the Works Information.

[6] (NEC3) To ensure regular monitoring of the Contractor's achievement of the ESP and Method Statement, dates for reviews should be included as Key Dates.

[7] (NEC3) The conditions are drafted in the anticipation that a Key Performance Indicator to cover employment and skills is included in relation to either Option X12 (Partnering) or Option X20 (Key Performance Indicators). The Key Performance Indicator should be set out either in the Schedule of Partners (in relation to Option X12) or the Incentive Schedule (in relation to Option X20).

[8] (NEC3) In order to effectively monitor and continually incentivise the Contractor's achievement of the ESP and Method Statement, a relevant Key Performance Indicator should be inserted into either the 'Schedule of Partners' (in relation to Option X-12) or the 'Incentive Schedule' (in relation to Option X-20). Achievement of Key Performance Indicator and targets can be linked to share of profit in order to motivate the Contractor towards full implementation. Any Key Performance Indicators linked to termination must be referred to in the termination provisions in the contract.

Z1.7 Any and all costs relating to compliance with and implementation of the ESP and Method Statement by the Contractor are included in the [relevant contract pricing Option][9].
Z1.8 Where a compensation event set out in Clause 60.1 and agreed or established in accordance with Clauses 60 to 65 substantially increases or decreases the Price, the Contractor may propose a corresponding and proportionate amendment to the employment and skills output figures contained in the ESP, the Method Statement and any relevant Key Performance Indicators. The Employer and the Project consider any such proposal made by the Contractor and seek to agree any amendments with the Contractor.

1.3 JCT Design and Build Contract 2011

Supplemental Provision 13 for inclusion in Part 2 of Schedule 2 of the JCT Design and Build Contract 2011.

13. Employment and Skills

13.1 Insert in Clause 1.1:
"Employment and Skills Strategy: *The Employer's Employment and Skills Strategy forming part of the Employer's Requirements*
ESP: *The Works-specific Employment and Skills Plan produced by the Contractor and forming part of the Contractor's Proposals to be complied with and implemented by the Contractor in order to execute the Employment and Skills Strategy*
Method Statement: *The Works-specific Method Statement produced by the Contractor and forming part of the Contractor's Proposals which sets out in detail how the Contractor shall implement the ESP"*
13.2 The Contractor shall comply with and implement the ESP and Method Statement in accordance with the Employment and Skills Strategy.
13.3 The Contractor shall nominate an individual to liaise with the Employer's Agent and provide the Employer's Agent with information as required to demonstrate the Contractor's compliance with the ESP and Method Statement.
13.4 The Employer's Agent shall provide to the Contractor information it has available to enable the Contractor to comply with and implement the ESP and Method Statement, including the details listed in the Employment and Skills Strategy[10].

[9] (NEC3) The Employer should be satisfied that the Contractor has included in the relevant NEC 3 contract pricing Option all costs in relation to the implementation of the ESP and Method Statement.
[10] (JCT) The Employer should ensure that the Works-specific information to assist the Contractor with the implementation of the ESP and Method Statement is contained in the Employment and Skills Strategy forming part of the Employer's Requirements.

13.5 Pursuant to Paragraph 11 of Part 2 of Schedule 2, the Contractor shall provide to the Employer's Agent on a monthly basis, in accordance with the relevant dates set out in the Employment and Skills Strategy[11], a report outlining the achievements during the previous month against the ESP and Method Statement and the employment and skills performance indicator contained in the Contract Documents, and provide details of the various employment and skills activities delivered in the month. The Employer's Agent shall be responsible for monitoring the Contractor's compliance with and implementation of the ESP and the Method Statement and such monitoring shall form part of the Employer's assessment of the employment and skills performance indicator[12].

13.6 The Contractor and the Employer's Agent shall attend a meeting (to be convened by the Employer's Agent) after Practical Completion of the Works to review the completed Works and the Contractor's performance against the performance indicators (including performance against the employment and skills performance indicator) and its compliance with and implementation of the ESP and Method Statement, and to consider the scope for further improvement on future projects.

13.7 Any and all costs relating to compliance with and implementation of the ESP and Method Statement by the Contractor are included in the Contract Sum Analysis[13]."

13.8 Insert new Clause 5.8: "Where any Change agreed or established in accordance with this Clause 5 has the effect of substantially increasing or decreasing the Contract Sum, the Contractor may propose a corresponding and proportionate amendment to the employment and skills output figures contained in the ESP, the Method Statement and any relevant performance indicators. The Employer and Employer's Agent shall consider any such proposal made by the Contractor and shall seek to agree any amendments with the Contractor.

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[11] (JCT) To ensure regular monitoring of the Contractor's achievement of the ESP and Method Statement, dates for reviews should be included in the Employer's Requirements.

[12] (JCT) The contract provides for the use of performance indicators to measure the Contractor's performance against relevant targets at Paragraph 11 of Part 2 of Schedule 2 (Supplemental Provisions). The Employer should be satisfied the Employer's Requirements contain employment and skills performance indicators and any relevant incentives or consequences of not achieving the stated targets. Any performance indicators linked to termination must be referred to in the termination provisions in the contract.

[13] (JCT) The Employer should be satisfied that the Contractor has included in the relevant Contract Sum Analysis all costs in relation to compliance with and implementation of the ESP.

2.0 Bespoke Framework Agreement

Note: Defined terms such as "Brief", "Client", "Contractor", "Employment and Skills Manager", "KPI", "Practical Completion", "Programme", "Project" and "Site" may need to be amended to use the appropriate defined Terms in the Framework Agreement.

Definition	Meaning
Employment and Skills Manager	[Details of Employment and Skills Manager] nominated by the Client who shall assist with the release of opportunities by the Contractor into the labour and supplier market and whose role shall include the promotion of Employment and Skills opportunities
Employment and Skills Strategy	The Client's Employment and Skills Strategy as set out inSchedule [ ] to this Agreement
KPIs	The Key Performance Indicators as set out in Schedule [ ] to this Agreement
Programme	The Programme of Projects governed by this Agreement comprising [ ]
Programme-Specific ESP	The Employment and Skills Plan produced by the Contractor relating to the entire Programme as set out in Schedule [ ] to this Agreement to be complied with and implemented by the Contractor in order to execute the Employment and Skills Strategy[14]
Programme-Specific Method Statement	The Programme-Specific Method Statement produced by the Contractor relating to the entire Programme as set out in Schedule [ ] to this Agreement to be developed by the Contractor into Project-Specific Method Statements, which sets out in detail how the Contractor shall implement each Project-specific ESP
Project	A Project forming part of the Programme
Project Contract	A Contract entered into between the Client and Contractor for the carrying out of each Project pursuant to this Agreement
Project-Specific ESP	The Employment and Skills Plan relating to each Project, to be developed by the Contractor based on the Programme-specific ESP to be complied with and implemented by the Contractor in order to execute the Employment and Skills Strategy throughout that Project
Project-Specific Method Statement	The Method Statement relating to each Project to be developed by the Contractor based on the Programme-Specific Method Statement which sets out in detail how the Contractor shall implement the ESP throughout that Project

14 (Framework) These template Framework Agreement Clauses are drafted on the assumption that the ESP and Method Statement have been developed by the Contractor on the basis of a fully scoped Programme. The Client's Employment and Skills Strategy, the key performance indicators (KPIs) and the Contractor's ESP and Method Statement should be appended as schedules to the Agreement.

Operative Clauses

1 Prior to commencement of a Project on Site, the Employment and Skills Manager shall be satisfied that the Programme-specific ESP and Programme-specific Method Statement have been sufficiently developed into a Project-specific ESP and Project-specific Method Statement respectively, to enable effective implementation on Site, including provision for monthly monitoring in accordance with Clause [5][15].

2 The Contractor shall comply with and implement the Project-Specific ESP and the Project-Specific Method Statement in accordance with the Employment and Skills Strategy.

3 The Contractor shall nominate an individual to liaise with the Employment and Skills Manager and provide the Employment and Skills Manager with information as required to demonstrate the Contractor's compliance with the Programme-Specific ESP, the Programme-Specific Method Statement, each Project-Specific ESP and each Project-Specific Method Statement.

4 The Employment and Skills Manager shall provide to the Contractor information it has available to enable the Contractor to comply with and implement the Project-Specific ESP and Project-Specific Method Statement, including the details listed in the Employment and Skills Strategy.

5 The Contractor shall provide to the Employment and Skills Manager on a monthly basis[16], in accordance with the dates set out in the Employment and Skills Strategy a report outlining the achievements during the previous month against the Programme-Specific ESP and Programme-Specific Method Statement and the Employment and Skills KPI, and provide details of the various employment and skills activities delivered in the month. The Employment and Skills Manager shall be responsible for monitoring the Contractor's compliance with and implementation of the Programme-Specific ESP and Programme-Specific Method Statement, and such monitoring shall form part of the Client's assessment of the Employment and Skills KPI[17].

[15] (Framework) This is a pre-condition to start on Site that the ESP and Method Statement are developed to the Employment and Skills Strategy's requirements. If the agreement contains other pre-conditions, this can be added to them rather than as a stand-alone Clause.

[16] (Framework) To ensure regular monitoring of the Contractor's achievement of the ESP, Method Statement, KPIs, targets and dates for reviews should be included in the Employment and Skills Strategy.

[17] (Framework) In order to effectively monitor and continually incentivise the Contractor's achievement of the ESP and Method Statement, a Key Performance Indicator (KPI) should be inserted into an appended schedule of KPIs. Achievement of KPIs and targets can be linked to share of profit/award of further Projects in order to motivate the Contractor towards full implementation.

6 The Contractor and the Employment and Skills Manager shall attend a meeting (to be convened by the Employment and Skills Manager) after Practical Completion of each Project to review the completed Project and the Contractor's performance against the KPIs (including performance against the Employment and Skills KPI) and its compliance with and implementation of the relevant Project-Specific ESP and Project-Specific Method Statement, and to consider the scope for further improvement on future Projects.

7 Any and all costs relating to compliance with and implementation of the Programme-Specific ESP and Programme-Specific Method Statement by the Contractor over the duration of the Programme and any and all amounts relating to the implementation of the Project-Specific ESP and Project-Specific Method Statement must be included in [Project pricing documents][18]."

8 Where any variation to the Client's Brief has the effect of substantially increasing or decreasing the [contract sum], the Contractor may propose a corresponding and proportionate amendment to the Employment and Skills output figures contained in the ESP, the Method Statement and any relevant KPIs. The Client and Employment and Skills Manager shall consider any such proposal made by the Contractor and shall seek to agree any amendments with the Contractor.

~~relevant contract pricing document all~~ [18] (Framework) The Client should be satisfied that the Contractor has included in the costs in relation to the implementation of the ESPs and Method Statements.

Appendix E

Glossary

Term	Meaning
Client-Based Approach	The Client-Based Approach is a National Skills Academy for Construction product and provides Clients with clarity as to what is permissible in an EU-compliant procurement and comfort that their Employment and Skills requirements when procuring construction projects are proportionate and achievable. It is an alternative to the Project-Based Approach.
Employment and Skills Areas	The suggested areas for development, as further defined in Appendix B.
Employment and Skills Strategy	The Client's Project or Framework-Specific Strategy outlining the Client's Employment and Skills goals and key deliverables, to be included as a Tender and Contract document.
ESP	The Contractor's Employment and Skills Plan created as part of the Contractor's Tender return, setting out how the Employment and Skills Strategy will be implemented. It is based on the Template provided by the Client in the Employment and Skills Strategy and will become a Contract document.
Method Statement	The Contractor's detailed description of how the ESP will be implemented on site. It should be created as part of a Tender return and become a Contract document.
NCSAG	National Construction Skills Academy Group is an established body of Contractor representatives from across the construction industry which form part of the governance structure of the National Skills Academy for Construction.
OJEU	The Official Journal of the European Union, where all procurements by Public Sector Clients over the Public Contracts Regulations 2015 Value Thresholds must be advertised.
SPONSA	The Skills Plans and Outcomes of the National Skills Academy, a management information system developed by CITB, which allows tracking of Key Performance Indicators on a real time basis.

Appendix F
The Authors

CITB

CITB is the Construction Industry Training Board, and a partner in the Sector Skills Council for the construction industry in England, Scotland and Wales. We have a clear focus – to work to ensure that the construction industry has the right skills, in the right place, at the right time. The Strategic Partnerships Team is the department of CITB that works closely with clients, developers and contractors and is conversant in the development and implementation of Employment and Skills Strategies and Employment and Skills Plans. CITB covers the whole of Great Britain and can provide support to clients, developers and contractors in how best to utilise this Guide in conjunction with existing good practice.

CITB facilitates and supports the contractor-led National Skills Academy for Construction. The Client Based Approach is a product of the Academy and presents an industry solution to embedding employment, skills, and Apprenticeships into the procurement and planning of construction works.

Trowers & Hamlins LLP

Trowers & Hamlins LLP, the city and international law firm, was commissioned by CITB to provide legal input into the drafting of this National Skills Academy for Construction Client-Based Approach Guidance for clients, as well as the equivalent guidance for Central Government and contractors.

Trowers & Hamlins LLP has unparalleled expertise in the delivery of innovative and commercial EU procurement and state aid advice, acting for Local Authorities, registered providers, central Government, contractors, service providers and suppliers.

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Named as a "Leader in the Field for Public Procurement (UK-wide)" by the Chambers and Partners' Guide to the Legal Profession 2015, Rebecca specialises in advising commercial clients, Local Authorities and Housing Associations on non-contentious construction law, EU procurement and State Aid issues. Rebecca specialises in providing practical advice on complex procurement issues and advises on tendering procedures, procurement structures and evaluation/qualification criteria and processes. Rebecca has significant experience of advising on all aspects of EU procurement regulation to numerous private and public sector clients and has advised, presented seminars, written articles and co-authored/edited various publications on the EU procurement regime and the associated UK Regulations.

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Employers Requirements:
Electric Vehicle (EV) Chargepoints

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Any reference to any standards, enactment, order, regulation or similar instrument shall (except where expressly stated otherwise) be construed as a reference to the standards, enactment, order, regulation, or instrument as amended, updated replaced or re-enacted. The Parties acknowledge that the terms of the contract between VIVID and the Service Provider shall set out how any further changes in law will be addressed following the date of entry into such contract.

Definitions

Private Parking Space	A parking space for a vehicle immediately adjacent to an individual dwelling (which may include a standalone dwelling or a dwelling within a low-rise block) where the parking space is included as part of the resident's demise.
Allocated Parking Space	A parking space assigned for the sole use of one property, but not immediately adjacent to the property.
Communal Parking Space	A parking space in an assigned area for use by a number of residents who live in nearby properties. The parking area is not accessible by members of the general public.
DNO/IDNO	The distribution network operator or independent distribution network operator licenced by Ofgem to own and operate the relevant local electricity distribution network.
OZEV	The Office for Zero Emissions Vehicles
Data Protection Legislation	all applicable data protection and privacy legislation in force from time to time in the UK including but not limited to the General Data Protection Regulation ((EU) 2016/679) (the GDPR); the UK GDPR (as such term is defined in the Data Protection, Privacy and Electronic Communications (Amendments etc.) (EU Exit) Regulations 2019), the Data Protection Act 2018; the Privacy and Electronic Communications Directive 2002/58/EC (as updated by Directive 2009/136/EC) and the Privacy and Electronic Communications Regulations 2003 (SI 2003/2426), along with any associated guidance and Codes of Practice, in each case as may be amended, updated or supplemented from time to time and all applicable law relating to the processing of Personal Data and privacy
Service Provider	shall, as may be applicable in the relevant context at the site, refer to an EV chargepoint installer or an EV chargepoint operator or an entity that has taken on the roles of both EV chargepoint installer and EV chargepoint operator.

Ownership and Connection to the Grid

Chargepoints associated with a Private Parking Space or Allocated Parking Space shall be connected to the energy supply from the dwelling associated with the parking space. These chargepoints will be considered as part of the core fabric of the dwelling and will be funded accordingly.

Where it is not feasible to connect an Allocated Parking Space to the home supply, full justification will be given, and a Communal Parking solution will be considered.

In a Communal Parking area the opportunity for install will initially be offered to VIVID's appointed supplier for retrofit, who will install to the agreed specification, including a dedicated EV supply.

In the event that the chargepoints must be supplied by another supplier or connected to another network, for example they are installed and connected to a network in association with a developer's appointed chargepoint operator, the contract for the operation and maintenance of the chargepoints should not be for a fixed contract period and should be on a "rolling" basis to ensure that VIVID is not bound to a long term contract with an entity it did not appoint, and due diligence should take place to ensure that these employer requirements are met. For example, we will not accept chargepoints that do not support Open Chargepoint Protocol (**OCPP**) 33 v1.6 or above.

In addition, it is very important to us that our customers can access a fair price to charge their vehicles. We understand that the cost to access chargepoints via a car park solution will cost more than a driveway solution, but we want to limit the difference as much as possible, and price to consumer should be kept as low as possible.

Compliance with Building Regulations

For any new build schemes or any sites undergoing a "material change of use" or in circumstances of major renovation to existing sites, the Service Provider shall comply with the requirements set out in the Building Regulations: Approved Document S (infrastructure for charging electric vehicles).

Safety Management and Capability

Installation, commissioning, testing and ongoing operation, maintenance, and inspection of the charging solutions shall use a contractor in possession of:

- a valid Electrotechnical Certification Scheme (ECS) card.
- NICEIC Approved/ Napit Approved
- Trustmark Approved
- Safe Contractor Approved
- OZEV Approved
- Any other specific requirements identified in the tender document

Following completion of the installation works the Service Provider shall obtain a NICEIC (or equivalent) Electrical Installation Minor Works Certificate, and if applicable, a Building Regulations Certificate of Compliance and provide evidence of such certification to VIVID.

The Service Provider, and sub-contracted parties shall hold appropriate and up-to-date accreditation/qualifications for installation of chargepoints.

The Service Provider shall fully understand the process, or have experience, working with DNOs or IDNOs for new connections for EV chargepoint installations.

Equipment Positioning

EV charging equipment should not be located in basements. Where this is the only option to meet planning obligations or space constraints, then they should be installed in a fire-rated compartment. The Service Provider must also ensure that the relevant government guidance on fire safety in covered car parks is complied with[1].

EV charging equipment should, where practicable, be located 10m away from the nearest building.

It should be located away from Fire Assembly points, and emergency exit routes.

EV charging equipment shall be installed in a final position to minimise the likelihood of vehicle impact damage.

Where it is foreseeable that charging equipment could be damaged by vehicles, additional protective measures, such as bollards or barriers shall be installed while preserving accessibility requirements at all times (including ensuring there is sufficient space surrounding the relevant parking spaces for those with diverse accessibility needs to connect to the charging points and manoeuvre around the vehicle and ensuring there are no obstructions in accessing the space).

EV charging equipment shall be installed in a final position so that charging cables in use do not trail across footways and verges, and otherwise avoid creating trip hazards and impeding access for users of mobility equipment. If trailing cables cannot be avoided, VIVID must be consulted prior to trailing cables being installed so that VIVID can review the position within its public liability insurance cover and estate management rules and issue formal property documentation/licences in respect of such trailing cables.

EV charging equipment shall be installed with due consideration for local environmental hazards (e.g. flooding) and, where such hazards present a significant risk to the equipment or its users, appropriate mitigations shall be made.

Where a non-adopted footway is present, the installation of all EV infrastructure, along with all supporting electrical supply infrastructure, shall ensure usable footway widths are preserved in line with section 4.2 of Government recommendations on Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure Technical Schedules.

The final position of the chargepoint shall not interfere with any existing statutory undertakers or any other existing equipment commonly found in areas where chargepoints are installed.

Locations and positions of chargepoints, including groundworks, will not be near to trees and tree roots. Installations which cause damage or may have an adverse impact on trees shall be avoided.

Any required cabling to the chargepoints in Communal Parking Spaces will not be within the demise of residents homes or under infrastructure that later becomes permanent (walls etc)

National Joint Utilities Group (NJUG) guidelines shall be consulted, and tree protection zones established in accordance with them.

Obligations shall be considered with respect to trees and woodlands with tree preservation orders (TPOs) as well as trees in locations with designated status, such as conservation areas.

The final placement and orientation of chargepoints shall be administered such that its points of access, for all anticipated use cases, are not obstructed by low-lying obstacles, street furniture, plants, or other shrubbery.

[1] https://www.gov.uk/government/publications/covered-car-parks-fire-safety-guidance-for-electric-vehicles

Where possible, electrical supply infrastructure, such as feeder pillars, should be placed in such a location as to minimise visual intrusion, potential for vehicle impact damage and/or potential for use to gain unauthorised access to adjacent properties or land.

Where possible to reduce clutter, improve accessibility and reduce costs, chargepoints will be wall mounted.

If the chargepoint, or any infrastructure it relies on, including underground wiring is located on or under the designated highway, the supplier shall be responsible for securing the necessary permissions from the appropriate highway authority, and meeting any requirements they set.

In Allocated and Communal areas

Provision of adequate lighting around the chargepoints should be given due consideration, to BS 8300-1 “Design of an accessible and inclusive built environment – External environment. Code of practice” (Clause 11). Exceptions to this are locations where preserving darkness of the external environment and reducing light pollution is necessary.

Chargepoint Characteristics

The Service Provider shall install charging equipment with minimum outlet connections of 7 kW nominal power output with an adapter interface that enables Type 2 vehicle connections. The Service Provider shall ensure that any electricity supply/capacity obtained for the chargepoints at the site shall be sufficient to supply at least 7kW to each chargepoint when all chargepoints are operated simultaneously.

The Service Provider shall ensure that all chargepoint products are selected for their standards and regulatory compliance (including compliance with the Electric Vehicle (Smart Charge Points) Regulations 2021), ease of use, reliability and longevity.

Where installed outdoors, the equipment shall provide a degree of protection of at least IPX4.

The chargepoints shall have a robust mounting configuration suitable for the installation location (wall, pedestal, pole, pillar etc.) with minimum external mechanical impact protection of IK08 in accordance with requirements of BS EN 62262 “Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)”.

Chargepoint products used shall include correct, permanent and indelible nameplates which contain essential product details in accordance with BS EN 61851-1 “Electric vehicle conductive charging system - General requirements”.

The charging equipment and its major components must be manufactured in a facility that is BS EN ISO 9001 “Quality management systems. Requirements” certified (or successor/equivalent certification).

All chargepoint products shall be selected following a suitable due diligence process to ensure product compatibility, compliance, suitability, and ethical codes of the manufacturing and supply chain.

Charging equipment to BS EN 61851-1 2019 “Electric vehicle conductive charging system - General requirements” Mode 1 or Mode 2 shall not be compliant with these schedules.

The chargepoint shall include locking mechanisms or enable on-vehicle locking mechanisms as appropriate.

- Socket-outlets and vehicle connectors which are locked when in use to prevent disconnection under load and deter interference or theft. Unlocking shall occur when the user terminates the charging session.
- The chargepoint shall include troubleshooting mechanisms to enable release of locking mechanisms in the event of system issues. This can be achieved via local controls or remotely operated release by the Service Provider's back office.
- The system shall include capability to enable release of locking mechanisms in the event of power failure.
- Meet requirements stipulated in section 722 of BS 7671.

The chargepoint, and any associated equipment shall be selected in accordance with, and enable installation in accordance with, requirements placed upon EVI in BS 7671:2018+A2:2022. This includes regulation 722.411.4.1 (for TN earthing systems) and regulation 722.531.3.101 (correct additional protection).

- Where there is any risk associated with simultaneous contact, it shall be the Service Provider's responsibility to manage and mitigate this risk.

EV Chargepoint equipment shall be protected against mechanical damage of high severity in accordance with the requirements of BS 7671 offering one, or more of:

1) positioning or locating to avoid damage by any reasonably foreseeable impact;
2) provision of local / general mechanical protection;
3) installing equipment that complies with a minimum degree of protection against mechanical impact (IK rating) in accordance with requirements of BS EN 62262 "Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)".

The chargepoint equipment shall achieve a nominal operational ambient temperature range of -25 °C to + 40 °C.

The chargepoint hardware shall be manufactured using materials that are durable and preferably consider end-of-life repurposing, or recycling, including:

- Corrosion resistance.
- Frost resistance.
- UV resistance.

The chargepoint hardware will, as appropriate, include suitable physical security features (e.g., locks/keys, tamper protection boundaries, tamper seals, alarms/interlocks) to protect and deter against, unauthorised access, tampering and abuse of the units and internal parts.

Locations that are more exposed, or with more challenging environmental conditions, should select chargepoints, or parts of the chargepoint, with higher IP ratings for enhanced protection against ingress.

Locations that are at higher risk of vandalism or slow-speed vehicle impact should select higher impact rating of the chargepoint or additional protective barriers.

The chargepoint units shall have a final finish that is sympathetic to the local environment.

For private and allocated parking solutions

The chargepoint must include electricity supplier interoperability, allowing the chargepoint to retain smart functionality even if the owner switches electricity supplier.

For communal parking solutions

Chargepoint products shall support Open Chargepoint Protocol (OCPP)33 v1.6 or above for open communications.

The chargepoint equipment shall make use of antivandal surfaces/paints to deter damage from flyposting/graffiti.

For communal parking

Where there are no locational constraints, and/or appropriate technology application means this is not practical, then dual-socket outlet chargepoints capable of charging two vehicles at once shall be installed wherever possible to maximise value for money.

Where the DNO capacity is restricted on the site, the chargepoints will be capable of load balancing. Where this is used to deliver chargepoints, full justification will be provided.

Chargepoint Connectivity

For communal parking

In each charging location the chargepoints need to be internet connected using highly reliable and resilient communications for: control, payment authentication, data, monitoring, maintenance, and security purposes.

The Service Provider shall ensure resilient communication to chargepoint installations at all times via method(s) determined to be most appropriate to the location and circumstances.

The chargepoint shall allow this to be achieved flexibly with supported connectivity methods, e.g., via RJ45 wired ethernet, Wi-Fi (inbuilt, approved 3rd party), mobile networks.

Communications shall include suitable consideration for reliability and redundancy, for example communications using cellular mobile networks as its basis shall include suitable consideration for: redundancy, dual-sim devices, un-steered roaming SIM solutions that can make best use of available mobile network connectivity. It is vital that connectivity is delivered over a private APN to minimise cyber risks associated with publicly accessible networks.

Mobile connectivity should allow for the provision of private static IP addresses to remotely access chargepoints via a secure network.

Should a separate SIM provider be required, our preferred supplier is Trinsic.

Adaptions shall be considered to ensure reliable communications in areas of weak mobile connectivity, which could include taking the following approaches:

- Careful monitoring and selection of cellular networks.
- Consideration for selection and positioning of antenna equipment.
- Alternate communications technologies, such as satellite communications.

Our preferred supplier Trinsic is also able to supply Signal Analyser devices for site signal surveys as well as options for fixed and satellite connectivity.

Chargepoint Management System (CPMS)

For communal parking

The CPMS shall support, as a minimum Open Charge Point Protocol (OCPP) version 1.6. The CPMS shall support as a minimum Open Charge Point Interface (OCPI) version 2.2.1

The CPMS shall include features for ad-hoc reporting and analysis functionality.

The CPMS shall include remote monitoring functionality for chargepoints on the network.

The CPMS shall not include any limitations in terms of the number of chargepoints that are expected to be managed.

The Service Provider shall use a scalable management platform that can provide operational control for all charging equipment.

In the event that the chargepoint equipment becomes uncontactable with the back office and payment systems, the chargepoint equipment shall remain operational to enable users to continue initiating and stopping charging sessions.

The CPMS will include power / load management systems to enable power to be shared intelligently across chargepoints where DNO capacity is limited.

The chargepoint system should have the capability to restrict usage to approved VIVID residents only. This will only be required if the chargepoint is attracting non-residents to park in a resident only area parking.

The chargepoint system should have the capability to charge overstay fines to help manage chargepoint usage. This will only be implemented with agreement from VIVID.

In the event of VIVID owning the chargepoint, there will be no fixed term contracts in association with the service provision.

Usage and Payment

Chargepoint equipment shall support a range of mechanisms to identify, authenticate and process payments of users including:

- NFC device payments (e.g., Google Pay / Apple Pay)
- Mobile app
- RFID
- Web app

The equipment should not be only reliant on internet reliant solutions, so RFID access must be one of the mechanisms.

The chargepoint system shall provide support for different pricing mechanisms and/or tariff structures for different user groups.

User interaction accessibility and user interfaces

The usage of the chargepoints shall be intuitive for the end user. This includes the instructions and information that are displayed to the user before/during/after a charging session and how this information is communicated, whether on the charging equipment, on a customer smart device, or on signage accompanying the equipment.

Each chargepoint unit shall be fitted with an access control mechanism only allowing charging sessions by permitted users.

Each chargepoint unit and connector shall have suitable use of visual (lights, LEDs and/or screens); to provide user feedback on actions initiating, controlling and completing a charging session.

All Chargepoints should comply with The Electric Vehicles (Smart Charge Points) Regulations 2021.

For private and allocated parking solutions

Chargepoints should have smart features including:

- Automatic updates with the latest software upgrades over WiFi
- Locking to prevent others using the chargepoint.
- Remote start, scheduling and reminders, enabling scheduling charging when energy is cheapest based.
- Energy tracking
- Identify your utility provider to recommend the best time to charge
- Setting the desired charge level: the battery level you want to charge your vehicle to.
- Setting the charge-by time: the time you want the charge level to be completed by.
- Setting a minimum charge level: the minimum battery level you don't want your vehicle to fall below.

Wall mounted solutions are preferred but are unlikely to be viable for many allocated parking solutions.

For communal parking

All applicable user costs are clearly visible to the user prior to starting a charging session, regardless of payment method. Operator discretion is allowable on how pricing information is shown.

Each chargepoint unit shall provide visual instructions for payment/access (as appropriate) and equipment operation, whether on the charging equipment, on a customer smart device, or on signage accompanying the equipment

Each chargepoint unit shall clearly indicate the charging status for each outlet.

Information screens, and/or user interface elements shall be:

- in English by default with the ability to configure and support additional language options preferable. Instruction should make use of symbols, and/or pictograms where possible.
- presented in accessible, plain English, large clear-type consistent fonts, easily recognisable symbols.
- Avoid the use of jargon and acronyms.

It is preferred that the chargepoint system has a way to display the live cost of charging to the user during a session.

It is preferred that users are able to remotely view live data of their charging session including, status, session duration, kWh delivered and charging session cost.

Although not open for the general public to us, all chargepoints should be compliant with the Public Charge Point Regulations 2023, with the exception of the reporting requirements.

Warranty

In the situation where VIVID take ownership of the chargepoint, a minimum of 3 years manufacturer's warranty should be provided.

Warranty should include a responsive service in the case of product failure. The terms of the relevant contact between VIVID and the Service Provider shall set out how this warranty shall interface with the Service Provider's operation and maintenance obligations (if relevant).

Accessibility

For communal parking

The design, layout, and implementation of chargepoint installations in designated accessible bays shall adhere to the provisions set out in PAS 1899:2022.

The design, layout, and implementation of chargepoint installations in standard bays shall consider the provisions in PAS 1899:2022 and apply them in so far as they are reasonably practicable by the supplier, to maximise the accessibility for all users including those with diverse accessibility needs.

The placement and installation of chargepoint shall, where possible, take into account the best practice guidance for the built environment within BS 8300-1:2018 “Design of an accessible and inclusive built environment - External environment. Code of practice”.

The design of chargepoint installations on the non-adopted highway should ideally follow statutory and policy obligations regarding street accessibility and safety.

Groundworks

The installation of chargepoints shall at all times comply with any relevant planning requirements or permitted development rights at the site.

Where possible to reduce clutter, improve accessibility and reduce costs, chargepoints will be wall-mounted.

Where ground mounting points are required these shall, where applicable and reasonably practicable, utilise a standard groundworks mounting method such as retention sockets, prefabricated mounting block, or modular subsurface component enclosures that facilitate easy maintenance and eliminate future civil works.

Where the utilisation of standard groundworks is not reasonably practicable, justification must be provided in each instance.

Power infrastructure, including DNO capacity, feeder pillars, power distribution cabinets and consumer units, shall be sized and dimensioned to meet any future provision requirement due to planning obligations.

Energy Supply

For communal parking

Service Providers shall arrange electricity supply contracts and associated metering with an Office for Gas and Electricity Markets (ofgem) licenced electricity supplier.

Service Provider to discuss any capacity requests that are being made to the DNO/IDNO with VIVID in advance so that VIVID can consider the capacity requirements of its site as a whole.

If the cost to the consumer will not increase, we would prefer the energy supply to be only green renewable energy for the chargepoints certified as renewable through the redemption or purchase of Renewable Energy Guarantees of Origin (REGOs).

All chargepoint supplies should be separately metered.

Direct, private wire connections to renewable electricity generation equipment shall be considered where practical and commercially viable.

Any DNO connection associated with the chargepoint will be in the name of VIVID, or will be novated to VIVID at the end of the contract term.

Operational Uptime[2]

The Service Provider will be required to ensure that each chargepoint unit remain operational to a targeted minimum level of 95% of available time per month.

Repairs/ Faults[3]

For allocated and communal parking where a dedicated energy supply is required

The Service Provider shall provide 24-hour facilities, 365 days a year for the reporting of, and attendance to, Emergency Faults (as defined in row 1 of the table below). During attendance to Emergency Faults the Service Provider shall maintain a presence by the affected Chargepoint until the affected Chargepoint has been made safe and/or repaired.

The following response times should be met:

Severity Level	Rectification required	Rectification Time
Equipment severity one incident (Emergency Fault).	Requires emergency isolation: Investigate, call the emergency services and make safe. Carry out emergency rectification works. (including cost of replacement parts)	Two hours from notification.
Equipment severity two incident SOFTWARE (Non-emergency Fault).	Requires action to make the Chargepoints operational: Investigate and carry out operational rectification works (including cost of replacement parts).	12 hours from notification.
Equipment severity two incident HARDWARE (Non-emergency Fault).	Requires action to make the Chargepoints operational: Investigate and carry out operational rectification works (including cost of replacement parts).	24 hours from notification.
Equipment severity three incident (Non-emergency Fault).	Requires cosmetic action: Carry out cosmetic rectification works (including cost of replacement parts).	Up to ten days from notification.

Emergency Faults (DNO/IDNO Attendance)

The Service Provider shall make appropriate arrangements and agree procedures with the DNO/IDNO for dealing with Emergency Faults that require the DNO/IDNO's input. If assistance is required from the DNO/IDNO to make safe chargepoints or make safe the DNO/IDNO 's service cable or connection point, then the Service Provider shall remain by the chargepoint until the

[2] Applicable if the Service Provider is also operating the EV chargepoint
[3] Applicable if the Service Provider is also operating the EV chargepoint

DNO/IDNO has attended the chargepoint and accepted responsibility for attending to the Emergency Fault.

Emergency Faults (Communication with the Emergency Services)

The Service Providers shall liaise with, provide assistance to, and/or seek assistance of the emergency services and liaise with all other relevant bodies as notified from time to time by the relevant authorities whenever required in connection with an Emergency Fault.

Emergency Faults (Communication with Third Parties)

The Service Provider shall liaise with and provide assistance to all third parties affected by any Emergency Fault.

Non-Emergency Faults (Replacement of Components and Apparatus)

The Service Provider shall be responsible, at their own cost, for the replacement of all components and chargepoints that requires replacing.

In all cases of accidental or malicious damage / vandalism to any chargepoint caused by any third party the Service Provider shall be responsible for rectification of the damage. Responsibility for the costs associated with such damage shall be allocated pursuant to the terms of the contract between the Service Provider and VIVID.

Non-Emergency Faults (Repair Fault on Distribution Network Operator Equipment)

In the event of a Non-Emergency Fault which requires the attendance of the DNO/IDNO, which without limitation could include, the loss of a DNO/IDNO power supply, and therefore require the DNO/IDNO to restore the power supply, or apparatus which requires the DNO/IDNO to attend to transfer a power supply, then the following shall apply as applicable:-

- The Service Provider shall use reasonable endeavours to ensure that the DNO/IDNO carries out any repairs and/or installation as required to the power supply within the ten business days and shall inform VIVID of any repairs that fall outside this timescale.
- In the event that the DNO/IDNO is unable to carry out such repair or installation within the timescales specified, then the Service Provider shall ensure that potential users of the chargepoint are made aware of the chargepoints unavailability (including through the use of onsite notices).

The Service Provider will have to evidence that the maintenance contractor providing emergency response is be based close enough to the chargepoint locations so that emergency response times can be guaranteed, taking into account average traffic travel times during peak hours.

It is our preference that general maintenance contractors are also local.

Customer Service[4]

It is essential that any Service Provider prioritises and demonstrably delivers excellent customer service at all times to all stakeholders.

Helpdesk Support[5]

The Service Provider shall provide a helpdesk service for VIVID and users of the chargepoints operating 24-hours a day and 365 days a year.

[4] Applicable if the Service Provider is also operating the EV chargepoint
[5] Applicable if the Service Provider is also operating the EV chargepoint

Support should be free at the point of use.

The minimum service provision is for a telephone support line, but Service Providers can offer other methods to access helpdesk support.

The helpdesk will provide a minimum of English language support.

The helpdesk will provide a minimum of a telephone support line.

Chargepoints and/or associated signage will provide stickers or notices clearly detailing helpdesk service contact information, including contact numbers for the telephone support line.

Each chargepoint will be clearly and durably labelled or inscribed with a unique chargepoint reference (or number) that will be used to identify the chargepoint.

The Service Provider will provide first line support to answer calls from users and guide them through possible remedies that do not require an engineer at site (e.g., trapped plugs or other error). This includes facilities for remote chargepoint reboot or restart facilities.

In the event of a suspected fault becoming known, the first line support team are to raise a support request (ticket) with an appropriate, competent party to manage, track and resolve the fault.

Signage

For allocated and communal parking solutions

Signage should make it clear who can use the chargepoint.

All signage and instructions associated with the chargepoints shall be in English (minimum requirement).

The positioning of all signage shall not inhibit the normal usage of footways or the use of chargepoint by any user.

Signage will need to be approved with VIVID prior to install and no advertising can be hosted on the EV charging infrastructure without VIVID's consent.

Cyber Security[6]

All chargepoint hardware, communications, and any back-office systems and payment systems used by the chosen Service Provider shall be designed to ensure cyber security throughout including ensuring all communication with chargepoints is secured using encryption.

- Ensuring chargepoints are secured and resilient to both local and remote cyberattacks.
- Data security of payment systems e.g., PCI DSS compliance.

For communal parking

The Service Provider shall be certified/accredited to ISO 27001 (Information security, cybersecurity, and privacy protection — Information security management systems — Requirements).

The chosen Service Provider will ensure that software updates of chargepoint and the charge point management system (CPMS) are applied at regular intervals to ensure security, new functionality and reliability of service provision.

The chosen Service Provider shall be responsible for ensuring that all cyber security measures are maintained and updated to protect against emergent vulnerabilities for the duration of the contract,

[6] Applicable if the Service Provider is also operating the EV chargepoint

this includes but is not limited to physical security and tamper measures, software patches and updates.

Data Protection[7]

The Service Provider shall at all times comply with the Data Protection Legislation.

Branding, Marketing and Publicity

Any branding, marketing or publicity regarding the chargepoints will need to be approved with VIVID.

Chargepoints will not be added to national networks or be advertised as being available for public use.

Hand over to VIVID following installation

Chargepoints will be handed over to VIVID, connected to an appropriate electric supply, fully commissioned and operational.
Details of the unit number, and specification will be provided.

For private, residential and communall units:

The handover documentation will include details of:

- the warranty information and any associated certification.
- an electric network diagram detailed any cabling locations, meters, etc installed to enable the chargepoints.
- as built information (including as-built drawings)
- full H&S file, detailing products and warranties.
- Fire Safety reports and certifications (including any information required pursuant to Building Safety Legislation)
- Evidence that all necessary consents have been obtained (including any planning permissions, highway authority consent and Building Regulations certificates, Electrical Installation Minor Works certificate etc)
- Collateral warranties from the installer with VIVID as the beneficiary

For communal parking

The chargepoints will be registered and connected to a network, offering all elements of our requirements.

The handover documentation will, in addition to that listed above, include details of:

- the network to which the chargepoint is linked.
- the rate that users will be charged, and the breakdown of these costs.
- details of how users can register for the network and pay for charging.
- information on how we can specify / restrict users of the network.
- DNO/IDNO terms in respect of the EV chargepoints and the associated grid connection terms

Hand over at end of contract[8]

In the event that the chargepoints must be connected to another network, for example they are connected to a network in association with a developer's appointed chargepoint operator, the contract should be for the minimum period of time possible and the preference is for this to be on a

[7] Applicable if the Service Provider is also operating the EV chargepoint
[8] Applicable if the Service Provider is also operating the EV chargepoint

"rolling" contract basis that will grant VIVID the flexibility to terminate to suit the needs of VIVID 's development objectives for the site
At end of the contract term, the chargepoint operator will be required to:

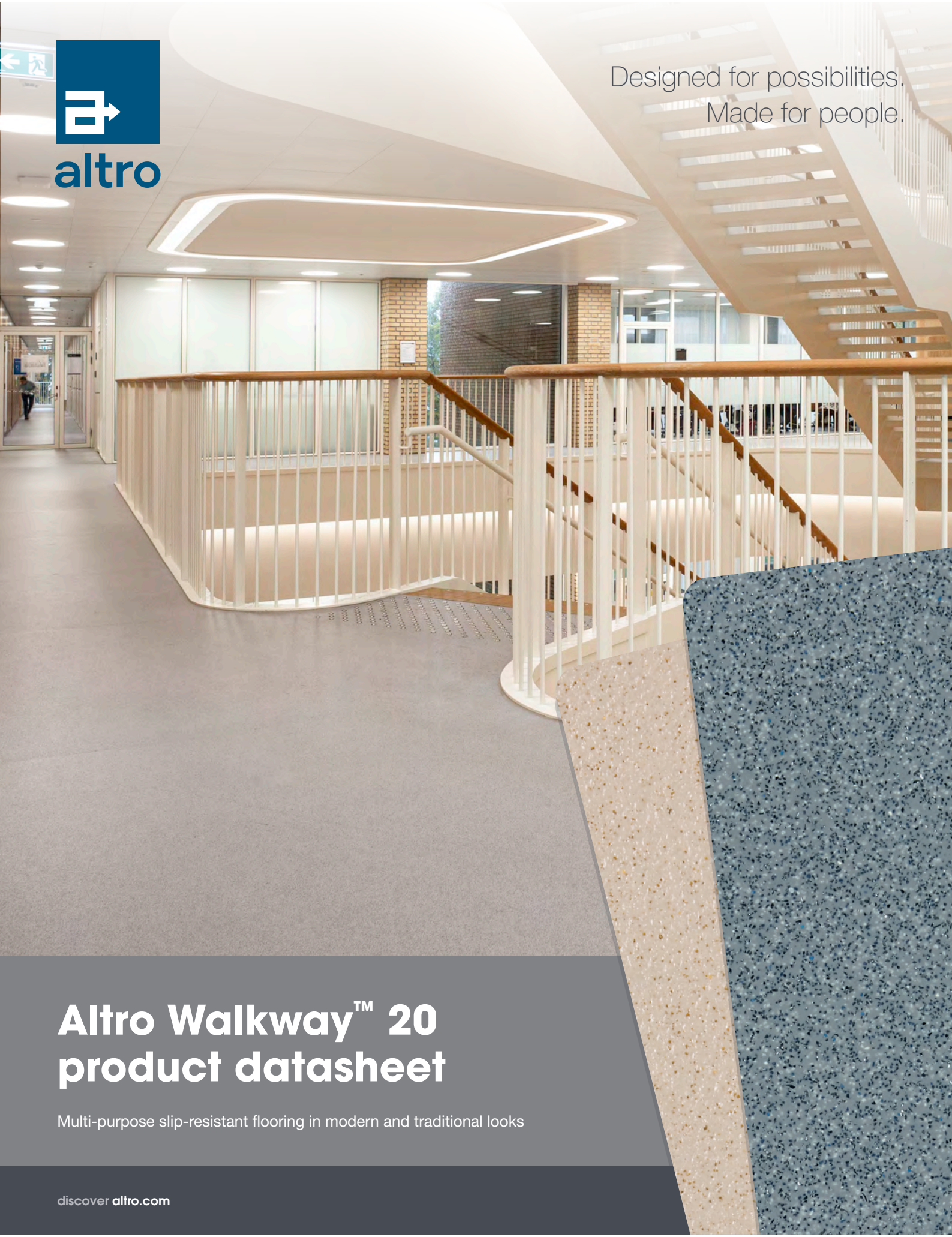
1. Liaise with VIVID’s selected chargepoint operator to arrange transfer of the chargepoints to their network.
2. Contact all registered users to inform them of the date of the change, and what steps the user will need to take if they wish to continue to make use of the chargepoints.
3. Subject to compliance with all relevant Data Protection Legislation, supply VIVID with a full list of registered users, and their contact details.
4. Supply energy meter readings at point of transfer.
5. Ensure all grid connection documents and the connection agreement is transferred into VIVID's name.

Appendix 32 – Components Requiring Servicing

Item	Location	Quantity	Inspection / servicing regime needed	Frequency of inspection / service

altro

Designed for possibilities.
Made for people.



Altro Walkway™ 20 product datasheet

Multi-purpose slip-resistant flooring in modern and traditional looks

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Altro Walkway 20

Altro Walkway 20 is our hugely popular hard-wearing 2mm slip-resistant flooring. The range shares its palette with Altro XpressLay. This enables you to combine both ranges when you need traditionally-adhered and adhesive-free flooring in adjacent areas while maintaining a consistent look.

What's even better is Altro Walkway 20 offers you two distinct looks; traditional and modern. Both looks come with Altro Easyclean technology for superior cleanability and stain resistance.

A static-dissipative version is available, specifically designed for locations where static buildup must be avoided.

Altro Walkway 20 also looks great when paired with Altro XpressLay, Altro Aquarius, Altro Wood, Altro Orchestra or even Altro Zodiac Smooth.

Typical applications

General purpose

Features + benefits

- Hard-wearing 2mm slip-resistant flooring
- Shares palette with Altro XpressLay, allows coordination between traditionally adhered and adhesive-free slip-resistant flooring
- Matches colors with Altro Aquarius, allowing for seamless coordination from wet rooms to general areas.
- Static dissipative version available
- Achieves R10 slip resistance rating and SCoF of .78 dry, .80 wet
- FloorScore Certified / Low VOCs

Slip resistance



It is designers, specifiers and end-users' responsibility to ensure flooring is fit for purpose, and it's part of our role here at Altro to help make this process easy. Our flooring is separated into three categories: safety, slip-resistant and smooth.

Altro Walkway 20 is a slip-resistant flooring. It's a perfect choice for many commercial areas in which your slip risk is not as high as a commercial kitchen or other wet environments, but your patrons, patients, students and employees still deserve to be secure on their feet. Slip-resistant flooring from Altro will reduce the risk of slips, give you peace of mind and look good doing so.

Altro Easyclean



Rather than using a superficial surface coat, Altro Easyclean Technology is incorporated into the flooring while it is manufactured. This allows Altro flooring to benefit from enhanced cleaning and maintenance while still allowing our products' slip-resistant properties to shine through.

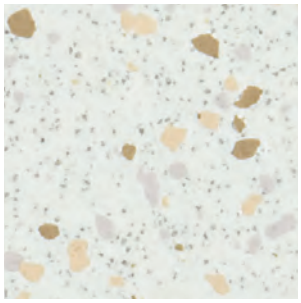
Smooth flooring will have a higher level of Altro Easyclean than a slip-resistant or safety floor.

- Industry-leading ease of cleaning
- Enhanced long-term cleanability
- Cleaning and maintenance cost savings
- Sustained long-term slip resistance
- Exceptional long-term durability
- Low dirt pick-up qualities
- Improved color retention

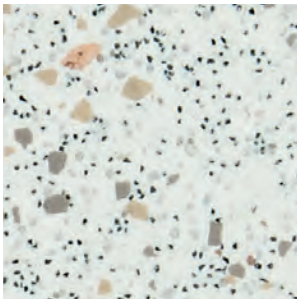
2.0mm thick | 6'7" width | 65'5" length | sheet format



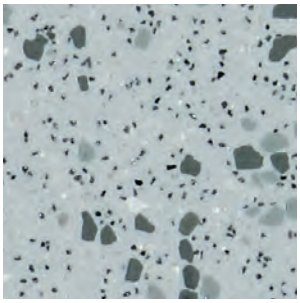
Cromwell Vets chose Altro Walkway 20.



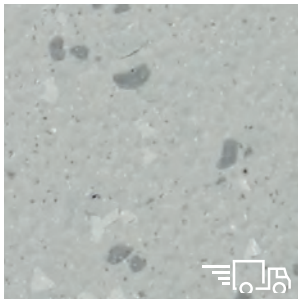
Swan **VMI2012P**
WR291 / AM01 LRV 75



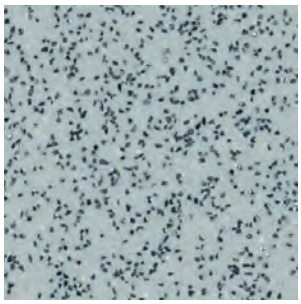
Winter **VMI2053**
WR105 / AM01 LRV 61



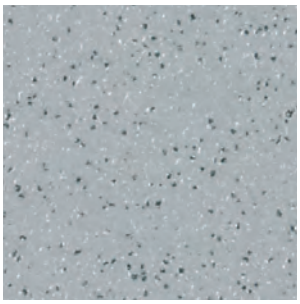
Blizzard **VMI2055**
WR79 / AM191 LRV 44



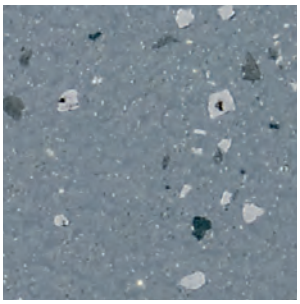
Streetlight **VMI2005P**
WR287 / AM79 LRV 45



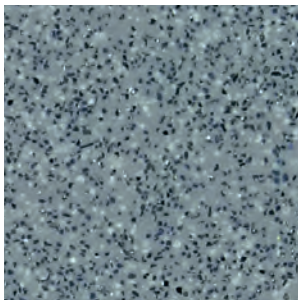
Cloud **VM2014**
WR79 / AM191 LRV 41



Temple **VM2009P**
WR261 / AM81 LRV 27

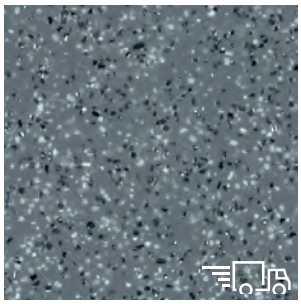


Rock **VMI2004P**
WR84 / AM84 LRV 23

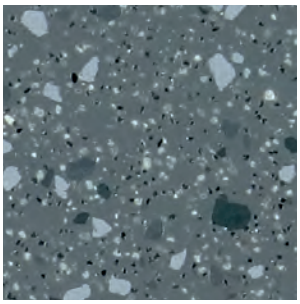


Fog **VM20153**
WR81 / AM81 LRV 27

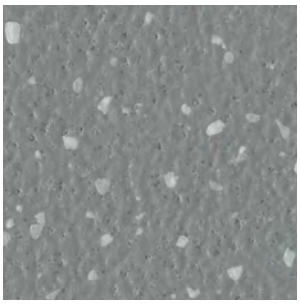
Fog available in static dissipative through special order.
VM20153SD



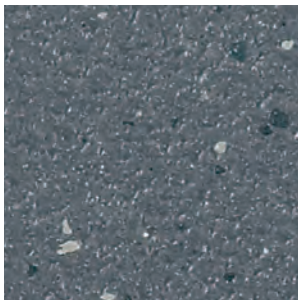
Dolphin **VM2010**
WR86 / AM86 LRV 21



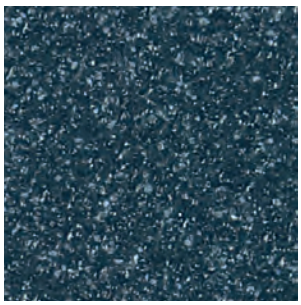
Whale **VMI2054**
WR86 / AM86 LRV 20



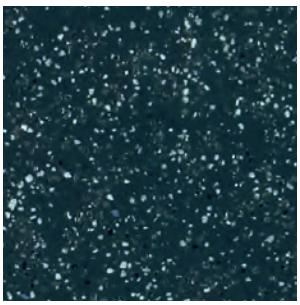
Nickel **VMI2019P**
WR81 / AM81 LRV 29



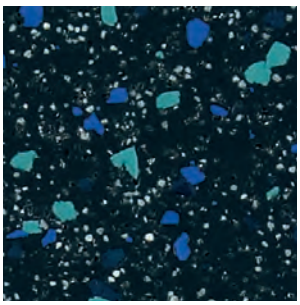
Pavement **VMI2007P**
WR83 / AM83 LRV 14



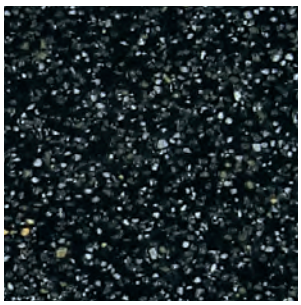
Runway **VM2006P**
WR72 / AM72 LRV 9



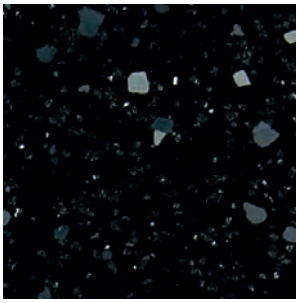
Midnight **VM20421**
WR72 / AM72 LRV 11



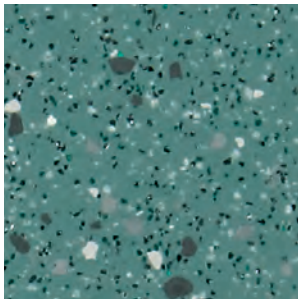
Nightfall **VMI2056**
WR72 / AM72 LRV 10



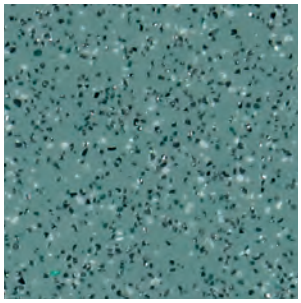
Black **VM20892**
WR100 / AM100 LRV 6



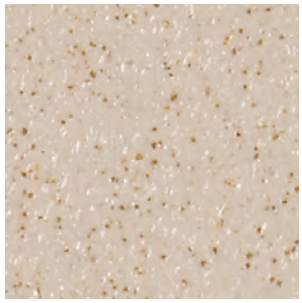
Coal VMI2058
WR100 / AM100 LRV 6



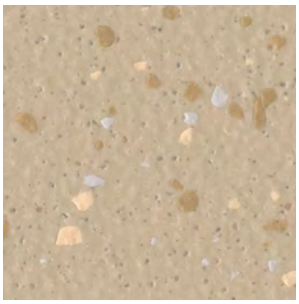
Tarragon VMI2052
WR52 / AM52 LRV 26



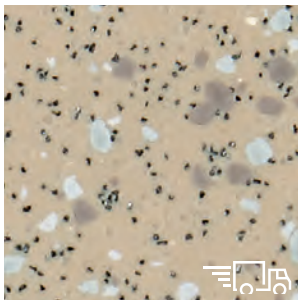
Skyline VM20332
WR52 / AM52 LRV 24



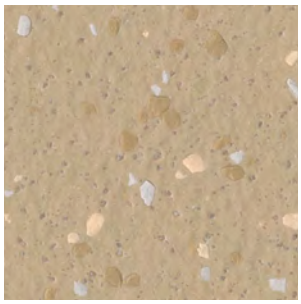
Minster VM2018P
WR289 / AM265 LRV 40



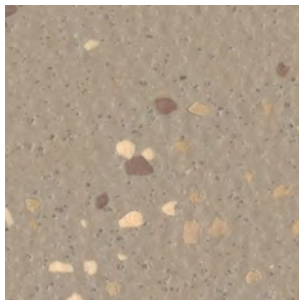
Bisque VMI2021P
WR364 / AM335 LRV 50



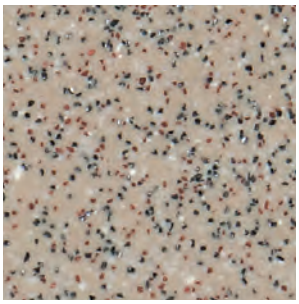
Sand VMI2051
WR20 / AM20 LRV 40



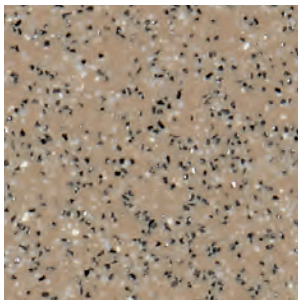
Tan VMI2018P
WR362 / AM20 LRV 41



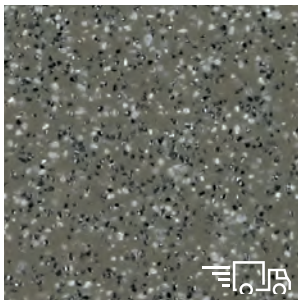
Rodeo VMI2020P
WR363 / AM265 LRV 37



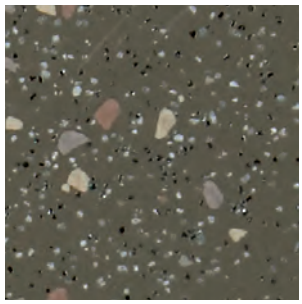
Bone VM20215
WR20 / AM20 LRV 37



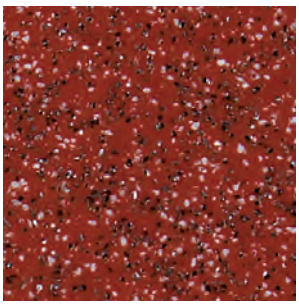
Biscuit VM20907
WR146 / AM20 LRV 30



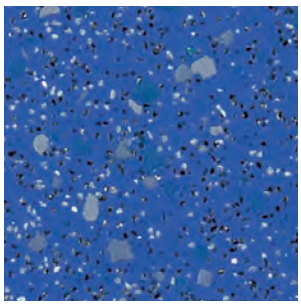
Tundra VM20910
WR153 / AM239 LRV 17



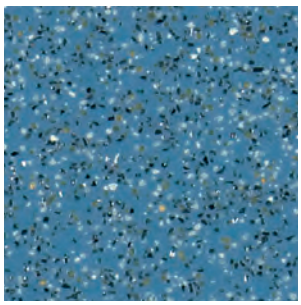
Savannah VMI2050
WR153 / AM239 LRV 19



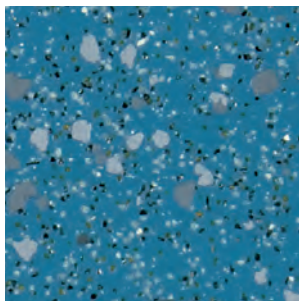
Tango VM2031
WR42 / AM42 LRV 14



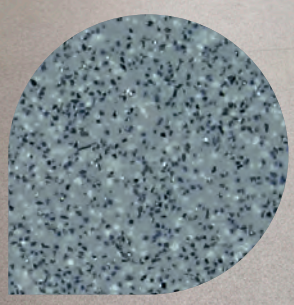
Lupin VMI2059
WR286 / AM286 LRV 17



Blue VM20412
WR71 / AM71 LRV 22



River VMI2057
WR71 / AM71 LRV 22



Altro Walkway 20 in Fog at the Skou Building

Type + class		ASTM F1303	Type II, Grade 1, Class A, safety flooring
Thickness and wear layer		2.0mm | .08", homogenous construction	
Roll dimensions		6'7" x 65'5" | 2m x 20m	
Weight		4.79 lbs./yd^2 | 2.6 kg/m^2 | 220 lbs. per roll	
Warranty		10 years	
Life expectancy		15 years	
Cleaning technology		Altro Easyclean	
Static coefficient of friction	.78D .80W SCOF	ASTM D2047	.78 dry, .8 wet
Dynamic coefficient of friction	.66 DCOF	ANSI/NFSI B101.3	.66 wet DCOF
Ramp test	R10	DIN 51130	R10
TRRL pendulum test	PTV ≥36	BS 7976 ASTM E303	36+
Static load limit		ASTM F970	1000 psi
Indentation		EN 433	≤ 0.10mm
Wear (abrasion) resistance		EN 660	≤ 10% 50,000 cycles
Castor chair abrasion		EN 425	Pass
Flexibility		ASTM F137	Pass
Light fastness		EN 20105-B02	≥ 6
Sound insulation		ISO 140-8	5dB
Electrical behaviors	≤2.0 kV	EN 1815	≤ 2kV Antistatic
Surface resistivity (only for Altro Walkway 20 SD)		EN 1081	2x10^{7}Ω
Chemical resistance		ASTM F925	Tested
Fire and smoke performance		CAN/ULC - S102.2 ASTM E648 ASTM E662	Tested Class I < 450
Minimum operating temperature		-4°F (-20°C)	
VOC emissions	floor score	CA 01350 FloorScore	Pass Certified
Bio-based content	bio-based content	Manufactured with rapidly renewable bio-based content.	
Ortho-phthalate content	phthalate-free	Ortho-phthalate-free	
Recycled content		Contains 10% pre-consumer + 10% post-consumer recycled content.	
Composition	Aluminum trioxide and colored quartz aggregate throughout thickness. Silicon carbide also present on traditional "sparkly" hues. Altro Easyclean incorporated for exceptional cleanability.		
Backing	Non-woven polyester/cellulose glass fiber reinforcement scrim.		
Staining	Certain chemicals may cause staining of vinyl flooring. Traffic stains may be caused by asphalt and rubber products, like rubber mats. Please conduct stain test before installation.		

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LEED facts

LEED v4

This product may help contribute to the following credits

Altro Walkway 20 — 6

Materials and resources Contains recycled content	1
Materials and resources Renewable bio-based content	1
Materials and resources - EPD Environmental product declaration Type III product specific	1
Materials and resources - HPD Health product declaration	1
Environmental quality Low emitting materials, flooring	1
Environmental quality Low emitting materials, adhesives	1

Discover more of our sustainability story and credentials at altro.com

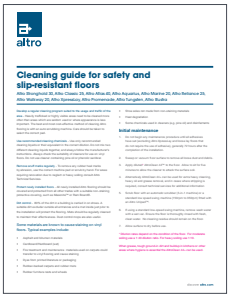


altro | material bank

Order samples 24 hours a day at altro.com and materialbank.com

These select quick-ship colors, are heavily stocked and consistently available in our North American warehouses.

Discover more online!



Maintenance guides



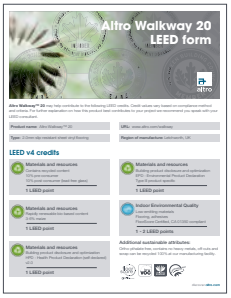
Illus. cleaning guides



Warranty forms



Literature



LEED forms



Installation guides



Installation quickfacts

Even more great resources!

- BIM components
- SDS sheets
- Detail drawings and CAD files
- High-resolution swatch downloads
- Photo galleries - www.altropics.com
- Solutions by area type - ORs, labs and cleanrooms, kitchens, senior living and more!

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Polysafe Astral PUR

POLYFLOR™ COVERING THE WORLD

PRODUCT SPECIFICATION

Key Features

- > Heavy-duty safety flooring
- > Vibrant base colours
- > Pendulum test - 36+ (slider 96)
- > Sustainable slip resistance
- > Polysafe PUR for superior cleaning benefits



Product Format	Standard	Result
Gauge	ISO 24346 (EN 428)	2.0mm
Total Weight	ISO 23997 (EN 430)	2450g/m²
Finish		PUR

Sheet Size	Size	Shades	Quantity per Box	Coverage per Box/Roll
Sheet	2m x 20m	10	-	40m²

Performance Requirements	Standard	Result
General Performance	EN 13845 ASTM F1303	Conforms Conforms
Use Area	ISO 10874 (EN 685)	23, 34, 43
Enhanced Slip Resistance	EN 13845 AS 4586 RRL Pendulum Test DIN 51130 / DIN EN 16165 Ann. B Surface Roughness ASTM D2047	ESf R10 ≥36 (wet test - 4S Rubber / Slider 96) R10 Rz ≥20µm SCOF ≥0.8
Abrasion Resistance	EN 13845	50,000 cycles
Reaction to Fire	EN 13501-1 ASTM E648 CAN/ULC S-102.2 AS ISO 9239-1	Class Bfl-S1 Class 1 FSV < 300; SDV < 500 >8.0kW/m²
Static Electrical Propensity	EN 1815	≤2.0kV Classified as 'antistatic'

Sustainability	Standard	Result
BRE Green Guide		A+ ENP 472
Generic EN 15804 EPD		Available
Recyclable		100%
Recycled Content		Contains recycled material
REACH		Compliant

Indoor Air Comfort Gold		Eurofins certified product
FloorScore		Certified
Finnish M1 Classification		Certified
AgBB/ABG		Pass
Responsible Sourcing	BES 6001	Excellent

Maintenance Performance	Standard	Result
Resistance to Chemicals	ISO 26987 (EN 423)	Good resistance
Alco Hand Gels	Compatible for use with most commonly used alco-based hand gels	
Steam Cleaning	Suitable for steam cleaning on a periodic basis	

All Polyflor commercial sheet vinyl ranges provide a continuous, impervious and hygienic flooring solution which can be confidently cleaned in accordance with recommended maintenance procedures and approved maintenance products. The implementation of an effective cleaning regime is the most important defence against infection.

Hygiene	Standard	Result
Bacterial Resistance	ISO 846 Part C	Does not favour growth

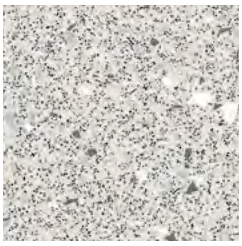
BS EN 14041 EN 14041

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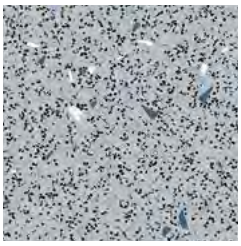
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Polysafe Astral PUR

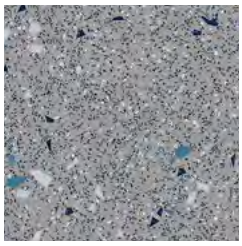
RANGE SHADES



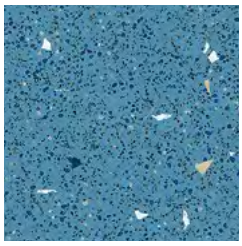
North Star **4370** w/r 4930
NCS S 2002-G50Y LRV 52



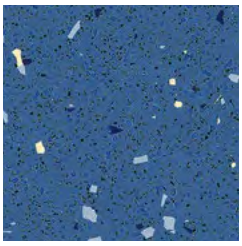
Feldspar **4620** w/r 2090
NCS S 3502-B LRV 35



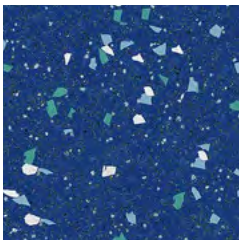
Starburst **4300** w/r 4940
NCS S 4500-N LRV 26



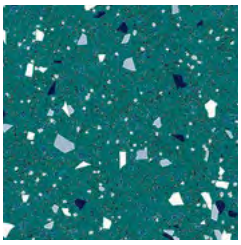
Calcite Blue **4460** w/r 4130
NCS S 4020-B LRV 23



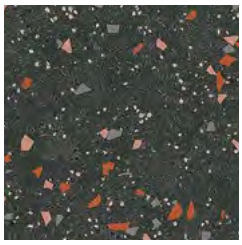
Deep Sapphire **4050** w/r 4910
NCS S 5020-R80B LRV 14



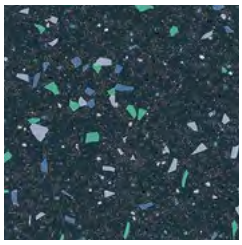
Nebula Blue **4200** w/r 4850
NCS S 5030-R80B LRV 12



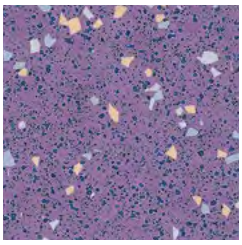
Aquarius **4220** w/r 4890
NCS S 4040-B50G LRV 17



Lunar Grey **4240** w/r 4900
NCS S 7502-G LRV 12



Black Opal **4080** w/r 4490
NCS S 7502-B LRV 9



Space Mauve **4230** w/r 4840
NCS S 4030-R50B LRV 18

w/r - Weld Rod LRV - Light Reflectance Value NCS - Natural Colour System

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Door pictured is outward opening

Secured by Design PAS 24 Steel Security Doors

- MANUAL AND ELECTRIC LOCKING

SUITABLE FOR SECURITY OF BUILDINGS

UNIQUE FEATURES

- 10-12 day lead time*
- Up to 3.24m high with solid/glazed over panel
- 1 year warranty
- Fast quotes

*Subject to manufacturing and stock availability

Securidor®

STRONGDOR SECURED BY Steel

Secured by Design

SBD

Official Police Security Initiative

Strongdor Secured by Design door-sets are certified to comply with the standards set by the national Police initiative to improve the security of buildings and their immediate surroundings, to provide safe places to live, work, shop and visit.

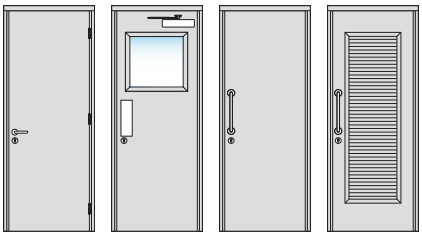
These door-sets offer greater protection to bin stores, plant rooms and access to communal areas and can be used on both residential and commercial developments that require the peace of mind that comes with Secured by Design compliance.

01524 487740 www.strongdor.com

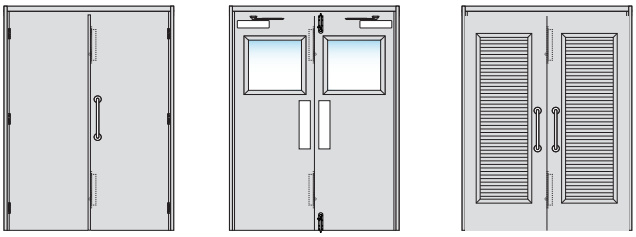
Securidor PAS24: Electric and Manual Locking Range

Secured by Design typical door configurations

Inward and outward opening door-sets with louvre and vision panel options for both double and single leaf door-sets



Single door | Single door with closer | Single door with vision panel | Single door with louvre panel



Double door | Double door with vision panels, push plate and closers | Double door with louvre panels and pull handles

Double and single leaf, inward and outward opening, glazed, solid or louvre options. Comes with steel door frame, options available for over and side panels. Access control options as shown.

Standards:

Certified to: PAS 24:2016 Enhanced security performance requirement for door-sets and windows in the UK. Door-sets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk. BM Trada Certificate 050/250.

Types:

Classified as single and double leaf, over panel, fully glazed, hinged, internally glazed, inward opening, louvre, outward opening, side panel/vision panel, with or without letter plate.

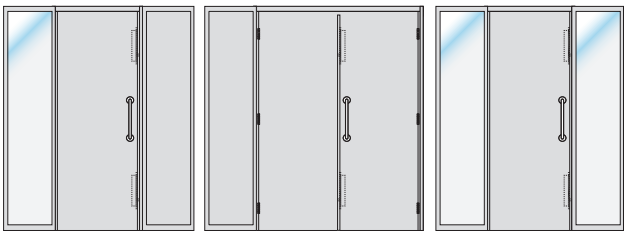
Max door sizes

(excluding side and over panels)

Single leaf door-set
Width 1300mm x height 2250mm
Double leaf door-set
Width 2490mm x height 2250mm

Secured by Design typical side panel configurations

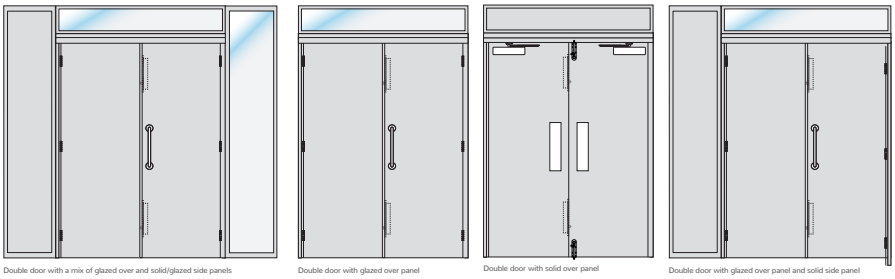
Solid and glazed side panel options for both double and single leaf door-sets



Single door with mix of glazed and solid side panels | Double door with solid side panel | Single door with glazed side panels

Secured by Design typical over and side panel configurations

Solid and glazed over panel and side panel options for both double and single leaf door-sets



Double door with a mix of glazed over and solid/glazed side panels | Double door with glazed over panel | Double door with solid over panel | Double door with glazed over panel and solid side panel

Securidor® PAS24: Manual and Electric Locking

Single and double door-set leaf and frame

Smallest single rebate frame size described. Other frame sizes and styles on request.

Fig. 1 AM3 inward opening threshold

AM3 inward opening 96mm threshold

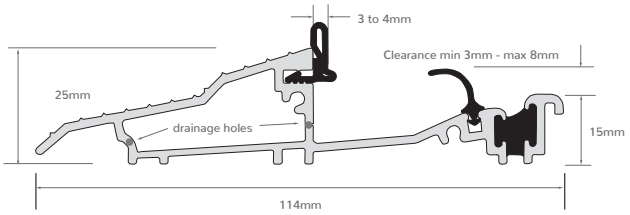
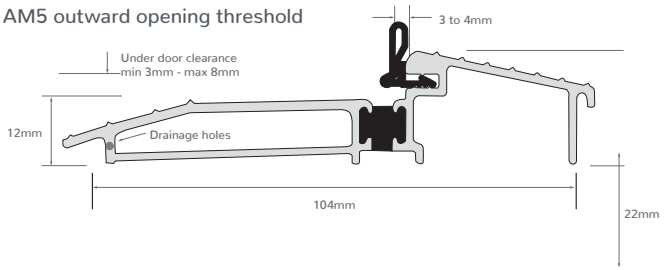


Fig. 2 Rebate frame and Dutch fold leaf

AM5 outward opening threshold



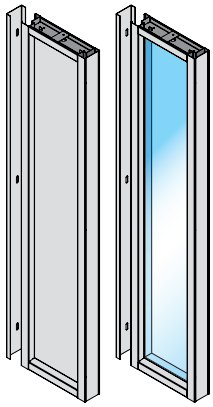
Door leaf

Core	Rockwool or Honeycomb infill | 42mm thick
Facings	Steel / Galvaneal | 1.2 thick
Rebate	Single type | 44 x 15
Joint	Dutch Fold
Finish	Powder coated

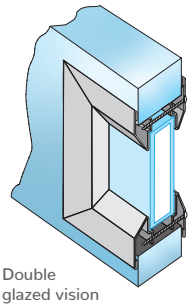
Door frame

Head/Jambs	Steel / Galvaneal
Min. Size	1.6 x 104 x 59mm
Rebate	Single type | 48 x16
Threshold	Inward opening | AM3 | 114 x 25mm Outward opening | AM5 | 114 x 25mm

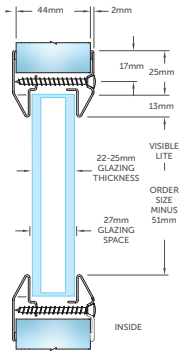
Over panel and side panel frame (solid and glazed)



Glazing options for door panels

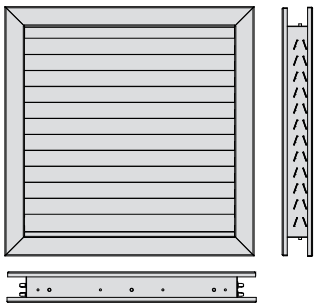


Double glazed vision panel cross section



Glass config.	24.8mm Insulating Glass Unit (Double glazed)
Max size (door)	570 x 1480mm
Max size (sidepanel)	922 x 2162mm Single or multiple vision panels

Louvre options for doors, over panels and side panels



Max size	890 x 1831mm
External/rear flange and louvre blades	Steel / Galvaneal 1.2mm thick

---

Securidor PAS24: Manual Locking Options

Lock case, cylinders and hardware

Lock case and cylinders



Briton 5520 Euro Profile Cylinder Sashlock*

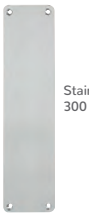
Deadbolt locks the door from both or one side, depending on the cylinder. Built in latch keeps door closed when unlocked. Cylinder latch function withdraws the deadbolt on first turn and latch on second.



3* Euro Kitemarked Double Cylinder

3 star high security cylinder to comply with the British Kitemark standard. Meets the Sold Secure Diamond Standard with high security 6 pin cylinder suitable for any external door to deter potential attack.

Other optional Hardware



Stainless steel push plate 300 x 75mm



Rutland TS9206 door closer



Stainless steel D pull handle 300 x 18



19mm Safety lever on spring rose



Security escutcheon

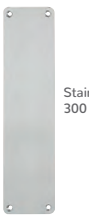
Securidor PAS24: Electric Locking Options

Electric lock case, cylinders and hardware

V lock and strike case



Other optional Hardware



Stainless steel push plate 300 x 75mm



Rutland TS9206 door closer



Stainless steel D pull handle



Mico Tindall Tower Bolt Pair

Vinyl Stickers

#1



200mm x 300mm 250No.

#2



200mm x 300mm 250No.

#3



200mm x 300mm 150No.

#4



200mm x 300mm 50No.

#5



150mm x 200mm 100No.

Design & template guidelines

Updated 2024

VIVID

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Word documents pg5
PowerPoint presentations pg8
Development site templates pg9
Panels portrait pg10
Panels landscape pg11
Site signage pg12
Compound display panel pg13
Site flags pg15
Hoarding pg16
Fencing pg18
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Day-to-day office templates

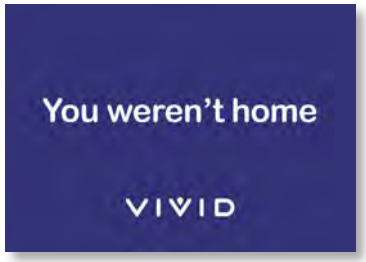
Stationary



Leterhead
A4

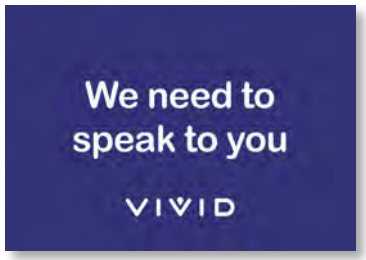


Compliment
Slip





Repairs Card
A5





Ops Card
A5





Gas Out Card
A6

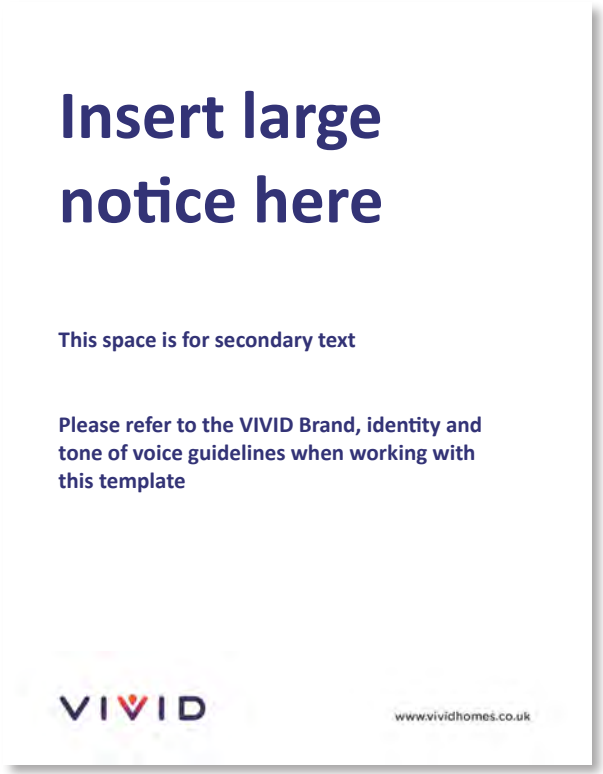
Word documents

All-rounder announcements

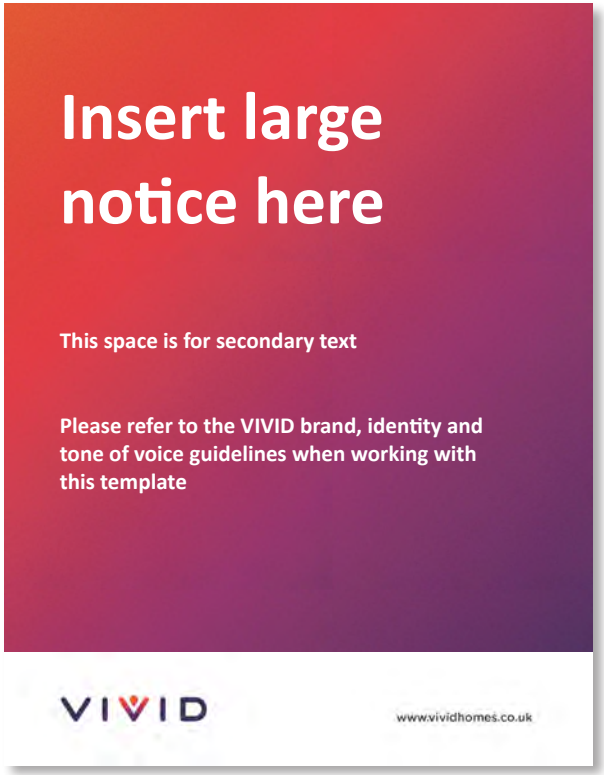
These can be used for a variety of different purposes. Whether you need to put a notice in a residents block, a poster in a community space, or a sign on a door - these templates can be used for any kind of announcement.

These templates can be found on the Comms Toolkit area of VIV.

For further guidance please contact the Communications team.



All rounder announcement
A4



All rounder announcement
colour
A4

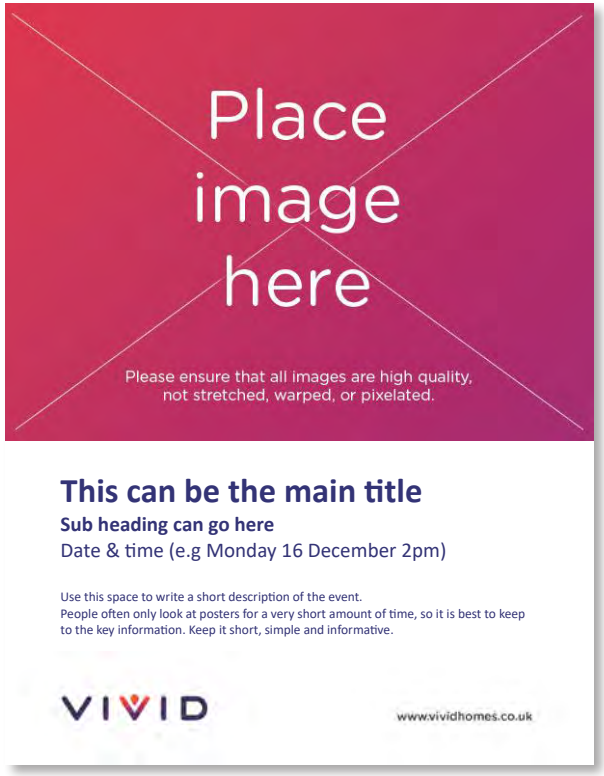
Word documents

Event posters

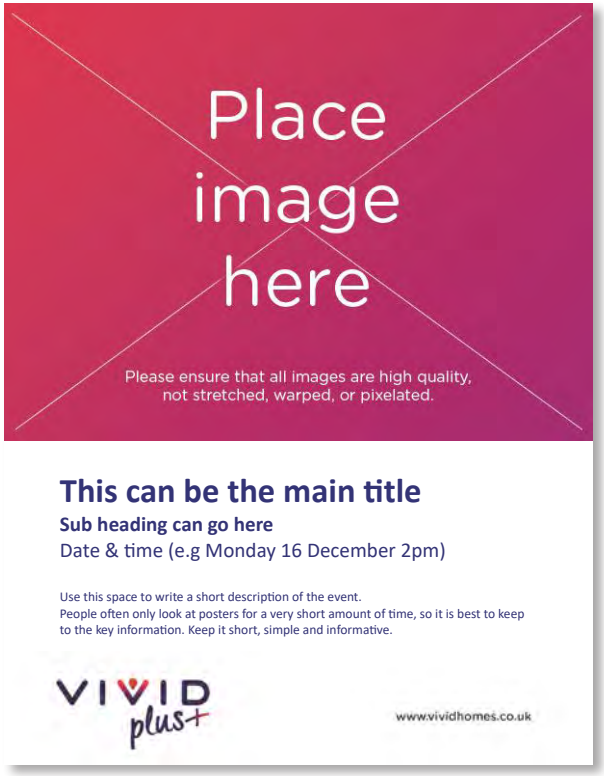
Much like the all-rounder announcements, these templates can be used for multiple types of posters. There is a standard VIVID version and a VIVID Plus version to choose from, depending on hte type of evnt you are wanting to promote.

These templates can be found on the Comms Toolkit area of VIV.

For further guidance please contact the Communications team.



VIVID event poster
A4



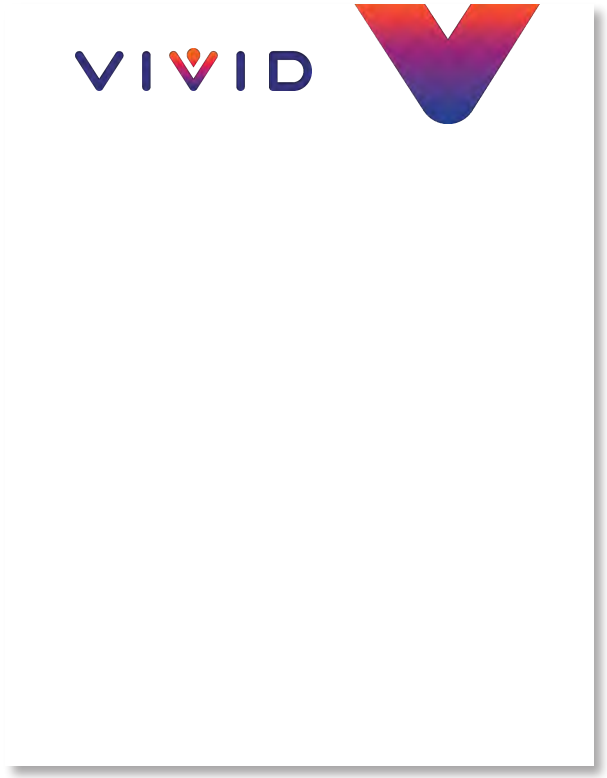
VIVID Plus event poster
A4

Word documents

Headed paper

These templates can be found on the Comms Toolkit area of VIV.

For further guidance please contact the Communications team.



VIVID Headed paper
A4

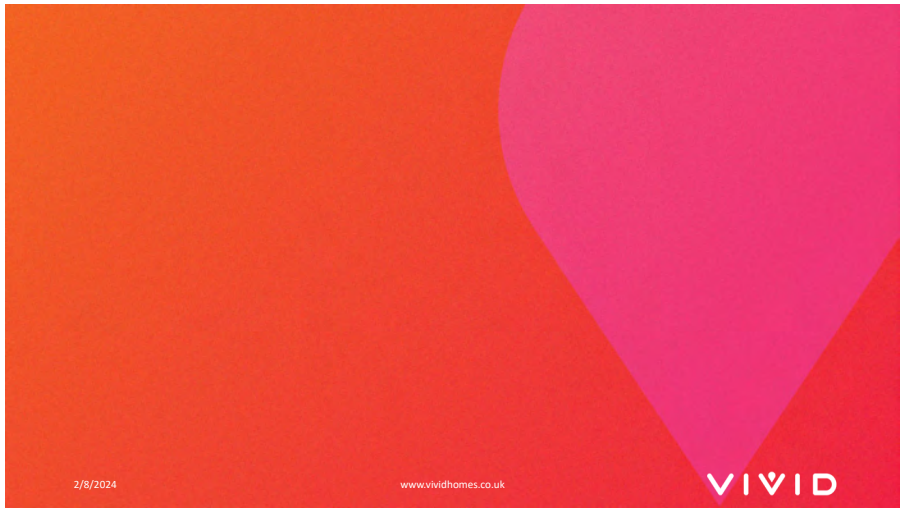
PowerPoint presentations

All-rounder announcements

Microsoft PowerPoint can be a useful tool for creating presentations for events, talks, forums, etc. In order to make the best impact, we have devloped a branded template, that offers a range of different slide designs.

These templates can be found on the Comms Toolkit area of VIV.

For further guidance please contact the Communications team.



Widescreen
16x9



Standard
4x3

Development site templates

Panels portrait

When creating panels, the total width of the VIVID logo should always be two thirds of the overall panel width.

Please ensure that the logo is positioned a full X width from each edge of the panel. The capital V of the logo is referred to as the X width.

Signs must be made from a weather proof, non-fading, anti-vandalism material. Fitted with screw fixings and white caps.

For further guidance please contact the VIVID Communications team





Panels landscape

When creating panels, the total width of the VIVID logo should always be two thirds of the overall panel width.

Please ensure that the logo is positioned a full X width from each edge of the panel. The capital V of the logo is referred to as the X width.

Signs must be made from a weather proof, non-fading, anti-vandalism material. Fitted with screw fixings and white caps.

For further guidance please contact the VIVID Communications team





Site signage

Signs must be made from a weather proof, non-fading, anti-vandalism material. Fitted with screw fixings and white caps.

Signs to be fitted with screw fixings and white plastic caps.

For further guidance please contact the VIVID Communications team.

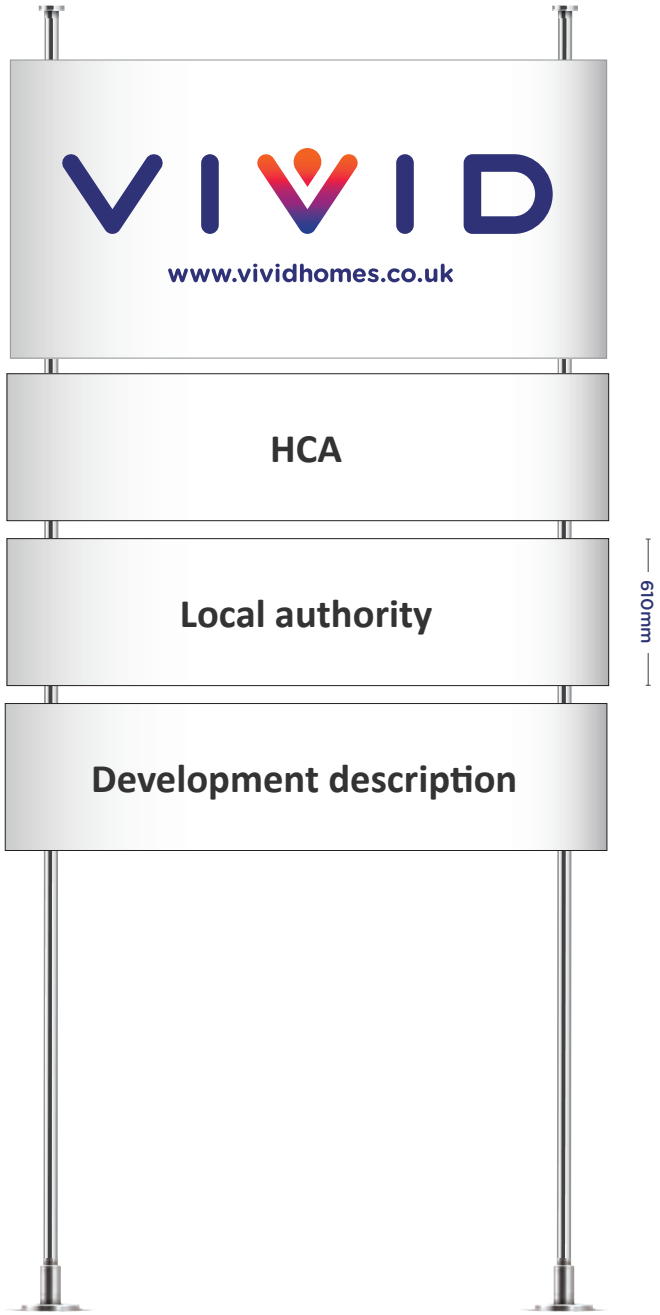




Compound display panels

Examples of ladder panels.
To be printed on weather proof, non-fading, anti-vandalism material.
Ladder depth variable dependent upon client requirmenets.





Compound display panels

These are examples of site signage. Signs must be made from a weather proof, non-fading, anti-vandalism material. Fitted with screw fixings and white caps.

For further advice please contact the VIVID Communications team.















Site flags

VIVID flagpole display example. To be displayed at site entrance. Please ensure a weighted collar is used on all flags.

For further guidance please contact the VIVID communication team.

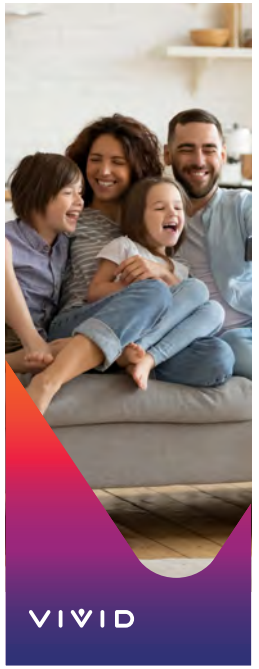




VIVID name flag
900mm x 2700mm



VIVID image flag
900mm x 2700mm



VIVID image flag
900mm x 2700mm



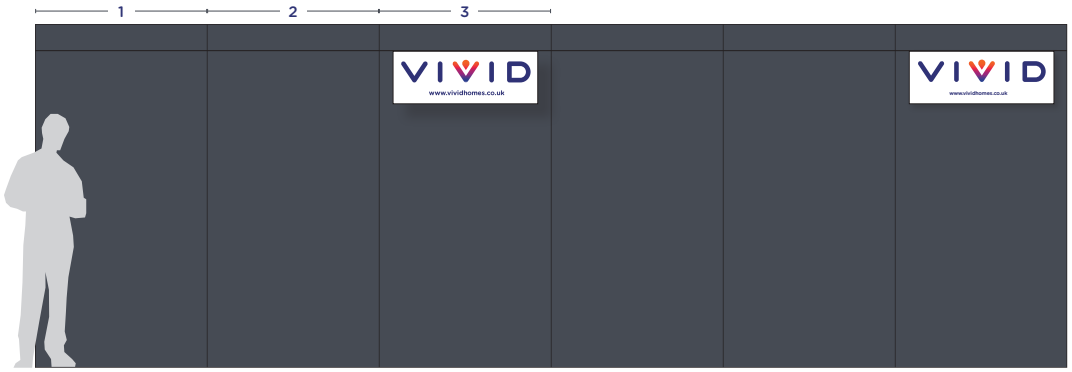
VIVID name flag
900mm x 2700mm

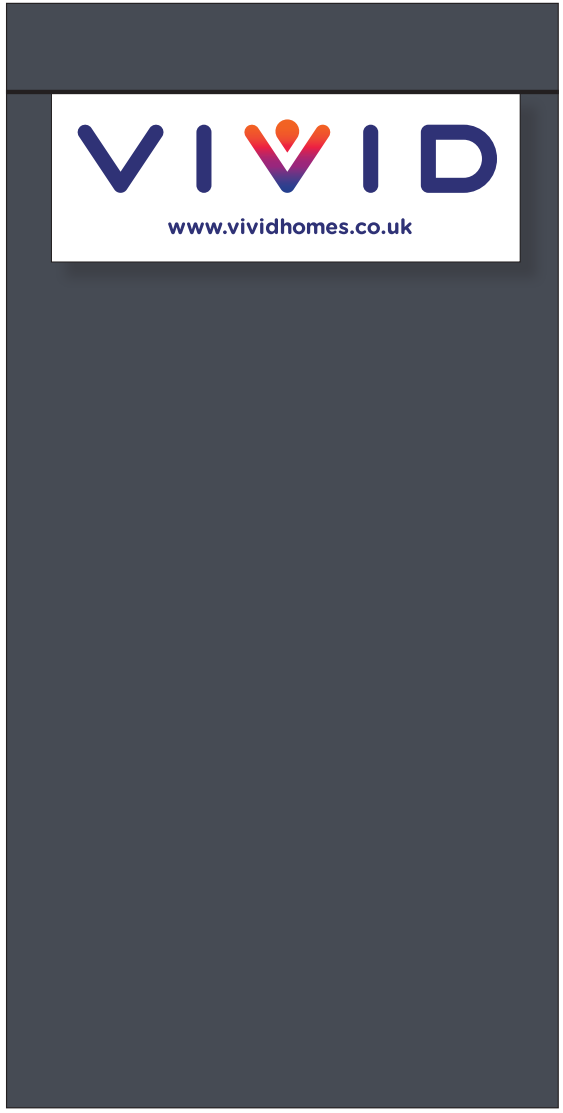
Hoarding

All site hoarding should be painted gray using dulux Basalt Grey.
This grey should cover each board top to bottom.

Name signs
Name signs may be displayed consistently across large lengths of hoarding. A sign must be placed every three panels. Signs must be fitted against bottom edge of top rung (as shown on right). To be fitted with screw fixings and white caps.

For futher guidance please contact the VIVID communications team.





Hoarding

Our site hoarding is made up of 4 key components -

1. Name
2. Vision
3. Image
4. What we're doing

These are listed in order of priority and preferance given in that order. Examples of site hoarding are given below right.

For futher guidance including design input please contact the VIVID communications team.



1 2 3 4



Example 1



Example 2

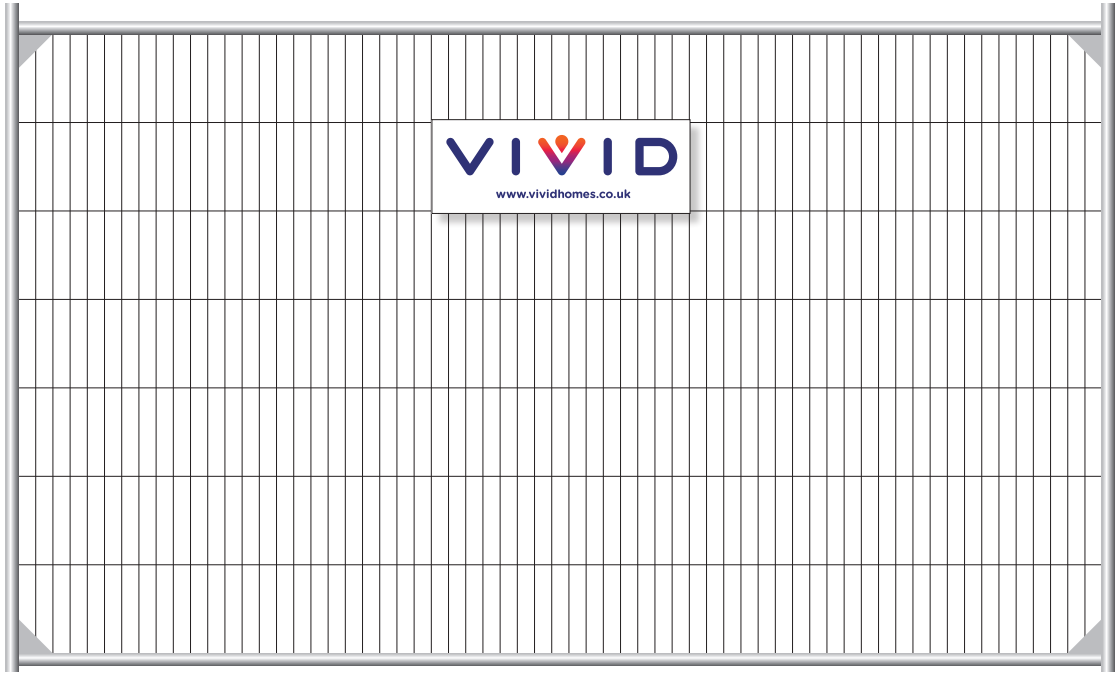
Fencing

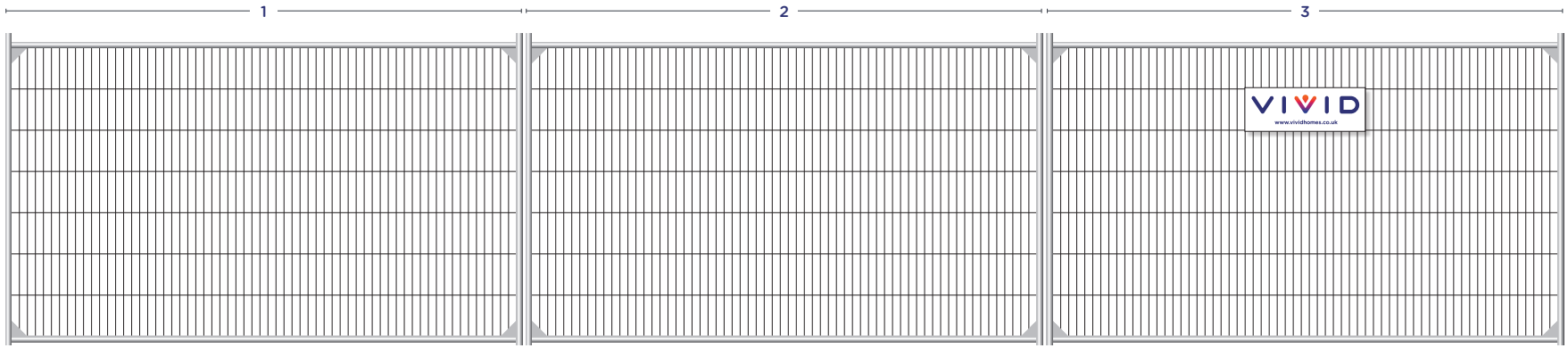
When installing the compound sign please positioned the sign on every third fence, as shown.

5mm foamex – VIVID logo
535mm x 195mm

For futher guidance including design input please contact the VIVID communications team.







Vehicles

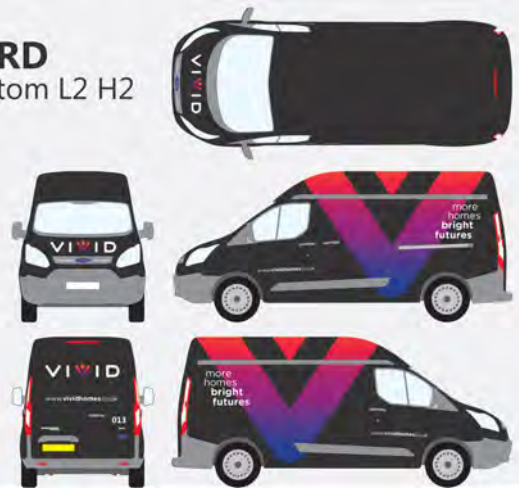
FORD
Courier



FORD
Custom L1 H1



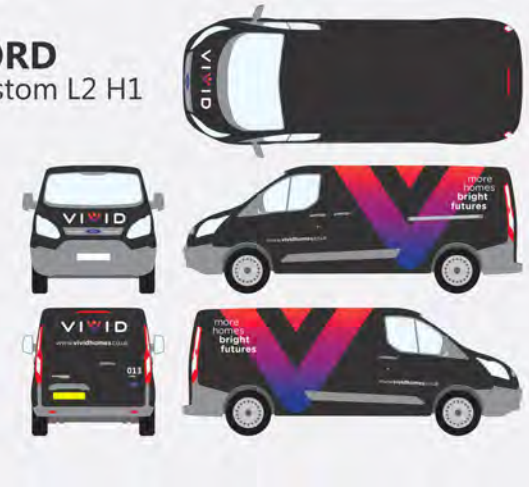
FORD
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FORD
Connect L2



FORD
Custom L2 H1



CITROEN
Replay with tool pod



Future Homes - Option One

All new homes schemes approved by VIVID from 1st January 2025 must meet the requirements of the government's proposed Future Homes Standard (Option one from the scheme consultation).

We are seeking to achieve the following standards:

Building Element	Standard
Roof U-value (W/m²K)	0.11
External wall U-value (W/m²K)	0.18
Floor U-value (W/m²K)	0.13
Window U-value (W/m²K) [1]	1.2
Door U-value (W/m²K) [1]	1.0
Wastewater heat recovery	Yes[2]
Heat source	A notional air source heat pump equivalent to ErP A++
Hot water system	Hot water storage vessel, 120mm insulation
Airtightness	
(m3/m2.h @ 50Pa)	4
Ventilation	dMEV
Renewable energy	High efficiency solar PV panels covering equivalent of 40% of ground floor area[3],[4]

[1]For proposed changes to methodology for calculating door and window u-values see Section 13.3.5
[2]Removed for single storey dwellings
[3]Removed for flats over 15 storeys in height
[4]or for flats, dwelling floor area divided by the number of stories in block

Developments should optimise solar energy and high levels of insulation fabric performance without risk of overheating. Orientation of dwellings and habitable rooms is to be considered without compromising privacy or other design aspects.

When applying Building Regulations Part O, ideally the Dynamic Thermal Method should be the default for modelling potential overheating and designing out any issues.

The Employer will consider a range of non-fossil fuel heating and hot water solutions, to suit the needs of the scheme and the future occupants. This may include, but is not limited to, air source heat pumps, heat networks, ground source heat pumps, infrared panels. However, we will not accept biomass boilers.

Renewable energy is to be designed into schemes at the early stages of design. The selected solution is to have full regard to:-

- minimising the running costs for the occupying residents;
- using components with a long service life (as demonstrated by independent testing, manufacturer's guarantees/warranties etc);
- minimising future maintenance and/or servicing costs;
- the future availability and cost of parts;
- minimising the average annual whole life costs to the Employer;
- the true value of Feed-in Tariffs.
- Shall be installed by Microgeneration Certification Scheme (MCS) where appropriate

Fabric First Approach

Thermal insulation – walls, floors and roofs should be designed for maximum thermal performance. Insulation throughout the envelope of the properties should optimise thermal efficiency.

Building regulations fabric standards should be exceeded wherever possible to reduce heat demand.

Energy Efficient Lighting and Low Energy Appliances

Low energy LED lighting is to be provided.

For communal lighting self-testing emergency lighting is to be installed.

Where appliances are to be installed these are to be A rated.

Reduce Water Consumption

The Employer requires all new residential developments to include water efficiency measures, to Building Regulations and Local Planning Policy requirements as a minimum, through the use of flow restrictors at the point of outlets and lowering the fill capacity of baths and kitchen sinks.

We wish to explore water neutral development and would be interested in seeing proposals that reflect this.

Heat networks

Where space on development sites allow, Heat Networks can be considered so that central plant can distribute home heating and hot water to the dwellings.

The Contractor will give the Employer the options available to the scheme (if the Employer has not procured an energy strategy report up front) and will advise on the most effective fuel system for the scheme and with affordability of the residents being backed up with performance data. It is recommended that the Contractor appoints an energy consultant in so doing. The Employer must approve the energy strategy before design appropriate measures are initiated for the scheme.

Plant room sub metering of ASHP, pumps, calorifiers and boilers (future legislation may require total energy to be recorded for operation of the Heat Network).

All design and construction to comply with CIBSE CP1 or such standard as prescribed by Heat Network Technical Assurance Standards (HNTAS).

Remote access to BMS controls are essential from completion date.

Solar PV sub metering required that is capable to record total generation and total export.

Installation of remote monitoring equipment covering all bulk meters, dwelling meters and HIU's, capable of recording flow rate, VWART, kWh consumption, dT, alongside any further metric later required by HNTAS.

Heat network metering

Where a heat network is installed for the supply of heat, hot water or cooling as set out in the Heat Network Billing and metering regulations (HMBMR) or current legislation, The Contractor will ensure that a heat meter is fitted, to the standards set out within the regulations, along with a billing meter that has the capacity to operate in both credit and prepayment modes and can be switched between the two remotely. The Contractor will also install a prepayment valve, or such equipment as necessary that will allow the cessation of supply if required.

Where possible HIUs and metering equipment should be housed in cupboards outside of the dwelling domain, with customers having no access to these. This is to prevent tampering or vandalism of the equipment and ensure access for maintenance and repair.

Air Source Heat Pumps (ASHPs)

If air source heat pumps are being used, they shall:-

- be of the monoblock type (unless otherwise agreed in writing with the Employer);
- seek to use non HFC refrigerants where possible;
- be deemed by the manufacturer as hermetically sealed when leaving the factory.
- be designed with a coefficient of performance (COP) at 20C of no less than 3;
- include a 3 year minimum guarantee on all parts associated with the system.
- To be 'Blygold' treated if situated within 0.8km of a coastal situation.
- Be fully commissioned and the Employer's Agent shall be provided with evidence demonstrating appropriate Glycol levels for all installations
- be installed by operatives trained by the manufacturer
- be fitted such that the fans are set no closer than 75mm to protective grilles
- design out the need for a heat store or buffer vessel;
- incorporate a vented cylinder;
- include a flow setter to allow optimum flow rates to be set on the primary side of the water system;
- automatically achieve temperatures or incorporate measures to protect against legionella;
- incorporate heat emitters that support the design requirements in terms of flow and return temperatures, and output;
- incorporate weather-compensated controls with a manual override;
- incorporate a manufacturer approved inhibitor and antifreeze.
- Equipment shall be provided by Mitsubishi, Daikin, Vailant, Dimplex, or suitable equivalent and agreed with the Employer.
- ASHPs to be in cages for protection.

Ground Source Heat Pumps

Ensure a geological survey has been undertaken to ensure there is no risk of damage to nearby aquifers.

Ensure due consideration has been given to the relative location of any proposed bore holes and its impact on heat extraction; carrying out a thermal response test to verify location and depth.

If ground source heat pumps are being used, they shall:-

- Be designed with a coefficient of performance (COP) at 20C of no less than 4.5;
- Include a 2 year minimum guarantee on all parts associated with the system.
- Provide hot water for storage at 48oK without the use of electric immersion heaters but must be capable of being raised to 60oK once per week by use of an immersion heater if necessary.
- Pumps to have a 'soft starter' to avoid sudden electrical current inrush and high torque.
- design out the need for a heat store or buffer vessel;
- incorporate a vented cylinder;
- include a flow setter to allow optimum flow rates to be set on the primary side of the water system;
- automatically achieve temperatures or incorporate measures to protect against legionella;
- incorporate heat emitters that support the design requirements in terms of flow and return temperatures, and output;
- incorporate weather-compensated controls with a manual override;
- incorporate a manufacturer approved inhibitor and antifreeze.

Waste

VIVID are committed to understanding the waste generated from new build and setting targets to reduce this.

Opportunities to reuse and recycle materials should be exploited.

At the completion of the development, data should be provided about waste generated due to construction, and the disposal route for any waste generated.

Low carbon heat

VIVID does not have specific requirements for low carbon heating solutions. This should be determined by an independent scheme energy strategy that assesses all options available on a scheme-by-scheme basis which should be reviewed by VIVID's Energy and Sustainability team.

Biomass boilers will not be accepted.

Embodied carbon

VIVID is committed to achieving net zero carbon by 2050. The carbon associated with construction of new build homes is included within the scope of this target.

At the completion of the development, data should be provided about the carbon emissions generated during construction, including the embodied carbon of the materials used.

Biodiversity and Green Space

We know that our customers value green, natural spaces and the mental and the physical well-being benefits that time in these spaces gives them.

Suppliers need to work to our agreed targets for BNG in new development of:

Measure	**Target**		
	Short-term (2025-2028)	**Medium-term (until 2032)**	**Long-term (until 2037)**
Biodiversity Net Gain	10% *	15% *	20% *
Biodiversity Net Gain (baseline BU < 1)	1.5 BU / ha	2 BU / ha	2 BU / ha
Urban Greening (UGF)	0.4 *	0.4*	0.4 *

To ensure that we apply a rigorous uplift for sites where biodiversity starts very low, we are using two biodiversity uplift targets depending on the baseline condition of the site.

Note: Section 106 developments will be subject to a phased introduction of the target. We'll initially require Section 106 development to meet the statutory BNG uplift of 10%, with a phased introduction of a higher biodiversity uplift in the short, medium, and long term. This will be subject to discussions with development partners to understand implications and reinforce best practice.

Biodiversity Net Gain (BNG) investment should prioritise habitat investment in to existing VIVID land to benefit our existing communities wherever possible.

When considering new development we want to:

- make the routes and spaces between homes as important as the buildings themselves, prioritising green infrastructure over hard surfaces
- put a focus on soft landscape and sustainable drainage requirements to align with best practices for BNG and Sustainable Drainage Systems (SuDS)
- seek opportunities to connect our developments to existing and planned public green infrastructure and walking/cycling routes beyond the boundary of our sites.
- ensure new plants correctly selected and planted in the correct environment, with adequate levels of topsoil to ensure they flourishes and can endure the changing climate.
- Transport routes should incorporate green infrastructure, including street trees, and helps to improve air quality and contribute to biodiversity
- Green infrastructure should be an integral solution to the design to incorporate long-term resilience to future climate change, helping homes to be easy to keep cool in summer, and warm in winter when they are built and for their lifetime

Solar Photovoltaic Panels

Where Photovoltaic Panels (PV) are incorporated into the design, allowances are to be made in the design of the roof structure to carry all dead and imposed loads.

All PV designs are to comply with any Local Authority Planning Conditions and are to be approved by the Employer. All contractors are expected to be MCS approved. All Photovoltaic systems must comply with relevant Health and Safety requirements, BS 7671, G83, G59, other relevant standards, Codes of Practice and manufacturer's instructions.

System Design

- All equipment must be MCS approved.
- The system shall be designed to utilise all of the space available for power generation.
- All generation meters shall be compatible with on-line reading
- PV panels and inverter are to be selected for the optimum performance for the site conditions, taking into account size, slope, orientation, temperature, latitude, shading conditions, available area etc. PV modelling software shall be used to determine the optimum panel and inverter configuration. A copy of the results is to be provided and approved prior to works commencing.
- The inverter is to be sourced from a reputable manufacturer
- The PV design must be orientated toward the sun.
- The PV installation will be installed to supplement the main grid electricity.
- The PV installation must be inclusive of electrical connection back to meter and any carpentry works required to roof space.
- PV panels on flats to be wired back to individual homes wherever possible, so that the financial benefit of these sits with the residents.

HEALTH & SAFETY FILE - VIVID SHARE POINT GUIDANCE NOTES

VIVID require an electronic version of a Health & Safety File. We will provide you with a link to access a Share Point folder which will have all the sub folders detailed below set up in it

Note: You can drag and drop multiple documents at once into a folder but don't come out of the folder until everything has finished uploading. (it's always best to check each document can be opened). No zipped files are acceptable

F10 NOTIFICATION FOLDER

Upload a copy to the folder.

PROJECT FOLDER

Introduction of the project, construction statement and Project Directory

RESIDUAL HAZARDS FOLDER

Statements of residual hazards

HAZARDOUS MATERIALS FOLDER

Schedule of unusual hazardous materials

GENERAL ARRANGEMENT AND AS BUILT DRAWINGS FOLDER

Upload, as a minimum, the following PDF drawings into this folder, clearly referring in the drawing name what plots they relate to:

- Estate layout showing road names, plot and postal numbers and dwelling types
- Site layout plan(s) including actual position and route of all drainage and services together with relevant information e.g., invert levels etc.
- Drainage plans of any soakaways including design and maintenance requirements
- Typical floor layout of each dwelling type with internal gross floor areas and individual room areas indicated
- Sections showing roof, wall and floor constructions adequately annotated to show construction
- Elevations of each dwelling type
- Plans showing mechanical and electrical installations including equipment and appliances with all parts annotated and coded
- Plans of all dwellings (or dwelling types where identical) showing the actual location and route of all above and below ground drainage and services including equipment appliances, control valves, switches etc.
- Landscape plan, including the identification of all planting and any Tree Preservation Orders

OPERATION AND MAINTENANCE FOLDER

Please follow the guidance detailed below about uploading the information in each sub folder

If a section does not apply, don't delete the folder but rename it adding NA to the end of its title

If some relevant information doesn't fit into the section list, please add an additional folder

A complete set of data sheets/technical information relating to all the materials, fixtures and fittings contained within the scheme should be provided.in the relevant sub folder

Also, provide all maintenance and cleaning instructions (e.g. glazing, fixtures and fittings and floor coverings) hazards, risk assessments detailing project specific risks for maintenance and cleaning operations (i.e., what the operator should know to ensure health and safety standards are maintained)

Section 1 - Contact names and telephone numbers for 24 hour emergency repairs during the 12 month defect liability period

Section 2 – Key structural principles and construction methods, Description / Scope of work (Including details of contractor design)

Section 3 - Groundworks

Section 4 - Flooring, ceilings, and partition walls

Section 5 – Joinery

Section 6 – Roof, facia, soffit and rainwater goods technical data, maintenance instructions and warranty/guarantees. Provide any man safe/fall technical data, maintenance instructions and warranty/guarantees

Section 7 - Mechanical and Electrical, technical data, operation and maintenance instructions, user guides, test certificates and warranty/guarantees

Section 8 - Ventilation, technical data, operation and maintenance instructions, user guides and warranty/guarantees

Section 9 – Boiler technical data, operation and maintenance instructions, user guides, benchmark commissioning certification and boiler warranty registration documents, Thermostat, Programmer and TRV guides, Radiator technical data and warranty/guarantees. If appropriate include communal heating/billing systems in this section

Section 10 – Internal and external door technical data, maintenance instructions and warranty/guarantees

Section 11 - Door Entry Systems technical data and commissioning documents

Section 12 – Window technical data, maintenance instructions and warranty/guarantees

Section 13 – Sanitary ware and taps technical data, maintenance instructions and guarantees

Section 14 – Kitchen units (including handles & hinges, worktop, range, finishes technical data, maintenance instructions and warranty/guarantees

Section 15 – Landlords Gas Safety Records for all gas installations

Section 16 – Building Regulations Gas Compliance Certificates

Section 17 – Electric test certificates (including landlord, PV etc)

Section 18 – MCS certificates

Section 19 – Sound tests/Robust details

Section 20 – SAP record for each property

Section 21 – Planning Consent – Copy of the planning consent(s) and subsequent statement from the Local Planning Authority confirming that the development has been completed in accordance with the planning consent and or copies of the planning discharge correspondence

Section 22 – Building Control certificates

Section 23 - Details of any Public Authority Adopted Areas with dates works are to be, or were adopted. Insert a copy of an executed s278 or S38 if applicable

Section 24 - Details of any adopted drains with dates works are to be or were adopted. Insert a copy of the executed S104, s98 and S106 connection approval if applicable and confirmation of adoption

Section 25 – Building Warranty certificates and copy of the site record book

Section 26 – Domestic smoke and Co2 detector technical data, maintenance information and user instructions

Section 27 – Communal smoke and fire detection commissioning certification, technical data and maintenance instructions and user instructions

Section 28 – Energy Performance Certificates

Section 29 – Secured by Design certificates

Section 30 – Code for Sustainable Homes certificates

Section 31 – Lift commissioning certificates and technical data, maintenance instructions and warranty/guarantees

Section 32 – Pumping station technical data, maintenance instructions and warranty/guarantees

Section 33 – TV aerial manufactures information and signal certification/commissioning

Section 34 – Location of communal equipment, landlord's meters, shut off/Isolation valves etc.

Section 35 - Meter information (Readings at handover including MPRNs & meter serial numbers, (Gas), MPANs & meter serial numbers (Electric), Water meter serial numbers, PV meter serial numbers

Section 36 - Details of any CCTV system installed

Section 37 – Details of any PV systems installed including guarantees, warranties, product details

Section 38 - Key schedule

Section 39 – Finishes schedule; main building materials and fittings installed with manufacturers names, addresses and telephone numbers including brickwork, render, cladding, external and internal paintwork, floor and wall tiles manufacturer, range and colour, floor coverings manufacturer, range, and colour

Section 40 – Copy of the Home User Guides provided for the scheme

Section 41 – Balcony details

Section 42 – Regulation 38: Fire safety information (Building Regulations (2010)) Copies of all the information that has been provided for a "relevant building" that has been submitted to building control to satisfy this Regulation

Skills, Knowledge, Experience and Behaviours (SKEB) Competency Assessment

Site: **[VIVID to insert name of the site]**

Name of contractor/consultant: **[VIVID Insert name of company acting for us]**

Dutyholder role being undertaken: **[VIVID to insert name of the Dutyholder role being undertaken]**

Brief description of works: **[VIVID to insert description of the works and number and type of homes / storeys / blocks]**

Tick if the building work includes Higher-risk Buildings (HRBs) ☐

The purpose of this form is to evidence that VIVID as the Client under the Building Regulation Amendment (England) Regulations (BREAR) has fulfilled its duties to ensure that those it appoints are competent.

Competence being defined as having a combination of skills, knowledge, experience and behaviours (SKEB).

Appointed Role:

The above details the nature of the works and the Dutyholder role that you are being assessed for. It is your responsibility to inform VIVID if you do not have the necessary competencies to fulfil the role prior to completing this SKEB assessment.

You may also be required to hold relevant professional indemnity insurance to cover the role you are being appointed for.

All individuals / organisations seeking appointment must complete the white sections within this form			
Name of organisation:			
Confirmation of the scope of services / trade activities:			
Role(s) to be undertaken:			
Construction Contractor* ☐	Designer* ☐	Principal Contractor (BREAR) ☐	Principal Designer (BREAR) ☐
* Where no HRBs are present on the design, the Client is obligated to carry out competency assessments only for the Principal Contractor and Principal Designer under Building Regulations. If HRBs are present, the Client will carry out competency checks for other appointees.			

1 Serious Sanctions

1.0 Please answer this question if the project contains any blocks over 11m high. If this does not apply to this project, please go to straight to section 2.

In the last 5 years, has your organisation incurred any Serious Sanctions as defined in Regulation 11E(8) of The Building Regulations 2010 (as amended)? https://www.legislation.gov.uk/uksi/2010/2214/regulation/11E. Examples of a "serious sanction" include: non-compliance with the Building Regulations or other regulatory requirements relating to structural or fire safety or convictions under relevant fire safety, health and safety or building legislation.

1.1 If you answered Yes to 1.0 you are required to disclose full details and provide evidence of steps you have taken to prevent re-occurrence. If such explanation and evidence is considered by VIVID (whose decision will be final) as sufficient, the supplier may be allowed to continue in the procurement process. VIVID may exclude any Supplier who answers 'Yes' to 1.0 who's evidence to 1.1 is not deemed to be sufficient.

Please now complete the relevant section of the form for the Dutyholder role that you are undertaking and ensure that you have signed the declaration on the last page of the document.

2.0 Construction Contractor (for Principal Contractor, see section 3)		
Ref	Requirement	Comments
2.0	**If the Contractor is an individual, please go to straight to Question 2.2** Please provide a Competency Statement for your organisation, including company behaviours and the organisational capability to carry out the building work in accordance with the Building Regulations, relevant to the specific disciplines/trades being provided for the project outlined on page 1.	
2.1	The organisation must provide evidence that they have the capacity to fulfil the role. Evidence to support this must include: • Organisational/delivery team chart • Confirmation of resources who will be delivering the service/role • A statement confirming that the team has sufficient capacity to fulfil the role over the course of the commission.	
2.2	Please provide Competency Statements for any individuals working on this project, including details of their skills, knowledge, experience and behaviours relating to construction work. State their roles and responsibilities in relation to this project. This should cover their capability to carry out the building work in accordance with the Building Regulations, relevant to the specific disciplines/trades being provided for the project outlined on page 1. For relevant employees in non-site-based roles: Provide details of any professional membership/s the employee holds. Please detail any relevant qualifications or training that the individuals have undertaken and any relevant experience they have. For site workers: please provide details of any relevant qualifications or training such as S/NVQ certificate and/or evidence of a company-based training programme suitable for the work to be carried out. Please provide evidence to support the Competency Statements, which could include: • Copies of qualifications/training certificates • Professional CVs	
2.3	Explain how you ensure continuous professional development of your staff to ensure they are fully up to date with current legislation, regulations and best practice.	
2.4	Please provide **at least** one example of projects built over the last 3 years which have included your building work services in a particular element of the construction. The nature of the work must be similar to that being provided for this project, to demonstrate your experience, knowledge and understanding of The Building Regulations. For each project, you should provide the following information: - Description of the project (including location and size)	

	- Client with contact details (for reference purposes) - Scope of appointment/service - Date of commission and completion - Budget of project/construction value at outset - Any challenges encountered and how these were overcome Please also provide appropriate visual images of the projects used as examples. Projects do not need to be affordable housing developments unless specifically described. In all cases we will be looking for evidence that shows you have worked on projects of a similar nature to VIVID's proposed project as outlined on page 1. Note: VIVID may elect to contact any of the above companies for reference, and your permission to do so is assumed unless you state any objections. Information can be submitted on a separate page/s if needed. Please clearly show the question number on the additional page/s.	
2.5	Please provide your process and/or case study evidence of how you plan, manage and monitor the building work to ensure it meets the relevant requirements of the Building Regulations.	

3 Principal Contractor (BREAR)

Ref	Requirement	Comments
3.0	Please provide a Competency Statement for your organisation, including company behaviours and the organisational capability to act as main contractor and ensure that all associated building work for a project is built in accordance with the Building Regulations relevant to the project outlined on page 1.	
3.1	The organisation must provide evidence that they have the capacity to fulfil the role. Evidence to support this must include: • Organisational/delivery team chart • Confirmation of resources who will be delivering the service/role • A statement confirming that the team has sufficient capacity to fulfil the role over the course of the commission.	
3.2	Please provide Competency Statements for any individuals working on this project, including details of their skills, knowledge, experience and behaviours relating to construction work. State their roles and responsibilities in relation to this project. This should cover their capability to carry out the building work in accordance with the Building Regulations, relevant to the specific disciplines/trades being provided for the project outlined on page 1. For relevant employees in non-site-based roles: Provide details of any professional membership/s the employee holds. Please detail any relevant qualifications or training that the individuals have undertaken and any relevant experience they have. If the individual has carried out training under a specific Building Regulations competency	

	scheme, for example, CIOB or other, please include this information. If they have chosen to undertake the training but not become a formal registered member of such competency scheme, please advise. Please detail any relevant qualifications or training that the individuals have undertaken and any relevant experience they have. For site workers: please provide details of any relevant qualifications or training such as S/NVQ certificate and/or evidence of a company-based training programme suitable for the work to be carried out. For site managers: Details of any specific training such as the CITB 'Site Management Safety Training Scheme' SMSTS certificate or equivalent such as CSCS cards. Please provide evidence to support the Competency Statements, which could include: • Copies of qualifications/training certificates • Professional CVs	
3.3	Explain how you ensure continuous professional development of your staff to ensure they are fully up to date with current legislation, regulations and best practice.	
3.4	Please provide **at least** one example of projects built over the last 3 years for the provision of services as a main contractor similar to those required for this project, to demonstrate your experience, knowledge and understanding of the Building Regulations. For each project, you should provide the following information: - Description of the project (including location and size) - Client with contact details (for reference purposes) - Scope of appointment/service - Date of commission and completion - Budget of project/construction value at outset - Any challenges encountered and how these were overcome Please also provide appropriate visual images of the projects used as examples. Projects do not need to be affordable housing developments unless specifically described. In all cases we will be looking for evidence that shows you have worked on projects of appropriate value and scale to VIVID's proposed project as outlined on page 1 and that you have experience across the full development process from feasibility and initial design through construction to completion and in-use. Note: VIVID may elect to contact any of the above companies for reference, and your permission to do so is assumed unless you state any objections. Information can be submitted on a separate page if needed. Please clearly show the question number on the separate page/s.	
3.5	Please provide details of how you will co-ordinate with the wider project team/other Dutyholders to ensure that building work is compliant with Building Regulations, and provide examples of how this has been achieved previously.	

3.6	Please provide your process and/or case study evidence of how you plan, manage and monitor the building work to ensure to ensure all work completed is compliant with the current, relevant Building Regulations.	
3.7	Please provide your procurement process for ensuring that Contractors have the relevant skills, knowledge and experience for meeting the relevant requirements of the building work.	
3.8	Please provide your procedure/arrangements for providing information for the Reg 38 pack, the H&S file and Golden Thread information for HRBs (if applicable), to the Client.	
3.9	How will you ensure business continuity in the event of any issues regarding the resourcing of the works?	

4 Designer (for Principal Designer, see section 5)

Ref	Requirement	Comments
4.0	**If the Designer is an individual, please go to straight to Question 4.2** Please provide a Competency Statement for your organisation, including company behaviours and the organisational capability to carry out the design work so that the building work to which the design relates, if built, would be in accordance with the regulations, relevant to the specific disciplines/trades being provided for the project outlined on page 1.	
4.1	If you are seeking appointment as an organisation: The organisation must provide evidence that they have the capacity to fulfil the role. Evidence to support this must include: • Organisational/delivery team chart • Confirmation of resources who will be delivering the service/role • A statement confirming that the individual/team have sufficient capacity to fulfil the role over the course of the commission.	
4.2	Please provide Competency Statements for any individuals working on this project, including details of their skills, knowledge, experience and behaviours relating to design work. State their roles and responsibilities in relation to this project. This should cover their capability to design work so that the building work to which the design relates, if built, would be in accordance with the regulations. For relevant employees: Provide details of any professional membership/s the employee holds. If the individual has carried out training under a specific Building Regulations competency scheme, for example, RIBA, APS or CIAT, please include this information. If they have chosen to undertake the training but not become a formal registered member of such competency scheme, please advise. Please detail any relevant qualifications or training that the individuals have undertaken and any relevant experience they have.	

	Please provide evidence to support the Competency Statements, which could include: • Copies of qualifications/training certificates • Professional CVs	
4.3	Explain how you ensure continuous professional development of your staff to ensure they are fully up to date with current legislation, regulations and best practice.	
4.4	Please provide **at least** one example of projects designed out over the last 3 years for the provision of services as a designer similar to those required for this project, to demonstrate your experience, knowledge and understanding of The Building Regulations. For each project, you should provide the following information: - Description of the project (including location and size) - Client with contact details (for reference purposes) - Scope of appointment/service - Date of commission and completion - Budget of project/construction value at outset - Any challenges encountered and how these were overcome Please also provide appropriate visual images of the projects used as examples. Projects do not need to be affordable housing developments unless specifically described. In all cases we will be looking for evidence that shows you have worked on projects of appropriate value and scale to VIVID's proposed project as outlined on page 1. Note: VIVID may elect to contact any of the above companies for reference, and your permission to do so is assumed unless you state any objections. Information can be submitted on a separate page if needed. Please clearly show the question number on the separate page/s.	
4.5	Please explain the processes you have in place to ensure that design work is planned, managed and monitored so it complies with all relevant requirements and regulations. For example: • Process for allocating suitable resources for the design work. • Frequency of design meetings. • Processes and evidence of quality assurance and reviews of design work.	
4.6	Note: by signing this form you are confirming that: • When carrying out design work, you will take all reasonable steps to ensure that the design is such that, if the building work to which the design relates were built in accordance with that design, would comply with the Building Regulations; and • In providing a design, you will take all reasonable steps to provide sufficient information about the design, construction and maintenance of the building to assist the Client, other designers and contractors to comply with the Building Regulations. • Where a designer is carrying out only part of the design of the building work which comprises a project, the designer must consider other design work which directly relates to that building work and report any concerns as to compliance with the Building Regulations to the Principal Designer (BREAR).	

5 Principal Designer (BREAR)		
Ref	Requirement	Comments
5.0	**If the Designer is an individual, please go to straight to Question 5.2** Please provide a Competency Statement for your organisation, including company behaviours and the organisational capability to carry out the design work so that the building work to which the design relates, if built, would be in accordance with the regulations relevant to the project outlined on page 1.	
5.1	If you are seeking appointment as an organisation: The organisation must provide evidence that they have the capacity to fulfil the role. Evidence to support this must include: • Organisational/delivery team chart • Confirmation of resources who will be delivering the service/role • A statement confirming that the individual/team have sufficient capacity to fulfil the role over the course of the commission.	
5.2	Please provide Competency Statements for any individuals working on this project, including details of their skills, knowledge, experience and behaviours relating to design work. State their roles and responsibilities in relation to this project. This should cover their capability to design work so that the building work to which the design relates, if built, would be in accordance with the regulations. For relevant employees: Provide details of any professional membership/s the employee holds. If the individual has carried out training under a specific Building Regulations competency scheme, for example, RIBA, APS or CIAT, please include this information. If they have chosen to undertake the training but not become a formal registered member of such competency scheme, please advise. Please detail any relevant qualifications or training that the individuals have undertaken and any relevant experience they have. Please provide evidence to support the Competency Statements, which could include: • Copies of qualifications/training certificates • Professional CVs	
5.3	Explain how you will ensure continuous professional development of your staff to ensure they are fully up to date with current legislation, regulations and best practice.	
5.4	Please provide **at least** one example of projects designed over the last 3 years. The project examples must be similar to the project outlined on page 1, to demonstrate your experience, knowledge and understanding of the Building Regulations.	

	For each project, you should provide the following information: - Description of the project (including location and size) - Client with contact details (for reference purposes) - Scope of appointment/service - Date of commission and completion - Budget of project/construction value at outset - Any challenges encountered and how these were overcome Please also provide appropriate visual images of the projects used as examples. projects do not need to be affordable housing developments unless specifically described. In all cases we will be looking for evidence that shows you have worked on projects of appropriate value and scale to VIVID's proposed project as outlined on page 1 and that you have experience across the full development process from feasibility and initial design through construction to completion. Note: VIVID may elect to contact any of the above companies for reference, and your permission to do so is assumed unless you state any objections. Information can be submitted on a separate page if needed. Please clearly show the question number on the separate page/s.	
5.5	Please provide details of how you will co-ordinate with other Dutyholders and the wider project team to ensure that design work is compliant with Building Regulations, and provide examples of how this has been achieved previously.	
5.6	Please provide supporting evidence which shows that there are arrangements in place for ensuring that Designers carry out their duties, including oversight and co-ordination within the design team and with other Designers/Contractors.	
5.7	Please provide your process and/or case study evidence of how you plan design work compliance, and to manage, monitor, and coordinate designers and design work in relation to compliance during the design phase: • Set the plan for achieving design work compliance • Control changes to the plan and monitor risks to design work • Co-ordinate designers' work related to achieving the plan • Liaise with the principal contractor about design work • Monitor progress against the plan through to the end of the design phase.	
5.8	How will you ensure business continuity in the event of any issues regarding the resourcing of the works?	
5.9	Note: by signing this form you are confirming that: • When carrying out design work, you will take all reasonable steps to ensure that the design is such that, if the building work to which the design relates were built in accordance with that design, the building work would comply with the Building Regulations; • In providing a design, you must take all reasonable steps to provide sufficient information about the design, construction and maintenance of the building to assist the Client, other designers and contractors to comply with the Building Regulations. • Where a designer is carrying out only part of the design of the building work which comprises a project, the designer must consider other design work which directly relates to that building work and report any concerns as to compliance with the Building Regulations to the Principal Designer (BREAR).	

IMPORTANT			
By completing this form and returning it to VIVID as Client, you are declaring that you (as an individual) or your organisation, have the necessary skills, knowledge, experience and behaviours to be deemed competent in the role being appointed. If at any point following your appointment you are no longer competent to fulfil the role, please contact VIVID at the earliest opportunity.			
Form completed by (name):		Date:	
Company name:			
Job Title:			

ASSESSMENT BY VIVID			
VIVID's Building and Fire Safety Team to check the above answers and supporting information and complete the section below:			
Overall, is it considered that the proposed supplier has appropriate skills, knowledge, experience and organisational capability to undertake the intended work?		Yes ☐	No ☐
If 'no', summarise why the organisation is not acceptable for this project:			
Form checked by (name):		Date:	
Job Title:			

Version no.	Amended by	Date	Changes made
1	Rosie Matthews	03/04/2025	First launch of document

Non-HRB Completion Statement

The Building Regulations 2010 (as amended).

This form should be used if the Local Authority doesn't have their own version.

Notice of Completion of building work

Building Regulations 2010 (as amended).

A person who is required by Regulation 12 to give a building notice or an application for building control approval with full plans for carrying out building work shall, not more than five days after that work has been completed, give the local authority a notice which complies with Regulation 16 paragraph (4A) as set out below. Requirements of dutyholders and their competence can be found in Part 2A of the Building Regulations 2010 (as amended).

The building work referred to in our building notice / application of building control approval with full plans/Reversion Application* is complete (application form attached to this notice). *delete as appropriate.

1. Building Control application reference number:	[Enter Building Control Application Number]
2. Location of the building work:	[Enter address] [Enter postcode]

3. CLIENTS SECTION:

3a. Clients details:	[Enter name] [Enter address] [Enter postcode]	[Enter phone number] [Enter e-mail address]
3b. Client's declaration:	I confirm that to the best of my knowledge the work complies with all applicable requirements of the Building Regulations.	

Signed:	[Please enter your electronic signature or type your name]	**Date:**	[DD/MM/YYYY]

4. PRINCIPAL CONTRACTOR (OR SOLE CONTRACTORS) SECTION:

4a. Principal contractor (or sole contractor) details:	[Enter name] [Enter address] [Enter postcode]	[Enter phone number] [Enter e-mail address]

4b. Principal contractor (or sole contractor) date of appointment:	[DD/MM/YYYY]		
4c. Principal contractor (or sole contractor) declaration:	I confirm that I have fulfilled my duties as a principal contractor (or sole contractor) under Part 2A (dutyholders and competence) of these Regulations.		
Signed:	[Please enter your electronic signature or type your name]	**Date:**	[DD/MM/YYYY]
4d. ** Principal contractor (or sole contractor) details:	[Enter name] [Enter address] [Enter postcode]	[Enter phone number] [Enter e-mail address]	
4e. ** Principal contractor (or sole contractor) date of appointment:	[DD/MM/YYYY]		
4f. ** Principal contractor (or sole contractor) declaration:	I confirm that I have fulfilled my duties as a principal contractor (or sole contractor) under Part 2A (dutyholders and competence) of these Regulations.		
Signed:	[Please enter your electronic signature or type your name]	**Date:**	[DD/MM/YYYY]

5. PRINCIPAL DESIGNER (OR SOLE DESIGNER) SECTION:

5a. Principal designer (or sole designer) details:	[Enter name] [Enter address] [Enter postcode]	[Enter phone number] [Enter e-mail address]
5b. Principal designer (or sole designer) date of appointment:	[DD/MM/YYYY]	
5c. Principal designer (or sole designer) declaration:	I confirm that I have fulfilled my duties as a principal designer (or sole designer) under Part 2A (dutyholders and competence) of these Regulations.	
Signed:	[Please enter your electronic signature or type your name]	**Date:** [DD/MM/YYYY]
5d. ** Principal designer (or sole designer) details:	[Enter name] [Enter address] [Enter postcode]	[Enter phone number] [Enter e-mail address]

5e. ** Principal designer (or sole designer) date of appointment:	[DD/MM/YYYY]		
5f. ** Principal designer (or sole designer) declaration:	I confirm that I have fulfilled my duties as a principal designer (or sole designer) under Part 2A (dutyholders and competence) of these Regulations.		
Signed:	[Please enter your electronic signature or type your name]	**Date:**	[DD/MM/YYYY]

**If more than one dutyholder appointment is made, details and confirmation is required by each principal contractor (or sole contractor) and each principal designer (or sole or lead designer) appointed by the client. Add additional contacts and statements as required.

pmc
Construction & Development Services Ltd

Victory Quay, Portsmouth

Phase 1



Contractors Proposals

Rev A

30th July 2025

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Section A – General Specification

1. Design, Material & Workmanship

1.1. Section A of this proposal sets out the specific enhancements and qualifications to the general design. All work will be carried out in accordance with current building regulations; Premier warranty requirements; Secure by Design standards (albeit no SBD application of certification is being sought); British standards and Manufacturer's guidelines.

2. Substructure

2.1. The substructure for apartment blocks F, G & H will consist of a ground bearing slab on continuous-flight-auger (CFA) piles. The substructure for the houses & block L will consist of traditional foundations 1.2m deep with block and beam floor over.

2.2. The masonry walls below damp-proof-course level will be finished with external-facing bricks to a minimum 150mm below finished ground level

2.3. Hyload or equally approved damp-proof systems will be used at ground floor level, under ground floor partitions and cavity tray junctions. Damp-proof membranes will be 1200-gauge polythene

2.4. Gas/ Hydrocarbon membranes will be installed in accordance with the environmental report and Portsmouth City Council approval.

3. Superstructure Frame and upper floors

3.1. Apartment blocks G & H will consist of Concrete frame with metsec inner skin and external brickwork. Block L will be traditional construction with full fill cavity insulation. Block F will be concrete frame to podium level and then traditional construction thereon. House block 2,3 & 5 will be timber frame with brick outer skin. House Block 1 will be traditional construction.

3.2. All apartment floors will be solid concrete with latex finish ready to receive floor finishes. Houses will be moisture resistant chipboard in readiness to receive floor finishes.

4. Roof

4.1. Flat roofs will be provided with a three-layer high Suprema performance felt system using an warm roof-insulation system with 20-year warranty. All flashings will be in Ubiflex, entrance canopies will be provided. Pitched roofs on houses will receive Mini Stonwold Marley duo

4.2. Fascia, eaves boards, bargeboards and so on will be formed using a proprietary PVC-U soffit. Other materials will only be permitted where specifically required by the planning authority or agreed with the Employer prior to the signing of the Contract

4.3. Where wall aluminium capping's are required, powder coated aluminium will be used with built in drip zones and overhangs

5. Stairs and balconies

5.1. Stair widths will be sized so that furniture can be manoeuvred and have a minimum clear width of 900mm

5.2. The communal stairs to blocks of flats shall be complete with metal balustrading and plastic capped handrails all in full compliance with the Building Regulations along with Gradius stair nosing's with contrasting colours. All strings and apron linings shall be softwood/MDF

5.3. Framed galvanised vertical steel balustrades will be provide to Juliet's/balcony guarding. The Soffit areas will remain as concrete finish. Balconies finishes will be either Ali Deck or Paving on pedestals

5.4. Terracing on housing blocks will receive timber decking

6. External Walls

6.1. Apartments, Brickwork external skin is provided flush pointed. Cavity wall ties shall be stainless steel with rock wool duo full fill cavity insulation with inner skin either blockwork or metsec, brick choice in compliance with Local Planning Authority conditions. Houses timber frame with brick clad outer skin. £[redacted] has been set aside for brick supply

6.2. Brick Types are as follows

- **House Block 1**
  - Fiori, Crest/Taylor Maxwell – light mortar
  - Pagus Grey/Black, Weinerberger – light mortar
- **Houses Block 2, 3 & 5**
  - Danehill Yellow, Michelmersh – light mortar
  - Pagus Grey/Black, Weinerberger – light mortar
- **Block F**
  - Danehill Yellow, Michelmersh – light mortar
  - Sterling Grey, Michellmersh – Dark Mortar
- **Block G**
  - Danehill Yellow, Michelmersh – light mortar
  - Sterling Grey, Michellmersh – Dark Mortar
- **Block H**
  - Danehill Yellow, Michelmersh – light mortar
  - Sterling Grey, Michellmersh – Dark Mortar
- **Block L**
  - Sterling Grey, Michellmersh – Dark Mortar

6.3. Provide proprietary insulated cavity closers to all reveals, sills and soffits

6.4. Fire closers / breaks installed in accordance with building regulations and Warranty provider technical manual

7. Windows

7.1. Windows shall be manufactured from PVCu. Windows and their component parts are to be manufactured by Finest Windows Ltd or similar approved, to British Standard 'Kite marked' to BS 7412:2002 or BBA approved. The manufacturer and installer must be FENSA certified and have membership of either the GGF or BWF. All windows shall be of all welded construction with continuous reinforcement to a minimum of 85% of the length of the frame. At critical locations windows shall comply with the Secured by Design criteria and BS 7950:1997. A base U Value 0f 1.2

7.2. All windows will be comply to the energy strategy using low emissivity type glass. All windows to be internally beaded and capable of being re-glazed from the inside. All window perimeters to be sealed internally and externally with suitably coloured polysulphide mastic. Where windows are top hung it is noted that easy clean hinges cannot be used and that windows will pivot type restricted to 100mm opening which can be over ridden by a tenant and will allow a hand cleaning brush to be used for cleaning purposes. Window restrictors provided in compliance to current building regulations

7.3. Opening windows will be fastened by means of a suitable espagnolette locking system, which allows the windows to be locked in the partially open position. Window operating levers to be finished in white or SAA. All opening windows should be capable of being locked in two positions preferably with a key lock in the handle. All locks should be suited in each dwelling and openable by the same key. A key is required for each lock

7.4. All windows should be provided with an external cill which projects a minimum 38 mm from the face of the wall finish

7.5. All windows (except bathroom, kitchen and WC) to be provided with minimum 25 mm softwood window board rebated around reveals complete with rounded leading edges, with screwed and pelleted fixings. Leading edges to extend 50 mm past reveals and 25 mm from faces of walls

7.6. Window cleaning to all areas will be via pole methods, no abseiling points are provided.

7.7. All windows to have curtain batten installed over

8. External Doors

8.1. Balconies will have one single door with opening windows to side lights to allow natural ventilation

8.2. All doors to be pointed all round externally with suitably coloured polysulphide mastic

8.3. Individual front entrance door sets to apartments shall be fitted with a draught sealed letter box with security cowl, a security chain, high- and low-level door viewers, and, 50 mm high numerals in addition to the locks and latches required by Secured by Design standards, and meet the required fire compartmentation requirements

8.4. Individual front entrance doors to houses shall be made by Finest Windows Ltd to an agreed colour and pattern of the Employer's approval and be fully compliant with PAS 23 and 24 standards. Locks to be BS EN1303 grade 3

8.5. Communal front and rear entrance doors to flats shall be fitted with heavy duty overhead door closers with anti-slam facility, perco or similar approved, these shall be timber high performance external door sets Door entry systems are required as noted later in this document.

9. Internal Walls and Partitions

9.1. Bathroom and WC side of partitions to be sheathed with minimum 12mm osb board before fixing plasterboard linings. Plasterboard in bathrooms and kitchens shall be moisture resistant grade.

9.2. Party walls to achieve sound insulation of 3db or more above building regulation

9.3. Walls forming cupboards which house equipment to be suitably insulated to prevent noise transfer

10. Internal Doors

10.1. Internal door openings to all rooms except airing cupboard and store should be fitted with a standard door providing a minimum clear opening width of 775 mm. The minimum thickness of any door shall be 35 mm (unless required otherwise by Building Regulations).

10.2. All internal doors will be ply flush solid core or fire rated in accordance with building regulations and will be fitted with mortice latch and set of bolts through type lever handles and roses with matching butt hinges, including store and airing cupboards. All cupboard doors shall be openable from the inside. Provide indicator bolt to bathroom door and separate cloakroom (WC) door with safety access facility operable from outside in the event of an emergency. Doors to be finished in either statin or gloss finish

10.3. Doors will be provided with an adequate clearance for carpets to be fitted at a future date – clearance in compliance with building regulations.

10.4. Frames and linings to internal doors to be in softwood with architraves to mask junction of frame and adjacent wall finish. Architraves shall as a minimum be 25 x 50 mm chamfered or moulded softwood

10.5. Doors shall be solid core construction to the same standard as supplied by Jeld-Wen or similar approved

10.6. All ironmongery for internal doors shall be metal bodied with a brush chrome finish, CE marked ironmongery to fire doors

10.7. All doors shall be fitted with 1½ pairs of butt hinges per leaf

10.8. All internal communal doors shall be fitted with appropriate glazed panels, kicking plates both sides, heavy duty aluminium with heavy duty overhead door closers with anti-slam facility, push plates, and, pull handles. Communal doors will be certified door sets.

10.9. All Landlord's cupboard doors shall be fire rated solid core ply flush painted in either satin or gloss finish, complete with 5 lever mortice deadlock and secure suited key arrangement; internal thumb turn, pull handle, push plate and door closer and fire door keep shut sign. These doors shall be certified door sets

10.10. Door stops will be provided to all doors that have potential to knock into fixed wall positions

11. Internal Wall Finishes

11.1. All wall surfaces shall be tape and joint finish, spray painted with a minimum of 1 no. mist cost and 2 no. full coats of crown vinyl matt emulsion paint. In communal areas of flats all wall surfaces shall be painted with a minimum of 1 no. mist coat and 2 no. full coats of crown or similar approved paints. Colours to be chosen from, magnolia, soft white, almond white, white, gardenia.

11.2. All internal joinery and the internal faces of external joinery which does not come self-finished shall be knot, stopped, primed and painted with a minimum of 1 no. undercoat and 2 no. top coats of crown white gloss or satin paint

11.3. All windows and external doors which do not come self-finished shall be finished externally in a proprietary external finish

11.4. Wall tiles shall be placed within main bathrooms, full heights within bath and shower areas and halve height to walls that have sanitary ware applied, British Ceramic tiles or similar approved £15.00 per m2 supply cost shared owner ship with standard ERs applying to the affordable specification.

11.5. Silicone sealant of the appropriate type must be used to seal all junctions between wall tiling and sanitary ware and kitchen worktops

11.6. All exposed edges of wall tiling to be finished with proprietary white PVCu quadrant

12. Internal Floor Finishes compliant to employers requirements

12.1. Softwood skirting is required to all exposed wall surfaces of not less than 19 x 94 mm (finished) size and be bull nose finished

13. Internal Ceiling Finishes

13.1. Plasterboard with tape and joint finish, mineral wool quilt where requirement to meet building control requirements in ceiling void

13.2. All ceilings will be painted with a minimum of 1 no. mist coat and 2 no. full coats of vinyl matt emulsion paint

14. Kitchens

14.1. All kitchen units are to be solid carcass units to be supplied by Symphony or similar approved. Style of units to be approved based on the Kubix or Concept plaza range. Kitchens will include a three-drawer stack with metal drawer boxes as standard; all doors to be fitted with 170° hinges and t-bar stainless steel handle; 38mm contrasting worktops with 100mm upstand. A splash back will be provided behind the hob area. There is no tiling proposed to these areas. White goods consisting of Hot Point Oven, Hob, Extractor, to be provided within shared ownership units. A sum of £[redacted] has been provided for these white goods for each shared ownership unit.

14.2. In all 4 person or larger dwellings an ancillary equipment space is required which must be filled with a removable base unit and matching removable plinth. The ancillary space is for use as a dishwasher or condensing tumble dryer space

14.3. Worktops are to be a minimum of 38 mm thick with post formed leading edges. Any jointing of worktops in the running length or at corners shall be formed using mason's mitres

14.4. Single drainer stainless steel inset sink top to be provided in all kitchens where possible 1.5 bowls will be provided. The steel will not be less than 0.9 mm thick

14.5. Kitchen taps to be ceramic disc quarter turn mono-bloc sink mixer taps with lever handle and aerator.

15. Bathrooms and WC's (ensuites within shared ownership 3 bed house)

15.1. Refer to AD Mechanical Specification at the end of this document

15.2. Mirror above basin will be provided to master bathroom

15.3. Chrome plated metal toilet roll holders will be supplied to both bathrooms

15.4. An electrically heated ladder towel rail will be supplied to the bathroom within shared ownership units

16. General items

16.1. Built-in wardrobes have all been omitted

16.2. Door stops will be provided at all locations where doors when opened will strike a wall, fitting or a fixture

16.3. Provide all signage to identify properties for postal and location purposes. Signage to include numbers, letters, names of blocks, directional, statutory requirements and street names as necessary: signs shall be produced using white Dibond aluminium composite material with black lettering in Frutiger LT front. In communal areas of flats ‘No Smoking' signs shall be provided as necessary

16.4. Fire action plan to be placed at main entrance locations

16.5. Internal cupboards will be fitted with slatted shelves where possible, the room contains water heater and hot pipework, therefore tubular heaters will not be required

17. Rainwater

17.1. Gutters and downpipes shall be a heavy gauge PVCu system by Osma or Marley or similar approved. On buildings over 12 m aluminium will be used

17.2. Porch/canopy roofs must not shed water on to access paths

17.3. Internal gutters and downpipes will be provided with access points for cleaning purposes.

17.4. A suitable and securely fixed balloon grating, of matching colour, shall be fixed to the head of all rainwater downpipes

18. Hot and Cold-Water Installations

18.1. Please refer to AD Mechanical Section of this document.

19. Lift Installations

19.1. Lifts shall be manufactured by OTIS based on the Gen2 Life Evac model or similar based on a 12-person lift (900kg) with a speed of 1 m/s. Lifts will be prepared to EN81:73 (behaviour in a fire). The lift will have a battery back-up (the lift will continue to the next floor in case of power failure) and will have independent service switches. All lifts will have robust vandal resistant finishes and controls.

19.2. OTIS will provide a 12-month 24-hour emergency and maintenance contract for all lifts albeit the phone line is to be paid by the employer.

19.3. OTIS do supply protective drapes as an optional extra. This has not been allowed in our cost sum

20. Fire and Lightening Protection

20.1. The design of all buildings should be undertaken to the standards set down in the relevant British Standards and the requirements of the Building Regulations and Fire Officer.

20.2. Within the flats a minimum 1 no. smoke alarm in all halls, landings, habitable rooms, plus minimum 1 no. heat detector in kitchens (all interconnected to any other smoke/heat alarms within the dwelling), to BS 5839-6 category LD3. Rechargeable battery backup

20.3. Sprinklers have been provided on apartments where the last floor level floor level exceeds 12 m. The sprinklers will serve apartments only

20.4. A compliant lightning protection system will be installed block F, G , H & L

21. Communication, security and control installations

21.1. Please also refer to detailed electrical specification.

21.2. Provide 1 no. telephone point in the living room and main bedroom of all dwellings. All telephone points must be situated adjacent to a socket outlet

21.3. All lifts shall be provided with a dedicated emergency telephone line, however, the client is responsible for the setting up of an account to activate the line.

21.4. Incorporate a communal television aerial installation and distribution system capable of providing acceptable signal strength of all locally available free to air digital terrestrial stations and satellite channels to all units. Include for provision of a communal satellite dish to each block connected through to each unit. The cables, dish and full installation should be suitable for Sky, Sky+ and Sky HD subscription by residents plugging in a suitable (provided by others) Sky, Sky+ or Sky HD decoder. A dual co-axial socket shall be provided - one connected to satellite system one to communal aerial system. Non-Sky, Sky+, SKYQ or Sky HD satellite decoders shall also work with this installation. Each flat should have the facility to enable personal direct subscription to satellite television

21.5. Suitable DAB and FM aerials shall be installed and cabled to each lounge in each flat to an etched face plate to allow connection of suitable radio tuner (by others). All required amplifiers etc. are to be provided so incoming residents can simply plug in to the socket and receive a good signal to their set

21.6. The control boxes and termination of all cables shall be situated within a communal cupboard

21.7. Provide and install a full door entry system linking handsets located in the hallway between bedroom and lounge with a call unit, recessed into the external wall under cover of a common porch. The unit shall be stainless steel, be sealed around its perimeter and shall include textured numbers to facilitate use by those with impaired vision. One button per flat. The facility shall include a programmable timer for tradesmen and a coded entry via a 0 to 9 key pad. The door shall include an electronic keep without any surface wiring. The keep shall be protected by a cover plate to prevent access the face of the keep and such plate shall be fixed with vandal resistant screws. The lock shall have a key operation from outside for the residents, keyless exit and the keys should be suited. The system shall include an adjustable and angled camera on the external panel that will view faces of callers and transmit the image to viewing screens on each flat handset.

21.8. The preferred installer shall be M R Electrical Ltd and shall be insurance approved

22. Builder's Work in Connection with Services

22.1. Vertical pipework drops shall be located in corners of rooms and be boxed in if required

22.2. Low-level exposed horizontal pipework in flats will be covered with a proprietary boxing or a boxing built out of skirting

22.3. All penetrations through walls, floors, ceilings etc. shall be fully sealed to prevent access for vermin. Where intumescent collars are used all resultant gaps shall be fully sealed with blue intumescent foam or fire mastic.

22.4. All communal areas, service risers and lobbies within apartments shall receive third party fire checking with a site register/audit detailing the works placed in the OM Manual.

23. External Site Works- Unadopted Roads and Car Parking

23.1. Unadopted vehicle circulations areas shall be designed to safely withstand the loadings of refuse vehicles, fire engines and the like without deforming or subsiding. The minimum total thickness of construction should not be less than 450 mm

23.2. Car parking bays/spaces shall be designed 2.4m x4.8m to withstand the loadings of cars and light vans without deforming or subsiding. The minimum total thickness of construction should not be less than 175 mm. Full kerbs and/or bollards are required to restrict access to pedestrian and planting areas. Bays will receive numbering

23.3. Dropped kerbs are to be provided at the junctions of footpaths with car parking areas. This is in addition to any requirements of the highway's authority

23.4. Car parking spaces to be numbered and delineated with a T-markings

23.5. Parking areas to be formed using block paving

23.6. Secure cycle storage will be provided with proprietary cycle racks

23.7. There are no anti-vermin / pigeon deterrents provided within the cost plan

24. External Site Works- Unadopted footpaths and paving's

24.1. The main spine roads and footpath will be provided to an adoptable standard and be constructed using Tarmac. Other areas of external works will be in compliance to the hard surface landscape drawing produced by IJLA 13LA-XX-XX-DR-L 100100

25. External Site Works- Site Lighting

25.1. Good exterior lighting is essential will be provided to all communal areas and areas in need of supervision. All external lighting to the main spine road shall be to a standard that would be acceptable to the highway authority for adoption and meets the Secured by Design standards. Light fittings in other areas will be bollard type in compliance to ecology restrictions and should be sited to avoid nuisance to residents. Lighting should not be positioned in close proximity to bedroom windows wherever possible. White light is preferred for security reasons. Light fittings should be low energy dusk to dawn controlled units of robust and vandal resistant construction and be readily maintainable - all to the approval of the Employer. All external lighting which is not directly attributed to a dwelling to be from an unmetered landlord's supply provided from the street lighting mains.

26. External Site Works- Street furniture and signage

26.1. Street name plates and direction signs should be clearly visible and be fixed at an appropriate height in accordance with the Local Authority and Employer's requirements.

27. External Site Works- Landscaping

27.1. The Contractor has provided a sum of money to provide the planting area, PC Sum £[redacted] Boulevard Trees £[redacted] Sales Planting £[redacted]

28. External Site Works- Bin Stores

28.1. Where required Bin Stores to be constructed to include a roof, secure door and ventilation.

28.2. Provide cold water supplies and lockable taps to serve each communal bin store. Provide a trapped gully connected to the foul drainage system in each communal bin store

29. External Site Works- Unadopted drainage

29.1. Unadopted drainage systems will be installed on site and an adopted pump set will be provided prior to connection to Southern Water Sewer Network with a section 104 for connection pipes

30. Qualifications:

30.1. Archaeology investigations are not included

30.2. No party wall or crane oversailing fees have been provided.

30.3. No allowances for Rights of light issues

30.4. Commercial unit is to shell and core only

30.5. EV charging points provided to houses only

30.6. No public art is provided within the contract sum

30.7. The new sea wall does not have anode protection allowances within the CSA

30.8. Inflation clauses will need to be reviewed noting the current CSA is fixed until August 2026

30.9. Premier warranty is excluded, as the client is appointing direct.

30.10. All Utility sums have been paid but where uplifts maybe required due to lack of progress, these sums are excluded

30.11. The section 278/38 contributions are excluded

30.12. The Japanese Knotweed on site has been treated by others and assumes a warranty will be passed over to the client at completion stage. No other evasive plant species are assumed to be on site and as such no allowances have been made

30.13. The phasing plan noted as drawings number HGP 22.152-HGP-XX-00-D-A1073P3

30.14. We have provided for the EWS1 role to block F, L, G & H

30.15. Principle Designer by PMC/HGP

30.16. We would estimate a Provisional Sum of £150k for treatment of contaminated land on boundaries that adjoin the Homes England site on Phase 1, and any archaeology fines around the BCA. Note this value is not included within CSA.

30.17. The Collateral Warranties for the scheme is as follows;

Role	Level of Cover
Lead Architect	£10,000,000.00
Structural Engineer	£10,000,000.00
Civil Engineer	£10,000,000.00
Building Services – Mechanical	£5,000,000.00
Building Services – Electrical	£5,000,000.00
Building Services – Lift Installation	£1,000,000.00
Timber Frame Designer	£5,000,000.00

30.18. The project designers namely HGP Architects and HRW structural engineers are not site based and have no inspection role within their appointment.

30.19. Project Insurance Level is as follows;

Role	Insurance Type	Level of Cover
Main Contractor	Professional Indemnity	£10m
Main Contractor	Contractors All Risk	£10m
Main Contractor	Public Liability	£10m
Main Contractor	Non-Negligent Liability	£10m
Main Contractor	Pollution and contamination	£2m
Lead Architect	Professional Indemnity	£10m
Building Services: Mechanical	Professional Indemnity	£5m
Building Services: Electrical	Professional Indemnity	£5m
Civil and Structural Engineer	Professional Indemnity	£10m
Fire Engineer	Professional Indemnity	£1m
Building Control	Professional Indemnity	£1m

Section B – AD Mechanical Performance Specification

TIPNER REGENERATION

PERFORMANCE SPECIFICATION

AD MECHANICAL SERVICES LTD
MECHANICAL SERVICES

REVISION: 0
DATE: 14.07.25

Contents

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Section 15 – Drawing Register

Appendix A – Abbreviations

Appendix B – Notes

Acknowledgements

Section 1 – Introduction

1.1. The following Performance Specification is to be read in conjunction with the following documents.

Document Type	Document Title	Date	Rev
SAP ASSESSMENT	SRE		
FIRE STRATEGY	Solas Realta Fire Engineering		

Section 2 – Design, Materials and Workmanship

Where and to the extent that design and materials are not fully specified they shall be, in order of priority:

2.1. In accordance with applicable Building Regulations, British Standards and Kite marked, British Standard Codes of Practice, or be certified with a British Board of Agreement Certificate.

2.2. In accordance with the manufacturer's recommendations.

2.3. In accordance with the Building Defect Warranty Providers Technical Standards.

2.4. Suitable for the purposes of the Works stated in or reasonably to be inferred from the Employer's Requirements.

2.5. Not deleterious and in accordance with the 'Good Practice in Selection of Construction Materials 2011

Section 3 – Space Heating Services

5.1. NOT APPLICABLE – Works undertaken by Electrical Contractor

Proposed Equipment/Material Datasheets:

Part / Reference	Description
Drawings for Mechanical Services can be found in SECTION 16	

Section 4 – Domestic Services

5.1. The hot water supply is fed via a Dimplex Edel 200L air source heat pump cylinder. The cylinder incorporates a small heat pump on top of the unit which generates hot water. The cylinder also has a back-up immersion heater to aid faster hot water recovery times. Hot water is stored at 55deg, and anti-legionella cycles are set to bring the hot water up to a minimum temperature of 60deg (maximum 70deg) to comply with the applicable regulations regarding legionella prevention.

5.2. A temperature and pressure relief valve is factory fitted to the cylinder which is set at 90-95deg as per BS EN1490. This will discharge into a tundish which is easily viewed within each utility cupboard.

5.3. Hot water will be provided to all outlets at a minimum of 50deg, and all baths will be fitted with a thermostatic bath/shower mixer as per the sanitaryware schedule. The thermostatic bath/shower mixer is set so the hot water temperature will not exceed a maximum of 48deg as per current Building Regulation Guidelines.

5.4. Please refer to water efficiency calculations which demonstrate estimated consumption of wholesome water compliance. The calculation method used as per Approved Document G – 36.2B. This method assumes a usage of less than 110 litres per day, this includes a fixed factor of 5 litres per person for outdoor use.
(Please refer to Water Efficiency Calculation)

5.5. A physical water conditioner shall be installed on the incoming boosted cold-water mains pipework to prohibit lime-scale build up in the pipework system & associated plant. The water conditioner shall be fully WRAS approved and comply with the requirements of Building Regulations.

5.6. Drain cocks shall be installed at all low points to allow effective draining of the system for maintenance or for long periods of un-occupation.

5.7. Service valves should be installed at each outlet to provide the facility for service and maintenance requirements. The only exception to this will be the shower valves in the En-suites as the siting of the valves would prove inaccessible for maintenance purposes.

5.8. Suitable supplies, waste drainage and stop taps shall be provided for a Washing Machine / Dishwasher* within the kitchen of each dwelling. The pipework shall terminate in a cupboard adjacent to the proposed appliance. *(where required)

5.9. Foil tracer tape or tracer wire shall be run along all plastic pipework within partitions to aid detection.

5.10. Stopcocks and isolating valves shall be suitably labelled.

5.11. Stopcocks isolating valves and the like shall be easily accessible (but concealed within a cupboard) and positioned to facilitate isolation of all parts of the systems.

5.12. Upon completion the system shall be pressure tested, filled, flushed and bacteriologically chlorinated, all test certificates and lab results shall be provided.

5.13. Hot and cold-water supplies, and waste pipes, where possible shall not be fitted within appliance usable spaces. They shall be located within an adjacent unit.

5.14. Kitchen units should be adapted to allow access to supply and waste services. Base units shall be provided with all necessary 50mm diameter cut-outs for connections between appliances and services.

5.15. If a Dishwasher is not provided then plumbing, waste and space for future installation shall be provided where indicated on Kitchen specialist's drawings.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
EDL200270	**Heat Pump Cylinder**
Recoup_Easyfit+	**Waste Water Heat Recovery**
Callytic22	**Scale Inhibitor**

Drawings for Mechanical Services can be found in SECTION 16

Section 5 – Above Ground Drainage

5.1. The above ground drainage is designed to discharge foul or wastewater by gravity water flow from either flushing WC's, or running of taps. Soil pipes are to be installed to the minimum falls as detailed in table 5.11 to comply with Approved Document H.

Table 5.11

Peak Fow (litres/sec)	Pipe size (mm)	Minimum gradient (1 in ...)	Maximum capacity (litres/sec)
<1	75 100	1:40 1:40	4.1 9.2
>1	75 100	1:80 1:80	2.8 6.3

5.2. The pipework is sized adequately to suit the appliance it is connected to, and each trap is also sized as per table 5.21 to comply with Approved Document H.

Table 5.21

Appliance	Diameter of trap (mm)	Depth of seal (mm of water or equivalent)
Washbasin	32	75
Bath Shower	40	50
Sink Washing machine Dishwashing machine	40	75
WC pan – outlet >80mm	100	50

5.3. Soil vent pipes shall be enclosed in adequately sound insulating boxings.

5.4. Soil Stacks & Waste pipes passing through party floors or walls shall be appropriately fire checked in line with the standard details – QUELFIRESTD.
(Please refer to drawings for locations.)

5.5. Provision shall be provided for dishwasher and washing machine discharge, where locations are not adjacent sink, a trapped upstand shall be provided.

5.6. All wastes will have compression final connections to sanitary fittings for ease of future maintenance.

5.7. Sufficient access points will be provided within the design to allow clearance of any blockages, etc. (Please refer to drawings for locations.)

5.8. Pipework arrangements will allow for ease of rodding, in conjunction with access points, through the waste pipe system. (Please refer to drawings for locations.)

5.9. Offsets within the soil stacks shall be avoided wherever possible. Where this is not practical horizontal runs will be used with rodding points at changes of direction. (Please refer to drawings for locations.)

5.10. Waste pipes shall be concealed where possible.

5.11. Pipe boxing/duct casing shall incorporate adequate provision for access for maintenance purposes where required.

5.12. Waste pipes, including ground floor kitchen waste pipes, shall where practical not run behind cooker spaces.

5.13. Wastes from sink base units are to be located against the wall to allow maximum storage space in cupboards.

5.14. Condensate drainage from boilers and MVHR shall be connected to sanitary pipework. The materials used for condensate pipework shall be fit for purpose and withstand corrosive nature of condense. The connection shall be made to an internal stack. All sanitary pipework receiving condensate shall be made from materials resistant to a pH value of 6.5 and lower.

Proposed Equipment/Material Datasheets:

Reference	Description
OsmaSoil&Waste	**Above Ground Drainage**
QuelfireQWR	**Fire Collars**
QuelfireQWW	**Fire Wraps**
Drawings for Mechanical Services can be found in SECTION 16	

Section 6 – Sanitaryware

6.1. All outlets except for the bath filler shall be fitted with flow restrictors in line with the current SAP assessment and water saving calculations.

6.2. The regulation of water temperatures to baths shall be achieved by means of thermostatically controlled bath filler. Temperatures shall not exceed 48°C as per current Building Regulation Guidelines

6.3. All baths shall be fitted with a RECOUP wastewater heat recovery system

6.4. Taps shall be firmly fixed to avoid excess movement when fixed into stainless steel sinks and ceramic basins.

Proposed Equipment/Material Datasheets:

Reference	Description
AF & SO	**Water Efficiency Calculation**
HHAFFSAN	**Affordable Sanitaryware Schedule**
HHSOSAN	**Shared Ownership Sanitaryware Schedule**

Drawings for Mechanical Services can be found in SECTION 16

Section 7 – Ventilation

7.1. A mechanical ventilation heat recovery system is to be installed to provide whole dwelling ventilation to each property. The ventilation system is designed to promote good air quality and prevent condensation and mold build up without creating draughts or the need to open windows.

7.2. Minimum extract ventilation rates for continuous extract systems are specified in Table 7.21. A continuous rate is given for the general operation of the fan and a high rate for when additional extraction is required.

Table 7.21 Minimum extract ventilation rates for continuous extract systems(1)

Room	High Rate (l/s)	Continuous rate
Kitchen	13	The sum of all extract ventilation in the dwelling on its continuous rate should be at least the whole dwelling ventilation rate given in Table 7.4.1
Utility room	8	
Bathroom	8	
Sanitaryware accommodation	6	

NOTE:

1. If the continuous rate of ventilation provided in a room is equal to or higher than the minimum high rate specified in the table, no extra ventilation is needed.

7.3. Supply air for the dwelling should be delivered through one of the following means.

a. Continuous supply fans.
b. Background ventilators.

On this scheme continuous supply fans will be provided.

7.4. The minimum whole dwelling ventilation rate for the supply of air to the habitable rooms in a dwelling should meet both of the following conditions.

a. A minimum rate of 0.3 litres per second per m2 of internal floor area (this includes all floors, e.g. for a two-storey building, add the ground-floor and first-floor areas).

b. A minimum rate determined by the number of bedrooms, as specified in Table 7.4.1

Table 7.4.1 Minimum extract ventilation rates for continuous extract systems(1)

Number of bedrooms(1)(2)	Minimum ventilation rate by number of bedrooms (l/s)
1	19
2	25
3	31
4	37
5	43

NOTE:
1.If the dwelling only has one habitable room, a minimum ventilation rate of 13l/s should be used.
2. For each additional bedroom, add 6l/s to the values in Table 7.4.1

7.5. Internal doors should allow air to flow through the dwelling by providing a minimum free area equivalent to a 10mm undercut in a 760mm wide door. Doors should be undercut to achieve one of the following.

a. If the floor finish is fitted: 10mm above the floor finish.

b. If the floor finish is not fitted: 20mm above the floor surface.

7.6. All ventilation ductwork, be it inlet or exhaust, shall be insulated for both sound and thermal insulation along its whole length.

7.7. The use of flexible ductwork shall be kept to a minimum with rigid circular or flat ductwork used as preference.

7.8. Allowance for condensate drainage shall be made, with falls clearly set for gravity drainage.

7.9. All ventilation systems shall be tested and commissioned prior to completion and certified accordingly by the installer. Certification shall include a schedule of extraction/supply flows at each terminal/vent position.

7.10. The following minimum performance criteria shall be achieved for a MVHR unit

Dwelling Size	Specific Fan Power (W/l/s)	Thermal Efficiency 2012 Data
K+1 Wet Room	0.51	93
K+2 Wet Room	0.61	91
K+3 Wet Room	0.75	90
K+4 Wet Room	0.92	89

7.11. The design and installation MVHR systems shall specifically accommodate the following:

7.11.1. The heat exchange units shall be located to be accessible but concealed within a cupboard (which shall have a light).

7.11.2. Heat exchange units shall be mounted in a manner to actively incorporate measures to mitigate the transmission of vibrations to the building structure.

7.11.3. Lighting shall be available in the vicinity of the heat exchanger unit to assist the filter change.

7.11.4. All ventilation ductwork passing within un-insulated spaces, including loft spaces, shall be insulated to avoid condensation forming within the duct. This includes the ducts leading to atmosphere. Proprietary insulation or pre-insulated ducts shall be used with a thermal performance meeting the compliance requirements of the building regulations.

7.11.5. All ductworks shall be of the semi-rigid type. The only allowable exceptions are where connections are made to the unit.

7.11.6. Duct lengths shall be minimised to the shortest practical lengths.

7.11.7. Ducts will be fully supported and not permitted to sag and create condensate collecting point.

7.11.8. All joints to ducts, be they rigid, flexible or semi-rigid, shall be sealed.

7.11.9. Condensate drainage points shall be incorporated where recommended by the manufacturer, shall discharge into the drainage system and incorporate a water trap to stops smells from the foul drainage connection and the back syphoning of air.

7.11.10. Adjustable terminals shall, once commissioned, be locked off to ensure they cannot be adjusted by residents.

7.11.11. Ceiling terminals shall be positioned a minimum of 500mm from any wall to reduce the downdraft created when the air flow meets the wall.

7.11.12. An automatic boost facility shall be provided to each room containing a bath or shower, operated by the room light.

7.11.13. A manual boost facility shall be provided to kitchens, operated by a wall switch above the worktop; Boost switching shall be local to the room served.

7.11.14. Commissioning certificates shall be provided for each system installed prior to handover.

Purge Ventilation

7.12. A system for purge ventilation should be provided in each habitable room.

7.13. Purge ventilation should be capable of extracting at least four air changes per hour per room directly to the outside.

NOTE: In order to demonstrate compliance with Part O of the Building Regulations it is likely that higher purge ventilation rates than those given in paragraph 7.15

7.14. Purge ventilation should be delivered through one of the following means.

a. Openings (e.g. windows or doors).
b. A mechanical extract ventilation system.

7.15. Where purge ventilation is delivered through openings in a habitable room, the minimum opening areas in Table 1.4 should be achieved. The values in Table 1.4 are based on BS 5925, which assumes all of the following.

a. Single-sided ventilation.
b. An urban environment.

c. A wind speed of 2.1 metres per second (m/s).
d. A temperature difference of 3°C between the air inside and outside the building.

7.16. Depending on the dwelling design or the external climate, it may be possible in certain circumstances to achieve four air changes per hour with smaller openings. If smaller openings than those given in Table 1.4 are specified, expert advice should be sought to ensure that the design complies with requirement F1(1).

Table 7.16.1 Purge Ventilation Openings

Opening Type	Minimum total area of openings
Hinged or pivot windows with an opening angle of 15 to 30 degrees	1/10 of the floor area of the room
Hinged or pivot windows with an opening angle of greater than or equal to 30 degrees	1/20 of the floor area of the room
Opening sash windows	
External doors	

7.17. Hinged or pivot windows with an opening angle of less than 15 degrees are not suitable for purge ventilation.

7.18. The air flow resistance of all components should be considered when specifying ventilation systems. The complete assembly, as installed, should be designed to meet the performance standards of this approved document. The performance of the separate components should be measured according to the relevant parts of BS EN 13141 and other relevant standards.

Plant Room & Bin Stores

7.19. The mechanical plant room and bin stores shall be naturally ventilated via top and bottom vents through the wall, these vents shall achieve the minimum 0.6m2 free area to comply with Approved Document F.

Commercial Units

7.20. The commercial unit is shell and core, therefore there is no ventilation to be provided under current contract. The contractor completing the shell and core fit-out will need to ensure the ventilation strategy complies with the SBEM documentation and is submitted with the BSR application for the works.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
VectaireMIDITS	**MVHR**
VectaireFRAB	**Fire Rated Air Brick**
Domus Easipipe	**Ductwork and Ancillaries**
Starflex	**Insulation**
A/Wise Valves	**Air Valves**

Drawings for Mechanical Services can be found in SECTION 16

Section 8 – CWS Risers & Manifolds

5.1. The residential BCWS main shall be boosted to provide a minimum of approximately 3 Bar at the PRV on each level and a minimum of 2.8 Bar at the entry to each apartment. Pressure reducing valves shall be installed at every floor level and shall be located within the risers. These shall permit the adjustment of pressures at each floor level when commissioning. The boosted cold-water service shall distribute water via associated pipework to each apartment via the service risers and the corridors.

5.2. Each apartment water supply shall be provided with a water utility - "meter carrier" assembly located in the service riser of the apartment floor. The meter carrier shall be suitable for the free issue local water authority meter.

5.3. The full domestic cold-water installation shall be maintained below 20°C.

5.4. All pipework shall be installed in copper or plastic tube to BS standard BS EN 1057.

5.5. Pipework runs shall be so designed and installed as to have the minimum number of joints within the running length.

5.6. Where jointless plastic piping is used, the connection onto the copper pipe shall be accessible and not hidden under floors or in studwork, ceilings, etc.

5.7. Un-jointed and continuous run within voids shall be adequately supported and clipped to avoid movement and sound transfer, but allowing for expansion and contraction.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
GeberitFlowfit	**Pipework System**
PlassonMCP	**Manifolds**
TenantValveADV	**Tenant Valves**

Drawings for Mechanical Services can be found in SECTION 16

Section 9 – Dry Riser

9.1. A twin inlet breeching piece shall be located at the Entrance of each core. From there a 100 dia galvanised steel pipe (BS1387/EN10255) service with Victaulic couplings shall rise and fall to serve 65 diameter landing valves on each level of the firefighting staircase and a test point at roof level. At the termination of the dry riser an automatic air release valve shall be fitted.

9.2. Upon completion the system shall be tested and certified in accordance with BS9990.

9.3. Inlet & Landing Valve cabinets shall be provided in 'Red powder coated finish'.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
JDFIRE	**Dry Riser Components**
Drawings for Mechanical Services can be found in SECTION 16	

Section 10 – Sprinkler System

Residential

10.1. The sprinkler system shall be a category 4 system and shall be compliant to BS 9251:2021.

10.2. The residential sprinkler system is supplied via the boosted cold-water system tank and pumps.

10.3. The system supplies sprinkler risers to feed cores. Each level is provided with full sprinkler protection to the apartments, communal areas and corridors.

10.4. All ancillary and amenity areas should be limited to compartments of 100m2 or less to allow suitable coverage of the BS9251 system.

10.5. In the event of a fire, the affected sprinkler head fusible link breaks upon reaching the operation temperature, 74deg. When this occurs, the water pressure between the sprinklers operates which are individually heated above their operating temperature by the head from the fire.

10.6. Operation of the Zone/floor level flow switches mounted upon the delivery pipework provided notification to the building fire alarm system and activate an audible alarm.

10.7. A common flow switch also closes the priority demand valve that supplies the domestic cold-water system to allow full use of the BCWS storage tank and pumps to the sprinkler system.

10.8. The residential system has zones throughout the project, and all areas have been hydraulically calculated to provide the correct pressure at each zone, whilst also ensuring 60 minutes duration from the BCWS tank.

10.9. Upon completion of the system the Firas Accredited sprinkler shall provide the required certification.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
TO BE ISSUED	**Technical Submission**
Drawings for Mechanical Services can be found in SECTION 16	

Section 11 – Booster Sets & Break Tanks

11.1. The boosted water supply installation shall comprise a suction tank feeding a multistage booster set. The suction tank shall have an internally flanged base with fabricated pre-insulated, externally flanged GRP sectional side panels and lid. The tank shall be internally divided into two sections such that each section can be shut down and drained for cleaning whilst maintaining a supply from the other tank section. The panels shall be provided with a minimum of 50mm thick phenolic foam insulation around all sides including the lids. The complete installation shall be fully compliant with the water regulations and suitable for the storage and supply of potable water.

11.2. When the empty level alarm in either tank section is engaged, the booster set shall be shut it down, for dry running protection.

11.3. The booster set shall be a packaged skid mounted unit, complete with stainless steel manifolds, isolating valves, non-return valves, anti-vibration mounts and rubber bellows on all connection points.

11.4. The water booster pumps shall be variable speed multistage with at least 3 heads in duty / assist / standby configuration. The package shall be complete with integral variable speed controls and dedicated hydraulic accumulators to limit short cycling. The staging and control shall achieve stable flow and pressure at all the outlets from minimum flow to maximum flow.

11.5. Anti-surge valves shall be fitted to the head of each rising main.

11.6. All pipework installed externally of the building heated envelope, e.g. car park, shall be provided with thermostatically controlled trace heating or insulated in accordance with WRAS guidelines for external pipework.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
VT3-10-030M	**Booster Set**
IBF-Sectional Tank	**Break Tank**
Drawings for Mechanical Services can be found in SECTION 16	

Section 12 – Water Treatment, Chlorination & Testing & Commissioning

REF:	Equipment / System
12.1	Hydraulic Pressure Testing
12.2	Chlorination & Water Treatment
12.3	Cylinder Benchmark
12.4	Commissioning of Mechanical Services
12.5	Commissioning of Ventilation Services
12.6	Dry Riser Commissioning
12.7	Booster Set Commissioning
12.8	Sprinkler Commissioning

Section 13 – Insulation

13.1. Provision shall be made for insulating pipes and ducts to conserve heat in accordance with the requirements of the Building Regulations.

13.2. Insulation within the plant area and service riser shall be phenolic foam with a thickness to meet the requirements under BS5422 & AD Part L for energy loss requirements.

13.3. Thermal Insulation bags shall be provided to all valves, flanges, strainers etc.

13.4. Thermal insulation shall pass through pipe clips and pipe supports shall be provided where necessary.

Proposed Equipment/Material Datasheets:

Part / Reference	Description
KOOLTHERMPI	**Kingspan Pipework Insulation Installation**
KOOLTHERMPD	**Kingspan Pipework Insulation Datasheet**
Drawings for Mechanical Services can be found in SECTION 16	

Section 14 – Sub-contractor and Supplier Details

14.1 Sub-contractor and Suppliers Index

(For technical product details please refer to Section 3 to 14)

Equipment	Manufacturers / Suppliers Details
Above Ground Drainage	Wavin (OSMA) Edlington Lane, Edlington, Doncaster DN12 1BY Tel: 0844 856 9440 Web: www.wavin.com
Flexible Pipework Pushfit	Wavin (Hep20) Edlington Lane, Edlington, Doncaster DN12 1BY Tel: 0844 856 9440 Web: www.wavin.com
Copper Mappress Fittings and Flexible Crimped Pipework	Geberit Geberit House Edgehill Drive, Warwick, CV34 6NH Tel: 01926 516800 Web: www.geberit.co.uk
Direct Unvented Heat Pump HWS Cylinder	Dimplex (Edel) Millbrook House, Grange Dr, Hedge End, Southampton SO30 2DF Tel: 0344 879 3587 Web: www.dimplex.co.uk

Waste Water Heat Recovery System	Recoup Trumpeter House, Trumpeter Rise, Long Stratton, NR15 2DY Tel: 01379 844010 Web: www.recoup.co.uk
Scale Reducer	Calmag Ltd Riverview Buildings, Bradford Road, Sandbeds, Keighly, West Yorkshire BD20 5JH Tel: 01535 210320 Web: www.calmagltd.co.uk
Booster Set, CAT 5 System & Water Conditioner	Dutypoint Limited Shepherd Road Gloucester GL2 5EL Tel: 01452 300592 Web: www.dutypoint.com
Cold Water Break Tank	Decca Plastics Limited Unit 2 Victoria Mill Lincoln Street Preston PR1 6RE Tel: 01772 825757 Web: www.deccatanks.co.uk
Residential MVHR & Ductwork	Vectaire Ltd Lincoln Road Cressex Business Park High Wycombe HP12 3RH Tel: 01494 522333 Web: www.vectaire.co.uk

Dry Riser	Nationwide Dry Risers 74 Bottom O'th Moor Horwich Bolton Bl6 6QF Tel: 01204 412598 Web: www.nationwidedryrisers.co.uk
Sprinkler Systems	Flint Green Dallimore Road Roundthorn Industrial Estate Wythenshawe Manchester M23 9NX Tel: 0161 946 0088 Web: www.flintgreen.co.uk

Section 15 – Drawing Register

15.1 Drawing Register

Drawing No.	Drawing Title	Date	Rev

Drawing No.	Drawing Title	Date	Rev

Appendix A – Abbreviations

The following abbreviations may be referred to within this document:

COSHH	Control of Substance Hazardous Health
CCTV	Closed Circuit Television
dB	Decibel
DC	Direct Current
IEE	Institute of Electrical Engineers
IDS	Intruder Detection System
LED	Light Emitting Diode
V	Volt
W	Watt
PIR	Passive Infra-Red Detector
PPE	Personal Protective Equipment
PSU	Power Supply Unit
UPS	Uninterruptible Power Supply
WP	Weather Proof

Appendix B – Notes

Acknowledgements

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Edel RF Hot Water Heat Pump



Product Description

Edel heat pump cylinders comprise of a stainless steel inner vessel with a hot water heat pump mounted on top. The heat pump produces hot water very efficiently **by extracting heat from external air supplied via insulated ductwork,** which is available as an accessory. This highly efficient cylinder reduces the dwelling emissions in SAP making it possible to pass using electric space heating and an Edel heat pump cylinder. Edel cylinders feature RF connectivity and can be controlled remotely when connected to a DimplexHub.

Key Features

- Internet-connected smartphone app connectivity
- The Edel heat pump consumes 5 times less electricity than standard electric water heated cylinders
- Helps to pass Part L of building regulations when specifying electric heating
- Compact 630mm diameter units, available in 200L or 270L hot water capacity cylinder options
- Stainless steel tank with 5 year guarantee, no sacrificial anode requirement
- Very quiet in operation due to soundproof hood housing, variable speed fan and the rotary compressor being mounted on anti-vibration pads
- Patented high performance heat exchanger with defrost mode operation in UK climates

Internet Connectivity

App platform	Dimplex Control
Connectivity method	RF 868Mhz (Included)
Additional hardware	Requires 1 x 'DimplexHub'

Download on the App Store GET IT ON Google Play



Use of Dimplex control is Control is subject to agreement of the GDHV Internet of Things (IoT) Terms and Conditions, Privacy Policy *and* Cookie Policy.

Technical Details

Heat pump performance		***Edel 200 UK RF***	***Edel 270 UK RF***
Model code		EDL200UK-630RF	EDL270UK-630RF
Item Code		101587	101594
Nominal volume	L	200	270
Air operating range	°C	-7 to +35	
Achievable hot water temperature via heat pump	°C	60	
Max. electrical power input (heat pump & immersion)	W	700 + 1200 = 1900	
Max. thermal power output (heat pump ONLY) at 45°C	W	1300	
Max. power output (heat pump & immersion) at 45°C	W	1300 + 1200 = 2500	
Air flow	m^3/h	320 to 400	
Sound pressure level at 2m	dB(A)	37 (speed1) / 40 (speed2)	
Refrigerant	/kg	R290/ 0.15	
Standing heat loss	kWh/24hr	1.61	1.77
Air ducting method		Separate inlet and outlet to exterior	
Heat up from cold (10°C)		7hr 15mins	9hr 48mins
Coefficient of performance		3.36	3.30
Dimensions & connections			
Dimensions	mm	630 x H 1460	630 x H 1780
Weight with packaging	kg	70	79
Weight without packaging	kg	56.5	63
Air duct diameter	mm	160	
Max. ducting pressure drop		220Pa at min. air flow rate $320m^3/hr$	
Water connections	Inch	M 3/4"	
Condensate tube	mm	18/24	
Electrical supply		230V 50Hz - 8A	
IP rating		IPX4	
MCB type C	Amp	16	
Hot water cylinder			
Material		Stainless steel	
Insulation		50mm PU foam with PVC outer	
Refrigeration heat exchanger		Double walled separation from potable water	
Max. operating pressure	bar	6	
Max. condensate production	L/h	0.3	
Integrated electric immersion heater	W	1200	
Max. temperature with immersion heater	°C	65	
Approvals			
Water regulations		G3 KIWA approval to EN12897	
T&P valve		Factory fitted	
Accessories		Inlet group, tundish, expansion vessel	
Guarantee (UK)		5 years tank (2 years other parts)	

EASYFIT+ RETROFT INSTALLATION PROCESS IN PICTURES

SHOWER WASTE WATER HEAT RECOVERY SYSTEM

WRAS APPROVED PRODUCT
1802331 / 1806308 / 1310312 / 1401325

IMPORTANT NOTE – Please Read

This picture guide is supplementary and does not replace the installation instruction manual supplied with the Easyfit+. Before starting installation please read all content provided with the Easyfit+.

Before starting check section 3 of the installation instructions supplied with the Recoup Easyfit+ for pre-installation guidance on locating a suitable area for installation.

The Recoup Easyfit+ needs to be installed horizontally under the bath or the shower tray. Installation should take place on a flat surface capable of supporting the WWHRS. The location should allow for access to all parts and allow routine maintenance (E.g. Cleaning) to be carried out with relative ease.

The Recoup Easyfit+ must be located within the heating envelope of the building.

The Easyfit+ must be installed with consideration to the most recent 'Approved document – Part H of the Building Regulations' for preventing the ingress of foul sewer gases.

Before starting the installation make sure you know which installation method is to be used. In a retrofitted installation System B is the most common and will be the method primarily shown here. The Easyfit+ can also be installed with the System A or System C installation method.

Use the images and instructions on the following pages to assist you with the installation process. Work down each column following the numbered text below each corresponding image. An installation video can also be found on our website to assist, www.recoupwwhrs.co.uk.

INSTALLATION CONTENTS



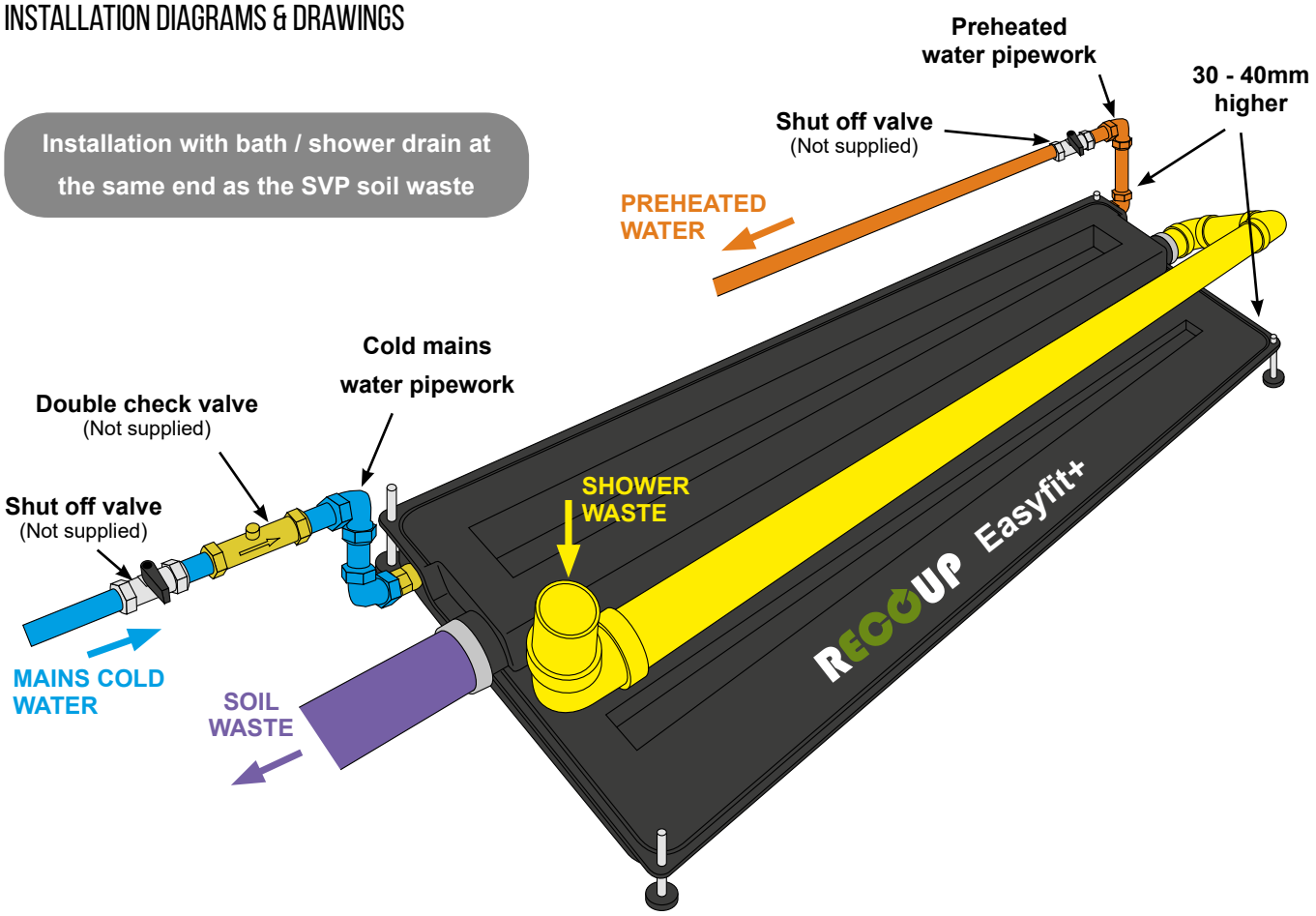
1 - RECOUP Easyfit+ WWHRS unit 2 - Installation instructions

3 - NCM (SAP) identifier label for nearby water or service cupboard.

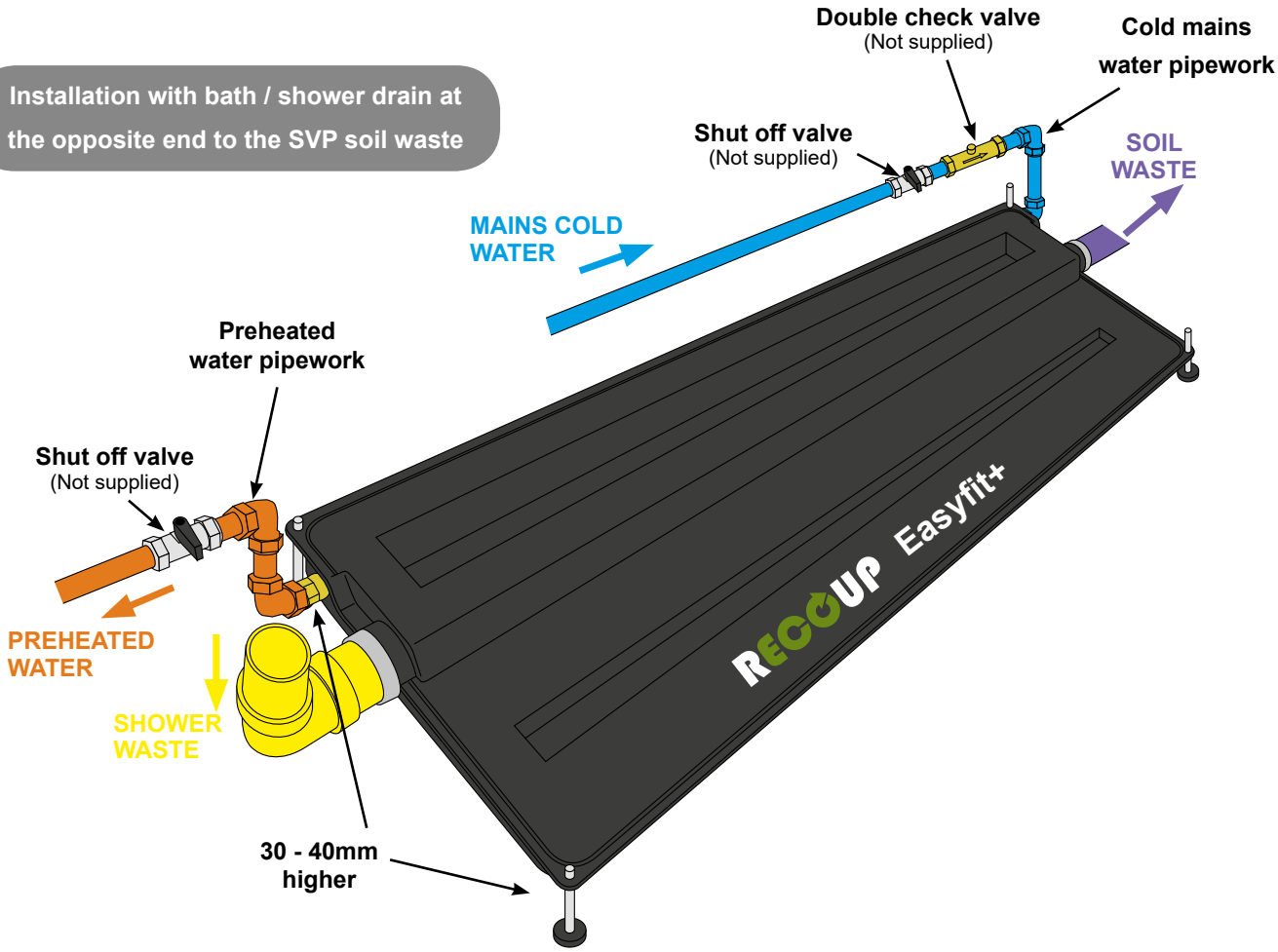
IMPORTANT NOTE

To ensure SAP compliance check buildings spec for correct installation method (System A, B or C)

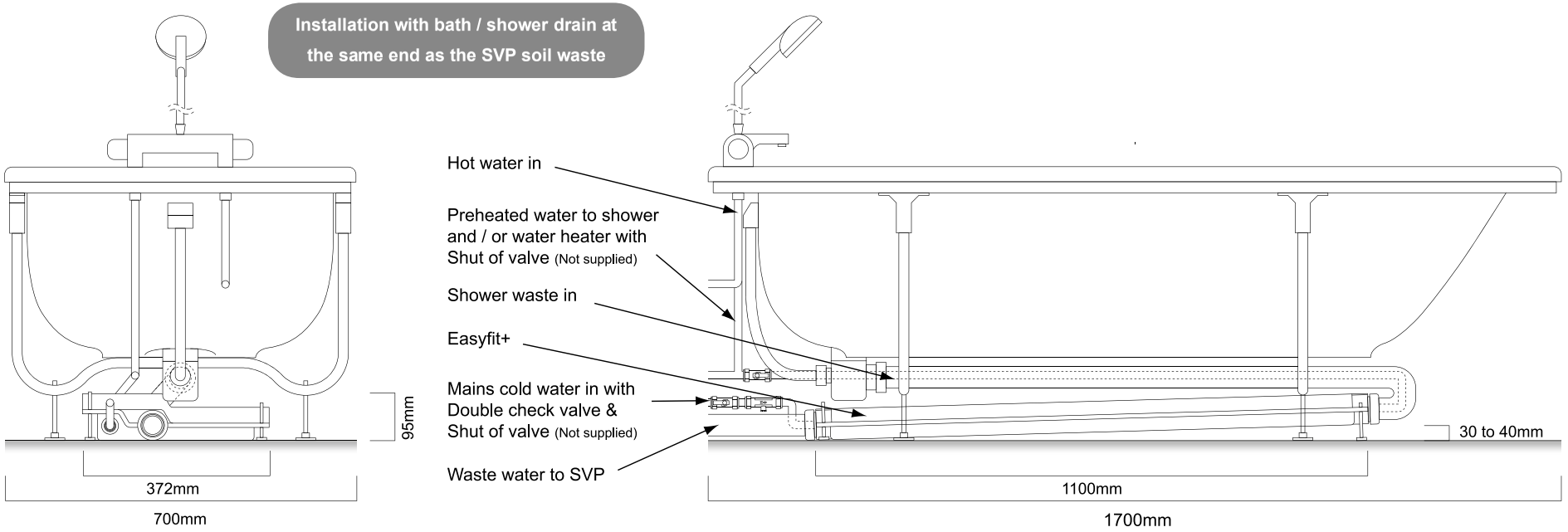
Installation with bath / shower drain at the same end as the SVP soil waste



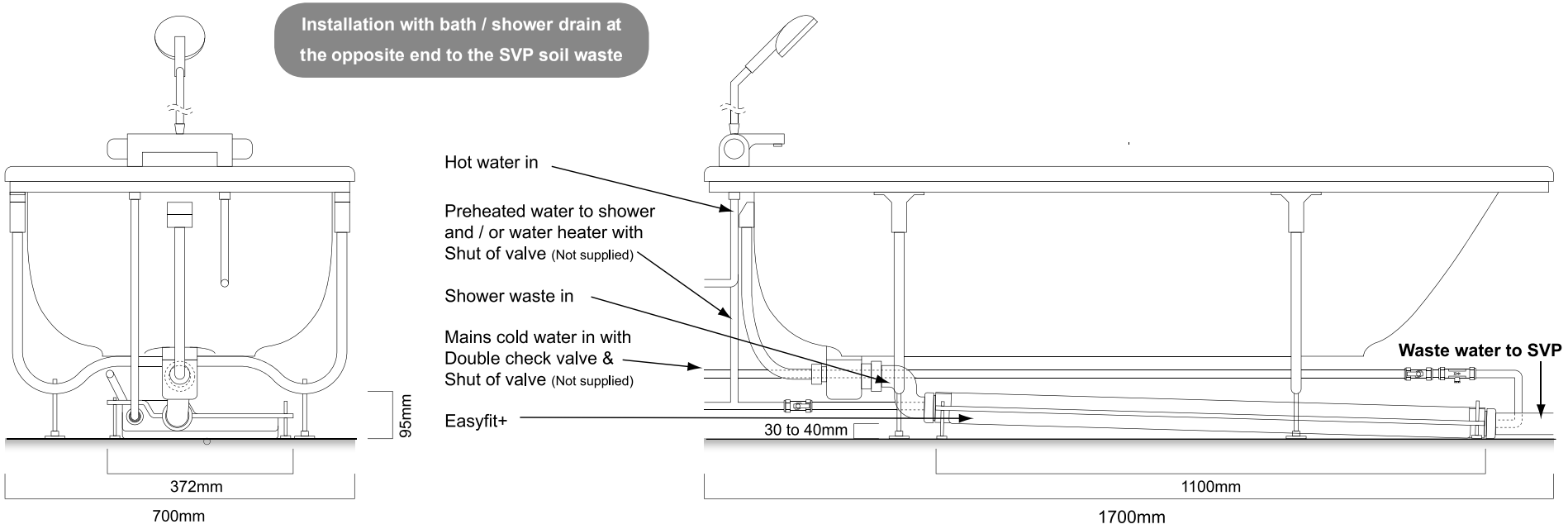
Installation with bath / shower drain at the opposite end to the SVP soil waste



Installation with bath / shower drain at the same end as the SVP soil waste



Installation with bath / shower drain at the opposite end to the SVP soil waste



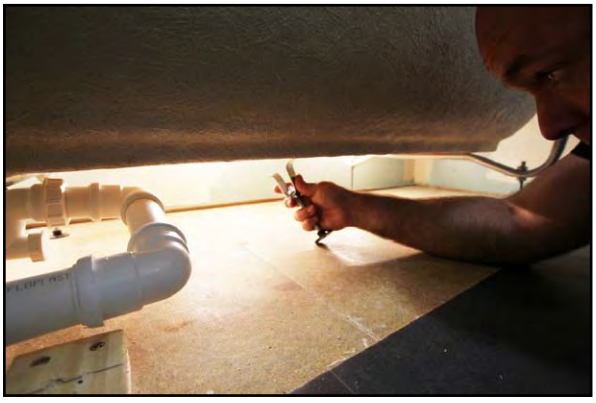
SETTING UP TO RETROFIT THE RECOUP EASYFIT+



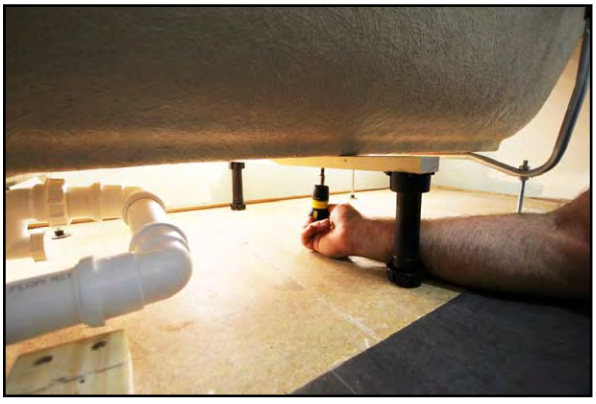
1. To retrofit the Recoup Easyfit+ below the shower system installed must have a thermostatic mixer. This can be either be deck mounted onto the bath or wall mounted above it.



2. To start retrofitting the Recoup Easyfit+ remove the bath panel from the side of the bath along with any structure supporting the panel that restricts access.



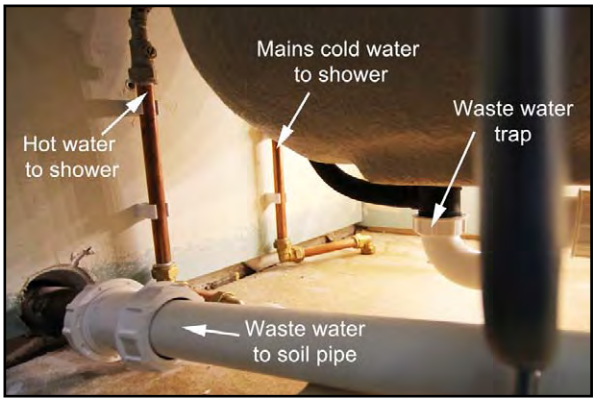
3. If the bath has a central foot installed this will need to be removed to accommodate the Easyfit+.



4. If a central supporting foot is removed, then alternative raised support should be installed that will bridge over the area where the Easyfit+ needs to be positioned.



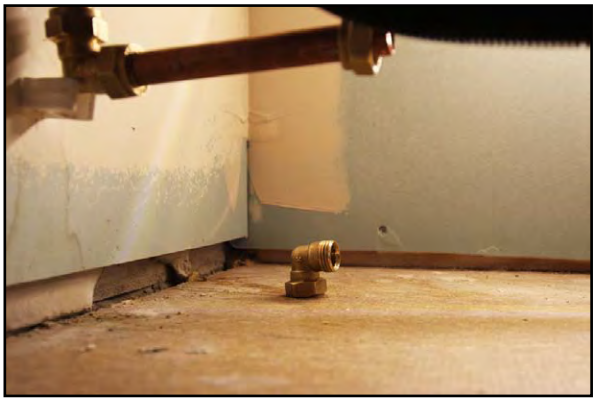
5. If required remove part of the added support to allow access during the installation.



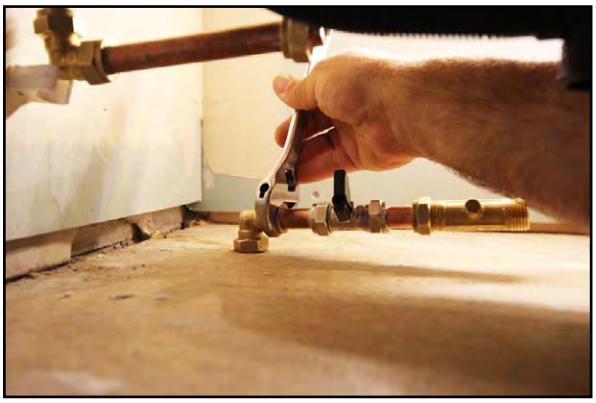
6. Look at the water and waste pipe connections and identify the waste water trap, the waste water out pipe, the hot water pipe to the shower and the mains cold water pipe to the shower.



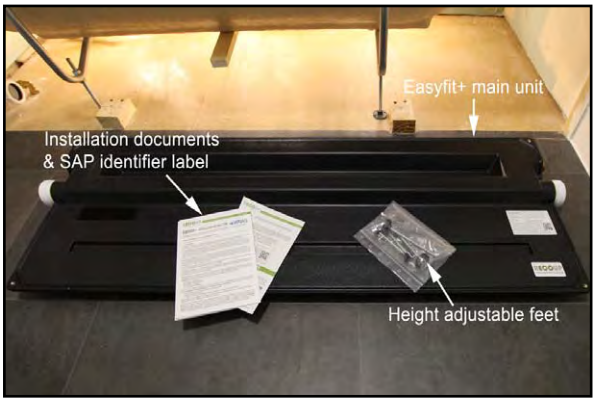
7. Disconnect the waste water trap from the bath along with the waste water pipes to where they connect to the SVP soil pipe.



8. Ensure that the mains cold water has been switched off at the stopcock then separate the pipe for the mains cold water to the shower.



9. Connect a full flow shut off valve (not supplied) and a double check valve (not supplied) to the mains cold water pipe. Ensure all fixings are fully tightened and joints sealed.



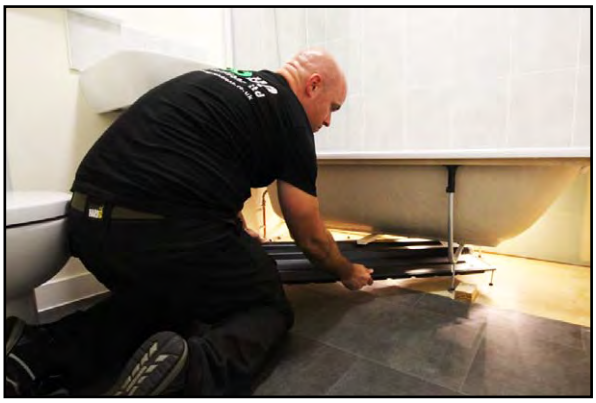
10. Unbox the Recoup Easyfit+. Included within the box is the Easyfit+ main unit, four height adjustable feet, the installation documents and SAP identifier label.



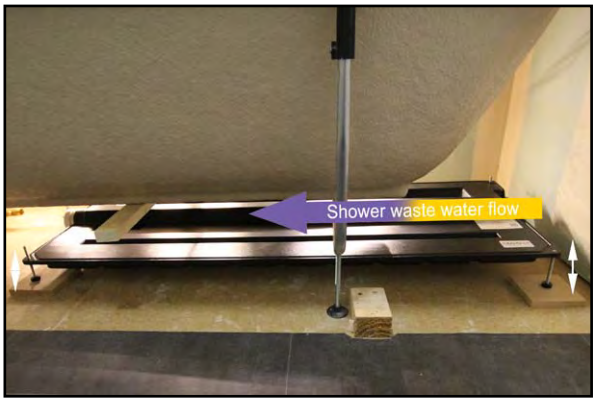
11. The Easyfit+ incorporates symmetrical connections at either end. Orientate the unit whichever way best suits for the position of the mains cold water and waste water pipe connections under the bath.



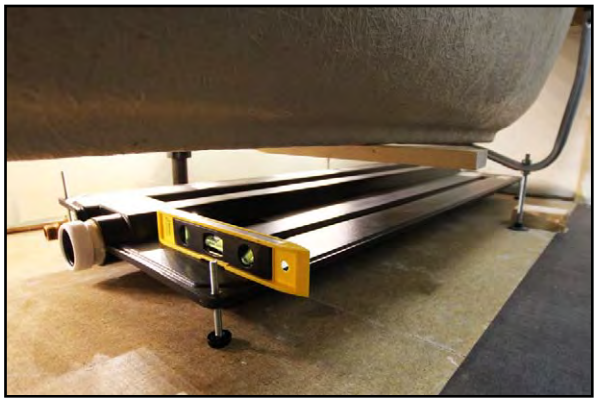
12. Screw the height adjustable feet into the threaded inserts in the corners of the Easyfit+ unit. Use the longer threads on the higher edge of the Easyfit+.



13. Position the Easyfit+ under the bath.



14. Adjust the feet so that the end of the Easyfit+ furthest from the SVP soil connection is 30mm to 40mm higher than the other end. This is so that the shower waste water flows through the unit from one end to the other.

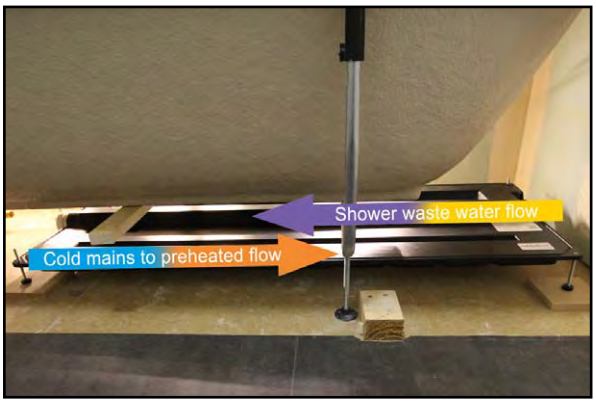


15. Ensure that the unit is horizontal at both ends perpendicular to the flow of shower waste water.

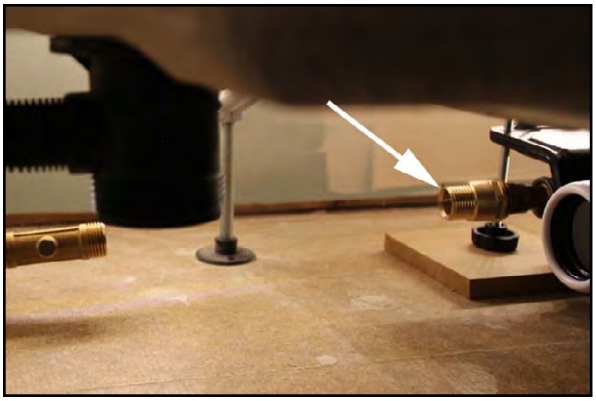


16. Even packing under each adjustable foot may be required if the waste water outlet at the lower end of the Easyfit+ is not higher than the connection to the soil pipe.

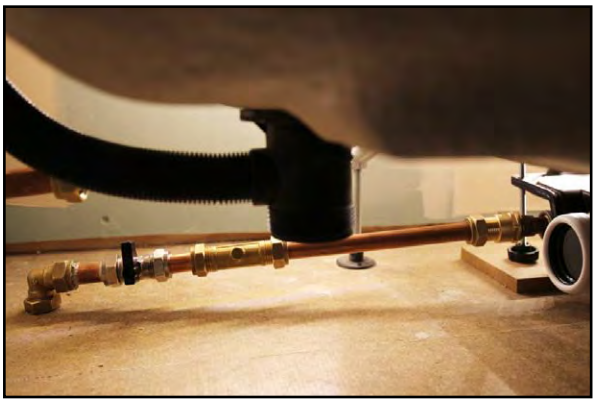
CONNECTING THE MAINS COLD & PREHEATED WATER



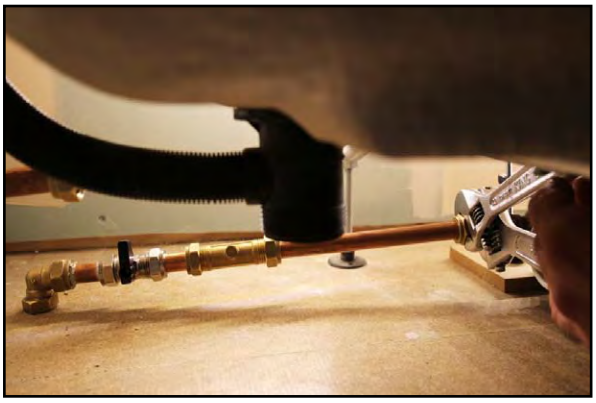
17. The flow of mains cold to preheated water needs to run in the opposite direction to the flow of the shower waste water.



18. Connect a female half inch BSP connector (not supplied) to the half inch BSP male connection at the lower end of the Easyfit+ unit.



19. Connect the opposite end of the female half inch BSP connector to the double check valve and full flow shut off valve previously connected to the mains cold water.



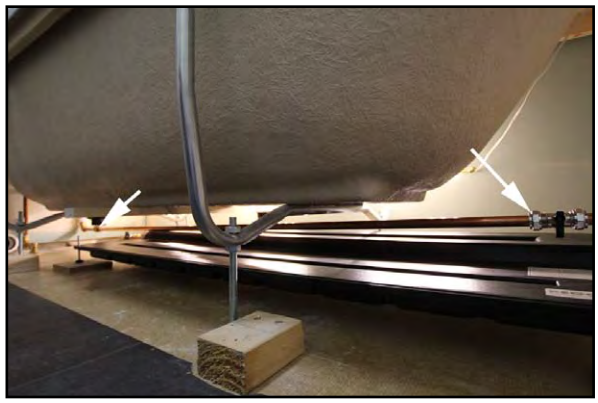
20. Ensure all fixings are fully tightened and joints sealed.



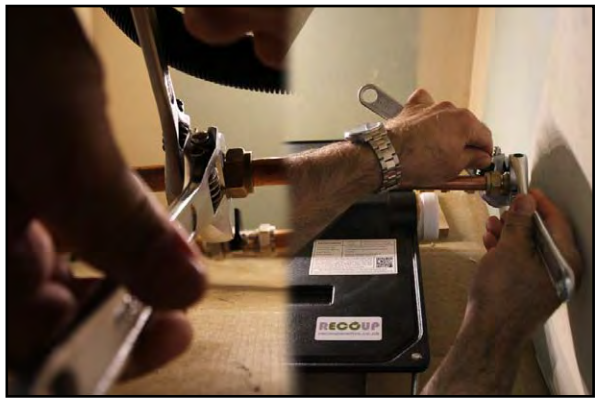
21. Connect a second female half inch BSP connector (not supplied) to the half inch male connection for the preheated water at the higher end of the Easyfit+.



22. Connect a full flow shut off valve (not supplied) to assist with easy removal and maintenance.



23. Connect the preheated water output to what was the mains cold water connection on the showers thermostatic mixer.



24. Ensure all fixings are fully tightened and joints sealed.



25. This setup creates the system B installation method supplying preheated water to the shower only. For system A installations a T joint would be required to also send the preheated water to the water heater.

CONNECTING THE SHOWER WASTE



26. Using 40mm push fit, or 43mm solvent weld pipe, connect the warm shower water in to the bath shower trap. The warm shower water in is the highest end of the Easyfit+.

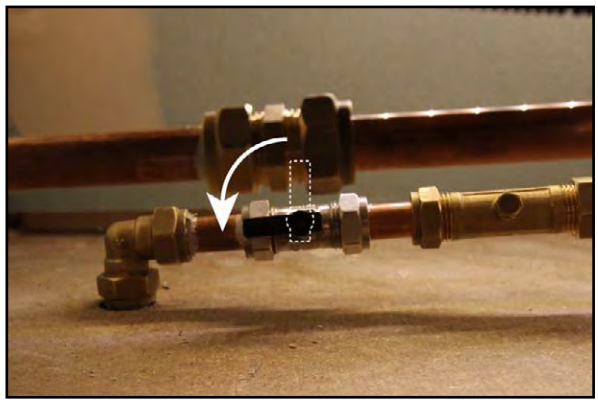


27. When the highest point is at the opposite end to bath trap the pipes can be run above the lower profile section of the Easyfit+.



28. Using 40mm push fit or 43mm solvent weld pipe, connect the waste water out at the lower end of the Easyfit+ unit to the SVP soil pipe. Ensure all fixings are fully tightened and sealed.

COMMISIONING THE EASYFIT+



29. Ensure the cold mains water is turned back on at the stopcock. Open the full flow shut off valve on the mains cold water feed to start the cold water flow into the Easyfit+.



30. Open the full flow shut off valve on the preheated water pipe to start the flow from the Easyfit+



31. Replace any bath supports removed to allow access to install the Recoup Easyfit+



32. Replace the bath panel and any supporting structure.

33. Please check and complete the following important points:

a) Ensure the preheated water supply is only feeding the DHW water heater and the cold water inlet of the shower's thermostatic mixing valve (System A), the cold inlet of the shower's thermostatic mixing valve only (System B) or the water heater only (System C).

b) The preheated water supply from the RECOUP Easyfit+ is clearly labelled to avoid future connections of other services. Preheat supply tape is available for this.

c) Pipework between the RECOUP Easyfit+ and the water heater and/or cold water inlet of the thermostatic mixing valve is insulated.

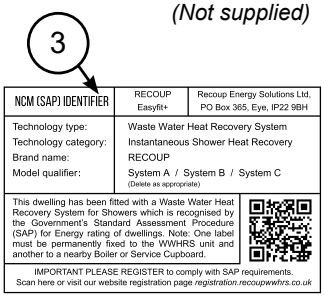
d) When the complete system is being checked and pressure tested, the RECOUP Easyfit+ must be isolated if the system testing is to proceed above 10 bar.

e) Ensure the SAP label supplied correctly identifies the System installed and is applied near to the water heater in the property (Part 3).

f) Register the installation (Section 8) to generate the installation / warranty certificate.



Preheat supply tape
(Not supplied)



Water heater SAP identifier label

Visit the RECOUP Easyfit+ product page on our website for more installation support. Visit easyfit.recoupwwhrs.co.uk or scan this QR code.

For all technical or installation queries, please contact RECOUP directly. For product related issues, please contact your place of purchase.

MAINTENANCE

The maintenance required for the RECOUP Easyfit+ is very minimal, however, it is recommended to clean the unit periodically to avoid any reduction in efficiency. This cleaning will remove any build-up of soap and dirt residue on the outside of the copper pipe where the waste water passes.

The following maintenance procedure is suggested:

A hair filtering device as part of the bath / shower trap is recommended to reduce the amount of hair that gets into the RECOUP Easyfit+.

Every 2 months, use 1-2 litres of hot water up to 70°C (re-use waste water from boiling potatoes or pasta to save energy) and apply into the bath / shower-tray drain in 2 stages, with around 5 minutes between. (This will help dissolve soap residues on the copper pipes in the RECOUP Easyfit+). Use the shower shortly after to make sure any debris is flushed away. It is possible to use chemical agents sold for declogging as a cleaning agent if required.

If no maintenance is carried out, the RECOUP Easyfit+ will work, but the efficiency may decrease over time.

WARRANTY

The RECOUP Easyfit+ comes with a 2 year warranty unless agreed otherwise. This starts from either the date of invoice from Recoup Energy Solutions Ltd or purchase from partnered trade distributors. Installation registration should be completed as part of the guarantee requirements.

This warranty is conditional on the product being installed in accordance with these instructions (Installation and ALL requirements for SAP, if product is to be recognised for Energy efficiency calculations), correct plumbing practices and Building Regulations.

REGISTRATION

The installation of the RECOUP Easyfit+ WWHRS should be registered for SAP and guarantee requirements. Registration can be completed by submiting an online installation registration form. Visit registration.recoupwwhrs.co.uk or scan the QR code to access the form.

Once submitted you will receive your installation registration certificate by email.

Visit our website registration page or scan the QR code

REGISTRATION.RECOUPWWHRS.CO.UK

DOMESTIC
Specification Details

General Overview

This electrolytic unit is suitable for installation on cold water lines for preventing the formation of limescale.

The unit should be used on 22mm pipework - no earth bonding required.

Any scale that has formed around taps, sinks, showers, etc., will begin softening with regular contact with treated water. This soft scale is easier to remove than normal hard scale.

Surfaces frequently in contact with treated water are easier to clean - Shower heads are also descaled.

After several months of descaling, hot water system efficiency will gradually increase.

Please note: Scale inhibitors are not suitable for eliminating hard scale in kettles. Please see Calmag water filtration for better water for drinking and cooking.

CalLytic 22mm Scale Inhibitor
Product Code:
SI-CalLytic-22

Points to consider:-

1. Limited free play in rigid pipework.
2. Cut only one measurement, then re-measure, also taking into account the compression fittings, before the unit is installed.
3. Ensure that the unit is compact when the pipework has been cut.

For further information, contact Calmag.

SPECIFICATION DETAILS:
Electrolytic unit:-
Overall length: On product box
Diameter: 33mm
Material: Plated copper
Fittings: 22mm compression (STD)
Maximum working pressure: 12 bar (168 psi) Maximum temperature: 80 deg C
Maximum flow rate: 1.08 l/sec (14gpm)

INSTALLATION

- Turn off the water supply.
- Drain relevant pipework or system where the CalLytic unit is to be installed.
- Allow time for the system to cool down if fitted in line.
- Cut pipework to suit length of unit.
- Tighten the compression fittings to make a
- seal. Re-open the system slowly.
- Check for leaks.

Registered Office: Calmag, Riverview Buildings, Bradford Road, Riddlesden, Keighley, West Yorkshire, BD20 5JH Tel: 01535 210320 Fax: 01535 210321 Email: Sales@calmagltd.com Web: www.calmagltd.com

Calmag is the trading name of Calmag (Yorkshire) Ltd. Registered in Cardiff No. 5607855 SI-CalLytic-22 230212

PRODUCT AND INSTALLATION MANUAL

wavin OSMA

Soil & Waste



wavin

Wavin Osma Soil & Waste

Above Ground Drainage Systems



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Wavin OsmaSoil

Introduction

PVC-U
Soil System



Comprehensive Choice

The Wavin Osma soil and vent range offers an exceptional choice of pipe and fittings including brackets, bends, junctions, access fittings, terminations and problem solvers.

Available in a choice of colours (black, grey and white) and connection methods: Ring-Seal (push-fit) and Solvent Weld to give maximum installation flexibility.

- **Ring-Seal (push-fit) pipe and fittings are available in 82/110/160mm sizes**
- **Solvent weld pipe and fittings are available in 110/160mm sizes**

Table 1: PVC-U Soil system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size (mm)	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
82	82.4	82.8	3.3	3.5	1.22
110	110.0	110.3	3.2	3.5	1.64
160	160.0	160.4	3.2	3.8	2.44

Table 2: PVC-U Ring-Seal Soil system: Socket Dimensions (mm)

Nominal Size (mm)	Internal Depth		Maximum Outside Diameter	
	Ring-Seal	Solvent Weld	Ring-Seal	Solvent Weld
82	55	45	113	89
110	65	50	132	118
160	80	58	192	168

Table 3: PVC-U Solvent Weld Soil system: Socket Dimensions (mm)

Nominal Size (mm)	Internal Depth		Maximum Outside Diameter	
	Without Expansion Cap	With Expansion Cap	Without Expansion Cap	With Expansion Cap
110	48	65	121	126
160	58	86	172	177

Commitment to Standards

Wavin is committed to manufacturing to the highest standards.

- OsmaSoil 82/110/160mm fittings and 82mm pipe are manufactured in PVC-U to BS EN 1329-1:2000
- OsmaSoil 110/160mm pipe is manufactured in PVC-U with Wavin's Recycore Technology to BS EN 1453-1:2000



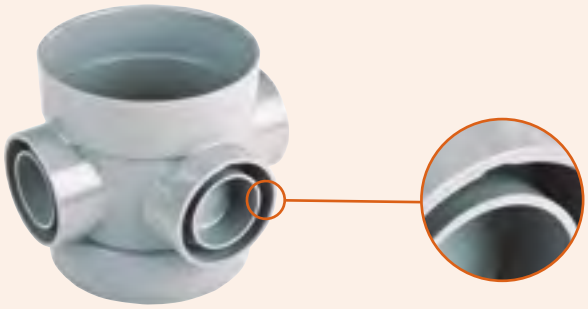
Specialist Seal Technology

OsmaSoil pipe and fittings have seals that always stay where they should; fittings via an innovative co-moulded seal and cap (captive seal), ensuring the seals do not dislodge and remain airtight. Socketed pipes have a co-moulded rubber and polypropylene ring which is retained inside the socket.



High Performance Pipes with Recycled Content

All 110mm and 160mm plain ended and single socketed soil pipe in this range is manufactured using Wavin's award winning Recycore Technology and contains at least 50% recycled PVC. BS EN 13476 Kitemarked.



Unique Keyway

OsmaSoil fittings have a unique keyway. When the Boss Socket Adaptor is installed the locating key fits into the corresponding keyway on the fitting ensuring the correct fall is achieved every time.

Specialist Fittings

Within OsmaSoil we offer you fittings designed to make installations easier.



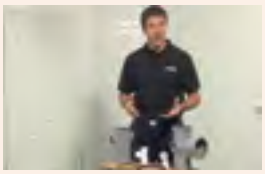
For example the 6-boss manifold has a compact design to sit in a 200mm hole with multiple waste connection options (without the need for boss adaptors) to give you maximum versatility in a restricted space.

Osma WC Connectors

Within OsmaSoil is a comprehensive set of WC fittings for all WC configurations, including easy fit, flexible pan connectors and manifold branches designed to connect up to 8 WCs to 1 float.

'How to' Videos YouTube

To support Osma Soil and Waste there is a set of installation 'how to' videos to show how you can make light work of challenging plumbing problems. They can be viewed at www.youtube.com/WavinUK on the Osma playlist.





Wavin Osma Waste

Introduction

Waste and overflow systems

The Wavin Osma range offers a choice of two waste systems: push-fit waste and one solvent weld waste systems for standard and high temperature usage.

The Wavin Osma range offers both push-fit and solvent weld waste systems. These are supported by V-Joint traps, two overflow systems (push-fit and solvent weld options), condensate drainage and HepVO waterless self-sealing waste valves.

Z **Wavin OsmaWeld – ABS Solvent Weld Waste**

W **Wavin Osma – PP Push-fit Waste**

The systems fully coordinate with Wavin OsmaSoil systems.

PVC-C Waste can now be found in the Wavin Soil portfolio.



ABS Solvent Weld Waste system: Wavin OsmaWeld

- 32, 40 and 50mm pipes and fittings
- Colour choice: Black, Grey and White
- Manufactured in ABS (Acrilonytrile Butadiene Styrene) to BS EN 1455-1: 2000

Table 5: ABS Solvent Weld Waste system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size (mm)	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
32	36.1	36.5	1.8	2.2	0.23
40	42.7	43.1	1.9	2.3	0.28
50	55.7	56.1	2.0	2.4	0.40

Table 6: ABS Solvent Weld Waste system: Socket Dimensions (mm)

Nominal Size (mm)	Internal Depth	Maximum Outside Diameter
32	20	41
40	24	47
50	32	60



PP Push-fit Waste system

- 32, 40 and 50mm pipes and fittings
- Colour choice: Black, Grey and White (32, 40mm versions) 50mm: Grey and White
- Simple-to-use system: saves time and site costs
- Quick, efficient assembly by means of push-fit jointing
- Manufactured in Polypropylene to BS EN 1451-1:2000



Table 9: PP Push-Fit Waste system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size (mm)	DN/OD	Outside Diameter		Wall Thickness		Average Weight (kg/m)
		Min	Max	Min	Max	
32	34	34.4	34.8	1.8	2.2	0.187
40	41	40.8	41.2	1.9	2.3	0.225
50	54	53.9	54.3	2.0	2.4	0.335

Table 10: PP Push-Fit Waste system: Socket Dimensions (mm)

Nominal Size (mm)	DN/OD	Internal Depth (minimum)	Maximum Outside Diameter
32	34	33	49
40	41	34	55
50	54	36	70

**DN/OD as stated in BS EN 1451-1 Standard*

V-Joint Traps

- 32, 40 and 50mm diameter domestic traps and accessories
- Colour: White only
- For use with all Wavin Osma waste systems and with copper pipe
- Comprehensive range including tubular, bottle, bath and washing machine traps, and shower gullies
- Manufactured in Polyethylene to BS 3943:1983
- BS EN 1451-1:2000 plastic pipe should be first warmed in hot water before connection is made to the trap



Table 11: V-Joint Traps: Socket Dimensions (mm)

Nominal Size (mm)	Internal Depth	Maximum Outside Diameter
32	39	60
40	40	66
50	49	68

Wavin Osma Waste

Introduction

Condensate Drainage

- For installation in association with new and replacement condensing boilers for domestic central heating
- For direct connection to Wavin Osma Drainage Systems via soil stack, rainwater downpipe or external soakaway
- Including traps, connectors, external soakaway and non-return valve
- Compatible with all Wavin Osma Overflow Systems
- Easy installation of all components
- Supports new energy efficiency regulations under Part L



Solvent Weld Overflow system

- 21.5 Solvent Weld system
- Colour: White only
- Removing overflow water from condensing boilers and cisterns/tanks
- Compatible with Wavin Osma Condensate Fittings
- Allows direct connection to condensing boilers fittings
- Secure permanent jointing
- Manufactured in ABS (fittings) and PVC-U (pipe)



Table 12: ABS and PVC-U Solvent Weld Overflow System: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size (mm)	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
21.5	21.5	21.63	1.09	1.27	0.145

Table 13: ABS and PVC-U Solvent Weld Overflow System: Socket Dimensions (mm)

Nominal Size (mm)	Internal Depth	Maximum Outside Diameter
21.5	26	27

PP Push-fit Overflow system

- 21.5mm Push-fit system
- Colour: White only
- Manufactured in Polypropylene



Table 14: PP Push-Fit Overflow System: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size (mm)	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
21.5	21.5	21.63	1.09	1.27	0.075

Table 15: Solvent Weld Overflow System: Pipe Dimensions (mm)

Nominal Size (mm)	Internal Depth	Maximum Outside Diameter
21.5	26	26

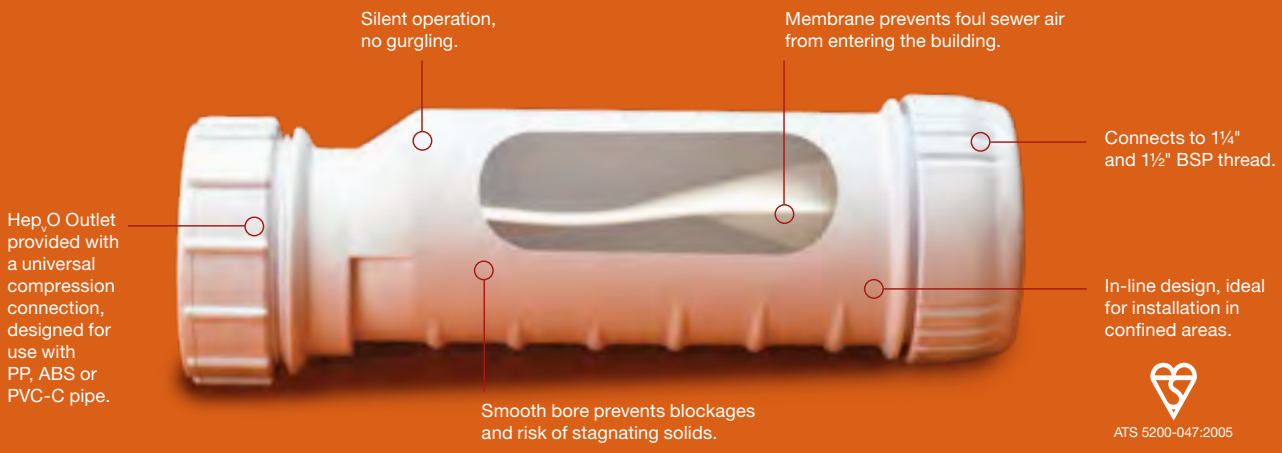
Wavin Osma Waste

Introduction

Hep$_V$O Hygienic Self-Sealing Waste Valves

- Hep$_V$O is a self-sealing waste valve which prevents foul sewer air from entering a building
- Hep$_V$O is suitable for use as an alternative to a traditional water trap. As it doesn't rely on trapped water to create a seal, Hep$_V$O cannot lose its seal due to evaporation, movement or siphonage
- With its space saving design, Hep$_V$O can be installed horizontally or vertically
- HepvO allows the admittance of air into the waste system and can replace the need for AAV's in branch ventilation
- 32 and 40mm fittings: Hep$_V$O valves, knuckle adaptors, running adaptors and tundish kit (32mm only)
- Manufactured in white polypropylene
- For installation information, please refer to the Hep$_V$O Product and Installation Manual (SW102)





ATS 5200-047:2005

Wavin Osma Soil and Waste

Estimating data

Estimating data

The following data is provided to help estimation of quantities required for pipe support and jointing.

Pipe Support

Pipes should be supported at the maximum centres shown opposite in Table 16.

Offset Bends

Pipe Brackets should also be fitted around the Offset Bend or directly below.

Table 16: Maximum Pipe Support Centres

Pipe Size (mm)	Centres (m)	
	Vertical	Horizontal
21.5	0.5	0.5
32	1.2	0.5
40	1.2	0.5
50	1.2	0.6
82	2	1
110	2	1
160	2	1.2

Jointing material allowances

Lubricant Allowance

For push-fit ring-seal joints (approximate figures).

Table 17: Lubricant Usage Guide

Description	Part No.	Nominal Pipe Sizes (mm) No. of Joints					
		32	40	50	82	110	160
Silicone Lubricant 50g tube	4S391	44	37	20	16	9	4

Degreasing Cleaner/Solvent Cement Allowances

For solvent weld joints (approximate figures).

Table 18: Cleaner/Solvent Cement Usage Guide

Description	Part No.	Nominal Pipe Sizes (mm) No. of Joints						
		21.5	32	40	50	82	110	160
Degreasing Cleaner No.1 125ml can	4S379	120	70	45	33	25	16	10
Degreasing Cleaner No.1 250ml can	4S380	240	140	90	66	50	32	20
Solvent Cement No.2 125ml can	4S383	90	45	30	20	8	5	3
Solvent Cement No.2 250ml can	4S384	180	90	60	40	16	11	6
Solvent Cement No.2 500ml can	4S385	360	180	120	80	32	22	12

Wavin Osma Soil and Waste

System selector

Soil and Waste profiles – Key fittings

		Colour	Pipe	21.5 mm	32 mm	40 mm	50 mm	82 mm	110 mm	160 mm	Brackets	Pipe	Clip	Socket	Pipe or Socket	Suspended	Sockets	Push-Fit	Solvent Weld	Push-Fit/SW
Osma Soil Systems	PVC-U Ring-Seal Soil	●◐○		–	–	–	–	■	■	■		■	–	■	■	■		■	■	■
	PVC-U Solvent Weld Soil	●◐○		–	–	–	–	–	■	■		■	–	■	■	■		–	■	■
Osma Waste Systems	ABS Solvent Weld Waste	●◐○		–	■	■	■	–	–	–		■	■	–	–	–		–	■	■
	PP Push-Fit Waste	●◐○		–	■	■	■	–	–	–		■	–	–	–	–		■	–	–
	Condensate Drainage	○		■	–	–	–	–	–	–		–	–	–	–	–		■	–	–
	Hep_VO	○		–	■	■	–	–	–	–		–	–	–	–	–		–	–	–
Osma Overflow Systems	PVC-U Solvent Weld	○		■	–	–	–	–	–	–		–	■	–	–	–		–	■	–
	PP Push-Fit	○		■	–	–	–	–	–	–		–	■	–	–	–		■	–	–

Other fittings

OsmaLink Soil Manifold 4S495 and 6-Boss Soil Manifold 4S597
For use with waste pipes

Manifold Branches
For connection of up to 8 WCs
- Straight – 8°
- 15½° – 23°
- 30½° – 38°

WC Connectors
For use with Push-Fit and Solvent Weld Soil systems:

Connectors (for BS 5503 WCs)
- 2½° – 14°
- 90° – 90° (Access)

Connectors (for BS 1213 WCs)
- Straight – 87½°

Easy-Fit Pan Connectors (for BS 1213 WCs)
- Straight – Offset
- 14° – 90°

Vents
- Air Admittance Valves (110mm and 40mm)
- Terminal Fittings
- Pipe Flashings (pitched and flat roof)
- Roof Outlets

Traps
For use with all Wavin Osma Waste systems.
Trap types:
- Bottle – Tubular
- Bath – Shower
- Washing Machine

Fire Stop Seals
For 50, 82, 110 and 160mm pipework

Connectors	(See KEY)*	Reducers	(See KEY)*	Bends	90°	87½°	76°	67½°	45°	30°	15°	11¼°	Offset	Adjust. 90°	Adjust. 30°	Branches	Single Equal/Tee	Single Unequal	Double Equal/Cross	Double Unequal	Double 45°	Corner	Access	Pipe	Bend	Branch	Bossed Pipe
	a b c		t u v w		–	■	■	■	■	■	■	–	■	■	■		■	■	■	■	■	■		■	■	■	■
	a b		u v w		–	■	–	■	■	–	■	■	■	–	–		■	■	■	–	–	■		■	■	■	■
	d e f g h j		m n p q r s		■	■	–	–	■	–	–	–	–	–	–		■	–	■	–	–	–		–	–	–	–
	g h j		m n p		■	■	–	–	■	–	–	–	–	–	–		■	–	–	–	–	–		–	–	–	–
	–		–		–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–
	–		–		–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–
	d x		–		■	–	–	–	■	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–
	x		–		■	–	–	–	■	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–

*Key

Connectors

a Connector to Cast-Iron Socket
b Connector to Cast-Iron Spigot
c Connector to Cast-Iron or Clay Drain Socket
d Straight Tank Connector
e Universal Connector
f Male Iron Connector
g Female Iron Connector
h Connector to BS 659 Copper Spigot – Compression Joint
j Connector to BS 659 Copper Compression Fitting
k Universal Compression Connector

Reducers

m Reducer 40 to 32mm
n Reducer 50 to 32mm
p Reducer 50 to 40mm
q Reducer to 19mm Overflow
r Reducer to 35mm copper pipe
s Reducer to 42mm copper pipe
t Reducer 82 to 50mm
u Reducer 110 to 50mm
v Reducer 110 to 82mm
w Reducer 160 to 110mm
x Bent Tank Connector

Colour key

Colour	Ref. Code
Black	●
Grey	●
White	○

***NOTE: Guide only.**

Some connectors not available in more than one size. Some waste connectors and reducers listed are available in two versions. Check listings to ensure availability of suitable fitting.

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**

Key			
P/E:	Pipe and fittings with both ends plain or with one plain end and one special end	S/SW:	Fittings with one or more ring-seal sockets but always one solvent socket
S/S:	Pipe and fittings with one or more ring-seal or push-fit sockets, but always one plain or special end	SW/S:	Fittings with one or more solvent sockets and one plain or special end
D/S:	Fittings with ring-seal or push-fit sockets at all ends	D/SW	Fittings with solvent sockets at all ends

Pipe



Socketed Pipe

- **One plain end, one ring-seal socket**
- **110 /160mm sizes are made with Wavin Recycore technology – a multi-layer construction with over 50% recycled material in solid core**
- **110 /160 mm pipe sizes are BS EN 1453-1:2000 kitemarked but have exactly the same performance characteristics as BS EN 1329-1:2000**
- **82mm pipe is standard PVC-U pipe, kitemarked to BS EN 1329-1**



Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Length (m)	Dimensions (mm) A	(O/D) B
82	3S043	● ●	3	51	104
110	4S042	● ●	2	65	132
110	4S050	●	2.5	65	132
110	4S043	● ● ○	3	65	132
110	4S044	● ● ○	4	65	132
160	6S043	●	3	88	191
160	6S044	●	4	88	191



Plain-Ended Pipe

- **110 /160mm sizes are made with Wavin Recycore technology – a multi-layer construction with over 50% recycled material in solid core**
- **110 /160 mm pipe sizes are BS EN 1453-1:2000 kitemarked but have exactly the same performance characteristics as BS EN 1329-1:2000**
- **82mm pipe is standard PVC-U pipe, kitemarked to BS EN 1329-1**

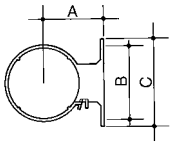


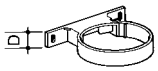
Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Length (m)
82	3S074	●	4
110	4S073	● ● ○	3
110	4S074	● ● ○	4
160	6S074	● ●	4

Brackets







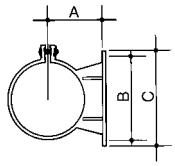
Pipe Bracket

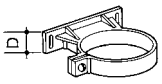
- **For support centres, see pages 9, 89 and 108**

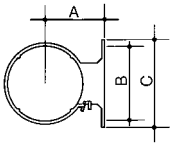
Material: PVC-U

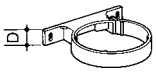
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	Fixing Hole
82	3S082	● ●	76	92	112	16	6.5 dia
110	4S082	● ● ○	94	120	140	25	6.5 dia
160	6S082	● ●	123	175	200	32	8 dia











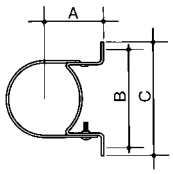
Socket Bracket

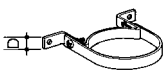
- **Position in the recessed area adjacent to the sealing-ring housing**
- **For support centres, see pages 9, 89 and 108**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	Fixing Hole
82	3S083	● ●	76	78	140	28.5	6.5 dia
110	4S083	● ● ○	94	120	140	25	6.5 dia







Pipe or Socket Bracket

- **Multi-functional support component that can be used for pipes or sockets**
- **When using as a socket bracket, always position unit in the recessed area adjacent to the sealing-ring housing**
- **For support centres, see pages 9, 89 and 108**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D	Fixing Hole
110	4S084	94	160	180	20	7 dia
160	6S084	124	220	240	25	7 dia

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**

Suspended Bracketing System

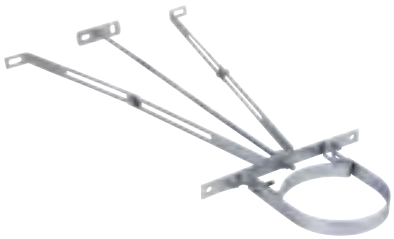


Adjustable Pipe Bracket Assembly

- **Pack contains Threaded Rod, Threaded Bracket, Bracket Plate and Pipe/Socket Bracket**
- **For support centres, see pages 9, 89 and 108**
- **Not suitable for damp inaccessible voids**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number
110	4S086
160	6S086



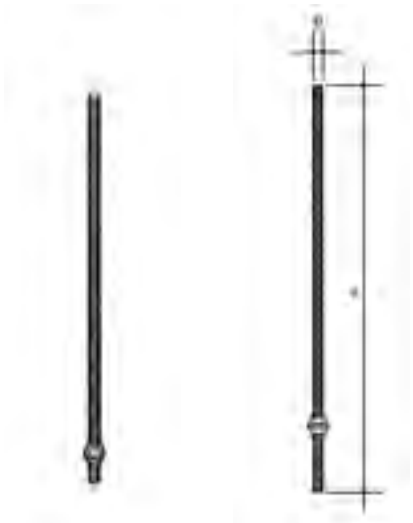
Adjustable Socket Bracket and Brace Assembly

- **Pack contains Threaded Rod, Threaded Bracket, Bracket Plate, two Adjustable Braces, and Pipe/Socket Bracket**
- **For support centres, see pages 9, 89 and 108**
- **Not suitable for damp inaccessible voids**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number
110	4S085

Suspended Bracketing System – Components

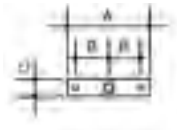


M8 Threaded Rod

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B
–	–	500	8



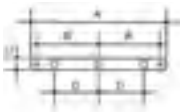


Threaded Bracket

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C
–	–	120	40	30





Bracket Plate

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D
–	–	240	110	20	80



Adjustable Brace

- **Used for creating anchor points**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A min	A max	B
–	–	264	493	260





Pipe or Socket Bracket

Material: BZP – Coated Mild Steel

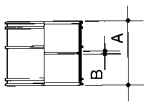
Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D	Fixing Hole
110	–	94	160	180	20	7 dia
160	–	124	220	240	25	7 dia

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**

Sockets





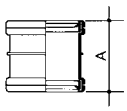
D/SW Double Socket

- **Solvent weld socket at each end**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S104	● ● ○	98	2
160	6S104	● ●	119	3





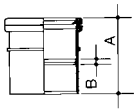
D/S Double Socket – for repairs

- **Push-fit ring-seal socket at each end**
- **Used as a slip coupler for making repairs**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
82	3S105	● ●	102
110	4S105	● ● ○	111
160	6S105	●	145





S/SW Single Socket

- **One solvent weld socket and one push-fit ring-seal socket**
- **Used for creating a fixed ring-seal joint on a plain-ended pipe or fitting, or where an expansion joint is required to accommodate thermal movement**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
82	3S124	● ●	97	2
110	4S124	● ● ○	105	2
160	6S124	● ●	135	2





Acoustic Socket

- **Push-fit ring-seal socket at each end**
- **For acoustic performance and built in allowance for thermal expansion**
- **Can be used as an alternative to 4S124 (see pages 105-106 for full product details)**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S125	● ●	133

For installation tips see:
YouTube WavinUK





D/S Double Socket

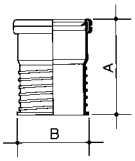
- **Push-fit ring-seal socket at each end**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S205	● ◍ ○	115

Connectors





S/S Connector to Cast-Iron Soil Socket

- **Connector to BS 416 cast-iron soil socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S106	◍	162	123





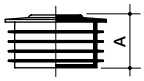
Connector to Cast-Iron Socket

- **Connector to BS 416 cast-iron soil socket**

Material: Neoprene Synthetic Rubber

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S206	●	66





Internal Drain Connector

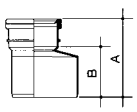
- **For 32mm/40mm waste pipe and 50mm waste pipe**

Material: Neoprene Synthetic Rubber

Nominal Size (mm)	Part Number	Dimensions (mm) A
110x32/40	4S298	60.5
110x50	4S299	60.5

Reducers





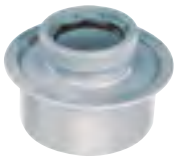
S/S Reducer

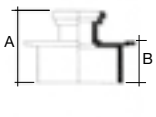
Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
82x50	3S094	● ◍	119	68

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**



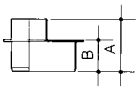


Reducer

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x32	4S098	●	85	57
110x40	4S097	●	85	57



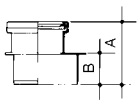


S/S Reducer

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x50	4S096	● ●	103	53



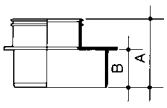


S/S Reducer

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x82	4S095	● ●	103	53





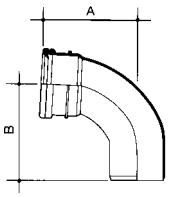
S/S Reducer

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
160x110	6S099	●	130	68

Bends





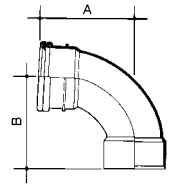
S/S Bend – 87.5°

- **One plain end and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
82	3S161	● ●	128	125
110	4S161	● ● ○	162	160
160	6S161	●	240	247





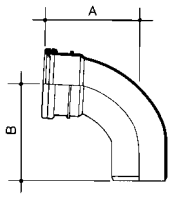
S/SW Bend – 87.5°

- **One solvent weld socket and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S361	●	160	160





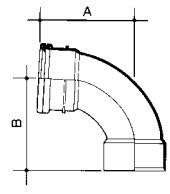
S/S Tight Radius Bend – 87.5°

- **One plain end and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S160	● ● ○	132	110





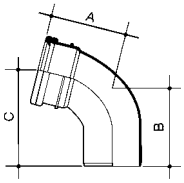
D/S Bend – 87.5°

- **Push-fit ring-seal socket at each end**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S561	● ● ○	175	160





S/S Bend – 76°

- **One plain end and one push-fit ring-seal socket**

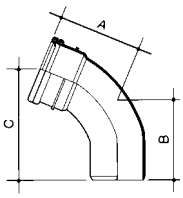
Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S164	● ●	146	148	180

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**





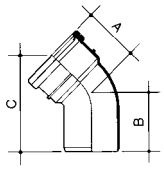
S/S Bend – 67.5°

- **One plain end and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S162	●	155	154	212





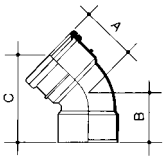
S/S Bend – 45°

- **One plain end and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S163	● ●	81	70	126
110	4S163	● ● ○	83	87	145
160	6S163	●	140	118	215





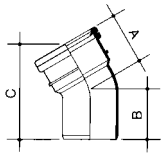
S/SW Bend – 45°

- **One solvent weld socket and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S363	● ● ○	98	86	155





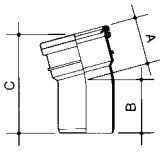
S/S Bend – 30°

- **One plain end and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S166	●	92	95	162





S/S Bend – 15°

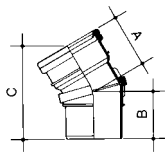
- **One plain end and one push-fit ring-seal socket**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S167	●	85	76	157

Adjustable Bends





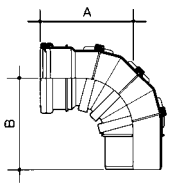
Adjustable Bend – 30°

- **One plain end and one push-fit ring-seal socket**
- **Variable angle up to 30°**
- **Rotate segments to achieve required change of direction (flow arrow on socket indicates orientation of fitting)**
- **BBA certificated (Certificate No. 89/2174)**

Material: Polypropylene, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S173	●	97	90	180





Adjustable Bend – 90°

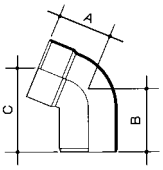
- **One plain end and one push-fit ring-seal socket**
- **Variable angle up to 90°**
- **Can accommodate up to 60mm centre-line to centre-line misalignment of pipework**
- **Rotate segments to achieve required change of direction (flow arrow on socket indicates orientation of fitting)**
- **BBA certificated (Certificate No. 89/2174)**

Material: Polypropylene, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S179	●	167	165

Offset Bends





SW/S Offset Bend (bottom) – 67.5°

- **One plain end and one solvent weld socket**
- **Minimum achievable offsets: 82 – 115mm, 110 – 137mm**

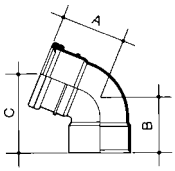
Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S435	●	92	87	123
110	4S435	● ● ○	99	105	143

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Product details **PVC-U Ring-seal system**





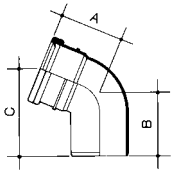
S/SW Offset Bend (top) – 67.5°

- **One solvent weld socket and one push-fit ring-seal socket**
- **Minimum achievable offsets: 82-115mm, 110-137mm, 160-233mm**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S440	● ●	95	87	123
110	4S440	● ● ○	110	99	140
160	6S440	●	177	160	225





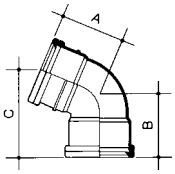
S/S Offset Bend – 67.5°

- **One plain end and one push-fit ring-seal socket**
- **Minimum achievable offset: 110-137mm**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S444	● ● ○	110	105	147





D/S Offset Bend – 67.5°

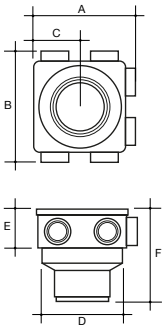
- **Fitted with two push-fit ring-seal sockets**
- **Minimum achievable offset: 137mm**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S445	● ● ○	110	110	155

Manifolds





For installation tips see:

YouTube
WavinUK

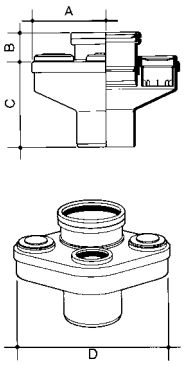
6 Boss Manifold

- **One plain end and one solvent weld socket**
- **6 boss connection points (No boss adaptors required)**
- **Dual 40/50mm solvent weld connection**
- **Compact design, 163mm body sits easily into 200mm drilled or formed hole**
- **Branch low in fitting: 132mm from centreline of branch horizontal inlet to 50mm spigot invert**
- **Horizontal waste connection: instead of vertical connection – no upstanding bends required**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	E	F
110	4S597	●	204	222	94	163	79	184





OsmaLink Soil Manifold

- **One plain end and one push-fit ring-seal socket**
- **Permits up to three 50mm connections to be made at floor level**
- **Complies with BS EN 12056-2:2000 clause ND. 3.3.2**
- **Make connections using 4Z124, 2S355 or 2S356**
- **Minimum installation aperture: 240mm square**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
110	4S595	●	138	55	160	275





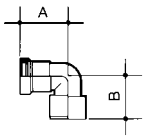
All-Fit Reducer – 40:32mm

- **Connects to 32mm plastic pipe to BS EN 1451-1/BS EN 1455-1/ BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**
- **Use with 2S355 (below) when a bend is required**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
40	4Z124	○	54





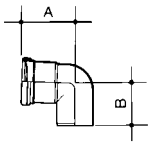
All-Fit Reduction Bend – 50:40mm

- **Connects to 40mm plastic pipe to BS EN 1451-1/BS EN 1455-1/ BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
50	2S355	○	70	65





All-Fit 90° Spigot Bend – 50mm

- **Connects to 50mm plastic pipe to BS EN 1451-1/BS EN 1455-1/ BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**

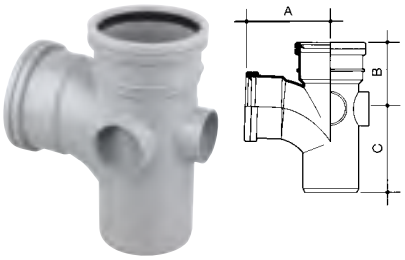
Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
50	2S356	○	79	64

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**

Single Branches

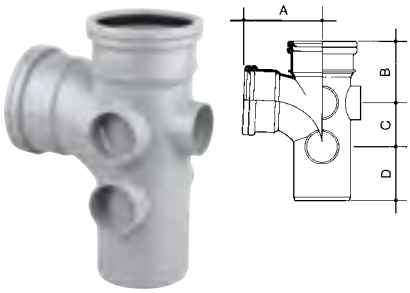


S/S Single Branch – 87.5°

- **One plain end and two push-fit ring-seal sockets**
- **With closed boss socket positions: two on 82mm and 160mm fittings, three on 110mm fitting**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S190	● ●	155	118	146
110	4S190	● ● ○	150	120	142
160	6S190	●	230	170	230

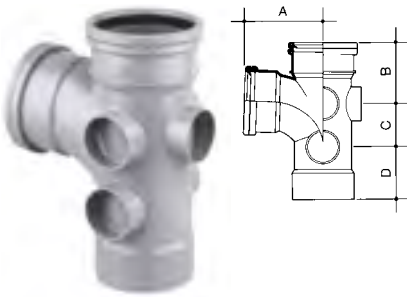


S/S Single 5-Boss Branch – 87.5°

- **One plain end and two push-fit ring-seal sockets**
- **Five closed boss sockets, of which two are positioned 84mm below the centre-line of the branch entry. These can be used for low-level waste connections (as alternative to Soil Manifold 4S595)**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
110	4S195	● ● ○	150	118	84	101

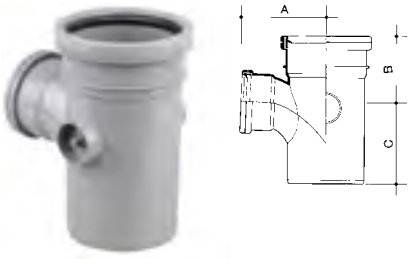


S/SW Single 5-Boss Branch – 87.5°

- **One solvent weld socket and two push-fit ring-seal sockets**
- **Five closed boss sockets, of which two are positioned 84mm below the centre-line of the branch entry. These can be used for low-level waste connections (as alternative to Soil Manifold 4S595)**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
110	4S395	●	150	118	84	98



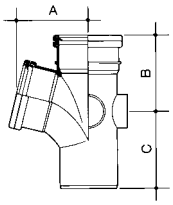
S/S Unequal Single Branch – 87.5°

- **One 160mm plain end/push-fit ring-seal socket, and one 110mm push-fit ring-seal socket on the branch**
- **Two closed boss socket positions**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
160	6S198	●	176	148	155





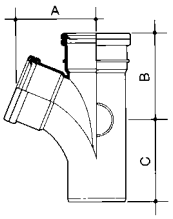
S/S Single Branch – 76°

- **One plain end and two push-fit ring-seal sockets**
- **Three closed boss socket positions**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S220	● ●	161	159	155





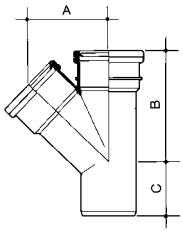
S/S Single Branch – 67.5°

- **One plain end and two push-fit ring-seal sockets**
- **110mm fitting has two closed boss socket positions.**
- **82mm fitting does not have side bosses**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S200	● ●	150	159	155





S/S Single Branch – 45°

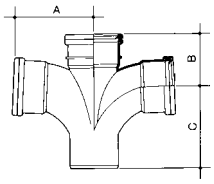
- **One plain end and two push-fit ring-seal sockets**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S210	●	115	157	70
110	4S210	● ●	141	198	89
160x110	6S218	●	183	301	137
160x160	6S210	●	204	288	125

Double Branches





S/S Double Branch – 87.5°

- **One plain end and three push-fit ring-seal sockets**
- **Two closed boss socket positions**

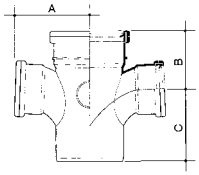
Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S230	● ● ○	146	115	149

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**





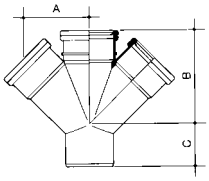
S/S Unequal Double Branch – 87.5°

- **One 160mm plain end/push-fit ring-seal socket, and two 110mm push-fit ring-seal sockets on the branch**
- **Two closed boss socket positions**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
160	6S238	●	176	138	164





S/S Double Branch – 45°

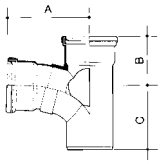
- **One plain end and three push-fit ring-seal sockets**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S250	●	147	212	99

Corner Branch





S/S Corner Branch – 87.5°

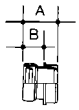
- **One plain end and three push-fit ring-seal sockets**
- **One closed boss socket position**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S291	●	190	125	144

Boss Socket Adaptors





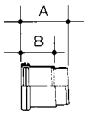
S/S Ring-Seal Boss Adaptor

- **Suitable for all OsmaSoil fittings with boss socket positions**
- **Connects to 32mm [1¼"], 40mm [1½"] or 50mm [2"] plastic pipe to BS EN 1451-1/BS EN 1455-1/BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**
- **Horizontal adaptors have an inbuilt 2.5° fall**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	2S398	● ○	50	27
40	2S399	● ○	53	30





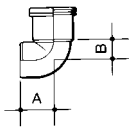
S/S Ring-Seal Boss Adaptor

- **Suitable for all OsmaSoil fittings with boss socket positions**
- **Connects to 32mm [1¼"], 40mm [1½"] or 50mm [2"] plastic pipe to BS EN 1451-1/BS EN 1455-1/BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**
- **Horizontal adaptors have an inbuilt 2.5° fall**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
50	2S402	● ◉ ○	70	52





S/S Ring-Seal Boss Adaptor – 90°

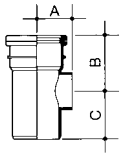
- **Suitable for all OsmaSoil fittings with boss socket positions**
- **Connects to 50mm [2"] plastic pipe to BS EN 1455-1/BS EN 1566-1 or use with Long Tail Bend 2Z359**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
50	2S360	◉	50	31

Bossed Pipes





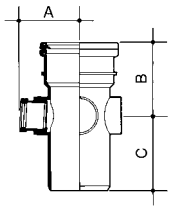
S/S Bossed Pipe

- **One plain end and one push-fit ring-seal socket**
- **One open boss socket position**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S649	● ◉	61	90	86





S/S Bossed Pipe

- **Connects to 32mm [1¼"] or 40mm [1½"] plastic pipe to BS EN 1451-1/BS EN 1455-1/BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**
- **One plain end and one push-fit ring-seal socket**
- **Three closed boss socket positions and one open, fitted with Adaptor 2S398 or 2S399 (page 26-27)**

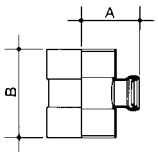
Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110x32	4S581	● ◉	106	114	100
110x40	4S582	● ◉	110	114	100

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**





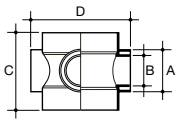
D/SW Ring-Seal Bossed Pipe

- **Connects to 32mm [1¼"] or 40mm [1½"] plastic pipe to BS EN 1451-1/BS EN 1455-1/BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871**
- **Two solvent weld sockets**
- **One push-fit socket position**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x32	4S583	● ◍ ○	96	150
110x40	4S584	● ◍ ○	96	150





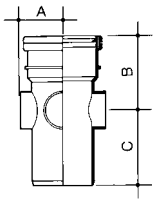
D/SW Short Bossed Pipe

- **Three closed boss socket positions for use with the appropriate Boss Socket Adaptor (pages 26-27)**
- **Three closed 40mm [1½"] spigot tail positions also allow for direct connection of 40mm [1½"] solvent weld sockets**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
110	4S588	● ◍ ○	56	43	124	74





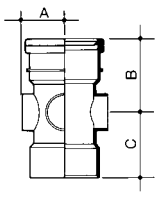
S/S Bossed Pipe

- **One plain end and one push-fit ring-seal socket**
- **Three closed boss socket positions and one open to receive appropriate Boss Socket Adaptor (pages 26-27)**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S589	● ◍ ○	74	110	108





S/SW Bossed Pipe

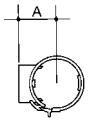
- **One plain end and one push-fit ring-seal socket**
- **Three closed boss socket positions and one open to receive appropriate Boss Socket Adaptor (pages 26-27)**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S590	● ◍	74	111	98

Strap Bosses



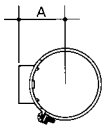


Strap Boss

- **For making side connections on BS EN 1329 and BS EN 1453 plastic pipe after construction**
- **Use with required Boss Socket Adaptor (pages 26-27)**

Material: PVC-U





Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
82	3S319	● ●	63
110	4S319	● ● ○	77



Clip Boss

- **For Push–fit or Solvent Waste**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x32	4S322	● ● ○	47	117
110x40	4S321	● ● ○	47	117



Patch Boss

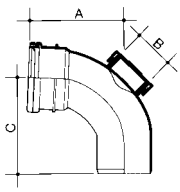
- **For Push–fit or Solvent Waste**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
160x50	6S323	●	52	101

Access Fittings





S/S Access Bend – 87.5°

- **One plain end and one push-fit ring-seal socket**
- **Fitted with screwed access cover**

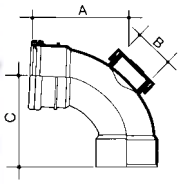
Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S169	● ● ○	163	80	170

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**





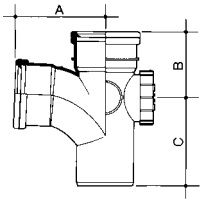
S/SW Access Bend – 87.5°

- **One solvent weld socket and one push-fit ring-seal socket**
- **Fitted with screwed access cover**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S369	●	163	80	160





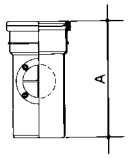
S/S Access Branch – 87.5°

- **One plain end and two push-fit ring-seal sockets**
- **Two closed socket boss positions**
- **Fitted with screwed access cover**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S502	● ●	150	120	142





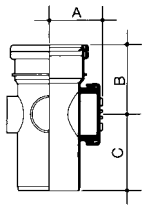
S/S Access Pipe

- **One plain end and one push-fit ring-seal socket**
- **Fitted with bolted, oval access door**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
82	3S274	● ●	255





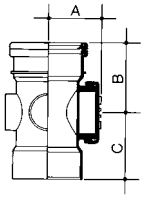
S/S Bossed Access Pipe

- **One plain end and one push-fit ring-seal socket**
- **Three closed socket boss positions**
- **Fitted with screwed access cover**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S274	● ● ○	95	118	118
160	6S274	●	130	155	150





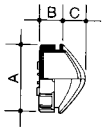
S/SW Bossed Access Pipe

- **One solvent weld socket and one push-fit ring-seal socket**
- **Three closed socket boss positions**
- **Fitted with screwed access cover**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S374	●	95	118	114





Access Saddle

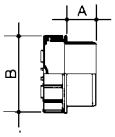
- **For providing access to BS EN 1329/BS EN 1453 plastic pipe after construction, or where an access pipe or branch is not suitable**
- **Fitted with screwed access cover**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S275	● ●	103	35	35

Plugs





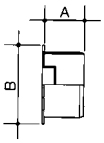
P/E Access Plug

- **Fits into a ring-seal socket to provide an access point**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
82	3S292	● ●	56	100
110	4S292	● ● ○	50	132
160	6S292	● ●	58	188





P/E Socket Plug

- **With one closed boss socket position**
- **Fits into a ring-seal socket to provide a connection point for a 32mm [1¼"], 40mm [1½"] or 50mm [2"] waste pipe connection when fitted with the appropriate Boss Socket Adaptor (pages 26-27)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S296	● ● ○	54	132

Wavin OsmaSoil

Product details **PVC-U Ring-seal system**

Spares



Snap Cap

- **Snap-on cap which retains the sealing ring in all standard Osma ring-seal fittings**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option
82	3S116	● ●
110	4S116	● ● ○



T' Ring Seal

- **Synthetic rubber sealing ring for all standard Osma ring-seal fittings**

Material: EPDM

Nominal Size (mm)	Part Number
110	4S130
160	6S130

Wavin OsmaSoil

Product details **PVC-U Solvent Weld system**

Key			
P/E:	Pipe and fittings with both ends plain or with one plain end and one special end	S/SW:	Fittings with one or more ring-seal sockets but always one solvent socket
S/S:	Pipe and fittings with one or more ring-seal or push-fit sockets, but always one plain or special end	SW/S:	Fittings with one or more solvent sockets and one plain or special end
D/S:	Fittings with ring-seal or push-fit sockets at all ends	D/SW	Fittings with solvent sockets at all ends

Pipe



Plain-Ended Pipe

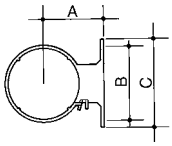
- **110 /160mm sizes are made with Wavin Recycore technology – a multi-layer construction with over 50% recycled material in solid core**
- **110 /160 mm pipe sizes are BS EN 1453-1:2000 kitemarked but have exactly the same performance characteristics as BS EN 1329-1:2000**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Length (m)
110	4S073	● ◉ ○	3
110	4S074	● ◉ ○	4
160	6S074	● ◉	4

Brackets





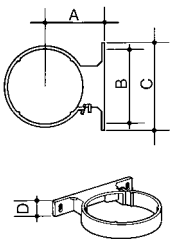
Pipe Bracket

- **For support centres, see pages 9, 89 and 108**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	Fixing Hole
110	4S082	● ◉ ○	94	120	140	25	6.5 dia
160	6S082	● ◉	123	175	200	32	8 dia





Socket Bracket

- **Position in the recessed area adjacent to the sealing-ring housing**
- **For support centres, see pages 9, 89 and 108**

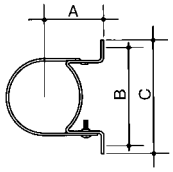
Material: PVC-U

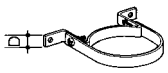
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	Fixing Hole
110	4S083	● ◉ ○	94	120	140	25	6.5 dia

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Product details **PVC-U Solvent Weld system**







Pipe or Socket Bracket

- **Multi-functional support component that can be used for pipes or sockets**
- **When using as a socket bracket, always position unit in the recessed area adjacent to the sealing-ring housing**
- **For support centres, see pages 9, 89 and 108**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D	Fixing Hole
110	4S084	94	160	180	20	7 dia
160	6S084	124	220	240	25	7 dia

Suspended Bracketing System

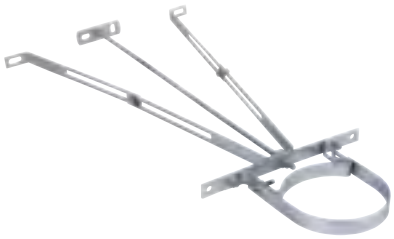


Adjustable Pipe Bracket Assembly

- **Pack contains Threaded Rod, Threaded Bracket, Bracket Plate and Pipe/Socket Bracket**
- **For support centres, see pages 9, 89 and 108**
- **Not suitable for damp inaccessible voids**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number
110	4S086
160	6S086



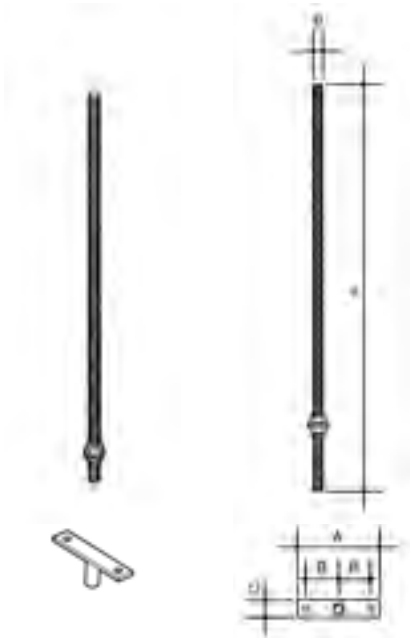
Adjustable Socket Bracket and Brace Assembly

- **Pack contains Threaded Rod, Threaded Bracket, Bracket Plate, two Adjustable Braces, and Pipe/Socket Bracket**
- **For support centres, see pages 9, 89 and 108**
- **Not suitable for damp inaccessible voids**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number
110	4S085

Suspended Bracketing System – Components



M8 Threaded Rod

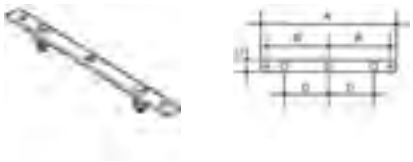
Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B
–	–	500	8

Threaded Bracket

Material: BZP – Coated Mild Steel

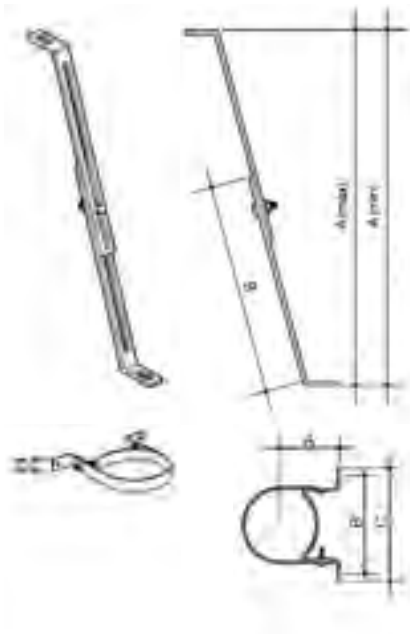
Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C
–	–	120	40	30



Bracket Plate

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D
–	–	240	110	20	80



Adjustable Brace

- **Used for creating anchor points**

Material: BZP – Coated Mild Steel

Nominal Size (mm)	Part Number	Dimensions (mm) A min	A max	B
–	–	264	493	260

Pipe or Socket Bracket

Material: BZP – Coated Mild Steel

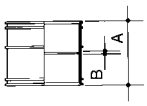
Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D	Fixing Hole
110	–	94	160	180	20	7 dia
160	–	124	220	240	25	7 dia

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Product details **PVC-U Solvent Weld system**

Sockets





D/SW Double Socket

- **Solvent weld socket at each end**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S104	● ● ○	98	2
160	6S104	● ●	119	3





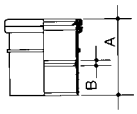
D/S Double Socket - for repairs

- **Push-fit ring-seal socket at each end**
- **Used as a slip coupler for making repairs**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S105	● ● ○	111
160	6S105	●	145





S/SW Single Socket

- **One solvent weld socket and one push-fit ring-seal socket**
- **Used for creating a fixed ring-seal joint on a plain-ended pipe or fitting, or where an expansion joint is required to accommodate thermal movement**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S124	● ● ○	105	2
160	6S124	● ●	135	2





Acoustic Socket

- **Push-fit ring-seal socket at each end**
- **For acoustic performance and built in allowance for thermal expansion**
- **Can be used as an alternative to 4S124 (see pages 105-106 for full product details)**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S125	● ●	133

For installation tips see:
YouTube WavinUK

Connectors





Connector to Cast-Iron Socket

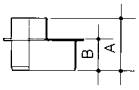
- **Connector to BS 416 cast-iron soil socket**

Material: Neoprene Synthetic Rubber

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S206	●	66

Reducers





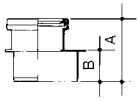
SW/S Reducer

- **Spigot connects to 110mm PVC-U solvent weld socket to BS EN 1329/ BS EN 1453**
- **Socket connects to 50mm ABS or PVC-C solvent weld pipe to BS EN 1455-1/ BS EN 1566-1**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x50	4S496	● ●	89	50





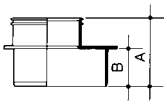
S/S Reducer

- **Spigot connects to 110mm PVC-U solvent weld socket to BS EN 1329/ BS EN 1453**
- **Ring-seal socket connects to 82mm PVC-U pipe to BS EN 1329**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x82	4S095	● ●	103	53





SW/S Reducer

- **Spigot connects to 160mm PVC-U solvent weld socket to BS EN 1329/ BS EN 1453**
- **Solvent weld socket connects to 110mm PVC-U pipe to BS EN 1329/ BS EN 1453**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
160x110	6S499	● ●	117	65

Wavin OsmaSoil

Product details **PVC-U Solvent Weld system**

Expansion Cap





For installation tips see:

YouTube
WavinUK

Expansion Cap

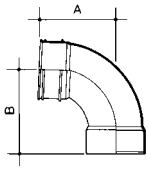
- **With integral ring-seal**
- **Converts Osma Solvent Weld Soil sockets to push-fit expansion sockets**
- **See page 88 for advice on accommodating thermal movement**

Material: PVC-U, with Rubber seals

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S416	● ●	22
160	6S416		27

Bends





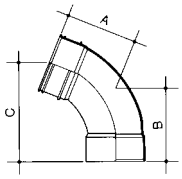
D/SW Bend – 87.5°

- **Two solvent weld sockets**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S461	● ● ○	152	166
160	6S461	● ●	231	232





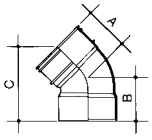
D/SW Bend – 67.5°

- **Two solvent weld sockets**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S462	● ●	141	138	192





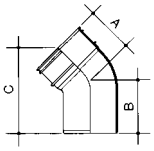
D/SW Bend – 45°

- **Two solvent weld sockets**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S463	● ●	87	87	148
160	6S463	● ●	128	111	204





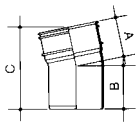
SW/S Bend – 45°

- **One plain end and one solvent weld socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S263	● ●	87	105	167





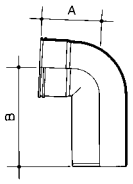
SW/S Bend – 11.25°

- **One plain end and one solvent weld socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S268	● ●	75	88	162





SW/S Long-Tail Bend – 87.5°

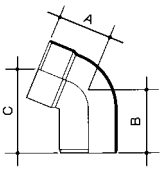
- **One plain end and one solvent weld socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S260	● ●	115	195

Offset Bends





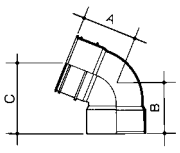
SW/S Offset Bend – 67.5° (Bottom)

- **One solvent weld socket and one push-fit ring-seal socket**
- **Minimum achievable offset: 137mm**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S435	● ● ○	99	105	143





D/SW Offset Bend – 67.5° (Top)

- **Two solvent weld sockets**
- **Minimum achievable offsets: 196mm**

Material: PVC-U

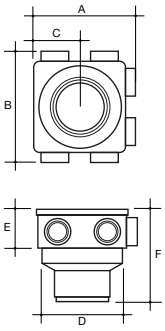
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S450	● ●	108	102	123

Wavin OsmaSoil

Product details **PVC-U Solvent Weld system**

Manifold





For installation tips see:

YouTube
WavinUK

6 Boss Manifold

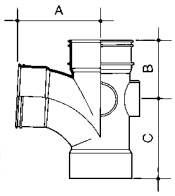
- **One plain end and one solvent weld socket**
- **6 boss connection points (No boss adaptors required)**
- **Dual 40/50mm solvent weld connection**
- **Compact design, 163mm body sits easily into 200mm drilled or formed hole**
- **Branch low in fitting: 132mm from centreline of branch horizontal inlet to 50mm spigot invert**
- **Horizontal waste connection: instead of vertical connection – no upstanding bends required**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	E	F
110	4S597	●	204	222	94	163	79	184

Single Branches





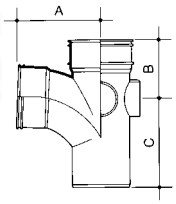
D/SW Single Branch – 87.5°

- **Three solvent weld sockets**
- **Three closed boss socket positions on 110mm fitting**
- **160mm fitting has no bosses**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S490	● ●	159	112	152
160	6S490	● ●	222	161	240





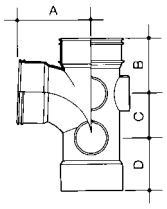
SW/S Single Branch – 87.5°

- **One plain end and two solvent weld sockets**
- **Three closed boss socket positions**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S290	● ●	159	112	152





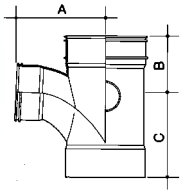
D/SW Single 5-Boss Branch – 87.5°

- **Three solvent weld sockets**
- **Five closed boss socket positions, of which two are positioned 84mm below the centre-line of the branch entry. These can be used for lowlevel waste connections**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
110	4S495	● ○	139	108	84	99





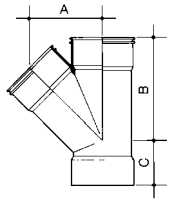
D/SW Unequal Single Branch – 87.5°

- **Two 160mm solvent weld sockets**
- **One 110mm solvent weld socket on the branch**
- **Two closed boss socket positions**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
160	6S498	● ○	167	130	155





D/SW Single Branch – 45°

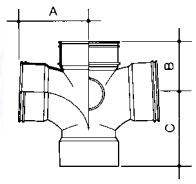
- **Three solvent weld sockets**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S410	● ○	136	192	85

Double Branch





D/SW Double Branch – 87.5°

- **Four solvent weld sockets**
- **Two closed boss socket positions**
- **Do NOT use for connecting back-to-back WCs in horizontal float installations: see relevant parts of BS EN 12056:2000**

Material: PVC-U

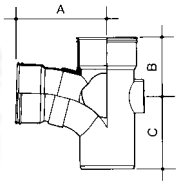
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S430	● ○	141	110	144

Wavin OsmaSoil

Product details **PVC-U Solvent Weld system**

Corner Branch





SW/S Corner Branch – 87.5°

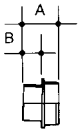
- **One plain end and three solvent weld sockets**
- **One closed boss socket position**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S491	● ●	179	113	144

Boss Socket Adaptor





SW/S Solvent Weld Boss Adaptor

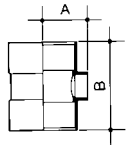
- **Suitable for all OsmaSoil fittings incorporating boss socket positions**
- **Connects to 32mm [1¼"], 40mm [1½"] or 50mm [2"] solvent weld plastic pipe to BS EN 1455-1/BS EN 1566-1**
- **Horizontal adaptors have an inbuilt 2.5° fall**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	2S298	● ● ○	41	20
40	2S299	● ● ○	45	24
50	2S403	● ● ○	53	30

Bossed Pipes





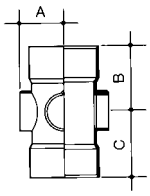
D/SW Bossed Pipe

- **Two solvent weld sockets. One closed boss socket position**
- **One solvent weld socket for 32mm [1¼"] or 40mm [1½"] solvent weld plastic pipe to BS EN 1455-1/BS EN 1566-1**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110x32	4S483	● ●	74	150
110x40	4S484	● ●	77	150





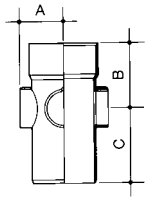
D/SW Bossed Pipe

- **Two solvent weld sockets**
- **Three closed boss socket positions and one open to receive appropriate Boss Socket Adaptor**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S586	● ●	75	106	109





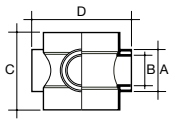
SW/S Bossed Pipe

- **One plain end and one solvent weld socket**
- **Three closed boss socket positions and one open to receive appropriate Boss Socket Adaptor**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S585	● ◍	75	106	126





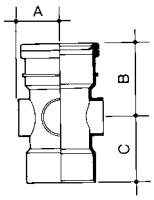
D/SW Short Bossed Pipe

- **Three closed boss socket positions for use with the appropriate Boss Socket Adaptor**
- **Three closed 40mm spigot tail positions also allow for direct connection of 40mm solvent weld sockets**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
110	4S588	● ◍ ○	56	43	124	74





S/SW Bossed Pipe

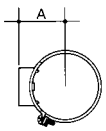
- **One solvent weld socket and one push-fit ring-seal socket**
- **Three closed boss socket positions and one open to receive appropriate Boss Socket Adaptor**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S590	● ◍	74	111	98

Strap Boss





Strap Boss

- **For making side connections on BS EN 1329/BS EN 1453 plastic pipe after construction**
- **Use with required Boss Socket Adaptor (pages 26-27)**

Material: PVC-U

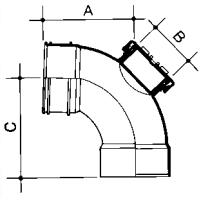
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S319	● ◍ ○	77

Wavin OsmaSoil

Product details **PVC-U Solvent Weld system**

Access Fittings





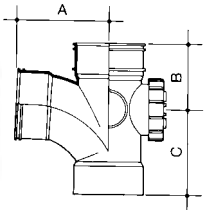
D/SW Access Bend – 87.5°

- **Two solvent weld sockets**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S469	● ○	152	80	166





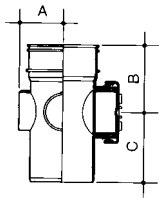
D/SW Access Bend – 87.5°

- **Three solvent weld sockets**
- **Two closed boss socket positions**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S493	● ○	159	112	152





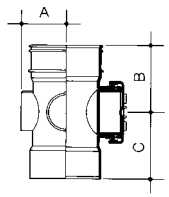
SW/S Bossed Access Pipe

- **One plain end and one solvent weld socket**
- **Three closed boss socket positions**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S574	● ○	75	107	118
160	6S474	● ○	124	132	150





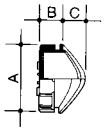
D/SW Bossed Access Pipe

- **Two solvent weld sockets**
- **Three closed boss socket positions**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S474	● ○	85	107	114





Access Saddle

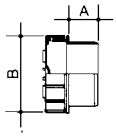
- **For providing access to BS EN 1329/BS EN 1453 plastic pipe after construction, or where an access pipe or branch is not suitable**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S275	● ●	103	35	35

Plugs





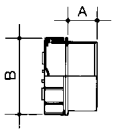
P/E Access Plug

- **Fits into a solvent weld socket to provide an access point**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
82	3S292	● ●	56	100
110	4S292	● ● ○	50	132
160	6S292	● ●	58	188





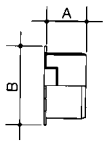
SW/S Access Plug

- **Glues over a pipe spigot to provide an access point**
- **Fitted with screwed access cover**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S492	● ●	50	137





P/E Socket Plug

- **One closed boss socket position**
- **Fits into a solvent weld socket to provide a connection point for a 32mm [1¼"], 40mm [1½"] or 50mm [2"] waste-pipe connection when fitted with the appropriate boss socket adaptor**

Material: PVC-U

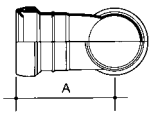
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S296	● ● ○	54	132

Wavin OsmaSoil

Product details **WC connectors**

WC Manifold Branches (incorporating gasket)





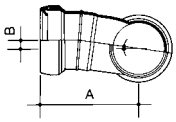
S/SW Manifold Branch – Straight

- **One solvent weld and one push-fit socket (right hand illustrated)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	Effective Length
110	4S601	○	180	132





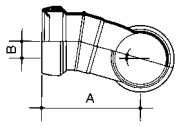
S/SW Manifold Branch – 8°

- **One solvent weld and one push-fit socket (right hand illustrated)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	Effective Length
110 LH	4S602	○	180	16	132
110 RH	4S612	○	180	16	132





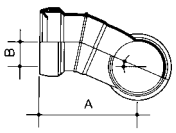
S/SW Manifold Branch – 15.5°

- **One solvent weld and one push-fit socket (right hand illustrated)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	Effective Length
110 LH	4S603	○	180	32	132
110 RH	4S613	○	180	32	132





S/SW Manifold Branch – 23°

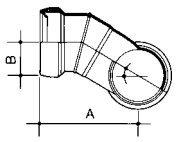
- **One solvent weld and one push-fit socket (right hand illustrated)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	Effective Length
110 LH	4S604	○	180	48	132
110 RH	4S614	○	180	48	132

NOTE: All Manifold Branches are fitted with a gasket for direct connection to the outlets of WCs manufactured to BS 5503
See page 96 and BS EN 12056:2000 on the provision of access





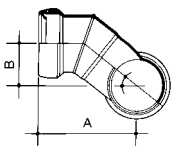
S/SW Manifold Branch – 30.5°

- **One solvent weld and one push-fit socket (right hand illustrated)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	Effective Length
110 LH	4S605	◯	180	64	132
110 RH	4S615	◯	180	64	132





S/SW Manifold Branch – 38°

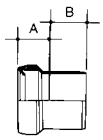
- **One solvent weld and one push-fit socket (right hand illustrated)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	Effective Length
110 LH	4S606	◯	180	80	132

WC Connectors (incorporating gasket)





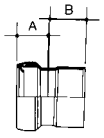
P/E Connector – 2.5°

- **One plain end**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S791	◯	53	63





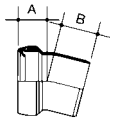
SW/S Connector – 2.5°

- **One solvent weld socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S792	◯	53	63





P/E Connector – 14°

- **One plain end**

Material: PVC-U

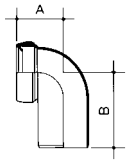
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S711	◯	53	63

NOTE: Manifold Branches and WC Connectors are fitted with a gasket for direct connection to the outlets of WCs manufactured to BS 5503

Wavin OsmaSoil

Product details **WC connectors**





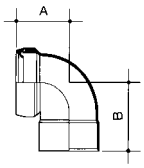
P/E Connector – 90°

- **One plain end**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S771	○	109	173





SW/S Connector – 90°

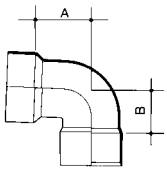
- **One solvent weld socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S772	○	109	134

WC Connectors (gasket to be fitted)





SW/S Connector – 87.5°

- **One solvent weld socket**
- **For direct connection to WCs to BS 1213 when fitted with the appropriate Gasket 4S120 or 4S121 (see page 96)**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S745	○	106	77

WC Gasket





WC Gasket

- **For use with Connectors 4S730*, 4S731*, 4S745 and 4S746* (*= discontinued)**
- **Connects to WC spigots as follows:**
  4S121 suits 4” to 4¼” spigots
  4S120 suits 4¼” to 4½” spigots

Material: Synthetic Rubber

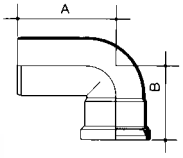
Nominal Size (mm)	Part Number	Colour Option	Dimensions (inch) WC Spigot
110	4S121	○	4" to 4¼"
110	4S120	○	4¼" to 4½"

NOTE: Manifold Branches and WC Connectors are fitted with a gasket for direct connection to the outlets of WCs manufactured to BS 5503

See page 96 and BS EN 12056:2000 on the provision of access

WC Connectors (ancillaries)





S/S Long-Tail Bend – 87.5°

- **For use with WC Connectors (pages 47-48)**
- **Do NOT use as a WC connector**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	4S790	○	195	134



Plain-Ended Pipe – 600mm

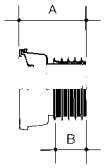
- **For use with WC Connectors where connection to SVP is visible**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) Length
110	4S600	○	600

Easy-Fit Pan Connectors





Easy-Fit Connector – Straight

- **For use where the WC outlet is horizontal to the branch connection**
- **Fitted with a gasket for direct connection to the outlets of WCs manufactured to BS 5503**
- **Spigot end of 3½" Connector WC003 incorporates gasket for direct insertion into plain end of 3½" cast-iron pipe to BS 416**
- **Spigot end of 4" Connector WC004 incorporates gasket for direct insertion into plain end of 4" pipe e.g. cast-iron, plastic or clay**

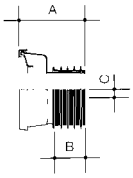
Material: Polypropylene

Nominal Size (inch)	Part Number	Colour Option	Dimensions (mm) A	B
3½"	WC003	○	116	52
4"	WC004	○	116	52

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Product details **WC connectors**





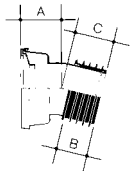
Easy-Fit Connector – Offset

- **For use where the WC outlet is not directly in line with the branch connection. Correct alignment obtained by turning the connector**
- **Fitted with a gasket for direct connection to the outlets of WCs manufactured to BS 5503**
- **Spigot end of 4" Connector WC004 incorporates gasket for direct insertion into plain end of 4" pipe e.g. cast-iron, plastic or clay**

Material: Polypropylene

Nominal Size (inch)	Part Number	Colour Option	Dimensions (mm) A	B	C
4"	WC204	○	116	52	16





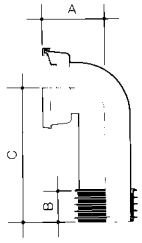
Easy-Fit Connector – 14°

- **Converts a horizontal WC outlet to an angle of 14° (76°)**
- **Spigot end of 4" Connector WC144 incorporates gasket for direct insertion into plain end of 4" pipe e.g. cast-iron, plastic or clay**

Material: Polypropylene

Nominal Size (inch)	Part Number	Colour Option	Dimensions (mm) A	B	C
4"	WC144	○	73	52	67





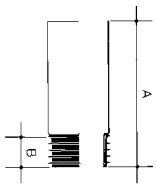
Easy-Fit Connector – 90°

- **Converts a horizontal WC outlet to a left or right-hand ‘S’ or ‘P’ trap**
- **Can be cut to required length**
- **Spigot end incorporates gasket for direct insertion into plain end of 4" pipe e.g. cast-iron, plastic or clay**

Material: Polypropylene

Nominal Size (inch)	Part Number	Colour Option	Dimensions (mm) A	B	C
4"	WC904	○	107	52	236





Straight Extension Piece

- **One plain end**
- **Makes up the distance between any Easy-Fit Connector and soil or drain pipe connection**
- **Spigot end incorporates gasket for direct insertion into plain end of 4" pipe e.g. cast-iron, plastic or clay**

Material: Polypropylene

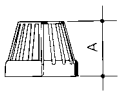
Nominal Size (inch)	Part Number	Colour Option	Dimensions (mm) A	B
4"	WC404	○	255	52

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Product details **Ancillaries**

Terminal Fittings



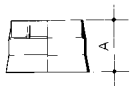


Balloon Grating

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
82	3S302	● ●	94
110	4S302	● ● ○	90
160	6S302	●	160





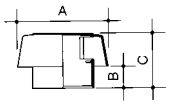
Weathering Collar

- **Used to maintain a watertight seal between pipe and traditional lead or aluminium flashing**
- **To be solvent welded to pipe using Solvent Cement Filler 4S394**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
82	3S300	●	62
110	4S300	● ● ○	86





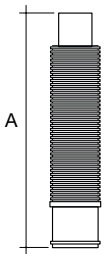
SW/S Vent Cowl

- **Provides an alternative weather-proof termination for soil and vent pipe, or outlet for a mechanical-ventilation system**
- **Can be used in a vertical or horizontal position**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S310	● ● ○	172	40	100





Flexible Vent Pipe

- **Connects to ridge tile adaptor**

Material: PVC-U and Polypropylene

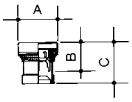
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
110	4S308	●	500

Wavin OsmaSoil

Product details **Ancillaries**

Air Admittance Valves





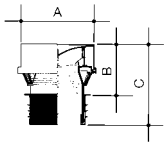
OsmaVent 40 Air Admittance Valve

- **For direct connection to a 32mm [1¼"] or 40mm [1½"] waste spigot**
- **Allows air into discharge pipe systems without allowing foul air to escape**
- **See pages 100 and 101, BBA and BS EN 12056:2000 for ventilation requirements**
- **BBA certificated (Certificate No. 86/1643)**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32/40	4S303	○	66	40	71





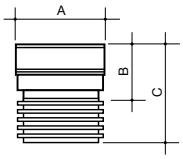
OsmaVent 110 Air Admittance Valve

- **A1 rated to BS EN 12380**
- **For direct connection to a 110mm spigot on BS EN 1329/BS EN 1453 soil pipe**
- **For 82mm pipe, the rubber seal is removed, a short length of pipe welded to the socket, and the pipe fitted into a Socket 3S124**
- **Allows air into discharge pipe systems without allowing foul air to escape**
- **See pages 100 and 101, BBA and BS EN 12056:2000 for ventilation requirements**
- **BBA certificated (Certificate No. 86/1643)**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S304	○	130	85	135





Domestic Air Admittance Valve

- **A2 rated to BS EN 12380**
- **For direct connection to a 110mm spigot on BS EN 1329/BS EN 1453 soil pipe**
- **Allows air into discharge pipe systems without allowing foul air to escape**
- **See pages 100 and 101, BS EN 12056:2000 for ventilation requirements**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
110	4S306	●	104	66	116

For installation tips see:

YouTube
WavinUK

Pipe Flashings





Varipitch Pipe Flashing for Flat Roofs

- **For use with 82mm and 110mm soil pipe to BS EN 1329 which penetrates a flat roof**

Material: Aluminium base, EPDM Rubber cone

Nominal Size (mm)	Part Number	Dimensions (mm) A	B
–	4S281	400x400	85





Varipitch Pipe Flashing for Pitched Roofs

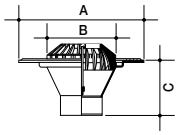
- **For use with 82mm and 110mm soil pipe to BS 1329 which penetrates a pitched roof**

Material: Aluminium base, EPDM Rubber cone

Nominal Size (mm)	Part Number	Dimensions (mm) A	B
–	4S283	450x450	85

Roof Outlets





SW/S Domed Roof Outlet

- **Outlet capacity (outlet at centre of roof):**
  82mm outlet 2.97 l/s; 143m2 max. roof area
  110mm outlet 4.35 l/s; 209m2 max. roof area
- **Fitted with:**
  82mm outlet solvent-weld socket
  110mm outlet solvent-weld socket

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	3S414	○	270	130	124
110	4S414	○	338	188	147

Rainwater Hopper and Shoe





Hopper Head

- **Flow capacity 3.78 l/s, 6.47 l/s**
- **Spigot sized for 82/110mm socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	Width
82	3S530	●	260	190	255
110	4S326	● ○	132	183	255

Wavin OsmaSoil

Product details **Ancillaries**





S/S Rainwater Pipe Shoe

- **Use with Socket Bracket 3S083/4S083**
- **One plain end and one ring-seal or socket**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
82	3S288	●	60	162
110	4S288	● ○	65	243

Cleaners, Solvent Cements, Lubricants



Degreasing Cleaner No. 1

- **Use for cleaning solvent weld joints prior to assembly.**
- **See page 107 for safety information**
- **See page 9 & 107 for usage allowances**

Size (ml)	Part Number
250	4S380



Solvent Cement No. 2

- **Use for making solvent weld joints**
- **See page 107 for safety information**
- **See page 9 & 107 for usage allowances**

Size (ml)	Part Number
125	4S383 ▽
250	4S384 ▽
500	4S385 ▽



Solvent Cement Filler

- **See page 107 for safety information**

Size (ml)	Part Number
140	4S394





Silicone Lubricant

- **Use to aid assembly of ring-seal socket and spigot joints**
- **See page 9 & 105 for usage allowances**

Size	Part Number
50g tube	4S391
400ml spray can	4S392

Wavin OsmaWeld

Product details **ABS Solvent Weld waste**

Pipe



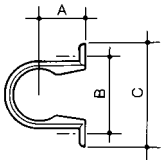
Plain-Ended Pipe

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Length (m)
32	4Z073	● ○	3
40	5Z073	● ○	3
50	2Z073	● ○	3
32	4Z074	◉	4
40	5Z074	◉	4
50	2Z074	◉	4

Bracket





Pipe Bracket

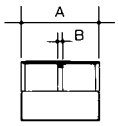
- **For support centres, see pages 9, 89 and 108**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4Z081	● ◉ ○	32	67	85
40	5Z081	● ◉ ○	36	73	92
50	2Z081	● ◉ ○	61	79	100

Sockets





Double Socket

- **For connecting lengths of ABS pipe**
- **Use Universal Connectors 4W102, 5W102 and 2W102 (page 59) for connecting to other materials**

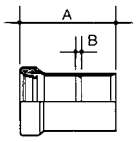
Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z104	● ◉ ○	42	3
40	5Z104	● ◉ ○	48	3
50	2Z104	● ◉ ○	65	3

Wavin OsmaWeld

Product details **ABS Solvent Weld waste**





Expansion Socket – with Solvent Socket Tail

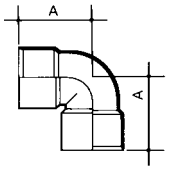
- **For creating an expansion joint where provision for thermal movement is required. See page 88 for details**
- **Solvent weld socket and push-fit ring-seal socket Push-fit socket connects to 32mm [1¼"], 40mm [1½"] or 50mm [2"] pipe to BS EN 1451-1/ BS EN 1455-1 and BS EN 1566-1**
- **Also connects to copper pipe to BS 659 and BS 2871**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z124	● ○	72	3
40	5Z124	● ○	78	3
50	2Z124	○	93	3

Bends



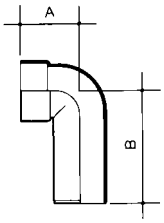


Knuckle Bend – 90°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z160	● ● ○	41
40	5Z160	● ● ○	46
50	2Z160	● ● ○	64



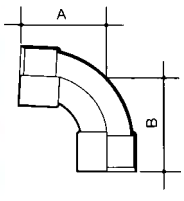


Long-Tail Spigot Bend – 90°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z260	● ● ○	40	85
40	5Z260	● ● ○	49	92
50	2Z260	● ● ○	62	100



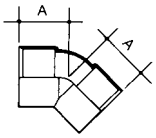


Bend – 87.5°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z161	● ● ○	55	55
40	5Z161	● ● ○	66	66
50	2Z161	● ● ○	82	98





Bend – 45°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z163	● ◉ ○	34
40	5Z163	● ◉ ○	38
50	2Z163	● ◉ ○	47

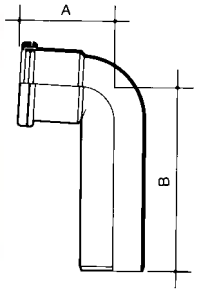


Bend – 45º Male and Female

Material: ABS

Nominal Size (mm)	Part Number	Colour Option
32	4Z263	● ○
40	5Z263	● ◉ ○





Long-Tail Bend – 87.5°

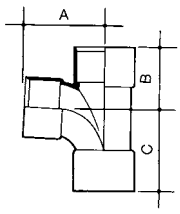
- **One plain end and one push-fit ring-seal socket**
- **Push-fit socket connects to 50mm [2"] pipe to BS EN 1451-1/BS EN 1455-1 and BS EN 1566-1**
- **Also connects to copper pipe to BS 659 and BS 2871**
- **See page 88 for advice on accommodating thermal movement**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
50	2Z359	◉	80	152

Tees





Tee – 87.5°

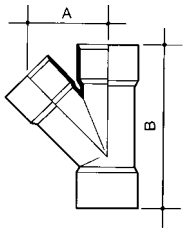
Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4Z190	● ◉ ○	49	40	55
40	5Z190	● ◉ ○	59	46	59
50	2Z190	● ◉ ○	70	56	76

Wavin OsmaWeld

Product details **ABS Solvent Weld waste**





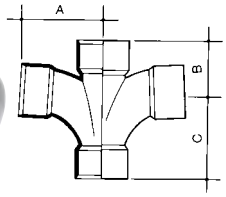
Tee – 45°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z210	○	56	112
40	5Z210	● ● ○	61	126
50	2Z210	● ● ○	76	146

Cross Tee





Cross – 87.5°

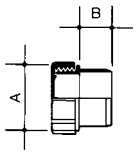
- **NOTE: Should not be used in a horizontal position**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
40	5Z230	○	63	52	62
50	2Z230	○	97	62	84

Plug





P/E Access Plug

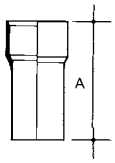
- **Fits into a solvent weld socket to provide an access point**
- **Fitted with screwed access cover**
- **See page 89 and BS EN 12056:2000 regarding provision of access**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z292	● ● ○	41	20
40	5Z292	● ● ○	48	23
50	2Z292	● ● ○	60	32

Connectors and Adaptors





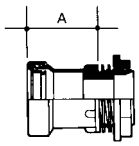
Straight Adaptor

- **Push fit to solvent weld**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z120	○	66
40	5Z120	○	69





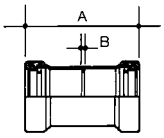
Straight Tank Connector

- **Flanged, threaded connector, and push-fit ring-seal socket**
- **Push-fit socket connects to 32mm [1¼"] or 40mm [1½"] pipe to BS EN 1451-1/BS EN 1455-1 and BS EN 1566-1**
- **Also connects to copper pipe to BS 659 and BS 2871**
- **Includes fibre washers**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z185	○	53
40	5Z185	○	56





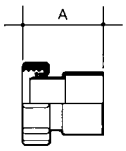
Universal Connector

- **Two push-fit ring-seal sockets**
- **Connects to 32mm [1¼"] or 40mm [1½"] pipe to BS EN 1451-1/ BS EN 1455-1 and BS EN 1566-1**
- **Also connects to copper pipe to BS 659 and BS 2871**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4W102	● ● ○	89	3
40	5W102	● ● ○	95	3
50	2W102	●	105	3





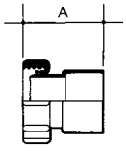
Male Cap and Liner

- **Male threaded nut connector, and solvent weld socket**
- **Nut connects to 1¼" or 1½" BSPT threaded waste outlets**
- **Solvent weld socket connects to 32mm [1¼"] or 40mm [1½"] ABS or PVC-C solvent weld waste pipe to BS EN 1455-1 and BS EN 1566-1**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z363	○	63
40	5Z363	○	63





Female Cap and Liner

- **Female threaded nut connector, and solvent weld socket**
- **Nut connects to 1¼" or 1½" BSPT threaded waste outlets**
- **Solvent weld socket connects to 32mm [1¼"] or 40mm [1½"] ABS or PVC-C solvent weld waste pipe to BS EN 1455-1 and BS EN 1566-1**

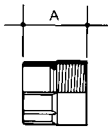
Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
40	5Z364	○	63

Wavin OsmaWeld

Product details **ABS Solvent Weld waste**





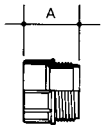
Female Iron Connector

- **Threaded socket connector, and solvent weld socket**
- **Threaded socket connects to 1¼", 1½" or 2" BSPT male iron spigot**
- **Solvent weld socket connects to 32mm [1¼"], 40mm [1½"], or 50mm [2"] plastic waste pipe to BS EN 1455-1 and BS EN 1566-1**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z127	○	50
40	5Z127	○	53





Male Iron Connector

- **Threaded spigot connector, and solvent weld socket**
- **Threaded spigot connects to 1¼", 1½" or 2" BSPT female iron sockets**
- **Solvent weld socket connects to 32mm [1¼"], 40mm [1½"], or 50mm [2"] plastic waste pipe to BS 5255**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4Z128 ▽	○	44
40	5Z128 ▽	○	47
50	2Z128 ▽	○	53

Reducers



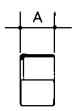
Socket Reducer

- **One P/E and one solvent weld socket**
- **Allows connection of a 32mm [1¼"] waste pipe to either 40mm [1½"] or 50mm [2"] S/W sockets**
- **Also allows a 40mm [1½"] pipe to be connected to a 50mm [2"] S/W socket**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option
50x32	2Z088	● ● ○
50x40	2Z086	● ● ○





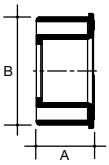
Socket Reducer

- **Fits inside a 40mm [1½"] solvent weld socket to BS EN 1455-1**
- **Allows connection of a 32mm [1¼"] waste pipe to BS EN 1455-1**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
40x32	5Z455	● ● ○	26





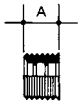
Waste to Overflow Reducer

- **Fits inside a solvent weld waste socket to BS EN 1455-1 and BS EN 1566-1**
- **Allows connection of 21.5mm pipe**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32x21.5	1E344	● ○	19	36
40x21.5	1E346	● ○	23	43





Reducer

- **32 Reducer to 21.5mm pipe**
- **40 Reducer to 35mm copper pipe**
- **50 Reducer to 32mm pipe**
- **50 Reducer to 42mm copper pipe**

Material: Rubber

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32x21.5	4Z343	●	28
40x35	5Z344	●	38
50x32	2Z347	●	44
50x42	2Z349	●	44



Level Invert Reducer

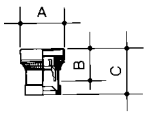
- **Reducer 40 to 32mm**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option
40x32	5Z085	● ● ○

Air Admittance Valve





OsmaVent 40 Air Admittance Valve

- **For direct connection to a 32mm [1¼"] or 40mm [1½"] waste spigot**
- **Allows air into discharge pipe systems without allowing foul air to escape**
- **See pages 100 and 101, BBA and BS EN 12056:2000 for ventilation requirements**
- **BBA certificated (Certificate No. 86/1643)**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
40	4S303 ⚠	○	66	40	71

Wavin Osma Waste

Product details **Polypropylene push-fit waste**

Pipe



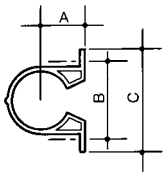
Plain-Ended Pipe

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Length (m)
32	4W073	● ◉ ○	3
40	5W073	● ◉ ○	3
50	2W073	◉ ○	3

Bracket





Pipe Bracket

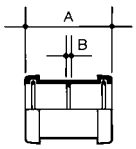
- **For support centres, see pages 9, 89 and 108**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4W081	● ◉ ○	31	57	72
40	5W081	● ◉ ○	36	55	72
50	2W081	◉ ○	43	77	94

Socket





Double Socket

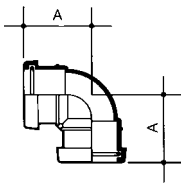
- **For connecting lengths of polypropylene pipe**
- **Universal Connectors 4W102 and 5W102 should be used or connecting to other materials**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4W105	● ◉ ○	68	2
40	5W105	● ◉ ○	79	2
50	2W105	◉ ○	71	2

Bends



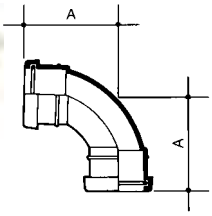


Knuckle Bend – 90°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4W160	● ◉ ○	58
40	5W160	● ◉ ○	60
50	2W160	◉ ○	70



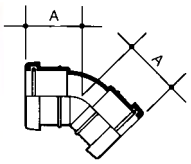


Bend – 87.5°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4W161	● ◍ ○	62
40	5W161	● ◍ ○	77



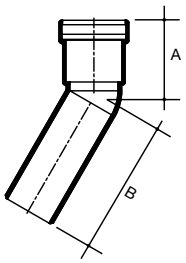


Bend – 45°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
32	4W163	● ◍ ○	48
40	5W163	● ◍ ○	50
50	2W163	◍ ○	49



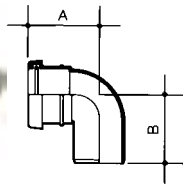


Spigot Bend – 30°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4W166	● ○	48	82
40	5W166	● ◍ ○	46	86





Spigot Bend – 90°

Material: Polypropylene

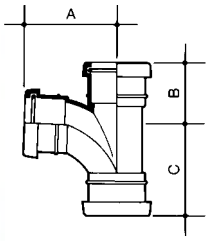
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4W260	● ◍ ○	61	67
40	5W260	● ◍ ○	60	75
50	2W260	○	68	65

Wavin Osma Waste

Product details **Polypropylene push-fit waste**

Tee





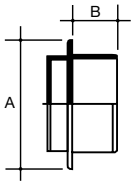
Tee – 87.5°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4W190	● ● ○	82	43	85
40	5W190	● ● ○	70	55	70
50	2W190	● ○	82	57	79

Plug





Access Plug

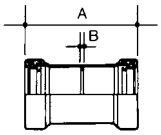
- **Fits into a push-fit ring-seal socket to provide an access point**
- **See page 89 regarding provision of access**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4W292	● ● ○	43	25
40	5W292	● ● ○	55	26
50	2W292	● ○	69	26

Connectors and Adaptors





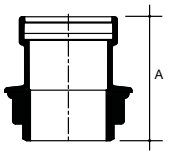
Universal Connector

- **Two push-fit ring-seal sockets**
- **Connects to 32mm [1¼"] or 40mm [1½"] pipe to BS EN 1451-1/ BS EN 1455-1 and BS EN 1566-1**
- **Also connects to copper pipe to BS 659 and BS 2871**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4W102	● ● ○	89	3
40	5W102	● ● ○	95	3
50	2W102	●	105	3





Tank Connector

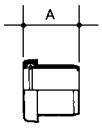
- **Push-fit socket connects to waste pipe to BS EN 1455-1/ BS EN 1451-1 and BS EN 1566-1**
- **Also connects to copper pipe to BS 659 and BS 2871**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
40	5W185	●	65

Reducers





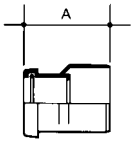
Reducer

- **Spigot connects to 40mm [1½"] push-fit ring-seal socket to BS EN 1451-1**
- **Socket connects to 32mm [1¼"] waste pipe to BS EN 1451-1**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
40x32	5W084	● ◉ ○	44





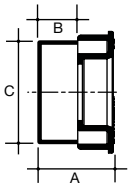
Level Invert Reducer

- **Spigot connects to 50mm [2"] push-fit ring-seal socket to BS EN 1451-1**
- **Socket connects to 32mm [1¼"] or 40mm [1½"] waste pipe to BS EN 1451-1**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
50x32	2W088	◉ ○	71
50x40	2W086	◉ ○	71





Waste to Overflow Reducer

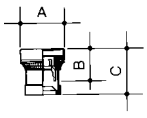
- **Fits inside a push-fit waste socket to BS EN 1451-1**
- **Allows connection of 21.5mm pipe**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32x21.5	1C344	○	26	16	34
40x21.5	1C346	○	39	16	40

Air Admittance Valve





OsmaVent 40 Air Admittance Valve

- **For direct connection to a 32mm [1¼"] or 40mm [1½"] waste spigot**
- **Allows air into discharge pipe systems without allowing foul air to escape**
- **See pages 100 and 101, BBA and BS EN 12056:2000 for ventilation requirements**
- **BBA certificated (Certificate No. 86/1643)**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
40	4S303 ◬	○	66	40	71

Wavin Osma Waste

Product details **Waste connectors and V-Joint traps**

Flexible Waste Pipe



Flexible Spigot Connector

- **Provided with a captive nut at one end and a 32mm [1¼"] or 40mm [1½"] spigot at the other**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Length (mm)
32	4V901	○	450
40	5V901	○	450



Flexible Spigot Connector

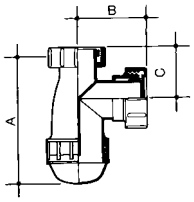
- **Provided with a captive nut at one end and a 32mm [1¼"] or 40mm [1½"] spigot at the other**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Length (mm)
40	5V902	○	165-290

Bottle Traps





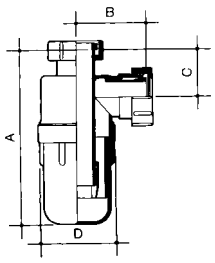
Bottle Trap – 38mm seal

- **For use with appliances with trailing waste discharge, installed on ground floors and discharging to external gullies (refer to BS EN 12056:2000)**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4V809	○	120	60	78
40	5V809	○	130	68	93



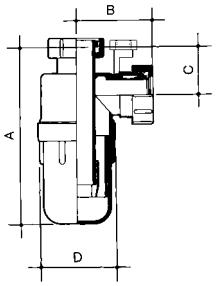


Bottle Trap – 75mm seal

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
32	4V812	○	172	72	47	66
40	5V812	○	175	76	50	74





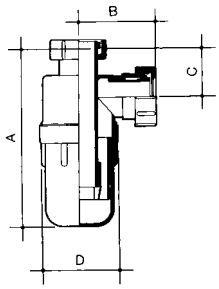
Anti-Syphon Bottle Trap – 75mm seal

- **Designed to prevent loss of seal where either self-siphonage or induced siphonage is likely**
- **In some instances, can be used as an alternative to branch ventilation pipes (refer to BS EN 12056:2000)**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
32	4V814	◯	172	72	48	62
40	5V814	◯	190	80	50	72



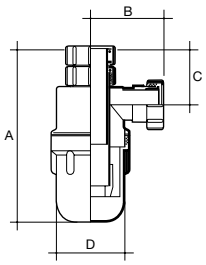


Re-Sealing Bottle Trap – 75mm seal

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
32	4V816	◯	178	67	50	75
40	5V816	◯	185	73	50	82





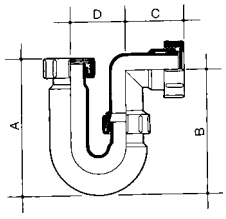
Adjustable Bottle Trap – 75mm seal

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A min	A max	B	C	D
32	4V808	◯	185	290	75	62	62
40	5V808	◯	180	270	77	65	72

Tubular Traps



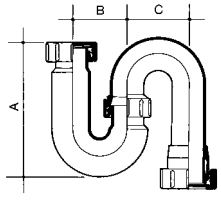


Tubular ‘P’ Trap – 75mm seal

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
32	4V801	◯	145	120	57	57
40	5V801	◯	150	138	60	63





Tubular ‘S’ Trap – 75mm seal

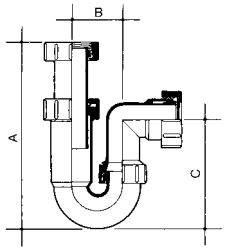
Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4V803	◯	145	57	57
40	5V803	◯	150	63	63

Wavin Osma Waste

Product details **Waste connectors and V-Joint traps**



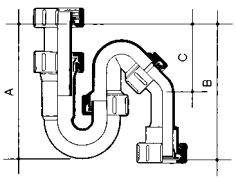


Adjustable Tubular 'P' Trap – 75mm seal

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A min	A max	B	C
32	4V807	○	140	230	57	120
40	5V807	○	155	225	57	138





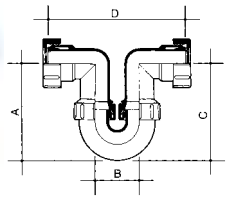
Variform Trap – 75mm seal

- **Particularly useful for replacement, maintenance and improvement work where connection between two fixed points is required**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4V804	○	146-224	155-211	56-134





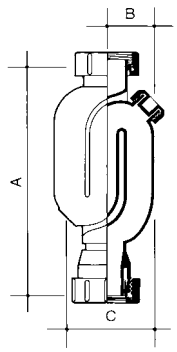
Running 'P' Trap – 75mm seal

- **Both inlet and outlet incorporate 'V' joint connections**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
40	5V805	○	140	62	140	146





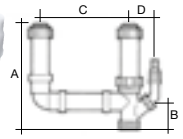
Straight Through Trap – 75mm seal

- **Incorporates a cleaning eye**
- **Particularly useful for wash basin pedestals where the waste pipe can be concealed**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4V825	○	240	44	88





Plumbing Kit 1

- **To suit 1.5 or 2 Bowl Sink**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
40	5V408	○	248	62	203	70





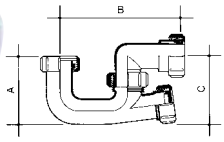
Swivel 'P' Trap

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4V811	○	–	–	–
40	5V811	○	105	75	140

Bath Traps





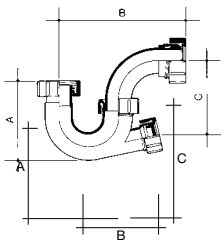
Bath Trap – 38mm seal

- **For use with appliances trailing waste discharge and installed on ground floors discharging to an external gully**
- **Refer also to BS EN 12056:2000**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
40	5V802	○	85	170	95



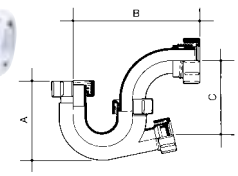


Bath Trap – Shallow seal

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	4V806	○	65	130	60
40	5V806	○	110	150	66





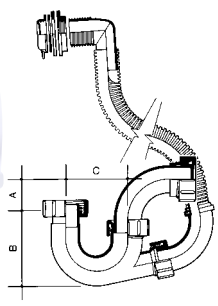
Bath Trap – 75mm seal

- **Incorporates screwed access cover for maintenance**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
40	5V846	○	110	195	130





Bath Trap and Overflow – 75mm seal

- **Incorporates:**
  flexible overflow connection
  chromium-plated rose
  chain for the waste plug

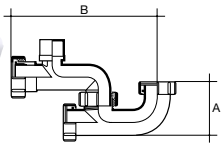
Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
40	5V848	○	110	195	130

Wavin Osma Waste

Product details **Waste connectors and V-Joint traps**





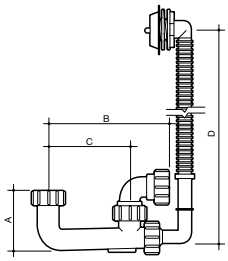
Anti-Syphon Bath Trap – 75mm seal

- **40mm Anti-Syphon Bath Trap with 50mm water seal**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
40	5V842	○	85	255





Bath Trap with Extended Body – 60mm seal

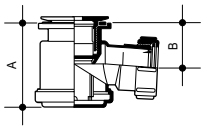
- **Incorporates:**
  flexible overflow connection
  chromium-plated rose
  chain for the waste plug

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D min	D max
40	5V860	○	85	210	150	300	500

Shower Traps





Shower Trap – 19mm seal

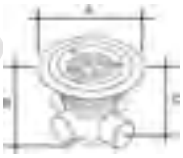
- **Includes a dip tube, removable from top**
- **Allows for easy cleaning**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
40	5V823	○	90	42

Shower and Floor Gullies





Vinyl Floor Gully

- **Supplied with vinyl tile and grid**
- **82mm outlet (solvent weld socket)**
- **50mm depth water seal**
- **Three closed boss socket positions which can be drilled out with a 60mm hole saw**
- **Bosses to be used in conjunction with 2S498 (32mm), 2S499 (40mm) and 2S503 (50mm) rubber boss adaptors**
- **Spares and ancillary items available**

Material: Body - PVC-U, Tile and Grid - Vinyl

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
82	2V411	●	242	183	120





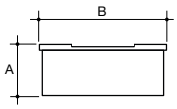
Floor Gully

- **Supplied with stainless steel tile and grid**
- **50mm outlet (push-fit socket)**
- **50mm depth water seal**
- **Three closed boss socket positions which can be drilled out with a 60mm hole saw**
- **Bosses to be used in conjunction with 2S498 (32mm), 2S499 (40mm) and 2S503 (50mm) rubber boss adaptors**
- **Spares and ancillary items available**

Material: Body - PVC-U, Tile and Grid - Stainless Steel

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
50	2V502	●	153	151	120





Rubber Boss Adaptor

- **For use with floor gullies 2V411 and 2V502 (see above)**

Material: Rubber

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	2S498 ▽	●	30	68
40	2S499 ▽	●	30	68
50	2S503 ▽	●	30	68



Stainless Steel Tile and Grid

Material: Stainless Steel

Nominal Size (mm)	Part Number	Colour Option
–	2V414	●

Wavin Osma Waste

Product details **Waste connectors and V-Joint traps**



Gully Funnel Bowl

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option
–	2V415	●

Gully Extension Bowl

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option
–	2V416	●

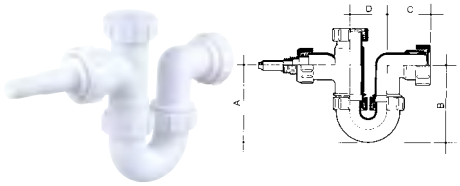


Gully Funnel

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option
–	2V418	●

Washing Machine Sink Traps

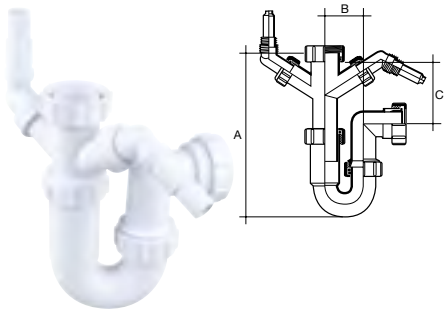


Washing Machine Half Trap – 75mm seal

- **For direct connection to ¾" hose from washing machines or dishwashers**
- **Hose adaptor can also be cut back to provide ¾" or 1" BSPT male thread**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
40	5V864	○	185	140	60	63



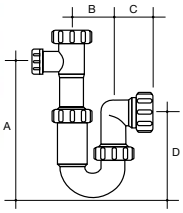
Adjustable Sink Trap – 75mm seal

- **For direct connection of one or two ¾" hoses from washing machines or dishwashers**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A min	A max	B	C
40	5V869	○	195	260	63	65





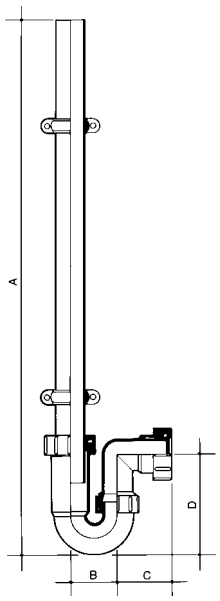
Tubular Swivel Trap

- **40mm x 75mm adjustable with 21.5mm connection**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
40	5V407	◯	224	63	68	130





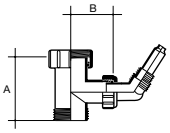
Washing Machine Trap with Standpipe – 75mm seal

- **Machine hose hooks into top of standpipe to provide an air break**
- **Supplied with two pipe brackets**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
40	5V870	◯	700	60	63	140





Washing Machine Tee Piece

- **Fits between the sink and an existing trap**
- **Allows direct connection of a ¾" hose from washing machines or dishwashers**

Material: Polypropylene

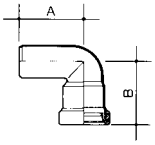
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
40	5V871	◯	70	54

Wavin Osma Waste

Product details **Waste connectors and V-Joint traps**

Ancillaries



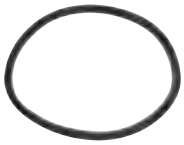


90° All-Fit Conversion Bend

- **Converts a 'P' Trap Outlet to an 'S' Trap Outlet**
- **Connects to 32mm [1¼"] or 40mm [1½"] pipe to BS EN 1451-1/BS 5254 and BS 5255, or to copper pipe to BS 659 and BS 2871**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4A830	○	69	67
40	5A830	○	71	71



Bottle Trap Bowl Washer

- **4V003 for 4V809/4V812, 5V809/5V812**

Material: Polypropylene

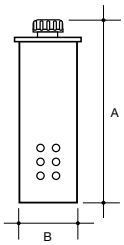
Nominal Size (mm)	Part Number
50	4V003

Wavin Osma Waste

Product details **Condensate drainage**

Soakaway





Soakaway

- **110mm OD with 21.5mm, 32mm, 40mm pipe connections**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
110	1V403	●	325	120

Connectors and adaptors



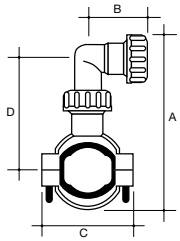
Overflow to Waste Clamp

- **For connection to 32mm or 40mm**
- **Push-fit or Solvent Weld pipe**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option
21.5	AO21	○





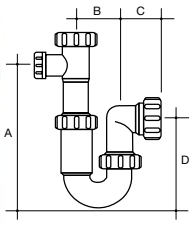
Pipe Clamp

- **32/40mm waste and 21.5mm connection**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
21.5	1V402	○	130	48	71	78





Tubular Swivel Trap

- **40mm x 75mm adjustable with 21.5mm connection**

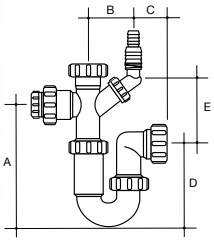
Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D
40	5V407	○	224	63	68	130

Wavin Osma Waste

Product details **Condensate drainage**





Tubular Swivel Trap

- **40mm x 75mm adjustable with 21.5mm connection and washing machine nozzle**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C	D	E
40	5V468	○	188	130	61	130	90





Reducer

- **To 21.5mm pipe**

Material: Synthetic rubber

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	4Z343	●	40	28

Wavin Osma Waste

Product details **Solvent Weld overflow**

Pipe



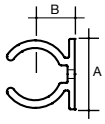
Plain-Ended Pipe

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Length (m)
21.5	1E073	○	3

Pipe Clip





Pipe Clip

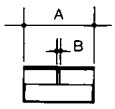
- **For support centres, see pages 9, 89 and 108**

Material: PVC-U

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1E082	○	28	16

Socket





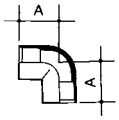
Double Socket

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1E104	○	53	2

Bends



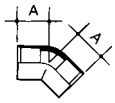


Bend – 90°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1E160	○	39





Bend – 45°

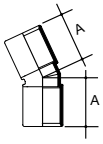
Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1E166	○	33

Wavin Osma Waste

Product details **Solvent Weld overflow**





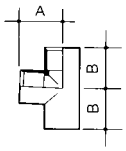
Bend – 25°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1E163	○	34

Tee





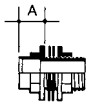
Tee – 90°

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1E190	○	39	39

Tank Connectors





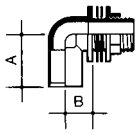
Straight Tank Connector

- **Flanged, threaded connector at one end, 21.5mm solvent weld socket at the other**
- **Includes two gaskets for connecting to tanks or cisterns**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1E129	○	27





Bent Tank Connector – 90°

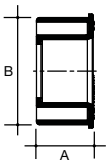
- **Flanged, threaded connector at one end, 21.5mm solvent weld socket at the other**
- **Includes two gaskets for connecting to tanks or cisterns**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1E139	○	45	42

Reducers





Waste to Overflow Reducer

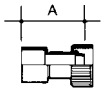
- **Fits inside a solvent weld waste socket to BS EN 1455-1 and BS EN 1566-1**
- **Allows connection of 21.5mm pipe**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32x21.5	1E344	●○	19	36
40x21.5	1E346	●○	23	43

Cap and Lining





Cap and Lining

- **Threaded nut connector at one end, 21.5mm solvent weld socket at the other**
- **The nut connects to ¾" BSPT male thread**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1E156	○	54

Adaptors





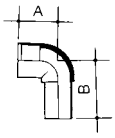
Compression Fitting Adaptor – Straight

- **Spigot connects to compression fitting manufactured to BS 659, socket connects to 21.5mm [¾"] PVC-U Solvent Weld Overflow Pipe**
- **Can also connect PVC-U Solvent Weld Overflow to WasteFlow Units 5V835, 5V837**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1O158	○	30





Compression Fitting Adaptor – 90°

- **Spigot connects to compression fitting manufactured to BS 659, socket connects to 21.5mm [¾"] PVC-U Solvent Weld Overflow Pipe**
- **Can also connect PVC-U Solvent Weld Overflow to WasteFlow Units 5V835, 5V837**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1O159	○	31	47

Wavin Osma Waste

Product details **Polypropylene Push-fit overflow**

Pipe



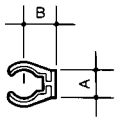
Plain-Ended Pipe

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Length (m)
21.5	1C074	○	4

Pipe Clip





Pipe Clip

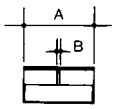
- **For support centres, see pages 9, 89 and 108**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1E082	○	28	16

Socket





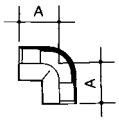
Double Socket

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1C104	○	51	3

Bends



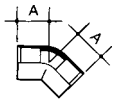


Bend – 90°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1C160	○	37





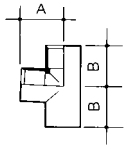
Bend – 45°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A
21.5	1C163	○	35

Tee





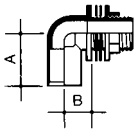
Tee – 90°

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1C190	○	37	37

Tank Connector





Bent Tank Connector – 90°

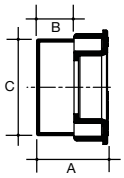
- **Flanged, threaded connector at one end, 21.5mm push-fit socket at the other**
- **Includes two gaskets for connecting to tanks or cisterns**
- **Bend can be cut off to convert to straight tank connector**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
21.5	1C139	○	37	18

Reducer





Waste to Overflow Reducer

- **Fits inside a push-fit waste socket to BS EN 1451-1**
- **Allows connection of 21.5mm pipe**

Material: ABS

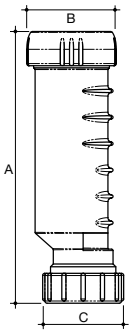
Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32x21.5	1C344	○	26	16	34
40x21.5	1C346	○	39	16	40

Wavin Osma HepVO

Product details **Hygienic self-sealing waste valves**

HepVO Hygienic Self-Sealing Waste Valve





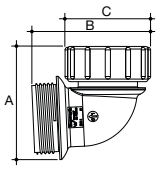
HepVO Valve

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	BV1	○	188	61	55
40	CV1	○	188	68	62

HepVO Knuckle Adaptor





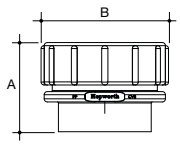
HepVO 87.5° Knuckle Adaptor

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	BV11	○	66	70	50
40	CV11	○	70	74	56

HepVO Running Adaptor





HepVO Running Adaptor

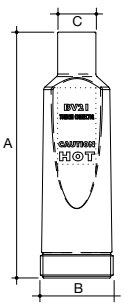
- **For installing HepVO in a pipe run**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	BV3	○	43	55
40	CV3	○	43	62

HepVO Tundish Adaptor





HepVO Tundish Adaptor Kit

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B	C
32	BV1/21	○	142	22	15

For installation tips see: YouTube WavinUK

Wavin Osma Soil and Waste

Product details **Problem solvers – flexible soil and waste**

Flexible waste



Flexible Waste Pipe

- **Smooth Bore – Use with Spigot connectors**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Length (m)
32	FBP3	◯	3
40	FCP3	◯	3
32	FBP6	◯	6
40	FCP6	◯	6



Spigot Connectors

- **To Push-fit Waste**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
40	FCW6	◯	75	54



Spigot Connectors

- **To Solvent Weld Waste**

Material: ABS

Nominal Size (mm)	Part Number	Colour Option	Dimensions (mm) A	B
32	FSBW6	◯	62	46
40	FSCW6	◯	75	54



Flexible Waste Connector

- **Spigot : Spigot**
- **Fabricated length – To Push-fit Waste**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Effective Length (mm)
40	FCW30	◯	365

Wavin Osma Soil and Waste

Product details **Problem solvers – flexible soil and waste**



Flexible Waste Connector

- **Spigot : Spigot**
- **Fabricated length – To Solvent Weld Waste**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Effective Length (mm)
40	FSCW30	○	365

Flexible soil



Flexible Pan Connector – Long

- **Nominal length 280mm, nominal extended length 920mm**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Effective Length (mm)
110	S170	○	290-920 (extended)



Flexible Pan Connector – Short

- **Nominal length 230mm, nominal extended length 670mm**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Effective Length (mm)
110	S171	○	230-670 (extended)



Flexible Pan Connector – Extra Short

- **Nominal length 195mm, nominal extended length 410mm**

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option	Effective Length (mm)
110	S172	○	195-410 (extended)

Wavin Osma Waste

Product details **Problem solvers – Condensate**

Condensate fittings



Condensate Soakaway

Material: Polypropylene

Nominal Size (mm)	Part Number	Colour Option
21.5	S951	●

Wavin Osma Soil and Waste

Design

Typical Assembly

Figure 1: Typical stack assembly – Ring-Seal system

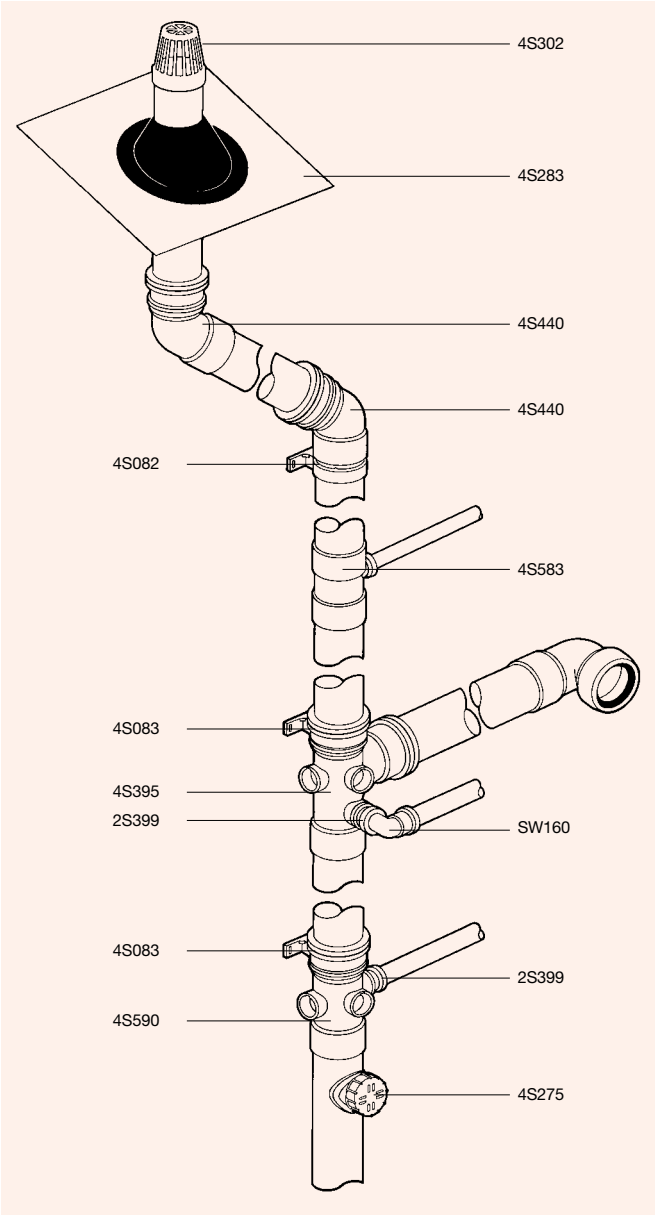
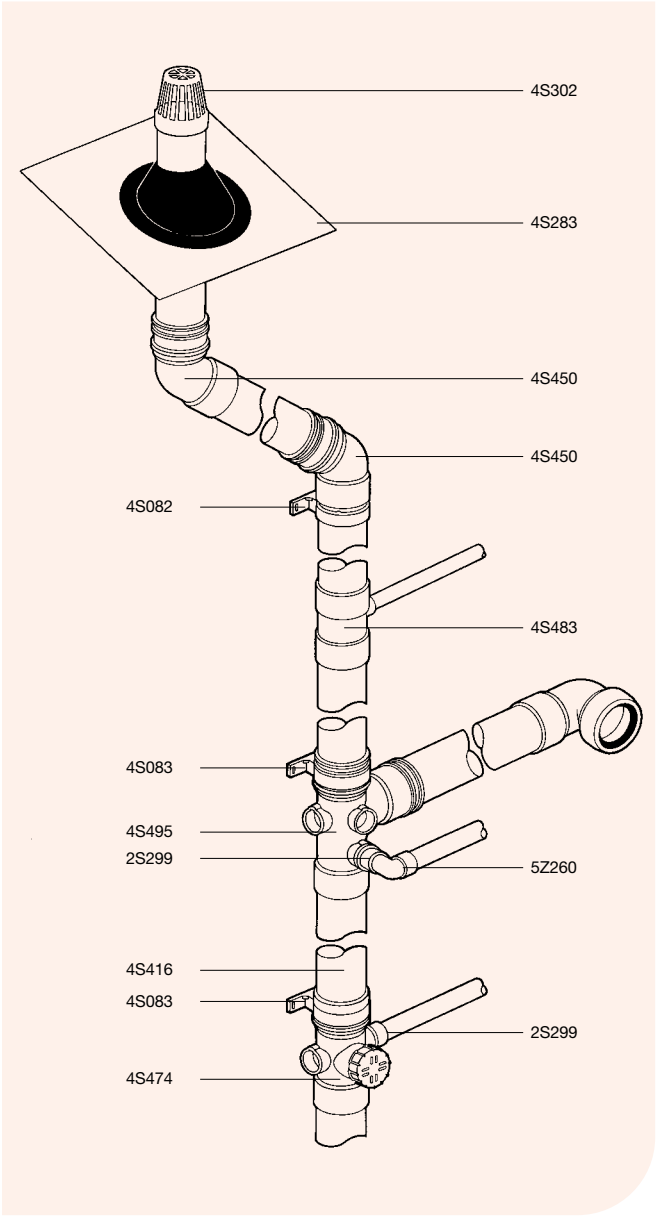


Figure 2: Typical stack assembly – Solvent Weld system



Applications

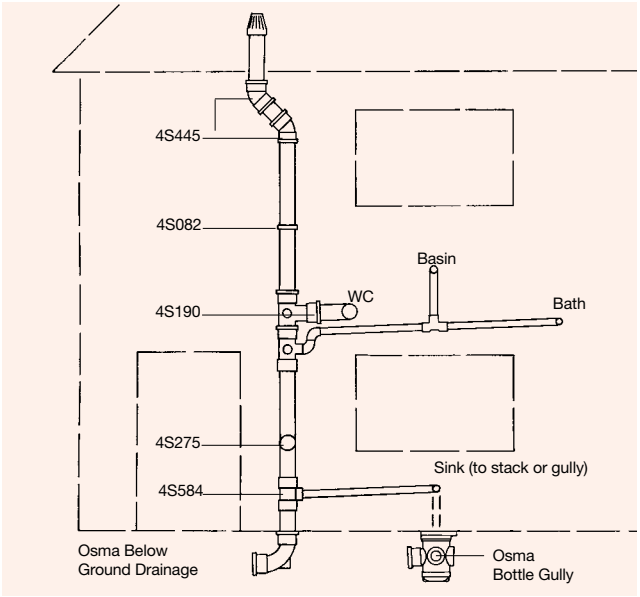
General Principles

Wavin Osma Soil and Waste systems are designed to convey soil drainage and waste safely away from appliances to a soil stack or drain (see Figure 3). The systems are suitable for above ground sanitary fittings and appliances in domestic, commercial and public buildings. However, special requirements may apply to some trade wastes including:

- High temperature and chemical effluent
- Discharges from hospitals and laboratories

For maximum operating temperatures, see Materials: Properties and Performance, page 103.

Figure 3: Typical layout for Soil and Waste



Pipe Sizing

Soil Systems

Stack

The internal diameter of a discharge stack should not be less than that of the largest trap or appliance discharging into it.

EXAMPLE: If a WC trap diameter is 110mm, the discharge stack must be minimum diameter 110mm.

Vent

Dry sections of vent pipe should typically have the same internal diameter as the discharge stack. However, for 1- or 2-storey houses, the dry section may be 75mm diameter without affecting performance.

Waste Systems

The internal diameter of the waste pipe should not be less than that of the largest trap or appliance discharging into it. Minimum tubular trap sizes are given in Table 19 opposite.

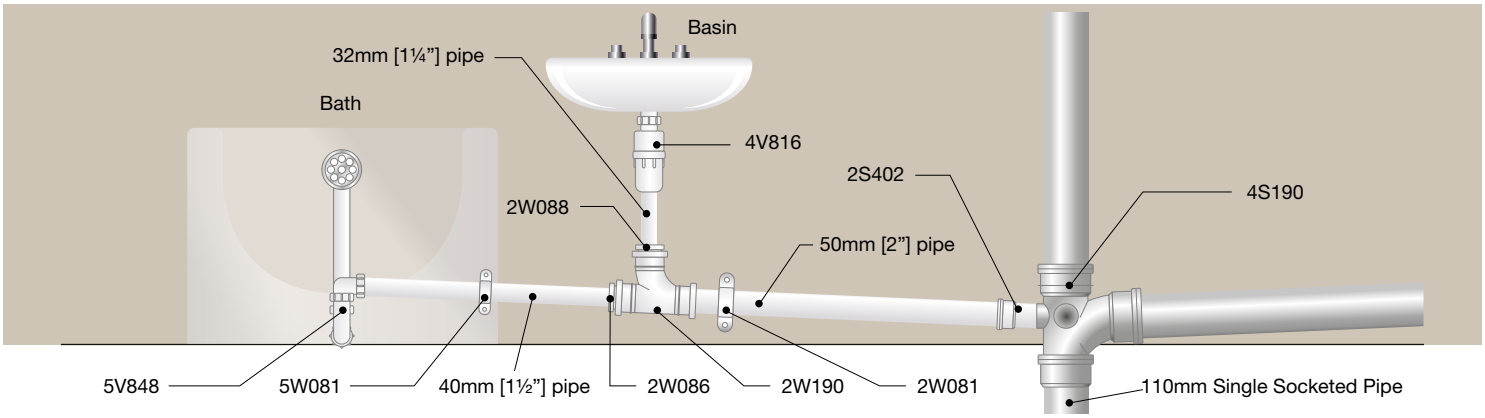
Combined waste systems

Waste pipe diameters should be increased at the point where waste from two appliances meet (see Figure 4).

Table 19: Minimum Tubular Trap Sizes

Type of Appliances	Size of Trap
Wash Basin	32
Bidet	32
Sink	40
Bath	40
Shower	40
Urinal (bowl)	40
Urinal (slabs 1-7)	65
Washing Machine	40

Figure 4: Combined waste connection to soil stack



Wavin Osma Soil and Waste

Design

Maximum Pipe Runs

Waste Systems

The maximum recommended pipe run from trap to stack, serving single or combined appliances, is as follows:
– 3m for 40mm pipe
– 4m for 50mm pipe

If the pipe run exceeds the recommended maximum lengths above, an increased risk of blockage and/or siphonage may occur:

- The pipe run must be vented to prevent self-siphonage or induced siphonage (See page 100 for details of use of Osma Air Admittance Valve 4S303)
- Access to be provided wherever possible
- Provision for thermal movement is required in the case of Solvent Weld systems (see below)

Thermal Movement

Push-fit Systems

Correctly made and anchored ring-seal/push-fit joints will accommodate thermal movement with no requirement for expansion fittings. However 4S125 Acoustic socket can be used to accommodate expansion (without having to withdraw the pipe by 12mm) and prevent structure borne sound (see pages 105-106 for more details).

Solvent Weld Systems

Provision for thermal movement is required (see Figure 5):

- For all pipe runs over
  – 3m for 32, 40 or 50mm pipe
  – 4m for 82, 110 or 160mm pipe
- Between any two fixed points 1m or more apart

Fixed points include:

- Fittings supported by socket brackets
- Changes of direction
- Branches from other appliances

Pipe brackets allow the movement of pipework between fixed points whilst keeping the pipework steady.

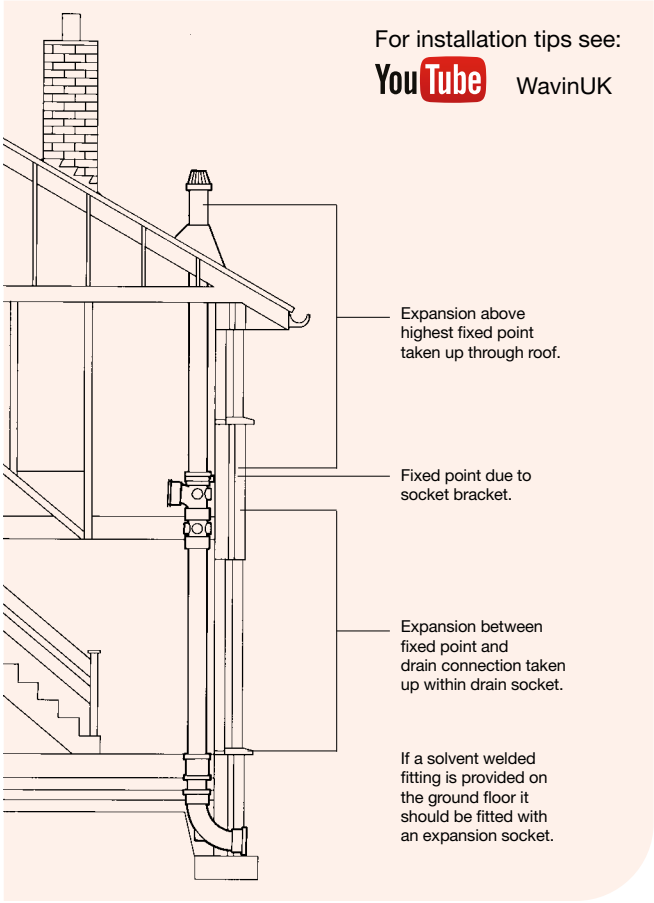
The following components are available for the creation of thermal expansion joints:

Components

- PVC-U Solvent Weld Soil system:
  Expansion Cap 4S416 (110mm) and 6S416 (160mm)
- PVC-U Push-fit Soil system:
  Acoustic Socket 4S125 (110mm)
- ABS Solvent Weld Waste system:
  Expansion Socket 4Z/5Z/2Z124

See pages 105-106 for using the 4S125 Acoustic Socket to accommodate thermal movement within a soil stack - and achieve maximum acoustic performance by preventing structure borne sound.

Figure 5: Thermal movement requirements for a Solvent Weld Soil system



Pipe Support

Support Centres

Pipe should be supported in accordance with Table 20 below showing maximum support centres for pipes installed vertically and horizontally.

Brackets are available to meet all support requirements for Wavin Osma Soil and Waste systems.

Table 20: Maximum Pipe Support Centres

Pipe Size (mm)	Centres (m)	
	Vertical	Horizontal
21.5	0.5	0.5
32	1.2	0.5
40	1.2	0.5
50	1.2	0.6
82	2	1
110	2	1
160	2	1.2

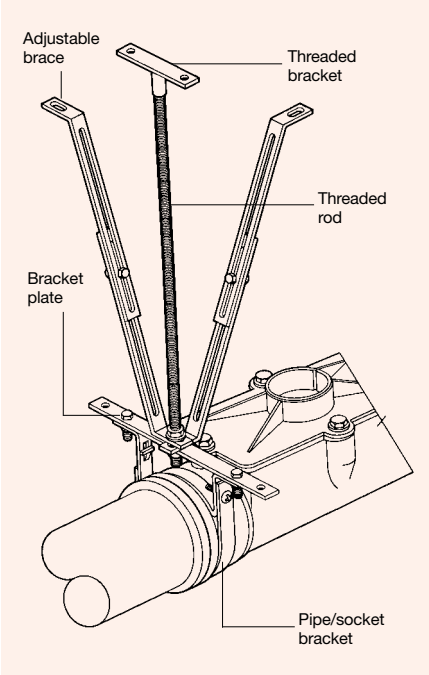
Suspended Pipework

Bracket assemblies are available for suspended sanitary and drainage installations within a building.

The Suspended Bracketing system (see Figure 6) offers socket or pipe bracketing in 110mm and 160mm sizes and is adjustable to accommodate pipe falls. For installation details see page 108.

Note: Not suitable for use in damp inaccessible voids.

Figure 6: Suspended bracketing – socket support



Access

Access points should be provided to enable all pipework to be tested and maintained effectively. To facilitate use of testing and cleaning equipment, access points should be positioned so that:

- Building structures such as walls and ducts do not impede use of the equipment
- No danger or nuisance is likely if leakage should occur

This can be achieved by positioning access points above the spill-over levels of any pipework which may be affected by blockages.

Access Fittings

A wide range of access fittings are available, including access pipes, bends and branches. See the Product Selector section for full details.

Access may also be created at an appropriate position in 110mm pipe by installing Access Saddle 4S275 (see Figure 7). This fitting can also be installed post construction. For installation details see page 110.

Access to Ranges of WCs

Branch pipes serving ranges of WCs should incorporate access points:

- At the head of the run
- Wherever the pipe changes direction

Venting of these branch pipes is not normally necessary, except:

- Where more than 8 WCs are being served
- Where there are several changes of direction

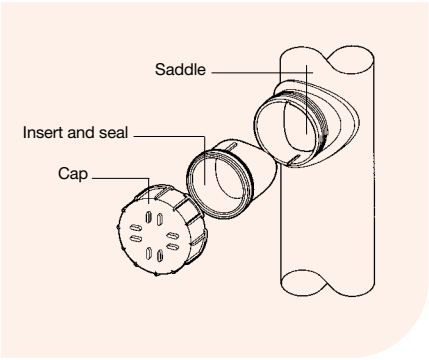
Urinals

Waste pipe serving urinals can be subject to build up of deposits, especially in areas of hard water:

- Make provision for access to all areas of the waste system
- Keep pipe runs as short as possible: less than 3m is recommended

To increase self-cleansing, it is advisable for wash basins with resealing bottle traps to discharge into the waste system. See BS EN 12056:2000 for provision of access.

Figure 7: Access Saddle (4S275)



Wavin Osma Soil and Waste

Design

Offsets

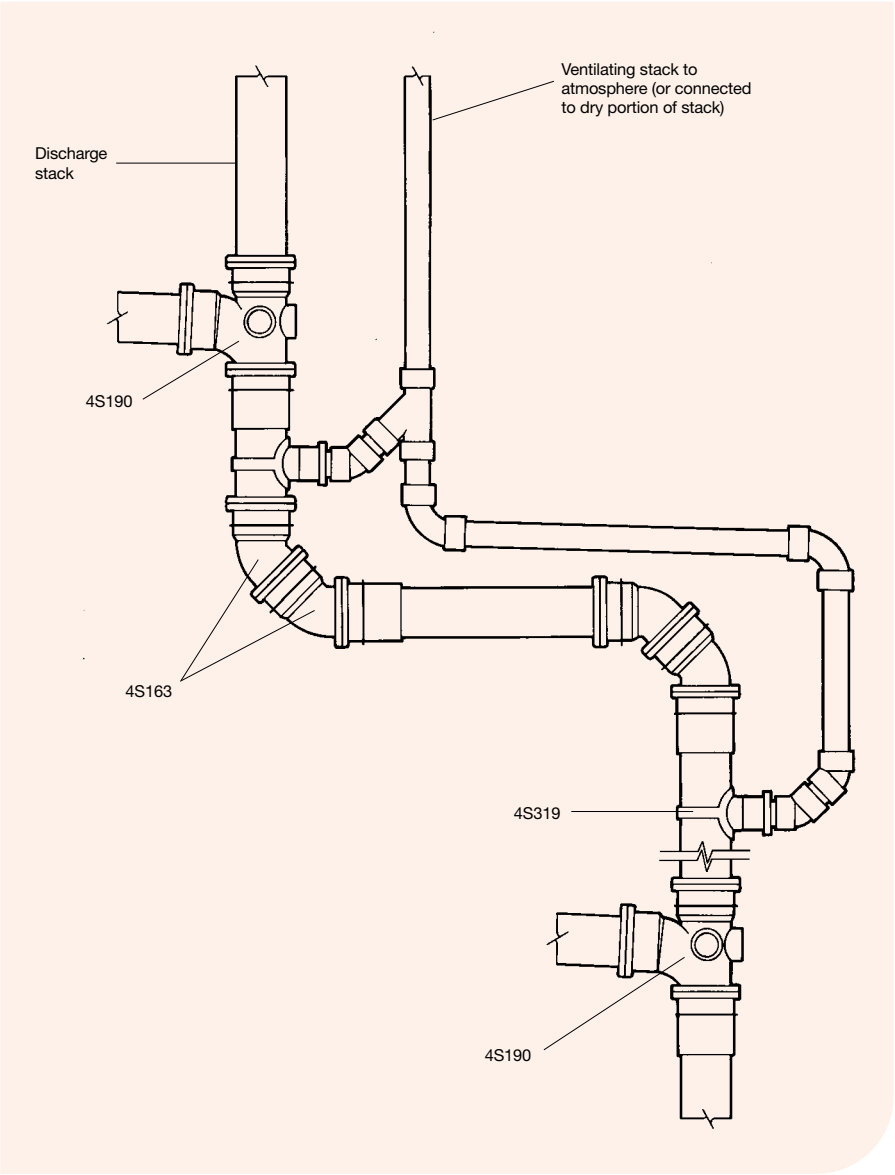
Offsets are permitted in the dry portion of the stack and do not require venting.

Offsets in the wet portion of a stack should ideally be avoided. Where this is unavoidable, use large radius bends.

A secondary ventilation stack may be necessary to connect above and below the offset, to reduce siphonage threat to traps.

The diameter of this ventilation stack pipework is typically half that of the discharge stack. (see Figure 8).

Figure 8: Ventilation stack to atmosphere



Connections to Drainage

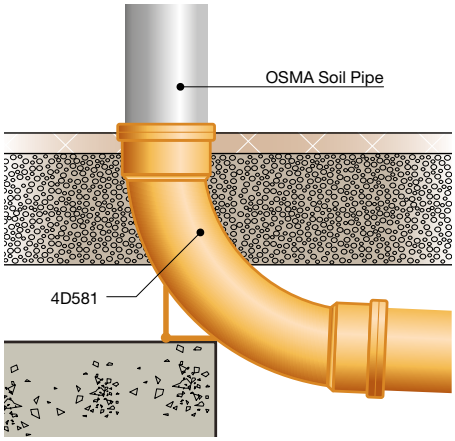
Wavin Osma systems include couplers, connectors and adaptors to enable direct connection of Osma Above and Below Ground Drainage Pipes, and to other systems made of PVC-U, cast iron and clay.

Connections to PVC-U

110mm Osma Soil Pipe connections to PVC-U drainage pipes are straightforward using ring seal/push-fit Jointing and Osma Below Ground Drainage fittings.

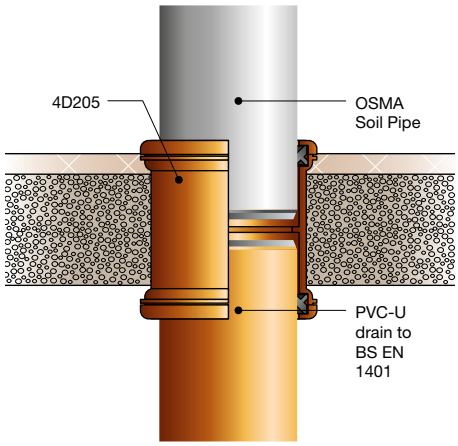
- Via OsmaDrain Bend 4D581

Figure 9: PVC-U drain socket (via 4D581)



- Via OsmaDrain Coupler 4D205

Figure 10: PVC-U drain spigot (via 4D205)



Connections to Other Materials

Osma Soil connections to non-plastic drainage materials include:

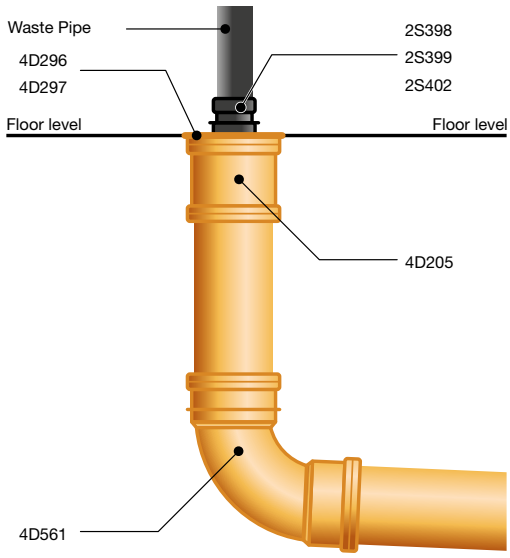
- To Clay
  - To thinwall clay drain pipe spigot via Adaptor 4D129
- To Cast Iron
  - To CI soil socket via Connector 4S106 OR Connector 4S206

For illustrations and detailed guidance on installation and connection procedures see page 109-110.

Waste to Drain Connections

Waste pipes can be connected to below ground drainage by using Boss Socket Adaptors. For typical arrangements see Figures 11-13.

Figure 11: Typical internal waste pipe connection to drain



Wavin Osma Soil and Waste

Design

Figure 12: Typical waste connection to Sealed Hopper

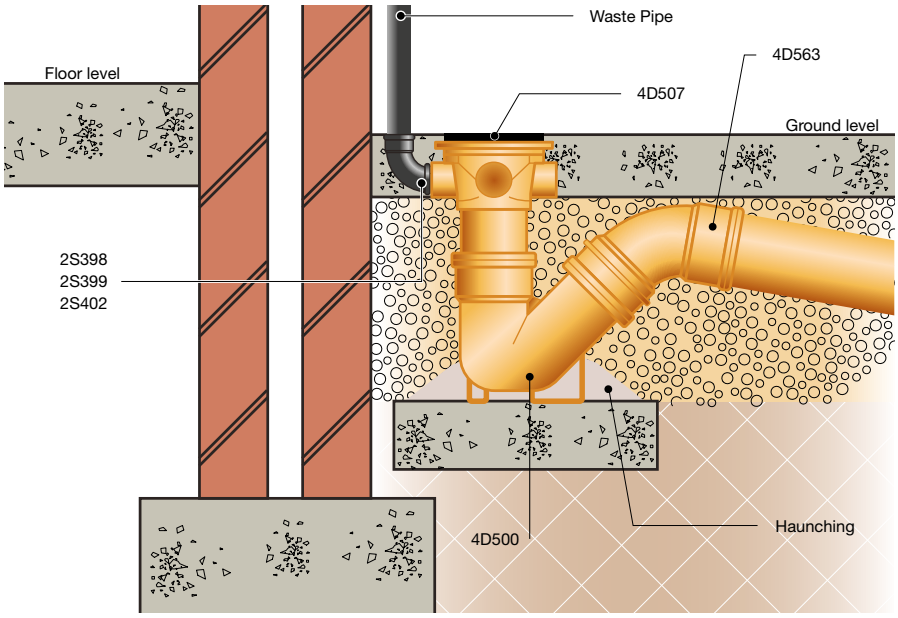
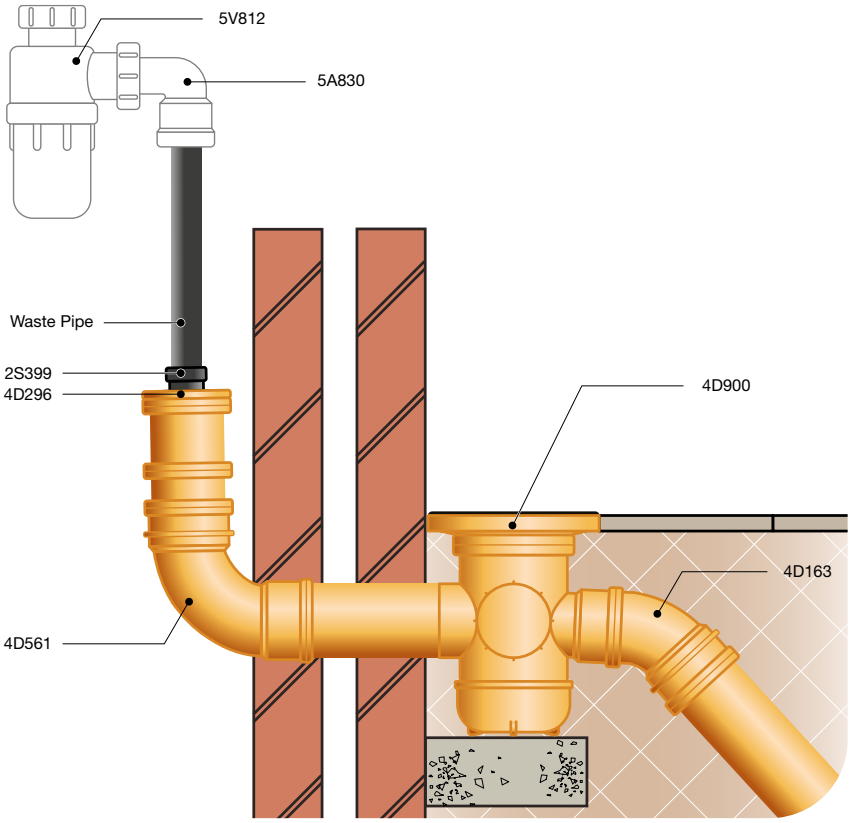


Figure 13: Typical waste pipe connection to Bottle Gully



Connections to Waste

Bossed Fittings

Waste discharge pipework can be connected to the soil stack via a comprehensive range of Bossed Pipes and Bossed Branches, including:

- Single Bossed Pipes with one open boss socket
- Bossed Pipes with one open boss socket and three closed boss sockets
- Bossed Branches with up to five closed boss sockets (see Figure 14)

Discharge pipework feeding into the stack must be carefully designed to ensure safe flow and prevent cross flow. See Prevention of cross flow opposite.

Figure 14: Alternative Bossed Branches



4S582



4S589/6S589

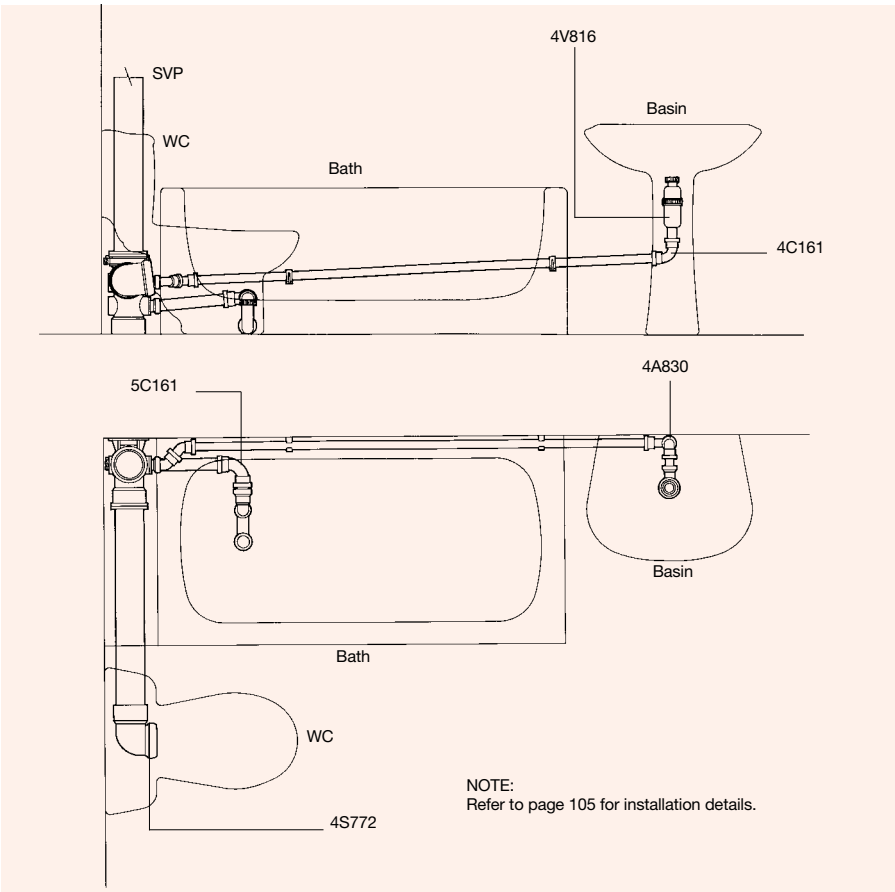


4S583



4S588

Figure 15: Typical bathroom layout



Boss Sockets

Closed boss sockets may be opened using a standard 50mm hole cutter. Boss Socket Adaptors are available with either push-fit sockets or solvent weld sockets:

- Push-fit: to enable connection to Polypropylene pipe manufactured to BS EN 1451-1, and copper waste pipes manufactured to BS 659 or BS 2871
- Solvent weld: to enable connection to ABS pipe manufactured to BS EN 1455-1 and PVC-C pipe manufactured to BS EN 1566-1

All horizontal Boss Socket Adaptors have an in-built fall of 2½° and a locating key at the top to ensure correct orientation.

Connections at Floor Level

The OsmaLink Soil Manifold 4S595 provides a simple method for connection of multiple waste pipes at floor level.

The system is particularly suitable for use in flats and other multi-storey developments (see Figure 16).

With a right-angled back and compact, unobtrusive design, the OsmaLink Soil Manifold fits neatly in any corner and permits simple push-fit waste connection via standard Adaptors 2S356/2S355/4Z124.

Its integral socket allows push-fit connection of a branch or soil pipe.

For installation details see page 112.

Wavin Osma Soil and Waste

Design

Connections at Floor Level

Figure 16: OsmaLink Soil Manifold system



4S595



2S356 2S355 4Z124

The 6 Boss Soil Manifold – 4S597 is a compact fitting designed for easier installation where space is restricted. It is particularly suitable for multi-occupancy residential buildings.

- Horizontal waste connections: no upstanding bends required
- Compact 163mm square shaped body sits easily in 200mm drilled or formed hole
- Works equally well in corner or central locations
- 6 boss connection points increasing the options for joining separate waste runs
- Low-level horizontal waste connection (allows plumber flexibility to achieve 132mm from centre line of horizontal branch inlet to invert of 50mm waste boss)
- Dual 40mm/50mm solvent weld connection
- Easy to drill waste connections – ample clearance from inner fitting section
- Reduced requirement for bends
- No special adaptors needed

Figure 17: 6 Boss Soil Manifold – 4S597



Figure 18: Typical Connections to 6 Boss Soil Manifold

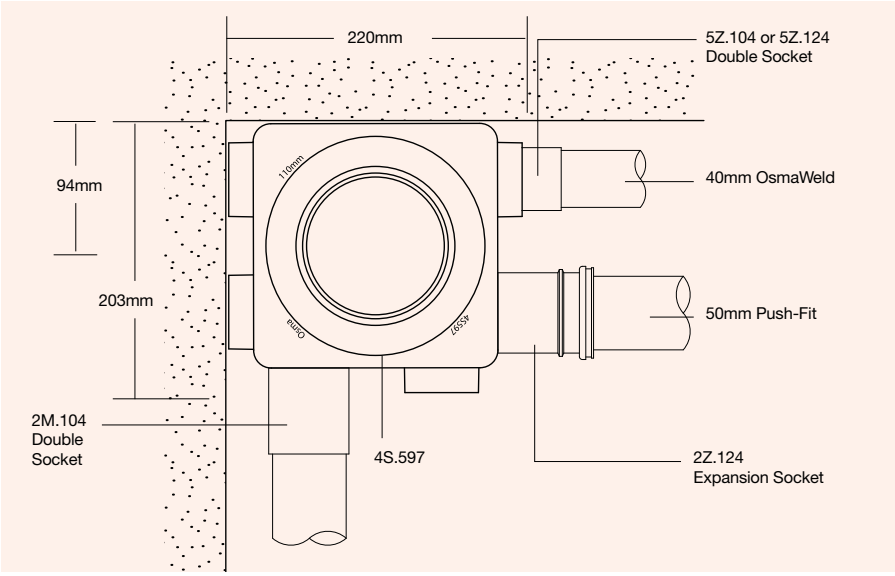
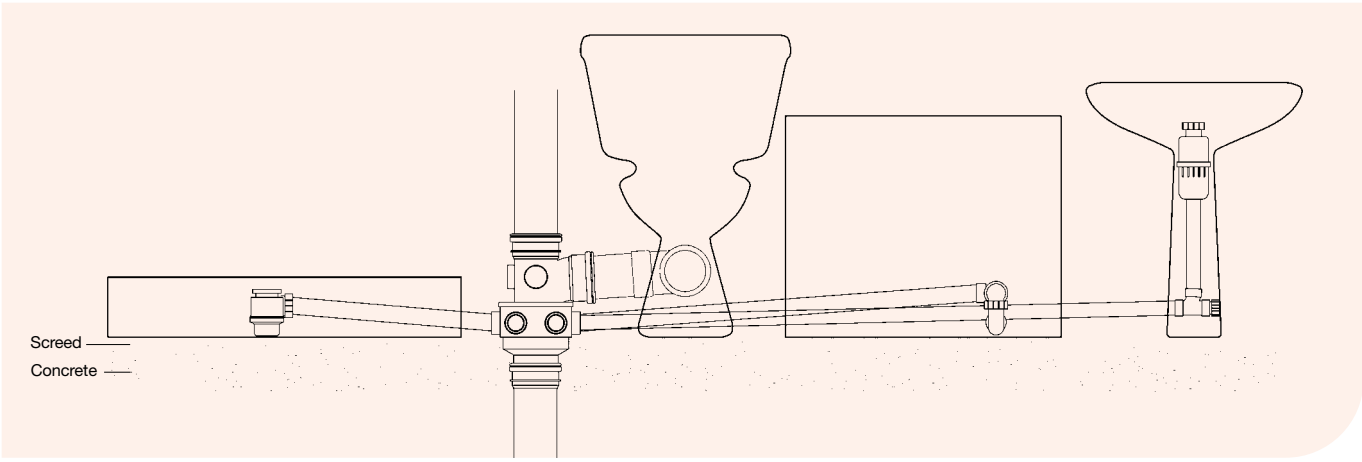


Figure 19: Typical Bathroom Installation using 6 Boss Soil Manifold 4S597



Connections – After Construction

Strap Bosses offer a low cost means of connecting waste pipes from basins, baths, bidets and showers to soil discharge pipework after construction. However, Strap Bosses are not recommended for use where high temperature discharges are likely (e.g. from kitchen sink wastes).

For installation details see page 111.

Permitted connections

Bossed Branches have a maximum of five socket positions. Two waste pipes may be connected to one side, or one waste pipe may be connected to each side, provided both connections are at the same level (see Figure 20).

Single connections are also possible at the side and rear of the Branch.

Connections NOT permitted

Offset connections to each side of the Branch are NOT permitted (see Figure 21).

Figure 20: Permitted connections

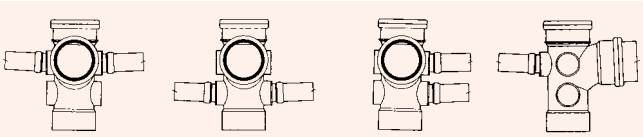
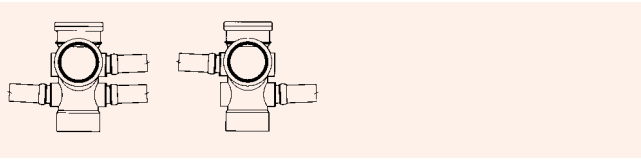


Figure 21: Connections NOT permitted



Prevention of Cross Flow

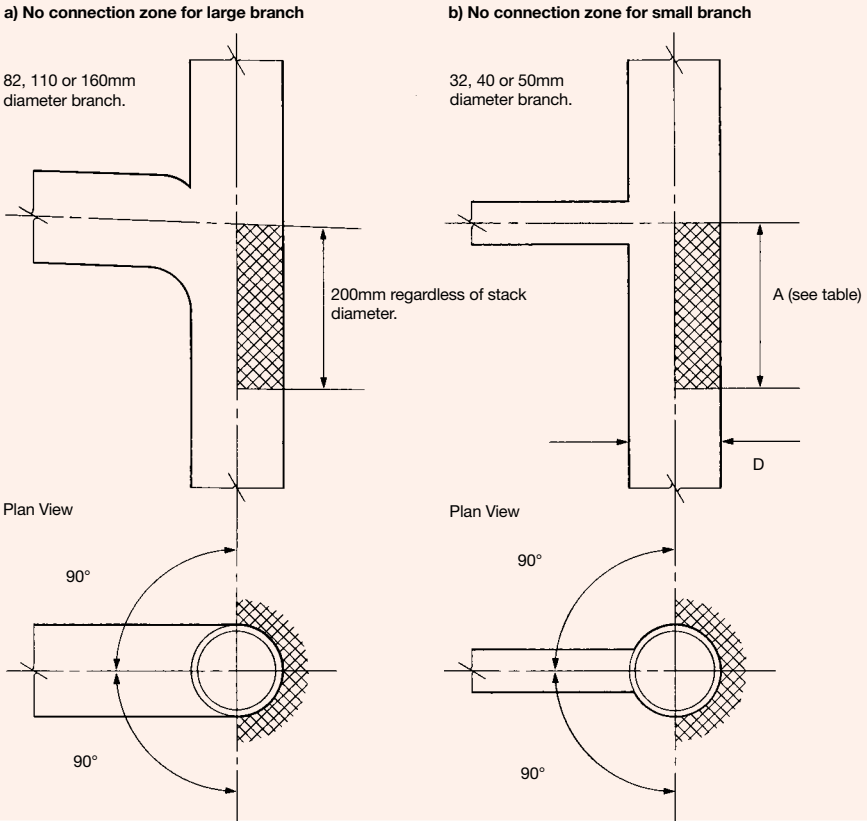
(see Figure 22)

Opposing connections to the stack are permitted provided that they are made:

- At the same centre line
- On or outside the edge of the connection zone created by any branch connection

See BS EN 12056:2000 for the prevention of cross flow.

Figure 22: Prevention of cross flow



No connection permissible in shaded area.

Stack Diameter D (mm)	Height of Zone A (mm)
82	90
110	110
160	250

Wavin Osma Soil and Waste

Design

Connections to WCs

WCs Manufactured to BS 5503

Wavin OsmaSoil includes a wide range of white WC Connectors and bends for direct connection to WCs manufactured to BS 5503.

PVC-U 110mm Fittings

Available in 2½°, 14° and 90° angles, each fitting has:

- Integral EPDM gasket for push-fit connection to the WC outlet (see Figure 24)
- Plain end (spigot) or solvent socket for connection to soil pipe/drain

For extension of a connector to overcome varying distances between WC spigot outlet and soil pipe/drain, S/S Long Tail Bend 4S790 may be added and cut to length. NOT to be used as WC Connector alone (see Figure 25). 90° Connectors with access are also available for ground floor installations.

Easy-fit Pan Connectors 3½" and 4"

Available in straight, offset, 14° and 90° configurations, each fitting has:

- Integral EPDM gasket for push-fit connection to the WC outlet
- Integral EPDM seal for push-fit into 110mm plastic pipe, or 102mm cast iron pipe to BS 416 (see Figure 23)

WCs Manufactured to BS 1213

Connectors and bends are available for straight connection direct to WC outlets (manufactured to BS 1213) when fitted with WC Gaskets 4S121 (for 4-4½" WC spigot) or 4S120 (for 4½-4½" WC spigot).

Figure 23: Easy-Fit Pan Connector

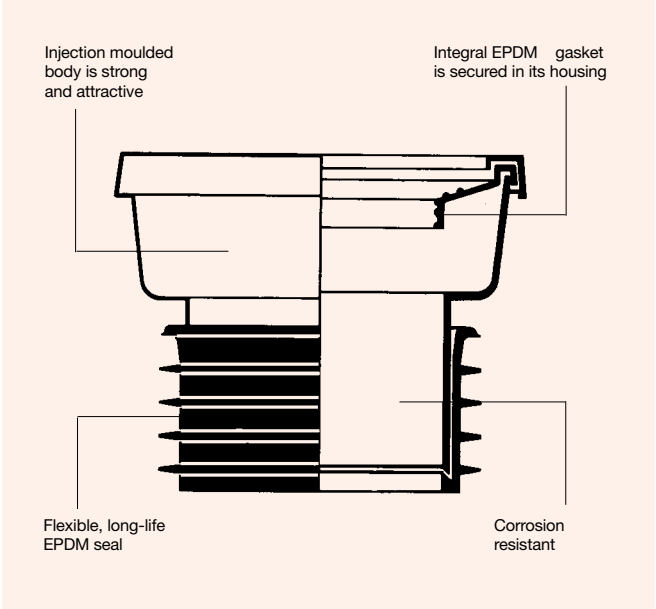


Figure 24: Connection to ground floor WC

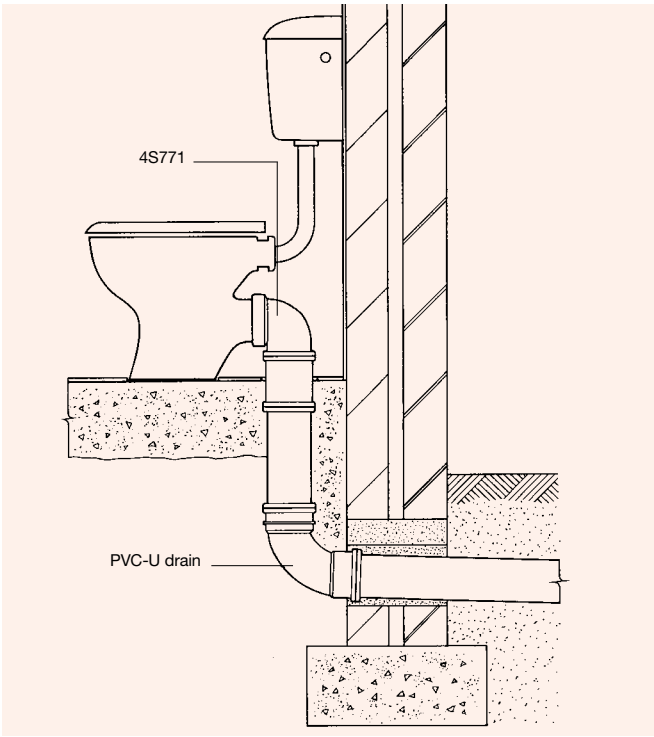
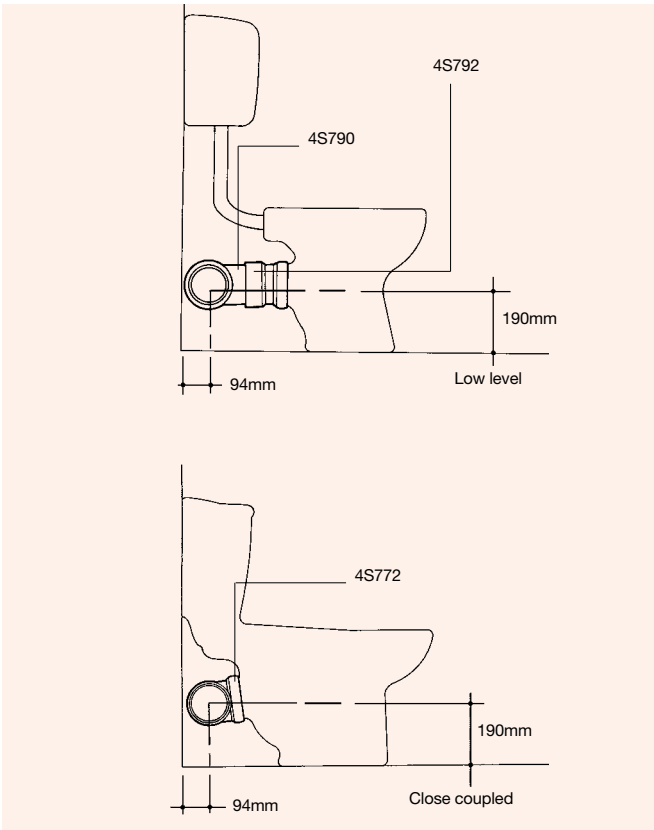


Figure 25: Alternative connection to WCs



WCs Back-to-back

Osma Corner Branch – 87½° 4S291/491 enables connection of back-to-back WCs to drain (see Figs. 26/27).

Figure 26: Back-to-back WC installation

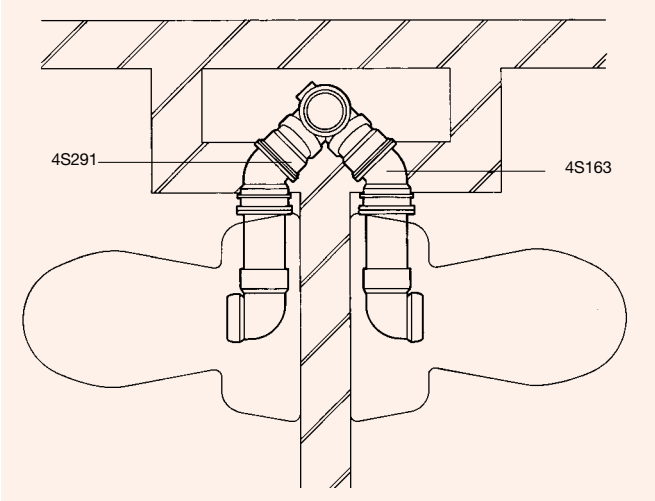
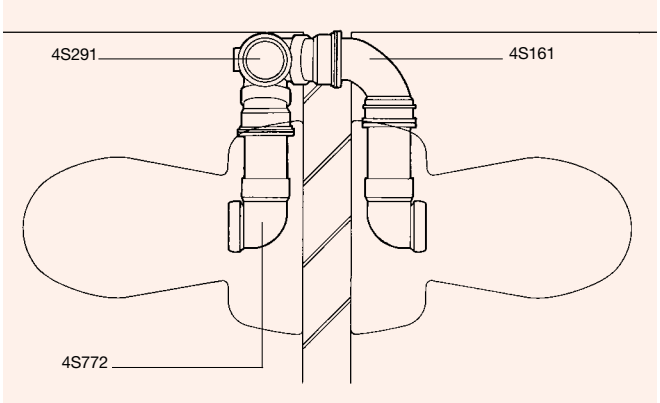


Figure 27: Alternative back-to-back WC installation



WC Connections Direct to Drainage

WCs may be connected direct to a drain. Venting will not be required provided that the distance from the crown of the trap to the invert of the drain does not exceed 1.5m (see Figure 24).

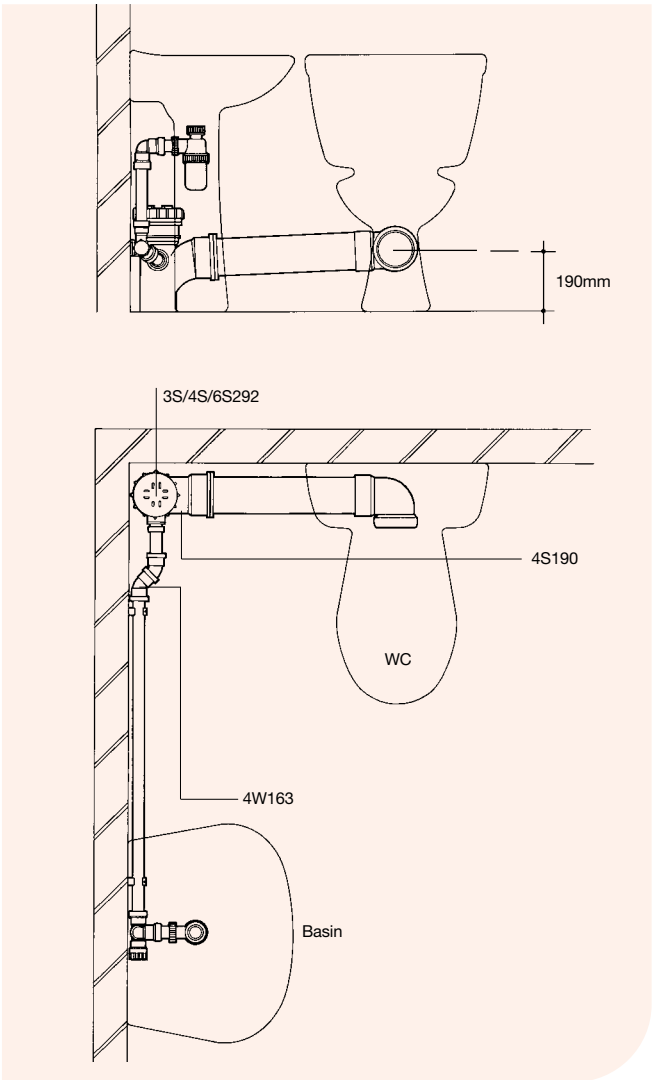
Stub Stacks

Designed as a 110mm discharge stack with access fitting cap on top. Connects various appliances to the drain or discharge stack, providing the total loading does not exceed 5 litres/sec.

The distance from the invert level of the drain or discharge pipe to the topmost waste connection should not exceed 2.5m.

The distance from invert level to centre line of the WC should not exceed 1.5m (see Figure 28)

Figure 28: Typical stub stack arrangement



Wavin Osma Soil and Waste

Design

WC Manifolds

Connecting Multiple WCs

Osma Manifold Branches can be used to connect multiple WC outlets to a common soil discharge float leading to the soil and vent pipe (SVP). Up to 8 WCs (to BS 5503) can be connected, depending upon gradient.

The Manifold Branches are designed to be placed between the WC outlet and the wall behind it. As WC designs vary, this space should be checked to ensure there is sufficient room for manifold installation.

Eleven Manifold Branches include:

- 4S602 to 4S606: Five left-hand angled versions
- 4S612 to 4S616: Four right-hand angled versions
- 4S601: One straight Branch

The angled Branches are graduated from 8° to 38° in 7½° increments.

Each Branch, including the straight Branch, incorporates a WC Connector, with integral gasket, providing a minimum 2½° deflection all round.

BS EN 12056-2:2000 permits a float gradient will be between 0.5° and 5° (9 to 90mm per metre). The maximum available fall from the first WC (furthest from the SVP) to the last WC (nearest to the SVP) is 88mm (see Figure 29).

Planning Component Needs

Use the following procedure, in conjunction with the Graduated Scales Diagram (see Figure 31), to determine which Manifold Branches are required:

Procedure

1. Draw 1:50 scale plan of proposed WC positions.
2. Establish Left-hand or Right-hand orientation. Facing the WCs:
   – If the SVP will be at the Left end, use Section A of the Scales
   – If the SVP will be at the Right end, use Section B of the Scales.
3. Select the Scale for the required gradient of the float run.
4. Align arrowhead with first WC (furthest from SVP).
5. Provided all WCs fall within the Scale, proceed to Step 6. If not, select a shallower gradient and return to Step 4.
6. Note each part number where the centre line of the WC outlet concerned falls within a section.

NOTE: If the centre line of the WC outlet falls between two sections, either Manifold Branch is suitable. In some cases, with shallow gradients and close-set WCs, the same Manifold Branch will be appropriate (see example illustrated).

Figure 29: Left hand float for 8 WCs

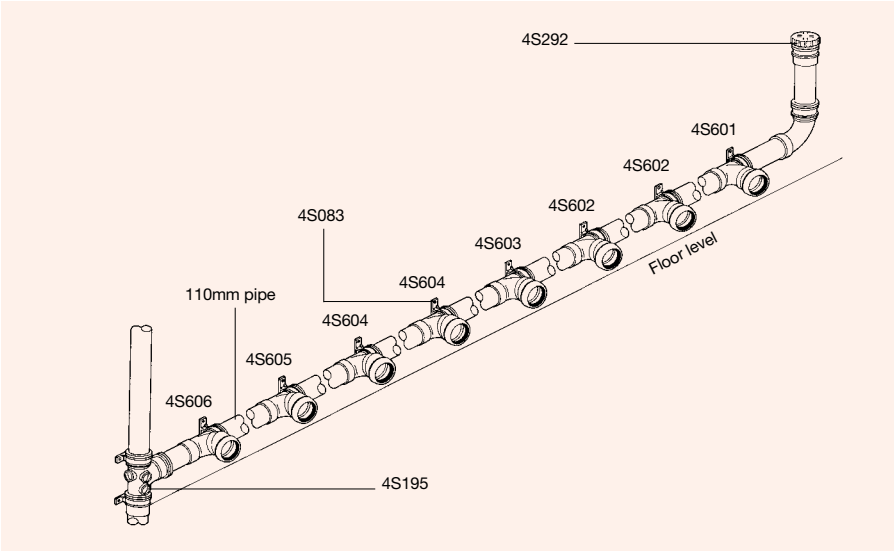
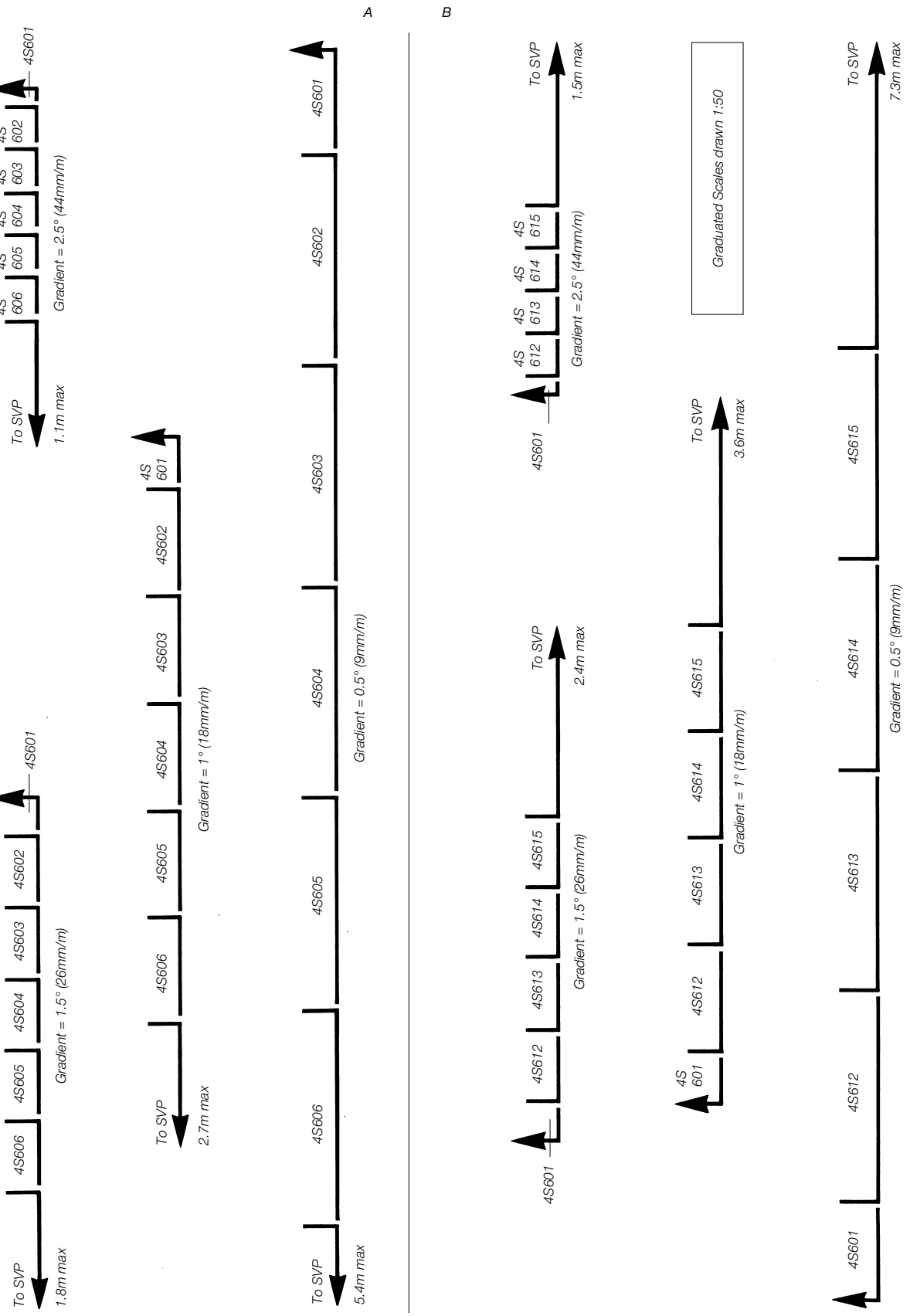


Figure 30: Typical layout of double manifold float



Figure 31: Graduated Scales. NOTE must be used at 100% scale



Wavin Osma Soil and Waste

Design

Ventilation

General Principles

Discharge pipework must be vented to prevent self-siphonage or induced siphonage, and to protect traps.

Use of a separate ventilation stack to atmosphere is generally not required unless a sharp offset in the stack cannot be avoided (see also page 90).

Branch pipes

Separate ventilation of branch pipes is required only if the length and slope of the branch exceeds the dimensions set out in BS EN 12056:2000 or Part H of the Building Regulations (England and Wales), Part M (Scotland).

Air Admittance Valves

In many cases, and subject to certain design considerations, Osma Air Admittance Valves (AAVs) may be installed as an alternative to traditional venting techniques. These reduce the number of ventilating pipes required to penetrate the roof in multi-installations, without affecting the performance of the drainage system.

AAV description and operation

Osma AAVs include a diaphragm which, in the closed position, seals the unit and prevents foul air from escaping. Whenever internal pressure drops, the higher pressure external air opens the diaphragm to admit air and equalise the internal/external air pressure (see Figure 32).

Soil Stack Ventilation

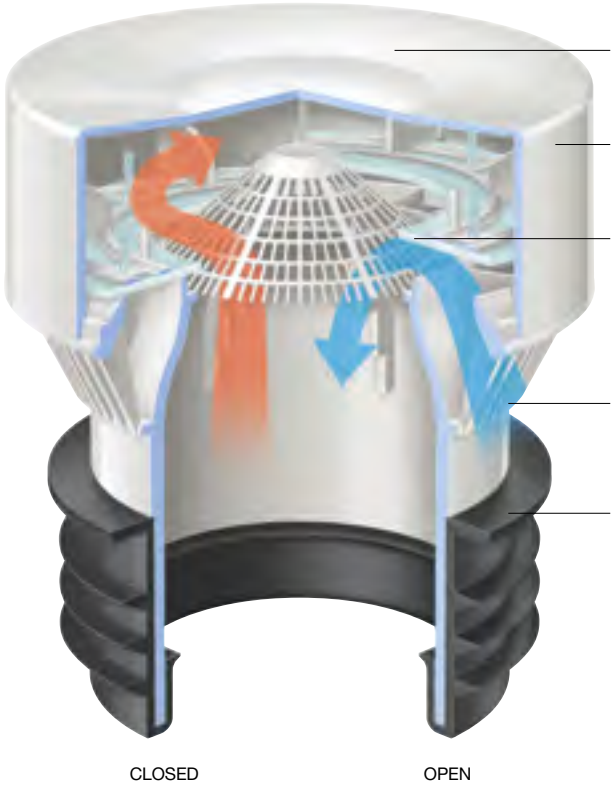
Osma A1 Rated 110mm Air Admittance Valve 4S304 is designed for venting of:

- 110mm soil stacks up to 10 storeys
- 110mm stub stacks

The 110mm AAV may be used on runs serving a row of 10 dwellings, provided the vent stack closest to the main sewer is vented traditionally to atmosphere.

See also Drain Ventilation overleaf.

Figure 32: Valve operation



When used to vent a soil stack, 110mm Air Admittance Valve 4S304 should be located:

- Within a building, fitted vertically
- Preferably in a non-habited space (duct or roof-space)
- Where there is no risk of freezing
- Where it is accessible but not at risk of interference by vandals
- Fitted 200mm above the highest branch

For full installation details see page 113.

NOTE: This should not be the only vent to a drainage system discharging to a septic tank or intercepting trap.

Osma A2 rated 110mm Air Admittance Valve 4S306 is designed for venting of:

- 110mm soil stacks up to 3 storeys
- 110mm stub stacks

The 110mm AAV may be used on runsserving a row of 10 dwellings, provided the vent stack closest to the main sewer is vented traditionally to atmosphere.

See also Drain Ventilation overleaf.

When used to vent a soil stack, 110mm Air Admittance Valve 4S306 should be located:

- Within a building, fitted vertically
- Preferably in a non-habited space (duct or roof-space)
- 150mm above the insulation in attic installations
- Where there is no risk of freezing
- Where it is accessible but not at risk of interference by vandals
- Installed above spillover level of highest appliance

Stub Stacks

When used to vent a stub stack, 110mm Air Admittance Valve 4S304 can be located 200mm above the highest branch. The Air Admittance Valve 4S306 must be installed above spillover level of highest appliance. (see Figure 33).

Waste Ventilation

40mm Air Admittance Valve 4S303 is designed for venting of 32, 40 or 50mm waste pipework where the pipe run exceeds the recommended maximum distance from the trap to the stack, i.e.:
– 3m for 40mm pipe
– 4m for 50mm pipe

The 40mm Air Admittance Valve 4S303 is suitable for use on single or combined waste systems. See page 113 for full installation details.

Drain Ventilation

110mm Air Admittance Valve 4S304 may also be used for drain ventilation.

Typical arrangements for access and provision of drain ventilation for different dwelling types are shown in Figure 34.

Radon Gas Resistance

Soil pipes and fittings are unaffected by radon gas when used as part of a ventilation system designed specifically for radon gas extraction. For connections made within a building, the use of solvent weld joints is advisable. For further information on radon gas, contact the BRE Radon Hotline on 01923 664707.

Figure 33: Vented stub stack

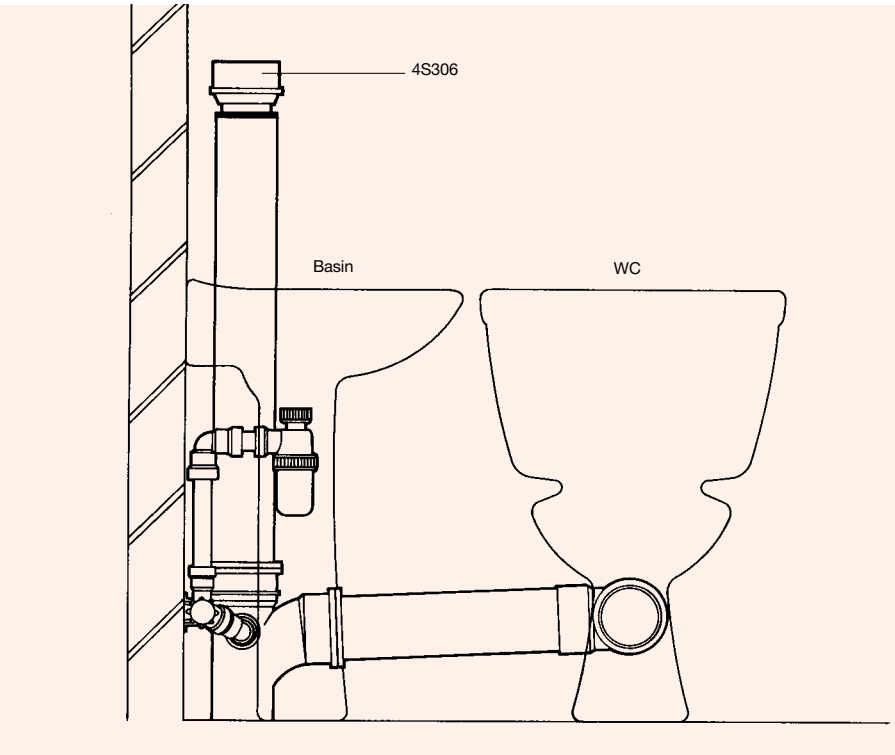
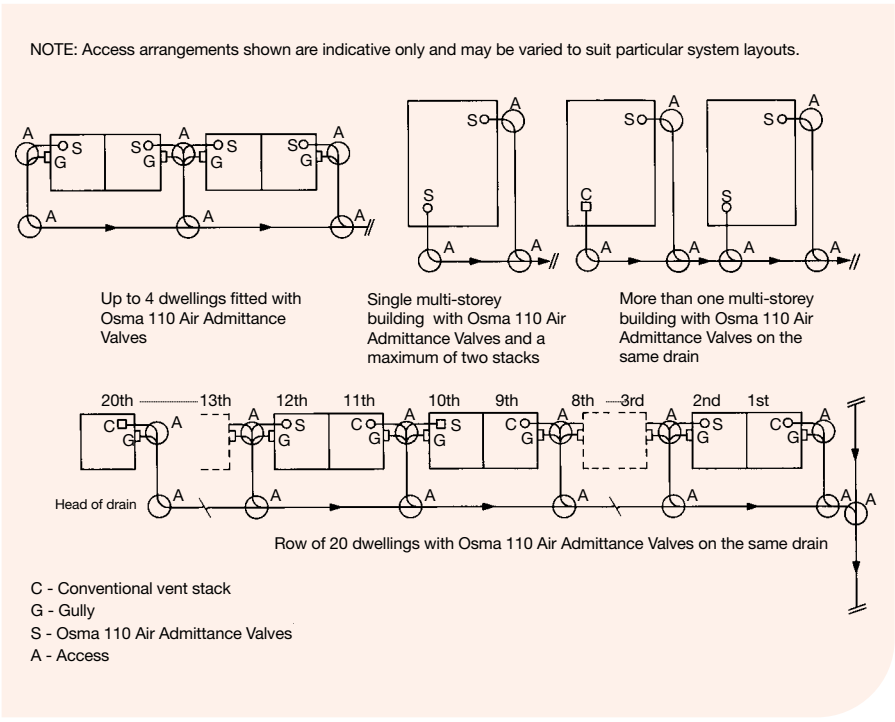


Figure 34: Examples of provisions for drain ventilation



Wavin Osma Soil and Waste

Design

Fire Stopping

Fire Stop Seals

Fire Stop Seals prevent the spread of fire, smoke and hot gases through plastic pipes that penetrate fire compartment floors and walls.

The Seals consist of two half shells of metal which are clipped around the pipe and anchored to the structure. The metal shell contains an intumescent material which reacts under intense heat.

Fire Stop Seals can be installed horizontally or vertically and provide an economic alternative to constructing fire resistant ducts.

Testing

Any fire stop seal used must be tested to the latest standards and comply with the requirements of Fire Safety Approved Document B.

Applications

Fire Stop Seals are suitable for maintaining the fire resistance of:

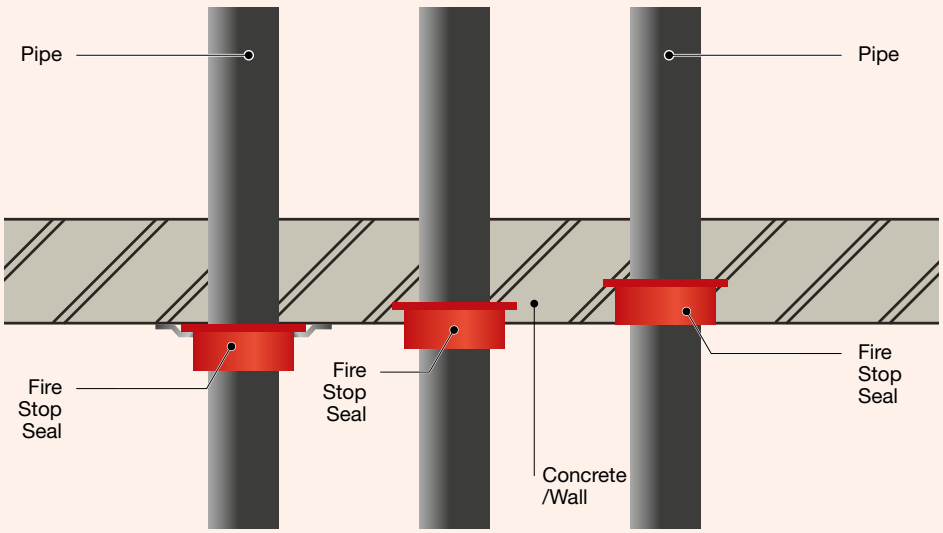
- Masonry walls and concrete floors which are penetrated by plastic pipework forming part of a drainage or ventilation system
- Timber floor constructions with ceiling lining which has at least one hour fire resistance rating

Fire Stop Seals can be fixed before or after the installation of the pipes and operate horizontally or vertically. For horizontal pipework where there is a fire risk from BOTH sides of the wall, the unit should be installed within the thickness of the wall or, if this is not possible, one unit should be fitted to each side of the wall (see Figure 37).

Fire Stop Seals are suitable for all types of new or refurbished buildings, especially residential flats, apartments, offices, hospitals, and schools.

They must be carefully fitted strictly in accordance with instructions. For full installation details, see manufacturers details.

Figure 37: Fixing positions for Fire Stop Seals in concrete floor/masonry wall



Materials: Properties and Performance

Heat Resistance

Pipes and fittings manufactured from PVC-U or ABS

- Wavin Osma Soil systems and ABS Solvent Weld Waste system – OsmaWeld: Suitable for use with intermittent discharges of water up to 90°C

Pipes and fittings manufactured from PVC-C or Polypropylene

- PP Push-Fit Waste systems (to BS EN 1451-1 and BS EN 1566-1) and V-Joint Traps: Suitable for use with intermittent discharges of water up to 100°C

PVC-U and ABS overflow pipes and fittings

- Solvent Weld Overflow system: Must not be used where hot water discharges are likely to occur

Polypropylene overflow pipes and fittings

- PP Push-Fit Overflow system: May be used wher intermittent hot water discharges are likely to occur. However, they must not be used with combination hot water cylinders and feed tanks

Chemical Resistance

Osma Soil, Waste and Trap systems are unaffected by normal domestic effluent, detergents, cleaning fluids and a wide range of chemicals. Chemical effluent containing solvents should not be disposed of through PVC-U and ABS Waste systems.

For commercial and industrial applications, consult BSCP 312: Part 1: 1973 Code of Practice for plastic pipework. This provides comprehensive information on chemical resistance to plastic pipework.

Painting

Osma Soil, Waste and Overflow pipes and fittings are self-coloured and corrosion resistant. They may, however, be painted with normal household paints if an alternative colour is required. Oil-based gloss paint is the most suitable for this purpose. For best results, slightly abrade the surface with sandpaper and clean thoroughly before painting.

Timber Preservatives

If soil or waste pipes and fittings are to be installed externally and fixed to timber fascias or boards treated with timber preservatives, the preservatives must first be allowed to dry out prior to fitting. Refer to manufacturers' recommendations.

Biological Attack

Normal pollutants in the atmosphere will not affect Soil, Waste or Overflow systems. They are also unaffected by fungi, moss, lichen, moulds or bacteria.

Physical Attack

If pipework is installed internally or externally in areas likely to suffer attacks by vandals, the suitability of the material should be questioned. In such a situation, Solvent Weld systems are less likely to be dismantled than Ring-Seal or Push-Fit systems. However, unlike cast iron or copper systems, plastic has no scrap value and is therefore less likely to be targeted.

Ultra Violet Light

PVC-U pipework has superior resistance to the effects of UV light and, although it may fade slightly after many years of exposure to strong sunlight, its integrity is unaffected. It is recommended that externally installed ABS and PP pipework be painted with an oil-based gloss as a protective coating against long exposure to sunlight.

Radon Gas Resistance

Soil pipes and fittings are unaffected by radon gas when used as part of a ventilation system designed specifically for radon gas extraction. For connections made within a building, the use of solvent weld joints is advisable. For further information on radon gas, contact the BRE Radon Hotline on 01923 664707.

Wavin Osma Soil and Waste

Design

Handling, Storage and Safety

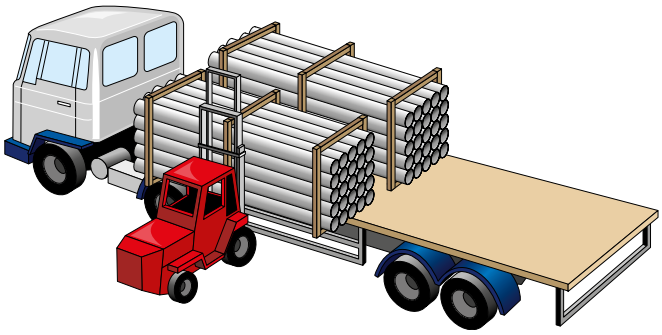
Handling

Care should be taken when handling pipe and fittings. Excessive scratching or scoring harms the appearance and can also affect the joint sealing.

Take extra care when handling pipe and fittings in wintry conditions. Cold weather reduces the impact strength of plastics. Use nylon belt slings, or forklifts with smooth forks, for mechanical unloading of block bundles. Metal slings, hooks or chains must not come into contact with pipes (see Figure 38).

Load and unload loose pipe by hand. Avoid using skids. When loose pipes have been transported one inside the other, always remove the inner pipe first.

Figure 38: Unloading of block bundles



Storage

Always store pipe on a reasonably flat surface free from sharp projections.

Block Bundles

Block bundles can be stored up to 3m high without extra side supports or bearers. Block bundles will remain free-standing when cut. Take care when releasing bundles as the straps are under considerable tension and may flail when cut.

Loose Pipes

Loose pipe requires side supports at least every 2m. These supports should consist of battens at least 75mm wide. Ideally, support loose gutter or pipe uniformly throughout its entire length. If this is not possible, place timber supports at least 75mm wide at 1m maximum centres beneath the pipe (see Figure 40) Stack different size pipe separately, or, if not possible, stack with larger diameters at the bottom.

Maximum stack size: 7 layers or 2m high (see Figure 39).

Stack Socketed Pipe with sockets protruding and placed at alternate ends to ensure pipe is evenly supported.

Fittings

Store fittings supplied in plastic bags away from direct sunlight. If this is not possible, open bags to prevent a build-up of temperature.

Fittings in cardboard packaging (e.g. Fire Stop Seals and Air Admittance Valves) should be stored under cover until required.

Store degreasing cleaners, silicone lubricant, solvent cement and fillers in a cool place away from any heat source and out of direct sunlight.

Safety

The relevant regulations detailed in the Health and Safety at Work Act 1974 must be adhered to on site.

Figure 39: Storage of loose pipe on the ground

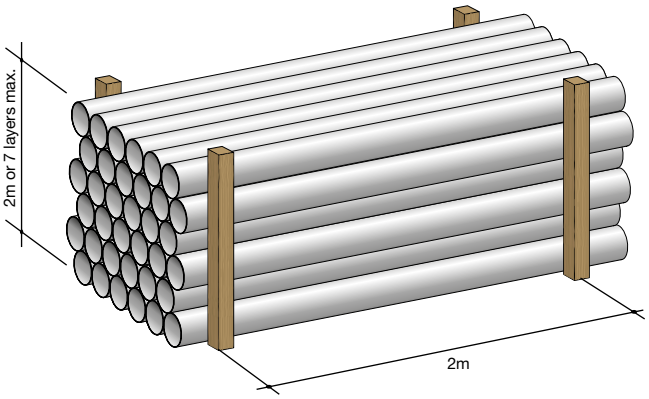
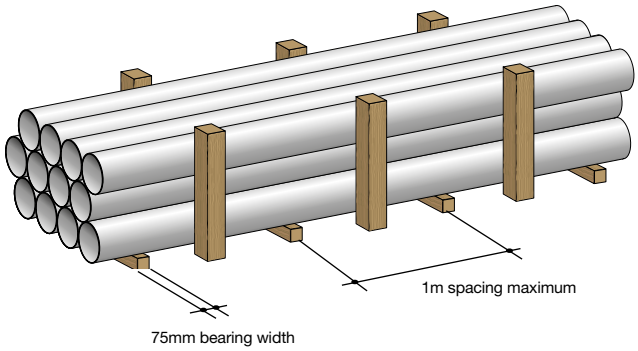


Figure 40: Storage of loose pipe on bearers



Wavin Osma Soil and Waste

Installation

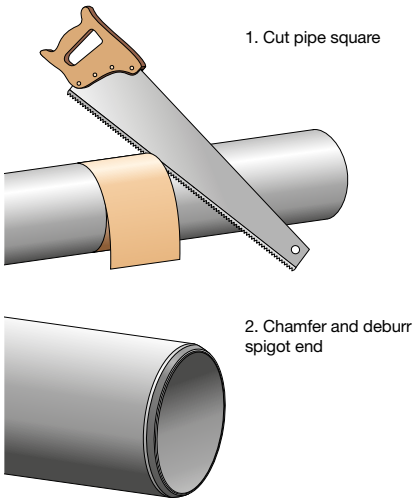
Pipe Cutting and Jointing

Pipe Cutting

Procedure

1. Cut pipe cleanly at right angles to its axis (see Figure 41).
2. De-burr the cut end with a scraper if the cut end is to be inserted into a ring-seal or push-fit joint.
3. Chamfer the spigot end: this is essential to ensure that the sealing ring is not displaced during insertion.

Figure 41: Pipe preparation



Ring-seal/Push-fit Jointing

Procedure

1. Ensure any pipe cut on site is also chamfered.
2. Check that the sealing ring is properly seated in its housing in the socket of the fitting.
3. Ensure all components to be joined are dry, clean and free from grit or dust. Note any deep scratches on the pipe or fitting spigot as these may prevent the sealing ring from forming a water tight seal.
4. Lubricate evenly around the pipe or fitting spigot end with Silicone Lubricant 4S391. Do NOT lubricate inside the socket. Do NOT use washing up liquid as a lubricant. If using 400ml can 4S392, spray the lubricant onto the spigot and not the ring seal. The spigot can then be inserted into the socket.
5. Correctly align the components to be joined.
6. Push the pipe or fitting spigot fully into the socket. Mark the pipe or fitting spigot at the socket face and then withdraw it by a minimum of 12mm to allow for thermal expansion (see Figure 42).
7. Make a subsequent check to ensure that the expansion gap is not lost during further installation work.

Figure 42: Ring-seal joint

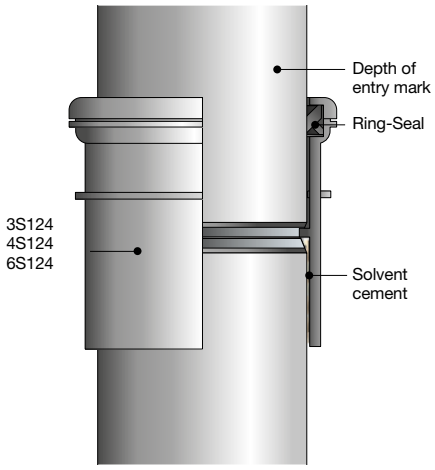
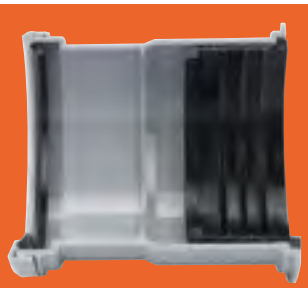


Table 21: Lubricant Usage Guide (approx.) For ring-seal/push-fit joints

Description	Part No.	Nominal Pipe Sizes (mm) No. of Joints					
		32	40	50	82	110	160
Silicone Lubricant 50g tube	4S391	44	37	20	16	9	4

Acoustic Socket (4S125)

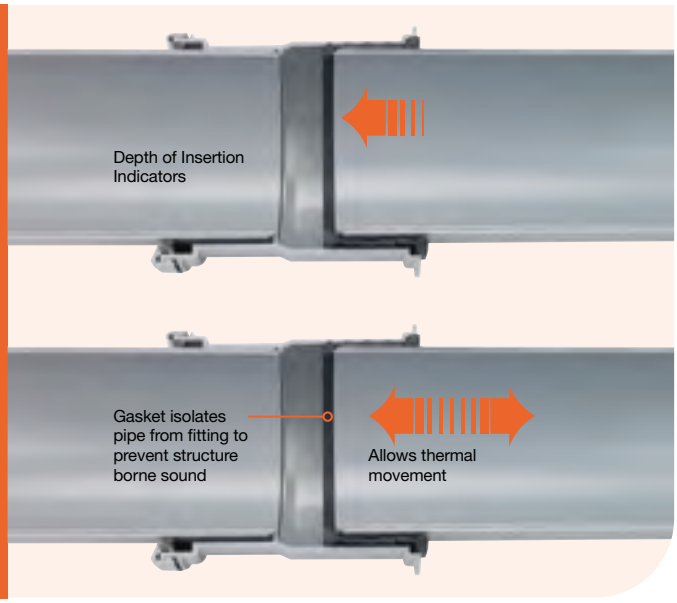


The Osma acoustic socket is a special fitting used to connect plain ended pipe to a branch so that:

- Maximum acoustic performance is achieved by preventing structure borne sound
- Compensation is allowed for thermal movement on every floor without the need to employ the common practice of withdrawing pipe by 10mm from the fitting

This not only saves working time, but also gives additional technical security to the system.

See next page for fitting instructions



Wavin Osma Soil and Waste

Installation

Acoustic Socket (4S125)

Fitting Instructions

When making the connection with the 4S125 Acoustic Socket, the following instructions should be adhered to. When installed vertically, please ensure that the gasket end is facing down.

1. **Prepare the pipe**
   When fitting the acoustic gasket, cut the pipe to the required length, ensuring that the pipe end is deburred and cleaned. It is important that the pipe end is un-chamfered. Chamfering the pipe may result in the pipe pushing past the rubber stop-end at the end of the acoustic gasket, during thermal expansion.

2. **Check the condition of the seal and gasket**
   It is recommended that you check the acoustic gasket and rubber seal for any site contamination. Clean if necessary.

3. **Rubber acoustic gasket**
   Remove the rubber acoustic gasket from the coupler and push over the un-chamfered pipe end. Do not apply lubricant to either the pipe end or inside the rubber acoustic gasket as this may interfere with the combined movement of the pipe and gasket inside the body of the coupler, when in use.

4. **Apply Osma Lubricant inside the fitting**
   Apply silicon lubricant to the inside of the socket which houses the acoustic rubber gasket. Never use oil or grease.

5. **Apply Osma lubricant to the outside of the gasket**
   Apply silicon lubricant to the outside of the rubber gasket and then push the pipe and gasket assembly into the lubricated socket of the fitting until the gasket is fully inserted, with an 18mm expansion gap in place.

6. **Check final position**
   Ensure the un-chamfered pipe end is flush with the stopend on the rubber gasket.

7. **Complete Installation with pipe or fitting**
   For the remaining open connection, apply Osma lubricant to the spigot of the fitting (e.g. access pipe) or chamfered pipe end and insert into the standard ring-seal Osma socket.

Note: During and after installation, care must be taken to ensure that the expansion gap is retained. By installing the Acoustic Coupler with the access, it is possible to carry out a visual inspection by removing the screwed access cap and looking inside the fitting to check that the expansion gap is present. This will provide a check for the plumber and Building Control Officer that expansion allowance has been achieved on completion of the pipework.











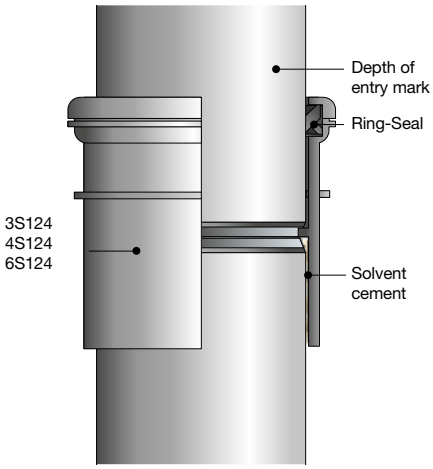
YouTube Check out the new Acoustic Coupler videos on the Wavin UK You Tube channel - Osma Soil & Waste playlist.

Solvent Weld Jointing

Procedure

1. Before using any solvent based cleaners or cement:
   – Read instructions on the can
   – Ensure there is sufficient ventilation.
2. Make sure pipe or fitting spigot and solvent weld socket are dry, clean and free from grit or dust.
3. Clean surfaces of spigot and socket with Degreasing Cleaner N°.1 4S379/380. Apply liberally using a clean non-synthetic rag or absorbent paper.
4. Apply one coat Solvent Cement N°.2 4S383/384/385. Apply an even coat to both surfaces using the applicator provided or a paint brush. Stroke the cement ALONG and not around the surfaces.
5. Immediately insert pipe or fitting spigot fully into the socket (see Figure 43). Each solvent weld joint MUST be completed within 1½ minutes.
6. Hold for 20-30 seconds. Remove any surplus cement from the mouth of the socket.
7. The joint may be handled after 10 minutes and commissioned after 24 hours.

Figure 43: Solvent cement joint



Safety

When making solvent weld joints it is essential to observe normal safety rules for handling solvent:

- Never smoke or bring naked flames near the area of work
- Work in a well ventilated area to avoid inhaling fumes
- Close the solvent container after use and store in a cool area
- Do not allow solvents or cleaners to come into contact with skin

Refer to COSHH Regulations (Control of Substances Hazardous to Health) where applicable.

For installation tips see:

YouTube WavinUK

Table 22: Cleaner/Solvent Cement Usage Guide (approx.) For solvent weld joints

Description	Part No.	Nominal Pipe Sizes (mm) No. of Joints						
		21.5	32	40	50	82	110	160
Degreasing Cleaner No.1 125ml can	4S379	120	70	45	33	25	16	10
Degreasing Cleaner No.1 250ml can	4S380	240	140	90	66	50	32	20
Solvent Cement No.2 125ml can	4S383	90	45	30	20	8	5	3
Solvent Cement No.2 250ml can	4S384	180	90	60	40	16	11	6
Solvent Cement No.2 500ml tin	4S385	360	180	120	80	32	22	12

Wavin Osma Soil and Waste

Installation

Pipe Support and Offsets

Pipe Support Centres

Pipes should be supported at the following maximum centres:

Table 23: Maximum Pipe Support Centres

Pipe Size (mm)	Centres (m)	
	Vertical	Horizontal
21.5	0.5	0.5
32	1.2	0.5
40	1.2	0.5
50	1.2	0.6
82	2	1
110	2	1
160	2	1.2

Suspended Brackets

The Osma Suspended Bracketing system provides horizontal support for socket and intermediate pipework for 110mm Soil installations. All fittings should be bracketed and braced using 4S085. Ensure that pipe is supported at recomended centres.

Socket Support 4S085

Components

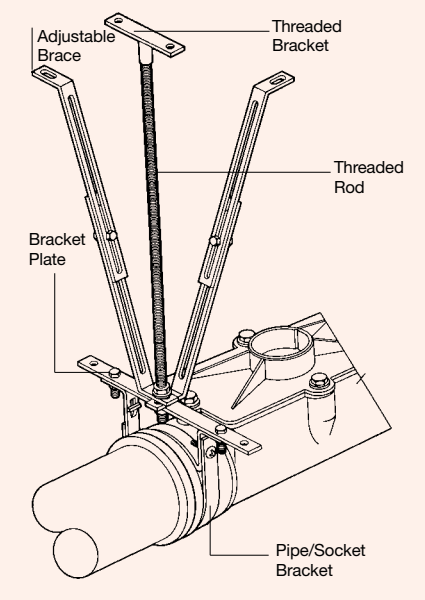
- Threaded Rod
- Threaded Bracket
- Bracket Plate
- Adjustable Braces (2)
- Pipe/Socket Bracket

Procedure

1. Fix the Threaded Bracket to the ceiling using bolts appropriate for the ceiling material.
2. Screw the Threaded Rod into the Threaded Bracket.
3. Fix the Braces and Bracket Plate onto the Threaded Rod using the two nuts and washers provided.
4. Adjust the height of the Bracket Plate to the required fall, and cut the rod below the lower nut.
5. Adjust the length of the Braces using the nuts on the Braces themselves.
6. Fit the Pipe/Socket Bracket over the socket to be supported, directly behind the socket shoulder.
7. Fix the Pipe/Socket Bracket to Bracket Plate using the two bolts provided.
8. Fix the Braces to the ceiling: one at the side of, and one behind, the socket using bolts appropriate for the ceiling material.

NOTE: Not suitable for use in damp, inaccessable voids.

Figure 44: Suspended Bracketing (socket support)



Intermediate Pipe Support 4S086/6S086

Components

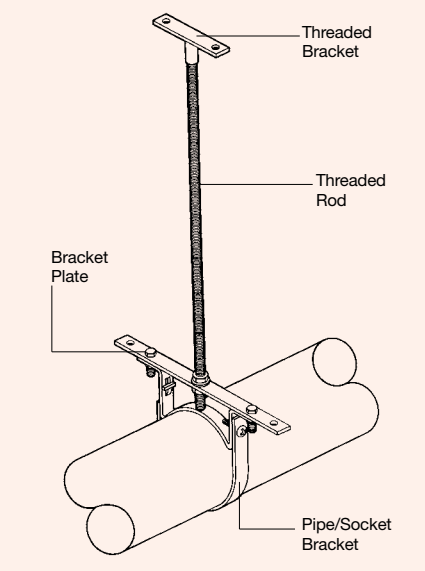
- Threaded Rod
- Threaded Bracket
- Bracket Plate
- Pipe/Socket Bracket

Procedure

1. Fix the Threaded Bracket to the ceiling using bolts appropriate for the ceiling material.
2. Screw the Threaded Rod into the Threaded Bracket.
3. Fix the Braces and Bracket Plate onto the Threaded Rod using the two nuts and washers provided.
4. Adjust the height of the Bracket Plate to the required fall, and cut the rod below the lower nut.
5. Fit the Pipe/Socket Bracket over the pipe to be supported.
6. Fix the Pipe/Socket Bracket to Bracket Plate using the two bolts provided.

NOTE: Not suitable for use in damp, inaccessable voids.

Figure 45: Suspended Bracketing (intermediate pipe support)



Offsets

The minimum offsets that can be achieved in each size (with part numbers) are as set out below:

Table 24: Minimum Achievable Offsets

Pipe Size (mm)	Part No.	Minimum Offset
82	3S444	115
110	4S444	155
160	6S435	233

Alternatively, for 110mm installations, use an adjustable bend (push-fit):

- 4S173 for 0° to 30° angles
- 4S179 for 0° to 90° angles

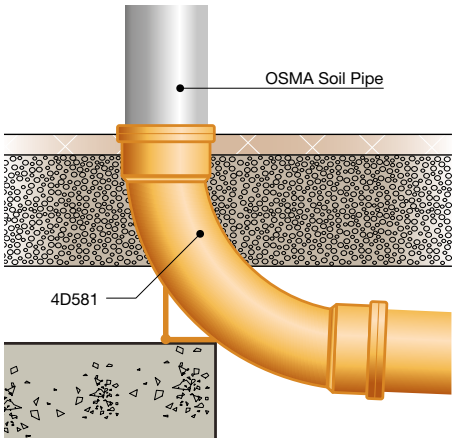
Connections to Below Ground Drainage

Connections to PVC-U

110mm Osma Soil Pipe connections to PVC-U are straight-forward using ring-seal/ push-fit jointing and Osma Below Ground Drainage fittings.

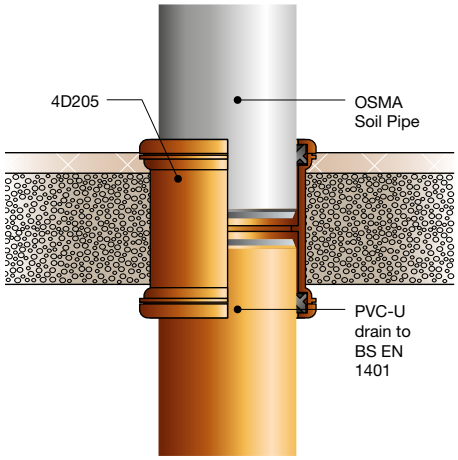
Via OsmaDrain Bend 4D581

Figure 46: PVC-U drain socket (via 4D581)



Via OsmaDrain Coupler 4D205

Figure 47: PVC-U drain spigot (via 4D205)



Connections to Other Materials

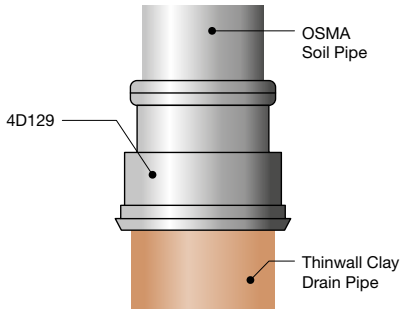
To thin-wall clay drain pipe spigot via OsmaDrain Adaptor 4D129

Procedure

– Use ring-seal/push-fit jointing method (page 105)

To cast iron soil socket via OsmaSoil Connector 4S106

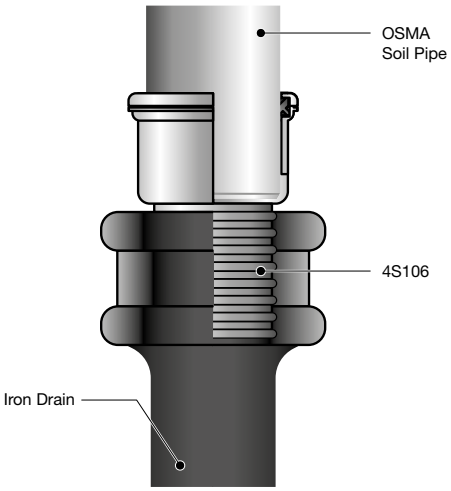
Figure 48: Thin-wall drain spigot



Procedure

1. Apply a bead of non-setting mastic to the face of the Connector and position centrally in the cast iron drain socket.
2. Caulk the joint with gaskin followed by lead wool, (NOT hot lead).

Figure 49: Cast iron drain socket



Wavin Osma Soil and Waste

Installation

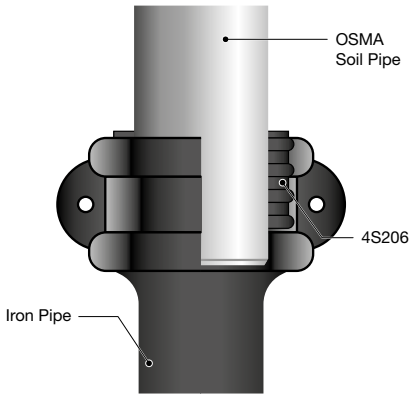
Connections to Other Materials

To cast iron soil socket via OsmaSoil Connector 4S206

Procedure

1. Place Connector inside cast iron socket.
2. Lubricate plain end of pipe.
3. Push in soil pipe spigot.

Figure 50: Cast iron soil socket



Access Saddle

Where access to soil pipework is required without using a fitting with an integral access facility, the Access Saddle 4S275 may be used on 110mm pipe to BS 4514.

Components

This comprises:

- Saddle
- Access Liner
- Access Cap
- Access Cap Gasket
- Clamp Ring
- Hole Template

Procedure

1. Mark the position on the pipe where access is required.
2. Cut a hole in the pipe EITHER with a pad saw using the template provided OR with a hole cutter 89mm in diameter and over 40mm depth.
3. Deburr and clean the area around the hole, and the mating surfaces, with Degreasing Cleaner No.1 4S379/4S380.
4. Apply Solvent Cement Filler 4S394 to the mating surfaces.
5. Fix Saddle to the pipe over the hole NOTE: Application of solvent and fixing to pipe must be completed within 1½ minutes.
6. Clamp with the ring provided as steps illustrated (see Fig. 52).
7. The clamp may be removed after 10 minutes.

Figure 51: Access Saddle

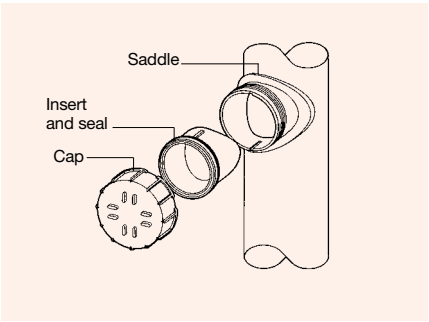
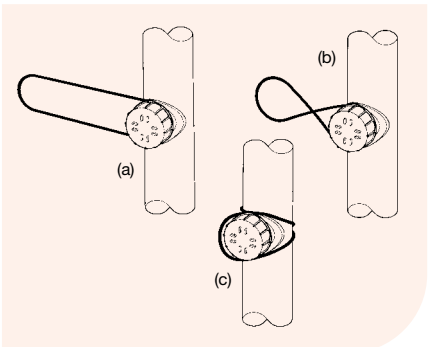


Figure 52: Installation of Access Saddle



Soil Connections to Waste

Installing Boss Socket Adaptors

To use unperforated boss socket positions on Bossed Pipes and Bossed Branches:

Procedure

1. Drill required unperforated boss socket position with 50mm hole cutter.
2. Deburr and clean area around hole with Degreasing Cleaner No. 1 4S379/4S380.
3. Apply Solvent Cement No.2 4S383/ 4S384/4S385 to both mating surfaces.
4. Fit the appropriate Boss Socket Adaptor ensuring the top locating key fits into the corresponding key-way on the fitting.

Installing Short Boss Pipe – 4S588

32, 40 and 50mm pipe may be connected via appropriate Boss Socket Adaptor as normal procedure described above (see Boss socket Adaptors above).

Alternatively, 40mm pipe may be directly connected via a solvent weld socket:

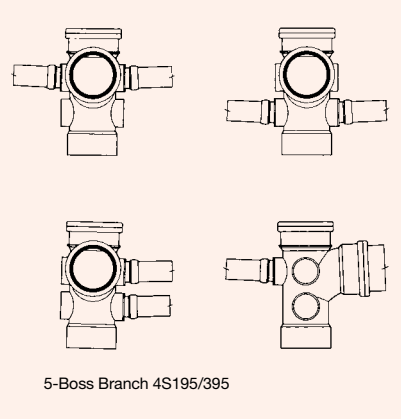
1. Open spigot connection using 35mm hole cutter.
2. Deburr and clean area around hole with Degreasing Cleaner No. 1 4S379/4S380.
3. Solvent weld appropriate socket onto spigot tail of the bossed connection. For solvent weld jointing procedure, see page 107.

Permitted Connections

Bossed Branches have maximum five waste socket positions. These may be utilised as follows:

- Two waste pipes to one side
- One waste pipe each side on the same level
- Single connections at side and rear

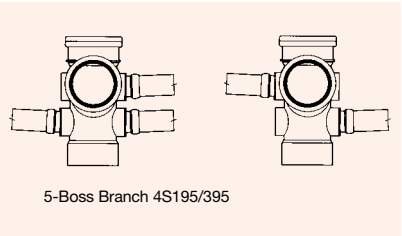
Figure 56: Permitted connections



Connections NOT Permitted

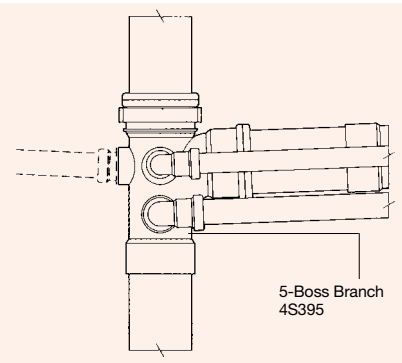
Offset socket connections are not permitted.

Figure 57: Connections NOT permitted



Connection of Multiple Wastes

Figure 58: Connection of multiple wastes



Installing Strap Bosses

Components

Strap Bosses 4S318, 3S319 and 4S319 provide an inexpensive method of connecting waste from basins, baths, bidets and showers fittings to 110mm soil stack pipework:

Procedure

1. Mark the position on the stack where the boss is required.
2. Drill a 56mm diameter hole.
3. Deburr and clean the area around the hole with Degreasing Cleaner No. 1 4S379/4S380 and clean the mating surface of the Boss.
4. Apply Solvent Cement Filler 4S394 to the mating surface of the Boss.
5. Fit the Boss to the hole ensuring ‘top’ is uppermost, and bolt together.
6. Allow 24 hours before completing Boss Socket Adaptor connection.

Figure 59: Connection of Strap Bosses

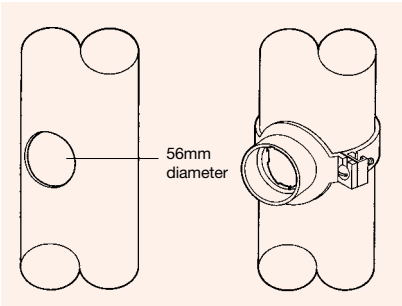
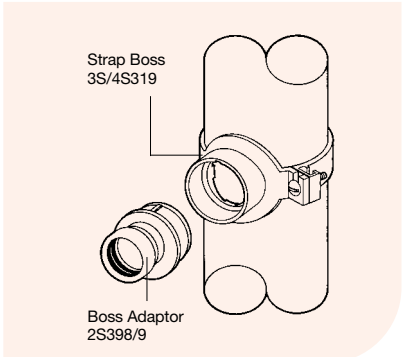


Figure 60: Fitting Boss Socket Adaptor



Wavin Osma Soil and Waste

Installation

Installing Soil Manifold

The OsmaLink Soil Manifold provides a simple method of making up to three waste pipe connections to the stack at floor level. No drilling, sawing or welding is necessary for installation.

The sockets allow direct connection for 50mm pipe, and connection of 32mm and 40mm pipe via reducers to BS EN 1451-1, BS 5254, BS 5255 and copper wastes to BS 659 and BS 2871.

Horizontal connections

Make horizontal connections using the following bends/adaptors:

- For 50mm pipe – use the All-Fit 90° Spigot Bend 2S356
- For 40mm pipe – use the All-Fit Reduction Bend 2S355
- For 32mm pipe – use All-Fit Reducer 4Z124 with All-Fit Reduction Bend 2S355

Vertical connections

Make vertical pipe drops into the OsmaLink Soil Manifold as follows:

- For 50mm pipe – no reducer/adaptor required
- For 40mm pipe – use synthetic rubber Reducer 2Z349
- For 32mm pipe – use synthetic rubber Reducer 2Z347

Locate Reducer in socket as follows:

Procedure

1. Lubricate the Reducer.
2. Push into the required socket. The OsmaLink Soil Manifold is supplied with one open socket. To use the other sockets, simply remove the socket plugs. The connections are push-fit. There is no need for solvent welding.

6 Boss Soil Manifold – 4S597

A compact manifold designed for easier installation where space is restricted. It is particularly suitable for multi-occupancy residential buildings. See page 94 for further details.

For installation tips see:

YouTube WavinUK



Figure 61: Typical OsmaLink Soil Manifold installation (side view)

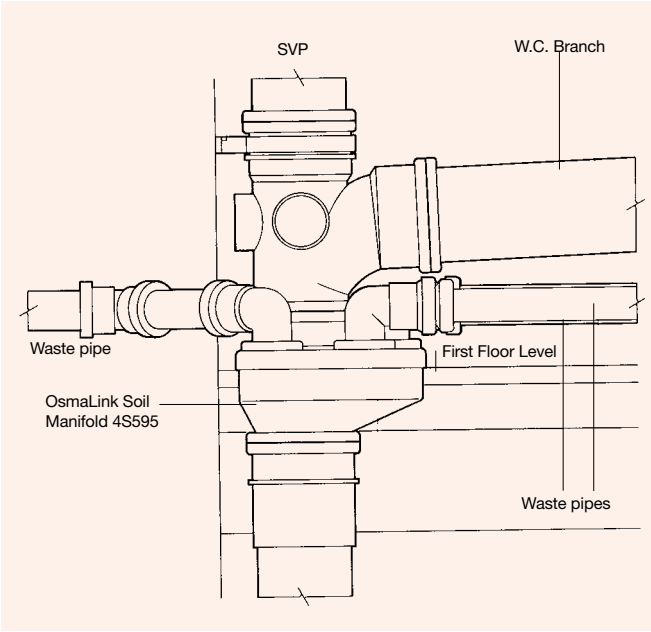
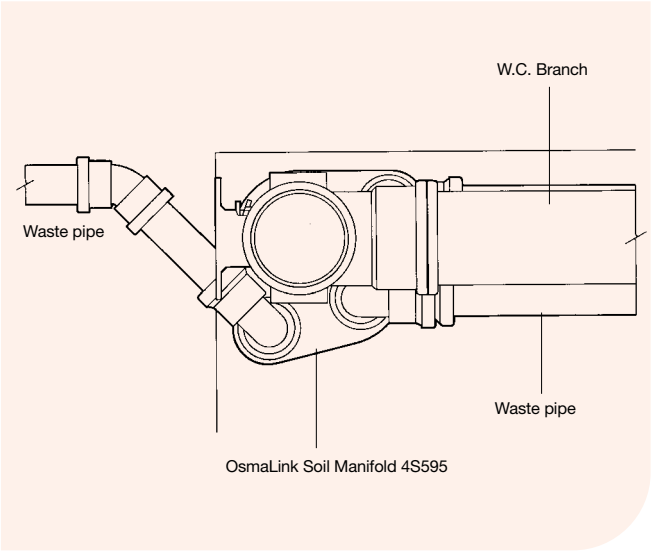


Figure 62: Typical OsmaLink Soil Manifold installation (plan view)



Air Admittance Valves

OsmaVent 110

The OsmaVent 110mm Air Admittance Valve 4S304/4S306 (AAV 110) is designed for venting 110mm soil pipe stacks. It prevents siphonage and protects traps by allowing air into the discharge pipework without allowing foul air to escape.

Soil Stack Ventilation

See page 100-101 for details on ventilation.

For connecting to 110mm pipe

Procedure

1. Cut the 110mm PVC-U pipe square to its axis.
2. Clean and remove swarf.
3. Push-fit the valve into the pipe end (no lubrication necessary).
4. To achieve the A1 rating -20°C the 4S304 will require the top half of packaging to be fitted over it.
5. To achieve A2 rating 0°C, the 4S306 does not require insulating when used in the loft.

For connecting to 82mm pipe

Procedure

1. Remove rubber connector from AAV.
2. Solvent weld AAV onto short length of 82mm pipe.
3. 82mm pipe should be connected to the soil stack via a ring-seal fitting to allow the AAV to be easily removed for access to drainage system.

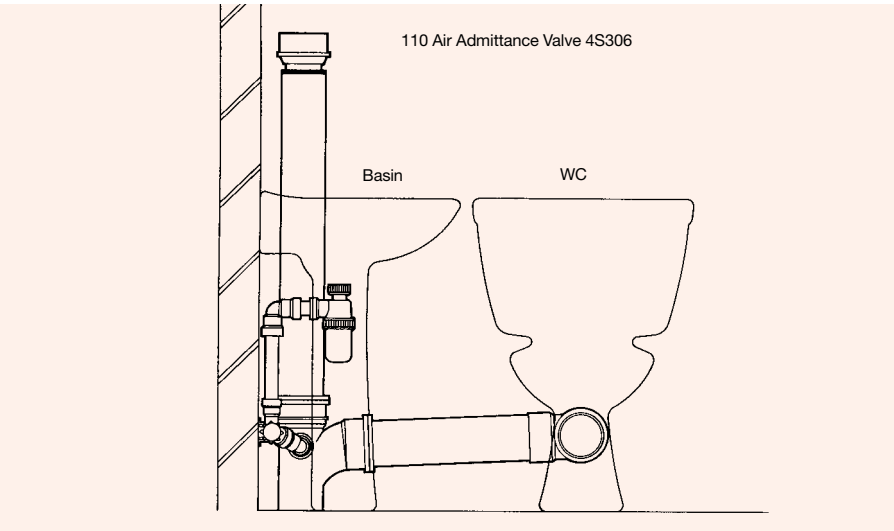
Soil Stack Ventilation

If a stub stack access assembly, to which ground floor cloakroom appliances are commonly connected, is discharging into a non-vented nearby drain, it will require venting eg. via AAV.

The Osma 110mm Air Admittance Valve 4S304 may be used to vent a stub stack in the following circumstances:

- If the crown of the WC trap is more than 1.5m above the drain invert
- The topmost connection to the stack is more than 2m from the drain invert

Figure 63: Vented stub stack



For installation tips see:

YouTube WavinUK

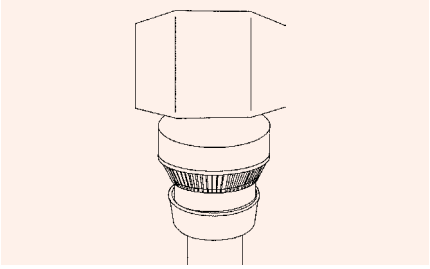
OsmaVent 40

Designed for venting waste systems when the length of waste pipe from trap to stack exceeds the following dimensions:
40mm pipe: 3m
50mm pipe: 4m

The OsmaVent 40mm Air Admittance Valve 4S303 (AAV 40) prevents siphonage and protects traps by allowing air into discharge pipework without allowing foul air to escape. It is suitable for venting up to 5 wash basins.

OsmaVent 40 push-fits onto 32 and 40mm (1¼"1½") waste pipework to BS EN 1451-1, BS EN 1455-1 and BS EN 1566-1.
It should be installed vertically and located in an accessible space.

Figure 64: Installation of OsmaVent 40 – In areas of extreme temperatures



For connecting to 32mm pipe

Procedure

1. Install the valve directly onto the deburred pipe.
2. In areas of extreme temperatures cover the installed valve with the insulation.

For connecting to 40mm pipe

Procedure

1. Remove the connector from base of valve.
2. Pull away the inner part of connector.
3. Ensure the pipe is cut square and remove burrs. Push the connector approx. 50mm down the pipe.
4. Place valve on top of pipe.
5. Holding the valve onto the pipe push up the connector until secure over the valve.
6. In areas of extreme temperatures cover the installed valve with the insulation.

Wavin Osma Soil and Waste

Installation

Weatherproofing Soil Stack

Installing Weathering Collar

For maintaining watertight seal between pipe and traditional flashing:

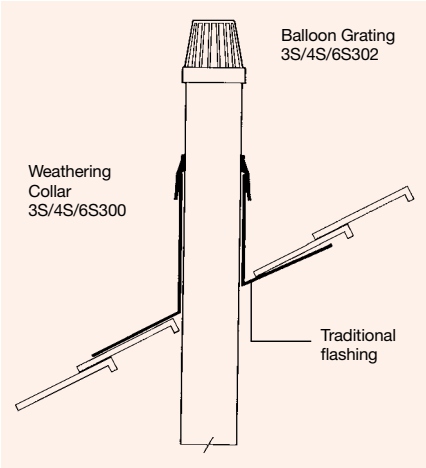
Fittings – Weathering Collar

- 82mm 3S300
- 110mm 4S300
- 160mm 6S300

Procedure

1. Apply solvent weld to pipe immediately above flashing upstand using Solvent Cement Filler 4S394.
2. Slide down into position with cone section over the flashing upstand to form a 'watershed'.

Figure 65: Installation of Weathering Collar



Installing Pipe Flashings

VariPitch Pipe Flashings are suitable for use on pitched or flat roofs, and with felt or asphalt finishes for 82mm or 110mm PVC-U pipe.

Fittings

- For flat roofs: VariPitch Pipe Flashing 4S281 (400 x 400mm)
- For pitched roofs between 12° and 55°: VariPitch Pipe Flashing 4S283 (450 x 450mm), VariPitch Pipe Flashing 4S285 (600 x 600mm)

Figure 66: Installation of VariPitch flashings – pitched

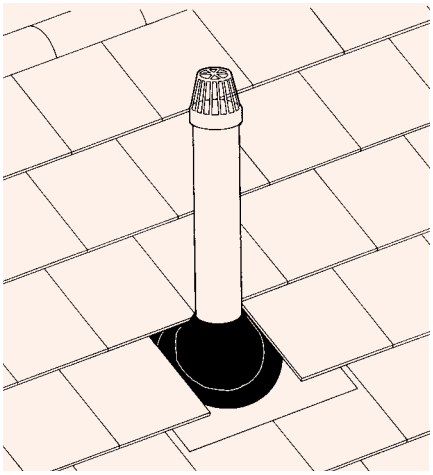
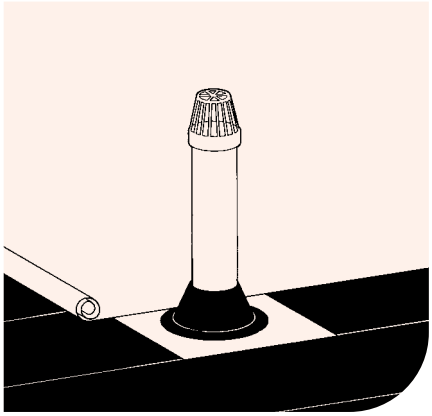


Figure 67: Installation of VariPitch flashings – flat



Pitched Roofs

Procedure

1. Secure vent pipe in position through roof.
2. If necessary, lubricate pipe with silicone lubricant to enable flashing to slide into position.
3. Fit flashing over stack pipe, and dress to suit roof tile profile.
4. To aid rigidity in exposed locations, a welt may be formed on front and side edges of apron.
5. Ensure back of apron is supported to prevent sagging between the rafters.

Flat Roofs: Felt

Procedure

1. Secure vent pipe in position through roof.
2. If necessary, lubricate pipe with silicone lubricant to enable flashing to slide into position.
3. Fit first layer of felt around the pipe.
4. Fit flashing over stack pipe.
5. Bed flashing in bitumen.
6. Butt second layer of felt to the edge of the apron.
7. Fix third layer of felt in bitumen over the apron and around the cone of the flashing.

Flat Roofs: Asphalt

Procedure

1. Secure vent pipe in position through roof.
2. If necessary, lubricate pipe with silicone lubricant to enable flashing to slide into position.
3. Fit flashing over stack pipe.
4. Apply asphalt over apron. Do not allow asphalt to come into contact with the unsupported cone of the flashing.
5. For improved adhesion, turn back apron edge approximately 12mm before applying asphalt.

Traps

Osma Waste pipes will fit directly into the integral compression joint on Osma V-Joint Traps and Compression Joint Traps.

V-Joint Traps

V-Joint Traps have a three-part compression type outlet incorporating an internal sleeve.

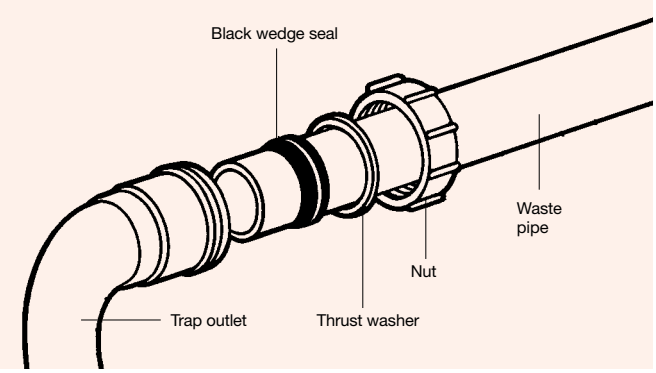
To connect pipe:

Procedure

1. Remove outlet nut, red outlet thrust washer and black wedge seal.
2. Clean off any burrs or rough edges and chamfer the inside of the pipe (if necessary).
3. BS EN 1451-1, polypropylene pipe should be first warmed in hot water to enable it to be pushed over the internal sleeve and into the trap.
4. Slide the nut and red washer over the pipe. Push the black seal onto the pipe with the thick end towards the red washer.
5. Firmly push the pipe into the trap. Slide the washer and seal to the edge of the outlet.
6. Hand tighten the nut, finishing with a quarter turn using a spanner or wrench

NOTE: If the plastic pipe is undersized, or out of shape, the end of the pipe may need to be warmed in hot water.

Figure 68: Connection to V-joint trap outlet



HepVO – Waterless Trap

For information on our unique water less trap see separate brochure – Wavin Osma HepVO Product and Installation Guide (SW102) and installation videos on You Tube.

For installation tips see:

YouTube WavinUK

All-Fit Conversion Bend

The 90° Conversion Bend 4A/5A830 converts a ‘P’ trap outlet to a ‘S’ trap outlet.

To connect pipe:

Simply lubricate the spigot end of the end and insert into the outlet socket of the trap.

Washing Machine Traps

Four different traps are available for connection to outlets of washing machines and dishwashers:

- ‘P’ Half Trap 5V864
- ‘P’ Full Trap 5V868
- Trap 5V870 with Standpipe and two brackets
- Adjustable ‘P’ Trap 5V869

Care should be taken to observe appliance manufacturer’s installation instructions, particularly with regard to the height of the discharge hose and the incorporation of an air break or vent to atmosphere.

Washing Machine Traps

Procedure

1. To help prevent capillary action, wrap PTFE tape around the male thread prior to screwing into the threaded socket or screwing on the threaded nut.
2. Screw in hand tight plus a quarter turn. Do not over tighten, as damage may occur.

NOTE: Do NOT use linseed oil based jointing compounds with plastic components.

Making Bath Trap Overflow Connections

Procedure

1. Unscrew rose terminal and position in hole in bath.
2. Fit rubber washer over threaded spigot on the outside of the bath. Screw into socket of overflow connections.
3. Hand tighten and finish with a quarter turn with spanner or wrench.

Wavin Osma Soil and Waste

Installation

Shower Gullies

The Wavin Osma range includes shower gullies for installation in tiled and sheet floor finishes.

Both models include pre-drilled countersunk screw holes to the flange for installation within a timber-joisted floor.

Shower Gully – Tiled Floor

Procedure

1. Cut hole in moisture resistant flooring board to take gully. Recess board so that top of drain flange is level with deck.
2. Firmly secure drain body to deck via the pre-drilled crew holes to flange.
3. Connect pipe using solvent weld joint.
4. Apply waterproof membrane to manufacturer's instructions. Dress over rim of gully and secure with clamping ring.
5. Affix tiles with approved waterproof adhesive, ensuring the Osma tile or stainless steel tile is square over the gully.
6. Insert circular grate in pre-formed hole in tile.

Shower Gully – Sheet Floor

Procedure

1. Cut hole in moisture resistant flooring board to take gully. Recess board so that top of drain flange is level with deck.
2. Firmly secure drain body to deck via the pre-drilled screw holes to flange.
3. Connect pipe using solvent weld joint.
4. Lay the sheet flooring to manufacturer's instructions. Dress over rim of gully and trim sheet to edge of clamping rim screw holes.
5. Screw clamping ring firmly in position.
6. Engage bell, ensuring 'O' ring lodges beneath screw heads on the clamping ring.

Pipe Connection

Connect pipe to Shower Gully via a solvent weld joint. For jointing procedure, see page 107.

Overflows

Connection to Tanks and Cisterns

The Osma PP Push-Fit Overflow system connects to tanks and cisterns via 90° Bent Tank Connector 1C139 (item supplied with two gaskets). This can be converted to a straight connector by cutting off the bend.

To connect the PVC-U Osma Solvent Weld Overflow system, use either Straight Tank Connector 1E129 or 90° Bent Tank Connector 1E139 (each item is supplied with two gaskets).

Procedure

1. Drill a hole with a saw cutter.
2. Remove any burr or rough edge.
3. Position a washer on either side of the cistern wall and fit the connector.
4. Tighten the back nut with a spanner.
5. Connect pipe. No solvent or lubricant is required.

For connections to screened overflow on drinking water cisterns, refer to manufacturer's instructions.

Connection to ¾" BSPT Male Thread

OsmaWeld Overflow pipework can be connected to ¾" BSPT male thread using Cap and Liner 1E156.

Connection to BS 659 Compression Fittings

Osma PVC-U Solvent Weld Overflow pipework can be connected to compression fittings manufactured to BS 659 using Straight Adaptor 1O158 or 90° Adaptor 1O159.

Pipe Bending

21.5mm Overflow pipe may be bent to a minimum of 50mm [2"] radius.

Procedure

1. Using a blow lamp or butane torch, apply a gentle heat to the pipe approx. 50mm [2"] either side of the bend.
2. When the pipe is pliable, insert a standard 19mm [¾"] bending spring.
3. Pull to the required radius and restrain while pipe cools.

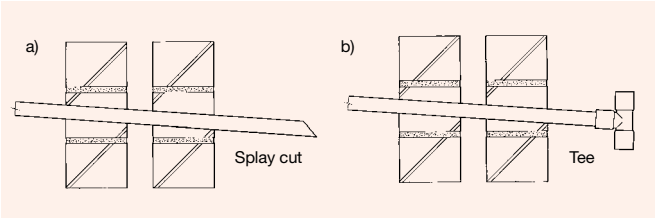
NOTE: Bending of pipe in excess of 19mm [¾"] is not recommended.

Overflow Termination Options

After penetration of the building wall, overflow pipe ends on the exterior should be terminated in one of the two following ways:

- Splay cut end
  or
- Fit with a 90° Tee 1E190 to inhibit entry of freezing draughts

Figure 70: Terminating overflow pipe



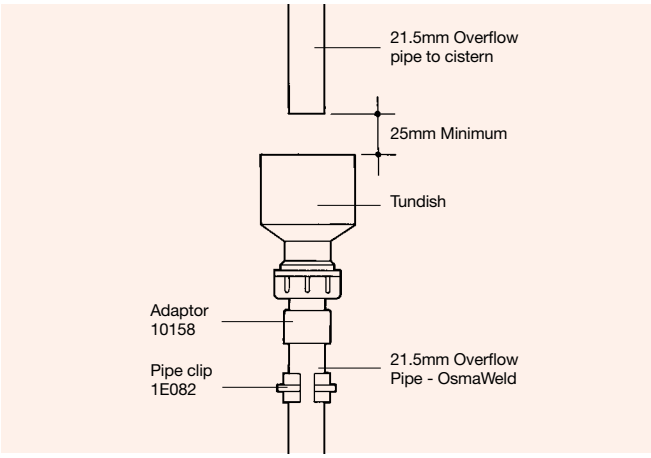
Tundish – for Overflow in Basement Areas

Unlike overflow systems above ground level, excess water from tanks or cisterns located in basement areas cannot be carried to a visible point on the building exterior.

To ensure that any overflow is visible in areas of a building below ground level, install a Tundish along the vertical route of the overflow pipe. This should be placed as near as possible to the cistern or tank, and in a visible position. A 25mm air gap should be allowed between the end of the overflow pipe and the rim of the Tundish in order to identify the source of the discharge.

IMPORTANT NOTE: Do NOT connect overflow pipework to soil and waste discharge stacks or branches.

Figure 71: Tundish connection to 21.5mm Solvent Weld Overflow Pipe



Overflow for a Range of WCs

The actual source of excess water flowing from a range of WC cisterns needs to be easily and quickly identified.

To ensure that any overflow discharge is identifiable and visible in such multiple installations, install Tundish between the overflow pipe from each cistern and a carrier manifold pipe. A 25mm air gap should be allowed between the end of the overflow pipe and the rim of the Tundish in order to identify the source of the discharge.

IMPORTANT NOTE: Do NOT connect overflow pipework to soil and waste discharge stacks or branches.

Figure 73: Typical Tundish – carrier pipe installation

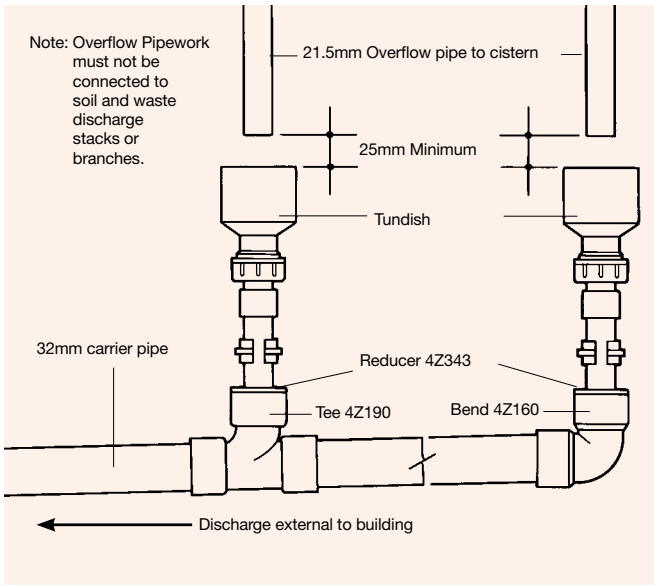
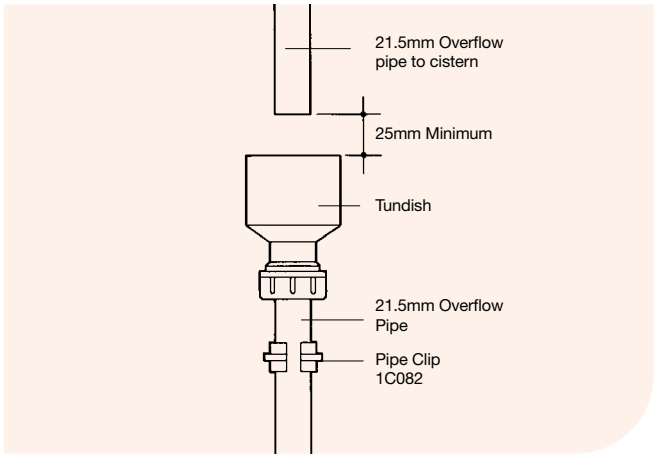


Figure 72: Tundish connection to 21.5mm Push-Fit Overflow Pipe



Wavin Osma Soil and Waste

Maintenance, Repairs, Testing and Safety

Maintenance

Wavin Osma Soil and Waste systems are designed to be virtually maintenance-free.

Blockages

In the event of any blockage, use only flexible or roller type rods. Metal pointed or boring types are not recommended.

Mechanised rodding should be carried out by trained operators only.

Cleaning Pipework

Cleaning can be undertaken with a damp cloth or mild detergent.

Air Admittance Valves

Periodically check that the diaphragm is clear of obstruction.

Fire Stop Seals

No maintenance required. However:

- Regularly inspect for any damage.
- Remove and replace any damaged seal.

Repairs

If a section of the soil stack requires replacement, either to effect repair or to incorporate a fitting post construction, use D/S Double Socket 3S/4S/6S105.

Procedure

1. Assemble all necessary fittings to be incorporated, or prepare the required length of pipe allowing for a minimum spigot length at each end as follows:
   – For 82mm or 110mm pipe: 60mm
   – For 160mm pipe: 100mm.
2. Cut out the appropriate length of the existing pipe, allowing for an expansion gap of 12mm at each end.
3. Chamfer and lubricate the spigots of the existing pipe and fit a D/S Double Socket completely over each one.
4. Position the new pipe section or assemble using socket brackets where necessary and lubricate the spigots.
5. Slide the D/S Double Socket over the new spigots to position each one centrally over the joint/expansion gap.
6. Fix the D/S Double Socket in place using socket brackets in their final position.

Testing

On completion of any installation work, the systems should be inspected and tested in accordance with BS EN 12056 and Part H of the Building Regulations.

Air testing is the preferred form of leakdetection. The use of smoke testing of plastics pipework should be avoided.

Safety

The relevant regulations detailed in the Health and Safety at Work Act 1974 must be adhered to on site.

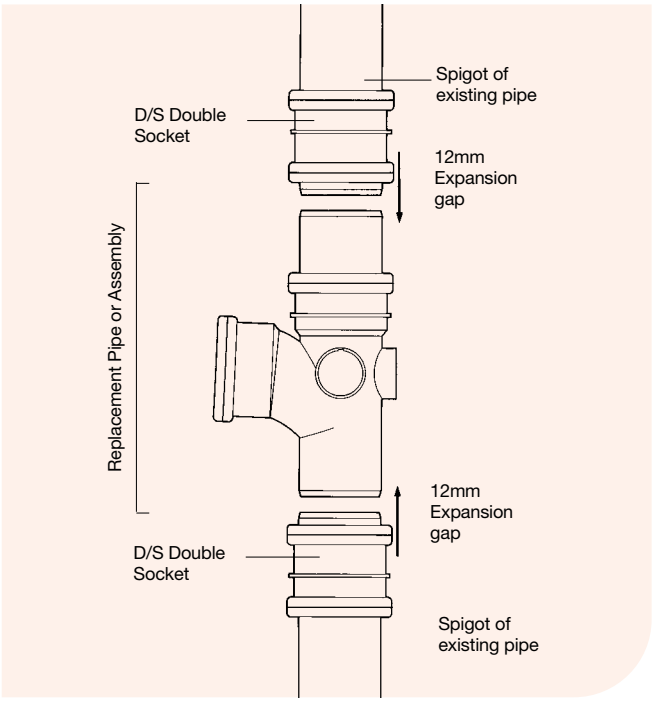
When making solvent weld joints it is essential to observe normal safety rules for handling solvent i.e.

- Never smoke or bring naked flames near the area of work
- Work in a well ventilated area to avoid inhaling fumes
- Close the solvent container after use and store in a cool area
- Do not allow solvent or cleaners to come into contact with the skin

COSHH (Control of Substances Hazardous to Health) Regulations should be referred to where applicable.

Copies of data sheets are available from the Technical Design Department. Contact Wavin Technical Enquiries.

Figure 76: Incorporating a fitting



Wavin Osma Soil and Waste

General Information

Materials

Pipes and most fittings in Wavin Osma Soil and Waste systems are manufactured from the following materials, as individually denoted in the product listings in this Guide.

Material	Systems
PVC-U Unplasticised Polyvinyl Chloride	Soil systems and Solvent Weld Overflow system (pipe only)
PP Polypropylene	Push-Fit Waste system and Push-Fit Overflow system
ABS Acrilonytrile Butadiene Stryrene	ABS Solvent Weld Waste system and Solvent Weld Overflow system (fittings only)
PE Polyethylene	V-Joint Traps

Acceptance

Wavin Osma Soil and Waste systems comply, where applicable, with the requirements of the following British Standards:

- BS EN 274-1:2002 Waste fittings for sanitary appliances
- BS 3943:1983 Specification for waste traps
- BS 4514:2001 Unplasticised PVC soil and ventilating pipes, fittings and accessories (82.4mm minimum mean outside diameter)
- BS 6209:1982 Solvent cement for non pressure thermoplastics pipe systems
- BS EN 1329-1:2000 Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. PVC-U
- BS EN 1453-1:2000 Plastics piping systems with structured-wall pipes for soil and waste discharge (low and high temperature) inside buildings. Unplasticized poly (vinyl chloride) (PVC-U)
- BS EN 1451-1:2000 Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. PP
- BS EN 1455-1: 2000 Plastics piping systems for soil and waste (low and high temperature) within the building structure. ABS
- BS EN 1566-1:2000 Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. PVC-C Chlorinated poly (vinyl chloride)
- BS EN 12380:2002 Air admittance valves for drainage systems

The British Standard Kitemark identifies pipe and fittings that are manufactured under the BSI certification scheme.

Wavin Osma Soil systems have been awarded British Board of Agrément [BBA] certification as follows:

– Air Admittance Valve 40 and Air Admittance Valve 110 (page 52, 61 and 68) – 86/1643

– 110mm Adjustable Bends (page 21) – 89/2174

References

Wavin Osma Soil and Waste systems should be designed and installed in accordance with the guidance provided in the appropriate sections of the following:

- Building Regulations 2000 (England and Wales): Approved Document H, Part H1
- Building Standards (Scotland) Regulations 1993-2002 (including current amendments: Technical Standards Part M)
- Building Regulations (Northern Ireland) 2000: Technical Booklet N
- BS 8000 Workmanship on Building Sites: Part 13: 1989 Code of Practice for above ground drainage and sanitary appliances
- BS EN 12056: 2000 Gravity drainage systems inside buildings: Part 3 Roof drainage, layout and calculation
- Painting plastics: IP 11/1979. Watford, BRE 1979
- Water Regulations Guide: London, Water Regulations Advisory Scheme, 2000
- BS EN 752:2008 – Drain and sewer systems outside buildings

Wavin Osma Soil and Waste

General Information

Health and Safety

The relevant provisions of the following legislation should be adhered to on site:

- Construction (Design and Management) Regulations 1994
- Control of Substances Hazardous to Health Regulations 1988
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- Manual Handling Operations Regulations 1992

Hazards Associated with PVC-U, ABS, Polypropylene and Polyethylene

There are no particular hazards associated with handling, cutting or working with the materials mentioned above, and protective clothing or equipment is not normally required.

Copies of Safety Data Sheets covering PVC-U, ABS, PP, PE, lubricant, solvent cements and cleaners are available from the Wavin Technical Design Department.

Abbreviations

Key	
P/E:	Pipe and fittings with both ends plain or with one plain end and one special end
S/S:	Pipe and fittings with one or more ring-seal or push-fit sockets, but always one plain or special end
D/S:	Fittings with ring-seal or push-fit sockets at all ends
S/SW:	Fittings with one or more ring-seal sockets but always one solvent socket
SW/S:	Fittings with one or more solvent sockets and one plain or special end
D/SW	Fittings with solvent sockets at all ends

Supply

All Wavin Osma systems are supplied through a nationwide network of merchant distributors. For details of your nearest stockist, contact Wavin Customer Services.

Sealing Rings

Where applicable, Sealing Rings are supplied fitted to each component and are included in the price.

Conditions of Sale

The Company will not accept responsibility for the malfunction of any installation which includes components not supplied by Wavin Limited. Goods are sold subject to Company conditions of sale.

'How to' Videos

To accompany this brochure, there is a set of installation `how to' Osma Soil and Waste videos to show can make light work of challenging plumbing problems.

The installation videos can be viewed at www.youtube.com/WavinUK under the Osma playlist.

They currently include:

Wavin Osma Hep$_V$O Waste

- Waterless Trap System Overview
- Fitting pedestal basin waste in limited space situations
- Installing under a sink where space is at a premium
- Fitting a bath waste where depth is limited

Wavin Osma Soil and Waste

- Introducing Recycore Technology
- Push fit and solvent welded joints
- Making an offset joint
- Installing a soil manifold
- Flexible WC Connections
- Fitting drain connectors
- Installing a slip coupler
- Access for rodding
- Cutting a pipe square
- Installing a fire collar
- Allowing for pipe expansion
- Avoiding dislodged seals
- Making a solvent welded joint
- Installing air admittance valve
- Acoustic Coupler 4S125 – 60 second overview
- Acoustic Coupler 4S125 – Main benefits and installation

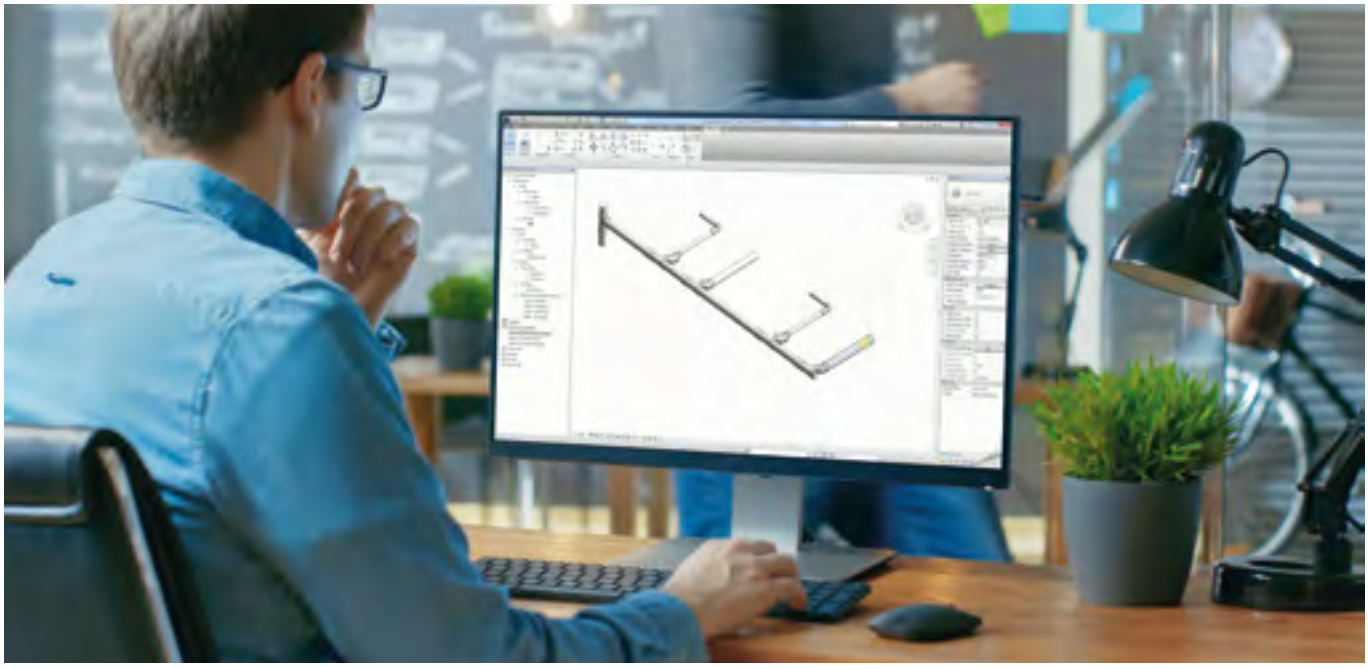
You can find other Wavin video's on the channel also, such as Rainwater, Hep$_2$O Plumbing and Underfloor heating systems.

For installation tips see:

YouTube WavinUK

Wavin Osma Soil and Waste

Game Changing BIM Design



Building Information Modelling (BIM)

We have created Revit families with integrated intelligent assistance to help you reach a complete 'as-built' pipe system in the fastest way possible, significantly reducing time spent on design.

Our Revit families help you reach a 100% accurate representation of the way piping systems will actually be installed, easily and without the use of product catalogues.

The quickest way to a complete 'as built' pipe system

Our Revit families for BIM ensure that the piping system selected can be installed as designed using only existing products in our portfolio that are available to install, saving time for both the engineer and contractor.

Precise Designs with Intelligent Assistance

Intelligent assistance can double productivity on-screen and on-site. The unique intelligent design assistance in Wavin's BIM Revit packages can slash project delivery time and costs through more accurate, faster and easier pipe modelling. The result is 'as-built' designs that reduce risk, eliminate waste and enhance productivity at every stage of a project.

Fully integrated Bill of Materials

Wavin Revit families contain an accurate Bill of Materials for each of our ranges including both pipes and fittings ready for you to order from your preferred distributor.

Our Revit packages are available in all of our above ground soil, waste, plumbing and heating systems, including;

- Wavin **Osma Push-Fit Soil & Waste**
- **Osma Solvent Weld Soil and Waste**
- **Traps and Accessories**
- **Wavin AS**
- **Wavin HDPE**
- **Wavin Tigris K1**
- **Wavin Compact**
- **Hep$_2$O**

You can also see lots of tips and tricks of how to use Wavin Revit families at myportal.wavin.co.uk.

Discover our broad portfolio at www.wavin.co.uk

Hot & Cold Water
Foul Water
Gas & Water Mains
Indoor Climate
Storm Water
Geotextiles
Soil & Waste



orbia
Advancing life together

Wavin is part of Orbia, a community of companies working together to tackle some of the world's most complex challenges. We are bound by a common purpose: To Advance Life Around the World.

wavin

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August 2022

QWR CE MARKED FIRE COLLARS

Quelfire
PROTECTING PEOPLE & PROPERTY

Quelfire QWR CE Marked Fire Collars prevent the spread of fire where plastic pipes penetrate fire compartment walls and floors.



QWR CE Marked Fire Collars



QWR CE Marked Fire Collar installed on concrete floor

FEATURES & BENEFITS

- Tested to BSEN 1366-3
- Classified according to EN 13501-2
- CE Marked
- Up to 4 hour fire rating
- Suitable for plastic pipes including but not limited to PVC, PVC-U, PE, HDPE, MDPE & PP
- Available for 25-160mm diameter pipes
- Can be retrofitted
- Performance unaffected by weathering (Type X Durability)
- Compatible with the QuelStop System – QuelStop Fire Batt & QF2 Fire Protection Compound
- Tested for use on concrete and masonry floors & walls
- Tested for use on flexible walls – fire rated partition walls
- Tested on a plasterboard ceiling/timber floor in accordance with the principles of BS EN1366-3



QWR CE Marked Fire Collar installed on plasterboard wall

COMPOSITION

The QWR CE Marked Fire Collars consist of a continuous pressed stainless steel flexible shell containing high performance graphite based intumescent material which reacts under the influence of heat to exert pressure on the pipe as it softens to form a carbonaceous char which provides an effective insulation plug thus preventing fire passing through to the adjoining compartment. The QWR CE Marked Fire Collar has built in fixing lugs which are used to secure it to the structure.

DURABILITY

Tested to Type X durability which means the QWR Fire Collars can be installed in conditions exposed to weathering.

TESTED TO warringtonfire BSEN 1366-3: 2009

The Warringtonfire Logo displayed is the trademark of Warringtonfire registered in the United Kingdom. The Warringtonfire Logo is evidence that the products denoted as 'Tested by Warringtonfire' were tested to BSEN 1366-3: 2009 in England between 22nd September 2015 and 9th December 2022.

CE

This product is CE Marked.

0161 928 7308 sales@quelfire.co.uk www.quelfire.co.uk

QWR CE MARKED FIRE COLLARS

Quelfire
PROTECTING PEOPLE & PROPERTY

APPLICATION / INSTALLATION

Quelfire QWR CE Marked Fire Collars should be used where a plastic pipe penetrates a fire rated wall or floor.

- **For vertical pipework, one unit should be installed to the underside of the floor.**
- **For horizontal pipework one unit should be fitted to both sides of the wall.**

The surface of the wall must be clean and free of loose debris/dust and any irregularities between the QWR and the wall, and between the pipe and wall, should be filled by applying QuelStop Intumescent Acrylic Sealant.

Holes for the pipes should be drilled as close as possible to the outside diameter of the plastic pipes and are described in the "performance" table later in this document.

If the holes are drilled too large then QF2 Fire Protection Compound or QuelStop Fire Batt will be required or even an alternative system such as an Intuwrap so care and communication between trades is the key to a simple installation.

The QWR CE Marked Fire Collar should be fed around the plastic pipe, securing the ends together by passing the tongues on one end through the slots on the other end. The tongues should then be bent back and the unit secured to the structure using the correct fixings through all the lugs.

(It is not a tested solution to not use all the lugs so space so should be allowed for the fixing of the QWR Fire Collar during design and installation of the pipework.)

A full set of installation details and a step by step guide are available and we recommend you check all available data before commencing installation but in principle the QWR Fire Collar can be fixed as follows:

- **To concrete and masonry walls and floors usingM8x60mm steel sleeve anchors.**
- **To plasterboard fire rated partitions using throughbolts or M6x65mm steel hollow wall anchors (to suit the correct plasterboard thickness).**
- **To QuelStop Fire Batt using steel pigtail screws.**



Quelfire QWR Fire Collars have also been tested generally in accordance with the BS EN 1366-3: 2009 fitted to a plasterboard ceiling/timber floor both direct to the plasterboard and also in conjunction with pattress fitted QuelStop Fire Batt.

For full details of the tested scope of application and for installation details for each scenario please contact the Quelfire Technical Team or website.

QWR CE MARKED FIRE COLLARS

Quelfire
PROTECTING PEOPLE & PROPERTY

PERFORMANCE

QWR CE Marked Fire Collars are suitable for use in concrete floors with plastic pipes including HDPE, PVC and PP in concrete floors providing up to 4 hours integrity.

They are also tested fixed to QF2 Fire Protection Compound and QuelStop Fire Batt seals providing up to 2 hours integrity.

For full details and performance information contact the Quelfire Technical Team:

Product Code	Pipe Size (mm)	Approx. space needed around pipe to fit QWR incl. fixing lugs (mm)	Recommended hole diameter (mm)	QWR Length (mm)
QWR25/CE	25Ø	40	27Ø	50
QWR32/CE	32Ø	40	34Ø	50
QWR40/CE	40Ø	35	42Ø	50
QWR50/CE	50Ø	35	52Ø	50
QWR55/CE	55Ø	35	57Ø	50
QWR63/CE	63Ø	55	65Ø	50
QWR75/CE	75Ø	50	77Ø	50
QWR82/CE	82Ø	40	84Ø	50
QWR90/CE	90Ø	50	92Ø	50
QWR110/CE	110Ø	40	112Ø	50
QWR125/CE	125Ø	45	132Ø	50
QWR160/CE	160Ø	50	162Ø	50

Technical Support & Guidance:

Should you require any further information regarding this product, please do not hesitate to contact the technical department at Quelfire Ltd.

Tel: **0161 928 7308.** Email: **technical@quelfire.co.uk**

Please be aware that this document is intended for general information only and all details should be checked against all relevant supporting test evidence, certification and installation guidelines.

Use of alternative components or deviations from the instructions in any way is likely to mean that the installation will not comply with the assessed rating.

Quelfire Ltd does not accept responsibility for the consequences of using Quelfire products in applications or for purposes not authorised by Quelfire Ltd. Expert advice should be sought where such applications are contemplated.

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QWW CE MARKED INTUWRAPS

Quelfire
PROTECTING PEOPLE & PROPERTY

Quelfire QWW CE Marked Intuwraps prevent the spread of fire where plastic pipes penetrate fire compartment floors.



QWW CE Marked Intuwrap



QWW CE Marked Intuwrap installed in concrete slab

FEATURES & BENEFITS

- Tested to BSEN 1366-3
- Classified according to EN 13501-2
- CE Marked
- Up to 4 hour fire rating
- Suitable for plastic pipes including but not limited to PVC, PVC-U, PE, HDPE, MDPE & PP
- Available for 32—160mm pipes
- For use in concrete floors
- No mechanical fixings required
- Performance unaffected by weathering (Type X Durability)
- Assessed for use in steel profile deck concrete composite floors
- Compatible with the QuelStop System – QF2 Fire Protection Compound

DURABILITY

Tested to Type X durability which means the QWW CE Marked Intuwraps can be installed in conditions exposed to weathering.

The Warringtonfire Logo displayed is the trademark of Warringtonfire registered in the United Kingdom. The Warringtonfire Logo is evidence that the products denoted as 'Tested by Warringtonfire' were tested to BSEN 1366-3: 2009 in England between 22nd September 2015 and 9th December 2022.

This product is CE Marked.

COMPOSITION

The QWW CE Marked Intuwraps consist of a high performance graphite based intumescent material within a polythene cover which reacts under the influence of heat to exert pressure on the pipe as it softens to form a carbonaceous char which provides an effective insulation plug thus preventing smoke and fire passing through to the adjoining compartment. QWW Intuwraps are manufactured specifically to suit individual pipe diameters. The correct product is chosen by determining the outside diameter of the pipe. A QWW110/CE suits a 110mm outside diameter plastic pipe and a QWW50/CE suits a 50mm outside diameter plastic pipe for example.

The orange plastic sleeve is an integral part of the QWW Intuwrap so should not be removed. QWW Intuwraps have a self adhesive tap on one end which is used to secure the wrap around the pipe.

QWW CE MARKED INTUWRAPS

Quelfire
PROTECTING PEOPLE & PROPERTY

APPLICATION/INSTALLATION

The QWW CE Marked Intuwrap can be installed within concrete floors around plastic pipes to maintain the fire compartment.

A lot of extra work and associated cost can be avoided by early coordination and good communication between all trades. For example where the correct diameter hole is diamond drilled, no shuttering will be required and installation is very simple requiring a simple backfill on top of the Intuwrap.

Where holes are incorrectly drilled oversize or larger square holes are left or formed then the hole will need shuttering and the whole penetration backfilling with QF2 Fire Protection Compound.

There must be no gap around the Intuwrap and the Intuwrap must be fitted flush with the underside of the concrete slab or fire seal.

Full installation details and step by step instructions are available to show the options.



QWW CE Marked Intuwrap installed in an oversized hole sealed with QF2 Fire Protection Compound in concrete slab



QWW CE Marked Intuwrap installed in a diamond drilled hole in concrete slab

QWW CE MARKED INTUWRAPS

Quelfire
PROTECTING PEOPLE & PROPERTY

PERFORMANCE

QWW CE Marked Intuwraps are suitable for use in concrete floors with plastic pipes including HDPE, PVC and PP providing up to 4 hours integrity. They are also tested in QF2 Fire Protection Compound seals and assessed for use in steel profile/concrete composite decks providing up to 2 hours integrity. For full details and performance information, refer to the relevant standard installation details.

Product Code	Pipe Size mm	Approx. space needed around pipe to fit QWW (mm)	Recommended hole diameter (mm)	QWW Length (mm)
QWW32/CE	32Ø	5	42Ø	60
QWW40/CE	40Ø	5	50Ø	60
QWW50/CE	50Ø	5	60Ø	60
QWW55/CE	55Ø	10	74Ø	60
QWW63/CE	63Ø	10	82Ø	60
QWW75/CE	75Ø	10	94Ø	60
QWW82/CE	82Ø	10	102Ø	60
QWW90/CE	90Ø	10	110Ø	60
QWW110/CE	110Ø	12	132Ø	60
QWW125/CE	125Ø	15	155Ø	60
QWW160/CE	160Ø	22	204Ø	60

Technical Support & Guidance:

Should you require any further information regarding this product, please do not hesitate to contact the technical department at Quelfire Ltd.

Tel: **0161 928 7308.** Email: **technical@quelfire.co.uk**

Please be aware that this document is intended for general information only and all details should be checked against all relevant supporting test evidence, certification and installation guidelines.

Use of alternative components or deviations from the instructions in any way is likely to mean that the installation will not comply with the assessed rating.

Quelfire Ltd does not accept responsibility for the consequences of using Quelfire products in applications or for purposes not authorised by Quelfire Ltd. Expert advice should be sought where such applications are contemplated.

The policy of Quelfire Ltd is one of constant improvement. Details are subject to change and/or withdrawal without notification therefore you must ensure this is the latest published documentation. Whilst Quelfire will endeavour to keep its publications up to date, the accuracy of the information contained within this document may be affected by pertinent changes in the law or regulatory requirements and alterations or amendments to the specification of Quelfire products.

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MECHANICAL SERVICES LTD

Water Calculation

Project Reference:- Tipner- Affordable

Date:- 17.07.25

Revision:-

Target Litres per person per day:- 125

Installation Type	Unit of Measure	Capacity/Flow Rate	Use Factor	Fixed Use	Litres/Person/ Day
WC's	Average effective flushing volume (Litres)	3.062	4.42	0	13.53
Taps (Excluding Kitchen Utility Room)	Flow Rate (Litres / minute)	5	1.58	1.58	9.48
Bath (Shower also present)	Capacity to overflow (Litres)	196	0.11	0	21.56
Shower (Bath also present	Flow Rate (Litres / minute)	8	4.37	0	34.96
Bath Only	Capacity to overflow (Litres)	0	0.5	0	
Shower Only	Flow Rate (Litres / minute)	0	5.6	0	0.00
Kitchen/Utility Room Snk Taps	Flow Rate (Litres / minute)	4.5	0.44	10.36	12.34
Washing Machine	Litres / kg dry Load	8.17	2.1	0	17.16
Dishwasher	Litres / place setting	1.25	3.6	0	4.50
Waste Disposal Unit	Litres / use		3.08	0	0.00
Water Softener	Litres / person / day		1	0	0.00
Contribution from Grey Water					0.00
Contribution from Rain Water					0.00
				Σ	113.53
				Normalisation Factor Σ x 0.91	
				Total Water Consumption from calculation	103.31

Project Name.	Tipner	Tenure	Affordable	Revision	

Image	Model Description	Tenure
	**Roca** – Havana Close Coupled WC Pan	Bathrooms
	**Roca** – Havana 550mm x 450mm 1TH Washbasin & Pedestal	Bathrooms
	**CME** – Basin Waste Slotted, Chrome Captive Plug Part No. WBS26CP	Bathrooms
	**Roca** – Victoria Plus Basin Mixer Part No. A5A3B4FC00	Bathrooms

	**Roca** – Carla 1700 x 700 Steel Bath 2 Tap Hole, Anti Slip & Chrome Grips Bath Part No. 2374L3000	Bathrooms
	**Roca –** Bath Panel Superthick front panel for acrylic bath 1700x515mm Part No. Z025170000	Bathrooms
	**Roca – T500** Thermostatic Bath Shower Mixer Part No. A5A1E18C00	Bathrooms

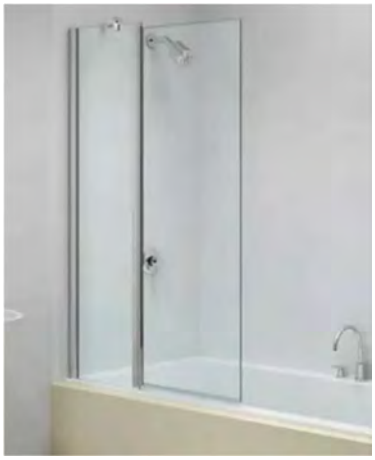
	**CME –** Bath Combi Waste Bath Waste & Overflow, Chrome Poly Plug & Chain Part No. WH073SS	Bathrooms
	**Roca** – Stella Shower Kit 100 Chrome 6ltr/min Part No. A5BC413C00	Bathrooms
	**AKW** 1830mm Shower Rail & Hooks Part No. 24018	Bathrooms
	**AKW** High Performance Textile Shower Curtain 2m x 2m Part No. 24083	Bathrooms

	**ROCA** – Splash-T Thermostatic Wall Mounted Mixer Part No. TN50202000000000	Bathrooms
	**JUST TRAYS** – 1200x800MM Fusion Anti Slip Shower Tray Part No. ASF1280100	Bathrooms

Project Name.	Tipner	Tenure	Shared Ownership	Revision	

Image	Model Description	Tenure
	**ROCA** – Debba Floor Mounted Back to Wall Pan WC Part No. A34299B00U Cistern Part No. A34199D00F	Bathrooms & En-suites
	**ROCA** – Debba Soft Close Seat & Lid Part No. A801990004	Bathrooms & En-suites
	**ROCA** – Debba 550x440mm Wall Hung Washbasin Part No. A32599500U Semi-Pedestal Par No. A33799100U	Bathrooms
	**ROCA** – Debba 450x370mm Wall Hung Washbasin Part No. A32599700U Semi-Pedestal Par No. 33799100U	En-suites

	**Roca** – L20 Basin Mixer No Waste Part No. 5A3209C0R	Bathrooms & En-suites
	**Roca –** Aqua Press Down Waste Part No. ZD50010005	Bathrooms & En-suites
	**ROCA** – Contessa 1700 x700x400mm Steel Bath No Tap Hole No Grips Anti Slip Bath Part No. A2358J0000 Legs Part No. A291028000	Bathrooms

	**Roca –** Aqua Chrome PUW with O/F Part No. ZD50010001	Bathrooms
	**Roca –** Bath Panel Superthick front panel for acrylic bath 1700x515mm Part No. Z025170000	Bathrooms
	**Roca – T500** Thermostatic Bath Shower Mixer Part No. A5A1E18C00	Bathrooms
	**MERLYN –** Ionic Express Merlyn Iconic Express MB3B two panel folding square bath screen 800x1500mm Part No. MB3B	Bathrooms

	**Merlyn -** Series 6 1200mm Slider (Portslade) 1000mm Slider (Coldean) Clear / Chrome Part No. M68241(1200) M68231 (1000)	En-suites
	**Just Trays** – Fusion 40 Low Profile Shower Tray 1200 x 800 Riser Kits Part No. TBC	En-suites
	**Roca – T500** Thermostatic Shower Wall Mounted Part No. A5A2E18C00	En-suites

	**Roca** – Sensum ROUND - Shower kit with Sensum Round 4 functions handshower, 800 mm slide bar with adjustable handshower bracket, soap dish and 1.70 m flexible hose Part No. A5B1407C00	Bathrooms & En-suites

MECHANICAL SERVICES LTD

Water Calculation

Project Reference:- Tipner- Shared Ownership

Date:- 17.07.25

Revision:-

Target Litres per person per day:- 125

Installation Type	Unit of Measure	Capacity/Flow Rate	Use Factor	Fixed Use	Litres/Person/ Day
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Taps (Excluding Kitchen Utility Room)	Flow Rate (Litres / minute)	5	1.58	1.58	9.48
Bath (Shower also present)	Capacity to overflow (Litres)	156	0.11	0	17.16
Shower (Bath also present	Flow Rate (Litres / minute)	8	4.37	0	34.96
Bath Only	Capacity to overflow (Litres)	0	0.5	0	
Shower Only	Flow Rate (Litres / minute)	0	5.6	0	0.00
Kitchen/Utility Room Snk Taps	Flow Rate (Litres / minute)	4.5	0.44	10.36	12.34
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Dishwasher	Litres / place setting	1.25	3.6	0	4.50
Waste Disposal Unit	Litres / use		3.08	0	0.00
Water Softener	Litres / person / day		1	0	0.00
Contribution from Grey Water					0.00
Contribution from Rain Water					0.00
				Σ	109.13
				Normalisation Factor Σ x 0.91	
				Total Water Consumption from calculation	99.31

SPECIFICATION GUIDE

FOR ALL YOUR VENTILATION REQUIREMENTS



Improving Indoor Air Quality

SYSTEM VENTILATION · FANS · DUCTING

DUCT SYSTEMS



Green Line Duct Bends

Engineered to significantly reduce duct resistance, lower system noise and overall energy usage.

Green Line Duct Bends 63



Rectangular

- 110x54mm
- 204x60mm
- 220x90mm

Duct 64



Round

- Ø100mm
- Ø125mm
- Ø150mm

Duct 71



Adapters

Transformation pieces from circular to flat duct.

In-Line Adapters 77
Plenums 82
Domus Radial 87



Duct Solutions

Engineered to significantly reduce duct resistance, lower system noise and overall energy usage.

Attenuation 93
Thermal Duct Insulation 96
Domus Adapt 99



Flexible Ducting

Flexible Ducting 125
Ducting Acillaries 132

FIRE SOLUTIONS



Fire Solutions

Fire Sleeves 104
Solis AirBrick 110

GRILLES AND EXTERNAL GRILLES



Grilles and External Grilles

Grilles and External Grilles 106

The information contained in this publication is correct at the time of print and is subject to change.
Please visit our website for the latest information: www.domusventilation.co.uk

HERO PRODUCTS

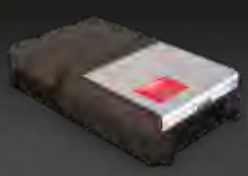
Since our inception, Domus Ventilation has aimed to be the number one supplier of ventilation products in the UK market place.

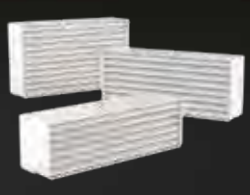
We are constantly innovating and improving to reaffirm our position as market leader. We have an active portfolio of new and improved product introductions. The most recent of these introductions is the new HRXE-ZEUS from our MVHR range.

These new additions complement our existing award winning product ranges NOX-FILT, the CMX- Multi plus our highly innovative Green Line Bend.

Product and service quality is of vital importance to us and we strive to deliver higher than expected levels based on customer feedback and new trends in the sector. If you have any questions or comments please get in touch with us on 03443 715 523.

SEPT 2018	NOV 2019	JAN 2019	MAY 2021	JAN 2023
CMX	NOX-FILT	HRXE-HERA & HRXE-AURA	Solis AirBrick™	HRXE-ZEUS




INTRODUCTION

Domus Ventilation is a manufacturer of market-leading ventilation systems that save energy and improve indoor air quality.







From project concept through to completion, Domus Ventilation can guide you through the whole process

Formerly Polypipe Ventilation, the company has been reborn as Domus Ventilation, with new management and customer service teams, an expanded sales network and state-of-the-art production facilities in South Wales.

Domus Ventilation will continue to offer the multi award-winning Domus Ducting, that has been a UK market leader for over 50 years, as well as energy-efficient ventilation and indoor air quality systems.

Under the new name, and with an enhanced customer service team and increased sales force, Domus Ventilation is primed for growth and aims to be the number one supplier of ventilation products and accessories.

As a leading manufacturer of energy-saving ventilation systems, we offer high quality solutions for domestic and light commercial applications.

Technical Support

Understanding your ventilation requirements is integral to ensuring that we tailor our solutions to meet your needs.

Product Specification

Having established technical requirements, you will be supported each step of the way from order placement through to time planning.

Stockists

Two significant manufacturing facilities, that help guarantee quick availability through a loyal nationwide network of Merchant and Electrical Wholesaler stockists.

Delivery

Our national network of stockists offer a dedicated and managed logistics fleet, who are dedicated to providing efficient, quick and reliable delivery.

Customer Services

We believe at Domus Ventilation we have the best people within the industry, working together to support all our customers, providing you with expert advice and guidance.

PAS 99 Integrated Management Systems

ISO 9001 Quality Management

ISO 14001 Environmental Management

ISO 45001 Occupational Health and Safety Management

BEST PRACTICE GUIDE

The following is offered as Best Practice guidance only, with information taken from statutory bodies including 'Approved Document F – Ventilation' (2021 edition incorporating 2010 and 2013 amendments).

All Domus Ventilation products comply with the latest regulatory governance, with supporting literature such as Installation & Maintenance manuals.

Duct arrangement

External vents should be separated by a minimum of 300mm horizontally, if placed on the same façade.

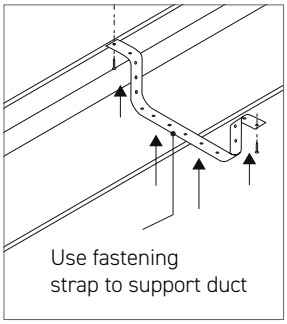


Why metal external AirBricks?

This has been brought in owing to legislation changes, Part B fire regulations have changed and now confirm that no combustible material i.e. PVC is to be installed in a cavity within or on the external surface of an external wall above 11m in Scotland and above 18m in England and Wales, therefore, giving us no option but to design and manufacture a metal version.

Fixing and supporting ducts

Duct clips or support banding should be positioned at equal distances and no more than 750mm apart. Ducting should not be positioned in direct contact with other surfaces, such as plasterboard ceilings, to prevent noise transfer into the dwelling.



Joining of ducts

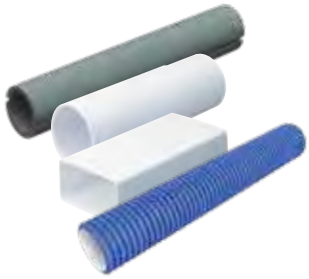
We recommend that all ducts be connected and sealed using a non-hardening sealant to minimise air leakage. Consideration should be made to ducts installed in non-accessible areas, such as a ceiling void, to have a permanent fixing in place to supplement the sealing, preventing dislodging or movement during or after installation. The use of duct tape is permitted but should not be used as the only method of providing an airtight seal.

Sizing of ducts

All ducting should be sized in accordance with current building regulations. When using MEV and MVHR systems, the ducting selected should be suitable for use with the product types.

Domus Ventilation recommends that a minimum duct size of 204x60mm or 125mm to be used with MEV and MVHR systems, to maintain an even distribution of airflow and low duct velocity.

Domus semi-rigid radial ducting systems may also be used, contact Domus Ventilation for further information.

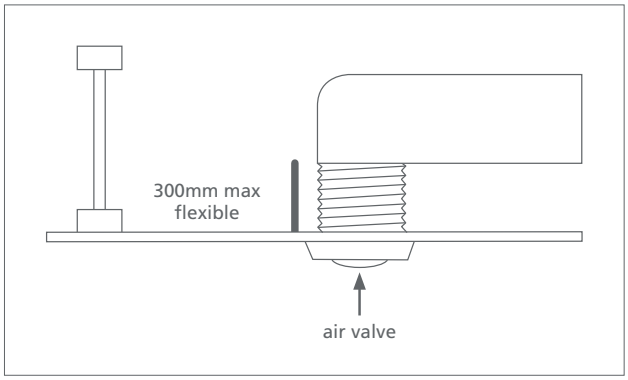


Installation best practice

Installation and positioning of air valves and external grilles:

- The air valve shall be located on the opposite side of the room from internal opening doors, creating a cross flow of air
- Should not be located less than 200mm to walls when installed on a ceiling
- Should not be located less than 400mm from a ceiling when installed on a wall
- Kitchen extract grilles should be a minimum of 600mm away from the hob

Air Valves should be lockable to prevent tampering once the system has been installed and commissioned.



All grille locations should take into consideration room layouts and be positioned in such a way as to minimise down draughts over seating and sleeping areas.

			Application		
Image	**Part No**	**Diameter**	**Wall**	**Sus Ceiling**	**Fire Rated**
	136-04 136-05 136-06	100mm 125mm 150mm	✓		
	136-24 136-25 136-26	100mm 125mm 150mm		✓	
	136FR-24m 136FR-25m 136FR-26m	100mm 125mm 150mm			✓

Extract ventilation rates

Extract ventilation rates			
Room	**Intermittent Extract**	**Continuous Extract**	
	Minimum rate	**Minimum high rate**	**Minimum low rate**
Kitchen	30l/s adjacent to hob, or 60l/s elsewhere	13l/s	Total extract rate should be at least the whole dwelling ventilation rate given in the table below.
Utility Room	30l/s	8l/s	
Bathroom	15l/s	8l/s	
Sanitary Accommodation	6l/s	6l/s	

Whole dwelling ventilation rates	
Number of bedrooms	**Minimum ventilation rate by number of bedrooms (l/s)**
1	19
2	25
3	31
4	37
5	43

Note:

a. If the dwelling only has one habitable room, a minimum ventilation rate of 13l/s should be used.

b. For each additional bedroom, add 6l/s to the values shown in table above.

Flexible ducting use with intermittent fans

For flexible duct connected to axial fans the length is limited to 1.5 metres; for centrifugal fans the length limit is 6 metres (for extract rates 6 to 30l/s) and 3 metres (for extract rates 31-60l/s).

The number of bends is limited to two for up to 30l/s, and reduces to one bend for higher extract rates.

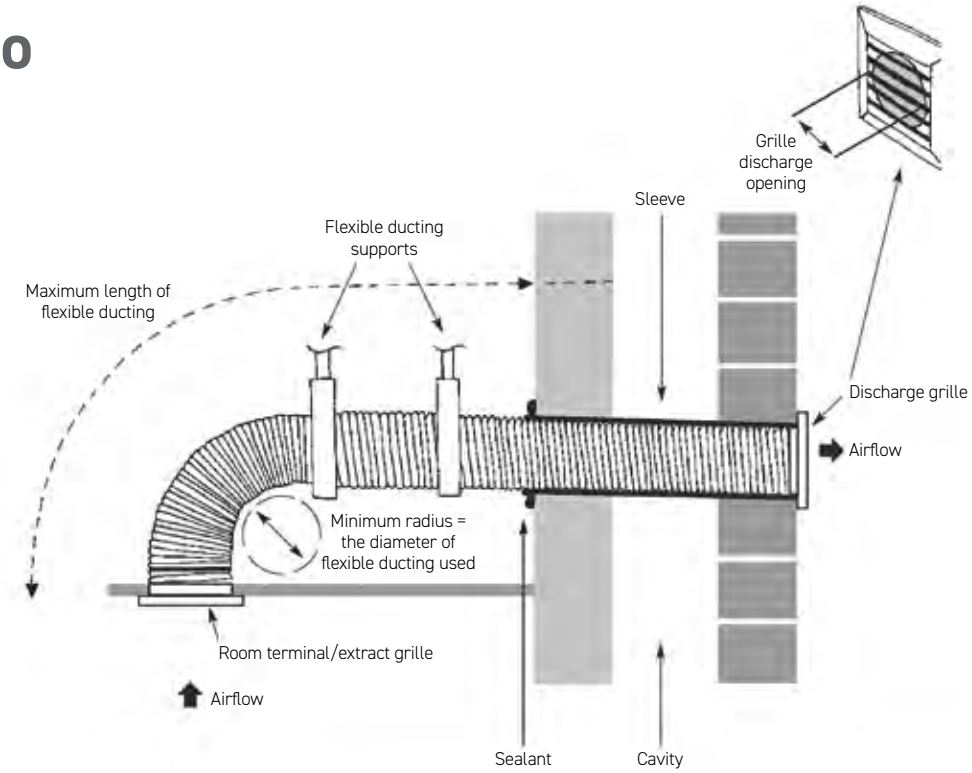
Flexible duct should be pulled taut to ensure that the full internal diameter is obtained and flow resistance minimised.

This is considered to have been achieved if the duct is extended to 90% of its maximum length.

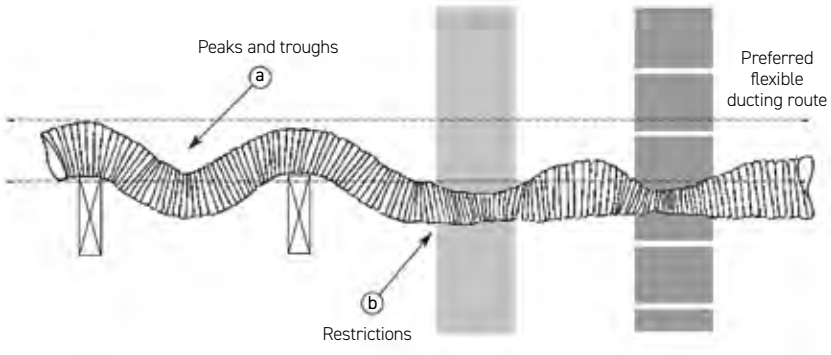
Flexible ducting generally requires more support than rigid ducting.

It is suggested that flexible ducts should be supported at intervals not exceeding 600mm.

✔ Do



✘ Don't



Reference: Approved Document F: Volume 1 Section 1.77

Flexible ducting use with MVHR

Flexible duct should be:

- Not more than 300mm in length
- Located adjacent to fan units or air valves
- Not used to form bends

Position of terminals

To prevent cross-contamination, supply ductwork terminals should normally be separated from exhaust ductwork terminals and other potential sources of pollution by a minimum of 1m measured on plan. Increased separation distances may be required between the supply and any:

- Soil and vent pipe terminal
- Boiler flue outlet
- Biomass or solid fuel chimney terminal

Fire stopping

Proprietary fire components should be suitably tested and specified to take account of the test conditions. Appropriate standards include:

- BS 476 Fire tests on building materials and structures (relevant parts)
- BS EN 1365-2 Fire resistance tests for load bearing elements. Floors and roofs
- BS EN 1366-3 Fire resistance tests for service installations. Penetration seals

Air valves and terminals

Air valves and terminals should be specified to be suitable for their location and function, and the velocity of the system. Airflow resistance should be calculated in accordance with BS EN 13141-2 Ventilation for buildings. Performance testing of components/ products for residential ventilation. Exhaust and supply air terminal devices.

Adjustable air valves should be lockable, to prevent building users from altering them.

Terminals should be designed to prevent the entry of birds and animals.



Control of condensation

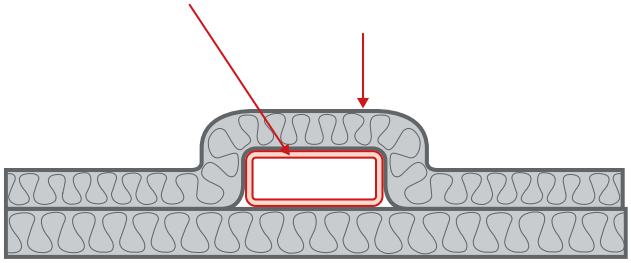
Condensate can form where duct passes through spaces outside of the insulated parts of the home (such as a roof void) or when ductwork carrying cold air passes through spaces within the insulated parts of the home. Ductwork should be insulated to reduce the risk of condensation formation.

Where insulation is required to prevent condensation formation, it should be continuous and vapour resistant. This can be achieved by using either suitable pre-insulated ductwork or a proprietary insulation system with a thermal resistance equivalent to a minimum of 25mm of insulating material, with a thermal conductivity of 0.04W/(m.k).

Type of duct	Ductwork Continuously Insulated	
	Ductwork located inside the insulated part of the home	Ductwork located outside of the insulated part of the home
Intake	Yes	Yes
Exhaust	Yes	Yes
Service (supply and extract)	No	Yes

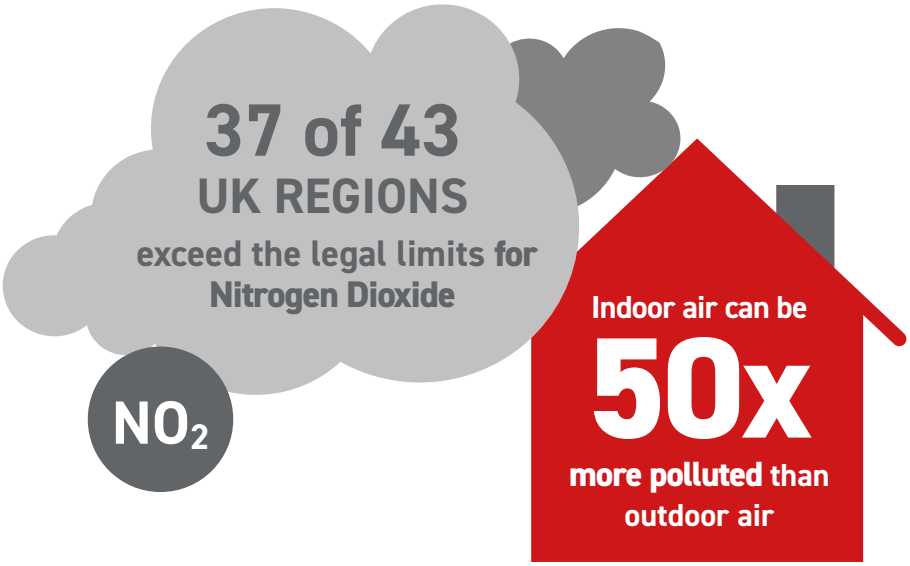
Pre-insulated to achieve a thermal performance equivalent to at least 25mm of insulating material with a thermal conductivity of 0.04W/(m.K)

Loft insulation used to achieve a total thermal performance equivalent to at least 150mm of insulating material with a thermal conductivity of 0.04W/(m.K)



Indoor Air Quality (IAQ)

Whilst there are currently no regulations concerning the quality of air inside a property, the subject of IAQ has been well publicised over the last few years owing to rising health concerns.



Overheating in new-build properties

MEV and MVHR systems are increasingly being installed into new properties.

As a cost-effective means of lowering Dwelling Emission Rates to gain points towards achieving a higher SAP rating (as listed in the Product Characteristics Database), many developers and specifiers are seeing the benefit of adopting a whole house ventilation system, whilst also being able to improve the indoor environment for their clients.



RIGID DUCTING

As a branch based system, rigid duct is ideal for new-build or for where space isn't restricted and can be used with MVHR, MEV, dMEV or intermittent extract.

Key features

- Available in six different profiles to suit any application.
- Comes with a full set of adapters to enable a simple or complex system.
- High levels of air tightness and system efficiency.
- Supported by patented duct insulation, fire stopping and sound attenuation components.
- Range includes high efficiency duct bends, designed to reduce duct resistance and overall system energy usage.
- Material flammability Class UL-94HB on fittings and UL-94V-0 on Ducting.

Profile selector & application

Appliance duct connection size

100mm (4")		125mm (5")		150mm (6")	
What depth is available for the duct?		What depth is available for the duct?		What depth is available for the duct?	
60-105mm	105mm+	65-130mm	130mm+	97-155mm	155mm+
110x54mm	Ø100mm	204x60mm	Ø125mm	220x90mm	Ø150mm

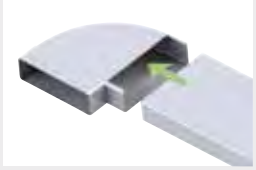
When a profile has been specified and the duct layout designed, the system resistance must be calculated to ensure that the appliance has sufficient power to more than match the resistance of the complete system.

Product	Size	Range	Free Area	Operating Temp
Rectangular				
	110x54mm	System 100	5,300mm²	-15° - 60°
	204x60mm	Supertube	11,200mm²	-15° - 60°
	220x90mm	Megaduct	17,968mm²	-15° - 60°
Round				
	Ø100mm	EasiPipe 100	7,850mm²	-15° - 60°
	Ø125mm	EasiPipe 125	12,266mm²	-15° - 60°
	Ø150mm	EasiPipe 150	17,263mm²	-15° - 60°

Where components are listed with one of three connection profiles; Male, Female or Duct.



Male:
The fitting will fit inside duct.



Female:
The fitting will fit around duct.



Duct:
The connection profile is the same as the duct and may need a Female or Male straight connector to couple to duct.

NOTE. UL94 is now harmonised with BS EN 60695-11-10. So either UL94-V0 or Class V0 to BS EN 60695-11-10 would be equivalent.

GREEN LINE DUCT BENDS®

Engineered to significantly reduce duct resistance, lower system noise and overall energy usage. Domus Green Line bends are an innovative solution for a well designed and energy efficient duct system.



The colour of the internal vanes as shown in the image is illustrative (manufactured in white).

PREMIUM SOLUTION

PATENT APPROVED

ENERGY EFFICIENT

Key features & benefits

- Smoothly channels air through the duct bend in a uniform flow
- Performance has been tested by the Building Research Establishment (BRE)
- Reduces duct resistance by up to 60% to lower the system's pressure drop and overall energy usage
- Reduced air speed through the bend to lower system noise

Why they are needed:

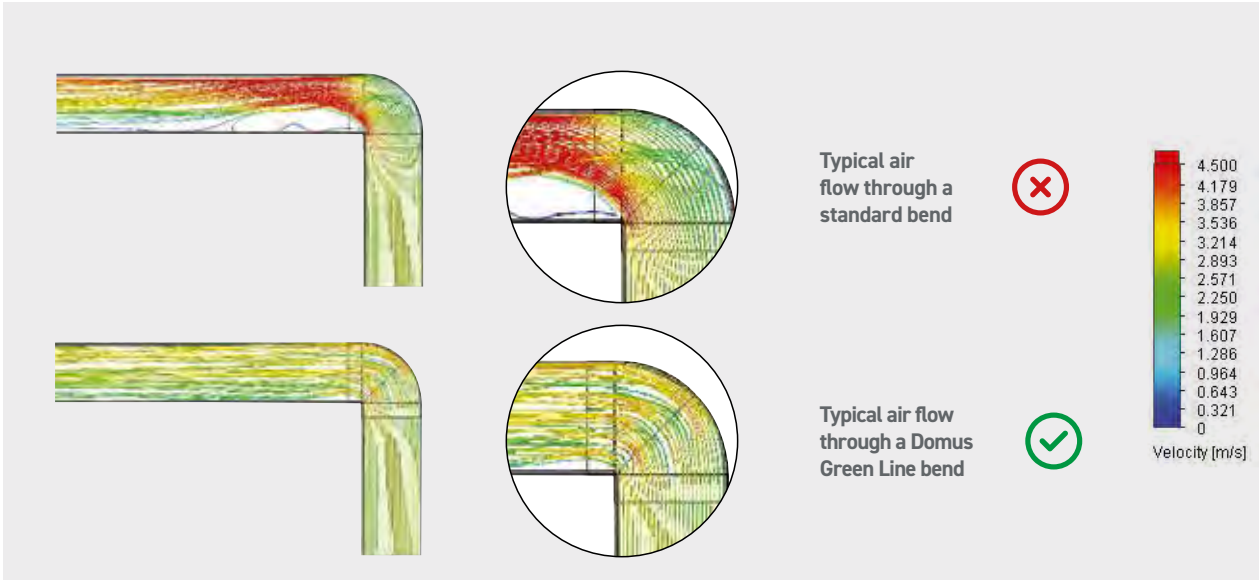
Owing to the profile of a duct bend, air travelling through it can become turbulent, causing increased resistance and system noise. As a consequence, the mechanical ventilation appliance will need to work harder in order to meet the required air flow rates; therefore, consuming more energy.

Domus Ventilation Green Line high efficiency 90° duct bends have been specifically designed to enable a uniform flow of air through the section of duct, reducing the duct resistance by up to 60% and lowering the air speed. All of which results in a quieter and more efficient ventilation system.

Performance has been tested by the Building Research Establishment (BRE).

housebuilder product awards 2016 winner

Performance

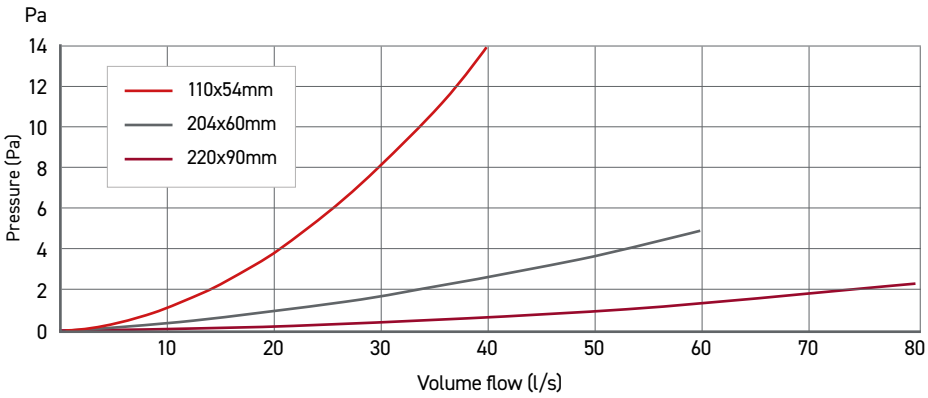


RIGID DUCTING | RECTANGULAR

All performance data has been taken from BRE Test Report PR0393-1004:2015.

Duct – 1m





110x54mm System



Free area 5,300mm²

204x60mm System



Free area 11,200mm²

220x90mm System



Free area 17,968mm²

Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
110x54mm	0.3	1	2.1	3.7	5.5	8.3	10.2	13.5	-	-	-	-
204x60mm	-	0.3	-	0.9	-	1.6	-	2.6	3.7	4.7	-	-
220x90mm	-	-	-	0.3	-	0.3	-	0.5	1.1	1.4	1.6	2.3

Code	Duct Size	Description	Connection	Material	Colour
DD010	110x54mm	1m straight length of ducting	Duct	Extruded uPVC	White
510	204x60mm	1m straight length of ducting	Duct	Extruded uPVC	White
910	220x90mm	1m straight length of ducting	Duct	Extruded uPVC	White

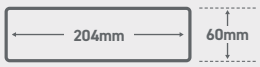
Duct – 1.5m



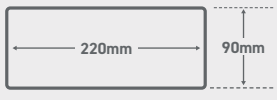
110x54mm System



204x60mm System



220x90mm System



Code	Duct Size	Description	Connection	Material	Colour
DD015	110x54mm	1.5m straight length of ducting	Duct	Extruded uPVC	White
515	204x60mm	1.5m straight length of ducting	Duct	Extruded uPVC	White
915	220x90mm	1.5m straight length of ducting	Duct	Extruded uPVC	White

RIGID DUCTING | RECTANGULAR

Duct – 2m



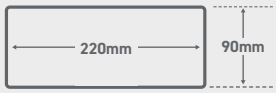
110x54mm System



204x60mm System



220x90mm System



Code	Duct Size	Description	Connection	Material	Colour
D1-2000	110x54mm	2m straight length of ducting	Duct	Extruded uPVC	White
D3-2000	204x60mm	2m straight length of ducting	Duct	Extruded uPVC	White
D4-2000	220x90mm	2m straight length of ducting	Duct	Extruded uPVC	White

Straight Duct Connector



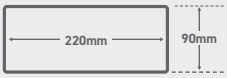
110x54mm System

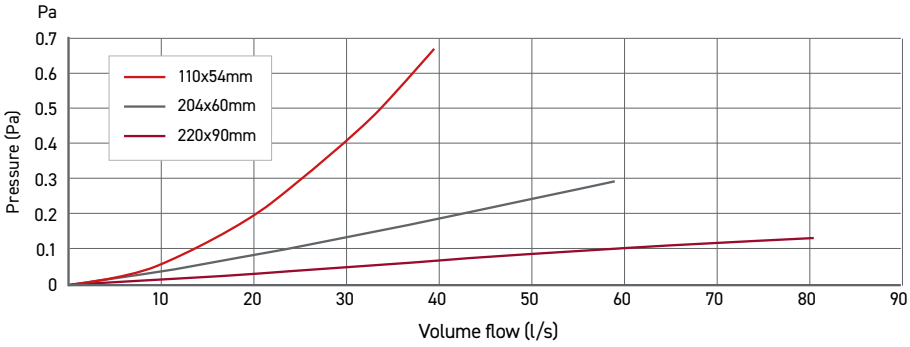


204x60mm System



220x90mm System





Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	-
110x54mm	0	0	0.2	0.1	0.3	0.2	0.7	0.6	-

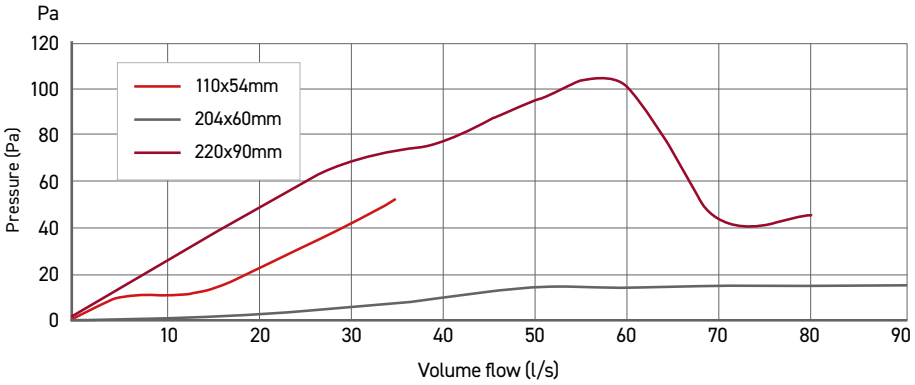
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
204x60mm	0	0	0.2	0.2	0.2	0.3	0.4	0.5	0.3
220x90mm	0	0	0.1	0.1	0	0.1	0.2	0.1	-

Code	Duct Size	Description	Connection	Material	Colour
DD020	110x54mm	Straight Duct Connector	Female	HIPS (High Impact Polystyrene)	White
520	204x60mm	Straight Duct Connector	Female	HIPS (High Impact Polystyrene)	White
920	220x90mm	Straight Duct Connector	Female	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | RECTANGULAR

Straight Duct Connector with Damper



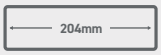


110x54mm System



Free area 5,300mm²

204x60mm System



Free area 11,200mm²

220x90mm System



Free area 17,968mm²

Resistance data in Pascals (Pa)

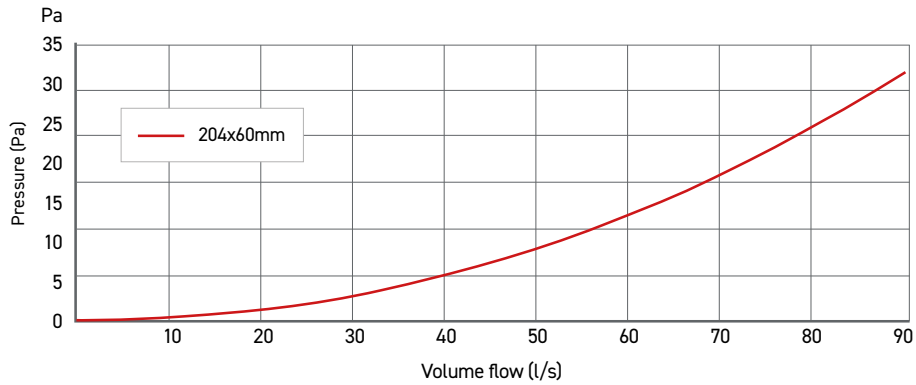
Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	-
110x54mm	9.4	10.6	13.1	21.9	31.4	41	51.7	-

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
204x60mm	0.8	2.9	6.5	11.1	17.1	16.8	17.7	17.8	18
220x90mm	23.6	47.3	68.6	77.5	94.9	102.1	43.8	44.6	-

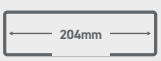
Code	Duct Size	Description	Connection	Material	Colour
DD027	110x54mm	Straight Duct Connector with Damper	Female	HIPS (High Impact Polystyrene)	White
527	204x60mm	Straight Duct Connector with Damper	Female	HIPS (High Impact Polystyrene)	White
927	220x90mm	Straight Duct Connector with Damper	Female	HIPS (High Impact Polystyrene)	White

Universal Duct Connector





204x60mm System



Free area 11,200mm²

Resistance data in Pascals (Pa)*

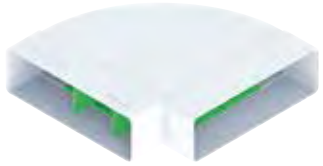
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
204x60mm	0.3	1.4	3.5	6	8.9	13.5	18.8	24.4	32.3

Code	Duct Size	Description	Connection	Material	Colour
5B303	204x60mm	Universal Duct Connector	Male	Santroprene	Black

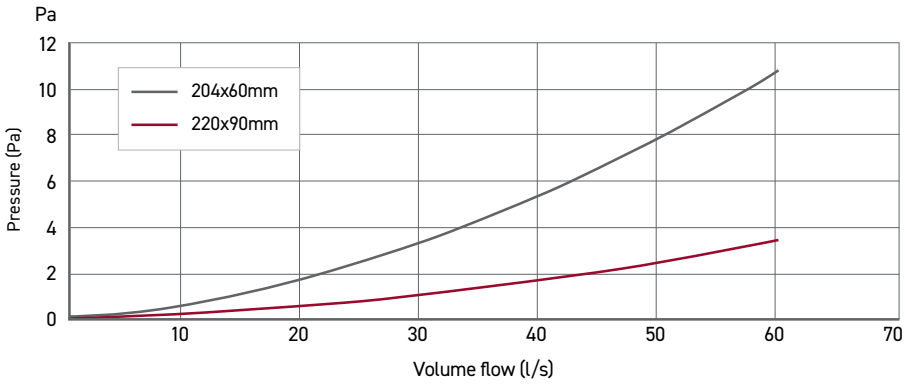
* Resistance data in Pascals (Pa)

RIGID DUCTING | RECTANGULAR

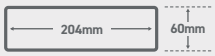
90° Horizontal Green Line® High Efficiency Bend



The colour of the internal vanes as shown in the image is illustrative (manufactured in white).

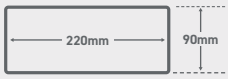


204x60mm System



Free area 11,200mm²

220x90mm System



Free area 17,968mm²

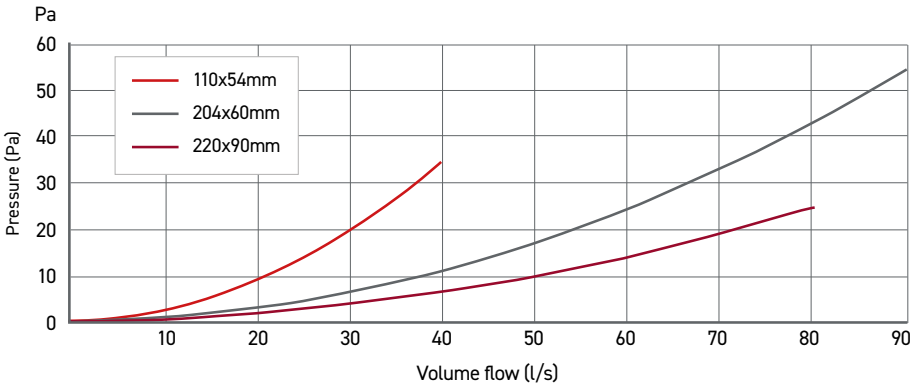
Resistance data in Pascals (Pa)

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
204x60mm	0.4	1.5	3.5	5.4	7.5	10.5	-	-
220x90mm	0.2	0.5	1	1.5	2.4	3.3	4.4	5.4

Code	Duct Size	Description	Connection	Material	Colour
550-GL	204x60mm	90° Horizontal Bend High Efficiency	Female	Injection Moulded Hips (High Impact Polystyrene)	White
950-GL	220x90mm	90° Horizontal Bend High Efficiency	Female	Injection Moulded Hips (High Impact Polystyrene)	White

90° Horizontal Bend





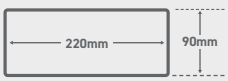
110x54mm System



204x60mm System



220x90mm System



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	-
110x54mm	0.7	2.3	5	8.7	13.4	19.3	26.2	34.3	-

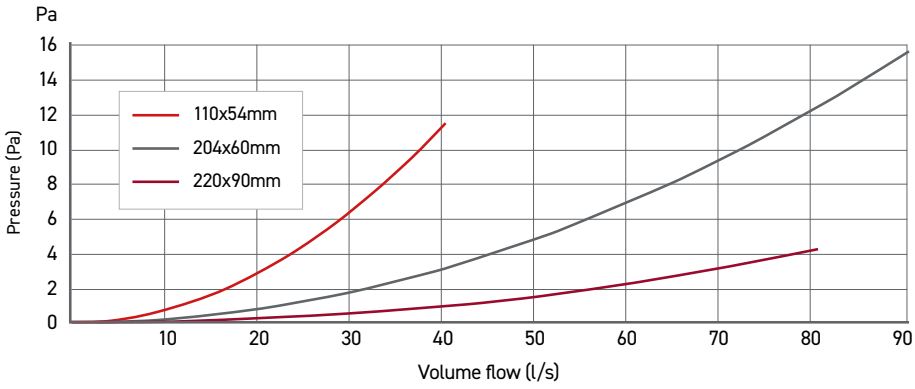
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
204x60mm	0.8	2.9	6.4	10.9	16.8	23.9	32.7	43.1	54.2
220x90mm	0.3	0.9	2.3	3.5	5.5	7.7	10.7	13.8	-

Code	Duct Size	Description	Connection	Material	Colour
DD050	110x54mm	90° Horizontal Bend	Female	HIPS (High Impact Polystyrene)	White
550	204x60mm	90° Horizontal Bend	Female	HIPS (High Impact Polystyrene)	White
950	220x90mm	90° Horizontal Bend	Female	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | RECTANGULAR

45° Horizontal Bend





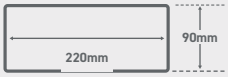
110x54mm System



204x60mm System



220x90mm System



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	-
110x54mm	0.3	0.8	1.6	3	4.6	6.5	9	11.6	-

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
204x60mm	0.3	0.8	1.9	3.1	4.9	7.1	9.6	12.6	15.7
220x90mm	0.1	0.3	0.6	1	1.6	2.3	3.3	4.3	-

Code	Duct Size	Description	Connection	Material	Colour
DD055	110x54mm	45° Horizontal Bend	Female	HIPS (High Impact Polystyrene)	White
555	204x60mm	45° Horizontal Bend	Female	HIPS (High Impact Polystyrene)	White
955	220x90mm	45° Horizontal Bend	Female	HIPS (High Impact Polystyrene)	White

Horizontal T Piece



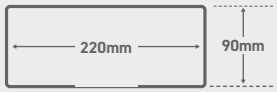
110x54mm System



204x60mm System



220x90mm System



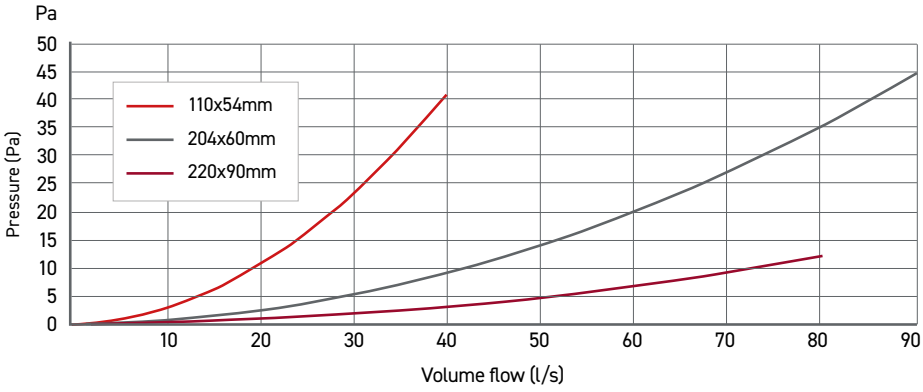
Code	Duct Size	Description	Connection	Material	Colour
DD080	110x54mm	Horizontal T Piece	Female	HIPS (High Impact Polystyrene)	White
582	204x60mm	Horizontal T Piece	Female	HIPS (High Impact Polystyrene)	White
982	220x90mm	Horizontal T Piece	Female	HIPS (High Impact Polystyrene)	White

For further information, please contact our Design Team at **vent.projects@domusventilation.co.uk**

RIGID DUCTING | RECTANGULAR

90° Vertical Bend





110x54mm System



204x60mm System



220x90mm System



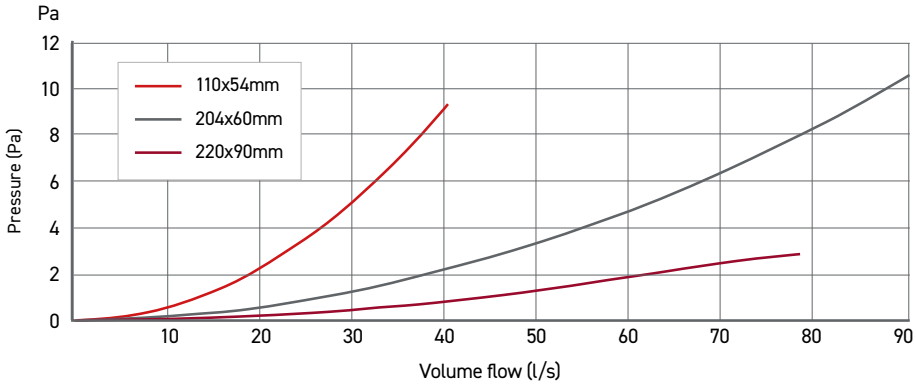
Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
110x54mm	0.8	2.5	5.8	10.6	15.6	22.7	31.3	40.2	-	-	-	-	-
204x60mm	-	0.7	-	2.4	-	5.2	-	8.9	13.9	19.7	26.7	35.4	44.1
220x90mm	-	0.3	-	0.9	-	1.8	-	3.1	4.6	6.6	9.2	11.9	-

Code	Duct Size	Description	Connection	Material	Colour
DD060	110x54mm	90° Vertical Bend	Female	HIPS (High Impact Polystyrene)	White
560	204x60mm	90° Vertical Bend	Female	HIPS (High Impact Polystyrene)	White
960	220x90mm	90° Vertical Bend	Female	HIPS (High Impact Polystyrene)	White

45° Vertical Bend





110x54mm System



204x60mm System



220x90mm System



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	-
110x54mm	0.2	0.5	1.3	2.4	3.6	5	7	9.4	-

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s	@90l/s
204x60mm	0.2	0.6	1.3	2.2	3.3	4.7	6.4	8.3	10.5
220x90mm	0.1	0.2	0.5	0.8	1.3	1.9	2.5	3	-

Code	Duct Size	Description	Connection	Material	Colour
DD075	110x54mm	45° Vertical Bend	Female	HIPS (High Impact Polystyrene)	White
575	204x60mm	45° Vertical Bend	Female	HIPS (High Impact Polystyrene)	White
975	220x90mm	45° Vertical Bend	Female	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | RECTANGULAR

End Caps

Domus Ventilation End Caps provide a quick and easy way of terminating a duct run with an air tight seal.

110x54mm System



204x60mm System



Product	Code	Description	Connection	Material	Colour	System
	DD018	Rigid Duct End cap	Male	HIPS (High Impact Polystyrene)	White	110x54mm
	518	Rigid Duct End cap	Male	HIPS (High Impact Polystyrene)	White	204x60mm

Wall Plates

For installation between the duct run and external terminal, these wall plates are a simple way to ensure the duct is securely supported and held in place.

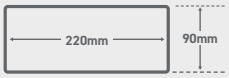
110x54mm System



204x60mm System



220x90mm System



Product	Code	Description	Material	Colour	System
	115-4	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene)	White	110x54mm
	115-5W	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene)	White	204x60mm
	115-5B	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene)	Brown	204x60mm
	115-5C	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene)	Cotswold	204x60mm
	115-5T	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene)	Terracotta	204x60mm
	115-6	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene)	White	220x90mm

Duct Clips

Duct clips are an effective part of the overall duct system and quick and easy to fasten into place.
Domus Ventilation Duct Clips securely hold duct runs and prevent them from bowing.

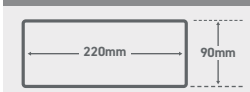
110x54mm System



204x60mm System



220x90mm System



Product	Code	Description	Material	Colour	System
	122-4	Rigid Duct Clip	HIPS (High Impact Polystyrene)	White	110x54mm
	522*	Rigid Duct Clip	HIPS (High Impact Polystyrene)	White	204x60mm
	922*	Rigid Duct Clip	HIPS (High Impact Polystyrene)	White	220x90mm

*Two components per fitting point

RIGID DUCTING I ROUND

Domus rigid duct is manufactured from exacting tolerances to virtually eliminate air leakage and reduce pressure drop.

Domus EasiPipe 100 is suitable for Bathroom, Toilet and Utility room applications

Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125



Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²

Telescopic Assembly Duct – 0.25-0.45m



Code	Duct Size	Connection	Material	Colour
130-4	Ø100mm	Duct	Extruded uPVC	White
130-5	Ø125mm	Duct	Extruded uPVC	White
130-6	Ø150mm	Duct	Extruded uPVC	White

Duct – 0.35m Straight Length of Ducting



Code	Duct Size	Connection	Material	Colour
135-4	Ø100mm	Duct	Extruded uPVC	White
135-5	Ø125mm	Duct	Extruded uPVC	White
135-6	Ø150mm	Duct	Extruded uPVC	White

Duct – 1m Straight Length of Ducting



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125

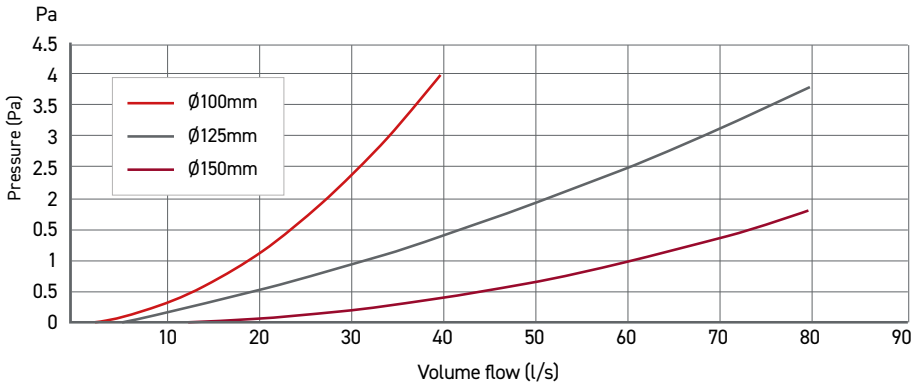


Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Ø100mm	0.1	0.3	0.6	1.1	1.6	2.4	3.2	3.9

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125mm	0.1	0.5	0.8	1.4	2	2.7	3.2	3.7
Ø150mm	0	0.2	0.3	0.3	0.7	1	1.3	1.9

Code	Duct Size	Description	Connection	Material	Colour
1100-4	Ø100mm	1m straight length of ducting	Duct	Extruded uPVC	White
1100-5	Ø125mm	1m straight length of ducting	Duct	Extruded uPVC	White
1100-6	Ø150mm	1m straight length of ducting	Duct	Extruded uPVC	White

RIGID DUCTING | ROUND

Duct Sleeve – 1m



Code	Duct Size	Connection	Material	Colour
2100-4	Ø100mm	N/A	Extruded uPVC	White
2100-5	Ø125mm	N/A	Extruded uPVC	White
2100-6	Ø150mm	N/A	Extruded uPVC	White

Duct – 2m Straight Length of Ducting



Code	Duct Size	Connection	Material	Colour
1200-4	Ø100mm	Duct	Extruded uPVC	White
1200-5	Ø125mm	Duct	Extruded uPVC	White
1200-6	Ø150mm	Duct	Extruded uPVC	White

Straight Duct Connector



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125

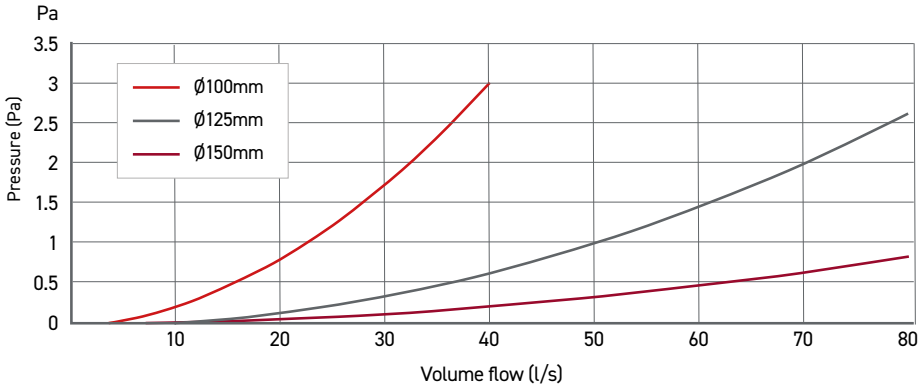


Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Ø100mm	0	0.2	0.4	0.8	1.3	1.8	2.3	3

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125mm	0	0.1	0.3	0.6	1	1.5	2.1	2.5
Ø150mm	0	0.1	0.1	0.2	0.3	0.5	0.7	0.8

Code	Duct Size	Description	Connection	Material	Colour
493	Ø100mm	Straight duct connector	Male	HIPS (High Impact Polystyrene)	White
593	Ø125mm	Straight duct connector	Male	HIPS (High Impact Polystyrene)	White
693	Ø150mm	Straight duct connector	Male	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | ROUND

Straight Connector with Damper



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125

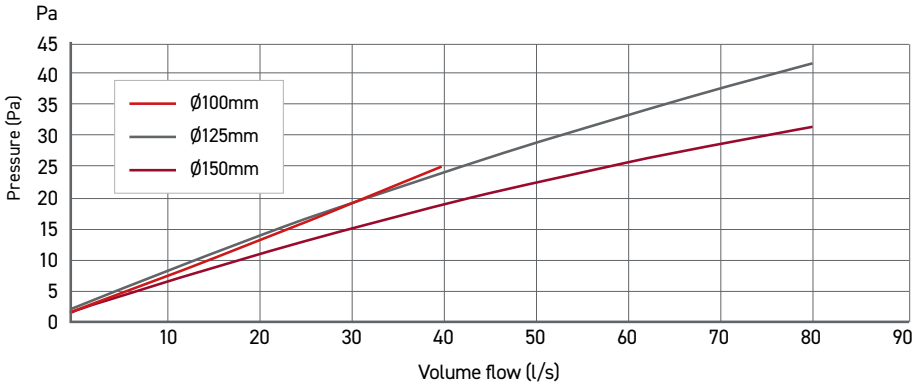


Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Ø100mm	5.5	7.7	9.9	12.1	14.8	18	20.8	24.9

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125mm	10.1	14.5	18.3	23.5	27.5	32.5	38.6	41.3
Ø150mm	7.7	11.5	14.8	18.4	21.4	25	28.9	31.5

Code	Duct Size	Description	Connection	Material	Colour
494	Ø100mm	Straight Connector with Damper	Male	HIPS (High Impact Polystyrene)	White
594	Ø125mm	Straight Connector with Damper	Male	HIPS (High Impact Polystyrene)	White
694	Ø150mm	Straight Connector with Damper	Male	HIPS (High Impact Polystyrene)	White

Straight Connector with Damper and Wall Plate



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125

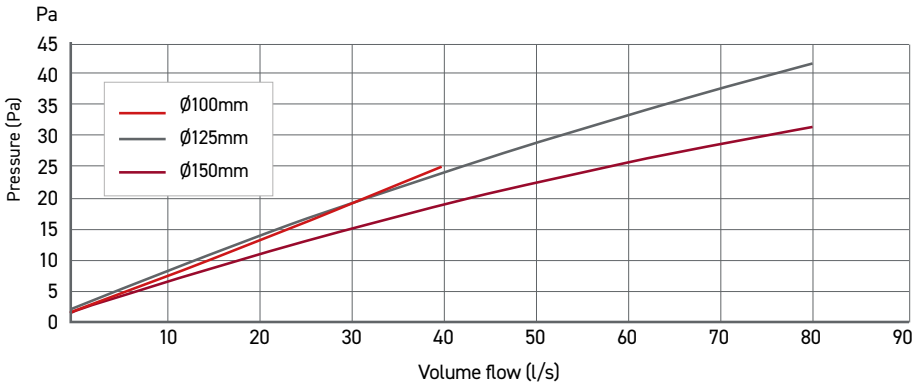


Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Ø100mm	5.5	7.7	9.9	12.1	14.8	18	20.8	24.9

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125mm	10.1	14.5	18.3	23.5	27.5	32.5	38.6	41.3
Ø150mm	7.7	11.5	14.8	18.4	21.4	25	28.9	31.5

Code	Duct Size	Description	Connection	Material	Colour
495	Ø100mm	Straight Connector with Damper and Wall Plate	Male	HIPS (High Impact Polystyrene)	White
595	Ø125mm	Straight Connector with Damper and Wall Plate	Male	HIPS (High Impact Polystyrene)	White
695	Ø150mm	Straight Connector with Damper and Wall Plate	Male	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | ROUND

90° Horizontal Bend



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125

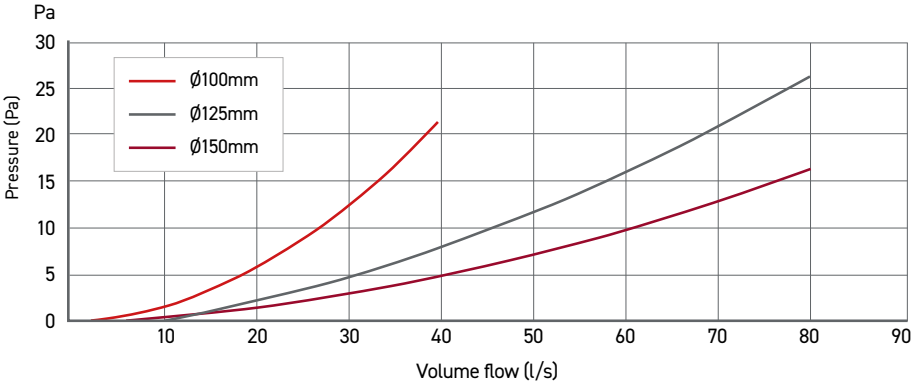


Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²



Resistance data in Pascals (Pa)

Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Ø100mm	0.4	1.3	3	5.3	8.6	12.2	16	20.8

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125mm	0.5	1.8	3.9	7.6	11.3	16.2	21	25
Ø150mm	0.3	1.2	2.5	4.6	7.2	9.9	13.2	15.4

Code	Duct Size	Description	Connection	Material	Colour
490	Ø100mm	Rigid Duct 90° Horizontal Bend	Male	HIPS (High Impact Polystyrene)	White
590	Ø125mm	Rigid Duct 90° Horizontal Bend	Male	HIPS (High Impact Polystyrene)	White
690	Ø150mm	Rigid Duct 90° Horizontal Bend	Male	HIPS (High Impact Polystyrene)	White

45° Horizontal Bend



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125

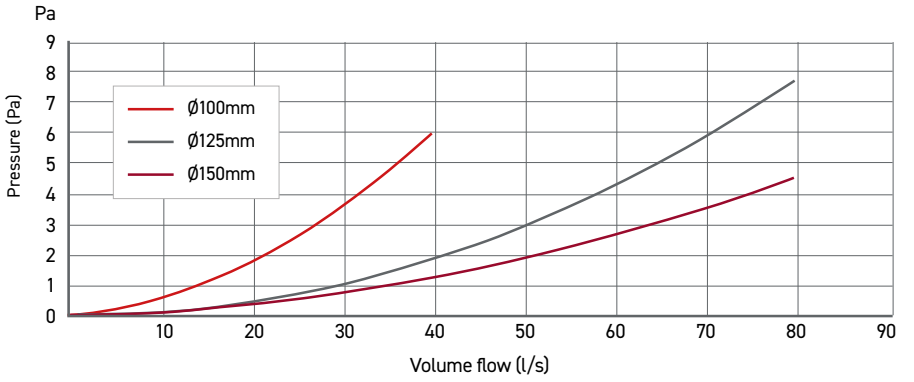


Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²



Resistance data in Pascals (Pa)

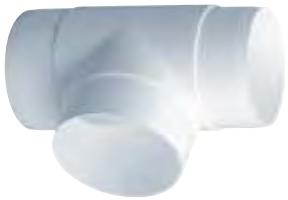
Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Ø100mm	0.2	0.5	1.1	1.7	2.4	3.7	4.7	5.9

Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125mm	0.1	0.4	1	1.9	2.9	4.2	5.8	7.8
Ø150mm	0.1	0.3	0.7	1.1	1.9	2.8	3.6	4.4

Code	Duct Size	Description	Connection	Material	Colour
491	Ø100mm	Rigid Duct 45° Horizontal Bend	Male	HIPS (High Impact Polystyrene)	White
591	Ø125mm	Rigid Duct 45° Horizontal Bend	Male	HIPS (High Impact Polystyrene)	White
691	Ø150mm	Rigid Duct 45° Horizontal Bend	Male	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | ROUND

Horizontal T Piece



Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125



Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Duct Size	Description	Connection	Material	Colour
492	Ø100mm	Rigid Duct Horizontal T Piece	Male	HIPS (High Impact Polystyrene)	White
592	Ø125mm	Rigid Duct Horizontal T Piece	Male	HIPS (High Impact Polystyrene)	White
692	Ø150mm	Rigid Duct Horizontal T Piece	Male	HIPS (High Impact Polystyrene)	White

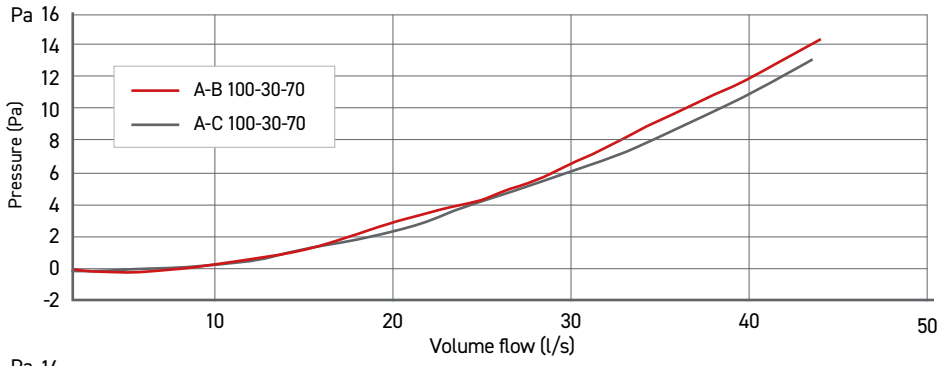
Y Piece – PVC

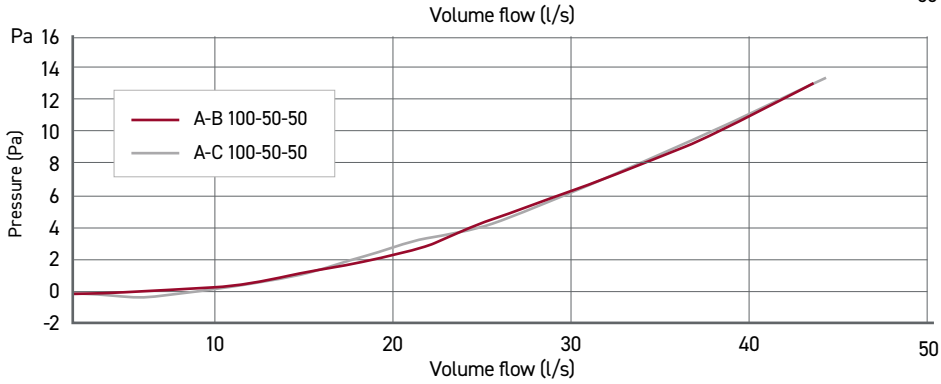


Ø100mm EasyPipe 100



Free Area 7,850mm²





Resistance data in Pascals (Pa)

	@0l/s	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s	@45l/s
A-B 100-30-70	-0.1	-0.2	0.4	1.4	3.1	4.5	6.7	9.4	11.9	14.8
A-C 100-30-70	-0.1	-0.3	0.4	1.5	3.1	4.4	6.5	8.8	11.3	13.8
A-B 100-50-50	-0.1	0.0	0.4	1.4	2.5	4.5	6.4	8.2	10.7	13.4
A-C 100-50-50	-0.1	0.0	0.4	1.4	2.5	4.5	6.4	8.4	10.7	13.4

Code	Duct Size	Description	Connection	Material	Colour
499	Ø100mm	Rigid Duct Y Piece	Male	HIPS (High Impact Polystyrene)	White

RIGID DUCTING I ROUND

Wall Plates

Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125



Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²

For installation between the duct run and external terminal, these wall plates are a simple way to ensure the duct is securely supported and held in place.

Product	Code	Description	Material	Colour	System
	114-4	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene	White	Ø100mm
	114-5	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene	White	Ø125mm
	114-6	Rigid Duct Wall Plate	HIPS (High Impact Polystyrene	White	Ø150mm

Duct Clips

Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125



Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²

100 /125 and 150mm duct size clips are an effective part of the overall duct system and quick and easy to fasten into place, Domus Duct Clips securely hold duct runs and prevent them from bowing.

Product	Code	Description	Material	Colour	System
	496	Rigid Duct Clip – Round	HIPS (High Impact Polystyrene	White	Ø100mm
	596	Rigid Duct Clip – Round	HIPS (High Impact Polystyrene	White	Ø125mm
	696	Rigid Duct Clip – Round	HIPS (High Impact Polystyrene	White	Ø150mm

Condensation Traps with Overflow Connection

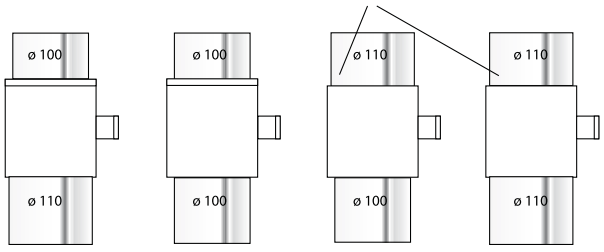
Key features

- Recommended in both the Building Regulations and NHBC Standards
- Removes condensation risks from unheated areas
- Real advantages over using insulated hose
- Simple to install and handle
- Cost effective solution
- Specifically designed for ventilation applications

Condensation Trap Pipe Combinations

Code: 100mm/ 110mm

Remove the reducing ring



All dimensions shown in mm.

Ø100mm EasyPipe 100



Free Area 7,850mm²

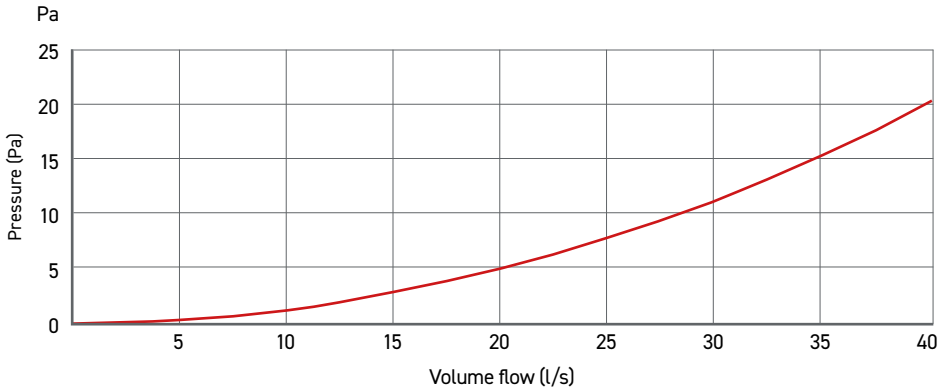
Code	Duct Size	Description	Connection	Material	Colour
497	Ø100mm Ø110mm	Condensation Trap with Overflow Connection	Male/ Female	HIPS (High Impact Polystyrene)	White

RIGID DUCTING | IN-LINE ADAPTER

In-line Adapter, Rectangular to Round (110x54 – Ø100mm)



110x54 – Ø100mm



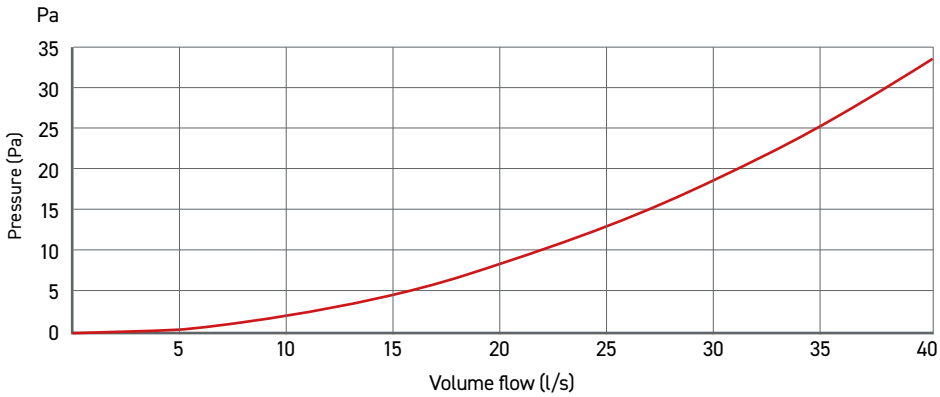
Resistance data in Pascals (Pa)							
@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
0.3	1.3	3.0	5.2	8.0	11.4	15.9	20.6

Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
DD070	110x54	Ø100	In-line Adapter Rectangular – Round	Female/Duct	PVC	White

In-line Adapter, Rectangular to Round (204x60 – Ø100mm)



204x60 – Ø100mm



Resistance data in Pascals (Pa)							
@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
0.5	2.2	4.8	8.6	13.4	18.9	25.8	33.9

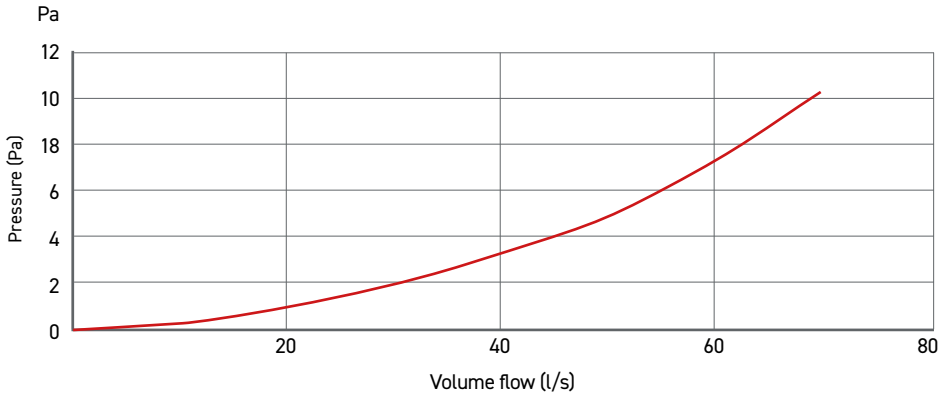
Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
DD073	204x60 (to single AirBrick)	Ø100	In-line Adapter Rectangular – Round	Duct/Male	PVC	White

RIGID DUCTING | IN-LINE ADAPTER

In-line Adapter, Rectangular to Round (204x60 – Ø125mm)



204x60 – Ø125mm



Resistance data in Pascals (Pa)

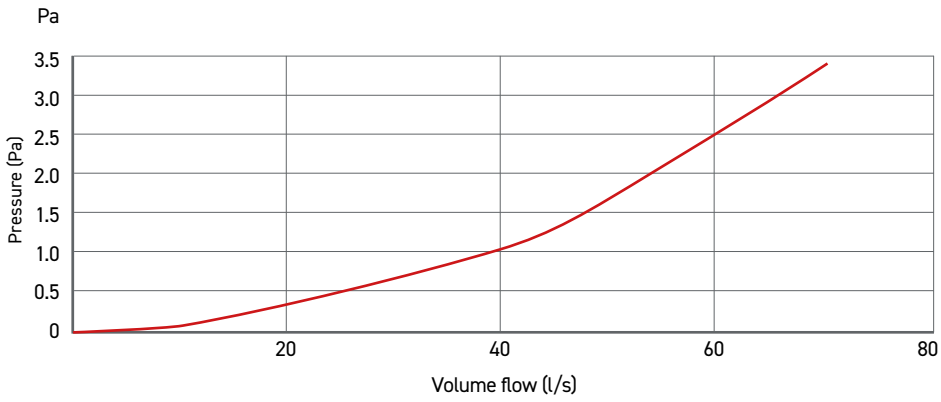
@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
0.3	1.0	2.0	3.3	5.0	7.3	10.4

Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
570	204x60	Ø125	In-line Adapter Rectangular – Round	Female/Duct	PVC	White

In-line Adapter, Rectangular to Round (220x90 – Ø150mm)



220x90 – Ø150mm



Resistance data in Pascals (Pa)

@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
0.1	0.3	0.7	1.0	1.6	2.5	3.4

Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
970	220xØ150	Ø150	In-line Adapter Rectangular – Round	Female/Female	PVC	White

RIGID DUCTING | IN-LINE ADAPTER

In-line Adapter, Rectangular to Round (227x133 – Ø100, Ø125, Ø150mm)

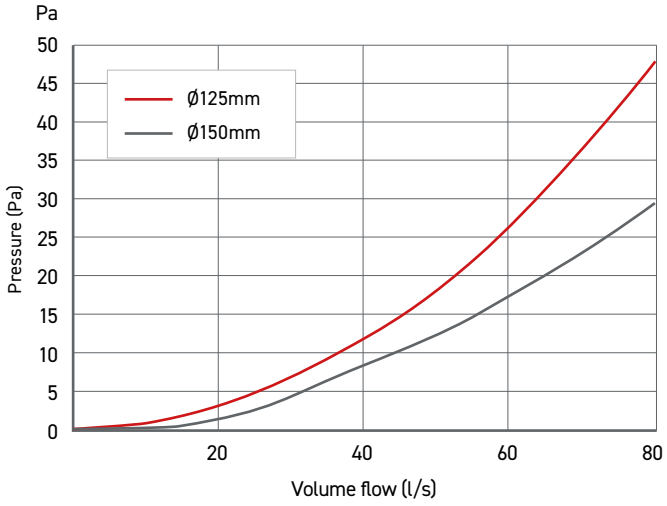


227x133mm – Ø100, Ø125, Ø150mm

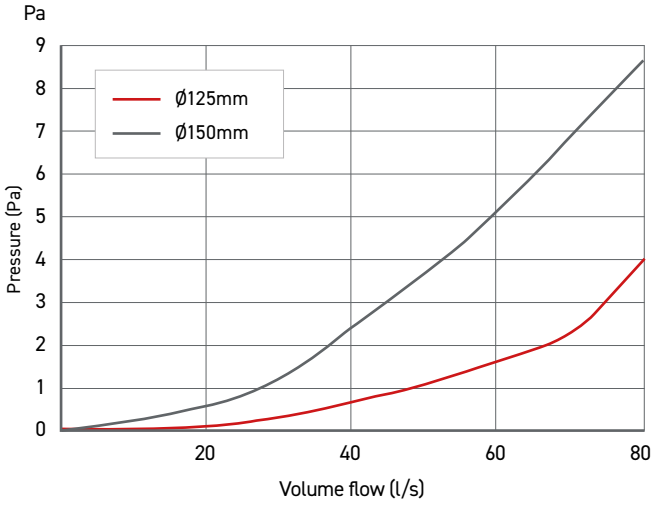
Performance data for double AirBrick (code 954) with adapter (954)

Resistance data in Pascals (Pa)								
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Ø125 Supply	0.8	2.9	6.6	11.5	18.0	26.1	35.9	47.2
Ø125 Extract	0.0	0.2	0.4	0.7	1.1	1.7	2.3	4.0
Ø150 Supply	0.5	1.9	4.3	7.6	11.7	17.0	23.1	29.0
Ø150 Extract	0.2	0.6	1.3	2.4	3.7	5.1	6.9	8.6

Performance data for Supply (air from outside)



Performance data for Extract (air to outside)



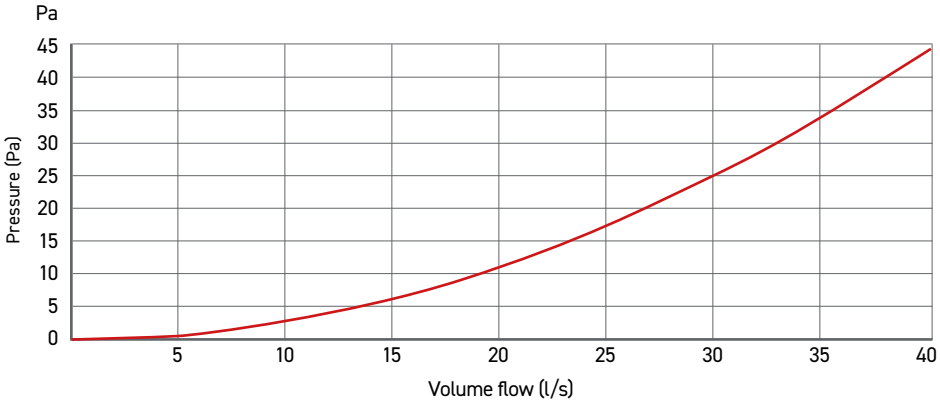
Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
954	227x133 (to double AirBrick)	Ø100, Ø125, Ø150	In-line Adapter Rectangular – Round	Female/Male/ Male/Male	PVC	White

RIGID DUCTING | IN-LINE ADAPTER

In-line Adapter, Rectangular to Rectangular (204x60 – 110x54mm)



204x60 – 110x54mm



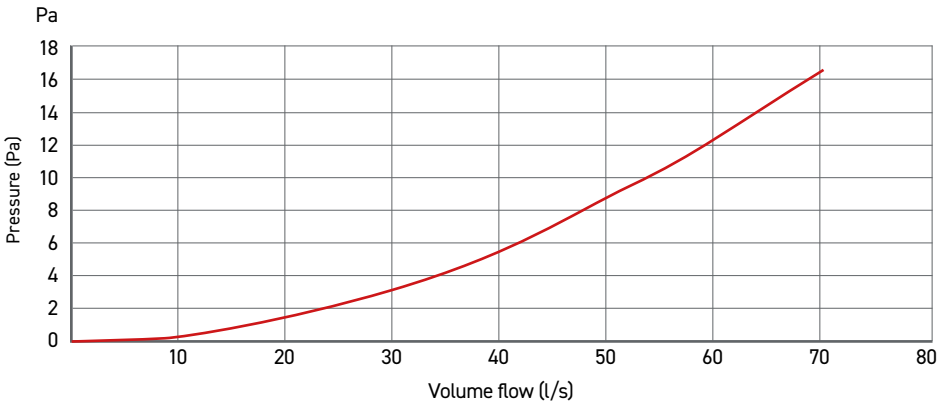
Resistance data in Pascals (Pa)							
@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
0.7	2.9	6.3	11.2	17.4	25.3	34.0	44.2

Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
DD077	204x60	110x54	In-line Adapter Rectangular – Rectangular	Duct/Male	PVC	White

In-line Adapter, Rectangular to Rectangular (220x90 – 204x60mm)



220x90 – 204x60mm



Resistance data in Pascals (Pa)						
@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
0.4	1.4	3.3	5.6	8.8	12.6	16.5

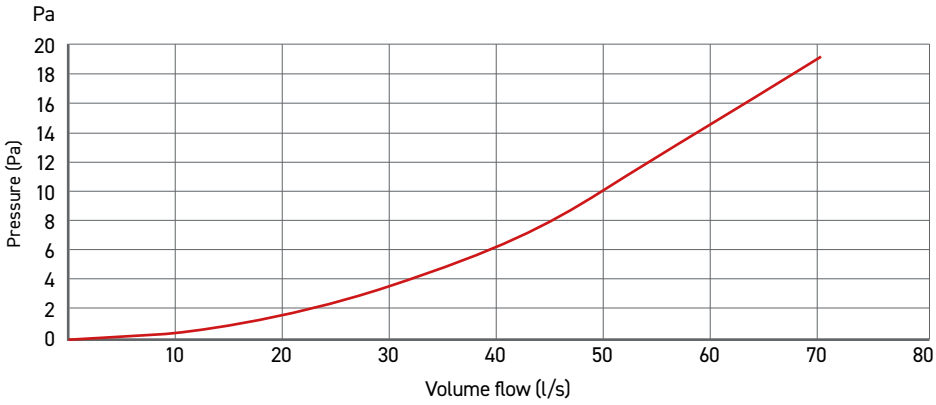
Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
957	220x90	204x60	In-line Adapter Rectangular – Rectangular	Duct/Female	PVC	White

RIGID DUCTING | IN-LINE ADAPTER

In-line Adapter, Rectangular to Rectangular (220x90 – 204x60mm)



220x90 – 204x60mm



Resistance data in Pascals (Pa)

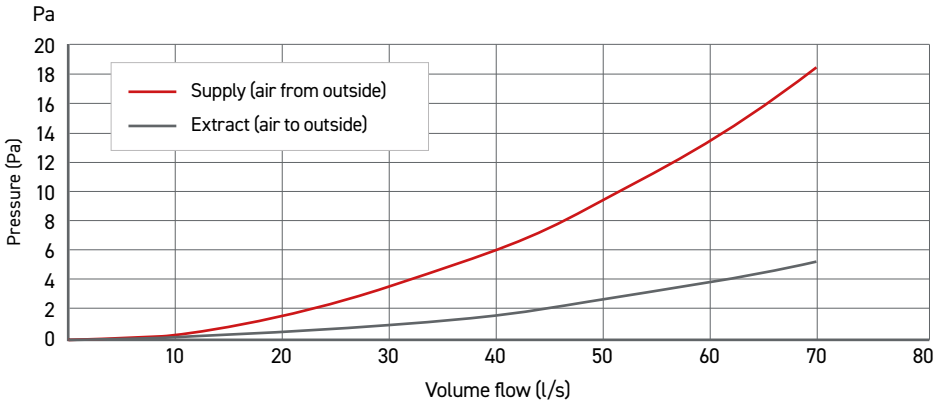
@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
0.5	1.7	3.7	6.4	10.2	14.7	18.8

Code	Size (mm) From	To	Description	Connection	Material	Colour
958	220x90	204x60	In-line Adapter Rectangular – Rectangular	Female/ Female	PVC	White

In-line Adapter, Rectangular to Rectangular (227x133 – 220x90mm)



227x133 – 220x90mm



Performance data for double AirBrick (code 905) with adapter (977)

Resistance data in Pascals (Pa)

	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
Supply	0.4	1.5	3.5	6.0	9.3	13.3	18.2
Extract	0.1	0.5	1.0	1.7	2.7	3.9	5.2

Code	Size (mm) From	To	Description	Connection	Material	Colour
977	227x133 (to double AirBrick)	220x90	In-line Adapter Rectangular – Rectangular	Male/Female	PVC	White

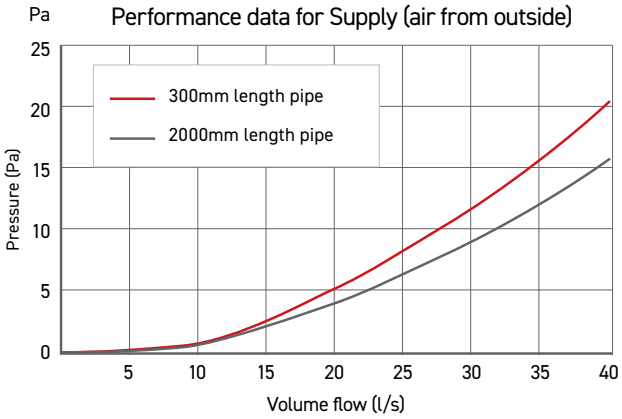
RIGID DUCTING | PLENUMS

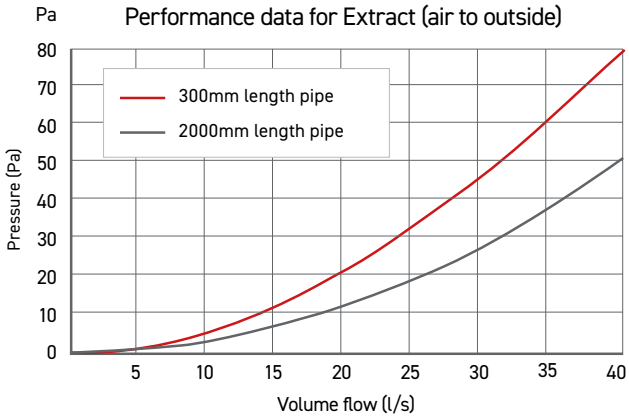
Fixed Socket Plenum, Rectangular to Round (110x54 – Ø100mm)



110x54 – Ø100mm

Resistance data in Pascals (Pa)								
Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Supply – 300mm length pipe	0.4	1.2	3.0	5.2	8.0	11.6	15.6	20.5
Extract – 300mm length pipe	1.4	5.3	11.6	20.4	31.9	45.3	62.0	79.9
Supply – 2000mm length pipe	0.3	0.9	2.2	3.9	6.3	9.1	12.0	15.7
Extract – 2000mm length pipe	1.0	3.0	7.0	12.5	20.1	28.5	38.9	51.3





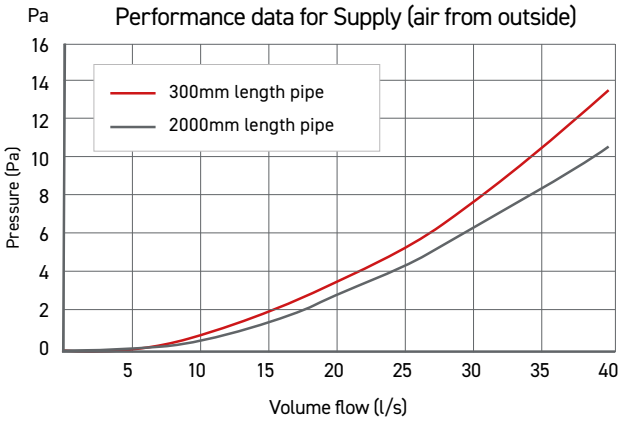
Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
DD030	110x54	Ø100	Fixed Socket Plenum Rectangular – Round	Female/Duct	PVC	White

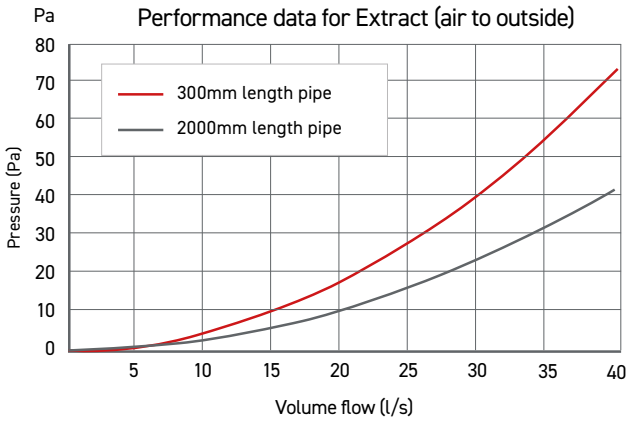
Fixed Spigot Plenum, Rectangular to Round (110x54 – Ø100mm)



110x54 – Ø100mm

Resistance data in Pascals (Pa)								
Size	@5l/s	@10l/s	@15l/s	@20l/s	@25l/s	@30l/s	@35l/s	@40l/s
Supply – 300mm length pipe	0.3	0.8	2.0	3.6	5.4	7.5	10.6	13.6
Extract – 300mm length pipe	1.2	4.9	10.5	18.6	28.4	41.5	56.1	73.3
Supply – 2000mm length pipe	0.3	0.6	1.5	2.8	4.2	6.2	8.4	10.6
Extract – 2000mm length pipe	0.9	2.7	5.9	10.3	16.4	23.5	31.4	41.0





Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
DD040	110x54	Ø100	Fixed Spigot Plenum Rectangular – Round	Female/Male	PVC	White

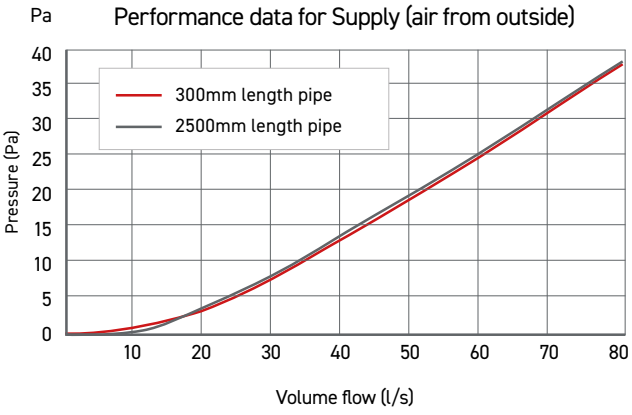
RIGID DUCTING | PLENUMS

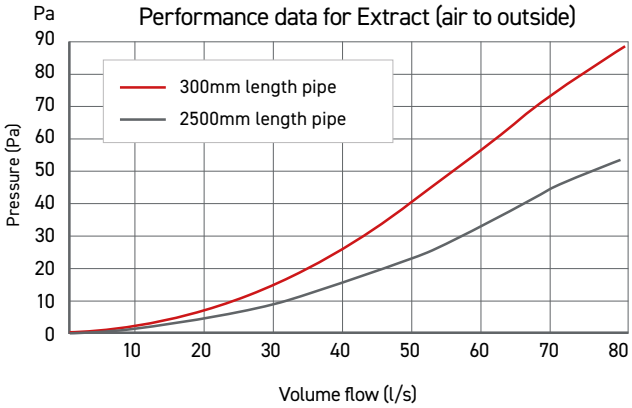
Fixed Spigot Plenum, Rectangular to Round (204x60 – Ø125mm)



204x60 – Ø125mm

Resistance data in Pascals (Pa)								
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Supply – 300mm length pipe	0.8	3.0	6.5	12.3	18.4	25.4	32.8	37.1
Extract – 300mm length pipe	1.7	6.5	14.1	25.0	39.3	56.7	75.7	88.7
Supply – 2500mm length pipe	0.1	3.3	7.1	12.8	18.9	25.8	33.5	37.2
Extract – 2500mm length pipe	1.3	4.1	8.6	15.1	22.9	32.7	44.9	53.1





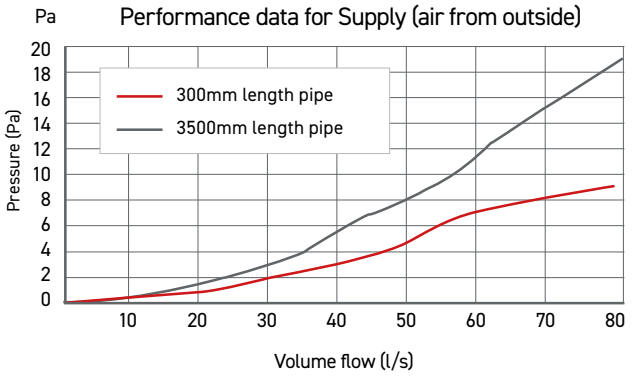
Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
540	204x60	Ø125	Fixed Spigot Plenum Rectangular – Round	Female/Male	PVC	White

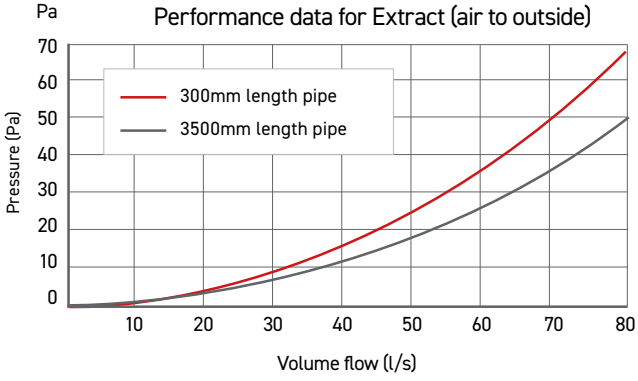
Fixed Spigot Plenum, Rectangular to Round (204x60 – Ø150mm)



204x60 – Ø150mm

Resistance data in Pascals (Pa)								
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Supply – 300mm length pipe	0.4	1.6	3.2	6.1	8.8	13.1	16.6	18.9
Extract – 300mm length pipe	1.2	4.7	10.4	18.5	28.6	40.7	54.5	68.7
Supply – 3000mm length pipe	0.4	1.1	2.0	3.0	5.0	6.8	8.5	9.7
Extract – 3000mm length pipe	0.9	3.4	7.3	12.3	19.3	28.4	38.3	47.6





Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
640	204x60	Ø150	Fixed Spigot Plenum Rectangular – Round	Female/Male	PVC	White

RIGID DUCTING | PLENUMS

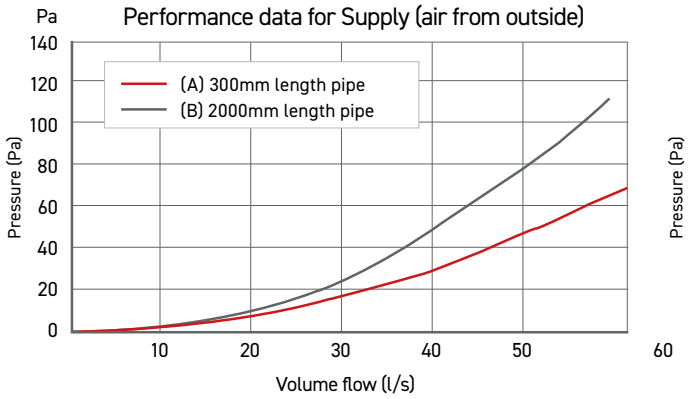
Offset Rotating Spigot, Rectangular to Round (204x60 – Ø100mm)

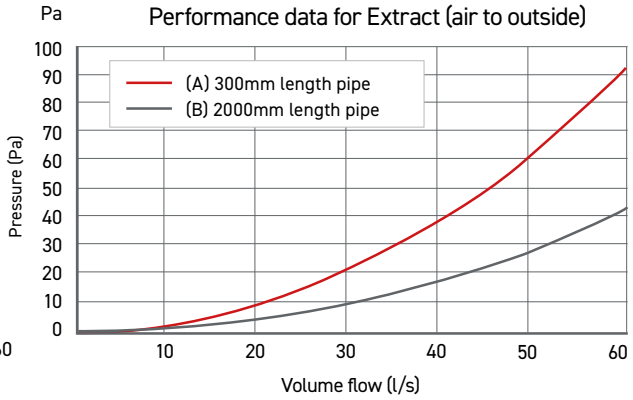


204x60 – Ø100mm

Resistance data in Pascals (Pa)						
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s
Supply (A) – 300mm length pipe	1.9	7.8	16.4	29	45.7	64.2
Extract (A) – 300mm length pipe	2.8	10.4	22.6	39.5	61.1	91.9
Supply (B) – 2000mm length pipe	2.9	12.1	28.9	56.9	89.1	113.8
Extract (B) – 2000mm length pipe	1.2	4.4	9.4	17.8	27.4	42.4

A = spigot furthest from socket, **B** = spigot nearest to socket





Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
441	204x60	Ø100	Offset Rotating Spigot	Female/Male	PVC	White

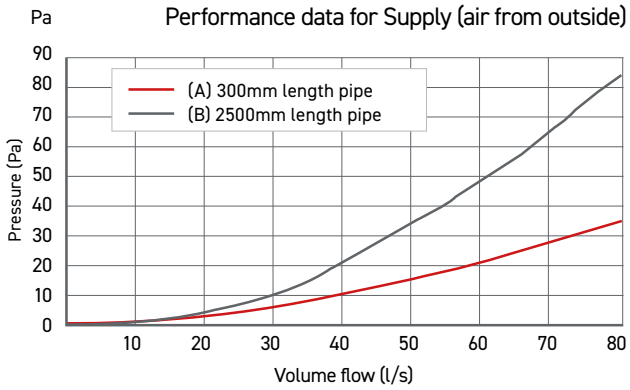
Offset Rotating Spigot, Rectangular to Round (204x60 – Ø125mm)

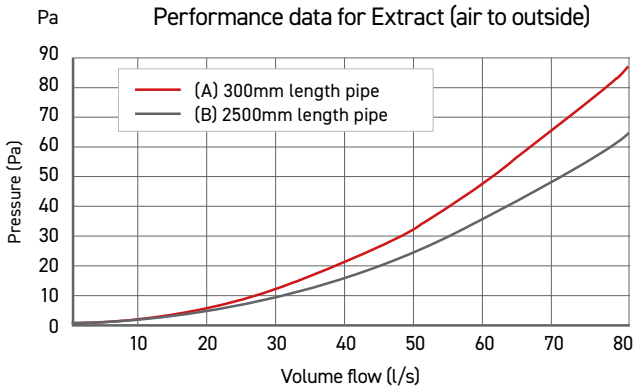


204x60 – Ø125mm

Resistance data in Pascals (Pa)								
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Supply (A) – 300mm length pipe	0.8	2.8	6.1	11.2	16.5	23.2	30.6	36.6
Extract (A) – 300mm length pipe	1.6	6.2	13.6	24	37.2	54.7	73.1	88.7
Supply (B) – 2500mm length pipe	1.3	5.1	12.7	25.3	39.2	55.6	75.4	85.2
Extract (B) – 2500mm length pipe	1.2	4.4	9.7	17.2	26.2	38.1	51.7	62.1

A = spigot furthest from socket, **B** = spigot nearest to socket





Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
541	204x60	Ø125	Offset Rotating Spigot	Female/Male	PVC	White

RIGID DUCTING | PLENUMS

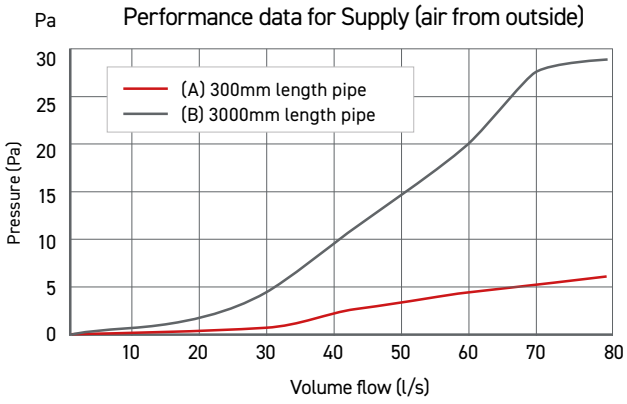
Offset Rotating Spigot, Rectangular to Round (204x60 – Ø150mm)

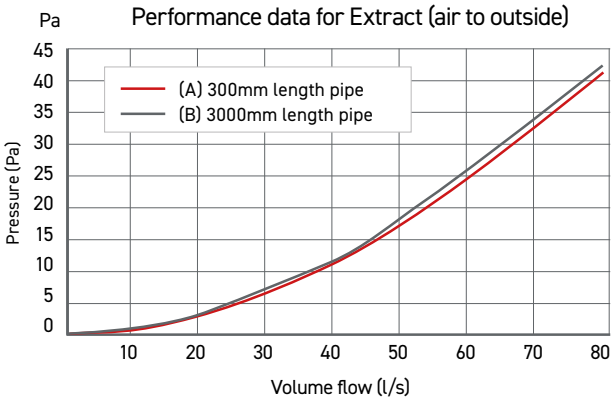


204x60 – Ø150mm

Resistance data in Pascals (Pa)								
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s	@80l/s
Supply (A) – 300mm length pipe	0.3	0.8	1.4	2.6	3.6	4.6	5.6	6.1
Extract (A) – 300mm length pipe	0.8	3.0	6.3	11.0	16.9	24.5	33.7	41.2
Supply (B) – 3000mm length pipe	0.5	1.9	4.5	9.1	14.2	20.3	27.5	28.5
Extract (B) – 3000mm length pipe	0.9	3.0	6.7	11.2	17.2	25.5	34.2	42.3

A = spigot furthest from socket, **B** = spigot nearest to socket





Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
641	204x60	Ø150	Offset Rotating Spigot	Female/Male	PVC	White

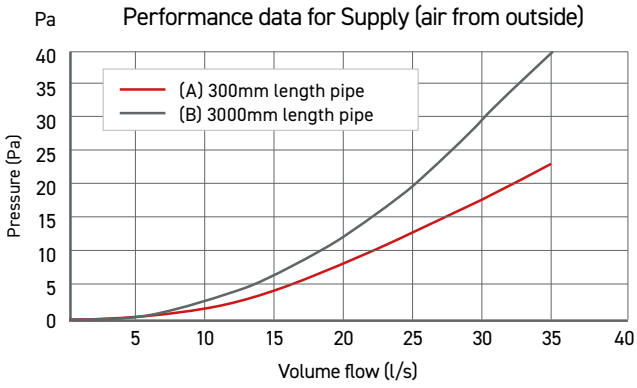
Offset Rotating Spigot, Rectangular to Round (220x90 – Ø100mm)

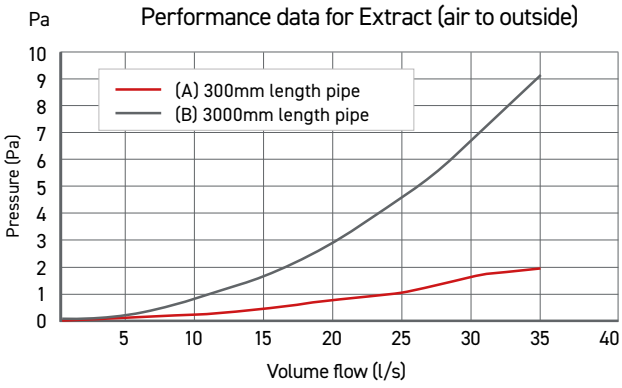


220x90 – Ø100mm

Resistance data in Pascals (Pa)							
Size	@5l/s	@10l/s	@15/s	@20/s	@25/s	@30/s	@35/s
Supply (A) – 300mm length pipe	0.6	1.9	4.3	7.9	11.8	16.9	22.8
Extract (A) – 300mm length pipe	0.1	0.2	0.4	0.8	1.1	1.7	2.0
Supply (B) – 300mm length pipe	0.5	2.9	6.4	12.2	19.3	29.6	40.0
Extract (B) – 300mm length pipe	0.2	0.8	1.6	2.9	4.6	6.7	9.2

A = spigot furthest from socket, **B** = spigot nearest to socket





Code	Size (mm)		Description	Connection	Material	Colour
	From	To				
941	220x90	Ø100	Offset Rotating Spigot	Female/Male	PVC	White

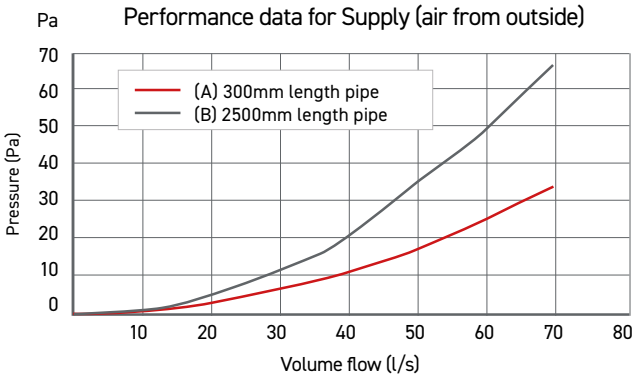
RIGID DUCTING | PLENUMS

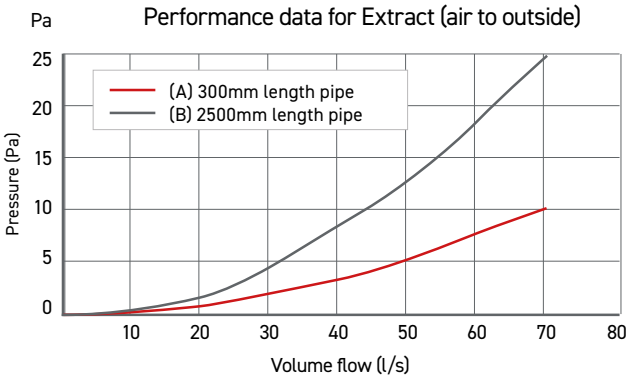
Offset Rotating Spigot, Rectangular to Round (220x90 – Ø125mm)



220x90 – Ø125mm

Resistance data in Pascals (Pa)							
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
Supply (A) – 300mm length pipe	0.9	2.8	6.4	11.0	16.7	24.5	33.2
Extract (A) – 300mm length pipe	0.3	0.9	2.1	3.4	5.2	7.5	10.2
Supply (B) – 2500mm length pipe	1.0	4.7	10.9	20.3	33.1	49.5	66.9
Extract (B) – 2500mm length pipe	0.6	2.0	4.5	7.9	12.1	18.1	24.8





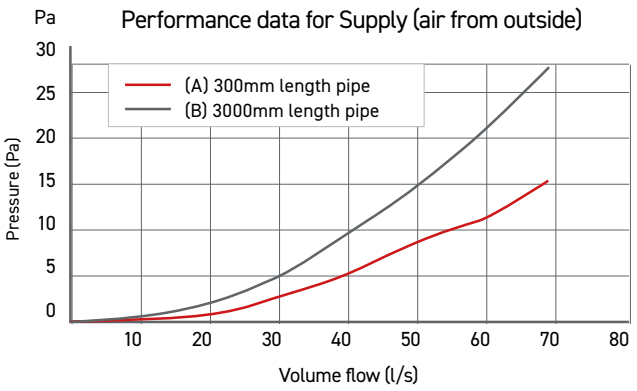
Code	Size (mm) From	Size (mm) To	Description	Connection	Material	Colour
951	220x90	Ø125	Offset Rotating Spigot	Female/Male	PVC	White

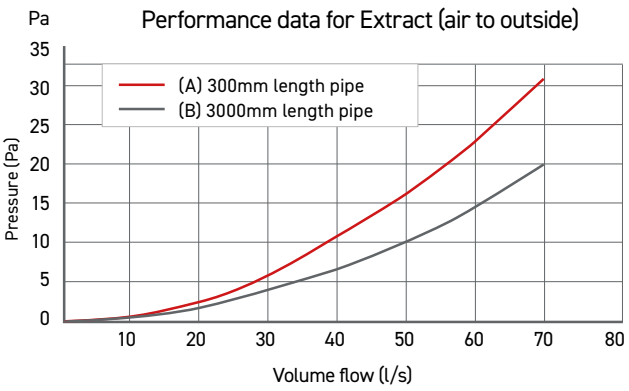
Offset Rotating Spigot, Rectangular to Round (220x90 – Ø150mm)



220x90 – Ø150mm

Resistance data in Pascals (Pa)							
Size	@10l/s	@20l/s	@30l/s	@40l/s	@50l/s	@60l/s	@70l/s
Supply (A) – 300mm length pipe	0.3	1.2	2.8	5.0	7.7	11.2	15.4
Extract (A) – 300mm length pipe	0.7	2.6	5.7	10.3	15.6	22.5	31.0
Supply (B) – 3000mm length pipe	0.5	1.9	4.7	8.4	13.7	20.6	27.5
Extract (B) – 3000mm length pipe	0.6	1.8	4.0	6.5	10.2	14.6	19.9





Size (mm) From	Size (mm) To	Description	Connection	Material	Colour	Code
220x90	Ø150	Offset Rotating Spigot	Female/Male	PVC	White	961

FLEXIBLE DUCTING

Domus Ventilation flexible is available in all standard UK round and rectangular sizes. The range includes Hose, Insulated Hose and Aluminium Hose.

Round PVC Flexible Hose – 1m - 45m



Ø100mm EasyPipe 100



Free Area 7,850mm²

Code	Connection
Hose – 1m	
361	Female
Hose – 3m	
363	Female
Hose – 6m	
366	Female
Hose – 15m	
3615	Female
Hose – 45m	
3645	Female

Ø125mm EasyPipe 125



Free Area 12,266mm²

Code	Connection
Hose – 1m	
561	Female
Hose – 3m	
563	Female
Hose – 6m	
566	Female
Hose – 15m	
5615	Female
Hose – 45m	
N/A	N/A

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Connection
Hose – 1m	
661	Female
Hose – 3m	
663	Female
Hose – 6m	
666	Female
Hose – 15m	
6615	Female
Hose – 45m	
N/A	N/A

Overview

Domus Ventilation Flexible Hose is a range of wire reinforced, flexible PVC ducting that has been specially designed for the ventilation market. The round profiles are compatible with the Domus Ventilation rigid PVC product range.

The hose provides solutions to overcome situations where a rigid component cannot be installed. Flexible hose is particularly suitable for installation where there is slow moving air.

Construction

The Flexible Hose is constructed as a continuous helix on a bespoke forming 'head'. The reinforcing wire is 100% sealed inside a fold of PVC tape which is in turn overlapped by the next pitch. The joints are welded by hot air welding of the layers of PVC in order to produce a continuous sealed tube.

Technical data	
Material	White PVC 70µm thick
Diameter range (mm) (internal)	100, 125, 150
Temperature range (°C)	-20/+60 working (80 max.)
Maximum air velocity	30 m/sec
Max. positive working pressure	3000 Pa
Standard length	1, 3, 6, 15, 45 metres (45m in 100mm only)
Packing	Compressed individually in net sleeve
Clamping	Domus Adjustable Round Hose Clip 100mm – 125-4 125mm – 125-5 150mm – 125-6

Aluminium/Polyester Flexible Hose – 3m - 10m



Ø100mm EasyPipe 100



Free Area 7,850mm²

Code	Connection
Hose –3m	
3133	Female
Hose – 6m	
3136	Female
Hose – 10m	
31310	Female

Ø125mm EasyPipe 125



Free Area 12,266mm²

Code	Connection
Hose –3m	
5133	Female
Hose – 6m	
5136	Female
Hose – 10m	
51310	Female

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Connection
Hose –3m	
6133	Female
Hose – 6m	
6136	Female
Hose – 10m	
N/A	N/A

Overview

The Aluminium Flexible Hose is a range of fully flexible uninsulated aluminium/ polyester laminated ducting, which has been specially designed for Domus Ventilation. Owing to its flexibility it is easy to connect to either round or oval ducting.

Key benefits

- Supplied in standard 10 metre length, compressed to 0.6 metre.
- Individually boxed.
- Easy to connect to either round or oval ducting.
- No special tools required for cutting or fixing.
- In the event of a fire, no toxic gases are emitted.
- The products have been successfully fire resistance tested to BS476 parts 6, 7 and 20.

Technical data	
Construction material	Reinforced Aluminium/Polyester
Wirepitch	24mm
Diameter range (mm)	100 / 125 / 150
Temperature range (°C)	-30/+140
Maximum air velocity	30m/sec
Max. positive working pressure	2500 Pa
Standard length	10 metre
Packing	Individual box of 0.6 metre
Clamping	Lightning Band, Stainless Steel Clamps, Nylon Clamps or Quick Release Clamps

Construction

The Domus Ventilation Aluminium Flexible Hose is multi-ply reinforced aluminium and polyester laminated ducting with an encapsulated high tensile steel wire helix.

Aluminium Insulated Flexible Hose – 10m



Ø100mm EasyPipe 100



Free Area 7,850mm²

Code	Connection
Hose – 10m	
4210	Female

Ø125mm EasyPipe 125



Free Area 12,266mm²

Code	Connection
Hose – 10m	
5210	Female

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Connection
Hose – 10m	
6210	Female

Overview

Domus Ventilation Insulated Flexible Hose is a range of fully thermally insulated ducting, which has been specially designed for the ventilation market. It has been developed to minimise heat gain or loss resulting from the temperature differential between the airflow and the surrounding ambient air. The vapour barrier prevents condensation from forming on the outside of ducts carrying air at lower temperatures than the surrounding air.

Key benefits

- Supplied in standard 10 metre length, compressed to 1 metre.
- Individually boxed.
- Easy to connect to either round or oval ducting.
- No special tools required for cutting or fixing.
- In the event of a fire, no toxic gases are emitted.
- The products have been successfully tested for fire resistance and conform to BS476 Parts 6 and 7.

Technical data	
Insulation	16kg/m³ Glass wool, 25mm thickness
Diameter range (mm) (internal)	100, 125, 150
Temperature range (°C)	-30/+150
Maximum air velocity	30 m/sec
Max. positive working pressure	3000 Pa
Standard length	10 metre
Packing	Individual box compressed to 1m
Clamping	Domus Ventilation Adjustable Round Hose Clip 100mm – 125-4 125mm – 125-5 150mm – 125-6

Construction

Domus Ventilation Insulated Flexible is produced from multi-layer aluminium and metallised polyester, strengthened with high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.

Aluminium Flexible Duct – 0.3m - 3m



Ø100mm EasyPipe 100



Free Area 7,850mm²

Code	Connection
Hose – 0.3m	
403203	Female
Hose – 1.5m	
403215	Female
Hose – 3m	
403230	Female

Ø125mm EasyPipe 125



Free Area 12,266mm²

Code	Connection
Hose – 0.3m	
503203	Female
Hose – 1.5m	
503215	Female
Hose – 3m	
503230	Female

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Connection
Hose – 0.3m	
603203	Female
Hose – 1.5m	
603215	Female
Hose – 3m	
603230	Female

Overview

For years the designer's need for a fire resistant flexible duct has been hampered by the lack of flexibility and fragile nature of metallic ducting. Now, Domus Ventilation Aluminium Flexible Duct overcome these problems.

Aluminium Flexible Duct is a corrugated flexible ducting, which can be formed to bend radius less than ½D. It is supplied in its compressed state, but when installed the tube extends to 4 metres for maximum flexibility and economy – making it the simple answer to many flexible duct problems.

Key benefits

- Constant cross section for predictable air flow characteristics.
- Reduced need for supports on longer duct runs.
- Fire resistant to BS 476 Part 8 with negligible smoke generation.
- Extra flexibility. Ideal for short final connections.
- Supplied in compressed lengths and individually boxed for site protection, easy handling and storage.

Flexible

It is available in 100mm, 125mm and 150mm diameter and may be hand-formed to bends of less than a 1/2D Radius- a feature previously only thought possible with fabric flexibles.

Aluminium Flexible Duct can also be extended or compressed easily for installation between spigots located opposite to each other. It is ideal for final connections or where space is limited.

Strong

Strength and pliability in metal flexibles are affected by the thickness, corrugation shape and ductility of the material used in construction. In the past a strong tube has lacked flexibility and flexible tube has lacked strength.

With Aluminium Flexible Duct the problems are overcome by producing a deep corrugation tube, which is kept in the compressed state until it is installed; in this state it has great strength with little flexibility. At the time of installation, when strength is a lower priority, the tube is extended to achieve its ultimate in flexibility.

Self supporting

Aluminium Flexible Duct retains its corrugation form in use and, in doing so, achieves maximum distance between supports without sagging, resulting in cost savings in labour and materials when compared to fabric flexible.

It also retains its cross section regardless of its state; it can be compressed, extended, or formed into bends or offsets with no reduction in area.

This means that frictional resistance figures are constant and air flow figures can be accurately predicted at the design stage.

The tube is stable after forming with no tendency to spring back, thus forces on spigots are kept to the very minimum.

Fire resisting

Aluminium Flexible Duct is tested to BS476 Part 6, 7 and 8, and meets the requirements for CP413 section A2.2.3 (Ducts for Building Services) and is suitable for use throughout the U.K. and the Continent. When tested to BS476 Part 7 a class 1 spread of flame was recorded. When tested under the conditions laid down in BS476 Part 8 Aluminium Flexible Duct maintained its integrity for 15 minutes. As it is of all metal construction smoke generation is negligible.

Aluminium Hose Clip – 100, 125 and 150mm (for installation with Domus Flexible Hose)



Overview

The Aluminium Duct Clips are designed to provide a secure, air-tight connection. The range also includes Universal Connectors, offering greater installation flexibility.

Ø100mm EasyPipe 100



Free Area 7,850mm²

Code	Connection
125-4	90-110mm

Ø125mm EasyPipe 125



Free Area 12,266mm²

Code	Connection
125-5	110-130mm

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Connection
125-6	140-160mm

Aluminium Universal Hose Clip – 100, 125 and 150mm (for installation with Domus Flexible Hose)



Overview

The Aluminium Duct Clips are designed to provide a secure, air-tight connection. The range also includes Universal Connectors, offering greater installation flexibility.

Ø100mm EasyPipe 100



Free Area 7,850mm²

Code	Connection
125-UNI	90-110mm

Ø125mm EasyPipe 125



Free Area 12,266mm²

Code	Connection
125-UNI	110-130mm

Ø150mm EasyPipe 150



Free Area 17,263mm²

Code	Connection
125-UNI	140-160mm

ROUND FLEXIBLE HOSE CONNECTORS

Our flexible hose connectors are designed to achieve the highest possible energy efficiency from our ventilation appliances.

They are manufactured from exacting tolerances to virtually eliminate air leakage and reduce pressure drop.

Ø100mm EasyPipe 100



Free Area 7,850mm²

Ø125mm EasyPipe 125



Free Area 12,266mm²

Ø150mm EasyPipe 150



Free Area 17,263mm²

Round Flexible Hose Connectors – 0.1m



Code	Connection
Hose – 0.1m	
380	Male

Code	Connection
Hose – 0.1m	
580	Male

Code	Connection
Hose – 0.1m	
680	Male

Round Flexible Hose Connectors – With Threaded Socket



Code	Connection
126-4	Female

Code	Connection
126-5	Female

Code	Connection
126-6	Female

Round Flexible Hose Connectors – With Threaded Spigot



Code	Connection
124-4	Male

Code	Connection
N/A	N/A

Code	Connection
N/A	N/A

Rectangular Flexible PVC Hose – 0.5m - 3m



Overview

Domus Ventilation Flexible Hose is a range of wire reinforced, flexible PVC ducting that has been specially designed for the ventilation market.

The hose provides solutions to overcome situations where a rigid component cannot be installed.

Flexible Hose is particularly suitable for installation where there is slow moving air.

110x54mm System



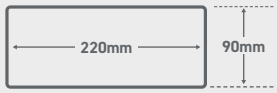
Code	Connection
Hose – 0.5m	
3305	Female
Hose – 3m	
333	Female

204x60mm System



Code	Connection
Hose – 0.5m	
5305	Female
Hose – 3m	
533	Female

220x90mm System



Code	Connection
Hose – 0.5m	
9305	Female
Hose – 3m	
933	Female

Construction

The Flexible Hose is constructed as a continuous helix on a bespoke forming 'head'. The reinforcing wire is 100% sealed inside a fold of PVC tape which is in turn overlapped by the next pitch. The joints are welded by hot air welding of the layers of PVC, in order to produce a continuous sealed tube.

Technical data	
Material	White PVC 70µm thick
Sizes mm (internal)	110x54, 204x60, 220x90
Temperature range (°C)	-20/+60 working (80 max.)
Standard length (m)	0.5, 3
Packing	Compressed individually in net sleeve
Clamping	D-TIE Nylon zip-tie

Rectangular Flexible Hose Connectors – 0.1m and 0.14m



Designed to achieve the highest possible energy efficiency from our ventilation appliances.

110x54mm System



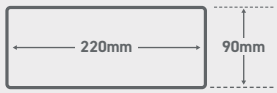
Code	Connection
Length – 0.1m	
381	Duct

204x60mm System



Code	Connection
Length – 0.1m	
581	Duct

220x90mm System



Code	Connection
Length – 0.14m	
981	Duct

DUCTING ANCILLARIES

Alongside our ventilation systems and ducting, we offer a range of ancillary items.

Rigid Duct Aluminium Duct Tape – 45m & 100m



Code	Length
50TP45	45m
50TP100	100m

Overview

A 30 Micron soft tempered bright aluminium foil. Coated with high tack pressure adhesive which has excellent UV light resistance on a white glassine liner.

This product is recommended where a moisture barrier and cold weather performance is required.

Technical data	Typical values
Adhesive colour:	Clear
Adhesive type:	Acrylic UV Light resistance
Tape thickness:	0.060mm (without liner)
Foil thickness:	0.030mm
Peel adhesion to steel:	1000N/m
Loop tack:	800N/m
Shear (static):	87 Hours @ 1kg
Fire protection:	Conforms to Class O BS476 part 7 & 6 1987
Minimum applic temp:	0°C
Service range:	-20°C to 120°C
Shelf life:	12 months (PSMA Conditions)

40123 Prepack PVC Duct Tape – 50mm x 10m



Code	Length
123-10	4.6m
123	33m

Applications

- Jointing of polythene sheeting
- Barrier tape to prevent electrolytic reaction
- Sealing insulation panels
- Patching, sealing (boxes, drums, kegs) repair

Technical data	Typical values
Total thickness:	0.14 mm
Adhesive power:	200N/m
Backing thickness:	-
Tensile strength:	2KN/m
Elongation:	200%
Temperature:	-20°C to 80°C
Dielectric strength:	6KV
Colours:	Black, White, Grey
Shelf life:	12 months

Rigid Duct Intumescent Sealant – available in 310ml size



Code
DDSEAL

Key features

- Good adhesion to timber, plasterboard, masonry, blockwork, plaster, concrete and many other common building surfaces.
- Up to four hours fire resistance.
- Over-paintable with solvent and water based paints.
- Suitable for horizontal and vertical joints without compromising fire rating performance.
- For use in joints up to 50mm.
- Water based, solvent and halogen free, water clean up.
- Reduces sound transmission in joints.
- Formulated using a special acrylic emulsion to provide a firm seal whilst retaining a degree of flexibility.
- Joint movement capability of ±12.5%.
- Will not support combustion.
- Colour: white.

Description

DDSEAL sealant is a waterborne one-part fire-resistant and acoustic rated joint sealant which provides a firm, yet flexible, seal to joints in a wide variety of fire-rated structures where fire resistance up to four hours is required. Its special intumescent properties cause the sealant to swell up and char in the presence of heat, preventing the spread of smoke and fire through the joint.

Technical approvals

DDSEAL conforms to the following standards:

Fire Performance
BS 476:Part 20:1987.
BS EN 13666-3 with additional guidelines from BS EN 1366-4

Acoustic Performance:
Tested in accordance with BS EN ISO 140-3:1995

Sealant Classification ISO 11600 Classification:
F-12.5-P

Uses

- Sealing joints, voids and irregular holes where fire resistance up to four hours is required.
- Ideal for sealing joints, voids and irregular holes in fire walls, partitions, door architraves, service penetrations, floors and other structures.
- For bedding of hinges and locks in fire doors.
- For perimeter sealing of internal, fire rated screens, partitions, service penetrations and door or window frames.
- To maintain integrity when sealing around pipes, services and cable.
- Sealing fire rated ductwork.

Rigid Duct Acrylic Sealant – available in 310ml size



Code
DASEAL

Key features

- Good adhesion to a wide variety of surfaces including PVC, timber and brickwork.
- Easy to apply and finish.
- Can be overpainted within one-two hours with both water and solvent borne paints.
- Quick drying – forms a skin within 15 minutes internally.
- Contains a high level of fungicide for long term decorative appearance.
- Colours: Brown & white.

Description

DASEAL is a high performance emulsion acrylic sealant based on the latest developments in acrylic elastomer technology. It has been specially formulated for sealing around window frames, skirtings, architraves and general small gap filling.

It offers a degree of flexibility whilst still retaining the ability to be easily overcoated with conventional paints. Although primarily used internally, it has good external performance when applied in suitable conditions.

Uses

- For sealing internal joints around window and door frames, skirting boards, coving and dado rails.
- Sealing cracks in plaster.
- Perimeter pointing of windows and doors.
- External low to medium movement joints between brick, concrete and timber.

Note: Ensure that the conditions are suitable to allow the development of a substantial skin before exposure to rain, typically a minimum of four hours.

Technical approvals

DASEAL is a high performance sealant which conforms to ISO 11600 - F-12.5P.

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VENTILATION
SPECIALIST

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domusventilation_

Domus Ventilation
Western Industrial Estate
Caerphilly
CF83 1NA

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AirWiseVentilation

SUPPLIERS OF VENTILATION EQUIPMENT

DATA SHEET

METAL AIR VALVES



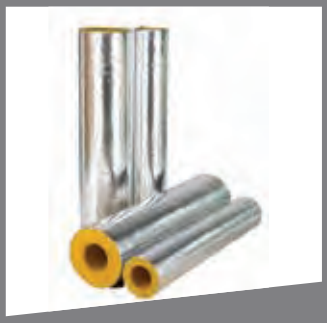
- **AIRWISE METAL AIR VALVES ARE A HIGH QUALITY PRODUCT**
- **DESIGNED FOR CEILING MOUNTING ON VENTILATION DUCTS**
- **CONSTRUCTION - GALVANISED STEEL**
- **RAL 9010**
- **SIMPLE AIR FLOW ADJUSMENT BY ROTATING THE CENTAL DISC**
- **DESIGN MANTAINS LOW AIR NOISE**
- **EXTRACT AND SUPPLY MODELS**

CODE	DESCRIPTION
AWMAV100	AWMAV100 - METAL AIR VALVE 100 DIA
AWMAV100S	AWMAV100S - METAL SUPPLY AIR VALVE 100 DIA
AWMAV125	AWMAV125 - METAL AIR VALVE 125 DIA
AWMAV125S	AWMAV125S - METAL SUPPLY AIR VALVE 125 DIA
AWMAV150	AWMAV150 - METAL AIR VALVE 150 DIA
AWMAV150S	AWMAV150S - METAL SUPPLY AIR VALVE 150 DIA
AWMAV160	AWMAV160 - METAL AIR VALVE 160 DIA
AWMAV160S	AWMAV160S - METAL SUPPLY AIR VALVE 160 DIA
AWMAV200	AWMAV200 - METAL AIR VALVE 200 DIA
AWMAV200S	AWMAV200S - METAL SUPPLY AIR VALVE 200 DIA

INSULATES THE FUTURE







TURKEY EPD®
THE INTERNATIONAL EPD® SYSTEM

EUCEB

ISO 9001
ISO 27001
ISO 14001
ISO 50001
OHSAS 18001

CE
EN 13162
EN 14303

ECO - FRIENDLY

GLASS WOOL

ODE STARFLEX

Blanket, Board &
Prefabricated Pipe


DİKKAT




STARFLEX







ODE STARFLEX
GLASSWOOL

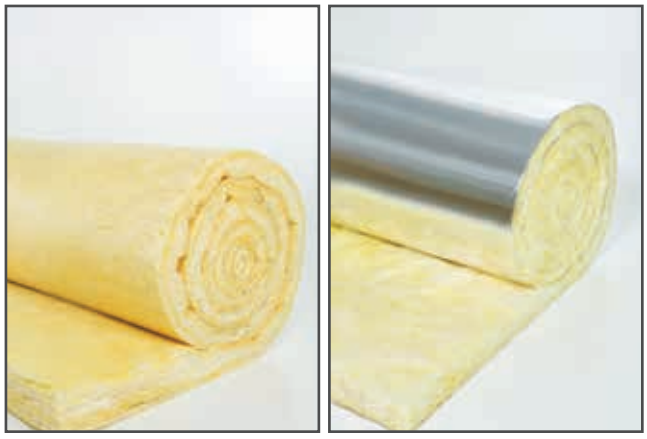
INSULATES THE FUTURE

BUILDING INSULATION

ODE STARFLEX ROLL

The roll is made of silica sand molten into fiber at high temperature. It is used for thermal insulation, sound insulation and acoustic arrangements and fire safety.
Thermal Conductivity Coefficient range of Ode Starflex Roll is **λ= 0.044-0.032 W/mK.**

Density kg/m³	Thickness mm	Thermal Conductivity λ W/(mK)	Thermal Resistance R m²K/W
12-18	50	0,040-0,035	1,25-1,40
	80		2,00-2,25
	100		2,50-2,85
	120		3,00-3,40
	150		3,75-4,25



Application Areas:
- Roofing
- Prefabric Houses
- Partition Walls
- Hangars
- Sandwich Panel
- Chicken Farms
- Backloading of Ceiling
- Backloading of Facade

Facing:
Unfaced (UF), Foil Scrim Kraft (FSK), Kraft Paper (Kraft), Yellow Glass Tissue (YGT), White Metalized Scrim Kraft (WMSK)

ODE STARFLEX BOARD

Thermal Conductivity Coefficient range of Ode Starflex Board is **λ= 0.037-0.031 W/mK.**

Density kg/m³	Thickness mm	Thermal Conductivity λ W/(mK)	Thermal Resistance R m²K/W
22-100	20	0,035-0,031	0,55-0,60
	30		0,85-0,95
	40		1,10-1,25
	50		1,40-1,60



Application Areas:
- Roofing
- Partition Walls
- Sandwich Panel
- Backloading of Facade
- Prefabric Houses
- Chicken Farms
- Hangars

Facing:
Unfaced (UF), Foil Scrim Kraft (FSK), Kraft Paper (Kraft), Yellow Glass Tissue (YGT), White Metalized Scrim Kraft (WMSK)

ODE STARFLEX
GLASSWOOL

INSULATES THE FUTURE

TECHNICAL INSULATION

ODE STARFLEX ROLL

Thermal Conductivity Coefficient range of Ode Starflex Roll is **λ= 0.044-0.032 W/mK.**

Density kg/m³	Thickness mm	Thermal Conductivity λ W/(mK)	Thermal Resistance R m²K/W
12	25	0,040	0,60
	50		1,25
16	25	0,037	0,65
	50		1,35
24	25	0,032	0,75
	50		1,55
32	25	0,032	0,75
	50		1,55



Application Areas:

- HVAC Works
- Home Appliances
- Solar Energy
- Water Heaters
- Boilers

Facing:
Foil Scrim Kraft (FSK), Class 0 Alum. Foil (Class 0)

ODE STARFLEX LINER INSULATION ROLL

Density kg/m³	Thickness mm	Thermal Conductivity λ W/(mK)	Thermal Resistance R m²K/W
16	25	0,037	0,65
	50		1,35
24	25	0,032	0,75
	50		1,55
32	25	0,032	0,75
	50		1,55



Application Areas:

- HVAC Works
- Cinemas
- Generators Rooms
- Studios
- Theaters
- Conference Rooms

Facing:
Black Glass Tissue (BGT), Woven Glass Fabric (WGF)

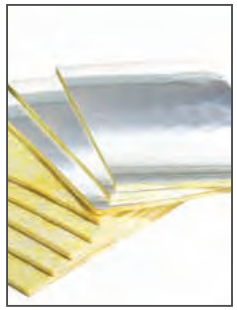
ODE STARFLEX
GLASSWOOL

INSULATES THE FUTURE

TECHNICAL INSULATION

ODE STARFLEX BOARD

Density kg/m³	Thickness mm	Thermal Conductivity λ W/(mK)	Thermal Resistance R m²K/W
24-96	25	0,032-0,031	0,75-0,80
	30		0,90-0,95
	40		1,25-1,25
	50		1,55-1,60





Application Areas:

- HVAC Works
- Home Appliances
- Solar Energy

Facing:
Foil Scrim Kraft (FSK), Class 0 Alum. Foil (Class 0)

ODE STARFLEX LINER INSULATION BOARD

Density kg/m³	Thickness mm	Thermal Conductivity λ W/(mK)	Thermal Resistance R m²K/W
24-96	25	0,032-0,031	0,75-0,80
	30		0,90-0,95
	40		1,25-1,25
	50		1,55-1,60



Application Areas:

- HVAC Works
- Cinemas
- Generators Rooms
- Studios
- Theaters
- Conference Rooms

Facing:
Black Glass Tissue (BGT), Woven Glass Fabric (WGF)

ODE STARFLEX GLASSWOOL

INSULATES THE FUTURE

TECHNICAL INSULATION

ODE STARFLEX PREFABRICATED PIPE

Thermal Conductivity Coefficient range of Ode Starflex Pipe is **λ= 0.035 W/mK (10° C)**

Density (kg/m^3)	Diameter (mm)	Diameter (inch)	Thickness (mm)	Thickness (inch)	Thermal Conductivity λ (W/mK)					Thermal Resistance R (m^{2}K/W)
60-100	21-324	1/2"-12"	25-100	1"- 4"	10°C	50°C	100°C	150°C	200°C	0,70-2.85
					0,035	0,040	0,045	0,055	0,070	

Application Areas:

- Radiator and central heating systems
- Solar energy systems
- Protection of pipes from perspiration and frost
- Against sound and vibration in pressure water pipes and in many other mechanical and industrial systems.

Facing:

Unfaced (UF), Foil Scrim Kraft (FSK), Class 0 Aluminium Foil (Class 0)







QUALITY CONTROL

The quality of ODE Starflex products are certified with CE Certification as well. ODE Starflex has obtained the **EUCEB** certificate to prove that the product is not hazardous for human health. We have completed the **EPD (Environmental Product Declaration)** process for all of our products. With EPD documents, we transparently prove the environmental performance of our products certified with the **ISO, CE, TSE** quality certificates.

TURKEY EPD® THE INTERNATIONAL EPD® SYSTEM

What is EPD? & Why is it important?

• EPD (Environmental Product Declaration):

EPD (Environmental Product Declaration) aims to share verified quantitative environmental information about the product or the service transparently with the society and thus to encourage the use of products and services having fewer adverse effects on the environment.



WHY IS EPD IMPORTANT?

- It improves competitiveness in the sector with harmonization of European Union Legislation
- It provides international recognition.
- It improves preferableness in green buildings market.

ISO 9001 | ISO 27001 | ISO 14001 | ISO 50001 | OHSAS 18001 | EUCEB | EPD | CE EN 13162 CE EN 14303








INSULATES THE FUTURE

COMPANY PROFILE

ODE Insulation was founded in 1985 as a contractor in construction industry. In 1988, the company made a strategic decision to specialize in insulation industry. ODE started to import insulation products in 1990 and then the company became a manufacturer in insulation industry in 1996. Today, ODE manufactures insulation materials under two main categories; Building Insulation and HVAC Insulation. Building insulation materials are Isıpan (Extruded Polystyrene Foam), Membran (Polymer Bitumen Based Waterproofing Membrane) and Starflex (Glass Wool), while HVAC insulation materials are Starflex (Glass Wool) and R-flex (Flexible Elastomeric Foam). As of today, ODE is one of the biggest insulation manufacturers in the region with manufacturing and exporting 4,000 different kinds of insulation materials to 75 countries.

ODE became a regional leader over the years and during 2017, the company has completed the first phase of its new investment and started manufacturing in the new factory in Eskişehir, Turkey. Once the second phase of this investment is completed and the production capacity in technical insulation (HVAC) is increased, ODE will be the biggest manufacturer in technical insulation between China and Germany.

Besides, ODE Insulation has identified 15 target countries for its export under Turquality brand building program. Currently, ODE is focusing on these countries in order to develop its distribution channels. In 2015, ODE became the first and the only company in insulation industry in the region with its Environmental Product Declaration (EPD) certificate for all product range, which means that ODE products are internationally approved and they are in accordance with the European standards.

ODE insulates the future and it will keep investing in the future by transferring its 30 years of experience in insulation in order to create a sustainable environment for the next generations.

ÇORLU PRODUCTION FACILITIES



ESKİŞEHİR PRODUCTION FACILITY



107.08.18.250.02

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e-mail: export@ode.com.tr

www.ode.com.tr

Fire Rated Air Bricks - "FRAB"

Fire Rating

- The FRAB range achieves an overall fire rating of A2-s1,d0 as required by Approved Document B

- The individual component fire ratings are:

Component	Fire Rating
0.9mm galvanised sheet steel	A1 as per European Commission Paper 96/603/EC
RAL colour powder coating	A2-s1,d0

Regulations

- The Vectaire Fire Rated Air Brick range is suitable for use in association with the following:
  - The Building Regulations Approved Document B, Regulation 7(2) including 2025 amendments
  - Building Regulations (Northern Ireland) Technical Booklets
  - Building (Scotland) Technical Handbook

0.9mm Galvanised Sheet Steel

Property	Value
Mechanical Properties	DX51
Zinc Coating	Z275
Spangle	M
Surface Quality	A
Surface Treatment	C - Skin Passing

RAL Colour Powder Coating

- 30% matt finish powder coating

IP Rating

- The 500mm length versions of the range conform to the requirements of IPX3 rating for water ingress

Corrosion

- Corrosion in steel is an electrochemical process that oxidises the iron in the steel. Oxidation occurs as a result of the chemical reaction between steel and oxygen, where steel is consumed converting iron to corrosion products. Paints are barrier coatings that, when applied and used properly, give sufficient corrosion protection to steel for many common applications.

Galvanisation

- The main mechanism by which galvanised coatings protect steel is by providing an impervious barrier that does not allow moisture to contact the steel and therefore prevents corrosion. The metallic zinc coating has excellent adhesion, abrasion, and corrosion resistance. Galvanised coatings will not degrade as with other barrier coatings such as paint. The protection offered by a galvanised coating is proportional to its thickness and to the corrosion rate.
- The second shielding mechanism is zinc's ability to protect steel galvanically. When zinc and steel are in contact in the presence of an electrolyte, a current will flow from the steel to the zinc, so that the zinc becomes an anodic electron-producing region while the steel is cathodic and consumes electrons, preventing it from combining with oxygen and forming rust.
- When base steel is exposed, such as at a cut edge or scratch, the steel is cathodically protected by the sacrificial corrosion of the zinc coating as zinc is more electronegative than steel. Therefore a zinc coating will not be undercut by rusting steel because the steel adjacent to the zinc coating cannot corrode. Any exposure of the underlying steel, due to severe coating damage or a cut edge, will not result in corrosion of the steel until the adjacent zinc has been consumed.

Maintenance

- The Vectaire FRAB range should be regularly cleaned by wiping with a damp cloth. Do not use abrasive or solvent cleaners.

General

- Very low airflow resistance
- Available in 3 sizes:
  - 204mm x 60mm x 500mm
  - 220mm x 90mm x 500mm
  - 208mm x 130mm x 500mm
- Non-bezelled or bezelled - bezelled models suitable for exterior cladding
- Metal ducting available in standard 500mm length with custom lengths available on request
- Metal straight, 45º and 90º connectors available in all three sizes
- Available in 5 colours:
  - brown - RAL8016
  - white - RAL9016
  - terracotta - RAL8004
  - grey - RAL7012
  - beige - RAL1001
- Custom colours and sizes available on request
- Blades integral with airbrick and therefore will not loosen
- Performance tested to BS EN13141-2-20
- Designed to fit into walls during building works
- Free Areas:
  - 204 x 60mm size - 11,007 mm^2, 90% free area
  - 220 x 90mm size - 18,222 mm^2, 92% free area
  - 208 x 130mm size - 24,660 mm^2, 91% free area
- Registered designs
- Made in the UK

- Please contact your Vectaire representative via Head Office on 01494 522333 for any assistance.
- An electronic copy of this specification is available on request.

- # WHHR-Midi-BY
- # Midi-BY+LCD
  (with integral LCD screen)
- # Midi-BY-AT
  (with acoustic attenuation and integral LCD screen)

Residential Whole House Heat Recovery Units
Summer Bypass & Frost Protection
Low Energy EC Motor
Optional Humidistat

Installation, Operating and Maintenance Instructions

SAP PCDB Listed



Image of model with LCD screen

CE UK CA

"WHHR-MIDI-BY"/"MIDI-BY-LCD"/"MIDI-BY-AT-LCD"
WHOLE HOUSE HEAT RECOVERY UNITS
INSTALLATION AND OPERATING & MAINTENANCE INSTRUCTIONS

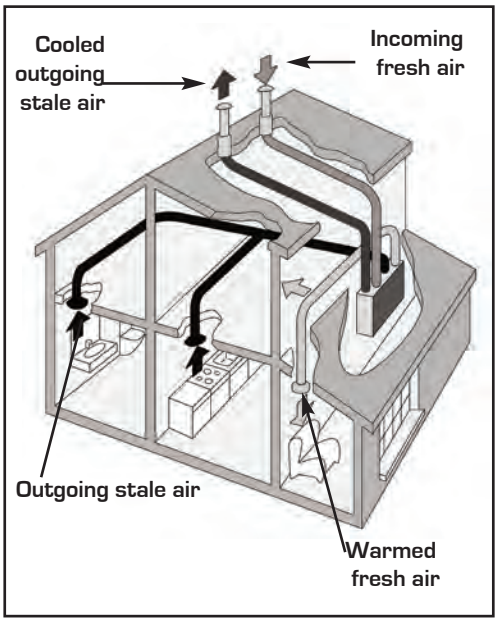
Safety Notice

It is important to read this Instruction Manual carefully before installing or using the product. Following these instructions will ensure that your ventilation system is installed, commissioned and used properly and continues to operate effectively. Vectaire will not be held responsible and will not accept liability for any damage caused to persons or property through failure to follow the guidance provided in this manual. It should always be available with the product for easy reference.

WHHR-Midi-BY: 5"/125mm spigot, for dwellings up to 170m^2, max capacity 101 litre/sec
Midi-BY+LCD: 5"/125mm spigot, for dwellings up to 170m^2, max capacity 101 litre/sec with integral **LCD**
Midi-BY-AT: 5"/125mm spigot, for dwellings up to 170m^2, max capacity 101 litre/sec with **acoustic attenuation** and integral **LCD**

General Information

The Vectaire Midi heat recovery system provides whole house mechanical ventilation to living areas, bedrooms, kitchen and bathrooms. It extracts stale, contaminated air from kitchens, utility rooms and bathrooms, and uses the heat recovered from this air to warm fresh, incoming air to create a flow of fresh, filtered air throughout the dwelling. The extract and intake air streams are separated to avoid contamination.



The system will operate continuously to create a stable, comfortable, healthy environment avoiding the use of excessive energy and saving heat already generated.

The Midi-BY-AT is extremely quiet when running. It has been fitted with special acoustic lining to make is practically inaudible in operation.

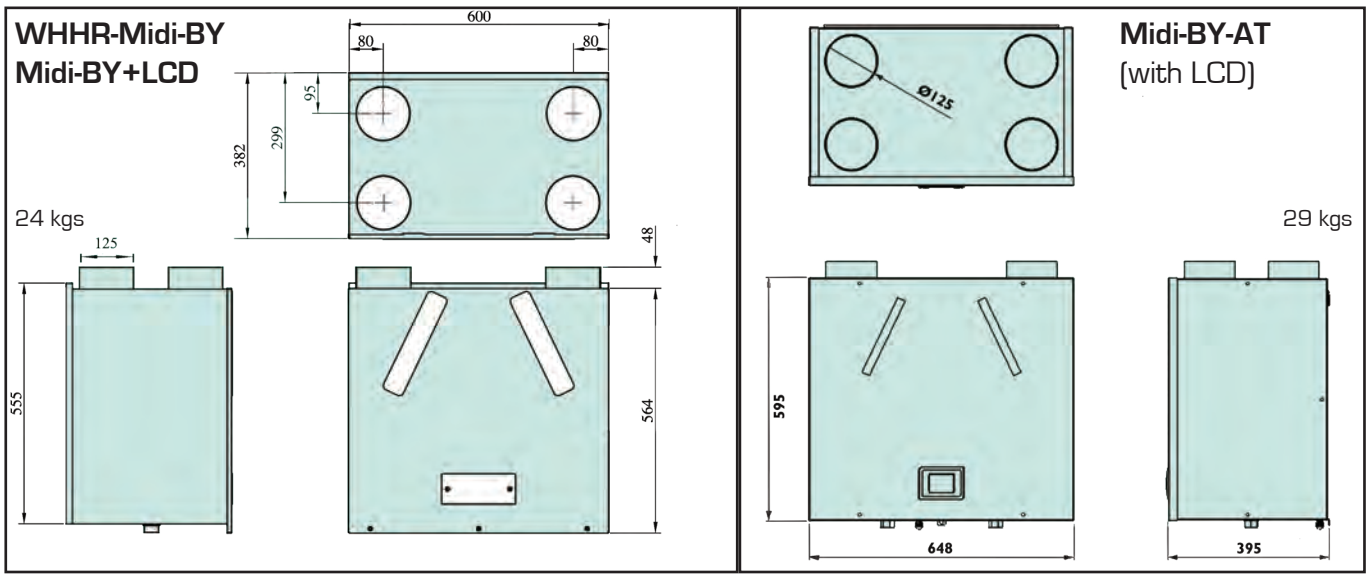
The heat recovery unit must be installed vertically, and will generally be sited in a cupboard. It will be connected by hidden ductwork to vents sited in the ceilings of the rooms which are to be ventilated. Each unit is commissioned individually so that the amount of air moved is tailored to suit the performance required. There will be a facility to boost the extraction rate when desired (e.g when cooking or bathing, or when pollutant levels rise). This may be done automatically or manually.

The system is designed to run continuously and should NOT be switched off except for maintenance or filter replacement. It is important to follow the advice in this user manual and correctly install and maintain the system to ensure a healthy and comfortable indoor environment.

Features

- **SAP PCDB Listed** whole house heat recovery units giving continuous ventilation in the kitchen and up to six additional wet rooms (using rigid ducting)
- The Midi-BY-AT has been lined with class "O" acoustic foam to ensure extremely low noise levels
- Variable choice low (trickle) speed and boost options for optimum setting at installation
- Boost speed triggered by a switched live connection from:
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - DRH240 (dynamic remote humidistat)
  - PIRFF (passive infra red)
  - THM (thermostat)
  - a remote switch/pull cord

  or via LCD control panel
- Can be mounted with left or right hand drainage and ducting
- Economical EC motor with electronic control plus:
  Standard control features:
  - > **variable adjustment** - trickle and boost speeds set at installation for both motors independently
  - > **boost setting** - with integral overrun timer adjustable up to 20 minutes
  - > **optional delay-on-timer -** boost speed does not operate if switched off within 2 minutes
  - > **integral frost-stat -** proportionately reduces intake motor speed as temperature falls
  - > **purge boost** - for rapid air change
  - > **BMS connections** - for remote motor shut off
- Installation MUST be carried out by suitably qualified personnel and MUST be in accordance with current IEE regulations



Installation

IT IS IMPORTANT THESE INSTRUCTIONS ARE READ FULLY BEFORE INSTALLATION

- This product should not be used for any purpose other than that for which it was designed and as shown in this leaflet
- All packaging should be removed and the unit checked for damage in transit. If there is any damage, please contact your supplier
- Midi units must be installed vertically, and generally be fitted into a cupboard, loft or ceiling void.
- **In order to comply with Construction (Design & Management) Regulations, sufficient access for safe maintenance (recommended on an annual basis), or removal following installation, MUST be provided for this product. We recommend that a clearance of at least 200mm is available on each side of the Midi-BY-AT cabinet to allow access. See dimensions diagrams above.**
- **Regulations and current Building Regulations**. In order to comply with these, it may be necessary to fit fire dampers or other similar devices.
- **Flue gases from fuel-burning equipment must not be drawn into a living area. If any room from which air is extracted contains a fuel burning appliance, such as a central heating boiler, then its flue must be of the sealed or balanced flue type, or allowance must be made for an adequate supply of air into the room.**
- The unit must **NOT** be installed:
  - where there is excessive oil or grease
  - where there are hazardous gasses, liquids or vapours that are flammable or corrosive
  - in ambient temperatures above 40ºC or lower than 0ºC
  - in areas of excessive humidity or in a wet environment
- Where possible the unit should **NO**T be installed directly above a bedroom or living room.
- The condensation drain **MUST** be fitted
- Care should be taken to ensure that ducting is free from blockages
- External grilles should be located a minimum of 600mm from any flue outlet in accordance with all Regulations
- The unit must be connected to a 230-240v, 50Hz single phase electrical supply.
- A triple pole isolation switch with contact separation of at least 3mm must be used to connect the appliance to the fixed wiring when using the Switched Live.
- The product should only be connected to the mains electricity supply or electrical outlet if:
  - your electrical voltage and frequency correspond to those shown on the rating label.
  - the capacity of your electricity supply is sufficiently powerful to operate the product at its maximum power.
- If one of the spigots is not connected to ducting a safety grille **MUST** be fitted to that spigot, so that it is impossible for any moving part to be touched.

Installation of the appliance **MUST** be carried out by a qualified and suitably competent person and should be carried out in clean, dry conditions where dust and humidity are at minimal levels. The unit is not suitable for installation to the exterior of the dwelling.

Transportation, packaging and storage prior to installation

- Care should be taken when transporting the unit Dropping or knocking will damage the inner workings of the unit.
- The unit should always be stored in a clean, dry environment.
- Remove all packaging before installation.

Pre-inspection

- Inspect the unit and electrical supply cord for any damage (damage must be repaired by a suitably qualified and competent person.)
- Check all parts are supplied as shown.

Parts list

1 x Vectaire Midi
1 x Wall mounting bracket.
1 x Safety bracket.
1 x Installation, Operation & Maintenance Instructions

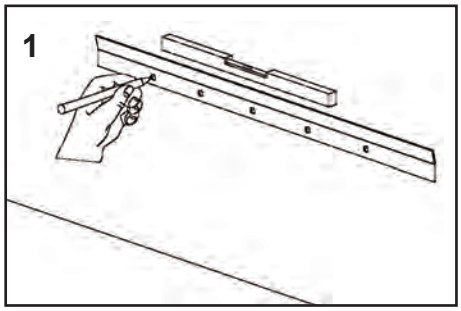
Any parts shortages or faults must be reported to the supplier immediately.

Installation - mounting - Duct and Duct Connections

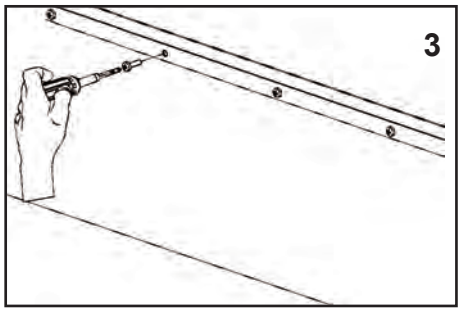
(refer to design drawing)

- 4 x 125mm nominal diameter spigots are provided for the connection of ducting. These are clearly marked for correct connection of the supply and exhaust ducts.

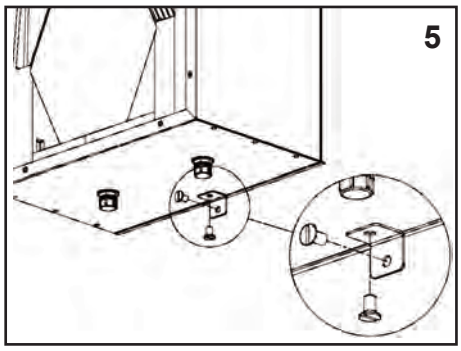
NB. ductwork installer should mark the "as installed" tick box on the label on the top of the unit to show whether it is left or right handed.



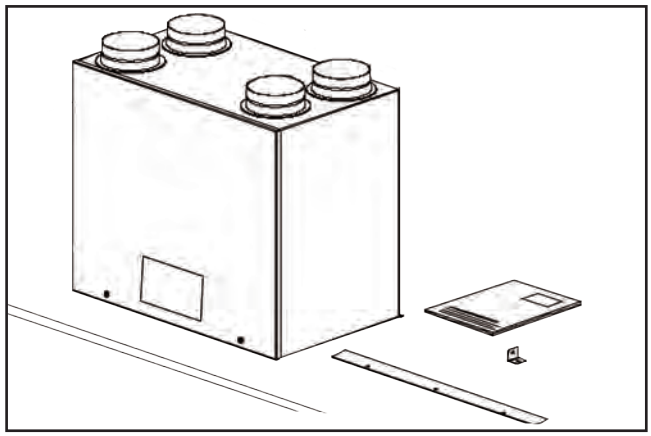
1. Mark a horizontal line on the wall using a spirit level. This line will be approximately 40mm below the location of the top face of the unit when fitted (excluding duct ports). Use the mounting bracket as a template to mark the five fixing hole centres.

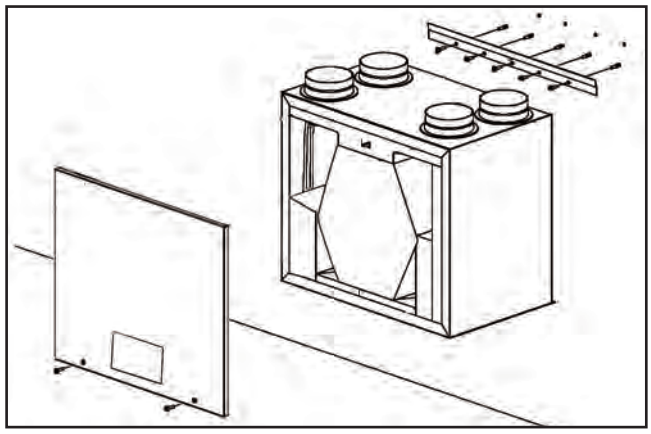


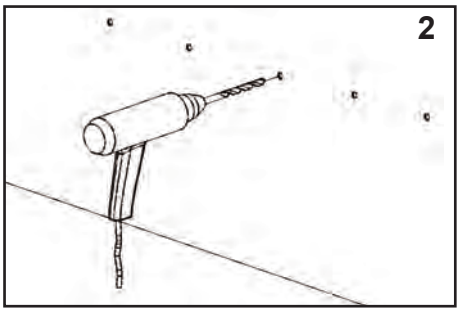
3. Mount the fixing bracket to the wall ensuring the interlocking side is at the top, as shown



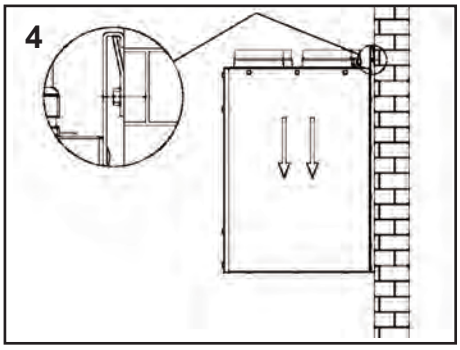
5. Fix the lower safety bracket to the unit as shown, and then fix the bracket to the wall using the appropriate fixings.



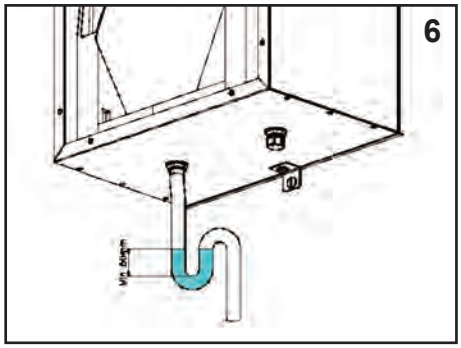




2. Drill the holes and fit wall plugs. (**Note**: if the unit is **not** being mounted on a solid wall, ensure that appropriate fixings are used.)



4. Mount the unit by locating the bracket on the back of the unit securely over the mounting bracket



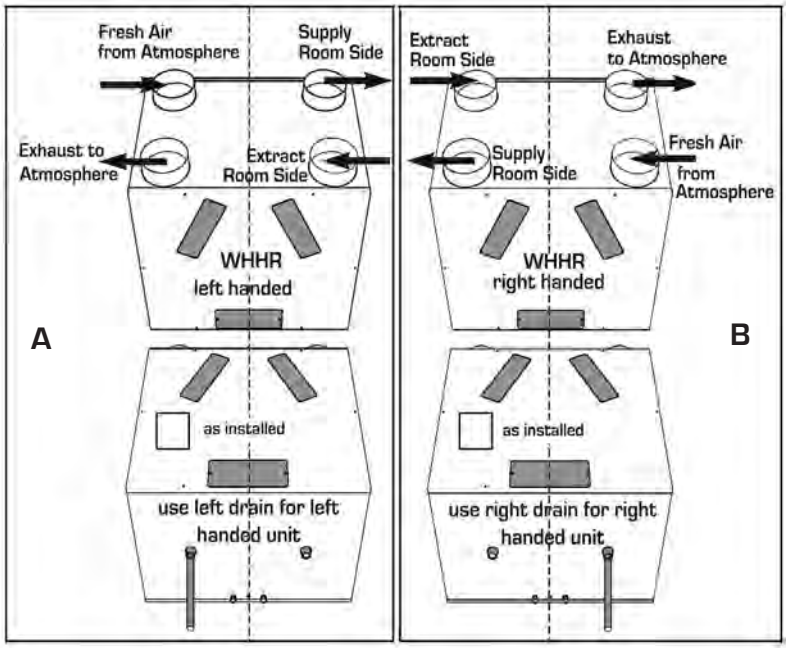
6. **Condensation**

• (The unit may sometimes produce condensation which must be drained away. A 21.5/22mm dia pipe outlet is provided on this unit).

Note: optional left or right hand drain connectors (21.5/22mm) are fitted. A drainage pipe must be connected to the appropriate side, dependent on the positions of the supply and extract ducting. Refer to figs A and B.

• If the ducting is installed as shown in Fig A, the drain must be connected to the left-hand outlet. If the ducting is installed as shown in Fig. B, the drain must be connected to the right-hand outlet. The unused drain outlet must be capped off.

- The drainage pipe must be installed with a continuous fall from the cabinet to the external household drainage point and a wet or dry trap must be fitted to prevent return air penetration.
- If any part of the condensate drain pipe passes through an unheated space, it must be insulated with the equivalent of at least 25mm of insulating material with a thermal conductivity of 0.04 W/mK.
- All models are available with an integral humidistat. The trip point is set at the factory, and when the relative humidity trip point is reached the unit will run at a pre-determined boost speed until the humidity falls to below the trip point. The unit will then continue to operate at trickle speed. "H" models are either left or right handed and the ductwork must be installed accordingly.
- Where ducting is installed in an **unheated** space, all of the ducts should be insulated. Where ducting is installed in a **heated** space, only the cold ducts should be insulated. i.e. the supply duct from outside and the extract duct from the unit to the outside.
- The duct layout must be designed to suit the requirements of the ventilation/heat recovery system and building layout.
- Where rigid duct is used, it should be installed using the least number of fittings to minimise air flow resistance. Where possible, final connection to the grilles and unit should be made with a flexible connection.
- Where flexible ducts are used, ensure that:
  - lengths of ducting longer than necessary are **not** used
  - the duct is stretched so that it is smooth and straight
  - where bends are necessary, they have large radii (ie avoid sharp bends)
  - the duct is not crushed if in a restricted area



Condensate pipe MUST always be connected to ATMOSPHERE side of MVHR

- Where ducting passes through a fire partition, suitable fire dampers **must** be installed to prevent the transmission of fire through the duct.

Electrical Connection

WARNING: these appliances must be earthed and all wiring must conform to current IEE Regulations and all applicable standards and Building Regulations.

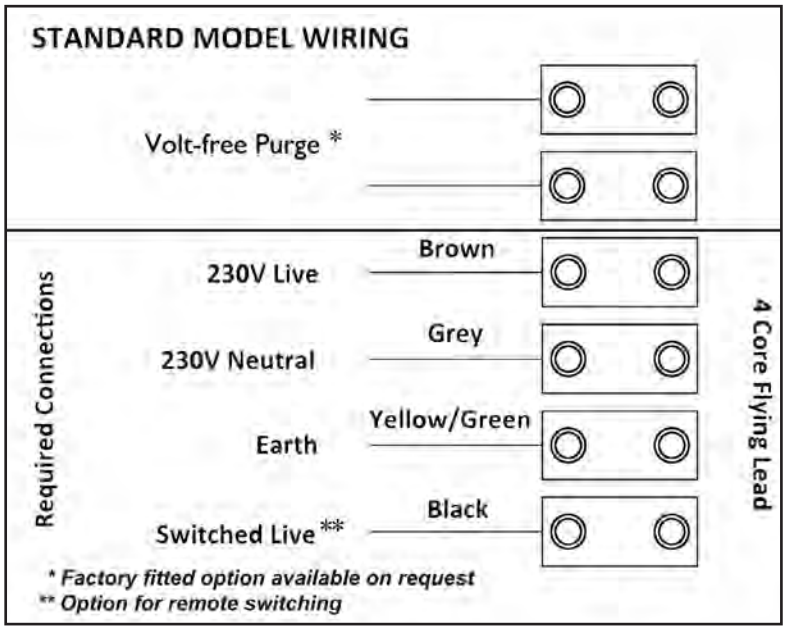
- The unit is suitable for 230V, 50Hz Single phase supply.
- The unit is supplied with:
  - A mains rated 4 core flexible cord (black, brown, grey, green/yellow)
  - An optional factory-fitted 2 cord volt-free flexible cord for purge switching

  Cables for any other external device will be **provided and labelled on request**
- A triple pole isolation switch with contact separation of at least 3mm must be used to connect the appliance to the fixed wiring when using the Switched Live.
- Boost controls must not be located within 1 metre of a cooker or where they may be affected by excessive heat or moisture.
- Boost and other external controls should be clearly identified and conveniently located.

- The boost facility can be activated by a switched live connection (in addition to the permanent supply live). The switched live can be operated by a variety of external devices, including:
  - PIRFF (passive infra red)*
  - DRH240 (dynamic remote humidistat)*
  - THM (thermostat)*
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - a remote switch/pull cord

  or via LCD control

  (*PIRFF, DRH240 and THM may have integral over-run timer which controls the length of time that the fan will continue to operate at its boost speed after the boost has been switched off.)



Commissioning

1. The commissioning must only be carried out by a suitably qualified person.
2. Prior to starting the commissioning procedure, ensure that the ductwork connections and airflow directions match one of the options A or B, shown on page 5. Check that the drain connection is on the correct side.
3. Before making any adjustments, ensure that the air valves or grilles are fully open.
4. **Please see separate "LCD Control Panel Commissioning Instructions" for details on commissioning and user operations**.

WARNING : With the control board panel removed, 230 volt live connections are accessible.

Cleaning and Maintenance

WARNING: The unit uses a 230V supply and contains rotating mechanical parts.

Before carrying out any maintenance or cleaning operations the mains electrical supply MUST be disconnected.

The heat exchanger within the unit should be cleaned annually.

To clean the filters and heat exchanger:

The air filters and heat exchanger of the Vectaire Midi should be cleaned regularly by a suitably qualified person (the frequency of cleaning will vary depending on the installation environment).

Filters:

- Slide out the filters by pulling out the tabs.
- Clean the filters carefully using a vacuum cleaner, replace in the slots and refit the filter covers

Heat Exchanger:

- Firstly remove filters as described above
- Remove the screws securing the front panel and carefully lift off. Using the plastic strap fitted, carefully pull out the heat exchanger
- Caution: if this is done during cold weather, the heat exchanger may contain water. It is advisable to have a plastic bowl available to avoid spillage.
- Lightly clean the faces of the heat exchanger with a vacuum cleaner. Replace the heat exchanger carefully, by sliding the assembly back into the cabinet.
- Replace the front cover by hooking the top edge into the slots in the cabinet and secure in place using the screws.
- Finally, replace the filters as above.

Never use water or any other fluids to clean the heat exchanger

Filter Replacement

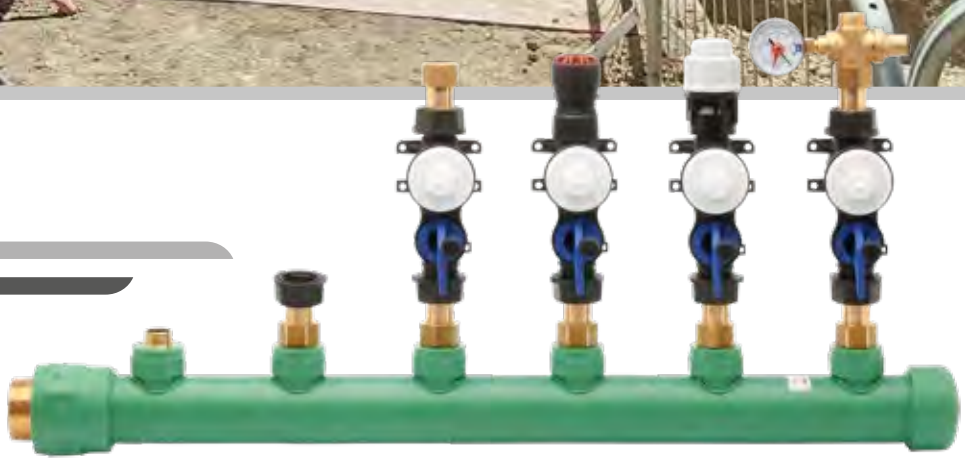
Filters should be replaced annually or after a maximum of 3 cleaning cycles.

Replacement filters are available from Vectaire - call us on +44(0)1494 522333 or email sales@vectaire.co.uk

PLASSON® MCP System

Water meter connection points for multi-dwelling buildings





www.plasson.co.uk

PLASSON® MCP System

What is the PLASSON MCP System

The PLASSON MCP system allows the division of the mains water supply and the installation of a water meter for individual properties in multi-dwelling buildings as required by guidelines and requirements of the UK Water Utility companies and the Water Supply (Water Fittings) Regulations:

- Isolate the incoming water main / boosted water supply
- Split incoming water supply by way of manifold
- Isolate water supply to individual dwelling
- Provide connection point for class D water meter (normally supplied by Water Utility company)
- Provide backflow prevention, with serviceable double check valve (ED suitable for fluid category 3)
- Provide a drain point for the property, with the individual property main isolated
- Allow connection to all proprietary plumbing pipework systems



PLASSON MCP Unit

Developed as a monobloc design unit to allow quick and easy installation:
The new MCP removes the need for several components to be joined together.
The new design provides a compact solution and can be supplied with connections to suit the wide variety and size range of pipe systems in use today.



PLASSON MCP Manifolds

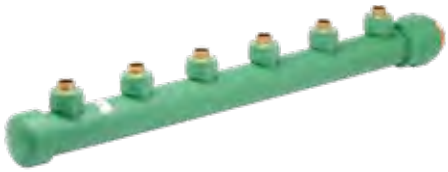
The new PLASSON manifold offer brings a totally flexible approach to connecting multiple properties in one location, such as communal riser cupboards and plant rooms.

The 63mm PP-RCT header can be supplied as a one piece unit with between 3 and 16 outlets to suit each installation.

Plain ended manifolds can be supplied with pre-fitted PLASSON mechanical fittings, either straight couplings, elbows or tee's and can incorporate a full bore mains stop valve to isolate the manifold.









The PLASSON MCP System Combined

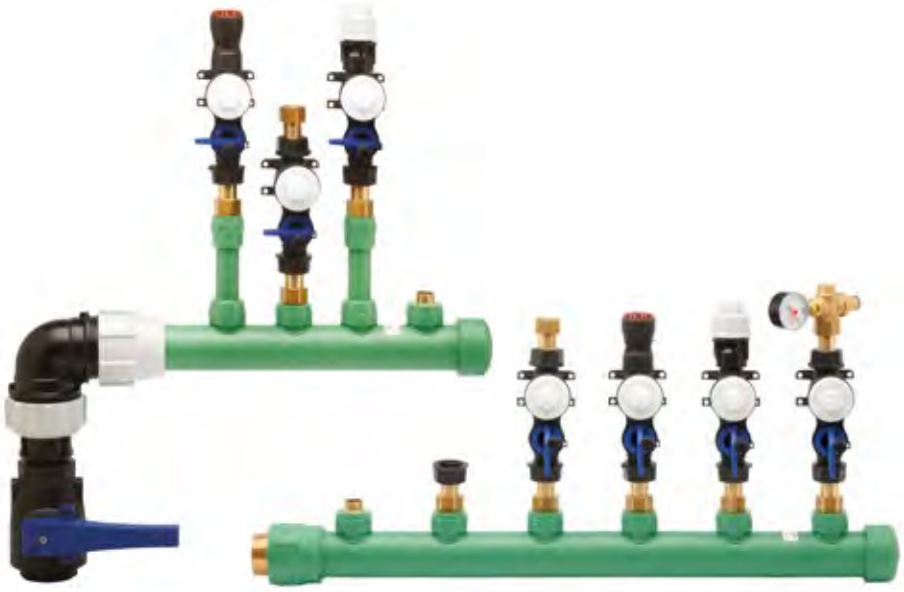
The combination of the new MCP unit and the manifold system brings a complete new dimension to the M&E contractor and plumber providing a simple and cost effective system to this often overlooked but vitally important part of any building infrastructure.

The MCP unit is manufactured from high grade engineering polypropylene, and the manifold system from PP-RCT, all components approved to UK Water Reg4 either by Kiwa KUKreg4 or WRAS approvals.

Combined with the extensive range of PLASSON fittings and Mains Stop Valves, the new PLASSON MCP system provides an unrivalled solution for all stake holders involved in the domestic and commercial mechanical services sector.







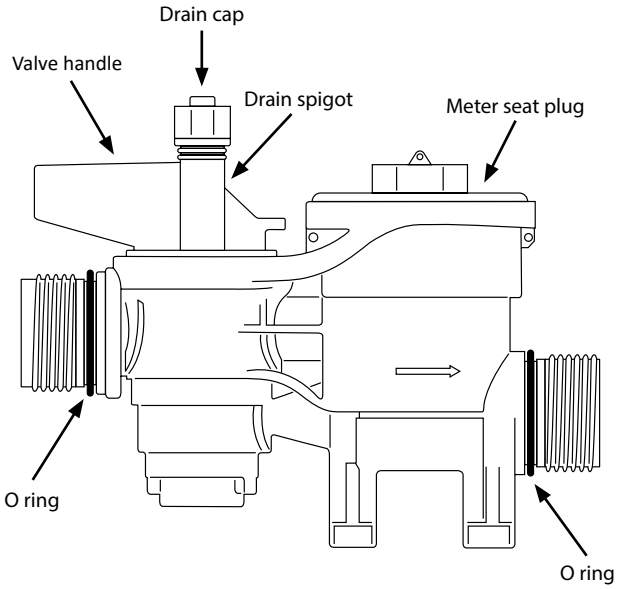


PLASSON® MCP System

MCP (Meter Connection Point)

The new PLASSON MCP (meter connection point) provides mains isolation, meter connection, drain point and back flow prevention in a compact one piece unit.

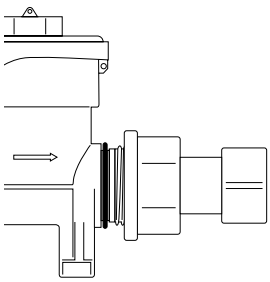
Designed specifically for multi-occupancy buildings, such as apartments and high-rise, the PLASSON MCP can be fitted at each apartment, or more commonly it can simply be connected to the PLASSON multi-port manifold system located in a riser or plant room.





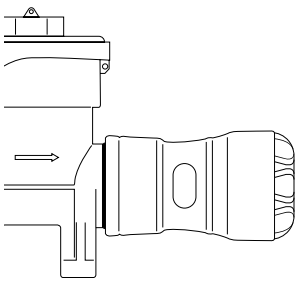
Key Features

- Quarter turn high flow mains stop valve
- 1 1/2" Class D concentric meter connection with full flow
- Approved double check valve built in under meter seat
- Drain point for draining pipework downstream of water meter (the property) whilst isolating the main supply while in drain position
- Space saving monobloc design for quick and easy installation
- NBR & EPDM sealing throughout for complete water tight integrity
- Kiwa UK Regulation 4 (KUKreg4) approved



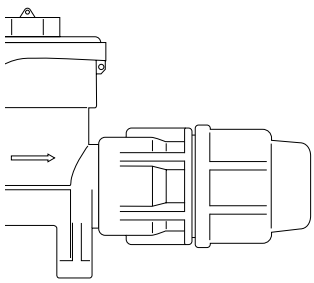
3/4" BSPP

Brass 3/4" FI parallel loose nut for connection to 3/4" MI fittings to create a union type joint.



Push-Fit Fittings

For connection to Copper/PB/PEX.



Mechanical Fittings

For connection to PE or adapting to other pipe types.

PLASSON® MCP System
Technical specification



Product Codes

Code	Description	L	H	W
PM0351071897007	MCP 3/4" BSPP x 3/4" BSPP	264	125	80
PM0351071897022	MCP 3/4" BSPP x 22mm Cu/PB/PEX	274	125	80
PM0351071897028	MCP 3/4" BSPP x 28mm Cu/PB/PEX	274	125	80
PM0351071897025	MCP 3/4" BSPP x 25mm PE	280	125	80
PM0351071897032	MCP 3/4" BSPP x 32mm PE	285	125	80

Other inlet and outlet connections are available. Please contact your PLASSON ASM for details.

Specification

A UK Water Regulation 4 approved one piece meter carrier consisting of, in the following sequence: quarter turn mains isolation valve, connection point for Class D water meter, serviceable double check valve (ED suitable for fluid category 3) and drain point. Unit with 1" ISO 228 threads to allow connection of PLASSON fittings for various pipe connections.

Technical Details:	
Maximum Operating Pressure	Water PN16
Water Meter Connection	DN40 internal thread
Maximum Operating Temperature	23°C
Material	High grade polypropylene copolymer body, EPDM 'O' rings and seal

Note:

The MCP unit has 'O' rings on the male threads that seal only the special PLASSON mechanical and pushfit fittings supplied with the MCP, these require no additional sealing materials which could compromise the 'O' ring seal.
To install the PLASSON fitting onto the thread, engage the threads and screw the fitting on firmly by hand. The 1" x 3/4" meter union, seals with flat washers supplied, wrench tighten.

The meter seat plug is for initial testing but is also suitable for long term use if required. It is 'O' ring sealed, if removed to fit a meter, please also remove the seal and use the seals supplied with the meter. It is a full-flow plug.

PLASSON® MCP System
Multiport Manifolds

The PLASSON Multiport Manifold system is designed to connect incoming water mains and enable separation into individual supply pipes for connection of multiple dwellings. Combined with our MCP meter connection point, the PLASSON MCP system provides a complete solution for water meter connection in any multi occupancy building.

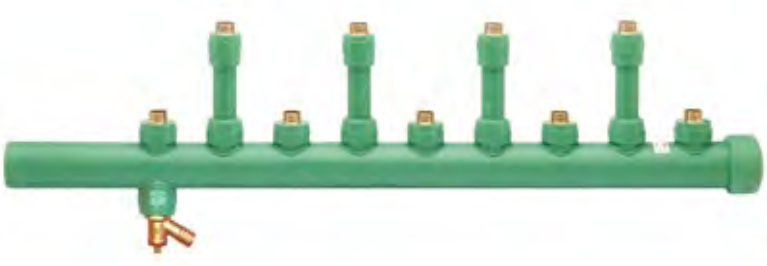


An extensive range of one piece construction manifolds are available with between 3 and 16 outlets. There are two options for connecting the incoming supply, and outlets at either 130mm centres, allowing meter faces to line up, or 90mm centres alternately staggered, both meeting the water utility companies installation requirements for water meters.



Key Features

- One piece construction from PP-RCT
- 3 outlet to 16 outlet ports from 63mm header
- End Supply and Centre Supply options
- Plain end for connection with PLASSON fitting or 2" MI BSP connection
- 130mm straight or 90mm staggered centres to allow meter installation position as per Water Utility company requirements
- Specifically designed to work with the PLASSON MCP Meter connection point
- Available with or without drain port





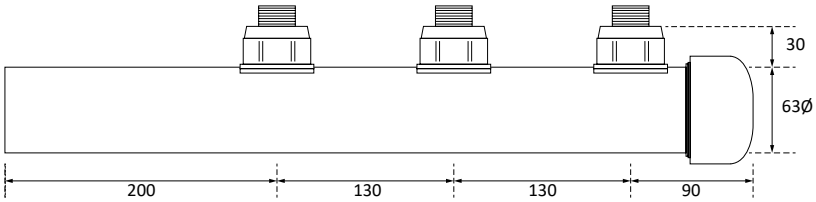
Manifold Dimensions

End Supply

Plain End Inlet

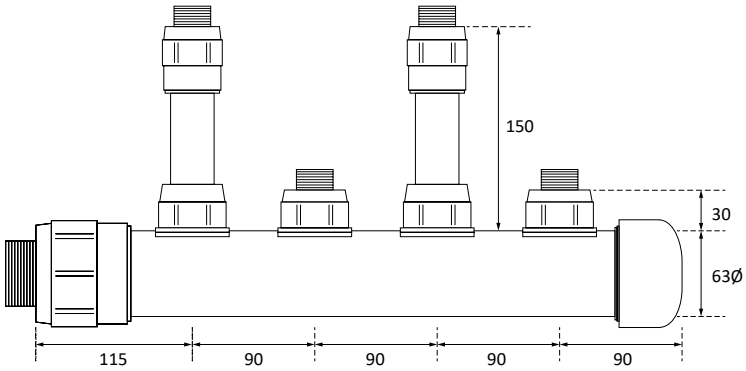
For connection using PLASSON 63mm mechanical fittings with PP-RCT adaptor.

Example with 130mm centres



2" Threaded MI Inlet

Example with 90mm centres



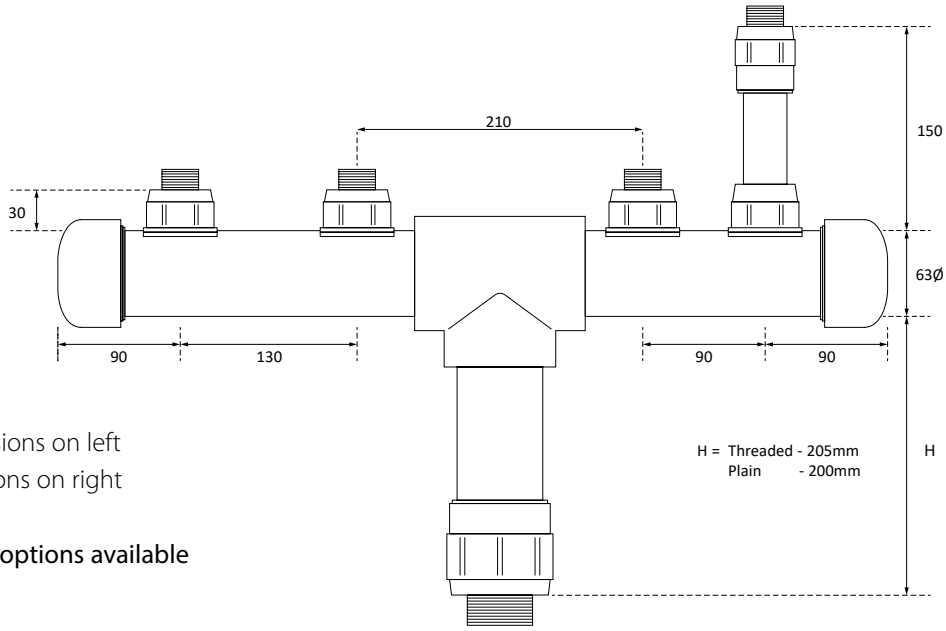
End Supply Manifold - Plain End Inlet — Max overall length in mm

Number of Outlets	3	4	5	6	7	8	9	10	11	12	13	14	15	16
90mm Centres	470	560	650	740	830	920	1010	1100	1190	1280	1370	1460	1550	1640
130mm Centres	550	680	810	940	1070	1200	1330	1460	1590	1720	1850	1980	2110	2240

End Supply Manifold - 2" MI Inlet — Max overall length in mm

Number of Outlets	3	4	5	6	7	8	9	10	11	12	13	14	15	16
90mm Centres	385	475	565	655	745	835	925	1015	1105	1195	1285	1375	1465	1555
130mm Centres	465	595	725	855	985	1115	1245	1375	1505	1635	1765	1895	2025	2155

Centre Supply



Centre Supply Example

Showing 130mm centre dimensions on left
90mm centre dimensions on right

2" MI Threaded or 63mm plain options available

Centre Supply Manifolds — Max overall length in mm

Number of Outlets	2	4	5	6	7	8	9	10	11	12	13	14	15	16
90mm Centres	-	570	660	750	840	930	1020	1110	1200	1290	1380	1470	1560	1650
130mm Centres	390	650	780	910	1040	1170	1300	1430	1560	1690	1820	1950	2080	2210

PLASSON® MCP System
End Supply Manifolds

130mm centres
Plain end



130mm Centres - Plain End	PORTS
PM3525E 3B02	3
PM3525E 4B02	4
PM3525E 5B02	5
PM3525E 6B02	6
PM3525E 7B02	7
PM3525E 8B02	8
PM3525E 9B02	9
PM3525E 10B02	10
PM3525E 11B02	11
PM3525E 12B02	12
PM3525E 13B02	13
PM3525E 14B02	14
PM3525E 15B02	15
PM3525E 16B02	16

90mm centres
Plain end



90mm Centres - Plain End	PORTS
PM3525E 3A02	3
PM3525E 4A02	4
PM3525E 5A02	5
PM3525E 6A02	6
PM3525E 7A02	7
PM3525E 8A02	8
PM3525E 9A02	9
PM3525E 10A02	10
PM3525E 11A02	11
PM3525E 12A02	12
PM3525E 13A02	13
PM3525E 14A02	14
PM3525E 15A02	15
PM3525E 16A02	16



130mm centres
2" MI end



130mm Centres - 2" MI End	PORTS
PM3525E 3B03	3
PM3525E 4B03	4
PM3525E 5B03	5
PM3525E 6B03	6
PM3525E 7B03	7
PM3525E 8B03	8
PM3525E 9B03	9
PM3525E 10B03	10
PM3525E 11B03	11
PM3525E 12B03	12
PM3525E 13B03	13
PM3525E 14B03	14
PM3525E 15B03	15
PM3525E 16B03	16

90mm centres
2" MI end



90mm Centres - 2" MI End	PORTS
PM3525E 3A03	3
PM3525E 4A03	4
PM3525E 5A03	5
PM3525E 6A03	6
PM3525E 7A03	7
PM3525E 8A03	8
PM3525E 9A03	9
PM3525E 10A03	10
PM3525E 11A03	11
PM3525E 12A03	12
PM3525E 13A03	13
PM3525E 14A03	14
PM3525E 15A03	15
PM3525E 16A03	16

Drain off cock (DOC) for manifolds



To add a DOC to any of the above manifolds, order code PM3525DOC for each manifold ordered.

Code	Description
PM3525DOC	Drain point for PP-RCT manifold

PLASSON® MCP System
Centre Supply Manifolds

130mm centres
Plain end



130mm Centres - Plain End	PORTS
PM3525C 4B02	4
PM3525C 5B02	5
PM3525C 6B02	6
PM3525C 7B02	7
PM3525C 8B02	8
PM3525C 9B02	9
PM3525C 10B02	10
PM3525C 11B02	11
PM3525C 12B02	12
PM3525C 13B02	13
PM3525C 14B02	14
PM3525C 15B02	15
PM3525C 16B02	16

90mm centres
Plain end



90mm Centres - Plain End	PORTS
PM3525C 4A02	4
PM3525C 5A02	5
PM3525C 6A02	6
PM3525C 7A02	7
PM3525C 8A02	8
PM3525C 9A02	9
PM3525C 10A02	10
PM3525C 11A02	11
PM3525C 12A02	12
PM3525C 13A02	13
PM3525C 14A02	14
PM3525C 15A02	15
PM3525C 16A02	16



130mm centres
2" MI end



130mm Centres - 2" MI End	PORTS
PM3525C 2B03	2
PM3525C 4B03	4
PM3525C 5B03	5
PM3525C 6B03	6
PM3525C 7B03	7
PM3525C 8B03	8
PM3525C 9B03	9
PM3525C 10B03	10
PM3525C 11B03	11
PM3525C 12B03	12
PM3525C 13B03	13
PM3525C 14B03	14
PM3525C 15B03	15
PM3525C 16B03	16

90mm centres
2" MI end



90mm Centres - 2" MI End	PORTS
PM3525C 4A03	4
PM3525C 5A03	5
PM3525C 6A03	6
PM3525C 7A03	7
PM3525C 8A03	8
PM3525C 9A03	9
PM3525C 10A03	10
PM3525C 11A03	11
PM3525C 12A03	12
PM3525C 13A03	13
PM3525C 14A03	14
PM3525C 15A03	15
PM3525C 16A03	16



Drain off cock (DOC) for manifolds



To add a DOC to any of the above manifolds, order code PM3525DOC for each manifold ordered.

Code	Description
PM3525DOC	Drain point for PP-RCT manifold

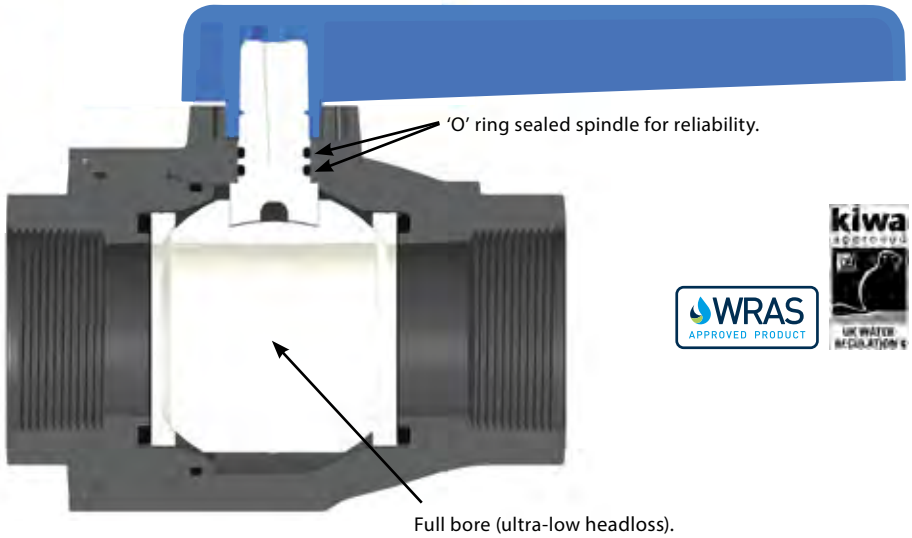
PLASSON® MCP System
3703 Mains Stop Valve - Above Ground Use

Full bore 1/4 turn ball valve with a drain port option, for mains isolation.



The 2" FI PLASSON 3703, UK Water Reg4 approved mains stop valve, is a non-metallic (light weight) ¼ turn full bore stop valve, which fully compliments the PLASSON MCP system. With its:

- Large, easy grip handle
- Drain/test port (no need to fit one)
- Connect direct to the MI manifold connection, or use PLASSON fittings to connect to a plain ended manifold



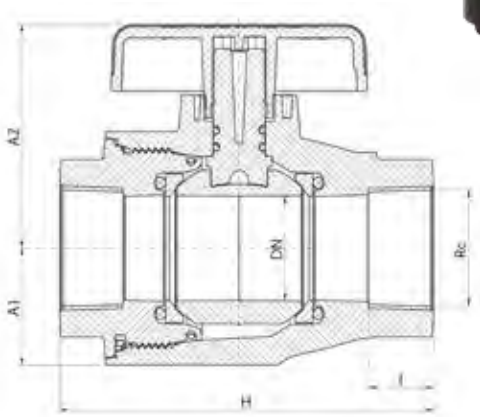


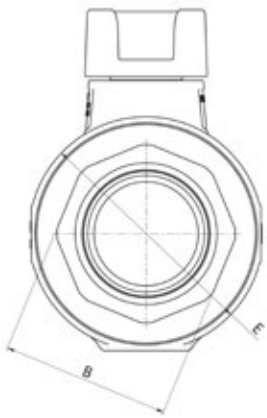
3703 Mains Stop Valve

C/w drain / test ports
Above ground only
Fi x fi



Code	d	dn
PV037030F020	2"	50





With Drain

For above ground use only

Code With Drain Above Ground Only	Size	DN X RC	RP*	A1	A2	H	I	B	E	W
PLA37030F050	2"	50 x 2"	¼"	53	97	162	29	75	100	918

* Drain ports ISO 7/1 Rp, BSP thread.

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GEBERIT

PLANNING AND INSTALLATION GUIDE

GEBERIT FLOWFIT

VALID FROM JANUARY 2023

KNOW HOW INSTALLED

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CHAPTER ONE

PRINCIPLES

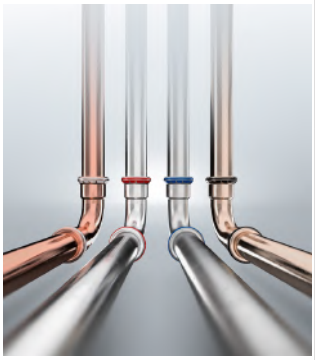


1.1 OVERVIEW OF GEBERIT SUPPLY SYSTEMS

With supply systems made of metal composite, plastic and metal, Geberit offers solutions for a wide variety of applications with liquid and gaseous media.

The pressing systems press the optimally coordinated system components. The pressing of pipes and fittings creates permanent, positive and lengthways non-positive, tight pipe connections.

1.1.1 Geberit pressing systems

Geberit pressing system		System pipe material
Geberit FlowFit		• Multilayer PE-RT II / Al / PE-RT II
Geberit Mepla		• Multilayer PE-RT II / Al / PE-RT II
Geberit Mapress Stainless Steel		• CrNiMo steel 1.4401 • CrNiMo steel 1.4401 with PP jacket • CrMoTi steel 1.4521 • CrNi steel 1.4301
Geberit Mapress Carbon Steel		• Non-alloy steel 1.0034, outside zinc-plated • Non-alloy steel 1.0034, outside zinc-plated, with PP jacket • Non-alloy steel 1.0215, inside and outside zinc-plated
Geberit Mapress Copper		• Copper CW024A according to EN 1057
Geberit Mapress CuNiFe		• Copper-nickel-iron alloy CuNi10Fe1.6Mn, 2.1972.11

1.2 POSITIONING OF THE SUPPLY SYSTEMS

Geberit supply systems can cover almost all areas of application in technical building systems, industry and shipbuilding. The selection of a suitable system is determined, among other things, by the product material characteristics and by application-specific requirements.

The following positioning of the systems depending on their application options in an overall installation serves only as an initial orientation.

	Geberit FlowFit	Geberit Mepla	Geberit Mapress
Storey distribution in prewall installations and solid construction	✓	✓	–
For embedding in concrete	–	–	–
Riser pipes and floor connections	✓	✓	✓
Basement distribution	✓	✓	✓
Industrial installations	✓	✓	✓
Ship installation	✓	✓	✓

✓ Suitable

– Depending on the situation

1.3 TRANSPORT AND STORAGE

1.3.1 Transport and storage rules

The rules for the correct handling of Geberit system pipes during transport and storage are used to protect the pipes from possible damage due to incorrect handling.

These rules do not include any information on health and safety regulations and accident prevention regulations in the handling of long goods. These regulations are country-specific and must be observed by the forwarding agent, stockkeeper and by all other people involved in the transport.

1.3.2 Transport

The following rules must be observed when transporting Geberit system pipes:

- When loading and unloading, make sure that the pipes do not become dirty or damaged. The pipes must not be pulled over the sill or thrown.
- The pipes must be secured against slipping during transport. If the pipes hit the front or rear wall of the loading area during transport, the pipe ends may be damaged or the protection plugs may be pressed into the pipes.
- The pipes may only be transported in closed loading areas.

1.3.3 Storage

When storingGeberit system pipes ML and ML Therm, the following rules must be observed in order to avoid damage due to incorrect storage and mistakes.

- The pipes must only be stored in a dry and well-ventilated storage area.
- The pipes must not be stored directly on the ground, as otherwise the pipe surface may become scratched or damaged.
- In order for air to flow around the pipes and for moisture on the pipe surface to dry more quickly, the pipes must be stored on cantilever-type shelves or dry squared timber. At least three contact points must be provided. The pipes must not sag.
- The pipes must be protected from direct exposure to sunlight.
- If the pipes cannot be stored separately according to pipe dimensions, the smaller pipe dimensions must always be stored on top of the larger pipe dimensions.

1.4 USE AND PROPERTIES OF GEBERIT FLOWFIT

1.4.1 Application range

Geberit FlowFit can be used for basement and riser pipes and for storey distribution under the operating conditions specified in the Geberit FlowFit usage overview.

Main areas of use of Geberit FlowFit:

- potable water installations for hot and cold water
- heating installations
- cooling pipes
- compressed air installations

Most important media:

- drinking water
- heating water
- cooling water with and without frost protection
- service water
- treated water
- rainwater with a pH value > 6.0
- seawater
- extinguishing water
- chemicals and technical liquids
- compressed air (oil purity class 0–3)
- inert gases (e.g. nitrogen)
- negative pressure

The negative pressure is derived from the air pressure at the place of installation minus the pressure of 200 mbar. Example: Air pressure of 980 mbar minus pressure of 200 mbar = 780 mbar of usable negative pressure in the pipe system.

Information regarding media and operating conditions is summarised in the usage overview, which can be viewed in the online catalogues of the responsible sales companies.

1.4.2 Resistance to liquid and gaseous media

In addition to their use for drinking water and heating water, Geberit supply systems can also be used for other liquid and gaseous media. The medium itself may be modified due to the pipes or fittings. The suitability of the Geberit supply systems for different media is therefore not only derived from the resistance of the pipes, but also depends on the medium's intended use.

The current usage overviews can be found in the online catalogue or in the printed catalogue.

If Geberit supply systems are intended for media other than those listed, the resistance of the pipe and sealing materials must be checked and approved by Geberit.

The following are required for the approval:

- product and safety data sheets of the medium
- indication of the concentration
- exposure time, frequency and flow rate
- sample of the medium (only after consultation)
- planned operating temperature
- planned operating pressure
- maximum malfunction temperature
- ambient conditions (e.g. pipe layout through cleanroom, high humidity, permanent moisture, aggressive environment)

Resistance-related enquiries can be made online via the website of the Geberit sales companies.

The Geberit Industrial Application Tool is available at https://industryapplication.geberit.co.uk to assist in selecting a suitable piping system.

1.4.3 System properties

The following table provides an overview of the most important properties of Geberit FlowFit.

Property		Meaning
Diffusion tightness		• The Geberit system pipe ML forms a total barrier against diffusion and is therefore suitable for heating applications.
Hot water resistance		• Permanently 0–70 °C at 10 bar • Short-time exposure up to 95 °C for drinking water (heating water 100 °C) for a maximum of 100 hours in 50 years
Resistance to pressure		• In cold water pipes 16 bar (operating temperature 0–20°C) • In hot water pipes 10 bar (operating temperature 0–70 °C)
UV resistance		• UV-stabilised, but avoid constant sunlight. • Not suitable for continued UV exposure from UV lighting, for example in greenhouses.
Corrosion resistance		• Corrosion-resistant in a normal, dry environment • Corrosion-resistant to a large number of liquid and gaseous media • Corrosion protection required in rooms that are permanently or periodically damp or in aggressive environments
Electrical conductivity		• Dielectric (no uninterrupted metal connection) • Can unrestrictedly be installed upstream of, between and downstream of all pipe materials. • Cannot be used as equipotential bonding. Earthing is therefore not required.

1.5 ADVANTAGES, FEATURES AND FUNCTIONS OF GEBERIT FLOWFIT

The following tables explain the advantages of an installation with Geberit FlowFit.

Table 1: High level of working comfort

Benefits	Features and functions of Geberit FlowFit
Easy handling	• The lateral positioning of the pressing jaw is ideal for narrow areas and for when there is a small distance from the wall or ceiling. • Only 2 pressing jaws for all 8 pipe diameters (lighter cases) • No heavy pressing collars. Lightweight pressing jaws make the installation easier, especially with overhead work. • The pressfitting made of PPSU can be rotated into the optimal pressing position for the plumber. • The pipe diameters D16 to 40 mm can also be pressed with hand-operated pressing pliers.
Faster completion	• No constant change of the pressing tool. Properties with up to 20 apartments can even be realised without changing the pressing jaws. • Intuitively correct assignment of the pressing jaw and fitting through clear colour marking • No deburring and calibration of the pipes (if a pipe end is oval or ragged, a separate Geberit calibration tool is available) • High retaining force of the fittings: The fitted pipe remains in the desired position (e.g. in the riser zone or in the event of a change in direction). • Less effort is required

Table 2: Installation safety

Benefits	Features and functions of Geberit FlowFit
Error-free work	• Inspection window in the fittings for visual control of the pipe insertion depth • Avoidance of failed pressing sequences through the intuitively correct assignment of the pressing jaw and fitting • The pressing indicator is used for pressing and as a tool guide rim. It is practically impossible to press in the wrong direction.
Easy control of the installation	• The detached pressing indicator shows the successful pressing. • Unpressed connections can be easily identified by the attached blue or orange pressing indicator. • The fittings are leaky if unpressed.
Robustness and long service life of the fittings	• Suitability for construction sites due to the compact design of the fitting, stiffening rib on the fitting and the absence of delicate parts • Versatile material that is as robust as metal, but is corrosion-resistant and has a long service life • Stainless steel pressing clamp • High-quality O-ring for safety/tightness with a long service life

Table 3: Cost-effectiveness

Benefits	Features and functions of Geberit FlowFit
Cost savings through optimal workflows and sustainability	• Comfortable work saves energy and time. • Lower material costs (flow-optimised fittings enable smaller pipe diameters) • Durability due to the quality of materials and processing • 25-year spare part guarantee

Table 4: Cleanliness and hygiene

Benefits	Features and functions of Geberit FlowFit
Potable water hygiene made easy from the start	• Pipes and fittings are protected against impurities with protective caps, even in dirty working environments. • The flow-optimised product design enables shorter draw-off times and reduces the risk of stagnation.
Clean installation and sustainability	• The pressing indicators are simply collected and recycled with a collecting device on the pressing jaw. • For installations above existing systems, the collecting device on the pressing jaw prevents pressing indicators from falling down in an uncontrolled manner.

Table 5: Future viability

Benefits	Features and functions of Geberit FlowFit
Compliance with standards	• Materials meet the mandatory normative requirements from 2021 (e.g. metallic fittings are lead-free).
Sustainability	• Environmental product declarations according to EN 15804 (EPDs) are available for Geberit FlowFit system pipes and fittings. • Less material and energy consumption from manufacture to disposal • 25-year spare part guarantee • Innovative recycling system. The Geberit sales company takes back system parts and packaging in order to introduce them back into the manufacturing process or to recycle them.
Latest state-of-the-art technology	• Optimised flow behaviour generates lower pressure losses and allows for smaller pipe diameters. • Simple and fast pressing technology • Smaller distances to the wall and ceiling

Table 6: Intelligent planning

Benefits	Features and functions of Geberit FlowFit
Optimal planning capability	• Support and service through Geberit competence in potable water hygiene • Current BIM content for Geberit FlowFit is provided through the Geberit BIM Catalogue plug-in. • Sanitary engineers can use the range available in their market in the local language.

Table 7: Safeguarding of potable water quality

Benefits	Features and functions of Geberit FlowFit
Potable water hygiene through product design	• Pressure-loss-optimised product design allows for smaller installation designs, thereby reducing the time that the water stays in the pipe. • Smaller pipe diameters shorten the draw-off time. • Flow divider for more water movement in the distribution pipe.

1.6 SYSTEM DESCRIPTION

1.6.1 Overview of Geberit FlowFit

Geberit FlowFit is a corrosion-resistant and universally applicable supply system in which the pipes and fittings are connected by pressing them together laterally to create permanent, leakproof pipes.

Geberit FlowFit is characterised by the following properties:

- The lateral pressing combined with the innovative Geberit FlowFit tool concept enables a smooth, convenient installation with shorter installation times than with conventional pressing systems.
- The flow-optimised system with lower pressure losses enables smaller pipe diameters and therefore a smaller supply system. For potable water installations, this has a positive effect on the draw-off time and potable water hygiene.
- The Geberit system pipe ML combines the stability advantages of metallic material with the corrosion resistance of plastic. The pipes are easy to bend and inherently stable. The stability of the multilayer pipe is ensured by the longitudinally welded aluminium pipe.

The most common uses are listed below. Other applications (media), together with the operating temperatures and operating pressures, are listed in the Geberit FlowFit usage overview.

	System pipe material	Dimensions[1] d [mm]	Most common uses
Geberit FlowFit 	Multi-layer (ML) PE-RT II / Al / PE-RT II 	16–75	• Hot and cold potable water • Heating water • Cooling water with and without antifreeze agent • Treated water • Compressed air (oil class 0–3)

1) Available pipe dimensions for a system pipe/fitting combination

The operating conditions specified in the relevant approvals, standards and technical regulations must be observed for each application. These may differ from the information in the usage overviews.

Geberit provides pressing tools and service-free pressing jaws for pressing the pipes and fittings.

The lateral pressing of Geberit FlowFit enables the number of the required pressing jaws to be significantly reduced. To compress the pipe and fitting, the pressing jaw no longer has to wrap around the fitting, but is placed above the pressing indicator, which is the same size for several fitting dimensions. For lateral pressing, the space requirements for the pressing are lower. Pipes can be laid at a closer distance to the wall and ceiling and pipe systems can be installed in a more space-saving manner.

Only 2 pressing jaws are required for the 8 Geberit FlowFit dimensions:



Figure 1: Blue pressing jaw for the dimensions d16, 20, 25, 32 and 40 mm



Figure 2: Orange pressing jaw for the dimensions d50, 63 and 75 mm

The dimensions d16–40 mm can also be pressed with the Geberit FlowFit hand-operated pressing pliers.



Figure 3: Geberit FlowFit hand-operated pressing pliers

The fitting range includes:

- flow-optimised fittings made of plastic
- fittings made of lead-free gunmetal and lead-free silicon bronze for the transition to other systems and components
- Geberit adapters with MasterFix for connection to Geberit valves
- system transitions to all other Geberit supply systems

1.6.2 System components

The Geberit FlowFit system consists of the following components:

System pipes:

- Geberit system pipe ML
- Geberit system pipe ML Therm

Fittings:

- Geberit FlowFit pressfittings made of PPSU
- Geberit FlowFit pressfittings made of lead-free gunmetal or lead-free silicon bronze

Permanent adapters, including transitions

- to Geberit Mapress
- to Geberit Mepla
- with thread to other systems

Removable adapters and connections, including

- adapters with MasterFix

Connections for heating:

- connector boxes
- connection bends
- connector T-pieces

Manifolds:

- manifold with threaded connection and MasterFix

Tap connectors, including

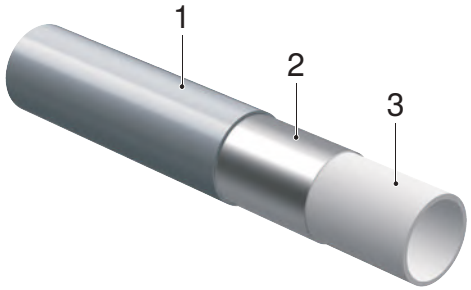
- tap connectors for solid construction with moisture sealing and for direct system connection

Geberit provides the corresponding fastenings and processing tools for the pipe processing and pipe laying.

Geberit system pipe ML

Structure and essential product information

The Geberit system pipe ML is made of 3 layers. It is particularly suitable for drinking water installations.



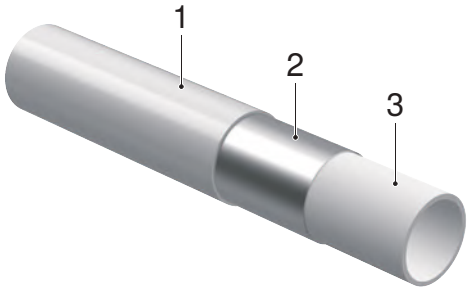
1 Protective jacket
2 Aluminium pipe
3 Media pipe

Outer diameter	16–75 mm
Designs	• Bare • Pre-insulated • In a protective tube
Description	• Media pipe made of polyethylene of raised temperature resistance (PE-RT II), light grey • Longitudinally butt-welded aluminium pipe as a stabilising core • Protective jacket made of polyethylene of raised temperature resistance (PE-RT II), silver grey • Pipe end with transparent protection plug • Insulation made of PE soft foam, closed-cell, red or blue protective foil • Protective tube made of polyethylene, ice blue
Properties	• Inherently stable • Can be bent by hand up to and including a pipe diameter of 32 mm. Larger pipe diameters can be bent with a hydraulic bending tool • Forms a barrier against diffusion • The aluminium core reduces the significant linear expansion that is typical for plastic pipes and allows for larger fastening distances. • The media pipe is food-safe and therefore suitable for all drinking water.

Geberit system pipe ML, Therm

Structure and essential product information

The Geberit system pipe ML, Therm is made of 3 layers. It is particularly suitable for heating and cooling water installations.



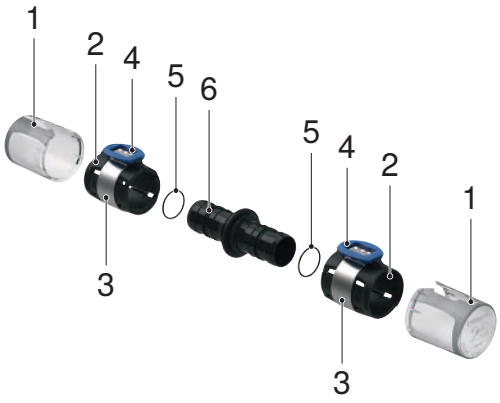
1 Protective jacket
2 Aluminium pipe
3 Media pipe

Outer diameter	16–25 mm
Designs	• Bare • Pre-insulated
Description	• Media pipe made of polyethylene of raised temperature resistance (PE-RT II), light grey • Longitudinally butt-welded aluminium pipe as a stabilising core • Protective jacket made of polyethylene of raised temperature resistance (PE-RT II), white • Pipe end with transparent protection plug • Insulation made of PE soft foam, closed-cell, red protective foil
Properties	• Inherently stable • Can be bent by hand up to and including a pipe diameter of 32 mm. Larger pipe diameters can be bent with a hydraulic bending tool • Forms a barrier against diffusion • The aluminium core reduces the significant linear expansion that is typical for plastic pipes and allows for larger fastening distances. • Not approved for drinking water

Geberit FlowFit pressfittings

Structure and essential product information

The Geberit FlowFit pressfitting made of PPSU with a rotary latching function allows easy and reliable alignment and pressing of the pipe and fitting.



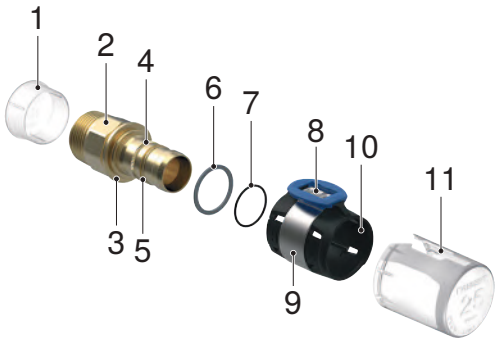
1 Protective cap
2 Collet
3 Pressing clamp
4 Pressing indicator and tool guide rim for pressing jaws
5 O-ring
6 Fitting body

Outer diameter	16–75 mm
Description	• Pressfitting made of polyphenylene sulphone (PPSU), black, with pressing clamp made of stainless steel • Pressing indicator, blue, d16–40 mm • Pressing indicator, orange, d50–75 mm • With transparent protective caps
Properties	• Pressing unit (collet, pressing clamp and pressing indicator) with a rotary latching function for precise alignment and with insertion control. After reaching the correct pipe insertion depth, the unpressed fitting can be turned clockwise and anticlockwise in 45° steps. The fitting engages noticeably and audibly. The fitting can also be pressed in any intermediate position. • The collet holds the pipe in the correct position until it is pressed. • 4 recesses below the press indicator serve as the insertion control. • The pressing indicator detaches after the pressing procedure. • The O-ring is coated with a lubricant containing silicone, which means it is not LABS-free[1)]. • Leaky if unpressed

1) Free of paint-wetting impairment substances, such as silicone

Structure and essential product information

Geberit FlowFit metal pressfittings serve as adapters.



1 Protective cap for male thread
2 Wrench flat
3 Fitting body
4 Antirotation lock
5 Retaining grooves
6 Corrosion barrier washer
7 O-ring
8 Pressing indicator and tool guide rim for pressing jaws
9 Pressing clamp
10 Collet
11 Protective cap for pressing unit

Outer diameter	16–75 mm
Description	• Pressfitting made off lead-free gunmetal or lead-free silicon bronze/PPSU with stainless steel pressing clamp • Pressing indicator, blue, d16–40 mm • Pressing indicator, orange, d50–75 mm • With transparent protective caps
Properties	• The collet holds the pipe in the correct position until it is pressed. • 4 inspection windows below the pressing indicator serve as an insertion depth control. • The pressing unit can be turned to the position that is optimal for the installer and then pressed. • The pressing indicator detaches after the pressing procedure. • The washer prevents the metal fitting body from coming into contact with the aluminium core of the multilayer pipe and therefore prevents electrochemical corrosion. • The O-ring is coated with a lubricant containing silicone, which means it is not LABS-free[1)]. • Leaky if unpressed

1) Free of paint-wetting impairment substances, such as silicone

Inspection window for insertion depth control

The inspection windows on both sides past the pressing indicator show at a glance whether the pipe and fitting are correctly connected to each other.



Figure 4: If the insertion depth is correct, the pipe can be seen through both inspection windows.

1.6.3 Flow-optimised fittings

Geberit FlowFit fittings have been flow-optimised and generate lower pressure losses than conventional plastic fittings.

The pressure loss is primarily determined by the flow velocity and the flow behaviour of the medium. Geberit FlowFit fittings have been optimised through constructive and fabrication-related measures so as to avoid peak speeds and enable an optimal medium flow behaviour.

The dimensions d16–32 mm in particular have very low Zeta values. Supply systems can be designed with smaller pipe dimensions and therefore more economically with Geberit FlowFit. Smaller pipe dimensions are also advantageous from the point of view of potable water hygiene. A lower water volume means a shorter stay in the pipe and therefore a faster exchange of water.

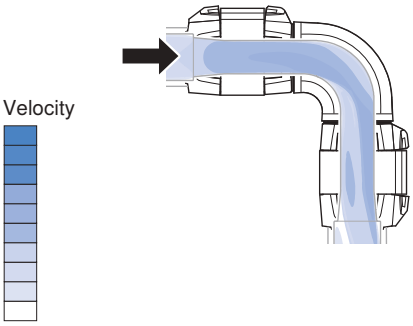


Figure 5: Flow optimisation in a Geberit FlowFit bend 90°

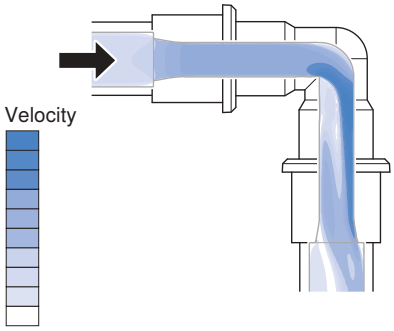


Figure 6: Flow behaviour in a conventional bend 90°

Marking of Geberit system pipe ML

1.6.4 Holding capacity in the fitted, unpressed state

Geberit FlowFit pressfittings are designed to hold the pipe in the correct position until it is pressed. This prevents the pipe from turning and slipping out.

In the event of a change in direction, the fitting holds a fitted pipe up to 0.5 m long in its position in its unpressed state.

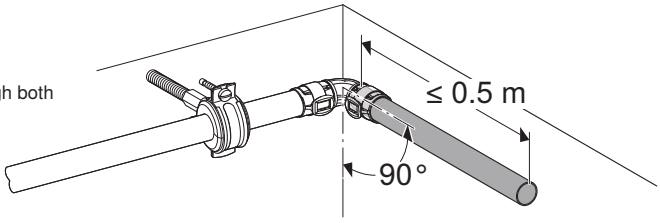


Figure 7: Radial holding capacity of the fitting

In the case of vertically laid pipes, the fitting holds a fitted pipe up to 2.5 m long in its position in an unpressed state.

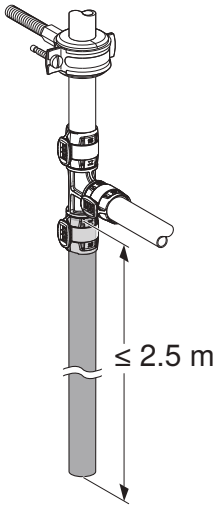


Figure 8: Axial holding capacity of the fitting

1.6.5 Marking of pipes and fittings

Geberit system pipes ML are marked with black lettering on the pipe surface. The following table explains the marking using a d16mm system pipe as an example.

GEBERIT	Company logo
Geberit system pipe ML	Product name
090101 123735	Manufacturing date and manufacturing time
16 x 2.0	Outer diameter x wall thickness [mm]
PE-RT II / Al / PE-RT II	Material
10 bar	Operating pressure
70 °C	Operating temperature
xxx, DVGW -xxx	Approval marks for Germany
ÖVGW W xxx	Approval marks for Austria
SVGW xxx	Approval marks for Switzerland
KIWA Kxxx	Approval marks for the Netherlands

Marking of Geberit system pipe ML, in a protective tube

Geberit system pipes ML in a protective tube are marked with blue lettering on the pipe surface. The following table explains the marking using a d16mm system pipe as an example.

GEBERIT	Company logo
Geberit system pipe ML	Product name
090101 123735	Manufacturing date and manufacturing time
16 x 2.0	Outer diameter x wall thickness [mm]
PE-RT II / Al / PE-RT II	Material
10 bar	Operating pressure
70 °C	Operating temperature

Marking of Geberit system pipe ML, pre-insulated

Geberit pre-insulated system pipes ML are marked with blue lettering on the pipe surface. The following table explains the marking using a d16mm system pipe as an example.

GEBERIT	Company logo
Geberit system pipe ML	Product name
090101 123735	Manufacturing date and manufacturing time
16 x 2.0	Outer diameter x wall thickness [mm]
PE-RT II / Al / PE-RT II	Material
10 bar	Operating pressure
70 °C	Operating temperature

Marking of Geberit system pipe ML, Therm

Geberit system pipes ML, Therm are marked with black lettering on the pipe surface. The following table explains the marking using a d16mm system pipe as an example.

GEBERIT	Company logo
Geberit system pipe ML Therm	Product name
090101 123735	Manufacturing date and manufacturing time
16 x 2.0	Outer diameter x wall thickness [mm]
PE-RT II / Al / PE-RT II	Material

Marking of Geberit FlowFit plastic pressfitting

Geberit FlowFit pressfittings made of PPSU are marked on the collet. The following table explains the marking using a d16mm fitting as an example.

GEBERIT	Company logo
16	Outer diameter [mm]
	Recyclable material
 YYMMDD	Data matrix code with manufacturing date (for internal processes only, for traceability purposes)
	Pipe insertion depth control

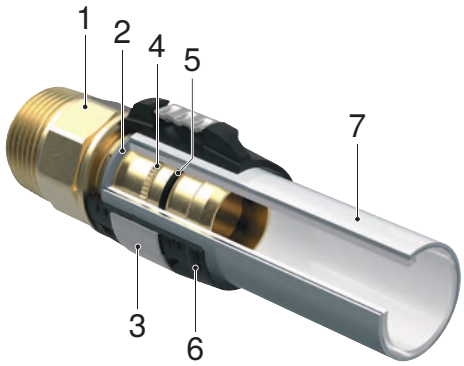
Marking of Geberit FlowFit metal pressfitting

Geberit FlowFit pressfittings made of lead-free gunmetal or lead-free silicon bronze are marked on the collet. The following table explains the marking using a d16mm fitting as an example.

GEBERIT	Company logo
16	Outer diameter [mm]
	Recyclable material
 YYMMDD	Data matrix code with manufacturing date (for internal processes only, for traceability purposes)
	Pipe insertion depth control

1.6.6 Geberit FlowFit pressed joint

The following figure shows a Geberit FlowFit pressed joint after the pressing procedure:



1 Fitting body
2 Corrosion barrier washer
3 Pressing clamp
4 Antirotation lock
5 O-ring in the retaining groove
6 Collet
7 Geberit system pipe

The fitting collet has been designed so as to reliably hold the system pipe in the correct position until it is pressed.

To press the system pipe and fitting, the Geberit FlowFit pressing jaw is placed over the pressing indicator and the pressing procedure is carried out. The pressing procedure permanently deforms the pressing unit (collet and pressing clamp) and pipe and presses them onto the fitting body so that they form a leakproof connection. The pressing indicator detaches during the pressing procedure. This makes it easy to distinguish the pressed connections from the unpressed ones.

The antirotation lock and the retaining grooves on the fitting permanently secure the pipe against being turned and pulled out. The Geberit FlowFit pressed joint is permanent.

Colour concept of Geberit FlowFit pressing jaws

To press the system pipe and fitting, the suitable pressing jaw is inserted into the Geberit pressing tool. The pressing jaw must be the same colour as the pressing indicator of the fitting to be pressed: blue for dimensions d16–40 mm and orange for dimensions d50–75 mm.

Table 8: Geberit FlowFit pressing jaws for Geberit compatibility [1] and [2]

Compatibility	Pressing jaw	d [mm]	Pressfitting
[1]		16–40	
[2]			
[2]		50–75	

Marking of the pressed joint

The Geberit FlowFit hand-operated pressing pliers and the Geberit FlowFit pressing jaws have ridges on the pressing tips.

The impression that the ridges leave during the pressing procedure make it possible to determine

- whether a Geberit pressing tool has been used for the pressing
- and the compatibility (indicated in square brackets) of the pressing jaw used.

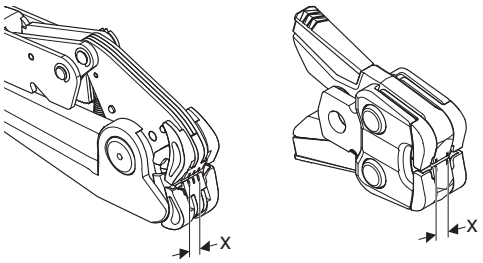


Table 9: Distance between the ridges as an indicator of the pressing tools / pressing jaws used

Distance x [mm]	Number of ridges	Pressing tool / pressing jaw[1)]	Pipe diameter d [mm]
3	3	Hand-operated pressing pliers	16–40
6	2	Pressing jaw [1]	16–40
10	2	Pressing jaw [2]	16–40
14	2	Pressing jaw [2]	50–75

The numbers in square brackets indicate the compatibility.

1.7 TECHNICAL DATA

All technical specifications in the following chapters are subject to work tolerances, any required modifications or other installation options.

1.7.1 Geberit system pipe ML

Material

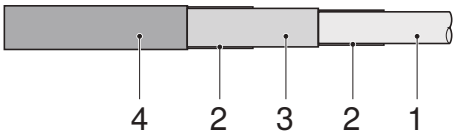


Figure 9: Geberit system pipe ML

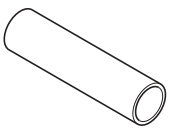
1 Media pipe made of PE-RT II
2 Bonding agent
3 Aluminium pipe
4 Protective jacket made of PE-RT II

Physical properties

Table 10: Geberit system pipe ML

Thermal expansion coefficient α at 20–100 °C	0.026 mm/(m·K)
Thermal conductivity λ at 20 °C	0.41 W/(m·K)
Surface roughness k	7 µm
Fire behaviour	System pipe ML: Class E according to EN 13501-1:2018

Pipe data



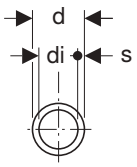


Table 11: Geberit system pipe ML, in bars

DN	d [mm]	s [mm]	di [mm]	E [kN/mm²]	m_R [kg/m]	m_{RW} [kg/m]	V [dm³/m]
12	16	2	12	69.5	0.128	0.241	0.113
15	20	2	16		0.164	0.365	0.201
20	25	2.5	20		0.236	0.550	0.314
25	32	2.8	26.4	70.0	0.328	0.874	0.547
32	40	3	34		0.458	1.365	0.908
40	50	3.8	42.4		0.707	2.117	1.412
50	63	4	55		0.996	3.368	2.376
65	75	4.6	65.8		1.465	4.859	3.400

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume
E Modulus of elasticity



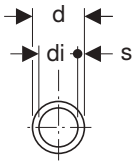
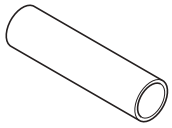


Table 12: Geberit system pipe, ML, in coils

DN	d [mm]	s [mm]	di [mm]	E [kN/mm²]	m_R [kg/m]	m_{RW} [kg/m]	V [dm³/m]
12	16	2	12	69.5	0.105	0.218	0.113
15	20	2	16		0.145	0.345	0.201
20	25	2.5	20		0.217	0.530	0.314
25	32	2.8	26.4	70.0	0.328	0.874	0.547

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume
E Modulus of elasticity

Thermal capacity



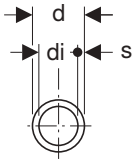


Table 13: Thermal capacity **c** per metre ofGeberit system pipe ML, in bars

DN	d [mm]	s [mm]	c [J/(m•K)]
12	16	2	183
15	20	2	235
20	25	2.5	348
25	32	2.8	493
32	40	3	674
40	50	3.8	1056
50	63	4	1472
65	75	4.6	2000



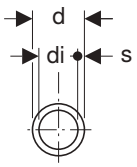
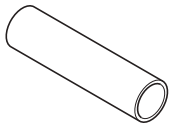


Table 14: Thermal capacity **c** per metre of Geberit system pipe ML, in coils

DN	d [mm]	s [mm]	c [J/(m•K)]
12	16	2	173
15	20	2	226
20	25	2.5	341
25	32	2.8	493

Fire load



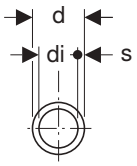


Table 15: Fire load h_u of Geberit system pipe ML, in bars

DN	d [mm]	s [mm]	h_u [kWh/m]
12	16	2	0.84
15	20	2	1.08
20	25	2.5	1.67
25	32	2.8	2.44
32	40	3	3.22
40	50	3.8	5.16
50	63	4	7.08
65	75	4.6	8.43



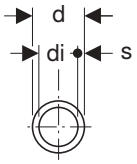


Table 16: Fire load h_u of Geberit system pipe ML, in coils

DN	d [mm]	s [mm]	h_u [kWh/m]
12	16	2	0.97
15	20	2	1.17
20	25	2.5	1.79
25	32	2.8	2.44

1.7.2 Geberit system pipe ML, with circular pre-insulation

Material

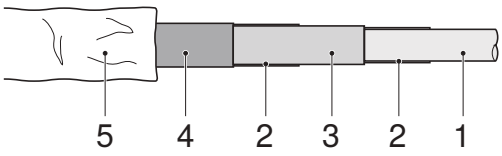


Figure 10: Geberit system pipe ML, with circular pre-insulation

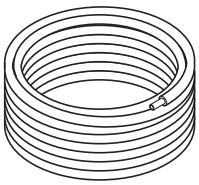
1 Media pipe made of PE-RT II
2 Bonding agent
3 Aluminium pipe
4 Protective jacket made of PE-RT II
5 Insulation, PE soft foam, closed-cell, 100 % free of HCFCs and HFCs. Protective foil (outside) made of PE

Physical properties

Table 17: Geberit system pipe ML, with circular pre-insulation

Designation	Insulation thickness			
	6 mm	10 mm	13 mm	26 mm
Thermal expansion coefficient α at 20–100 °C	0.026 mm/(m·K)			
Thermal conductivity λ, pipe at 20 °C	0.41 W/(m·K)			
Thermal conductivity λ, insulation at 20 °C	0.04 W/(m·K)			
Thermal conductivity λ, pipe and insulation at 20 °C	0.052 W/(m•K)	0.048 W/(m•K)	0.045 W/(m•K)	0.020 W/(m•K)
Surface roughness k	7 μm			
Fire behaviour	System pipe ML: Class E according to EN 13501-1:2018			
	Insulation made of PE: Class C according to EN 13501-1:2018			

Pipe data



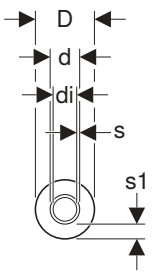


Table 18: Geberit system pipe ML, with circular pre-insulation, in coils, red or blue, insulation thickness 6 mm

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	2.8	0.128	0.241	0.113
15	20	2	16	3.2	0.171	0.372	0.201
20	25	2.5	20	3.7	0.248	0.561	0.314
25	32	2.8	26.4	4.4	0.365	0.912	0,547

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Table 19: Geberit system pipe ML, with circular pre-insulation, in coils, blue, insulation thickness 10 mm

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	3.6	0.142	0.255	0.113
15	20	2	16	4	0.188	0.388	0.201
20	25	2.5	20	4.5	0.267	0.580	0.314
25	32	2.8	26.4	5.2	0.387	0.934	0,547

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Table 20: Geberit system pipe ML, with circular pre-insulation, in coils, blue, insulation thickness 13 mm

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	4.2	0.156	0.269	0.113
15	20	2	16	4.6	0.203	0.404	0.201
20	25	2.5	20	5.1	0.283	0.596	0.314
25	32	2.8	26.4	5.8	0.405	0.952	0,547

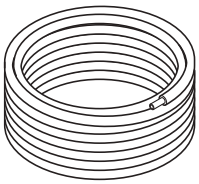
m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Table 21: Geberit system pipe ML, with circular pre-insulation, in coils, blue, insulation thickness 26 mm

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	6.8	0.234	0.347	0.113
15	20	2	16	7.2	0.285	0.485	0.201
20	25	2.5	20	7.7	0.372	0.685	0,547

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Thermal capacity



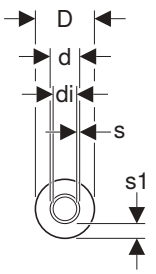
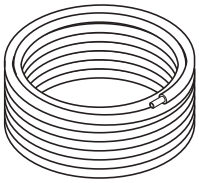


Table 22: Thermal capacity **c** per metre of Geberit system pipe ML, with circular pre-insulation

DN	d [mm]	s [mm]	c [J/(m•K)]			
			Insulation thickness			
			6 mm	10 mm	13 mm	26 mm
12	16	2	216	245	271	418
15	20	2	276	307	336	492
20	25	2.5	400	436	466	636
25	32	2.8	564	606	640	828

Fire load



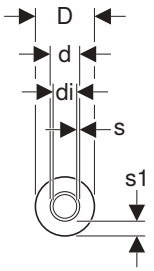


Table 23: Fire load h_u of Geberit system pipe ML, with circular pre-insulation, red or blue, insulation thickness 6 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	2.8	1.24
15	20	3.2	1.49
20	25	3.7	2.17
25	32	4.4	2.89

Table 24: Fire load h_u of Geberit system pipe ML, with circular pre-insulation, blue, insulation thickness 10 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	3.6	1.42
15	20	4	1.70
20	25	4.5	2.40
25	32	5.2	3.16

Table 25: Fire load h_u of Geberit system pipe ML, with circular pre-insulation, blue, insulation thickness 13 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	4.2	1.60
15	20	4.6	1.88
20	25	5.1	2.59
25	32	5.8	3.38

Table 26: Fire load h_u of Geberit system pipe ML, with circular pre-insulation, blue, insulation thickness 26 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	6.8	2.54
15	20	7.2	2.88
20	25	7.7	3.68

1.7.3 Geberit system pipe ML, in a protective tube

Material

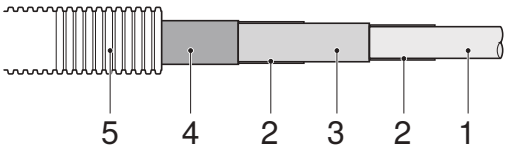


Figure 11: Geberit system pipe ML, in protective tube

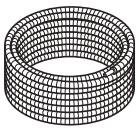
1 Media pipe made of PE-RT II
2 Bonding agent
3 Aluminium pipe
4 Protective jacket made of PE-RT II
5 Protective tube made of PE

Physical properties

Table 27: Physical properties

Thermal expansion coefficient α at 20–100 °C	0.026 mm/(m·K)
Thermal conductivity λ at 20 °C	0.41 W/(m·K)
Surface roughness k	7 μm

Pipe data



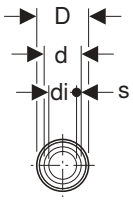
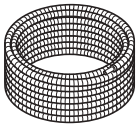


Table 28: Geberit system pipe ML, in a protective tube, in coils

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm³/m]
12	16	2	12	2.7	0.171	0.284	0.113
15	20	2	16	3.1	0.226	0.427	0.201

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Thermal capacity



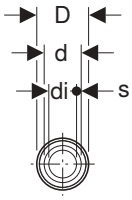
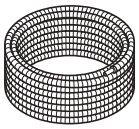


Table 29: Thermal capacity **c** per metre of Geberit system pipe ML, in protective tube

DN	d [mm]	s [mm]	c [J/(m•K)]
12	16	2	299
15	20	2	380

Fire load



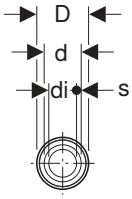


Table 30: Fire load h_u of Geberit system pipe ML, in protective tube

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	2.7	1.77
15	20	3.1	2.16

1.7.4 Geberit system pipe ML, Therm

Material

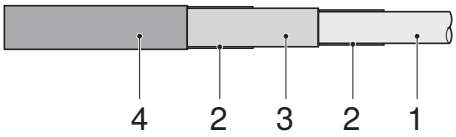


Figure 12: Geberit system pipe ML Therm

1 Media pipe made of PE-RT II
2 Bonding agent
3 Aluminium pipe
4 Protective jacket made of PE-RT II

Physical properties

Table 31: Geberit system pipe ML Therm

Thermal expansion coefficient α at 20–100 °C	0.026 mm/(m·K)
Thermal conductivity λ at 20 °C	0.41 W/(m·K)
Surface roughness k	7 μm
Fire behaviour	System pipe ML: Class E according to EN 13501-1:2018

Pipe data



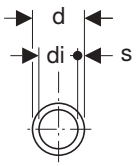


Table 32: Geberit system pipe ML, Therm, in coils

DN	d [mm]	s [mm]	di [mm]	E [kN/mm^2]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	69.5	0.105	0.218	0.113
15	20	2	16		0.145	0.345	0.201
20	25	2.5	20		0.217	0.530	0.314

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume
E Modulus of elasticity

Thermal capacity



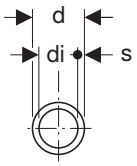


Table 33: Thermal capacity **c** per metre of Geberit system pipe ML Therm

DN	d [mm]	s [mm]	c [J/(m•K)]
12	16	2	173
15	20	2	226
20	25	2.5	341

Fire load



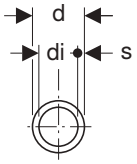


Table 34: Fire load h_u of Geberit system pipe ML, Therm, in coils

DN	d [mm]	s [mm]	h_u [kWh/m]
12	16	2	0.97
15	20	2	1.17
20	25	2.5	1.79

1.7.5 Geberit system pipe ML, Therm, with circular pre-insulation

Material

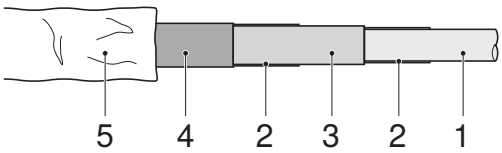


Figure 13: Geberit system pipe ML Therm, with circular pre-insulation

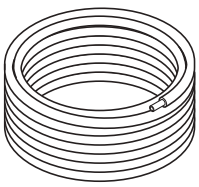
1 Media pipe made of PE-RT II
2 Bonding agent
3 Aluminium pipe
4 Protective jacket made of PE-RT II
5 Insulation, PE soft foam, closed-cell, 100 % free of HCFCs and HFCs. Protective foil (outside) made of PE

Physical properties

Table 35: Geberit system pipe ML Therm, with circular pre-insulation

Designation	Insulation thickness	
	6 mm	10 mm
Thermal expansion coefficient α at 20–100 °C	0.026 mm/(m·K)	
Thermal conductivity λ, pipe at 20 °C	0.41 W/(m·K)	
Thermal conductivity λ, insulation at 20 °C	0.04 W/(m·K)	
Thermal conductivity λ, pipe and insulation at 20 °C	0.052 W/(m•K)	0.048 W/(m•K)
Surface roughness k	7 µm	
Fire behaviour	System pipe ML: Class E according to EN 13501-1:2018	
	Insulation made of PE: Class C according to EN 13501-1:2018	

Pipe data



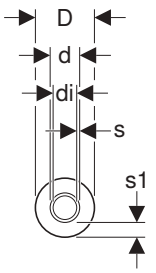


Table 36: Geberit system pipe ML, Therm, with circular pre-insulation, in coils, red, insulation thickness 6 mm

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm³/m]
12	16	2	12	2.8	0.128	0.241	0.113
15	20	2	16	3.2	0.171	0.372	0.201
20	25	2.5	20	3.7	0.248	0.561	0.314

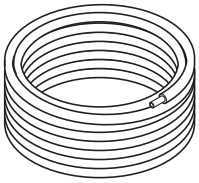
m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Table 37: Geberit system pipe ML, Therm, with circular pre-insulation, in coils, red, insulation thickness 10 mm

DN	d [mm]	s [mm]	di [mm]	D [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	3.6	0.142	0.255	0.113
15	20	2	16	4	0.188	0.388	0.201
20	25	2.5	20	4.5	0.267	0.580	0.314

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Thermal capacity



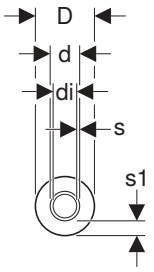
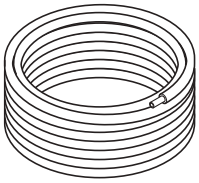


Table 38: Thermal capacity **c** per metre of Geberit system pipe ML Therm, with circular pre-insulation

DN	d [mm]	s [mm]	c [J/(m•K)]	
			Insulation thickness	
			6 mm	10 mm
12	16	2	216	245
15	20	2	276	307
20	25	2.5	400	436

Fire load



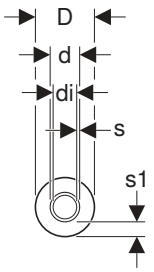


Table 39: Fire load h_u of Geberit system pipe ML, Therm, with circular pre-insulation, red, insulation thickness 6 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	2.8	1.24
15	20	3.2	1.49
20	25	3.7	2.17

Table 40: Fire load h_u of Geberit system pipe ML, Therm, with circular pre-insulation, red, insulation thickness 10 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	3.6	1.42
15	20	4	1.70
20	25	4.5	2.40

1.7.6 Geberit system pipe ML, Therm, with eccentric pre-insulation

Material

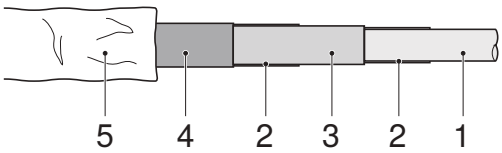


Figure 14: Geberit system pipe ML, Therm, with eccentric pre-insulation

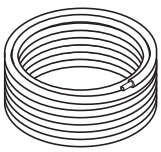
1 Media pipe made of PE-RT II
2 Bonding agent
3 Aluminium pipe
4 Protective jacket made of PE-RT II
5 Insulation, PE soft foam, closed-cell, 100 % free of HCFCs and HFCs. Protective foil (outside) made of PE

Physical properties

Table 41: Geberit system pipe ML, Therm, with eccentric pre-insulation, insulation thickness 13 mm

Thermal expansion coefficient α at 20–100 °C	0.026 mm/(m·K)
Thermal conductivity λ, pipe at 20 °C	0.41 W/(m·K)
Thermal conductivity λ, insulation at 20 °C	0.04 W/(m·K)
Surface roughness k	7 µm
Fire behaviour	System pipe ML: Class E according to EN 13501-1:2018
	Insulation made of PE: Class C according to EN 13501-1:2018

Pipe data



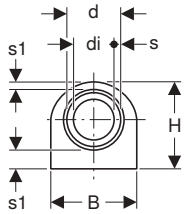
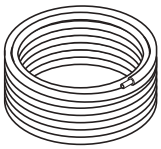


Table 42: Geberit system pipe ML, Therm, with eccentric pre-insulation, in coils

DN	d [mm]	s [mm]	di [mm]	B [cm]	m_R [kg/m]	m_{RW} [kg/m]	V [dm^3/m]
12	16	2	12	3.9	0.155	0.268	0.113
15	20	2	16	4.3	0.201	0.401	0.201
20	25	2.5	20	4.9	0.286	0.600	0.314

m_R Pipe weight
m_{RW} Pipe weight with water at 10 °C
V Pipe volume

Thermal capacity



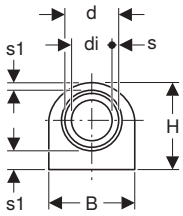
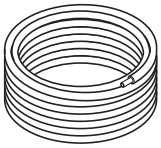


Table 43: Thermal capacity **c** of Geberit system pipe ML, Therm, with eccentric pre-insulation

DN	d [mm]	s [mm]	c [J/(m•K)]
12	16	2	268
15	20	2	332
20	25	2.5	472

Fire load



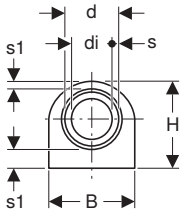
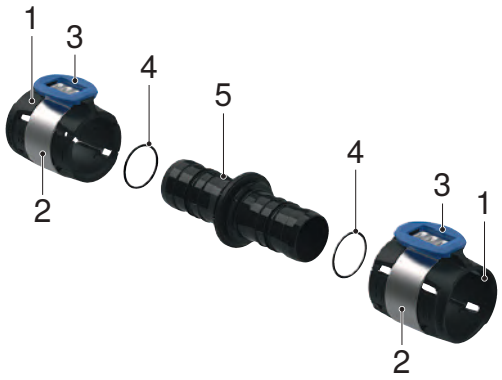


Table 44: Fire load h_u of Geberit system pipe ML, Therm, with eccentric pre-insulation, insulation thickness 13 mm

DN	d [mm]	D [cm]	h_u [kWh/m]
12	16	4.2	1.58
15	20	4.6	1.86
20	25	5.1	2.63

1.7.7 Geberit FlowFit plastic pressfittings

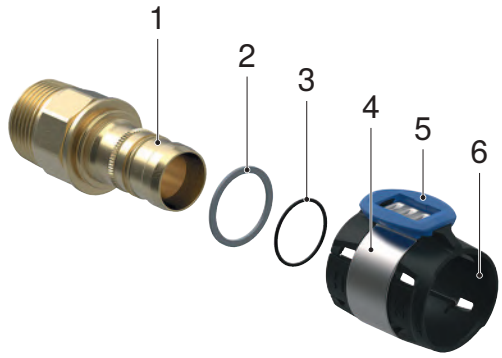
Material



1 Collet (not medium-transporting) made of PA-GF
2 Pressing clamp made of stainless steel 1.4301
3 Pressing indicator and tool guide rim made of POM (Polyoxymethylene)
4 O-ring made of EPDM
5 Fitting body (medium-transporting) made of PPSU

1.7.8 Geberit FlowFit metal pressfittings

Material



1 Fitting body (medium-transporting) made of lead-free gunmetal or lead-free silicon bronze
2 Corrosion barrier washer made of PE-HD
3 O-ring made of EPDM
4 Pressing clamp made of stainless steel 1.4301
5 Pressing indicator and tool guide rim made of POM (Polyoxymethylene)
6 Collet (not medium-transporting) made of PA-GF

CHAPTER TWO

PRACTICAL USE



2.1 INSULATION OF PIPE SYSTEMS

The insulation of pipe systems must fulfil various functions depending on the constructional situation:

- anticondensation insulation
- thermal insulation
- sound insulation
- absorption of low thermal expansion in pipes

There are a few basic rules to consider when insulating pipe systems:

- It is essential that the choice of insulation is designed to suit the area of use in order to ensure that insulation materials do not damage the pipe material. The restrictions on use provided by the insulation material manufacturers must be observed.
- Insulation materials must be protected against moisture or consist of closed cells in order to avoid a reduction in the insulating effect. Insulation does not replace corrosion protection.
- The installation and routing guidelines provided by the insulation material manufacturers must be observed.
- Insulation shells are not suitable for the absorption of low thermal expansion.
- The absorption of low thermal expansion in pipes is only possible in soft insulation.
- The insulation must be selected according to the respective area of application.

2.1.1 Insulation of potable water pipes

In drinking water pipes, the insulation fulfils the function of maintaining the drinking water quality, amongst other things. Cold-water pipes must be insulated against heat and hot water pipes against heat loss.

Missing or unsuitable insulation has the following consequences:

- In cold-water pipes, the water quality can be affected by heat , e.g. through the formation of legionella. The temperature changes also lead to condensation, which encourages corrosion.
- In hot water pipes and circulation lines, the water quality can be affected by heat loss, e.g. through the formation of legionella. Heat loss also leads to increased energy consumption.

The design of the insulation and the insulation thicknesses depend on country-specific specifications and regulations.

Insulation thicknesses for drinking water pipes according to BS 5422:2009

BS 5422:2009 contains reference values for insulation thicknesses for hot and cold water pipes. The calculation is made according to BS EN ISO 12441 (which assumes still air).

Observe the insulation thicknesses specified in the corresponding tables of the standard or the specifications of other markets on the following pages.

Insulation thicknesses for cold-water pipes according to DIN 1988-200

The minimum insulation thicknesses for cold-water pipes can be taken from the following table for an insulation material with the thermal conductivity λ = 0.040 W/(m•K). The values are designed for residential construction and apply for ambient temperatures of 5–25 °C and a maximum of 85% humidity.

Table 45: Minimum insulation thicknesses for cold-water pipes (according to DIN 1988-200:2012-05)

Installation situation	Ambient temperature	Insulation thickness for the thermal conductivity λ = 0.040 W/(m•K)
Surface-mounted pipes in unheated rooms (e.g. basement)	≤ 20 °C (only protection against condensed water)	9 mm
Pipes laid in pipe ducts, floor ducts and suspended ceilings	≤ 25 °C	13 mm
Pipes laid, for example, in plant rooms or media channels and ducts with heat loads	≥ 25 °C	Insulation such as for hot water pipes, installation situation 1–5
Floor pipes and individual supply pipes in prewall installations	–	4 mm
Floor pipes and individual supply pipes in floor constructions (also in addition to non-circulating hot water pipes)[1)]	–	4 mm
Floor pipes and individual supply pipes in a floor construction in addition to heated circulating pipes[1)]	–	13 mm

λ Thermal conductivity of the insulation material at 10 °C

– Does not apply

1) The laying of cold-water pipes in connection with underfloor heating must fulfil the requirements of section 3.6 “Operating temperature” of DIN 1988-200:2012-05. This means that 30 seconds after fully opening a point of use, the temperature of the cold drinking water must not exceed 25 °C during normal operation.

Insulation thicknesses for hot water pipes according to the Building Energy Act

The insulation thicknesses for heat distribution and hot water pipes and valves can be found in the following table. The specified insulation thicknesses refer to the inner diameter of the pipes. In the case of insulation materials with other thermal conductivity values, the insulation thicknesses must be converted.

Table 46: Minimum insulating layer thicknesses for hot water pipes according to the German Building Energy Act (GEG)

Installation situation		Insulation thickness for the thermal conductivity λ = 0.035 W/(m·K)
1	Inner diameter ≤ 22 mm	20 mm
2	Inner diameter > 22 and ≤ 35 mm	30 mm
3	Inner diameter > 35 and ≤ 100 mm	Same as the inner diameter
4	Inner diameter > 100 mm	100 mm
5	Pipes and valves according to installation situations 1–4 in wall and ceiling openings, at pipe junctions, at pipe connection points and in central distribution systems	Half of the respective value for the installation situations 1–4
6	Hot drinking water pipes that are neither included in the circulation circuit nor equipped with pipe heating cable are, for example, floor pipes and individual supply pipes with a water content ≤ 3 l	No insulation requirements against heat emission[1)]

λ Thermal conductivity of the insulation material at 40 °C

1) Insulation is required for a concealed installation (e.g. 4 mm as mechanical protection or – for heating and cooling water installations with pipes made of non-alloy steel – as corrosion protection).

2.1.2 Sound insulation

Geberit supply systems do not produce any inherent noises with the correct system planning and installation. However, they emit noises that come from appliances and valves. Pipes must therefore be equipped with structure-borne sound insulation that consistently decouples the pipe system from the building structure, e.g. for feed-throughs or through the use of insulated pipe brackets. The insulation must be implemented correctly and without any gaps. The thickness of the insulation is not of importance. Country-specific requirements must be observed.

Sound-insulating pipe jacketing

Pipe insulation such as insulation tape, insulation hoses, insulation shells with jacketing or closures serve as sound-insulating measures which decouple the piping system from the building structure.

The thickness of the insulation does not matter when it comes to decoupling from the building structure. Insulation must not be able to absorb cement slurry, as this will re-establish contact between the pipe and the building.

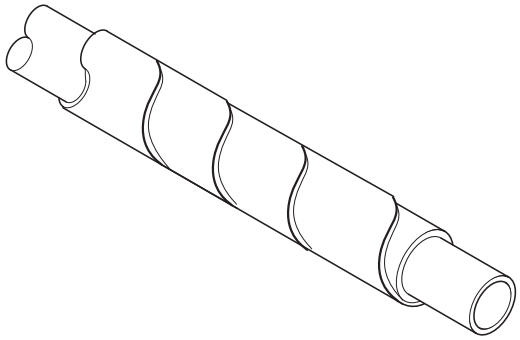


Figure 15: Geberit insulation tape

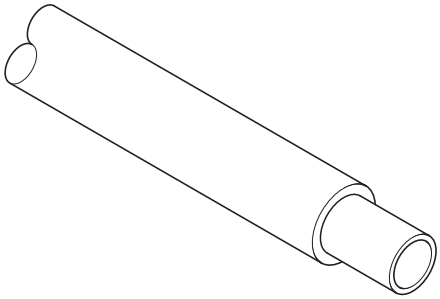


Figure 16: Geberit insulation hose

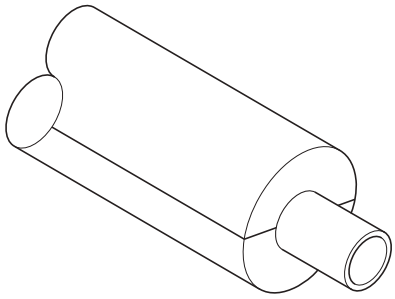


Figure 17: Insulation shell, e.g. made of PIR or PUR

Fastening sound-absorbing pipes

The pipes which have been insulated with insulation tape or insulation hoses can be fastened directly with pipe clips. The insulation therefore ensures structure-borne sound insulation.

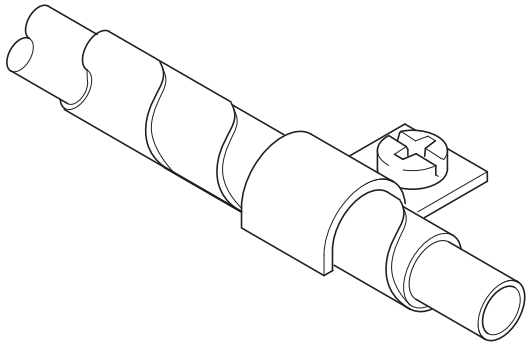


Figure 18: Pipe fastening with pipe clip on Geberit insulation tape

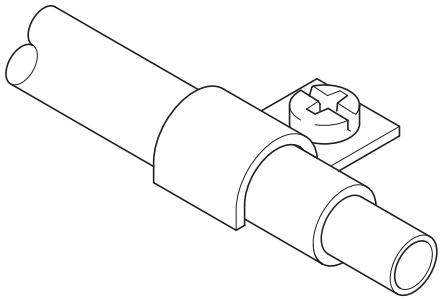


Figure 19: Pipe fastening with pipe clip on Geberit insulation hose

Pipe brackets with solid-borne sound insulation

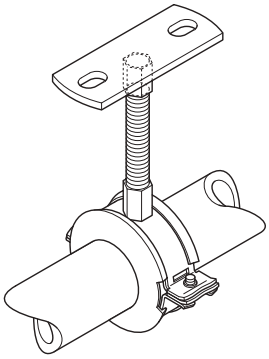


Figure 20: Pipe bracket without lining shell

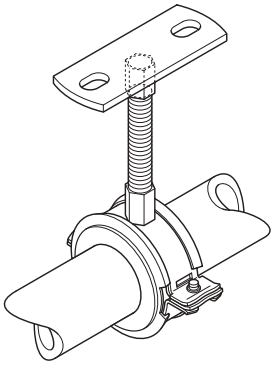


Figure 21: Pipe bracket with lining shell

Sound insulation for Geberit elbow tap connectors

The elbow tap connectors are isolated from both the mounting plate and the building structure with the elements for the structure-borne sound insulation of Geberit elbow tap connectors.

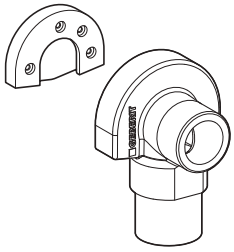


Figure 22: Geberit sound insulation set for elbow tap connector 90°

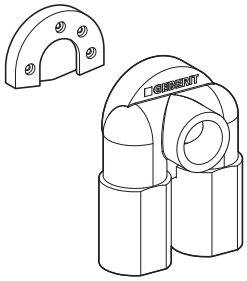


Figure 23: Geberit sound insulation set for a double elbow tap connector 90°

In the case of concealed installation, sound insulation is achieved with the Geberit sound insulation set, comprising the Geberit sound insulation base and a sound insulation cap.

2.1.3 Fire protection

Fire behaviour of Geberit system pipes ML

The Geberit system pipes ML correspond to class E according to EN 13501-1:2018. The fire load of Geberit system pipes ML is 6.5 kWh/kg.

Wall and ceiling feed-throughs, symmetrically installed snap-on pipe section

For Geberit system pipes ML, d16–75 mm, the ceiling and wall feed-throughs for up to fire resistance class R90 are created in accordance with the following specifications:

Wall feed-throughs

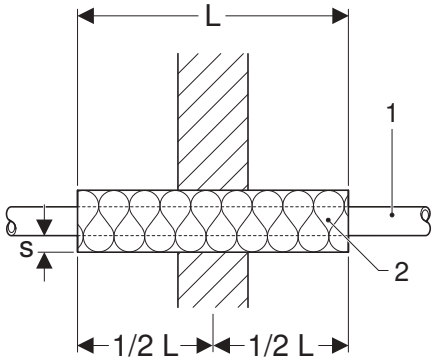


Figure 24: Fire protection for Geberit system pipe ML, d16–75 mm: wall feed-through, solid wall

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

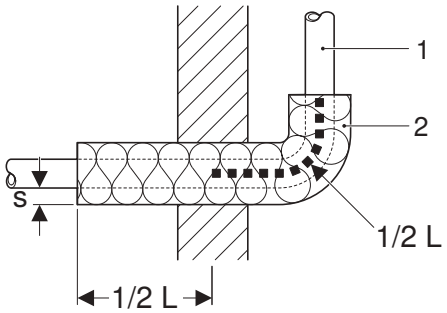


Figure 25: Fire protection for Geberit system pipe ML, d16–75 mm: wall feed-through, solid wall, bend

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

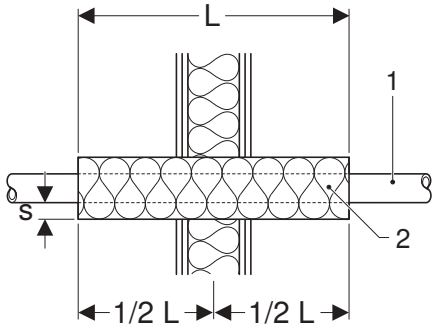


Figure 26: Fire protection for Geberit system pipe ML, d16–75 mm: wall feed-through, drywall

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

Ceiling feed-throughs

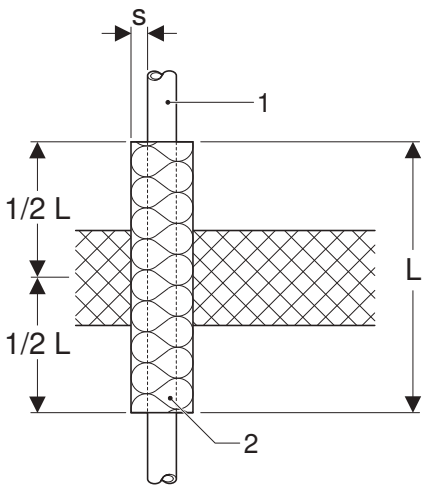


Figure 27: Fire protection for Geberit system pipe ML, d16–75 mm: Ceiling feed-through

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

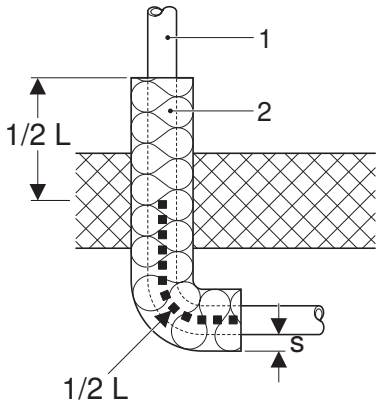


Figure 28: Fire protection for Geberit system pipe ML, d16–75 mm: ceiling feed-through, bend

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

Wall and ceiling feed-throughs, snap-on pipe section installed flush on one side

For Geberit system pipes ML, d16–75 mm, the ceiling and wall feed-throughs for up to fire resistance class R90 are created in accordance with the following specifications:

Wall feed-throughs

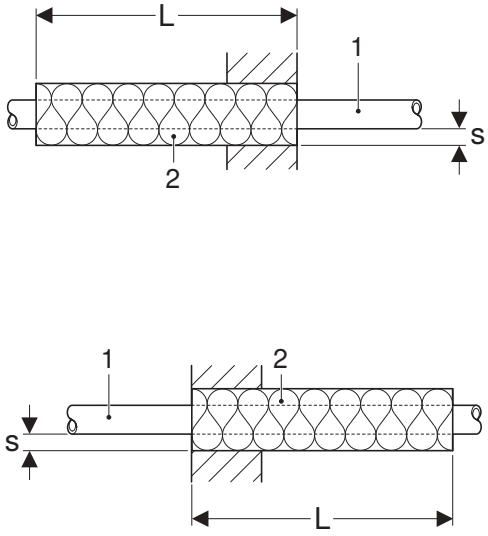


Figure 29: Fire protection for Geberit system pipe ML, d16–75 mm: Wall feed-through for solid wall, flush on one side

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

Ceiling feed-throughs

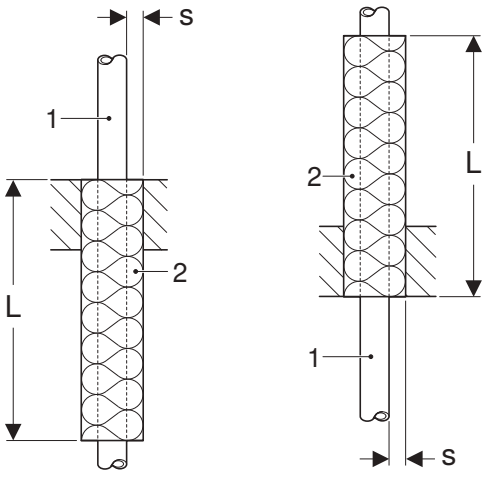


Figure 30: Fire protection for Geberit system pipe ML, d16–75 mm: Ceiling feed-through

L Total length ≥ 50 cm
s Insulation thickness
1 Geberit system pipe ML
2 Rockwool RS 800 snap-on pipe section

Insulation thickness of snap-on pipe sections for wall and ceiling feed-throughs

Table 47: Insulation thickness for Geberit system pipe ML

Application	d [mm]							
	16	20	25	32	40	50	63	75
Insulation thickness [mm] for cold water	20							30
Insulation thickness [mm] for hot water, heating	30				40	50	70	80

Wall and ceiling feed-throughs with snap-on pipe sections

Geberit system pipes ML, together with the Rockwool RS 800 snap-on pipe sections, must be fed through the existing openings of the components.

The following rules apply for the arrangement of the pipes:

- Geberit system pipes ML (d16–75 mm) insulated with snap-on pipe sections may be laid at a distance of 0 cm from each other.
- The pipes may be positioned horizontally next to each other as well as vertically above each other. The pipe axes must be in a line (linear arrangement); an offset arrangement must be avoided.

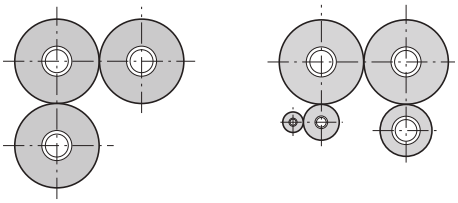


Figure 31: Admissible linear arrangement

Material used for the Rockwool RS 800 snap-on pipe section

The snap-on pipe section consists of concentrically wound rock wool with net-reinforced aluminium foil and a self-adhesive material overlap. This material has the following properties:

- building material class $A2_L$–s1,d0 (RF1) according to EN ISO 1716, EN 13823 (melting point ≥ 1000 °C)
- thermal conductivity: 0.035 W/(m·K)
- minimum length: 0.50 m on ceilings, 0.50 m on walls
- pipe dimension/Pipe section inside diameter: 16–75 mm
- insulation thickness: 20–80 mm

2.2 CORROSION

Corrosion is the reaction of a metallic material to its environment, which causes a measurable change in the material and can lead to an impairment in the function of a component or an entire system. Different types of corrosion can occur depending on the material and application area. A distinction is generally made between external corrosion and internal corrosion. However, certain types of corrosion can occur both internally and externally. Corresponding corrosion protection measures must be taken into account to avoid corrosion occurring.

2.2.1 Resistance to internal corrosion

The inner pipe of the Geberit multilayer pipe made of PE-RT II is corrosion-resistant.

2.2.2 Resistance to external corrosion

The Geberit multilayer pipe is protected from corrosion by the protective jacket made of PE-RT II.

However, corrosion of the inner aluminium pipe may occur at the cut pipe sections if the pipes are laid in the following environments:

- aggressive environment
- permanently damp environment

In these cases, the connection points must be sealed with corrosion protection.

Aggressive environment

An aggressive environment exists in all areas where corrosive gases or vapours can occur, for example in:

- animal facilities
- dairies
- cheese dairies
- storage areas for chemicals
- swimming pools
- areas with acids or alkalis

Permanently damp environment in walls or floors

Typical examples of environments that moisture can regularly enter:

- walls or floors with ground contact
- cellars in the ground water area or in a hillside location

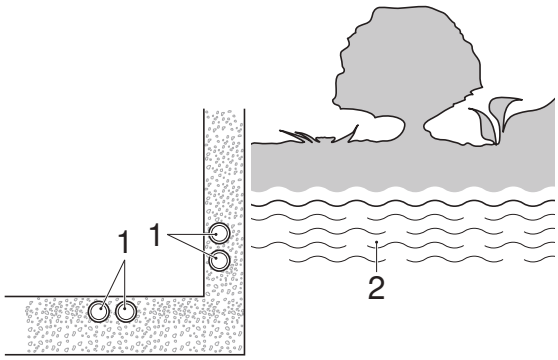


Figure 32: Laying in the cellar with ground water contact

1 Geberit system pipes with insulation
2 Ground water

Permanently damp environment in waterproof concrete troughs

Pipes laid in screed are exposed to permanent moisture if the uncovered concrete floor is designed as a waterproof concrete trough (e.g. involving waterproof concrete or bituminous coats). Regularly accumulating surface water is then stored in the floor construction.

Typical examples:

- washing plants
- large kitchens
- rooms associated with high-pressure cleaning
- swimming pools, spa areas, saunas

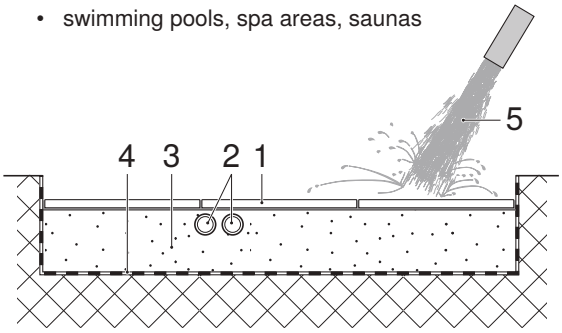


Figure 33: Laying in a waterproof concrete trough

1 Tiles
2 Geberit system pipes with insulation
3 Screed
4 Bituminous coat (forms a barrier against diffusion)
5 Regularly accumulating surface water

Laying without corrosion protection measures

Measures to protect against corrosion are not required if the pipes are equipped with a continuous condensation or thermal insulation and protected from permanent moisture, e.g. in screeds.

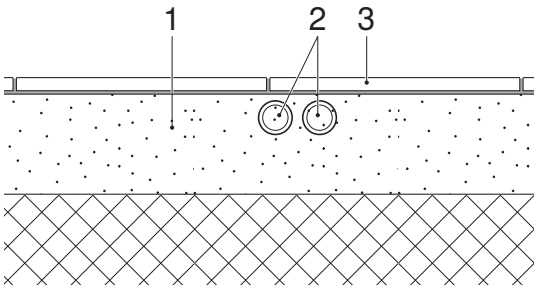


Figure 34: Laying without corrosion protection measures, e.g. tiled floor

1 Screed
2 Geberit system pipes ML with insulation
3 Tiles

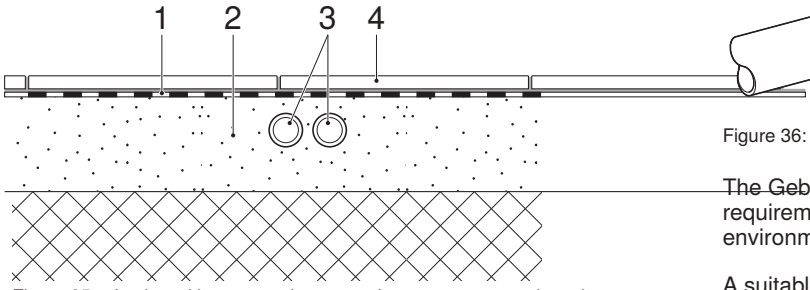


Figure 35: Laying without corrosion protection measures, e.g. in a shower area

1 Seal
2 Screed
3 Geberit system pipes ML with insulation
4 Tiles

Laying with corrosion protection measures

Sealing tapes can be used for corrosion protection when laying in aggressive or permanently damp environments and/or in a concealed location. For plastic fittings made of PPSU, the sealing tapes must meet the following requirements:

- In an aggressive environment, the sealing tape must form a barrier against diffusion, i.e. be made of closed-cell foam.
- In a permanently damp environment, it is important to ensure a complete seal against moisture.
- The adhesive used to fasten the sealing tape must be approved by the manufacturer for use with the material PPSU.

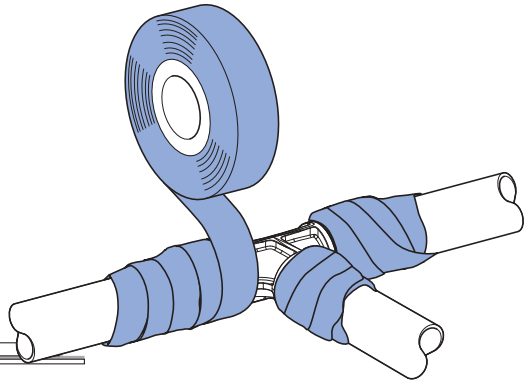


Figure 36: Corrosion protection with Geberit sealing tape

The Geberit sealing tape meets all the corrosion protection requirements in an aggressive or permanently damp environment.

A suitable protective measure (e.g. insulation) must be used to separate concealed pipes from the building structure.

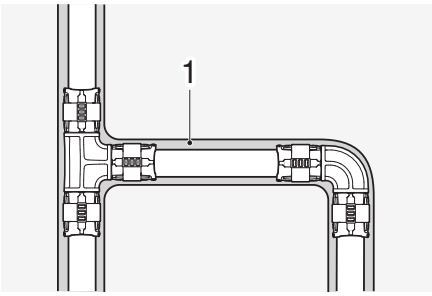


Figure 37: Concealed pipe, with corrosion protection

1 Insulation hose

2.3 MATERIAL DAMAGE CAUSED THROUGH CONTACT WITH PPSU-INCOMPATIBLE SUBSTANCES

If PPSU comes into contact with solvent-based substances, this can lead to material damage and leaks on the plastic parts of the pipe joints. This results in a risk of consequential damage.

To avoid material damage through contact with PPSU-incompatible substances, the following must be observed when processing the system components:

2.3.1 Thread adhesives

Only use standard hemp in conjunction with thread sealing compound or sealing tapes certified for drinking water as sealant for threads.

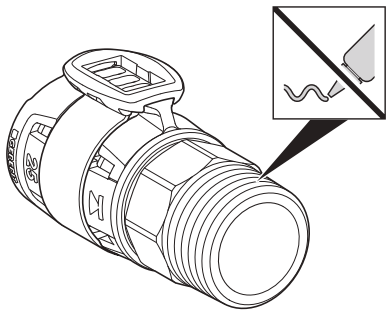


Figure 38: Solvent-based thread adhesives attack the PPSU plastic parts and the O-rings.

2.3.2 Leak detection agents

Only products approved by the manufacturer for use on PPSU may be used as leak detection agents. For example, one suitable product is the Geberit leak detection spray, art. no. 690.942.00.1.

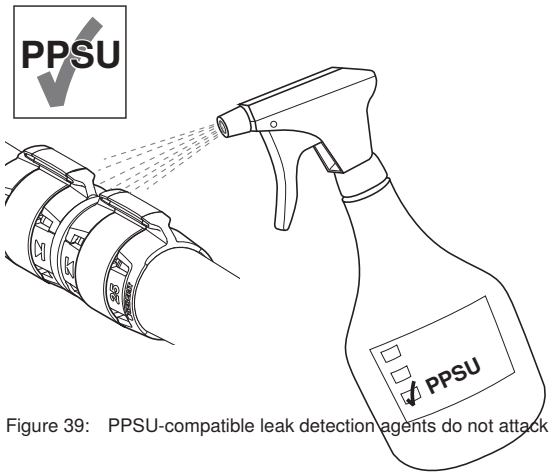


Figure 39: PPSU-compatible leak detection agents do not attack the fittings.

2.3.3 Adhesives, coatings, adhesive and protective primers

The fittings must be protected from contact with solvent-based adhesives, coatings and adhesive and protective primers. Adhesives for insulation are a particular source of danger, such as PVC solvent welding agents that attack the fitting material.

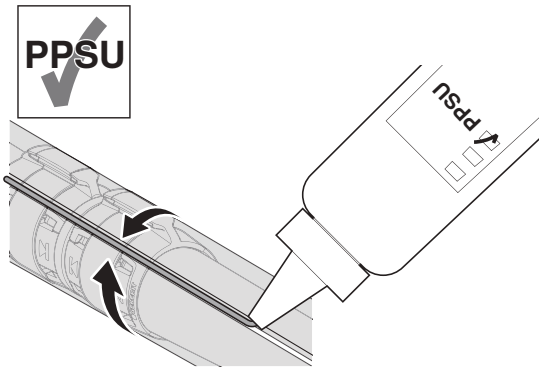


Figure 40: Insulation may only be bonded with PPSU-compatible adhesives.

2.4 TRACE HEATER

A trace heater can be used as a temperature maintenance or frost protection system. Installation with a thermostat is recommended since a low power output occurs at the limit temperatures even with a self-regulating heating strip.

It must be selected and fastened in accordance with the manufacturer's specifications.

Basic requirements for the trace heater:

- trace heater self-regulating at 65 °C, up to a maximum of 70 °C only in combination with a thermostat
- thermostat in accordance with manufacturer specifications
- installation directly on the Geberit system pipe ML

The aluminium core of the Geberit system pipe ML ensures even heat transfer around the pipe. The entire piping system must be heat-insulated.

Additional heat conduction measures are not required.

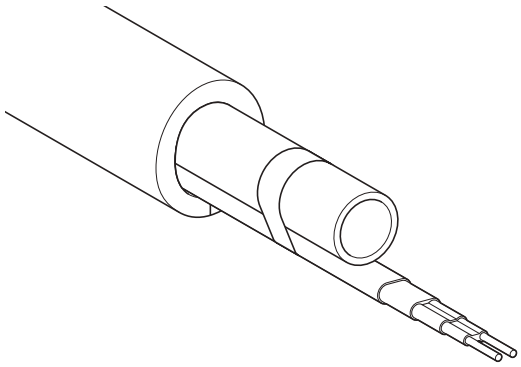


Figure 41: Principle of a hot water pipe with heating cable

Only self-regulating heating cables may be used at 65 °C.

2.5 TRANSFER OF HEAT

Transfer of heat refers to the transportation of energy in the form of heat across at least one thermodynamic boundary. The heat is transferred in the direction of the environment with the lower temperatures.

Heat emission is when the thermal energy is transferred from inside to outside, and thermal absorption is when the thermal energy is transferred in the opposite direction.

Pipes can be used for heat emission (underfloor heating, heating ceilings, heating walls, etc.) and also for thermal absorption (cooling water systems, geothermal heat storage, etc.).

2.5.1 Calculation of the heat emission

The heat emission $\dot{Q}_R$ is calculated using the following formula:

$$\dot{Q}_R = (T_i - T_a) \cdot k_r$$

$\dot{Q}_R$	Heat flow for 1 m pipe [W/m]
k_r	Heat transfer coefficient [W/(m·K)]
T_i	Water temperature in the pipe
T_a	Room temperature

In the first step, the heat transfer coefficient k_r is calculated. The heat transfer coefficient k_r can be calculated using a general or simplified formula.

2.5.2 General calculation of the heat transfer coefficient

Table 48: Diameter of Geberit system pipe ML

Nominal width	Outer pipe diameter	Aluminium layer outer diameter	PE-RT II layer outer diameter	Pipe inside diameter
DN	da [mm]	d2 [mm]	d1 [mm]	di [mm]
12	16	15.2	14.4	12.0
15	20	19.2	18.2	16.0
20	25	23.7	22.6	20.0
25	32	30.4	28.8	26.4
32	40	38.4	36.6	34.0
40	50	48.1	45.8	42.4
50	63	61.4	59.3	55.0
65	75	72.9	70.4	65.8

Assumptions for the general calculation:

- surface-mounted
- stationary air

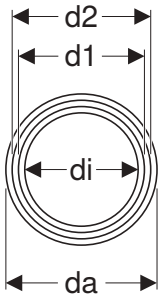


Figure 42: Cross-section of Geberit system pipe ML

The heat transfer coefficient is determined in the general calculation using the following formula:

$$k_r = \frac{\pi}{\frac{1}{\alpha_i \cdot d_i} + \frac{1}{2 \cdot \lambda_{PE\text{-}RT\ II}} \cdot \ln\left(\frac{d_1}{d_i}\right) + \frac{1}{2 \cdot \lambda_{Al}} \cdot \ln\left(\frac{d_2}{d_1}\right) + \frac{1}{2 \cdot \lambda_{PE\text{-}RT\ II}} \cdot \ln\left(\frac{d_a}{d_2}\right) + \frac{1}{\alpha_a \cdot d_a}}$$

k_r Heat transfer coefficient
α_i Heat transfer coefficient, inside [W/m²·K][1)]
α_a Heat transfer coefficient, outside [W/m²·K]
d_a Outer diameter [mm]
$d_{1,2}$ Diameter of intermediate layers [mm]
d_i Inner diameter [mm]
$\lambda_{PE\text{-}RT\ II}$ Thermal conductivity, inner pipe/protective jacket [W/m·K]
λ_{Al} Thermal conductivity, aluminium pipe [W/m·K]

1) The following applies here: 6000 W/m² · K (water at 60 °C and v = 1 m/s)

α_a is calculated as follows:

$$\alpha_a = 1.23 \frac{\Delta t^{0.25 + 0.1 d_a}}{d_a^{0.25}} \text{ [W/(m}^2\text{·K)]}$$

Δt Temperature differential [K]

(Approximation equation according to Glück [Recknagel, Sprenger, Hönmann: Handbook for Heating and Air-conditioning Technology, Oldenbourg Wissenschaftsverlag Munich, Vienna, p. 167, Figure 1.3.5–22])

Values for Geberit system pipes ML:

- α_i = 6000 W/(m²·K)
- α_a = 8.1 W/(m²·K)
- $\lambda_{PE\text{-}RT\ II}$ = 0.38 W/(m·K)
- λ_{Al} = 204 W/(m·K)
- $\lambda_{PE\text{-}RT\ II}$ = 0.38 W/(m·K)

2.5.3 Simplified calculation of the heat transfer coefficient

The simplified calculation of the heat transfer coefficient is used when the pipe only transfers the heat to another component or a liquid.

With this method, the heat transfer coefficient is calculated using the following formula without taking into account the radiant proportion:

$$k_r = \frac{\pi}{\frac{1}{\alpha_a \cdot d_a}}$$

k_r Heat transfer coefficient
α_a Heat transfer coefficient, outside [W/(m²•K)]
d_a Outer diameter [mm]

The following applies for Geberit system pipes:

- α_a = 8.1 W/(m²•K)

2.5.4 Tabulated determination of the heat emission

The heat emission can also be calculated in a simplified manner from the following table. The values of the heat flow rate $\dot{Q}_R$ are based on the general calculation of the heat transfer coefficients k_r.

Table 49: Heat flow rate $\dot{Q}_R$ in W/m for Geberit system pipe ML, bare

d x s [mm]	Temperature differential ΔT [K]									
	10	20	30	40	50	60	70	80	90	100
16 x 2.0	3.0	7.1	11.8	16.9	22.3	27.9	33.8	39.9	46.1	52.6
20 x 2.0	3.6	8.5	14.0	20.0	26.5	33.2	40.2	47.4	54.9	62.5
25 x 2.5	4.2	10.0	16.5	23.5	31.0	38.9	47.1	55.6	64.3	73.3
32 x 2.8	5.1	12.0	19.8	28.3	37.4	46.9	56.7	67.0	77.5	88.3
40 x 3.0	6.0	14.2	23.5	33.6	44.4	55.7	67.4	79.5	92.0	104.9
50 x 3.8	7.1	16.7	27.7	39.5	52.2	65.4	79.2	93.4	108.1	123.1
63 x 4.0	8.4	19.9	33.0	47.2	62.3	78.1	94.6	111.6	129.1	147.1
75 x 4.6	9.6	22.8	37.8	54.1	71.4	89.6	108.5	128.0	148.1	168.8

Table 50: Heat flow rate $\dot{Q}_R$ in W/m for Geberit system pipe ML, with circular pre-insulation, in coils, insulation thickness 6 mm

d x s [mm]	Temperature differential ΔT [K]									
	10	20	30	40	50	60	70	80	90	100
16 x 2.0	2.6	5.7	9.1	12.7	16.4	20.2	24.0	27.9	31.9	35.9
20 x 2.0	3.0	6.7	10.7	14.9	19.2	23.6	28.2	32.8	37.5	42.2
25 x 2.5	3.5	7.8	12.4	17.3	22.4	27.6	32.9	38.3	43.8	49.4
32 x 2.8	4.1	9.3	14.9	20.7	26.8	33.1	39.5	46.0	52.6	59.3

Table 51: Heat flow rate $\dot{Q}_R$ in W/m for Geberit system pipe ML, with circular pre-insulation, in coils, insulation thickness 10 mm

d x s [mm]	Temperature differential ΔT [K]									
	10	20	30	40	50	60	70	80	90	100
16 x 2.0	2.3	5.1	8.1	11.1	14.2	17.4	20.6	23.9	27.2	30.5
20 x 2.0	2.7	5.9	9.4	12.9	16.5	20.3	24.0	27.9	31.7	35.6
25 x 2.5	3.1	6.9	10.8	15.0	19.2	23.5	27.9	32.4	36.9	41.5
32 x 2.8	3.7	8.2	12.9	17.8	22.9	28.1	33.4	38.7	44.2	49.6

Table 52: Heat flow rate $\dot{Q}_R$ in W/m for Geberit system pipe ML, with circular pre-insulation, in coils, insulation thickness 13 mm

d x s [mm]	Temperature differential ΔT [K]									
	10	20	30	40	50	60	70	80	90	100
16 x 2.0	2.2	4.8	7.5	10.2	13.0	15.9	18.8	21.7	24.7	27.7
20 x 2.0	2.5	5.5	8.6	11.8	15.1	18.5	21.8	25.2	28.7	32.2
25 x 2.5	2.9	6.3	10.0	13.7	17.5	21.4	25.3	29.3	33.3	37.3
32 x 2.8	3.5	7.5	11.8	16.3	20.8	25.4	30.1	34.9	39.7	44.6

Table 53: Heat flow rate $\dot{Q}_R$ in W/m for Geberit system pipe ML, with circular pre-insulation, in coils, insulation thickness 26 mm

d x s [mm]	Temperature differential ΔT [K]									
	10	20	30	40	50	60	70	80	90	100
16 x 2.0	1.8	3.8	5.9	8.0	10.1	12.2	14.3	16.5	18.7	20.8
20 x 2.0	2.1	4.3	6.7	9.1	11.5	13.9	16.4	18.9	21.3	23.8
25 x 2.5	2.4	5.0	7.6	10.4	13.1	15.9	18.8	21.6	24.5	27.3

2.5.5 Graphical determination of the heat emission

The heat emission can also be calculated in a simplified manner from the following graphics. The values of the heat flow rate $\dot{Q}_R$ are based on the general calculation of the heat transfer coefficients k_r.

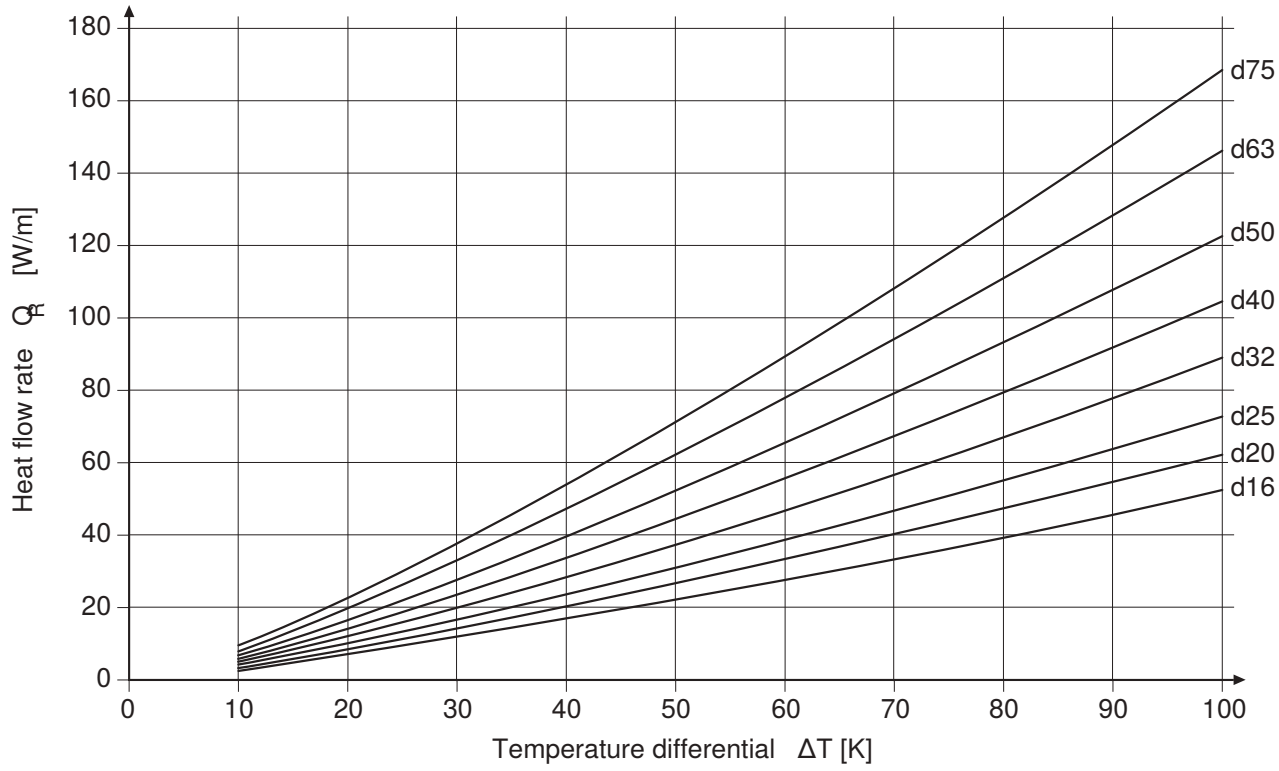


Figure 43: Heat emission for Geberit system pipe ML, bare

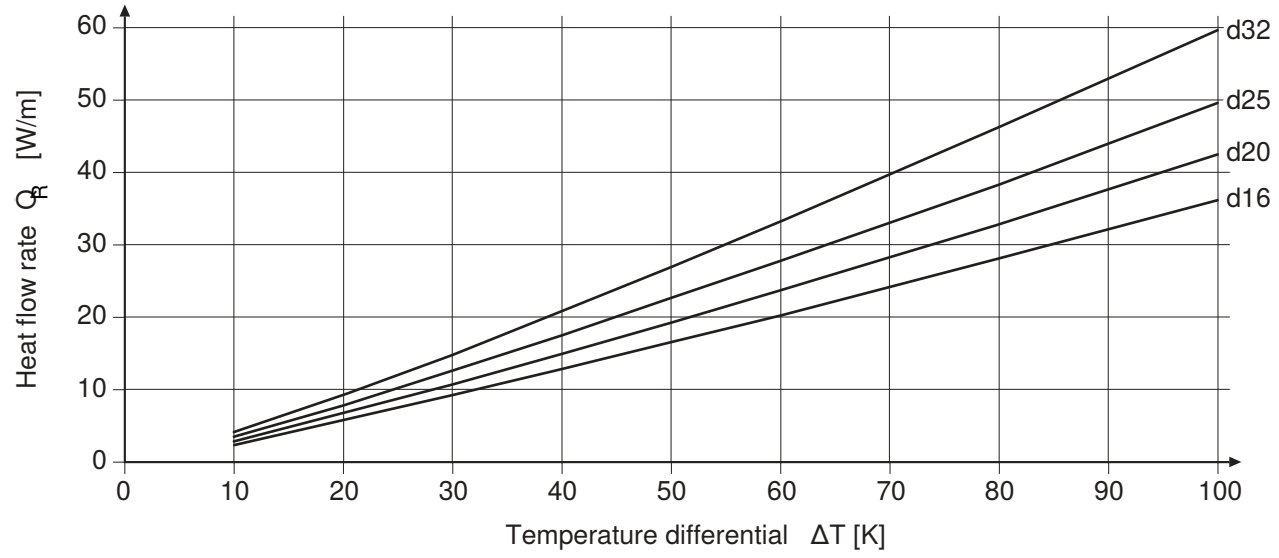


Figure 44: Heat emission for Geberit system pipe ML, 6 mm, pre-insulated

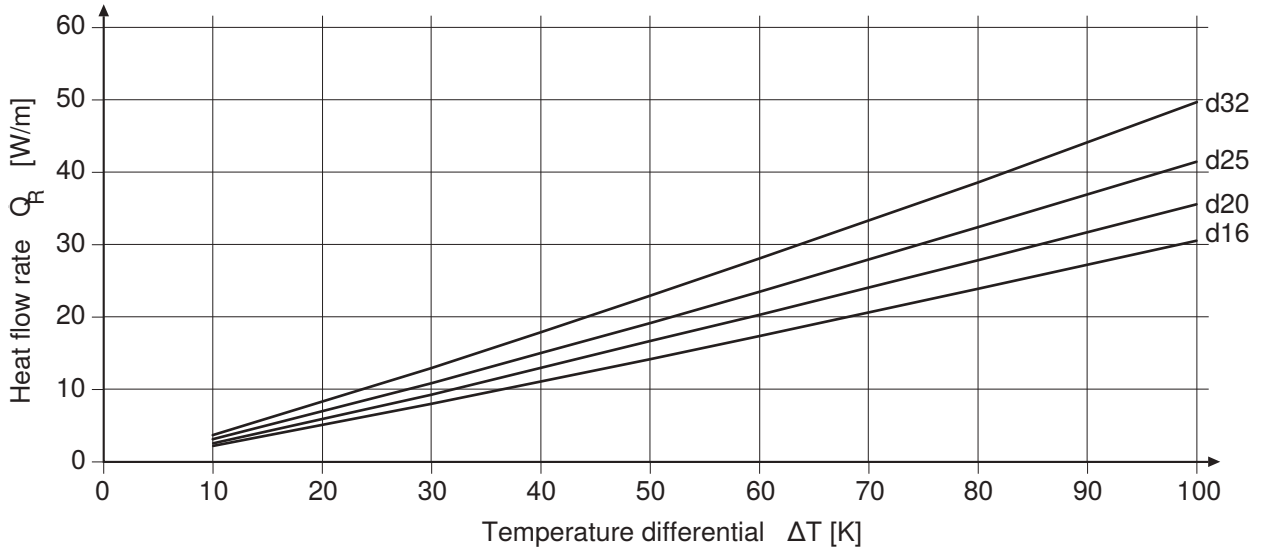


Figure 45: Heat emission for Geberit system pipe ML, 10 mm, pre-insulated

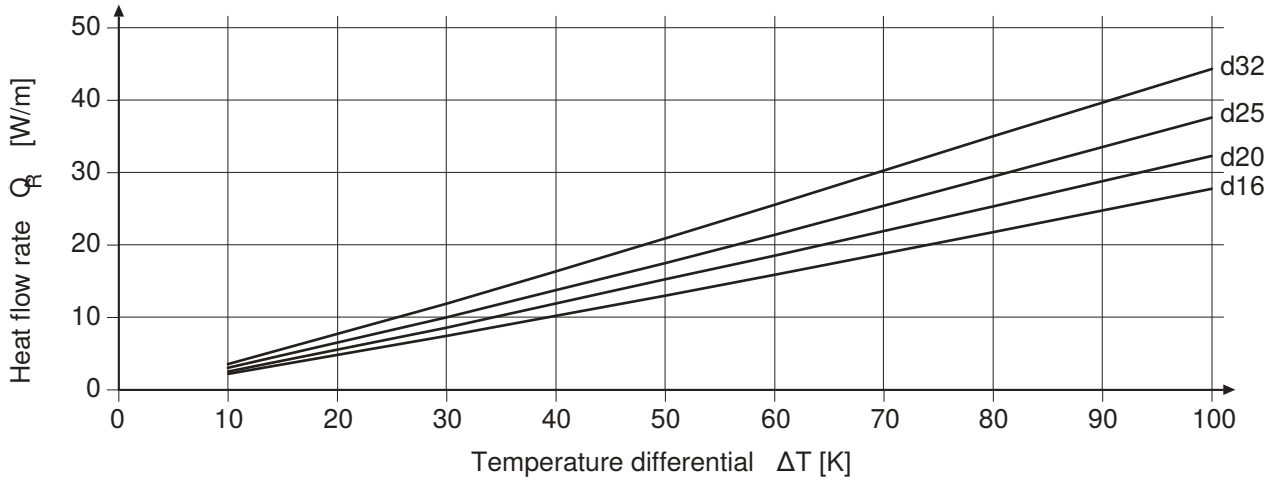


Figure 46: Heat emission for Geberit system pipe ML, 13 mm, pre-insulated

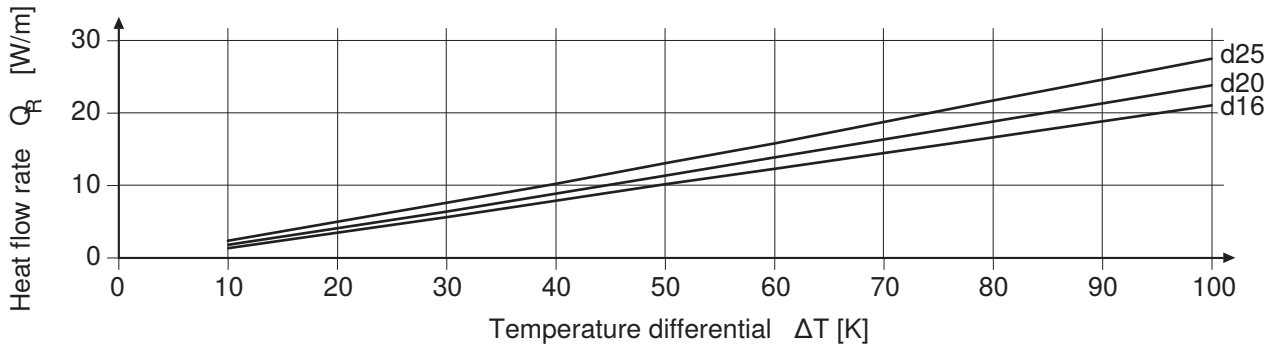


Figure 47: Heat emission for Geberit system pipe ML, 26 mm, pre-insulated

2.6 MINIMUM DIMENSIONS FOR FITTING COMBINATIONS

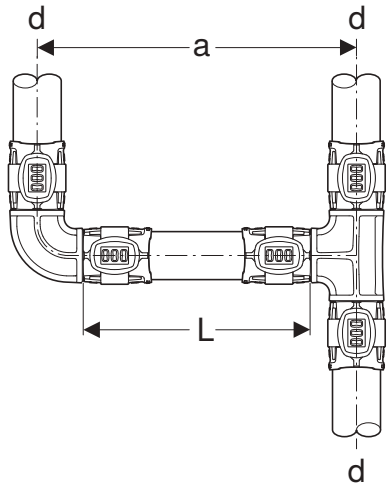


Table 54: Minimum pipe length between 2 fittings with a pressed joint

	d [mm]							
	16	**20**	**25**	**32**	**40**	**50**	**63**	**75**
L [cm]	7.3	7.3	7.3	8.6	8.6	14.0	15.0	15.0
a [cm]	11.9	12.3	12.7	14.8	15.8	24.3	26.3	27.5

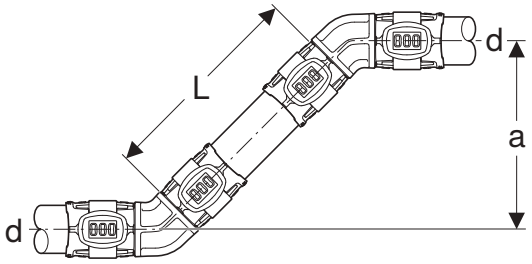


Table 55: Minimum pipe length and minimum distance between 2x bends 45°

	d [mm]					
	25	**32**	**40**	**50**	**63**	**75**
L [cm]	7.3	8.6	8.6	14.0	15.0	15.0
a [cm]	11.6	13.7	14.1	21.5	24.0	24.8

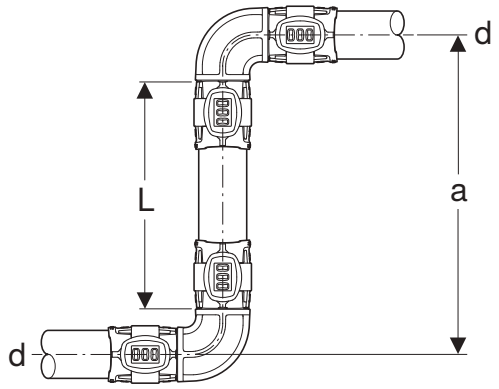
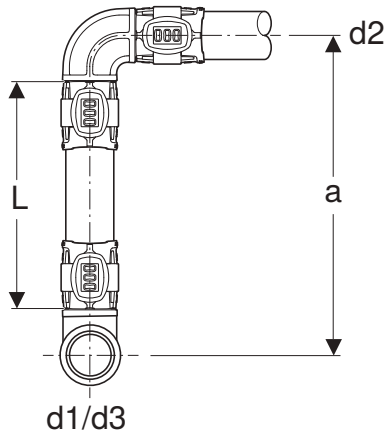


Table 56: Minimum pipe length and minimum distance between 2x bends 90°

	d [mm]							
	16	**20**	**25**	**32**	**40**	**50**	**63**	**75**
L [cm]	7.3	7.3	7.3	8.6	8.6	14.0	15.0	15.0
a [cm]	12.3	12.7	13.1	15.4	16.4	25.2	27.2	28.4



d1/d3 Through-flow
d2 Outlet

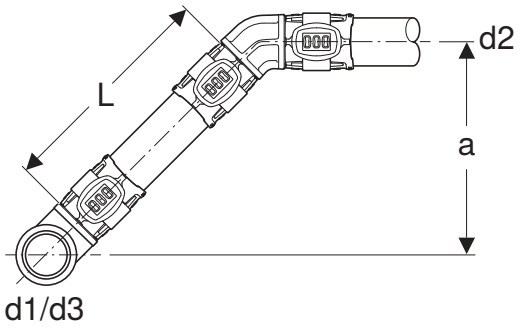
Table 57: Minimum pipe length and minimum distance between a T-piece and bend 90°

d2 [mm]		d1/d3 [mm]							
		16	**20**	**25**	**32**	**40**	**50**	**63**	**75**
16	L [cm]	7.3	7.3	7.3	8.1	–	–	–	–
	a [cm]	11.4	11.6	11.6	12.7	–	–	–	–
20	L [cm]	7.3	7.3	7.3	8.1	8.1	–	–	–
	a [cm]	11.4	11.8	12.1	12.9	13.3	–	–	–
25	L [cm]	–	7.3	7.3	8.1	8.1	10.9	11.4	11.4
	a [cm]	–	12.1	12.3	13.1	13.5	14.9	15.6	16.2
32	L [cm]	–	–	–	8.6	8.6	11.4	11.9	11.9
	a [cm]	–	–	–	14.2	14.6	16.0	16.7	17.3

d2 [mm]		d1/d3 [mm]							
		16	20	25	32	40	50	63	75
40	L [cm]	–	–	–	–	8.6	11.4	11.9	11.9
	a [cm]	–	–	–	–	15.2	16.6	17.3	17.9
50	L [cm]	–	–	–	–	–	14.0	14.5	14.5
	a [cm]	–	–	–	–	–	23.4	24.1	24.7
63	L [cm]	–	–	–	–	–	–	15.0	15.0
	a [cm]	–	–	–	–	–	–	25.3	25.9
75	L [cm]	–	–	–	–	–	–	–	15.0
	a [cm]	–	–	–	–	–	–	–	26.5

2 / 2

– Not available



d1/d3 Through-flow
d2 Outlet

Table 58: Minimum pipe length and minimum distance between a T-piece and bend 45°

d2 [mm]		d1/d3 [mm]						
		20	25	32	40	50	63	75
25	L [cm]	7.3	7.3	7.3	7.3	7.3	7.3	7.3
	a [cm]	10.4	10.6	10.9	11.2	12.0	12.5	13.0
32	L [cm]	–	–	8.6	8.6	8.6	8.6	8.6
	a [cm]	–	–	12.3	12.6	13.4	13.9	14.3
40	L [cm]	–	–	–	8.6	8.6	8.6	8.6
	a [cm]	–	–	–	12.7	13.5	14.0	14.4
50	L [cm]	–	–	–	–	14.0	14.0	14.0
	a [cm]	–	–	–	–	19.3	19.8	20.2
63	L [cm]	–	–	–	–	–	15.0	15.0
	a [cm]	–	–	–	–	–	21.5	22.0
75	L [cm]	–	–	–	–	–	–	15.0
	a [cm]	–	–	–	–	–	–	21.9

– Not available

2.7 PIPE LAYING

2.7.1 Basic laying process

Geberit FlowFit pressfittings are designed to hold the pipe in the correct position until it is pressed and to prevent the pipe from twisting and slipping out. The pressing units with a pressing indicator can be turned into a suitable position in an unpressed state.

During installation, the pipes must be kept tension-free (e.g. with pipe brackets).

The following sequence applies when laying Geberit FlowFit pressing systems:

1. Fasten the pipes in guide brackets.
2. Connect the pipes and pressfittings.
3. Turn the pressing unit with the pressing indicator to the desired position before the pressing procedure.
4. Press the pipes and pressfittings.

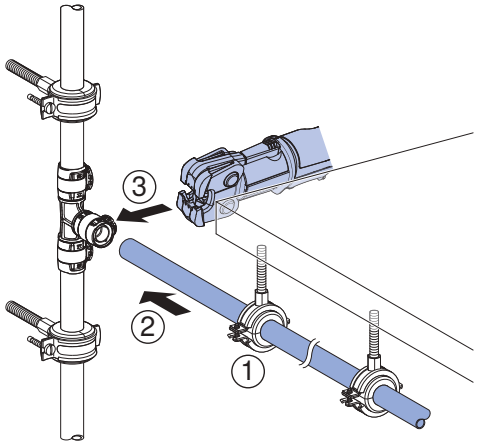


Figure 48: Pipes must be kept tension-free during the pressing procedure, e.g. with pipe brackets.

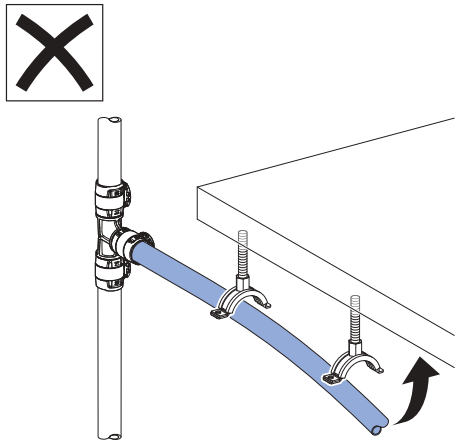


Figure 49: Inadmissible tension on the pipe

Before the pressing procedure, it is important to check that the fitting and in particular the pressing unit are clean and free of impurities from other trades, e.g. free of concrete slurry.

2.7.2 Concealed laying

Make sure that all concealed pipes are systematically insulated from the building. The following system pipes can be used for this purpose:

- Geberit system pipes with insulation
- Geberit system pipes with protective tube

Fastenings which are not sound-insulating must be fixed in place above the insulation or protective tube. The system pipes must be fixed in place, as otherwise pressure surges may generate noise in the area of pipe crossovers.

All local installation provisions and provisions specific to your country of installation must be adhered to.

2.7.3 Laying through ceiling feed-throughs

Do not bend pipes which are routed through ceiling feed-throughs over edges as otherwise the pipe could kink.

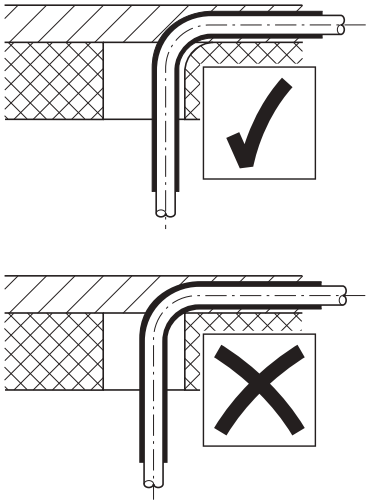


Figure 50: Laying pipes through a ceiling feed-through

2.7.4 Connection to pipes laid in parallel

Geberit provides a T-piece crossing for connecting to two parallel pipes without intersections. This is only suitable for heating and cooling for hygienic reasons.

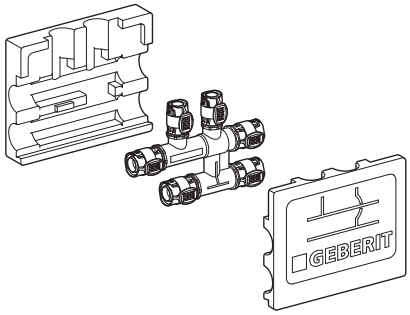


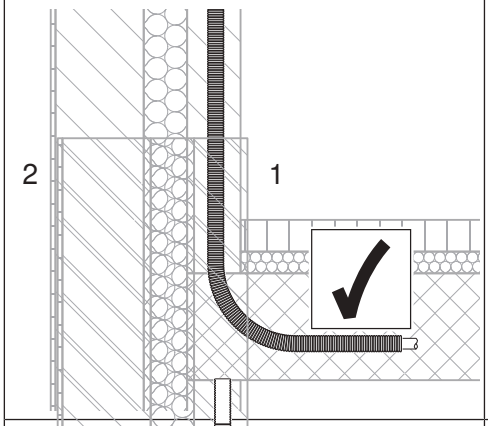
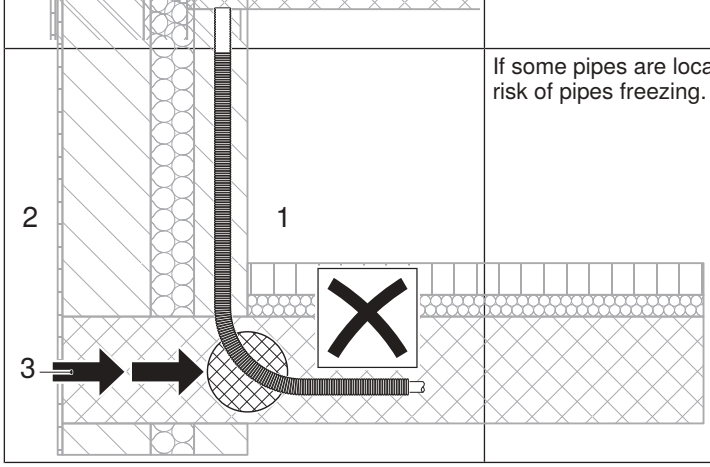
Figure 51: Geberit FlowFit T-piece crossing with insulation box

2.7.5 Protection against impact

Geberit system pipes and fittings must be protected appropriately against mechanical loads and impact (e.g. when laying on unfinished floors).

2.7.6 Frost protection

In order to prevent pipes freezing, the following information on frost protection must be taken into account when laying pipes:

Example: Pipe laying	Note concerning pipe laying
	When laying pipes in heated buildings, route pipes in areas of the building structure where the temperature is above 0 °C.
	If some pipes are located in frost-prone areas (e.g. cold bridges), there is an increased risk of pipes freezing.

1 Inside (warm area)

2 Outside (cold area)

3 Cold bridge

Suitable measures to prevent the danger of frost:

- Only lay pipes in the warm areas of buildings
- Lay pipes with frost protection tape
- Provide an option for shutting off and draining the relevant section of pipe

2.7.7 Connection to a water heater

When connecting to devices, e.g. a continuous flow heater, electric solar accumulator or a solid fuel, it is important to ensure that the maximum water temperature arising there does not exceed the maximum admissible temperature of the pipe system.

Through protective measures on these devices, e.g. a thermostat, thermal cut-out, thermal overload device, it is important to ensure that short-term malfunction temperatures of a maximum of 100 °C (for heating systems) and 95 °C for potable water systems for the pipe system are not exceeded.

2.8 THERMAL EXPANSION OF PIPES

Pipes expand differently due to thermal effects depending on the material. This thermal expansion is designated as change in length Δl. The higher the temperature differences, the greater also the change in length.

The following affect the change in length:

- material
- ambient conditions
- operating conditions (e.g. media with different temperatures)

The change in length must be taken into account in the planning of the pipe installation.

In the case of pipes that are embedded in concrete in the protective tube or with the corresponding insulation, the thermal expansion is absorbed within the protective tube or insulation. No further measures are therefore required.

The following designs must be taken into account for exposed or concealed installation and when laying pipes in ducts.

The pipes are kept flexible with guide brackets.

Anchor points direct the change in length in the desired direction. Suitable measures must be taken to absorb the change in length, depending on the specification of the change in length.

2.8.1 Control of the change in length with guide brackets and anchor points

The pipe length and application purpose have an influence on which measures must be taken to absorb the temperature-related changes in length.

Table 59: Control of the change in length depending on the pipe length and application purpose

Pipe length L in the case of straight pipes	Application purpose		
	Cold water	Hot water/circulation	
	d16–75	d16–25	d32–75
< 12 m	No control of the change in length is required through guide brackets and anchor points if the pipe is insulated[1)]		
> 12 m	No control of the change in length is required through guide brackets and anchor points if the pipe is insulated[1)]		Control of the change in length through guide brackets and anchor points

1) Rule of thumb: Insulation thickness = 1.5 x change in length Δl

2.8.2 Longitudinal forces

The longitudinal forces that occur during thermal expansion can be calculated using the following formula:

$$F = A \cdot E \cdot \alpha \cdot \Delta T$$

F	Force due to thermal expansion of the pipe [N]
A	Annulus of aluminium pipe [mm^2]
E	Modulus of elasticity of aluminium = 70 kN/mm^2
α	Thermal expansion coefficient of aluminium = 0.026 mm/(m•K)
ΔT	Temperature differential (operating temperature – ambient temperature at the time of installation) [K]

Example:

A temperature differential of 30 K results in the following maximum forces for Geberit system pipe ML:

Pipe dimension [mm]	Annulus of aluminium pipe [mm^2]
16	21.7
20	27.7
25	36.4
32	47.0
40	71.3
50	104.2
63	152.3
75	283.6

Table 60: Longitudinal forces due to thermal expansion [N]

Pipe dimension [mm]	Temperature differential ΔT [K]							
	10	20	30	40	50	60	70	80
16	396	792	1188	1583	1979	2375	2771	3167
20	503	1007	1510	2013	2517	3020	3523	4027
25	663	1327	1990	2653	3316	3980	4643	5306
32	855	1710	2564	3419	4274	5129	5984	6838
40	1297	2594	3890	5187	6484	7781	9077	10,374
50	1897	3794	5691	7589	9486	11,383	13,280	15,177
63	2772	5544	8316	11,088	13,860	16,632	19,404	22,176
75	5161	10,322	15,483	20,645	25,806	30,967	36,128	41,289

2.8.3 Configuration of anchor points

The anchor point must be able to absorb the reaction forces that occur during the temperature-related changes in length in the pipe. The reaction forces result from the resistance of the deflection leg on the anchor point.

Calculation software available on the market can be used to calculate the reaction forces.

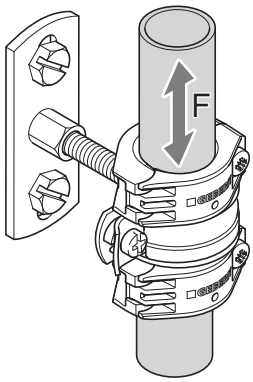


Figure 52: Simple anchor-point fastening

Table 61: Maximum force absorption of an anchor point with a simple anchor-point fastening with Geberit system pipes ML

Pipe dimension [mm]	Maximum force absorption [N]
16	400
20	500
25	550
32	1000
40	1400
50	2100
63	2500
75	3000

In the case of increased reaction forces due to temperature-related changes in length in the pipe, additional anchor-point fastenings can be installed in a row.

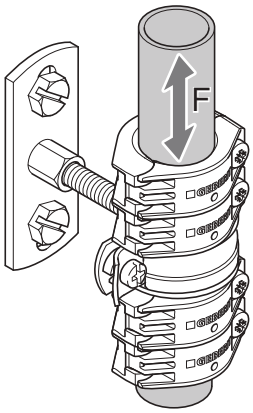


Figure 53: Double anchor-point fastening

This measure increases the maximum force absorption of an anchor point to the following values:

Table 62: Maximum force absorption of an anchor point with a double anchor-point fastening with Geberit system pipes ML

Pipe dimension [mm]	Maximum force absorption [N]
16	800
20	1000
25	1100
32	2000
40	2800
50	4200
63	5000
75	6000

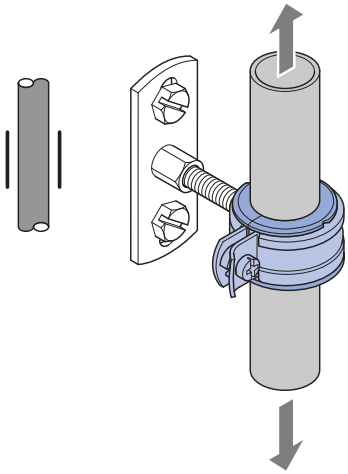
2.8.4 Installing an anchor point

✓ Suitable pipe bracket is available.

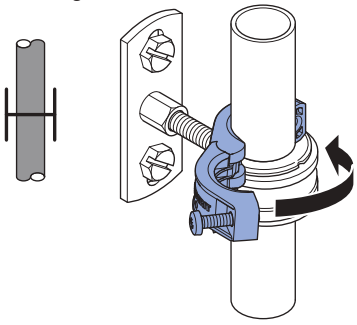


d		
d 25	603.702.00.1	601.854.26.1
d 32	604.702.00.1	601.855.26.1
d 40	605.702.00.1	601.856.26.1
d 50	606.702.00.1	601.858.26.1
d 63	607.702.00.1	601.859.26.1
d 75	608.702.00.1	601.860.26.1

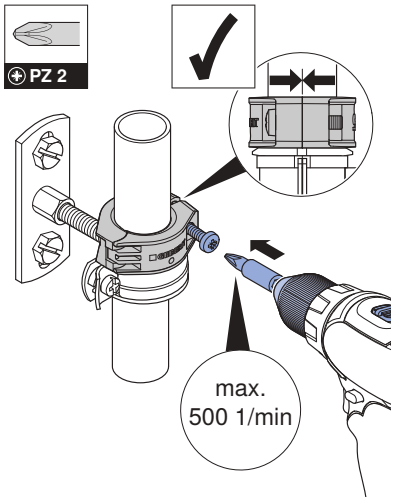
✓ Geberit pipe bracket is installed.



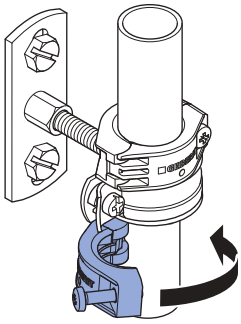
1 Attach an anchor-point fastening above the pipe bracket lining shell.



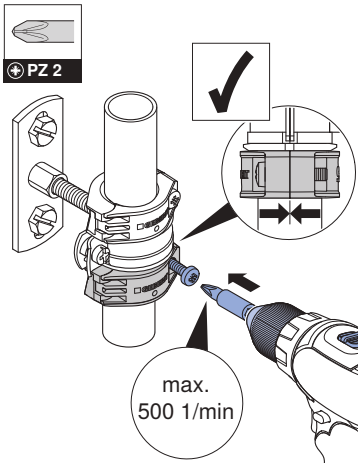
2 Tighten the screw on the anchor-point fastening.



3 Attach a further anchor-point fastening below the pipe bracket lining shell.



4 Tighten the screw on the anchor-point fastening.



2.9 ABSORPTION OF CHANGE IN LENGTH

2.9.1 Expansion space or insulation

Slight changes in the length of pipes can be absorbed by the elasticity of the piping system or by means of compressible insulation.

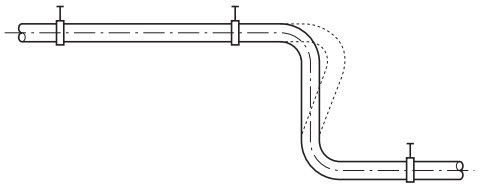


Figure 54: Absorption of a change in length Δl by the elasticity of the piping system

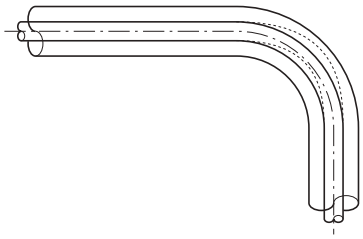


Figure 55: Absorption of a change in length Δl by means of compressible insulation

Calculation of the insulation thickness

The following rule of thumb applies for the calculation of the insulation thickness:

insulation thickness = 1.5 · change in length Δl

Regulations (country-specific standards, provisions or directives) define a minimum insulating layer thickness for the insulation. If the calculated insulation thickness is less than the minimum insulating layer thickness defined in the regulations, the insulation thickness defined in the regulation must be used.

Maximum absorption of changes in length for pre-insulated pipes

Table 63: Geberit system pipe ML, pre-insulated

s1 [mm]	l_{comp}max. [mm]
6	4.0
10	6.7
13	8.7
26	13.3

s1 Insulation thickness

l_{comp}max. Maximum absorption of change in length

2.9.2 Deflection legs as an expansion compensator

If the changes in length cannot be balanced out by means of the insulation, then the change in length must be absorbed by an expansion compensator. Deflection legs are a type of expansion compensator.

Deflection legs can be used if there is a change in direction, for long straight pipes or as a U-bend.

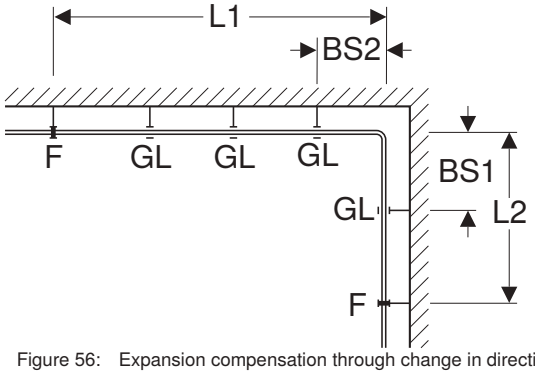


Figure 56: Expansion compensation through change in direction

BS Deflection leg
F Anchor point
GL Guide bracket
L pipe length

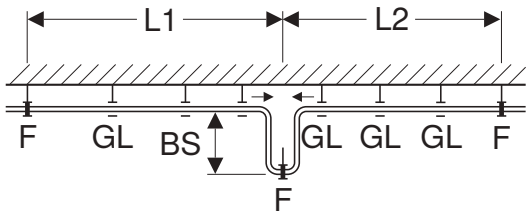


Figure 57: Expansion compensation by a U-bend

BS Deflection leg
F Anchor point
GL Guide bracket
L pipe length

The longer pipe section (L1 or L2) is used as pipe length L to calculate the deflection leg length in the case of a U-bend.

Deflection legs in riser pipes

In riser pipes over several floors, the thermal expansion is controlled with anchor points. The thermal expansion in several floor connections is absorbed by means of deflection legs. The sliding brackets on horizontal pipes act like anchor points for the thermal expansion of the pipe vertically.

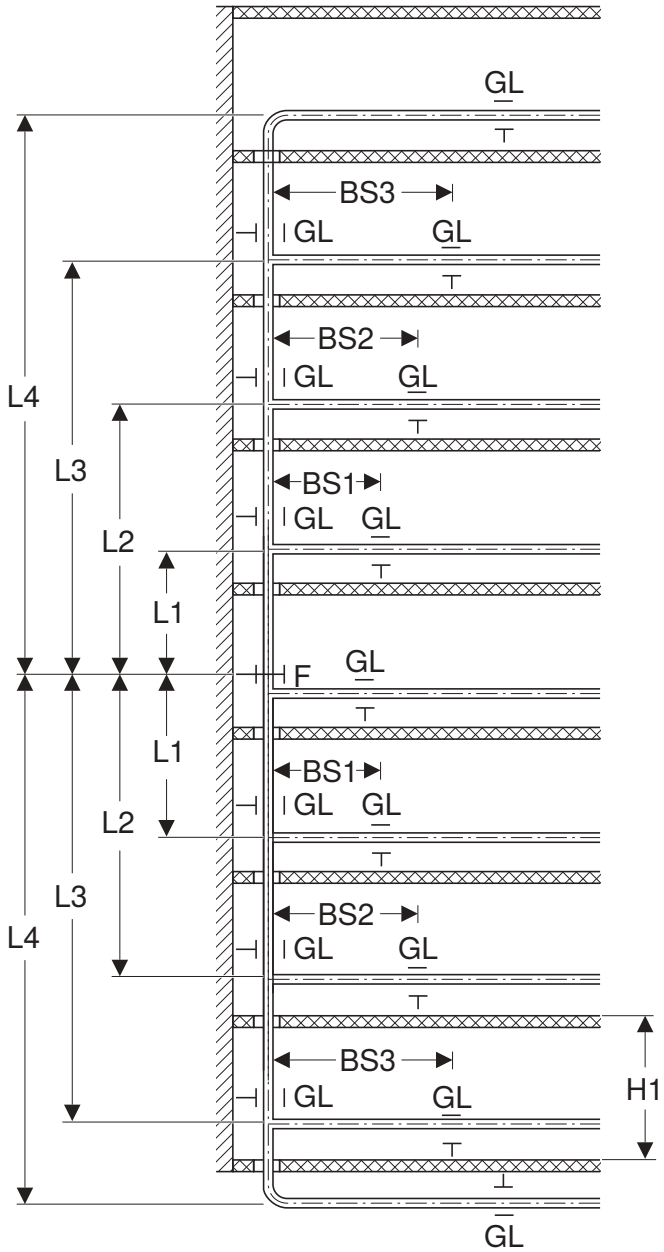


Figure 58: Riser pipe with an anchor point in the middle: control of the thermal expansion upwards and downwards halves the deflection leg length

F	Anchor point
BS	Deflection leg
GL	Guide bracket
L	Pipe length
H1	Floor height

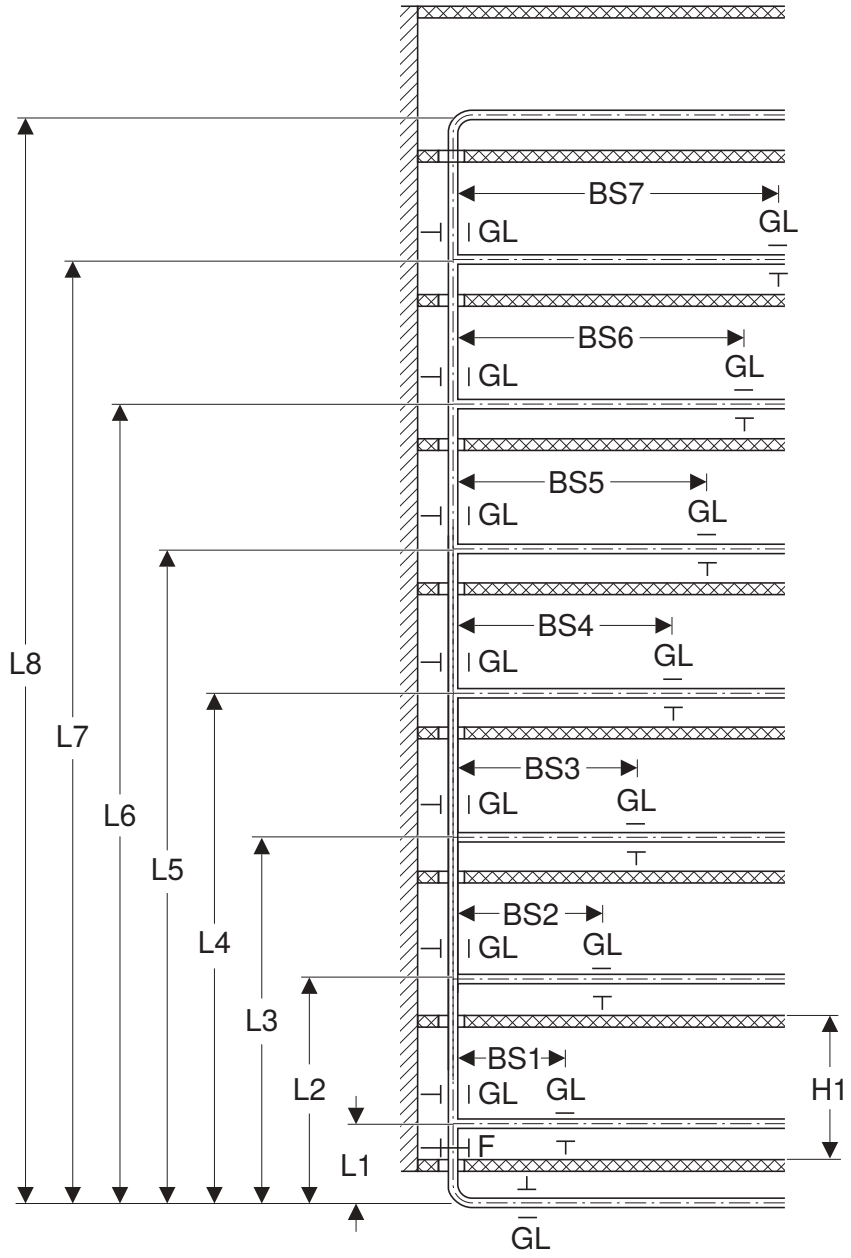


Figure 59: Riser pipe with an anchor point at the bottom: control of the thermal expansion upwards

F Anchor point
BS Deflection leg
GL Guide bracket
L Pipe length
H1 Floor height

Deflection legs for pipe laying in a duct

If the pipe is laid in a duct, the change in length can be absorbed by deflection legs as follows:

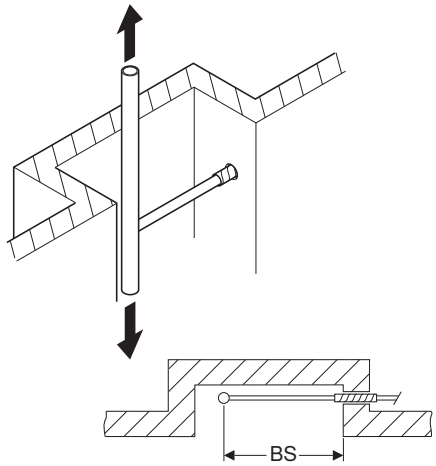


Figure 60: Straight deflection leg, without insulation

BS Deflection leg

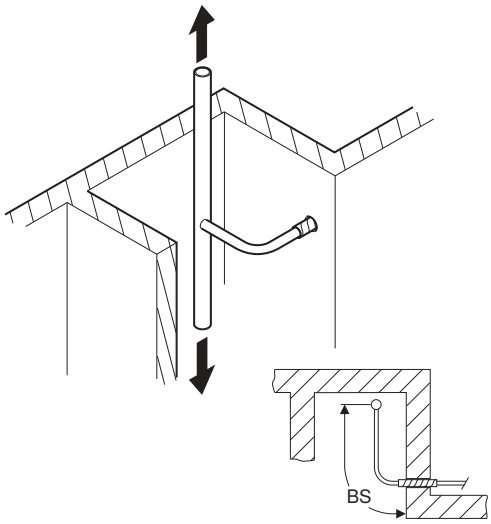


Figure 61: Bent deflection leg, without insulation

BS Deflection leg

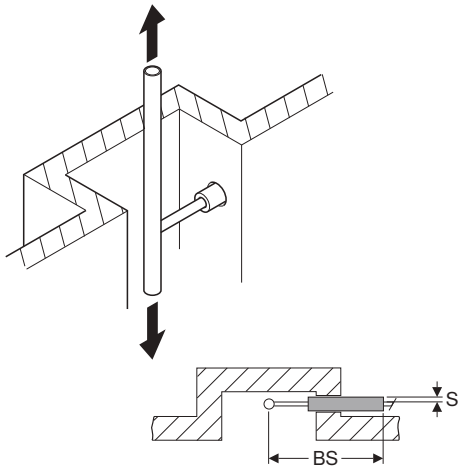


Figure 62: Straight deflection leg, with insulation

BS Deflection leg
S Insulation thickness

Calculation of the deflection leg length

The thermal expansion of pipes depends on the material, among other things. Material-dependent parameters must be considered when calculating the deflection leg length. The following table lists the parameters for Geberit system pipes ML.

Table 64: Material-dependent parameters for calculating the deflection leg length

Pipe material	α[1)]	m_c	
		C	U
PE-RT II / Al / PE-RT II	0.026 mm/(m·K)	33	19

α Thermal expansion coefficient

1) The thermal expansion coefficient α = 0.026 mm/(m·K) applies to temperatures between 20–100 °C. It applies to all pipe dimensions, per length and per Kelvin temperature increase.

m_c Material constant

C Material constant for calculating the deflection leg length L_B (change in direction, branch pipe)

U Material constant for calculating the deflection leg length L_U (U-bend)

The calculation of the deflection leg length comprises the following steps:

- Calculation of the change in length Δl
- calculation of the deflection leg length L_B with a change in direction and branch pipe or calculation of the deflection leg length L_U with U-bends.

calculation of the change in length ΔI

The change in length ΔI is calculated with the following formula:

$$\Delta I = L \cdot \alpha \cdot \Delta T$$

ΔI	Change in length [mm]
L	Pipe length [m]
ΔT	Temperature differential (operating temperature - ambient temperature at time of installation) [K]
α	Thermal expansion coefficient α [mm/(m • K)]

Sample calculation for system pipe ML

Given:

- Material: PE-RT II / Al / PE-RT II
- L=30 m
- α = 0.026 mm/(m·K)
- ΔT = 50 K

Required:

- Change in length ΔI [mm]

Solution:

$$\Delta I = L \cdot \alpha \cdot \Delta T \left[\frac{m \cdot mm \cdot K}{m \cdot K} = mm\right]$$

ΔI = 30 • 0.026 • 50

ΔI = 39.00 mm

The change in length ΔI can also be calculated in a simplified manner from the following table.

Table 65: Change in length ΔI in mm for Geberit system pipe ML

L [m]	Temperature differential ΔT [K]						
	10	20	30	40	50	60	70
1	0.3	0.5	0.8	1.0	1.3	1.6	1.8
2	0.5	1.0	1.6	2.1	2.6	3.1	3.6
3	0.8	1.6	2.3	3.1	3.9	4.7	5.5
4	1.0	2.0	3.1	4.2	5.2	6.2	7.3
5	1.3	2.6	3.9	5.2	6.5	7.8	9.1
6	1.6	3.1	4.7	6.2	7.8	9.4	10.9
7	1.8	3.6	5.5	7.3	9.1	10.9	12.7
8	2.0	4.2	6.2	8.8	10.4	12.5	14.6
9	2.3	4.7	7.0	9.4	11.7	14.0	16.4
10	2.6	5.2	7.8	10.4	13.0	15.6	18.2
20	5.2	10.4	15.6	20.8	26.0	31.2	36.4
30	7.8	15.6	23.4	31.2	39.0	46.8	54.6
40	10.4	20.8	31.2	41.6	52.0	62.4	72.8
50	13.0	26.0	39.0	52.0	65.0	78.0	91.0

L Pipe length

Calculation of the deflection leg length with a change in direction and branch pipe

The deflection leg length L_B to be calculated is defined as follows with changes in direction and branch pipes:

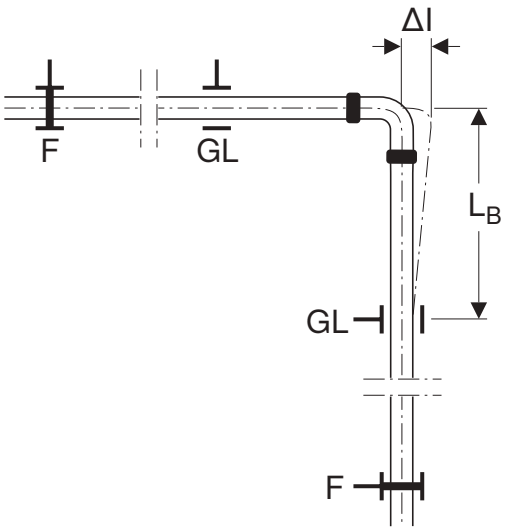


Figure 63: Expansion compensation with a change in direction

F	Anchor point
GL	Guide bracket
L_B	Deflection leg length
ΔI	Change in length

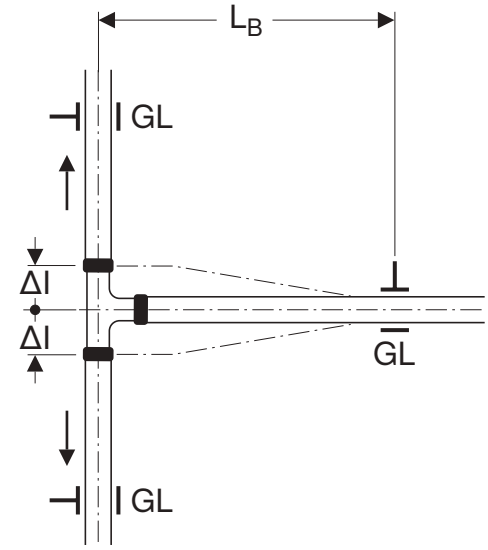


Figure 64: Expansion compensation with a branch pipe

GL	Guide bracket
L_B	Deflection leg length
ΔI	Change in length

The deflection leg length L_B is calculated using the following formula:

$$L_B = \frac{C \cdot \sqrt{d \cdot \Delta l}}{1000}$$

L_B	Deflection leg length [m]
d	Outer pipe diameter [mm]
ΔI	Change in length [mm]
C	Material constant

Given:

- Material: PE-RT II / Al / PE-RT II
- C = 33
- d = 32 mm
- ΔI = 39 mm

Required:

- L_B [m]

Solution:

$$L_B = \frac{C \cdot \sqrt{d \cdot \Delta l}}{1000} \left[\frac{\sqrt{mm \cdot mm}}{\frac{mm}{m}} = m \right]$$

$$L_B = \frac{C \cdot \sqrt{d \cdot \Delta l}}{1000} \left[\frac{\sqrt{mm \cdot mm}}{\frac{mm}{m}} = m \right]$$

$$L_B = \frac{33 \cdot \sqrt{32 \cdot 39}}{1000}$$

$$L_B = 1.17 \text{ m}$$

The deflection leg length L_B can also be calculated in a simplified manner from the following graphics:

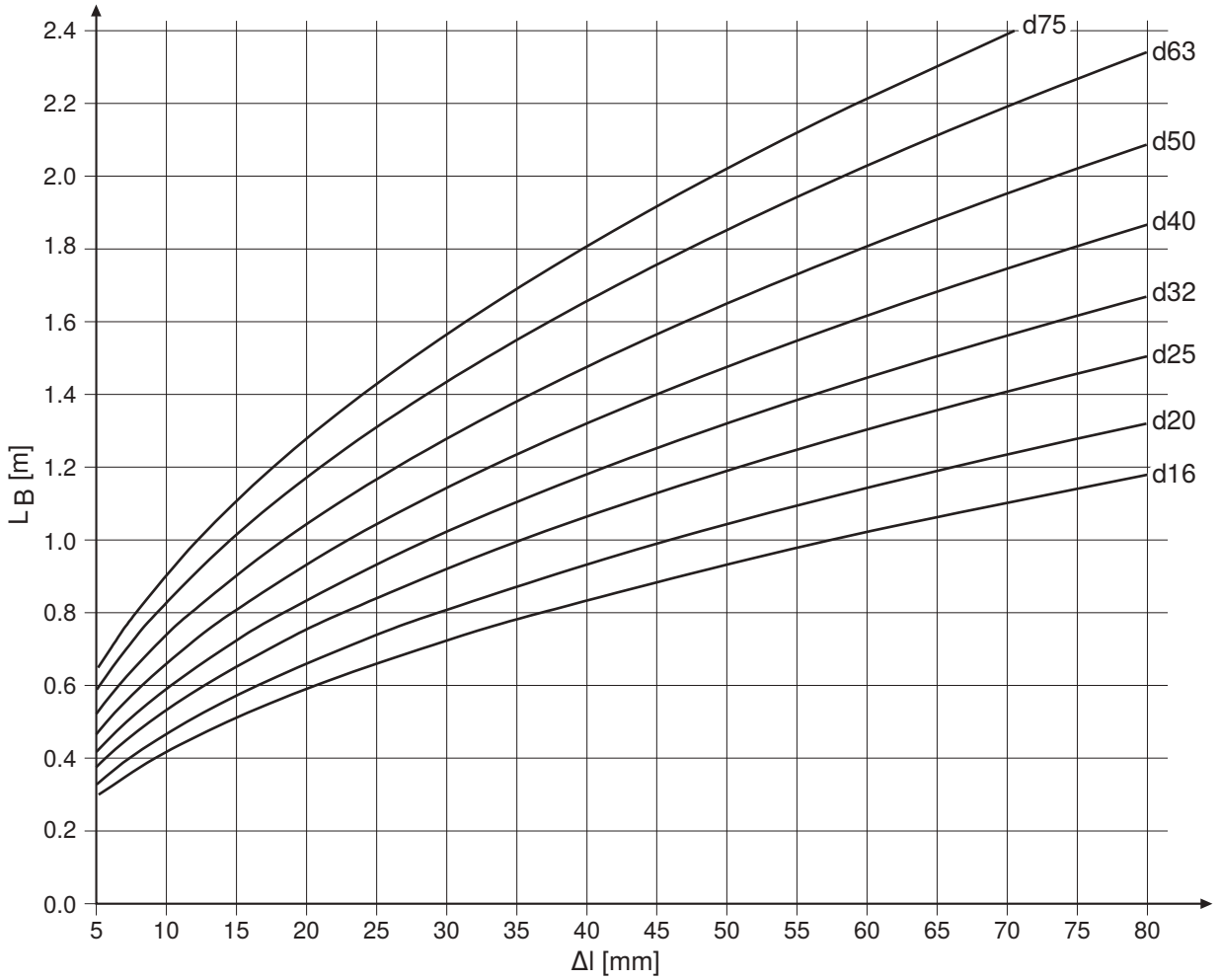


Figure 65: Deflection leg length L_B depending on the change in length ΔI for Geberit system pipe ML

Calculation of the deflection leg length for U-bends

The deflection leg length L_U to be calculated is defined as follows:

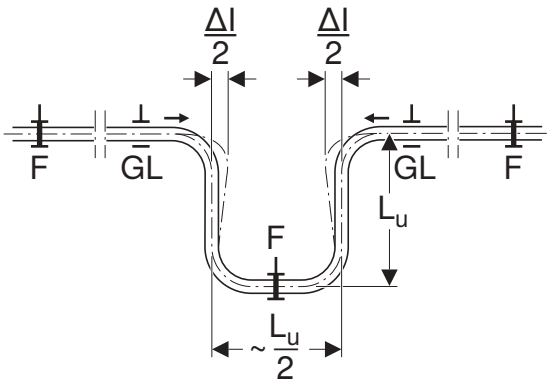


Figure 66: U-bend, made of bent pipe

F Anchor point
GL Guide bracket
L_U Deflection leg length
ΔI Change in length

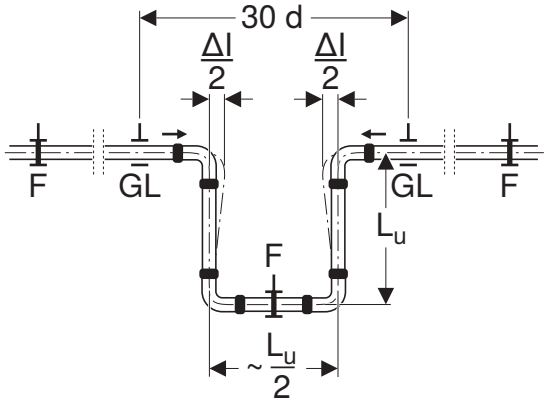


Figure 67: U-bend, made with pressfittings

F Anchor point
GL Guide bracket
L_U Deflection leg length
ΔI Change in length

The deflection leg length L_U is calculated using the following formula:

$$L_U = \frac{U \cdot \sqrt{d \cdot \Delta l}}{1000}$$

L_U Deflection leg length [m]
d Outer pipe diameter [mm]
ΔI Change in length [mm]
U Material constant

Given:

- Material: PE-RT II / Al / PE-RT II
- U=19
- d = 32 mm
- ΔI = 39 mm

Required:

- L_U [m]

Solution:

$$L_U = \frac{U \cdot \sqrt{d \cdot \Delta l}}{1000} \left[\frac{\sqrt{mm \cdot mm}}{\frac{mm}{m}} = m \right]$$

$$L_U = \frac{19 \cdot \sqrt{32 \cdot 39}}{1000}$$

$$L_U = 0.67 \text{ m}$$

The deflection leg length L_U can also be calculated in a simplified manner from the following graphics:

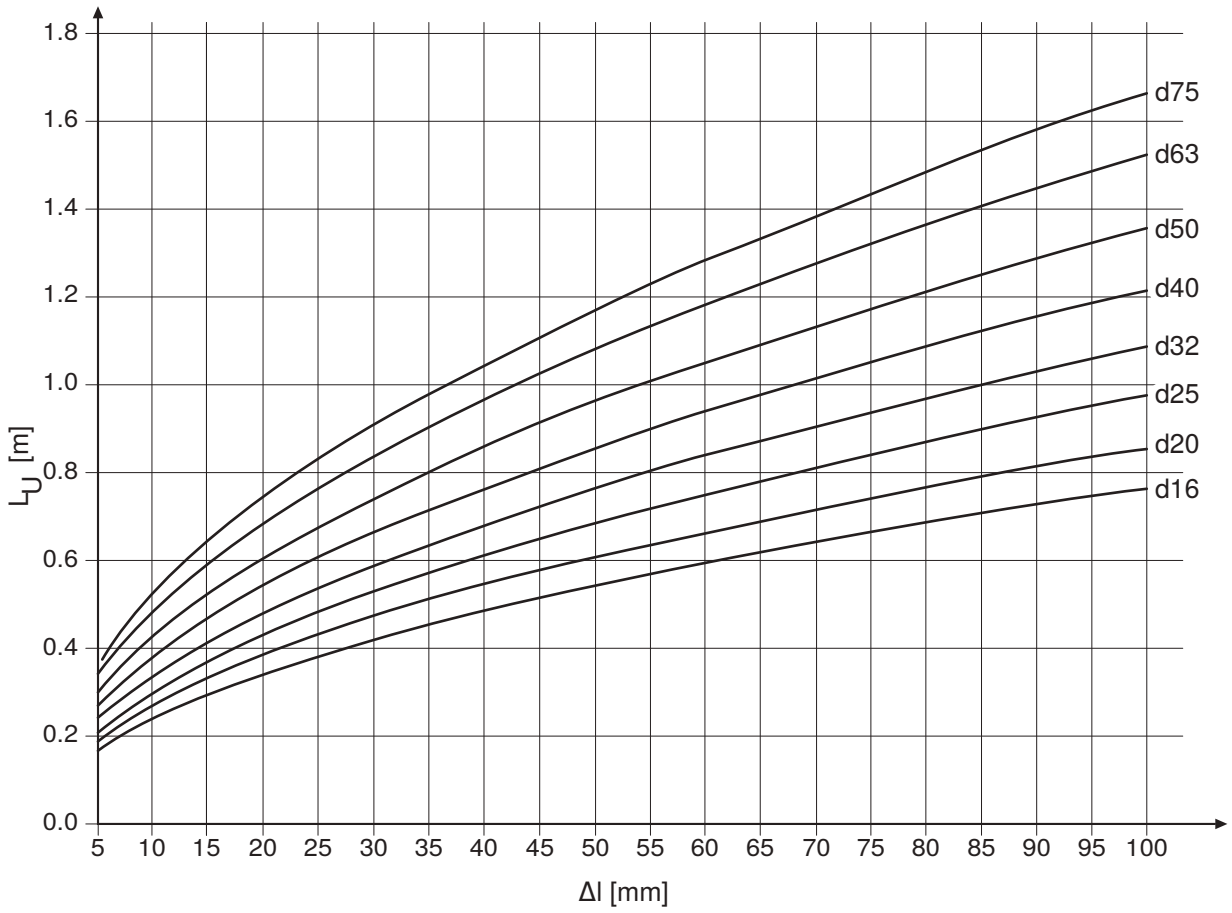


Figure 68: Deflection leg length L_U depending on the change in length Δl for Geberit system pipe ML

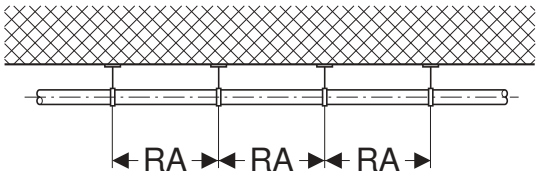
2.10 PIPE FIXATION

2.10.1 Pipe bracket spacing

Exposed Geberit system pipes are fixed with pipe brackets. Geberit pipe brackets, insulated, can be used to prevent the transmission of structure-borne sound.

The fastening distance between the individual pipe brackets is 1.5–2.5 m for horizontally laid Geberit system pipes, depending on the diameter.

No further measures, such as support shells, are required if the specified pipe bracket spacing is adhered to.



RA Pipe bracket spacing

Table 66: Pipe bracket spacings and load per pipe bracket

Pipe bracket Art. no.	d [mm]	Horizontal pipe spacing[1)] [m]	Vertical pipe spacing [m]	F [N]	F_{max} [N]
601.851.26.1	16	1.5	2.0	3.1	800
601.852.26.1	20	1.5	2.0	5.0	800
601.853.26.1	25	1.5	2.0	7.7	800
601.854.26.1	32	2.0	2.6	18.6	800
601.855.26.1	40	2.0	2.6	28.4	800
601.856.26.1	50	2.5	3.3	54.6	1000
601.858.26.1	63	2.5	3.3	83.4	1000
601.859.26.1	75	2.5	3.3	118.5	1000

1) Recommendation by Geberit

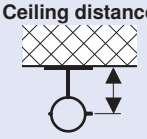
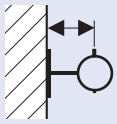
F Load per pipe bracket, pipe filled with water. The information applies to horizontally fastened pipes.

F_{max} Maximum admissible load per pipe bracket, pipe filled with water The information applies to horizontally fastened pipes.

2.10.2 Thickness of the threaded rods

Pipe brackets are fastened to the wall or ceiling with threaded rods. The required thickness of the threaded rods for the fastening of guide brackets must be chosen depending on the distance from the ceiling or wall.

Table 67: Required thickness of the threaded rods for fastening guide brackets to ceiling and walls

	Distance between pipe brackets [cm]								
	Ceiling distance 					Wall distance 			
d [mm]	≤ 10	11–20	21–30	31–40	41–60	≤ 10	11–20	21–30	31–60
16	M8	M8	M8	M10	M10	M8	M10	M10	1/2"
20	M8	M8	M8	M10	M10	M8	M10	M10	1/2"
25	M8	M8	M10	M10	M10	M8	M10	1/2"	1/2"
32	M8	M10	M10	M10	1/2"	M8	M10	1/2"	1/2"
40	M8	M10	1/2"	1/2"	1/2"	M10	M10	1/2"	1/2"
50	M10	M10	1/2"	1/2"	1/2"	M10	M10	1/2"	1/2"
63	M10	M10	1/2"	1/2"	1/2"	M10	M10	1/2"	1/2"
75	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

2.10.3 Fastening distances for concealed stop valves

Maximum distances between the pipe bracket and concealed stop valve

The following maximum distances apply when mounting a concealed stop valve:

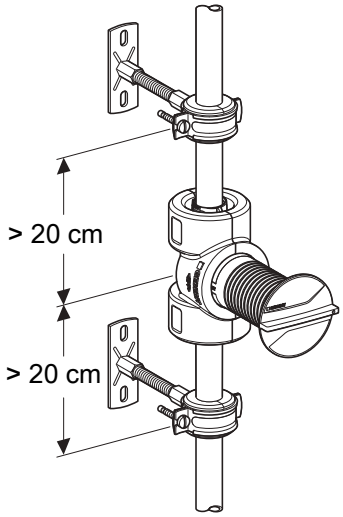


Figure 69: Maximum distance between the pipe bracket and concealed stop valve with Geberit FlowFit

Shortening dimension when mounting the turn handle

The maximum shortening dimension must be observed when mounting the turn handle of a concealed stop valve.

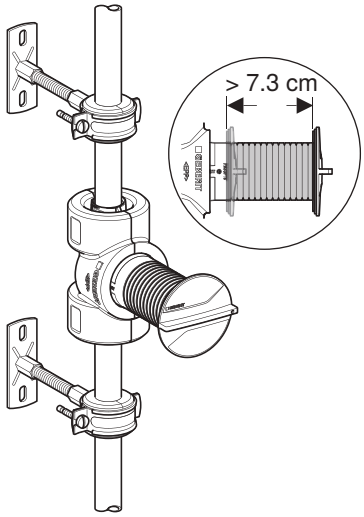


Figure 70: Maximum shortening dimension for a turn handle with Geberit FlowFit

2.10.4 Ball valve fastening distances

Maximum distances between the pipe bracket and ball valve

The following maximum distances apply when mounting a ball valve:

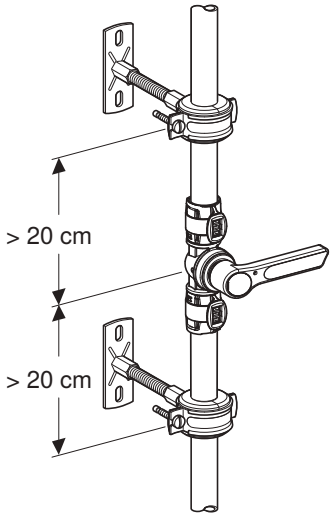
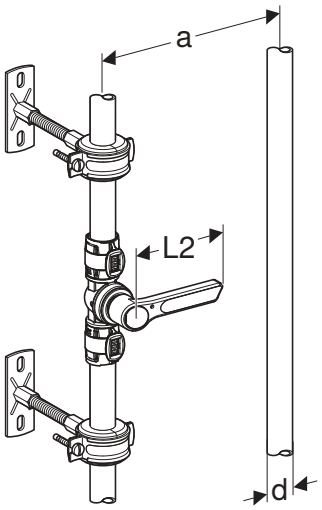


Figure 71: Maximum distance between the pipe bracket and ball valve with Geberit FlowFit

Minimum distances with parallel pipes

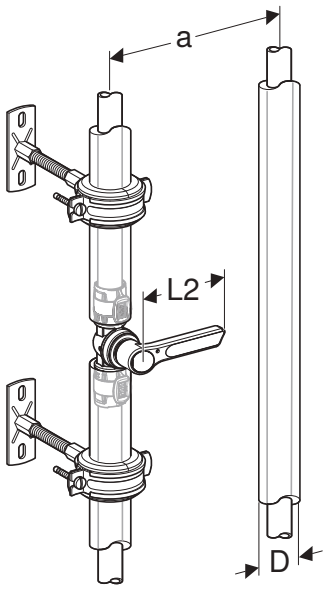
For uninsulated pipes, the following minimum distance applies when mounting a ball valve with lever:



a Minimum distance between 2 uninsulated pipes
L2 Actuator lever length
d Outer pipe diameter

$$a = L2 + \frac{d}{2} + 1\ cm$$

For insulated pipes, the following minimum distance applies when mounting a ball valve with lever:



a Minimum distance between 2 insulated pipes
L2 Actuator lever length
D Outer diameter of insulated pipe

$$a = L2 + \frac{D}{2} + 1\ cm$$

2.11 PIPEWORK

2.11.1 Processing temperature

Geberit FlowFit system [redacted]

compressed.

- The protective jacket must not be damaged.

The following table shows the smallest possible bending radius and the minimum oval diameter for pipes.



r_m Smallest possible bending radius
X Minimum oval pipe diameter

d [mm]	r_m [cm]	x [mm]
16	5.8	15
20	7.0	19
25	9.0	24
32	11.6	30
40	16.0	37
50	20.0	47
63	22.0[1)]	59[1)]
75	26.0[1)]	71[1)]

1) Geberit system pipes d63 and d75 mm may be bent by a maximum of 30 degrees using suitable bending dies. The specified bending radius refers to the inside of the bend according to EN 10255. Geberit recommends executing changes in direction for d63 and d75 not with bends, but with Geberit fittings.

If a previously pressed system pipe is to be bent, the connection points must be secured.

With the Geberit bending tool

Geberit system pipes ML d16–32 mm can be bent with the Geberit handheld bending tool, hydraulic. The Geberit bending die and the Geberit bending cheek must correspond to the outer pipe diameter d.

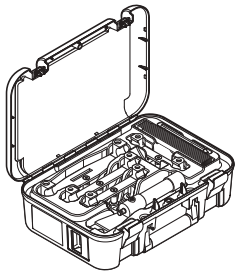
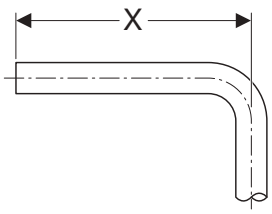


Figure 72: Geberit handheld bending tool, hydraulic, in case

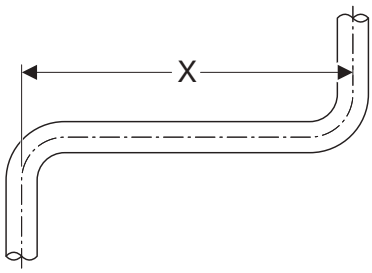
The bending radii of the bending dies correspond to the smallest possible bending radii r_m.

Producing a bended pipe section using the Geberit bending tool

Take into account the minimum deflection leg.

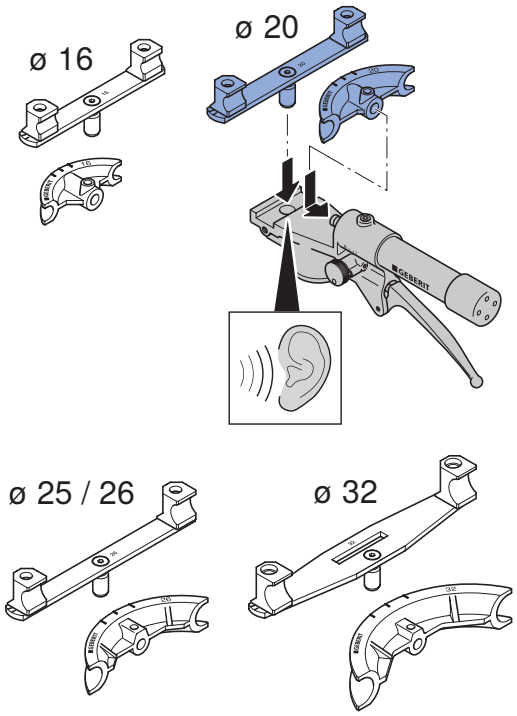


d [mm]	DN	xmin [cm]
16	12	12
20	15	13
25 / 26	20	18
32	25	24

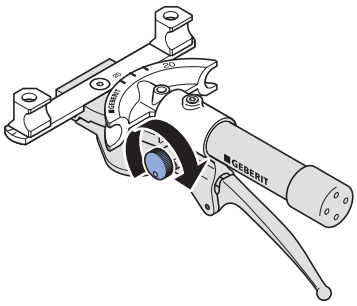


d [mm]	DN	xmin [cm]
16	12	15
20	15	17
25 / 26	20	23
32	25	31

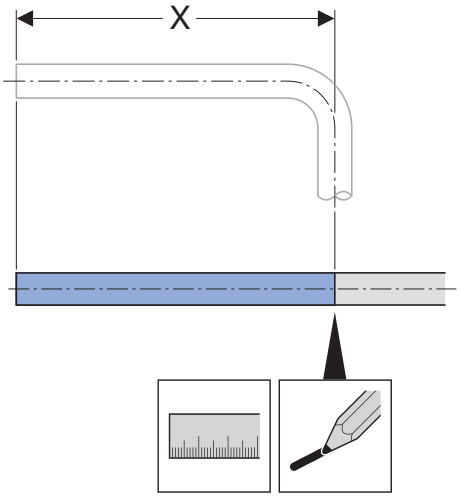
1 Select and fit the bending die and bending cheek according to the pipe diameter.



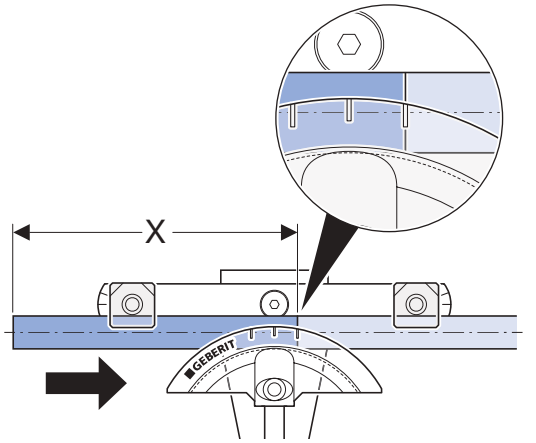
2 Close the hydraulic chamber.

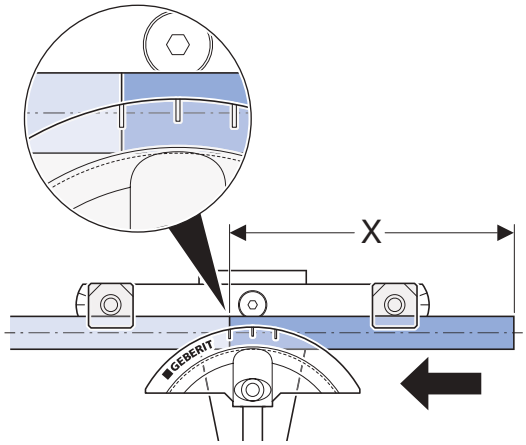


3 Measure and mark the deflection leg length.

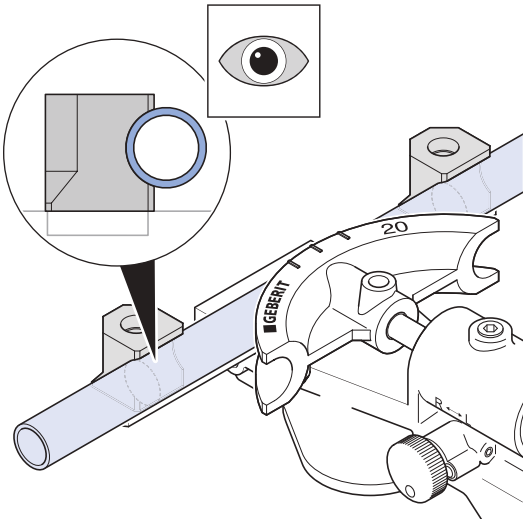


4 Insert the pipe and level it.

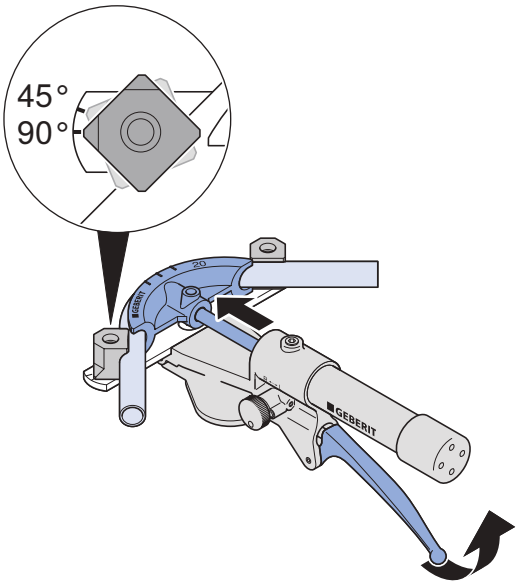




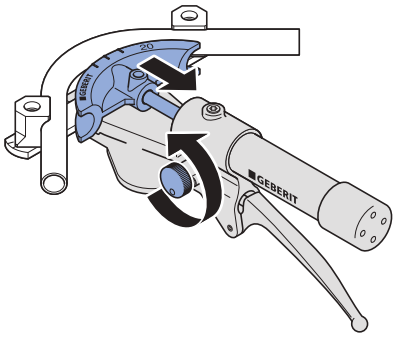
5 Check the correct seat of the pipe in the mounts.



6 Set the bending angle and bend the pipe.



7 Open the hydraulic chamber.



By hand

Geberit system pipes ML d16–25 can be bent by hand.

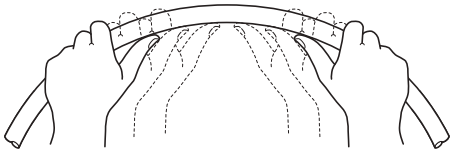


Table 68: Bending radius r_m

d [mm]	r_m [cm]
16	≥ 4 x d
20	≥ 5 x d
25	≥ 6 x d

Pipes which are bent by hand should not have any indentations on the surface or be compressed on the inside.

With the Geberit external bending spring ML

Geberit system pipes ML in the dimensions d16 and d20 can be bent with the Geberit external bending spring ML in order to avoid dents or compressions.

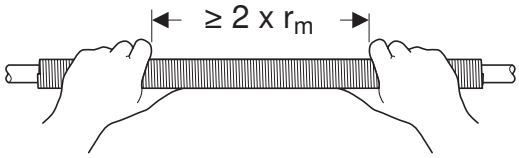


Figure 73: Bending by hand with the Geberit external bending spring ML

Geberit system pipes ML must not be bent using an internal bending spring because this can lead to damage on the inner pipe.

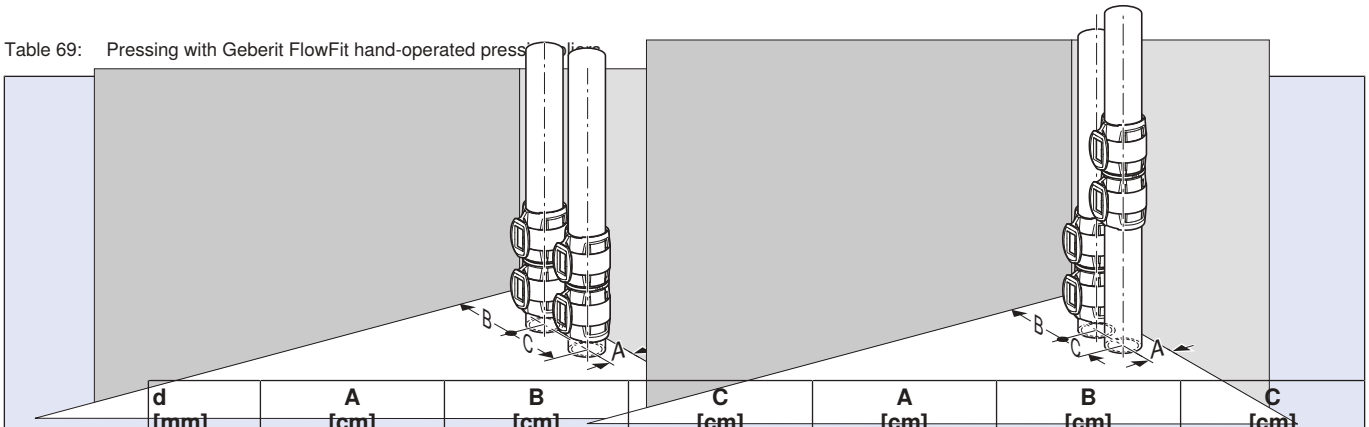
Bending of pre-insulated system pipes

Bending of pre-insulated system pipes with the Geberit handheld bending tool can cause unseen damage to the inner pipe. In addition, the protective jacket or the insulation can be damaged. For this reason, pre-insulated pipes should preferably be bent manually. Bending with the handheld bending tool is only permitted after the insulation has been removed beforehand.

2.11.3 Space requirements for pressing

The Geberit FlowFit pressfitting made of PPSU can be turned to the most favourable position for pressing. This means that the space required for pressing is less than for other pressing systems. In the case of pipes routed side by side, a minimum distance must be taken into account for pressing. This minimum distance can be reduced by the height of the offset fittings.

Table 69: Pressing with Geberit FlowFit hand-operated press[illegible]



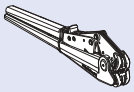
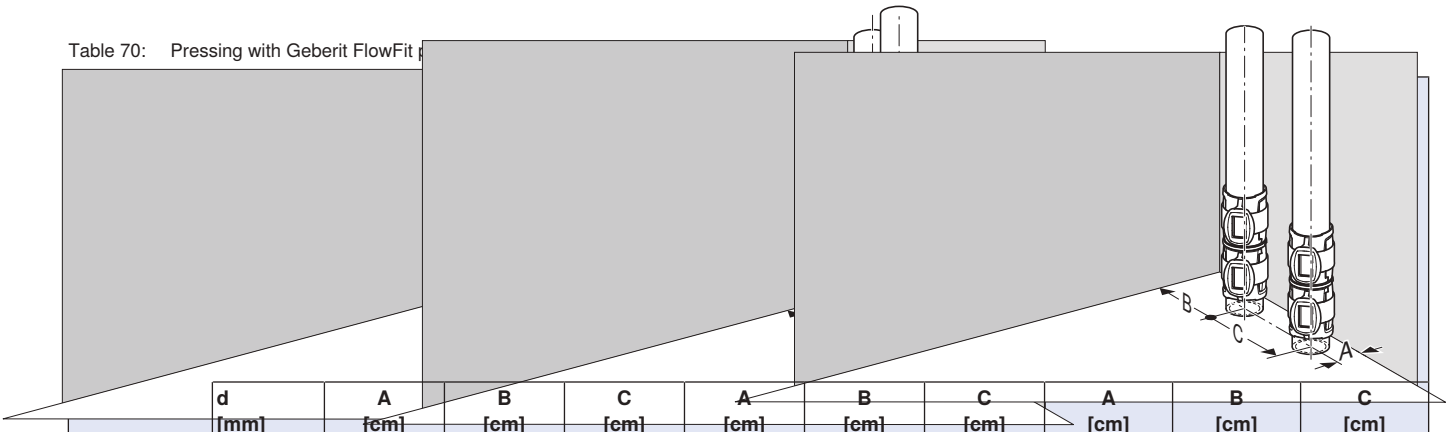
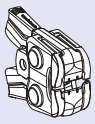
	d [mm]	A [cm]	B [cm]	C [cm]	A [cm]	B [cm]	C [cm]
	16	1.2	4.4	5.1	1.2	4.4	2.3
	20	1.5	4.4	5.2	1.5	4.4	2.7
	25	1.7	4.4	5.1	1.7	4.4	3.2
	32	2.0	4.4	5.2	2.0	4.4	4.0
	40	2.4	4.4	5.2	2.4	4.4	4.8

Table 70: Pressing with Geberit FlowFit p[illegible]



	d [mm]	A [cm]	B [cm]	C [cm]	A [cm]	B [cm]	C [cm]	A [cm]	B [cm]	C [cm]
	16	2.0	4.3	5.0	2.0	4.3	2.3	2.0	2.0	7.3
	20	1.8	4.3	5.2	1.8	4.3	2.7	1.8	1.8	7.5
	25	1.8	4.3	5.2	1.8	4.3	3.2	1.8	1.8	8.0
	32	2.2	4.3	5.2	2.2	4.3	4.0	2.2	2.2	8.5
	40	2.8	4.3	5.2	2.8	4.3	4.8	2.8	2.8	9.2
	50	3.0	6.0	7.8	3.0	6.0	6.0	3.0	3.0	12.0
	63	4.0	6.0	7.6	4.0	6.0	–	4.0	4.0	13.0
	75	4.5	6.0	9.0	4.5	6.0	–	4.5	4.5	14.0

All information concerning space requirements refer to the centre of the pipe.

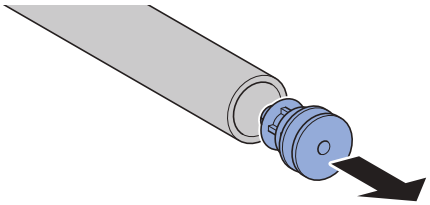
– Does not apply

A side-by-side arrangement with a rotation of 45 degrees is not possible when installing with the Geberit FlowFit hand-operated pressing pliers.

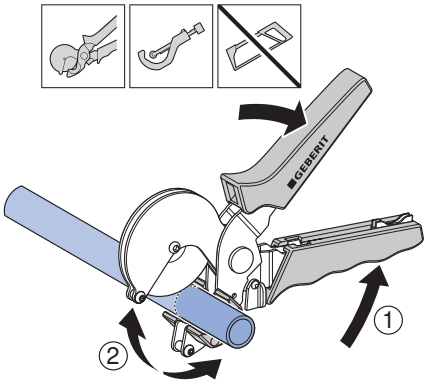
2.12 PRESSING PREPARATIONS

2.12.1 Preparing a Geberit system pipe ML

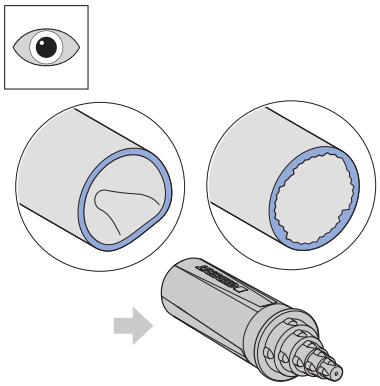
1 Remove the protection plug from the pipe.



2 Cut the pipe to length at a right angle with Geberit pliers or the Geberit pipe cutter ML.

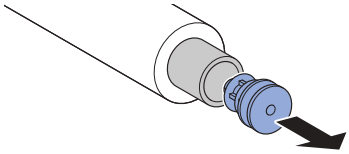


Calibrate the pipe if necessary.

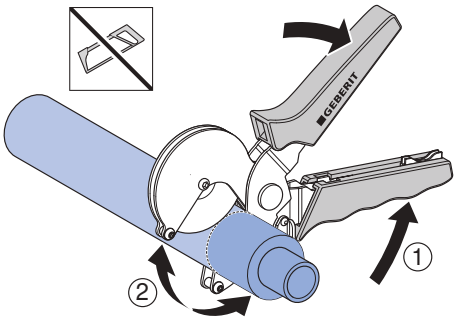


2.12.2 Preparing a Geberit system pipe ML, with circular pre-insulation

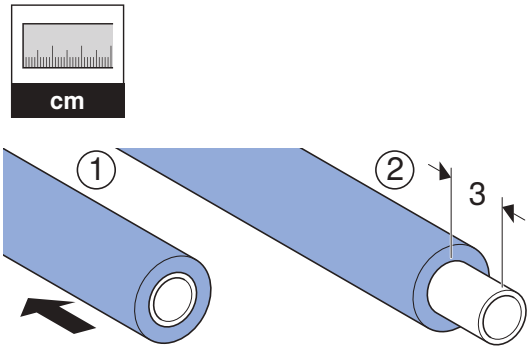
1 Remove the protection plug from the pipe.



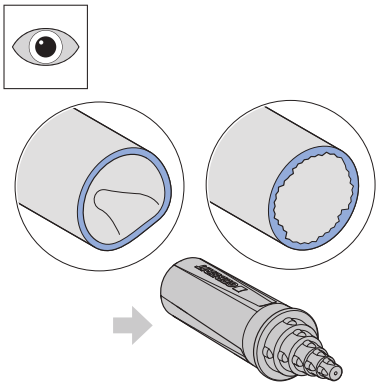
2 Cut the pipe and insulation to length at a right angle with Geberit pliers.



3 Push the insulation back at the pipe end.

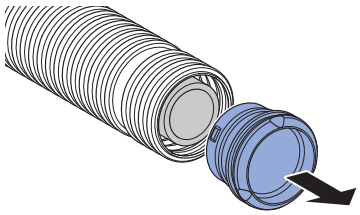


Calibrate the pipe if necessary.

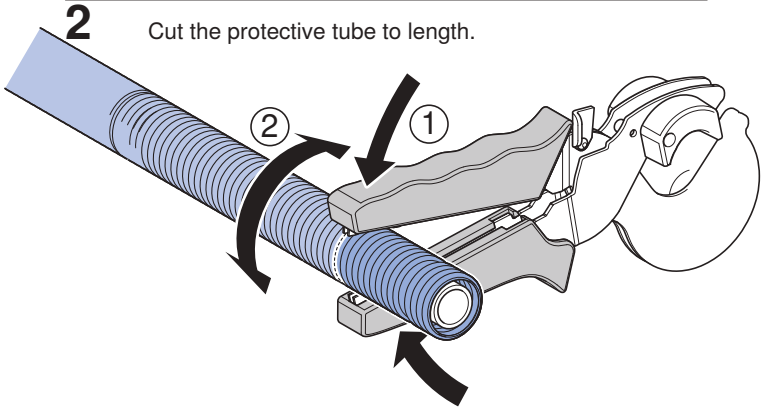


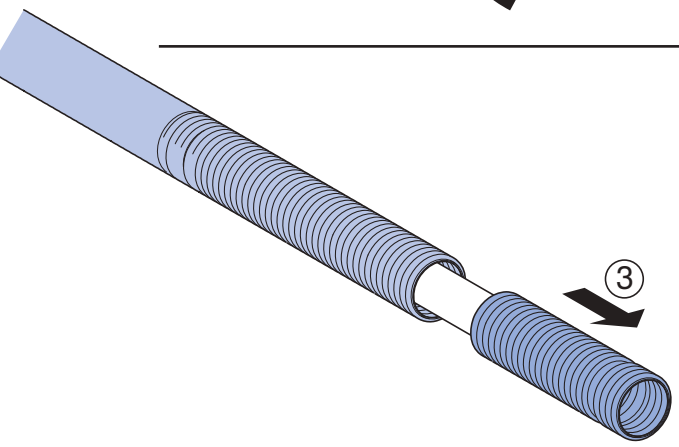
2.12.3 Preparing a Geberit system pipe, in a protective tube

1 Remove the protection plug from the pipe.

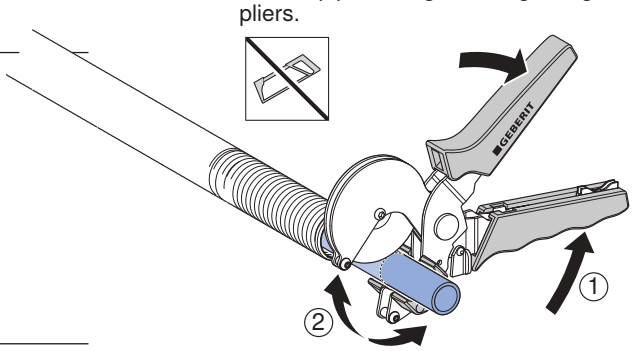


2 Cut the protective tube to length.

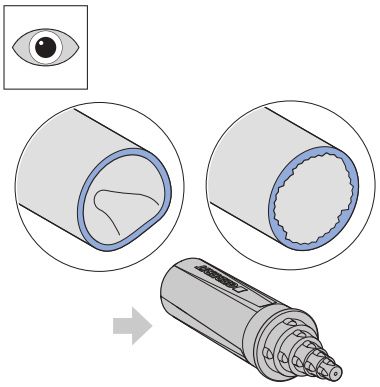




3 Cut the pipe to length at a right angle with Geberit pliers.



Calibrate the pipe if necessary.



2.13 CREATING A PRESSED JOINT

2.13.1 Rules for creating a pressed joint

- Make sure that the pipe or prefabricated elements are aligned and the screwing joints sealed.
- The fitting and in particular the pressing unit must be clean and free of impurities from other trades, e.g. free of concrete slurry.
- Make sure that the inserted system pipes and fittings are tension-free and remain tension-free during the pressing procedure.
- Geberit system pipes and Geberit FlowFit fittings may only be pressed at ambient temperatures ranging from -10 °C to +60 °C.
- If necessary, turn the pressing unit with the pressing indicator to the correct position prior to starting the pressing procedure.
- For the pressing procedure, the Geberit FlowFit pressing jaw or the Geberit FlowFit hand-operated pressing pliers must be positioned straight so that they grip the pressing indicator evenly at the top and bottom.

2.13.2 Calibration of Geberit system pipes ML

Calibration of the pipes is not necessary with Geberit FlowFit.

However, calibration may be useful in the following cases for ease of further handling:

- pipe ends are heavily deformed
- cut surfaces display significant burrs

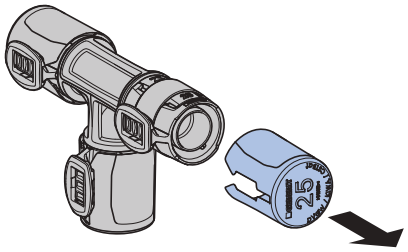
Geberit provides 2 sizes of Geberit FlowFit calibration tool for these cases:

- for d16–40 mm
- for d50–70 mm

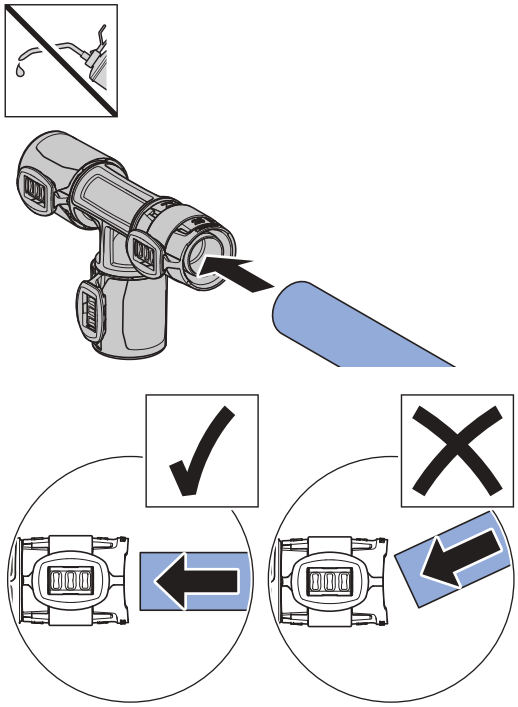
The Geberit FlowFit calibration tool is used to push the burrs into the pipe interior and round the pipe. The pipe and fitting can then be connected more easily.

2.13.3 Pressing a fitting and pipe

1 Remove the protective cap from the fitting.

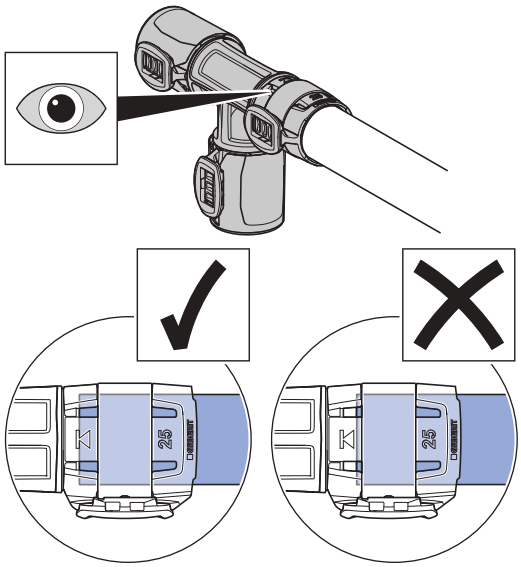


2 Slide the pipe straight into the fitting.



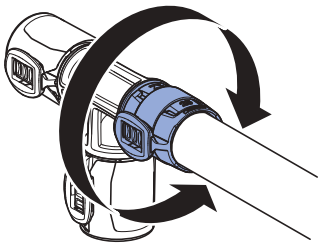
3

Make sure that the pipe is fully inserted.



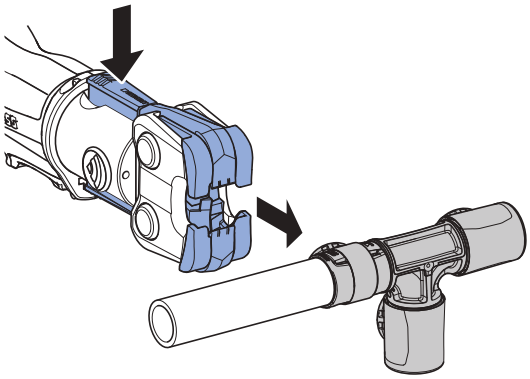
4

Turn the pressing unit to an easily accessible position, in which the pressing jaw can be positioned tension-free.

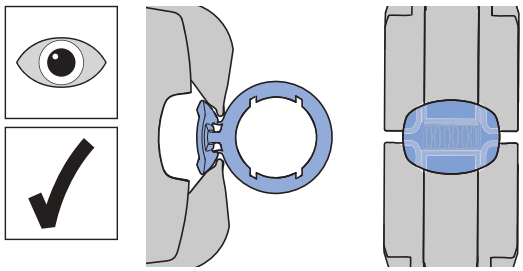


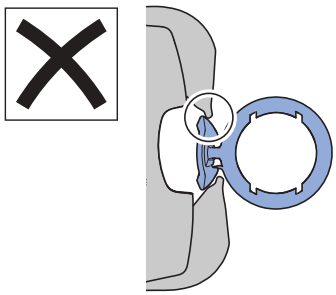
5

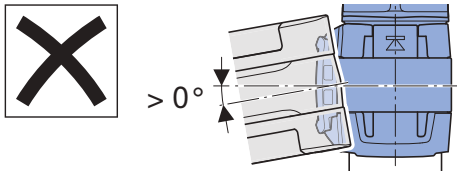
Position the pressing jaw straight and press the fitting and pipe.





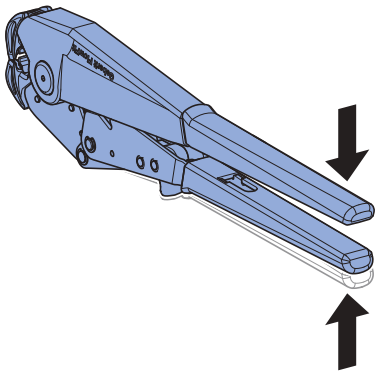




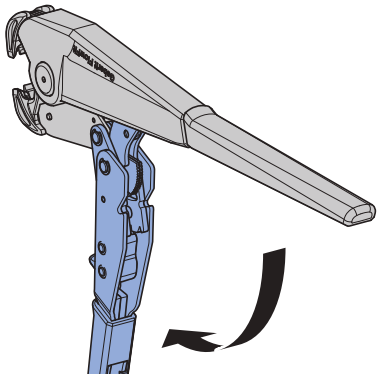


2.13.4 Producing a pressed joint with hand-operated pressing pliers

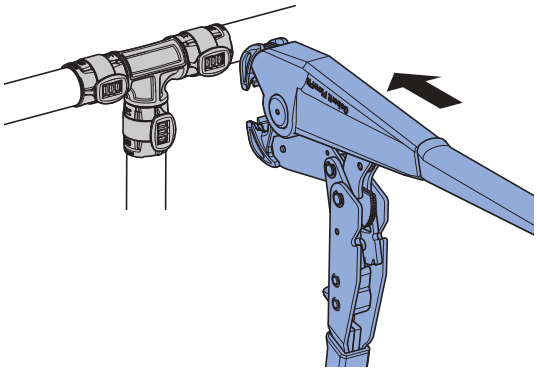
1 Press the levers together.



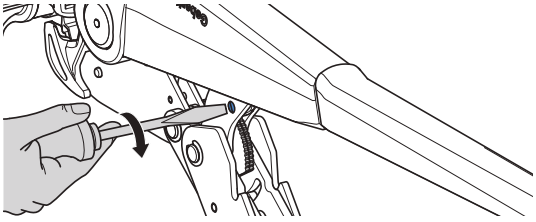
2 Open the lower arm of the lever.



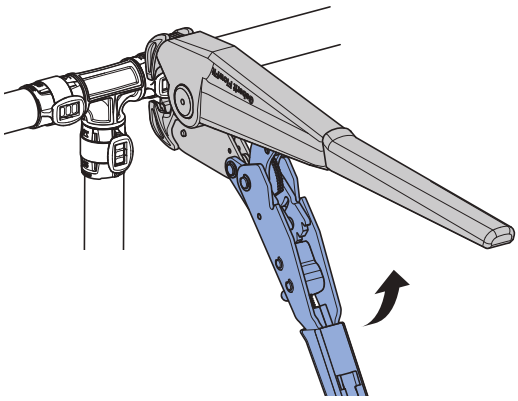
3 Position the pressing tips on the pressing clamp.

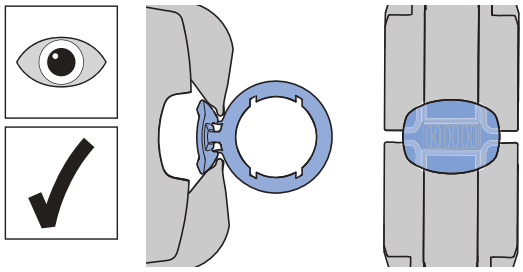


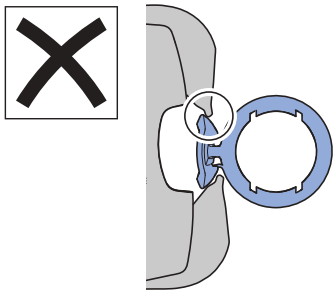
Release any pressing operation initiated by mistake

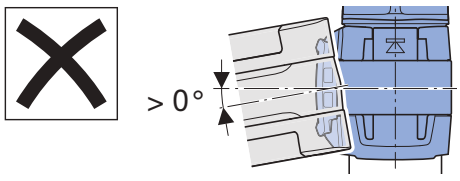


4 Make sure that the pressing tips are sitting correctly and press the levers together.

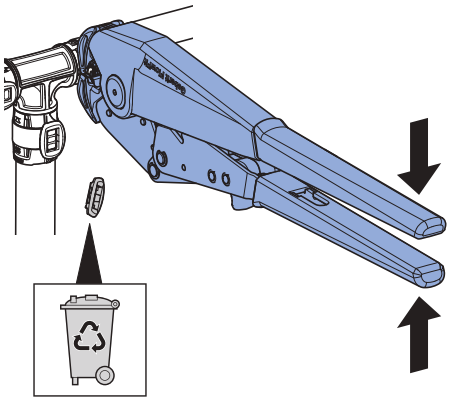






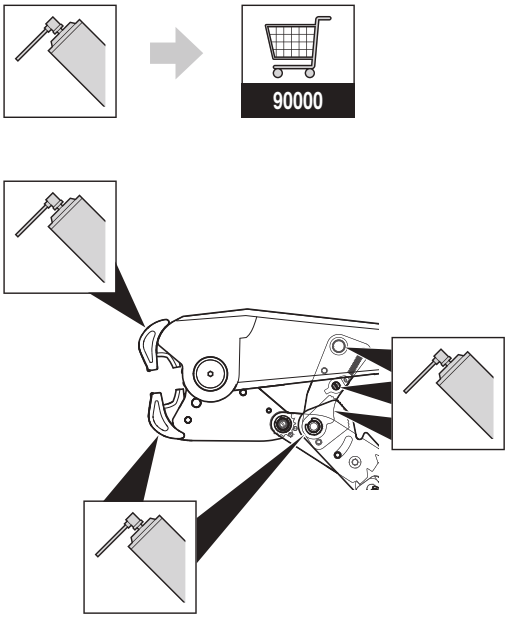


5 Complete the pressing operation.

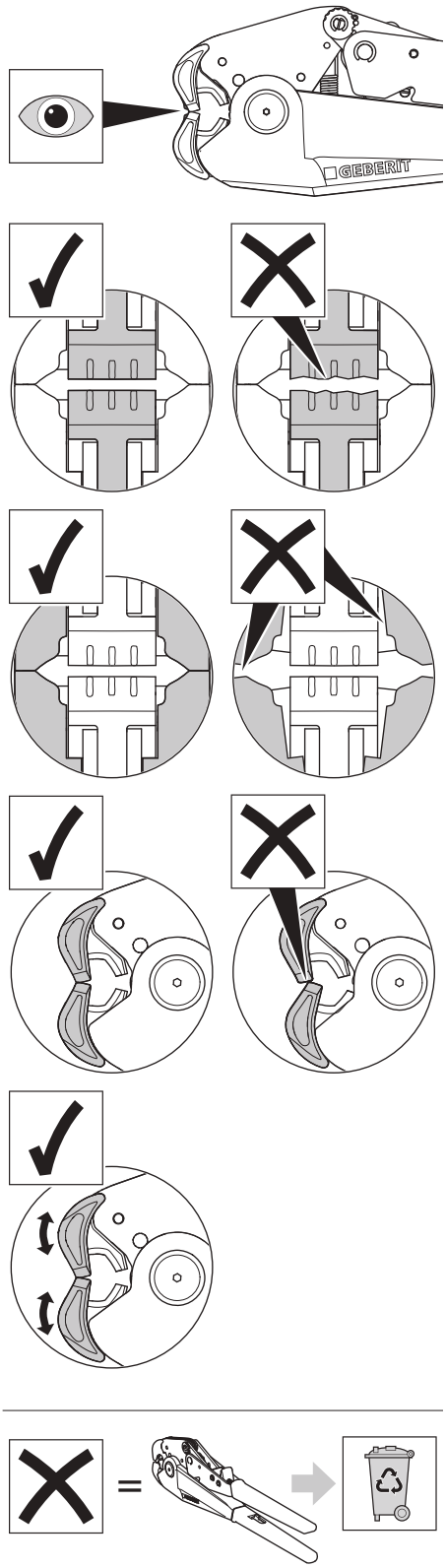


Maintenance of Geberit FlowFit hand-operated pressing pliers

1 Lubricate the joints and untreated surfaces.



2 Check the pressing jaw for external defects, such as damage, incipient cracks, patches of rust and other signs of wear.



3 Use the Geberit PowerTest to make sure that it is working properly.



d16–40

960.917.00.1

2.13.5 Corrective pressing of a pressfitting

If a fitting with a blue pressing indicator has been accidentally pressed with an orange pressing jaw, the connection requires corrective pressing. To do this, the blue pressing indicator is put back on the fitting and pressed with the blue pressing jaw.

2.14 PRESSING TOOL

2.14.1 Information on the compatibility of pressing attachments and pressing tools

In order to be able to assign the pressing attachments to the pressing tools, Geberit has introduced compatibilities. Compatibility is indicated in the documents by a number in square brackets, e.g. [2], and on the products in a frame, e.g. 2. The Technical Information on compatible pressing tools provides an overview of the compatible pressing tools for Geberit pressing systems, which is updated annually.

2.14.2 Maintenance

Geberit FlowFit press capacity test

The patented Geberit FlowFit pressed joint requires the appropriate processing tools. The use of Geberit processing tools is a prerequisite for the additional Geberit warranty.

In order to make optimal pressed joints, the Geberit FlowFit pressing jaws must be in perfect condition. Even small amounts of wear that are not immediately visible to the naked eye can impair the pressing result. The Geberit PowerTest can be used to determine any damage and wear to the pressing jaws in good time.

Geberit FlowFit pressing jaws are service-free and do not have any service stickers. The Geberit PowerTest enables time-saving self-monitoring to reliably detect any wear in good time and serves as testing documentation.

The Geberit PowerTest must be performed every 6 months to achieve optimal pressing results.

Information on the tools is contained in the Technical Information on Geberit processing tools for supply systems. For the structure and function of Geberit FlowFit pressing jaws, please refer to the user manual for Geberit FlowFit pressing jaws [1] + [2].

Maintenance and service plans for pressing tools

Maintenance and service plans for pressing tools with a mains connection

Pressing tools and pressing attachments that are not maintained, or are not professionally maintained, can cause serious accidents. The maintenance and service intervals as well as maintenance and service work described below must be followed.

Table 71: Maintenance and service plan for pressing tools with a mains connection and compatibility [2], [3]

	Pressing tool	In the range [MM/YY]	Interval	Work
User maintenance	All	–	Regularly (before use, at the start of the working day)	► Check the pressing tool and mains cable or rechargeable battery for defects and damage that could affect safety. ► Clean and lubricate the pressing tool (see the operation manual).
	All	–	Every six months	► Have a qualified electrician or an authorised repair shop carry out an inspection and take measurements to establish any defects or damage that could affect safety. ► Country-specific regulations can necessitate specific tests and maintenance work.
	EFP 2 [2]	01/05–06/16	Every six months or after 2,500 pressing operations	► Top up with gearbox grease (art. no. 90010).
Service by a repair shop	EFP 2 [2] ECO 201 [2]	01/05–06/16 02/01–03/11	Annually	► Have an authorised repair shop check the pressing force and the state of wear.
	EFP 202 [2]	04/11–04/16	After 40,000 pressing operations or **after 2 years** at the latest in accordance with the information on the service sticker	
	ECO 202 [2]	04/11–04/16	After 40,000 pressing operations (interval is indicated by the red and green LEDs flashing alternately) or **after 2 years** at the latest in accordance with the information on the service sticker	
	ECO 203 [2] ECO 301 [3]	04/16–until now 01/05–03/19	If the red and green LEDs flash alternately or **after 2 years** at the latest in accordance with the information on the service sticker	
	EFP 203 [2]	04/16–until now	**After 2 years** in accordance with the information on the service sticker	

– Does not apply

A service sticker on the pressing tool, pressing jaw, adapter jaw and pressing collar indicates the date when the next service is due.



Arrange for the pressing tool (type ACO pressing tools with a battery charger) to be sent for a service together with the pressing jaws, adapter jaws and pressing collars in the transport case.

The addresses of authorised repair shops can be requested from the Geberit sales companies.

Maintenance and service plan for pressing tools with a rechargeable battery

Pressing tools and pressing attachments that are not maintained, or are not professionally maintained, can cause serious accidents. The maintenance and service intervals as well as maintenance and service work described below must be followed.

Table 72: Maintenance plan for pressing tools with a rechargeable battery and compatibility [1], [2], [2XL]

	Pressing tool	In the range [MM/YY]	Interval	Work
User maintenance	All	–	Regularly (before use, at the start of the working day)	► Check the pressing tool and mains cable or rechargeable battery for defects and damage that could affect safety. ► Clean and lubricate the pressing tool (see the operation manual).
	All	–	Every six months	► Have a qualified electrician or an authorised repair shop carry out an inspection and take measurements to establish any defects or damage that could affect safety. ► Country-specific regulations can necessitate specific tests and maintenance work.
Service by a repair shop	AFP 101 [1] ACO 201 [2]	07/06–04/12 04/11–04/16	Annually	► Have an authorised repair shop check the pressing force and the state of wear.
	ACO 102 [1] ACO 202 [2]	04/12–04/18 04/11–04/16	After 40,000 pressing operations (interval is indicated by the red and green LEDs flashing alternately) or **after 2 years** at the latest in accordance with the information on the service sticker	
	ACO 103plus [1] ACO 203 [2] ACO 203plus [2] ACO 203XL [2]/[2XL] ACO 203XLplus [2]/[2XL]	04/18–until now 04/16–04/18 04/18–until now 01/05–03/19 04/18–until now	If the red and green LEDs flash alternately or **after 2 years** at the latest in accordance with the information on the service sticker	

– Does not apply

A service sticker on the pressing tool, pressing jaw, adapter jaw and pressing collar indicates the date when the next service is due.



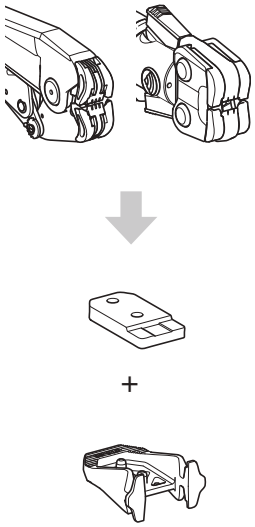
Arrange for the pressing tool (type ACO pressing tools with a battery charger) to be sent for a service together with the pressing jaws, adapter jaws and pressing collars in the transport case.

The addresses of authorised repair shops can be requested from the Geberit sales companies.

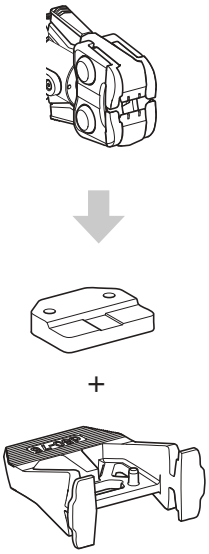
Using the Geberit PowerTest

Type assignment of the test unit to ensure compatibility.

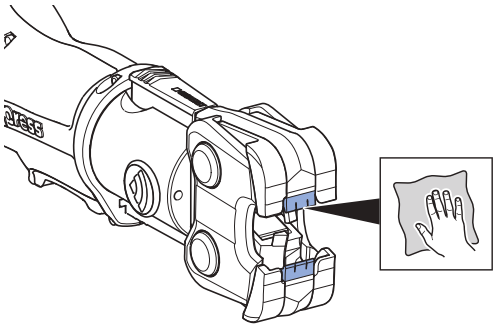
d16–40



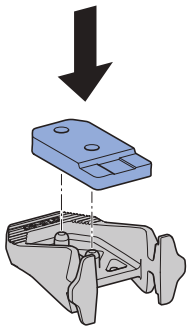
d50–75



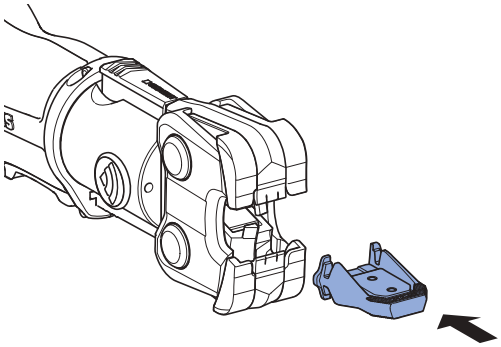
1 Clean the pressing tips.



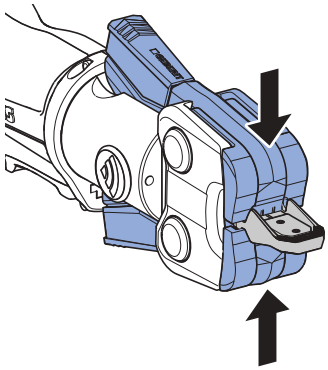
2 Place the test unit on the Geberit FlowFit support.



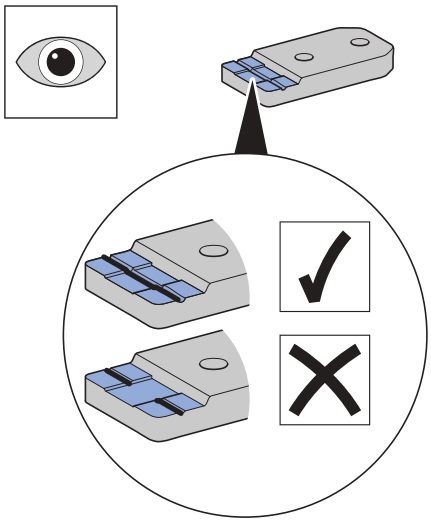
3 Insert the Geberit FlowFit support into the pressing tool.



4 Perform a test pressing.

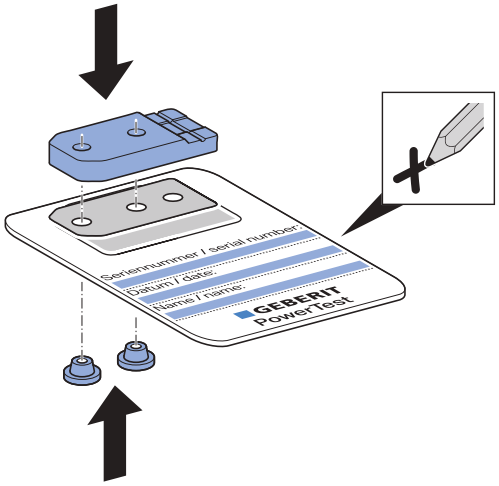


5 Evaluate the test result.



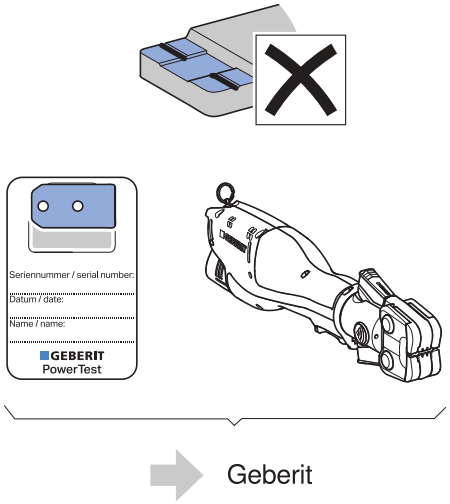
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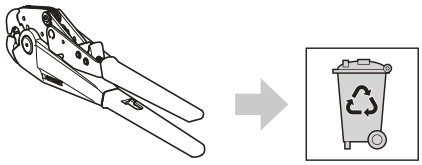
Attach the test unit to the PowerTest label.



7

If the test result is negative, send the pressing tool to Geberit for testing. Dispose of the Geberit FlowFit hand-operated pressing pliers appropriately.





2.15 COMMISSIONING

In addition to a professional installation, careful commissioning is required to ensure a hygienically perfect drinking water installation. The commissioning is regulated in the respective country-specific edition ofEN 806-4:2010 as well as in other country-specific regulations.

The commissioning includes the following subtasks:

- pressure test
- initial filling
- flushing

After the commissioning, the operator assumes responsibility for the proper operation of the installation.

2.15.1 Pressure test

The pressure test consists of two steps:

1. Leak test
2. Load test

The installation is tested for tightness with the leak test and for strength with the load test.

If only one section of the system is to undergo a pressure test, care must be taken to ensure that any open pipe ends associated with the section concerned have been sealed by means of caps, plugs or blind flanges. It is also important to ensure that the section has been isolated from the rest of the system using suitable shut-off devices.

If the system or section contains valves and appliances that have not been designed to withstand the test pressures associated with the leak/load test, these components will need to be disassembled and fitting pieces used in their place. The components should not be reinstalled in the system until the pressure test is complete.

If the test medium is supplied via a connection with a higher pressure level than the test pressure, then a water pressure reducing valve (plus a relief valve, if necessary) must be used to prevent the test pressure being exceeded.

Wherever possible, a drinking water installation should be filled directly from the drinking water network. If this is not possible, we recommend that suitable measures be implemented.

When performing the pressure test with potable water, air bleed devices must be provided at the highest points of the system and the piping system must be fully bled before the test commences.

As a basic principle, Geberit recommends carrying out the pressure test in sections and performing separate tests for different types of piping system. If this is not possible in cases where the pressure test involves different piping systems (particularly when Geberit system pipes PB have been used in a system), the "leaky if unpressed" leak test (Geberit FlowFit/ Mepla/Mapress) should be performed first. Once this has been done, there is a second step to be performed: Follow the relevant testing instructions for the piping system based on Geberit system pipes PB.

Once the pressure test is complete, the test pressure should be released in a safe manner.

Pressure test of drinking water installations according to EN 806-4

A pressure test on drinking water installations is recommended by Geberit.

A pressure test on drinking water installations can be conducted using the following test media in accordance with EN 806-4:2010:

- oil-free compressed air
- inert gas (e.g. nitrogen)
- drinking water

The choice of the test medium for the pressure test depends on the piping system, the application and the time when the system is due to be commissioned. Take into consideration hygiene and corrosion aspects.

Pressure test using oil-free compressed air or inert gas

Pay attention to the following basic rules for the pressure test:

- Make sure that the system is vented.
- Increase the test pressure slowly.
- Make sure that there is no drop in pressure during the test time.

Table 73: Pressure test using oil-free compressed air or inert gas

	DN	p [kPa]	t [min]
Leak test	–	15 (0.15 bar)	120[1)]
Load test	≤ 50	max. 300 (3 bar)	10
	> 50	max. 100 (1 bar)	

p Test pressure
t Test time
– not specified
1) Applies to a pipe volume of ≤ 100 l. For every 100 l of additional pipe volume: + 20 min.

Leak test with filtered water

Pay attention to the following basic rules for the pressure test:

- Make sure that the system is vented.
- Increase the test pressure slowly.
- Make sure that there is no drop in pressure during the test time.
- Inspect for possible leaks during the leak test (leaky if unpressed) of the pressure test with drinking water.

The water may remain in the piping system for up to 7 days under optimal conditions. Regular flushing is recommended.

Table 74: Geberit system pipe ML

	p_{max} [kPa]	t [min]
Leak test (leaky if unpressed)	600 (6 bar)	15
Leak test (main test)	1100 (11 bar)	30

p_{max} Maximum test pressure
t Test time

Pressure test of heating installations

The pressure test of heating installations is conducted in accordance with EN 14336:2004. The pressure test is generally performed with water.

Pay attention to the following basic rules for the pressure test:

- Make sure that the system is vented.
- Increase the test pressure slowly.
- Make sure that there is no drop in pressure during the test time.
- After the pressure test with cold water, heat the system up to the calculated maximum temperature.
- Document the pressure test.

Table 75: Test procedures for heating systems

	p[1)]	t [min]
Pressure test	Min. 100 kPa (1 bar) Max. 1.3 times the operating pressure	120

p Test pressure
1) At each point of the system
t Test time

2.15.2 Initial filling and flushing

The filling of a drinking water installation must only be carried out through a sufficiently flushed service connection pipe. The flushing of the service connection pipe must be carried out in accordance with the water supply specifications before the installation of the domestic water meter. It is important to ensure that there are sufficient drainage options.

Ideally, the flushing of drinking water pipes should take place at least 72 hours before the intended operation of the installation. The flushing process must be carried out separately for the cold and hot water installation. The initial filling and flushing must be documented.

2.16 MAINTENANCE AND REPAIR OF GEBERIT FLOWFIT

2.16.1 General maintenance notes

The operator of buildings must ensure that the potable water meets the prescribed quality at the various outlet taps.

Regular consumption of potable water prevents stagnation in the system. The entire system should be flushed at all points of use after lengthy stagnation times, e.g. after holiday absence of more than 3 days. This rinsing should be performed before the water is used for human consumption. To do this, all outlet taps must be opened until complete water replacement and temperature stability is achieved or an automatic flushing device must be installed. In general, garden pipes and frost-proof or rarely used points of use must be routed by means of loop throughs to a frequently used sanitary appliance to ensure the renewal of potable water. Regardless of this, pipes must be shut off and emptied if there is a risk of frost. A maintenance/ servicing schedule should be prepared for large buildings (hotels, hospitals, etc.) and a general hygiene schedule for all buildings.

2.16.2 Descaling of pipes

Geberit supply systems for drinking water are designed for maintenance-free operation. Malfunctions can occur due to limescale deposits in the pipe if the operating conditions are not matched to the existing water quality.

Limescale deposits that cause malfunctions (e.g. reduced water flow) in Geberit supply systems can be removed with suitable descaling agents and in accordance with the following rules:

- Only sulfamic acid or citric acid-based descaling agents are allowed to be used.
- The descaling agent must contain a corrosion-protection agent and be approved by the manufacturer for use with non-ferrous heavy metals.
- Approved descaling agents must be used for the descaling of drinking water pipes.
- Under no circumstances should the descaling agent come into contact with the aluminium on the front-end connection points of the multilayer pipes.
- The concentration for use and application time (max. 8 hours) of the descaling agent specified by the manufacturer must be observed.
- The descaling agent must be used at room temperature (max. 25 °C).
- After descaling, the pipes must be flushed thoroughly. The pH value must then be checked at the points of use. Acid must no longer be detectable.
- Before descaling, hot water pipes must be flushed with cold water until the temperature at all points of use is below the application temperature.
- The piping system must be open so that the pressure generated by the descaling process can escape if need be.
- Mechanical removal of the limescale deposits is not admissible as the surface of the system pipe may be damaged.

2.16.3 Freezing of Geberit system pipes ML

For the repair of pipe sections, individual pipe sections may be frozen before and after the affected pipe section.

When freezing pipe sections, the following rules must be observed:

- The specifications of the appliance manufacturer must be observed.
- The freezing sleeves must be matched to the outer diameter of the pipe.
- Only straight pipe sections must be frozen.
- Spacing of at least 30 cm must be maintained between the fittings and connection points.
- No changes must be made to the pipe; in particular, damage to the protective jacket must be avoided.
- Any damaged pipe sections must be replaced.

It takes multilayer pipes longer to freeze than pipes made of metallic materials.

2.16.4 Pipe lining

Geberit system pipes ML are not suitable for pipe lining by means of sandblasting and a subsequent coating of epoxy resin. The system pipes do not withstand the pressure that is generated by sandblasting. Furthermore, the surface of the system pipes is not designed for an epoxy resin coating.

2.17 DISINFECTION OF DRINKING WATER INSTALLATIONS

2.17.1 Principles

Drinking water installations must only be disinfected in proven cases of contamination and only for a limited time. Prophylactic disinfection contradicts the principle of minimisation of the Drinking Water Inspectorate. Disinfection of drinking water installations is only successful when all sources of contamination have been removed. The limit values for disinfectant concentrations specified in the Drinking Water Inspectorate are maximum values, which were set with due consideration of hygienic and toxicological viewpoints. They do not allow any automatic conclusions to be drawn about the resistance of the materials used to disinfectants. Drinking water installations may only be disinfected by skilled persons. The disinfection measures must be recorded in writing.

The disinfection measures place a strain on the materials and components of the potable water installation and may adversely affect its service life. Disinfection measures carried out incorrectly can damage the potable water installation.

BS 8558 and BS EN 806 provide guidance on materials, water quality and cleaning and disinfection, which should be read in conjunction with the information contained here.

2.17.2 Methods of disinfection

Drinking water installations and washbasin taps can be disinfected using thermal or chemical methods. Drinking water can also be disinfected by means of UV radiation.

A combined thermal-chemical disinfection is not admissible.

2.17.3 Thermal disinfection

In the case of thermal disinfection, microorganisms that are found in water are killed off by the effects of temperature.

The following rules must be observed during thermal disinfection:

- The piping system must be thoroughly rinsed before the disinfection process is performed.
- The water heater and the entire circulation must be heated up to at least 70 °C.
- All points of use must be opened step by step or line by line respectively.
- Hot water must be allowed to run at all points of use for at least 3 minutes at 70 °C.
- The temperatures must not decrease during the disinfection process.
- Risk of scalding must be eliminated by taking suitable measures.
- Performance of the disinfection process must be documented in a report.

2.17.4 Chemical disinfection

Effective killing or inactivation of microorganisms is only possible if the disinfectant used can act on the microorganisms directly. In the case of chemical disinfection, a disinfectant is therefore used in a sufficient concentration in all areas of the drinking water installation.

A distinction is made between the following chemical disinfection techniques:

- system disinfection
- drinking water disinfection

Chemical disinfectants corrode the drinking water installation and must only be used in the event of contamination.

Using a combination of several chemical disinfectants is not admissible.

Chemical disinfection can be performed several times throughout the service life of the drinking water installation. The disinfection measures, however, place a strain on the materials and components of the drinking water installation and may adversely affect its service life. It is not possible to provide a specification on the reduction in service life depending on the number of chemical disinfections performed.

System disinfection

For system disinfection, a disinfectant in a high concentration is added to a cold-water pipe over a short period of time.

Geberit piping systems and Geberit washbasin taps are suitable for system disinfection.

The following rules apply when carrying out system disinfection:

- Concentrations, temperatures and application times of the permitted disinfectants must be adhered to in strict compliance with country-specific regulations.
- Skilled persons must take specific measuring and control technology precautions.
- To prevent increases in concentration, the specific characteristics of the affected drinking water installation must be taken into account.
- Concentrations, temperatures and application times must be documented.
- Cleaning and disinfection measures must be recorded.
- To remove disinfectant and dead germs after disinfection is complete, the drinking water installation must be flushed thoroughly with hygienically perfect drinking water.
- All points of use must be flushed until the limit value of the Drinking Water Inspectorate is reached.
- No drinking water may be consumed during disinfection and the subsequent flushing phase.

Drinking water disinfection

For drinking water disinfection, a disinfectant in a low concentration is added to the drinking water pipe (cold or hot) for a limited time.

Geberit piping systems and Geberit washbasin taps are suitable for time-limited drinking water disinfection.

The following rules apply when carrying out drinking water disinfection:

- Concentrations, temperatures and the duration of application of the permitted disinfectants must be adhered to in strict compliance with the country-specific regulations.
- Skilled persons must take specific measuring and control technology precautions.
- To prevent increases in concentration, the specific characteristics of the affected drinking water installation must be taken into account.
- Concentrations, temperatures and by-products must be monitored and documented directly after the dosing point using measurement technology.
- The concentration of the agent in the treated water must be measured daily.
- The drinking water disinfection must be kept as short as possible and it should last no longer than it takes for the technical rehabilitation to be realised.

Exceeding the concentration for use and duration can adversely affect the service life of the piping system.

2.17.5 UV disinfection

Geberit Mapress piping systems

Geberit Mapress piping systems are suitable for UV disinfection without restriction.

2.18 DISPOSAL

2.18.1 Recycling

At the end of its service life, the Geberit system can be broken down into its individual parts and recycled according to the materials used.



Table 76: Recycling of Geberit FlowFit

Component	Material	Recycling	Remarks
System pipes ML	PE-RT II / Al / PE-RT II	Separation of Al and PE	Performed by specialist company, Material collection by recycling companies
System pipes ML, with circular pre-insulation	PE-RT II / Al / PE-RT II PE soft foam	Separation of Al, PE and PE soft foam	
Protective tubes	PE-HD	Plastic recycling	Material collection by recycling companies
Fittings made of metal	Rg+ SiBr	Scrap metal	
Fittings made of plastic	PPSU	Plastic recycling	
Pressing indicators	POM	Plastic recycling	Return of the material through a Geberit sales company
Protective caps and plugs	PE-LD/PE-HD	Plastic recycling	
Outer packaging	HDPE Cardboard	Plastic recycling Paper recycling	Material collection by recycling companies

Geberit Sales Ltd.
Geberit House
Edgehill Drive
GB-CV34 6NH Warwick

T: +44 (0)1926 516800
F: +44 (0)1926 400101
enquiries@geberit.co.uk

www.geberit.co.uk

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Specialist and Combination Valves

Tenant Valve Advance

One-piece combination valve that controls and monitors water supply to multi-unit sites

Overview

Reliance Valves Tenant Valve Advance is a combination valve that provides several functions in a single unit and is designed to control water pressure and monitor water usage and supply to multi-occupancy sites, such as residential high-rises and commercial offices.

Quick and easy to install and service, the one-piece cartridge design also reduces potential leak points and labour costs when compared to a traditional chain of individual parts that must be unpacked, threads taped, joining compounds applied, held into position and screwed together.

The multi-functional valve includes a ball type lever valve, pressure reducing valve with integral in-line strainer, serviceable double check valve, dual-reading pressure gauge that can be read from any orientation, and a connection point for an optional primary charging water meter, eliminating the requirement for further adaptors.

All components are accessible from the front of the valve, for fast and simple maintenance. The valve is supplied with a moulded insulation cover, including an additional insulation ring for the water meter connection if required.

WRAS approved for hot and cold water, the valve is suitable for pressures up to 16 bar and temperatures up to 65ºC. It is also adjustable between 1.5 - 6.0 bar.



TVAP250001
without insulation cover



GAGE201001
Dual Reading Gauge

Features and benefits

- Single-piece design reduces potential leak points and makes installation and maintenance quick and easy
- Includes a ball type lever valve, pressure reducing valve, double check valve, dual reading pressure gauge and a connection point for a primary charging water meter
- Easy-to-service integral strainer within the PRV provides added protection to building occupants and the plumbing system
- Supplied with a moulded insulation cover that protects the valve and can be easily removed when servicing the valve
- For ease of maintenance, the water meter cartridge can also be removed from the cover, without the need to remove the insulation from the valve body



TVAP250001
with insulation cover

Product code	Size	Description
TVAP250001	3/4" FBSP	Tenant Valve Advance
TVAP250005	1" FBSP	Tenant Valve Advance

Specialist and Combination Valves

Tenant Valve Advance

Specification & Working Parameters

Maximum inlet pressure	16 bar
Outlet adjustable pressure	1.5 - 6 bar
Pre-set pressure	4 bar
Maximum temperature	65ºC
Suitable Media	Potable Water
Mounting Orientation	Vertical & Horizontal
Water Meter Connection Size	1.1/2"

Materials

Body	DZR Brass
Internal Components	DZR Brass
Seals	EPDM & Viton
Diaphragm	EPDM
Strainer	Stainless Steel
Spring	Stainless Steel

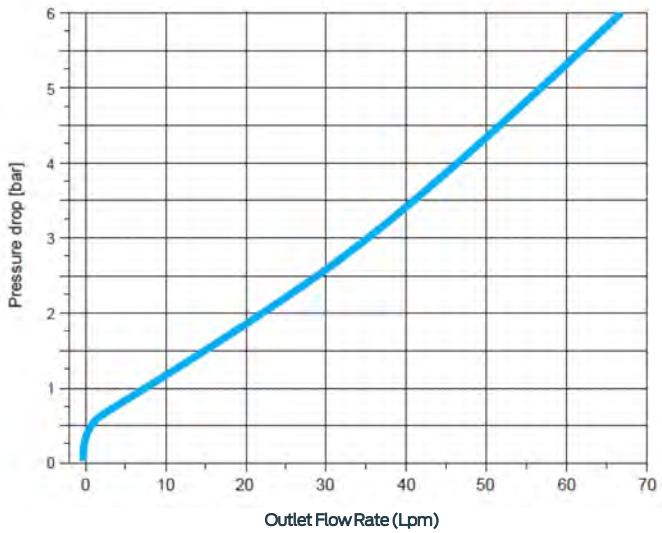
Approvals

WRAS Approved

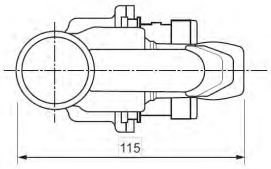
Spare Parts & Accessories

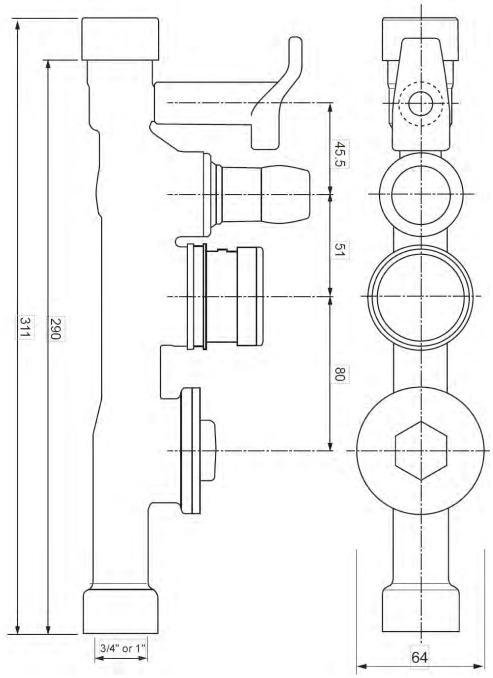
Isolating & Drain Off Combination Valve - 3/4"	TBAV250001
Isolating & Drain Off Combination Valve - 1"	TBAV250005
One Piece PRV Cartridge	REDC201001
Dual Reading Pressure Gauge	GAGE201001
Check Valve Assembly & Key	TCHK201001
Spare insulation case (3/4" & 1" Versions)	INSU250001
Tenant Valve Advance Concentric Water Meter	WATM250001
Water Meter Pulse Output Adaptor	PLSE250001
Replacement Stop Valve Handle	HNDL250001
Replacement Blanking Cap	BCAP250001

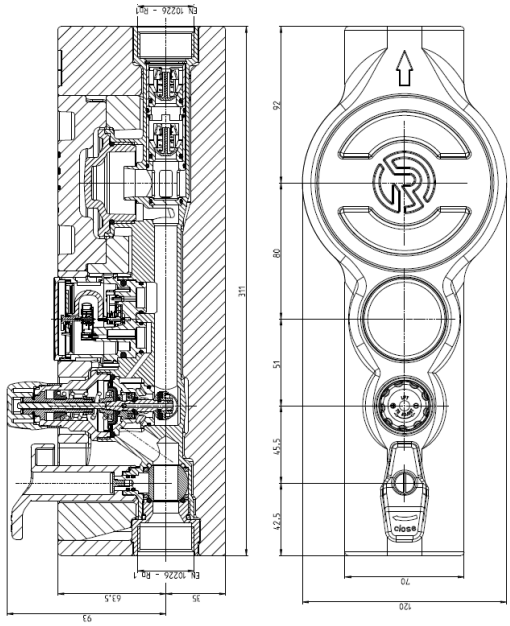
Flow Graph - 3/4" & 1" Version's



Dimensions – All measurements in mm unless otherwise stated







WRAS APPROVED PRODUCT

BIM Available
Files at bimstore.co.uk

A Name You Can Trust !

Elite Wet & Dry Riser Equipment

Images courtesy of buyimage.co.uk

J.D. Fire Ltd.

Specialist Manufacturers
of Fire Protection Products

2015 General Catalogue

Elite Dry Riser Inlet Cabinets

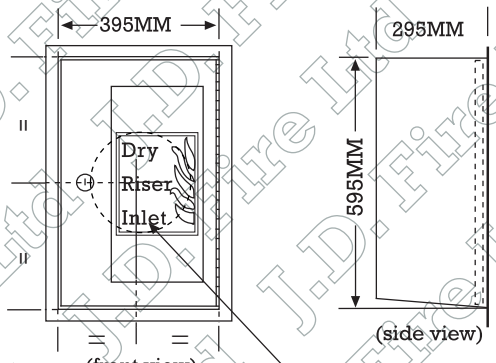
Recessed Vertical Inlet Cabinet



Elite 1802



Elite 2020



Cabinet Specifications

Cabinet & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Architrave:	38mm Wide All Round.
Glass:	6mm Georgian Wired, PRV Lettering.
Lock:	Yale Slam Lock Keyed Alike.
Hinge:	Stainless Steel Piano Hinge.
Conforms:	To BS 5041 Part 5.

Options

1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured with special doors to take marble, stone etc.
4) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

(Minimum aperture 405mm wide 605mm high)

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 1802	Red As Standard	595	395	295	30
Elite 2020	Stainless Steel Satin Polished finish	595	395	295	30

Recessed Horizontal Inlet Cabinet



Elite 1799



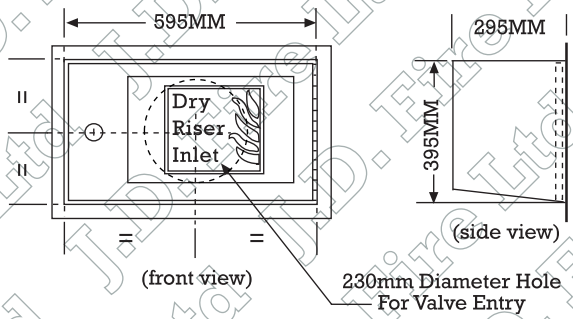
Elite 2010

Options

1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured with special doors to take marble, stone etc.
4) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

Cabinet Specifications

Cabinet & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Architrave:	38mm Wide All Round.
Glass:	6mm Georgian Wired, PRV Lettering.
Lock:	Yale Slam Lock Keyed Alike.
Hinge:	Stainless Steel Piano Hinge.
Conforms:	To BS 5041 Part 5.



(Minimum aperture 605mm wide 405mm high)

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 1799	Red As Standard	395	595	295	30
Elite 2010	Stainless Steel Satin Polished finish	395	595	295	30

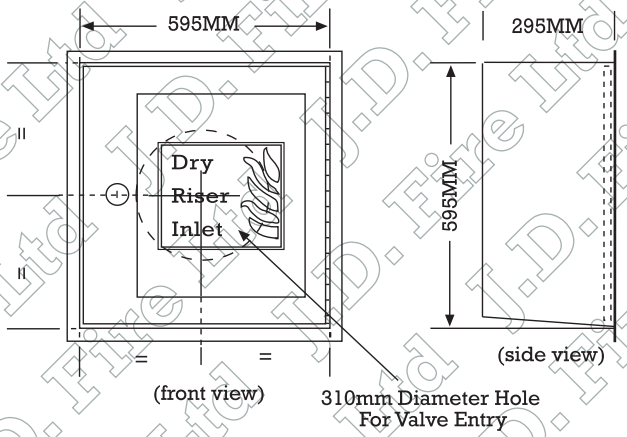
J.D Fire Reserve the right to modify or withdraw any product without notice

Elite Dry Riser Inlet Cabinets

Recessed 4-Way Inlet Cabinet



Elite 1804



Cabinet Specifications

Cabinet & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Architrave:	38mm Wide All Round.
Glass:	6mm Georgian Wired, PRV Lettering.
Lock:	Yale Slam Lock Keyed Alike.
Hinge:	Stainless Steel Piano Hinge.
Conforms:	To BS 5041 Part 5.

(Minimum aperture 605mm wide 605mm high)

Options

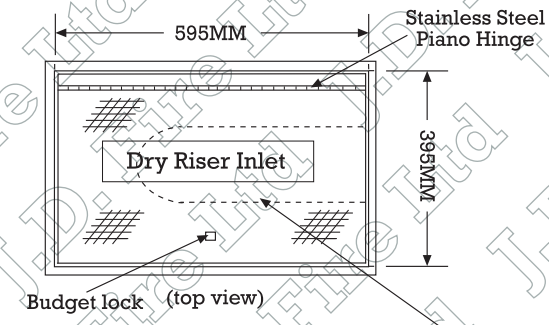
1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured with special doors to take marble, stone etc.
4) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

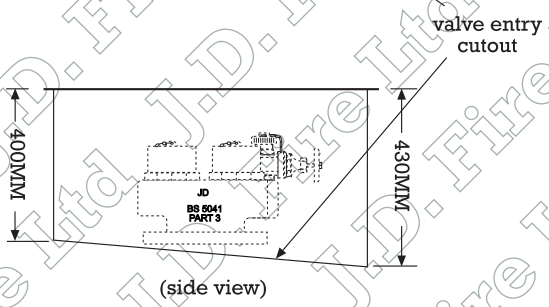
Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 1804	Red As Standard	595	595	295	45
Elite 2030	Stainless Steel Satin Polished finish	595	595	295	45

Recessed Floor Mounted Inlet Cabinet



Elite 1801





Cabinet Specifications

Back box:
manufactured from 16swg zintec steel polyester powder coated white.

Architrave:
5mm steel galvanised.

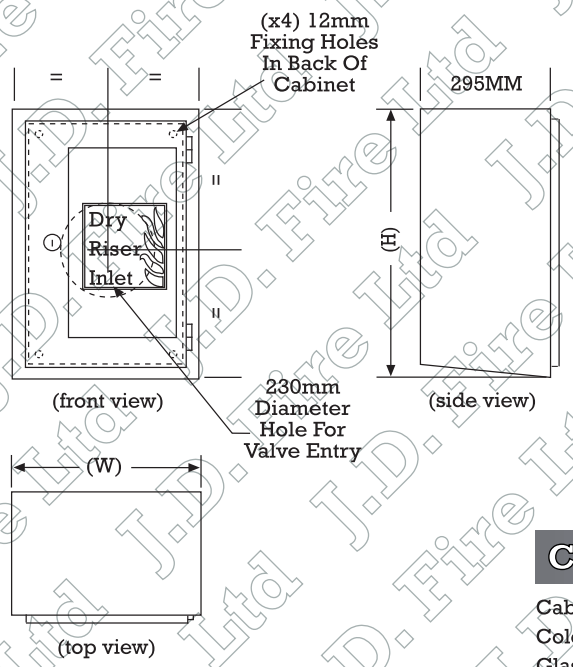
Door:
5mm chequered plate galvanised complete with lettering engraved "DRY RISER INLET" filled in black.

Please note: cabinet does not conform to BS 5041 Part 5 you need to get approval from the local fire authority.

J.D Fire Reserve the right to modify or withdraw any product without notice

Elite Dry Riser Inlet Cabinets

Surface Mounted Inlet Cabinet





Elite 1821

Cabinet Specifications

Cabinet & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Glass:	6mm Georgian Wired, PRV Lettering.
Lock:	Yale Slam Lock Keyed Alike.
Hinge:	Chrome Plated Bullet Hinges
Conforms:	To BS 5041 Part 5.

Options

1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 1821	(Vertical) Red As Standard	595	395	295	30
Elite 1821SS	(Vertical) Stainless Steel Satin Polished finish	595	395	295	30
Elite 1822	(Horizontal) Red As Standard	395	595	295	30
Elite 1822SS	(Horizontal) Stainless Steel Satin Polished finish	395	595	295	30
Elite 1823	(4-Way) Red As Standard	595	595	295	45
Elite 1823SS	(4-Way) Stainless Steel Satin Polished finish	595	595	295	45

Please Note: *Also available a deeper cabinet with top or bottom entry please ring for further details.*

Replacement Parts For Inlet & Outlet Cabinets



Ref:	Specifications:
Elite D14	Slam Lock Keyed Alike
Elite D11	Glass For Inlet Vertical Cabinet C/W Label
Elite D12	Glass For Inlet Horizontal Cabinet C/W Label
Elite D13	Glass For 4-Way Inlet Cabinet C/W Label
Elite D10	Glass For Inlet Outlet Cabinet C/W Label

Labels can be purchased separately if required

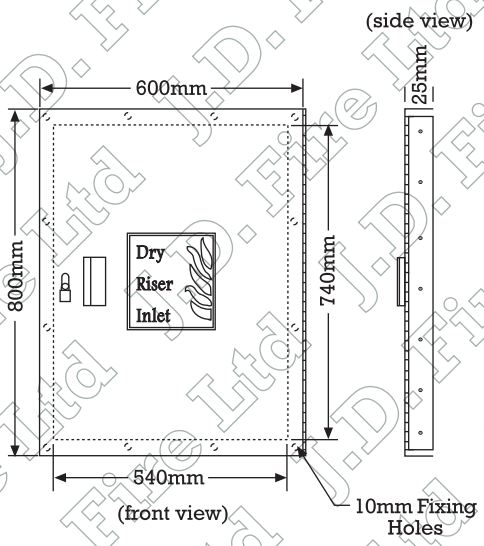
J.D Fire Reserve the right to modify or withdraw any product without notice

Elite Dry Riser Inlet Covers

Vertical Inlet Anti Vandal Cover



Elite 1805



Cabinet Specifications

Frame & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Lock:	FB 1 Padlock.
Hinge:	Stainless Steel Piano Hinge.
Lettering:	PRV Lettering.

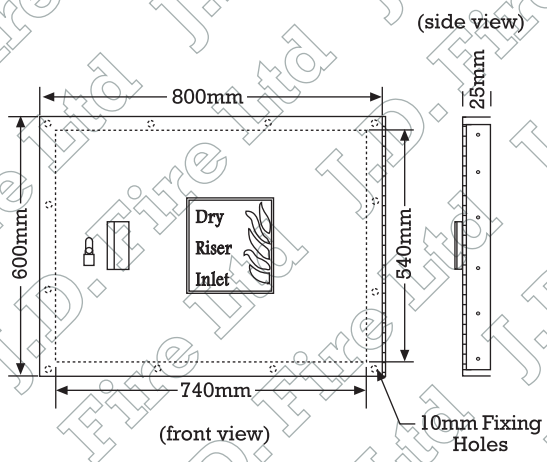
Approx Weight: 10Kg

Can be manufactured to your specifications & dimensions

Horizontal Inlet Anti Vandal Cover



Elite 1806



Approx Weight: 10Kg

Cabinet Specifications

Frame & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Lock:	FB 1 Padlock.
Hinge:	Stainless Steel Piano Hinge.
Lettering:	PRV Lettering.

J.D Fire Reserve the right to modify or withdraw any product without notice

2-Way & 4-Way Inlet Breeching Valves



Elite 010



Elite 012

Features

*Compact and elegant design with excellent flow characteristics.

*High quality casting finishes.

*Corrosion resistant and quality materials used.

*For durability, long-life and efficiency.

General

"Elite" 2-Way & 4-Way type breeching inlets are designed, constructed and manufactured in accordance with BS 5041 : Part 3 : 1975.

The materials used in the manufacture of the breeching inlets are in conformity to the standard's requirement. The body is casted from spheroidal graphite iron and the inlets are made of BS1400 LG2 gunmetal and copper alloy parts with bronze spring, stainless steel locknut, washer, etc.

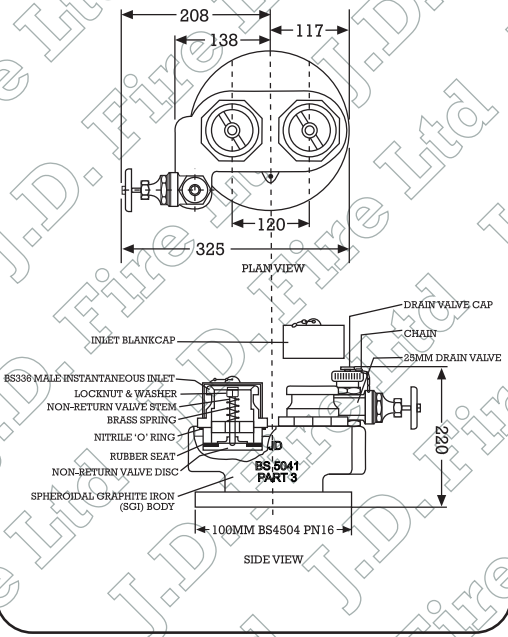
The internal part of the breeching inlet bodies are coated with "black" epoxy cold tar paint which is a good anticorrosion protection.

The inlet blankcaps are rubber with chrome chain. Brass or gunmetal blankcaps are also available upon request.

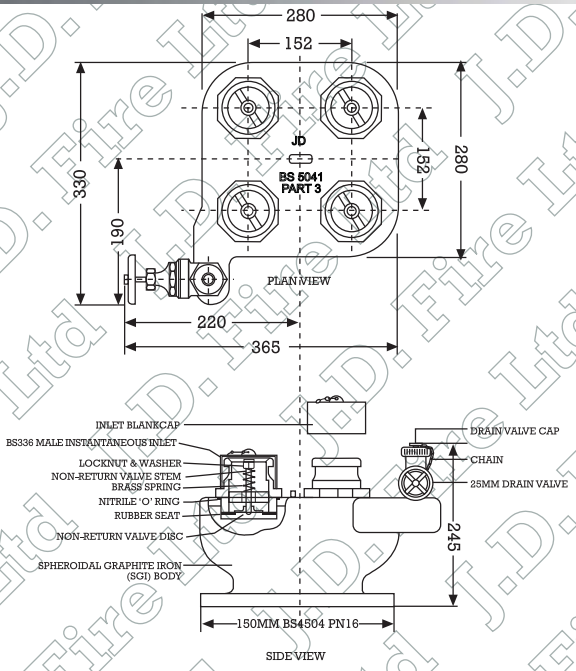
The breeching inlets are individually hydrostatically tested on the body and inlets at 20 bars (approx. 300 PSI) and the non-return valves are tested to 1.7 bars (approx. 25 PSI) to ensure that no leaks are evident under such low pressure as required by the standard.

Ref:	Specifications:	Approx. Weight Kgs
Elite 010	2-Way Outlet Flanged 100mm PN16	13
Elite 071	2-Way Outlet Flanged 4" BS Table D	13
Elite 012	4-Way Outlet Flanged 150mm PN16	25

2-Way



4-Way



J.D Fire Reserve the right to modify or withdraw any product without notice

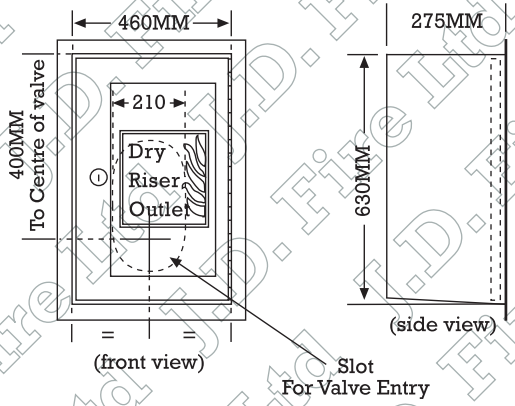
Recessed Outlet Cabinet



Elite 1825



Elite 2000



Cabinet Specifications

Cabinet & Door: 16swg Zintec Steel.
Colour: As Standard Red Ral 3002.
Architrave: 30mm Wide All Round.
Glass: 6mm Georgian Wired, PRV Lettering.
Lock: Yale Slam Lock Keyed Alike.
Hinge: Stainless Steel Piano Hinge.
Conforms: To BS 5041 Part 4.

Options

1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

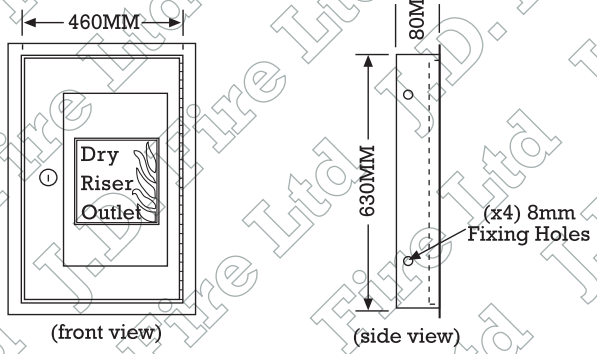
(Minimum aperture 470mm wide 640mm high)

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 1825	Red As Standard	630	460	275	30
Elite 2000	Stainless Steel Satin Polished finish	630	460	275	30

Recessed Architrave & Door



Elite 024



Cabinet Specifications

Cabinet & Door: 16swg Zintec Steel.
Colour: As Standard Red Ral 3002.
Architrave: 30 mm Wide All Round.
Glass: 6mm Georgian Wired, PRV Lettering.
Lock: Yale Slam Lock Keyed Alike.
Hinge: Stainless Steel Piano Hinge.

Options

1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

(Minimum aperture 470mm wide 640mm high)

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 024	Red As Standard	630	460	80	25
Elite 024SS	Stainless Steel Satin Polished finish	630	460	80	25

Also available for inlets please ring 0161 652 2655 for further details.

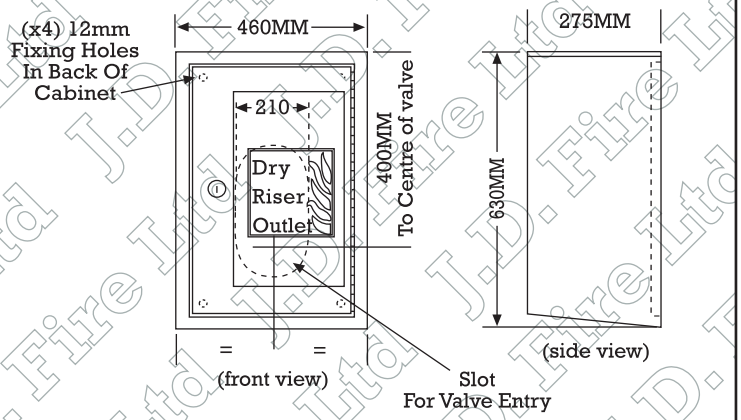
J.D Fire Reserve the right to modify or withdraw any product without notice

Elite Dry Riser Outlet Cabinets

Surface Mounted Outlet Cabinet



Elite 020



Cabinet Specifications

Cabinet & Door:	16swg Zintec Steel.
Colour:	As Standard Red Ral 3002.
Glass:	6mm Georgian Wired, PRV Lettering.
Lock:	Yale Slam Lock Keyed Alike.
Hinge:	Stainless Steel Piano Hinge.
Conforms:	To BS 5041 Part 4.

Options

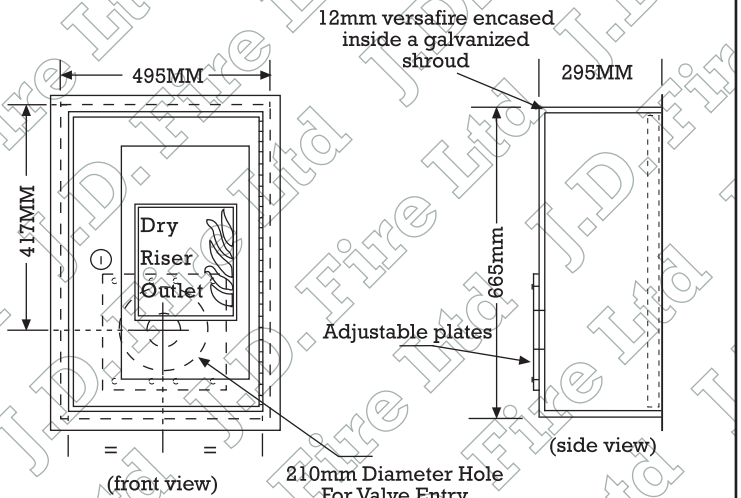
1) Full cabinet polyester powder coated to your colour specifications, all we need is a Ral or BS number.
2) Cabinets can be manufactured to your individual specifications and dimensions.
3) Cabinets can be manufactured with special doors to take marble, stone etc.
4) Cabinets can be manufactured to take fire brigade budget locks recommended on solid door version.

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 020	Red As Standard	630	460	275	30
Elite 020SS	Stainless Steel Satin Polished finish	630	460	275	30

2 Hour Fire Shroud Integrity Only



Elite 3000



Installation:

Installer must insert cabinet in to aperture and drill the sides or where ever they can get a suitable fixing. When cabinet is fully secure remove the adjustable plates enter the pipe in to the cabinet and then cut semi circles in to the adjustable plates to suit the 65mm pipe then fix the plates back to the cabinet and seal all joints with intumastic.

(Minimum aperture 500mm wide 670mm high)

Ref:	Specifications:	Dimensions:			Approx. Weight Kgs
		High mm	Width mm	Depth mm	
Elite 3000	2 Hour integrity Only	665	495	295	60

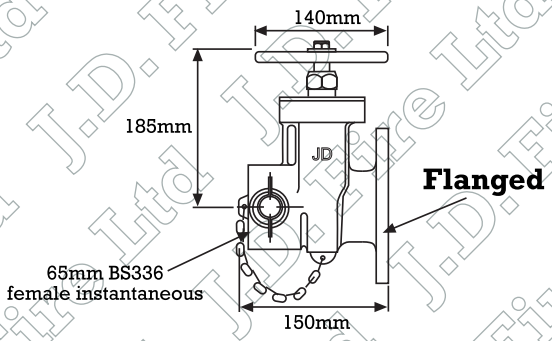
J.D Fire Reserve the right to modify or withdraw any product without notice

Elite Dry Riser Gate Valves

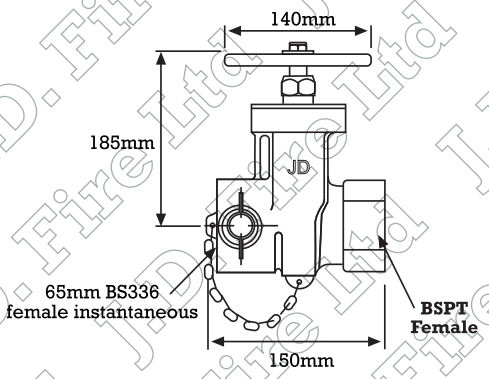
Dry Riser Gate Valve Flanged

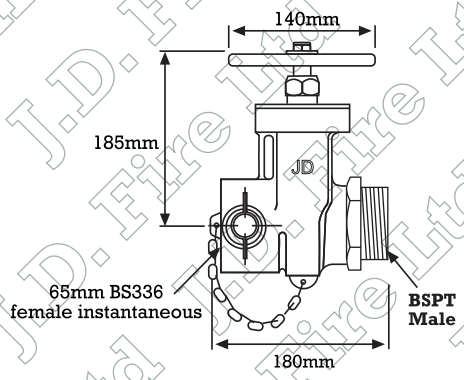


Elite 014



Dry Riser Gate Valve Threaded





Features

*Compact and elegant design with excellent flow characteristics.

*High quality casting finishes.

*Precise machining for metal to metal seating provides leak-proof.

*Corrosion resistant and quality materials used for durability, long-life and efficiency.



Elite 015M

Elite 015F

General

"Elite" 65mm diameter gunmetal gate pattern dry riser valve comes with a flanged or screwed inlet connections. This valve is generally intended to be installed in a building dry riser system.
The design and construction of the gate valves are strictly in accordance with BS5041 Part 2
The selection of materials for the manufacture of the valve are all corrosion resistant, tough and durable. This ensures the products long-life plus providing an efficient service in the time of need.
The valve metal to metal seating are precisely machined so as to provide the shut-off of the valve to have a water-tight sealing.
Every gate valve manufactured is hydrostatically tested to 16.5 bars and 22.5 bars for the valve seat and body respectively.
The internal casting finish of every valve is of high quality ensuring a low flow restriction that meets the standard's water flow test requirement.
The gate valve comes complete with standard "black" plastic plug and chain. Alternative plugs made of brass or gunmetal are also available upon request.

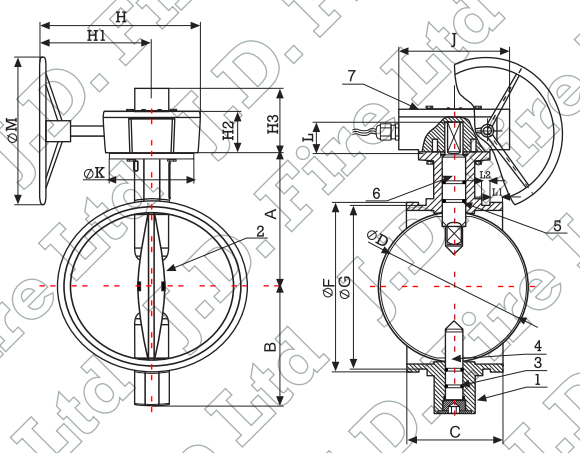
Ref:	Specifications:	Approx. Weight Kgs
Elite 014	Inlet Flanged 65mm PN16	7.5
Elite 073	Inlet Flanged 2.5" BS Table D	7.0
Elite 015	Inlet Screwed 2.5" BSPT Female or Male	6

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Metal Butterfly Valve

BS EN 593 Grooved Butterfly Valve c/w Tamper Switch





Ref for 100mm JD020100
Ref for 150mm JD020150

CE 1128

Statement:

Resilient centerline butterfly valves usually serve to cut off flow in the piping system, widely applied in the field of potable water, water supply and drainage, sewage disposal irrigation, air conditioning, fire protection as well as chemical and energy industry. The design of the butterfly valves, however makes it also suitable to serve as adjusting valve.

Design Standard:

BS EN 593

Connection Ends:

Grooved to ISO 6182.

Top Flange Standard:

ISO 5211 Stem Drive By Keys, Parallel or Diagonal Square or Flat Head.

Working Pressure:

PN10/PN16.

Temperature Range:

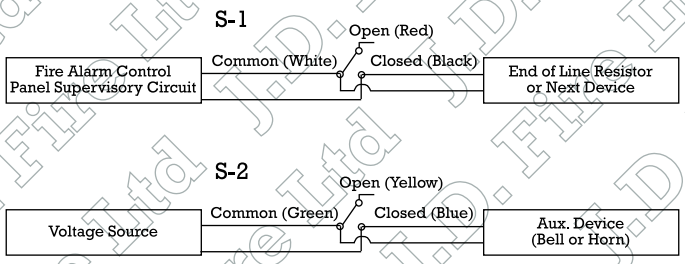
Temperature from 0°C to 80°C

Material Specification

Part No	Part	Material	Options
1	Valve Body	EN-GJS-450-10	
2	Disc	EN-GJS-450-10 + EPDM	EN-GJS-450-10 + NBR
3	O-Ring	NBR	EPDM
4	Stem	SS431	SS304, SS316, SS416, SS420
5	O-Ring	NBR	EPDM
6	Stem	SS431	SS304, SS316, SS416, SS420
7	Singal Gear Box	EN-GJS-450-10	Cast Iron EN-GJL-200

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

Switch Wiring Diagram



Size		Dimension (mm)															
mm	inch	A	B	C	ΦD	ΦF	ΦG	L1	L2	L	ΦK	H	H1	H2	H3	J	ΦM
50	2"	89	65	81	53.9	60.33	57.15	15.88	7.93	32	90	208	156	59	104	125	150
65	2.5"	102	71	97	65.2	76.1	72.26	15.88	7.93	32	90	208	156	59	104	125	150
80	3"	109	81	97	79.7	88.9	84.94	15.88	7.93	32	90	208	156	59	104	125	150
100	4"	128	95	116	105	114.3	110.08	15.88	9.53	32	90	208	156	59	104	125	150
125	5"	141	111	148	130	139.7	135.48	15.88	9.53	32	90	208	156	59	104	125	150
150	6"	153	133	148	156	165.1	160.9	15.88	9.53	32	90	208	156	59	104	125	150
200	8"	184	164	133	206.7	219.1	214.4	19.05	9.53	45	125	310	239	69	115	167	300
250	10"	216	196	159	253.3	273.1	268.28	19.05	9.53	45	125	310	239	69	115	167	300
300	12"	254	226	165	301.9	323.9	318.29	19.05	9.53	45	125	307	229	73	120	190	300

Note: Valve must not be installed with disc in full open position.
Disc must be partly closed so that no part is protuding beyond end of valve body.

Please Note:

To BS9990 an Isolation Valve should be fitted every 10 meters.

Lever Type Also Avilable.

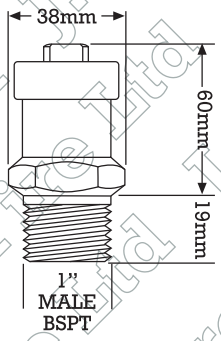
Elite™
www.jdfire.co.uk

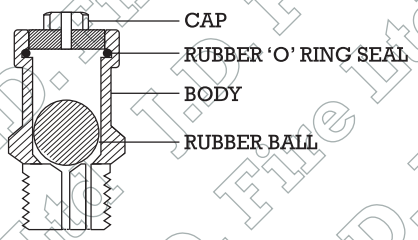
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Automatic Air Release Valve



Elite 013



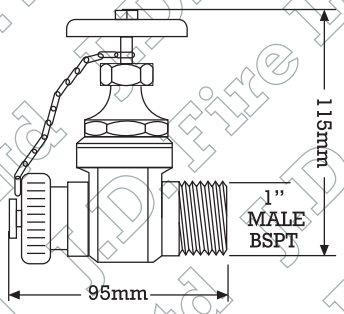


Ref:	Specifications:	Approx. Weight Kgs
Elite 013	1" BSPT Male	0.5

Drain Valve



Elite 083



Ref:	Specifications:	Approx. Weight Kgs
Elite 083	1" BSPT Male	0.7

Valve Accessories



Elite D7



Elite D5



Elite D8



Elite D2

Elite D1



Elite D6



Elite D9

Ref:	Specifications:
Elite D7	Female Cap & Chain For Inlet Breeching Valve
Elite D5	65mm Instantaneous Washer
Elite D8	Female Cap & Chain For Drain Valve
Elite D2	16" or 20" Leather Strap
Elite D1	30mm Brass Padlock Keyed Alike
Elite D6	Male Plug & Chain For Landing Valves
Elite D9	Hand Wheel For Landing Valves

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Globe Pattern Wet Riser Landing Valves



Elite 016



Elite 017



Elite 018



Elite 019

General

"Elite" range of 65mm diameter "low-pressure" globe pattern landing valves with flanged connection comes in four different configurations namely Oblique, Right-Angle, Bib-Nose & Horizontal patterns.

The design and construction of the landing valve are strictly in accordance with BS5041 Part 1. The valves are suitable for both on-shore and off-shore fire protection applications.

The shut-off of the valve for good water-tight sealing is done by using a high quality rubber bonded seat disc which acts as a primary rubber to metal seal, whilst a secondary metal to metal shut-off is also incorporated in the design of the valve.

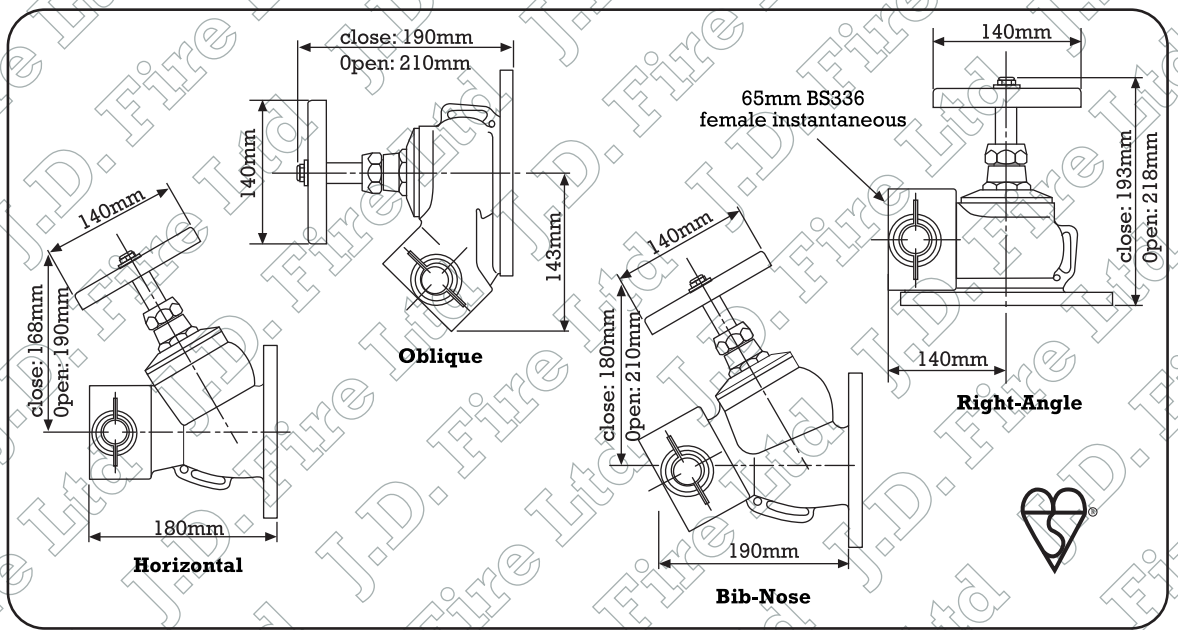
Every landing valve manufactured is hydrostatically tested to 16.5 bars and 22.5 bars for the valve seat and body respectively. The internal casting finishes of every valve is of high quality ensuring a low flow restriction that meets the standard's water flow test requirement. The valve comes complete with standard black plastic plug and chain. Alternative plugs made or brass or gun-metal are also available upon request.

Features

*Compact and elegant design with excellent flow characteristics. *High quality casting finishes. *Corrosion resistant and quality materials used for durability, long-life and efficiency. *Primary shut-off by rubber to metal and a secondary metal to meal seating.

Ref:	Specifications:	Approx. Weight Kgs
Elite 016	Horizontal, Inlet Flanged 65mm PN16	6.5
Elite 017	Oblique, Inlet Flanged 65mm PN16	6.5
Elite 018	Bib-Nose, Inlet Flanged 65mm PN16	6.5
Elite 019	Right-Angle, Inlet Flanged 65mm PN16	6.5

Please Note: Optional inlets Flanged to BS10 Table D or Screwed BSP are available upon request. (And cabinets)



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Bib-Nose Pattern High Pressure Regulating Valve



Elite prv 1



Elite prv 2

Features

When the valve is open, the inlet pressure flows into the upper part of the pressure chamber. By adjusting the spring below, a balance pressure of these two forces determines the degree of the valve opening to maintain a constant outlet pressure.

When the valve outlet pressure is regulated, it will remain set unless it is being tempered. The valve outlet pressure setting can only be regulated under a flowing condition. A small flow coming out of the valve outlet is sufficient to perform the task.

The valve counter-balance spring design allows the outlet pressure ranges from 5.7 to 21 bars.

General

"Elite" 65mm diameter Gunmetal high-pressure "Bib-Nose" pattern regulating Landing valve is field adjustable which allows the user to set the valve outlet pressure as desired according to the conditions of the fire protection system in which the valves are installed.

The valve comes with screw or flanged inlet connections.

The design and construction of the Landing valve are strictly in accordance with BS5041 : Part 1:

It is suitable for connection of the high pressure water supply of up to 21 bars (300 PSI) and provide a constant reduced outlet pressure which can be set in-situ during testing and commissioning of the fire protection system.

This constant uniform set outlet pressure of the valve, irrespective of it's location in which it is installed either in a high rise building or off-shore plants safeguards the fireman from inconsistent hose pressures in a fire situation.

The selection of the materials in the manufacture of the valve are all corrosion resistant, tough and durable. This ensures the product long-life plus providing an efficient service in the time of need.

The shut-off of the valve for good water-tight sealing is done by using a high quality rubber bonded seat disc which acts as a primary rubber to metal seal, whilst a secondary metal to metal shut-off is also incorporated in the design of the valve.

Every valve manufactured is hydrostatically tested to 22.5 bars and 30.0 bars for the valve seat and body respectively. The valve outlet static pressure is factory preset at 7.0 bars (100 PSI) as required in the standard.

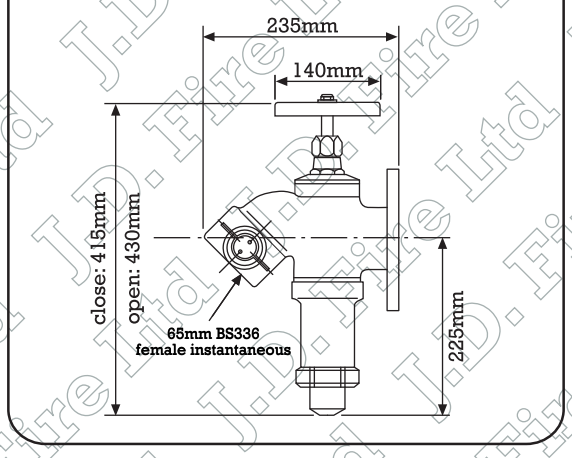
The internal casting finishe of every valve is of high quality ensuring a low flow restriction that meets the standard's water flow test requirement.

The valve comes complete with standard "black" plastic plug and chain. Alternative plugs made of brass or gunmetal are also available upon request.

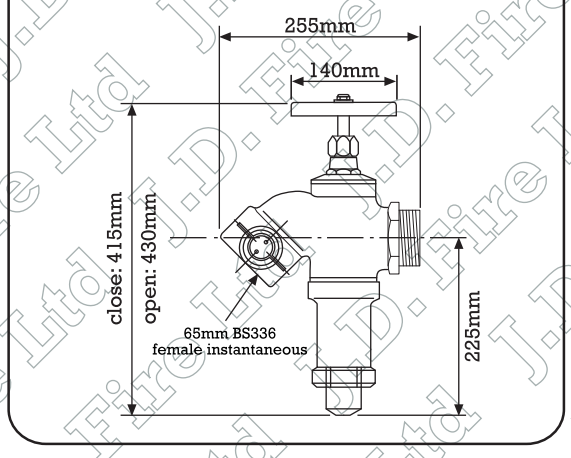
Ref:	Specifications:	Approx. Weight Kgs
Elite prv 1	Inlet Flanged 65mm PN16	10
Elite prv 2	Inlet BSPT Male	8.2

Please Note: Optional inlets Flanged to BS10 Table D or PN25 are available upon request. (And cabinets)

Inlet Flanged



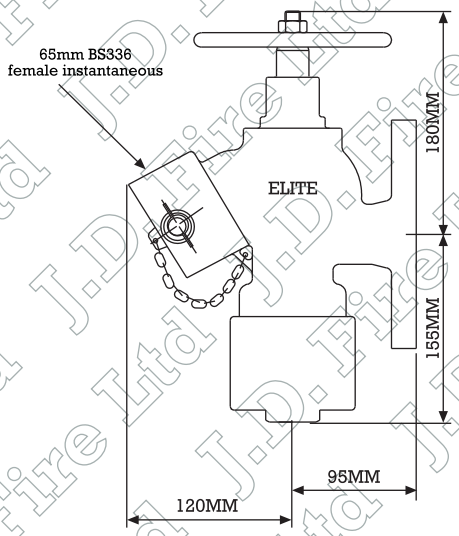
Inlet Screwed BSPT Male



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Elite High Pressure Regulating Valve

PN25 Bib-Nose Pattern High Pressure Regulating Valve





Elite prv 4

Features

When the valve is open, the inlet pressure flows into the upper part of the pressure chamber. By adjusting the spring below, a balance pressure of these two forces determines the degree of the valve opening to maintain a constant outlet pressure.

When the valve outlet pressure is regulated, it will remain set unless it is being tempered. The valve outlet pressure setting can only be regulated under a flowing condition. A small flow coming out of the valve outlet is sufficient to perform the task.

The valve counter-balance spring design allows the outlet pressure ranges from 5.7 to 21 bars.

General

"Elite" PRV4 65mm diameter Gunmetal high-pressure "Bib-Nose" pattern regulating Landing valve is field adjustable which allows the user to set the valve outlet pressure as desired according to the conditions of the fire protection system in which the valves are installed.

The valve comes flanged inlet connections.

The design and construction of the Landing valve are strictly in accordance with BS5041 : Part 1: And the requirements of BS9990 :2006

It is suitable for connection of the high pressure water supply of up to 21 bars (300 PSI) and provide a constant reduced outlet pressure which can be set in-situ during testing and commissioning of the fire protection system.

This constant uniform set outlet pressure of the valve, irrespective of it's location in which it is installed either in a high rise building or off-shore plants safeguards the fireman from inconsistent hose pressures in a fire situation.

The selection of the materials in the manufacture of the valve are all corrosion resistant, tough and durable. This ensures the product long-life plus providing an efficient service in the time of need.

The shut-off of the valve for good water-tight sealing is done by using a high quality rubber bonded seat disc which acts as a primary rubber to metal seal, whilst a secondary metal to metal shut-off is also incorporated in the design of the valve.

Every valve manufactured is hydrostatically tested to 22.5 bars and 30.0 bars for the valve seat and body respectively. The valve outlet static pressure is factory preset at 10-11 bars as required in BS9990.

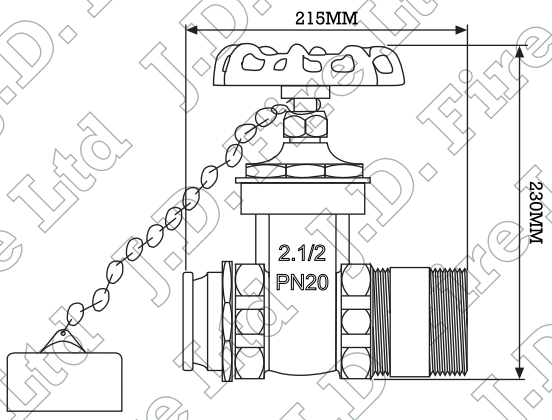
The internal casting finished of every valve is of high quality ensuring a low flow restriction that meets the standard's water flow test requirement.

The valve comes complete with standard "Red" plastic plug and chain. Alternative plugs made of brass or gunmetal are also available upon request.

Please Note: Optional inlet Flanged to PN40 are available upon request. (And cabinets)

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Drain Line Test Valve





Elite Drain

General

"Elite" 65mm diameter drain line valve comes with a screwed or flanged connection. The valve is generally intended
to be installed on the drain line for testing the Elite 4 pressure regulating valve.

It comes complete with an instantaneous male connection which allows you to connect your fire hose and throttle
the gate valve to create an 8 bar running pressure as required in BS9990

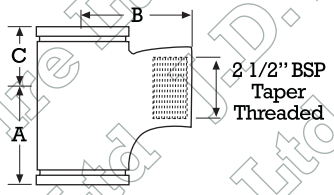
The valve comes complete with rubber blank cap & chain.

Ref:	Specifications:	Approx. Weight Kgs
Elite Drain	Inlet 65mm Inst Outlet 2.5" BSPT	2.5

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Gruvlok Galvanised Pitcher Tee





The Gruvlok pitcher tee provides a quick and easy connection and transition from a grooved riser system to a thread. The pitcher tee is designed for a 100mm pipe riser with a 2 1/2" BSP Taper threaded hydrant connection outlet.

LPCB

10 year warranty

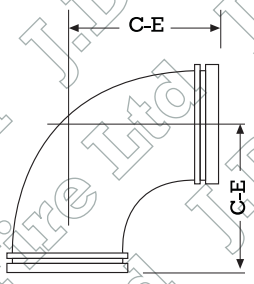
Nominal Size mm/in	Pipe O.D. mm/in	Hydrant Outlet	Dimensions A mm/in	Dimensions B mm/in	Dimensions C mm/in	Weight Kgs/Lbs
100 x 100 x 65	114.3 x 114.3 x 76.1	BSP	121	133	69	3.4
4 x 4 x 2.5	4.500 x 4.500 x 3.00	Taper	4.75	5.25	2.72	7.5

Ref:	Description:
7061H	Pitcher Tee

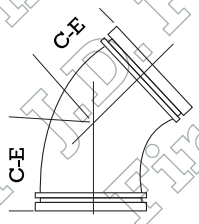
Please Note: 150mm x 150mm x 65mm Pitcher Tee available on request.

Gruvlok Galvanised Elbows & Bends





90° Long Radius 90° Elbow



45° Elbow

Please Note:

To BS9990 you must use long radius bends and elbows should not be used.

FM APPROVED UL VdS LPCB

10 year warranty

Nominal Size mm/in	Pipe O.D. mm/in	90° Elbow C-E	90° Elbow Kgs/Lbs	45° Elbow C-E	45° Elbow Kgs/Lbs	90° Long Radius Bend C-E	90° Long Radius Bend Kgs/Lbs
65	76.1	95	1.4	57	1.0	-	-
2.5"	3.000	3.75	3.1	2.25	2.2	-	-
100	114.3	127	3.0	76	2.3	191	5.6
4"	4.500	5.00	6.6	3.00	5.1	7.50	12.3
150	165.1	165	7.0	89	4.4	273	13.8
6"	6.500	6.50	15.4	3.50	9.7	10.75	30.4

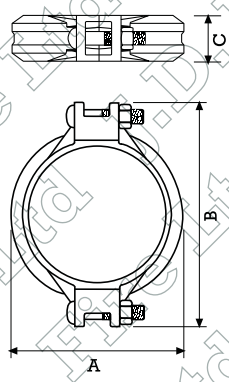
Ref:	Description:
8050 65mm	65mm 90° Elbow
8051 65mm	65mm 45° Elbow
8050 100mm	100mm 90° Elbow
8051 100mm	100mm 45° Elbow
7050LR 100mm	100mm 90° Long Radius Bend
8050 150mm	150mm 90° Elbow
8051 150mm	150mm 45° Elbow
7050LR 150mm	150mm 90° Long Radius Bend

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Gruvlok Galvanised Rigid Couplings

For Fire Protection Services

Rigid couplings provides a rigid joint by firmly gripping along the circumference of the pipe grooves. Rigid couplings are a proven dependable method of joining pipe and are an economical alternative to welding, threading, it is capable of pressures up to 300 psi depending on pipe size and wall thickness when used in fire protection services. Works well with both regular and short-radius elbows and tees.





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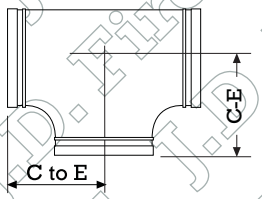
10 year warranty

Nominal Size mm/in	Pipe O.D. mm/in	Max. Working Pressure Bar/PSI	Max. End Load kN/Lbs	Pipe End Separation mm/in	Dimensions A mm/in	Dimensions B mm/in	Dimensions C mm/in	Bolt Size in mm	Weight Kgs / Lbs
65	76.1	20	9.09	0-1.6	99	138	45	2-m10 x 57	0.8
2.5	3.000	300	2120	0-0.06	4.00	5.51	1.77		1.8
100	114.3	20	20.51	0-3.2	143	184	51	2-m12 x 70	1.7
4	4.500	300	4770	0-0.13	5.63	7.25	2.00		3.6
150	165.1	20	42.80	0-3.2	197	252	51	2-m12 x 76	2.4
6	6.500	300	9950	0-0.13	7.75	9.92	2.00		5.3

Ref:	Description:
8400S 65mm	65mm Coupling
8400S 100mm	100mm Coupling
8400S 150mm	150mm Coupling
8010 100mm - 65mm	100mm - 65mm Reducing Coupling
7010 150mm-100mm	150mm-100mm Reducing Coupling

Gruvlok Galvanised Equal Tee





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10 year warranty

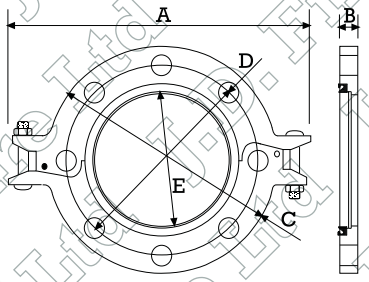
Nominal Size mm/in	Pipe O.D. mm/in	Straight Tee C-E	Straight Tee Kgs/Lbs
100	114.3	127	4.6
4"	4.500	5.00	10.1
150	165.1	165	8.5
6"	6.500	6.50	18.7

Ref:	Description:
8060 100mm	100mm Equal Tee
8060 150mm	150mm Equal Tee

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Gruvlok Galvanised Flange Adaptors





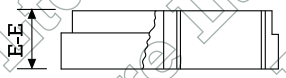
Flange adaptor allows a direct transition from flanged components into grooved piping system. Flanged bolt patterns conform to ANSI Class 125 and 150 standards and PN16 as indicated.

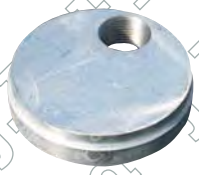
10 year warranty

Nominal Size mm/in	Pipe O.D. mm/in	Max. Working Pressure Bar/PSI	Max. End Load kN/Lbs	Dimensions					Bolt		Weight Kgs / Lbs
				A mm	B mm	C mm	D mm	E mm	Size	No.	
65	76.1	16	7.3	235	18.5	185	145	72.7	M16	4	1.89
2.5	3.000	225	1590								4.16
100	114.3	16	16.4	279	18.5	224	180	105.5	M16	8	2.61
4	4.500	225	3580								5.75
150	165.1	16	34.2	346	21.5	280	240	16.8	M20	8	4.10
6	6.500	225	7460								9.02

Ref:	Description:
8012G65	65mm PN16 Flange Adaptor c/w Gasket, Bolts, Nuts & Washers
8012G100	100mm PN16 Flange Adaptor c/w Gasket, Bolts, Nuts & Washers
8012G150	150mm PN16 Flange Adaptor c/w Gasket, Bolts, Nuts & Washers

Gruvlok Galvanised End Cap c/w 1" BSP Female Thread





Nominal Size mm/in	Pipe O.D. mm/in	End Cap		Plug Size mm/in
		E-E mm/in	Kgs/Lbs	
100	114.3	25	1.0	25
4	4.500	1.00	2.2	1
150	165.1	25	3.0	25
6	6.500	1.00	6.6	1

Ref:	Description:
7074GDR100	100mm End Cap x 1" BSP
7074GDR150	150mm End Cap x 1" BSP

Available blank
100mm 8074G100
150mm 8074G150

10 year warranty

Gruvlok Lubricant

Ref:	Description:
Gruvlub	500 Grams



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Galvanised Flanges



Ref:	Description:
SF01	65mm PN16 x 2 1/2" BSP Galvanised Flange C/W Bolts, Nuts, Washers & Gasket
SF02	100mm PN16 x 4" BSP Galvanised Flange C/W Bolts, Nuts, Washers & Gasket
SF03	150mm PN16 x 6" BSP Galvanised Flange C/W Bolts, Nuts, Washers & Gasket

Heavy Galvanised Barrel Nipples



Ref:	Description:
BN01	65mm BSP Barrel Nipple Galvanised
BN02	65mm BSP One End Grooved The Other Galvanised

Galvanised Malleable Iron Fittings



Ref:	Description:
151G65	2.1/2" BSP Female / Female Elbow Galvanised (Bends Available)
152G65	2.1/2" BSP Male / Female Elbow Galvanised (Bends Available)
177G65	2.1/2" BSP Socket Galvanised
151G100	4" BSP Female / Female Elbow Galvanised (Bends Available)
152G100	4" BSP Male / Female Elbow Galvanised (Bends Available)
177G100	4" BSP Socket Galvanised
161RG100X65	4" x 4" x 2.1/2" BSP Galvanised Square Tee
140G100X25	4" BSP Male Blank c/w 1" BSP Female Thread Galvanised

J.D Fire Reserve the right to modify or withdraw any product without notice

Galvanised Pipe To EN 10255

6.4m Lengths



Cutting Service



Cut to length and grooved both ends



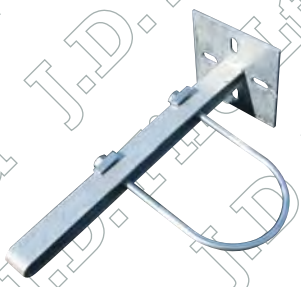
Cut to length and threaded both ends

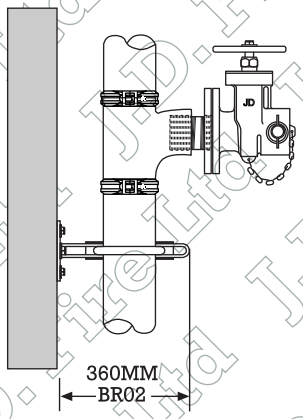


Cut to length and threaded one end grooved the other

Ref:	Description:
P02	6.5m x 65mm Heavy Galvanised Plain Ends
P04	6.5m x 65mm Medium Galvanised Plain Ends
P01	6.5m x 100mm Heavy Galvanised Plain Ends
P03	6.5m x 100mm Medium Galvanised Plain Ends
P05	6.5m x 150mm Heavy Galvanised Plain Ends
P06	6.5m x 150mm Medium Galvanised Plain Ends

Wall Loop Bracket Galvanised





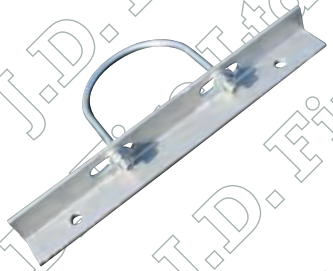
Loop bracket is manufactured from 30mm x 5mm flat bar fixing plate 130mm x 130mm x 5mm thick with four M13 slots for fixing.
Comes c/w m10 extended U bolt x2 bridging pieces & nuts all galvanised.

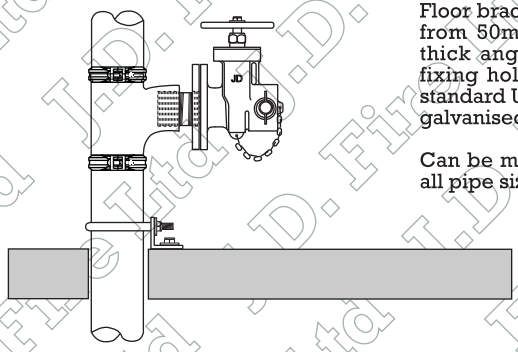
PLEASE NOTE:
Only suitable for up to 100mm pipe.

Above 100mm a stronger bracket would be required please ring 0161 652 2655 for further details.

Ref:	Description:
BR18	260mm Long For 100mm Pipe
BR02	360mm Long For 100mm Pipe

Floor Bracket Galvanised





Floor bracket is manufactured from 50mm x 50mm x 5mm thick angle iron with 13mm fixing holes comes c/w m10 standard U bolt & nuts galvanised.

Can be manufactured to take all pipe sizes.

Ref:	Description:
BR01	400mm Long For 100mm Pipe

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Munsen Rings Galvanised



Ref:	Description:
MUN65G	65mm Munsen Ring Galvanised
MUN100G	100mm Munsen Ring Galvanised
MUN150G	150mm Munsen Ring Galvanised
BR11	12mm - 10mm abaptor Plated

Filbows Plated



Ref:	Description:
FILLBOW100	100mm Filbow Galvanised
FILLBOW150	150mm Filbow Galvanised

Top Hat & Back Plate



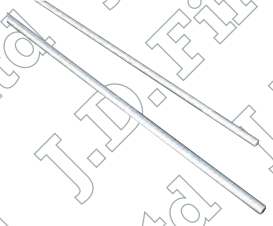
BR05



BR10

Ref:	Description:
BR05	10mm or 12mm Top Hat Galvanised
BR10	10mm Back Plate Galvanised **Available 12mm BR22**

Threaded Bar



Ref:	Description:
FI04	1m x 10mm Threaded Bar Plated
FI03	1m x 12mm Threaded Bar Plated

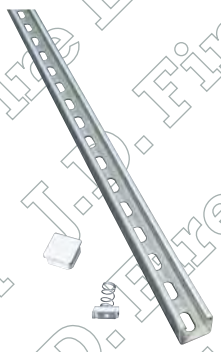
J.D Fire Reserve the right to modify or withdraw any product without notice

U Bolts Plated



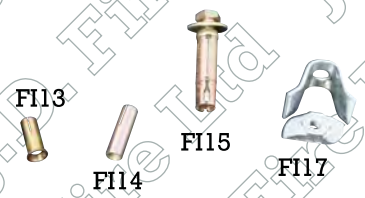
Ref:	Description:
UB100X10	10mm x 100mm Standard U Bolt
UBE100X10	10mm x 100mm Extended U Bolt
UB150X12	12mm x 150mm Standard U Bolt
UBE150X12	12mm x 150mm Extended U Bolt

Unistrut & Fixings



Ref:	Description:
BR06	1m x 41mm x 41mm Slotted Unistrut Galvanised
BR12	M10 Short Spring Nuts Plated M12 Available BR27
BR13	M10 Long Spring Nuts Plated M12 Available BR28
BR19	End Cap

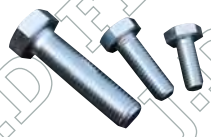
Miscellaneous Fixings



Ref:	Description:
FI13	Concrete Anchor 10mm x 30mm long
FI14	Concrete Anchor 10mm x 40mm long
FI16	Concrete Anchor 12mm x 50mm long
FI17	Multiwedge
FI15	Masonry Anchor Loose Bolt 10mm x 70mm long

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Set Bolts



Ref:	Description:
SB12X25	12mm Set Bolt 25mm Long Plated
SB12X20	12mm Set Bolt 20mm Long Plated
SB12X60	12mm Set Bolt 60mm Long Plated
SB10X25	10mm Set Bolt 25mm Long Plated
SB10X20	10mm Set Bolt 20mm Long Plated

Nuts & Washers



Ref:	Description:
N10	10mm Nut Plated
N12	12mm Nut Plated
W10	10mm Washer Plated
W12	12mm Washer Plated
SW01	10mm Square Washer Plated
SW02	12mm Square Washer Plated

Miscellaneous



M04



PJC400GRAM



COTT250GRAM

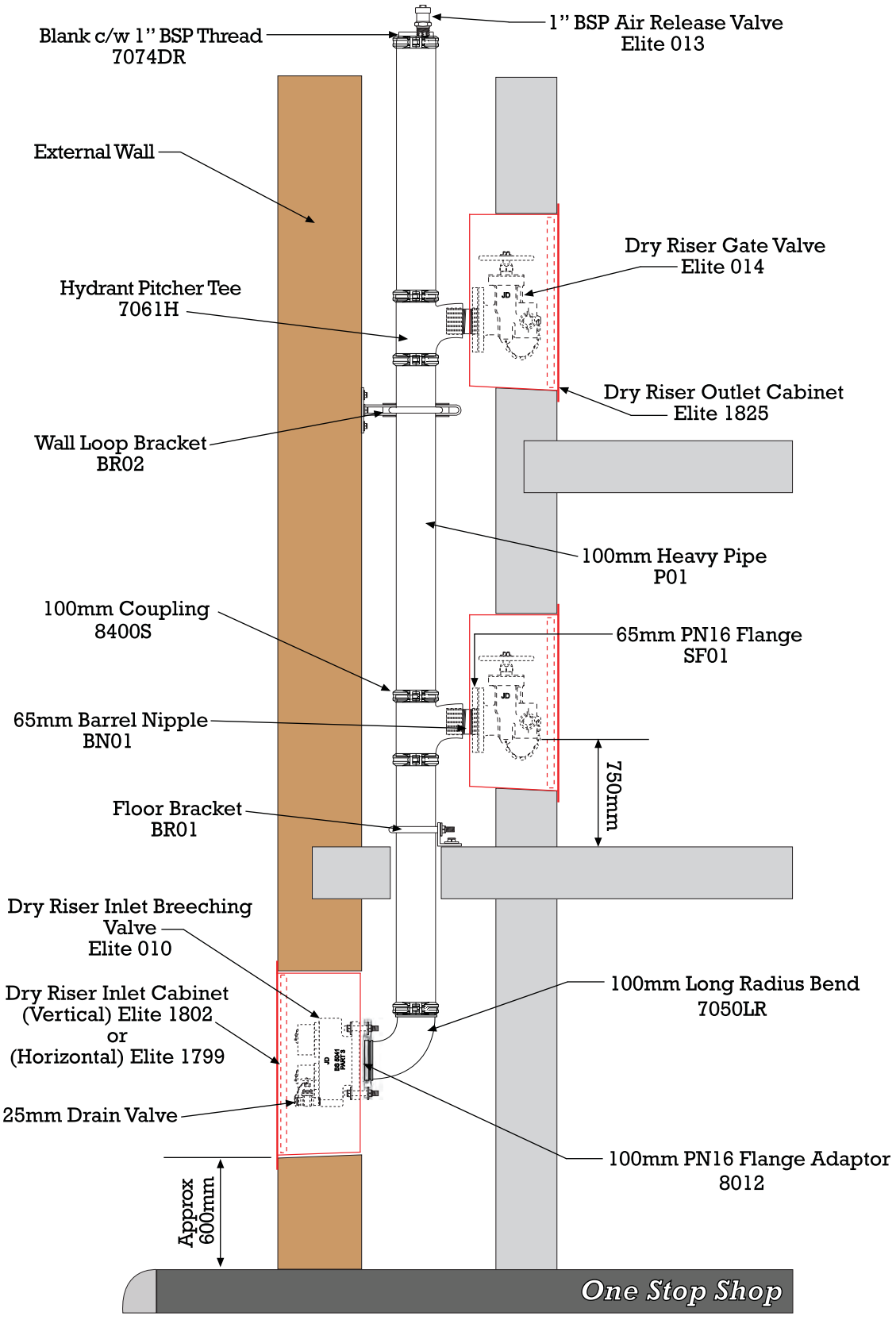


HEMP

Ref:	Description:
PJC400GRAM	Stag White
HEMP	Hank Of Hemp
COTT250GRAM	Spool Of Cotton
M04	100mm Denso Tape

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Typical Arrangement Dry Rising Main



J.D. Fire Ltd

Wheatfield Works, Ashton Road, Oldham OL8 3HX

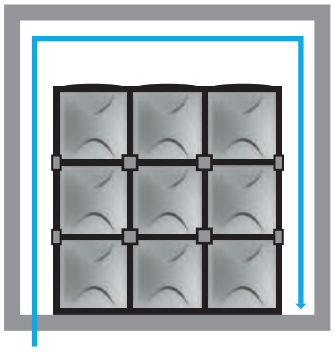
Tel: 0161 652 2655 Fax: 0161 624 8303

Sales@jdfire.co.uk www.jdfire.co.uk

DECCA PLASTICS LTD
WATER TANK SPECIALISTS

INTERNALLY FLANGED BASE

IFB Tanks are intended to be installed where there is adequate space to the sides of the installation to allow the fixing of the panels from outside the tank but where a headroom restriction may be present. Nevertheless, a minimum clearance of 500mm is usually required on all sides.



The base panels are fastened together from inside the tank itself with the tank being installed on a flat and level base capable of fully supporting the tank and with absolutely no movement.

The fixing components for the tank base are only reachable from the inside of the tank. This provides more headroom as the tank does not need to be raised to allow man access to the base panels. However, there is still a requirement for adequate headroom above the tank intended for opening of the manway cover. We recommend 750mm because the base panel flanges are facing into the tank, an IFB will have a remaining depth of water (80mm) after draining which needs to be pumped out to thoroughly empty the Tank.

The flat and level base must be 300mm longer and wider than the external dimensions of the Tank. The final base support system must be flat and level and strong enough to support the weight of the tank when full without any movement.

The base structure for IFB Tanks must be to the following tolerances:

- **2mm in any square metre of the Tank**
- **Maximum beam deflection 1:500 of entire span**

* **Please note:** If the Tank room has space restrictions which may prevent access to the sides of a Tank then a **Total Internally Flanged** Tank (TIF) should be considered.

WRAS APPROVED PRODUCT

LPCB

Constructionline

LPCB

GRP Water Tank Specialists

Victoria Mill, Lincoln Street, Preston, Lancashire, United Kingdom PR1 6RE

Tel: +44 (0)1772 825757 | Fax: +44 (0)1772 204967 | Email: sales@deccatanks.co.uk | Web: www.deccatanks.co.uk

VT RANGE

PRODUCT DATA SHEET

VT3-10-030

Product Description

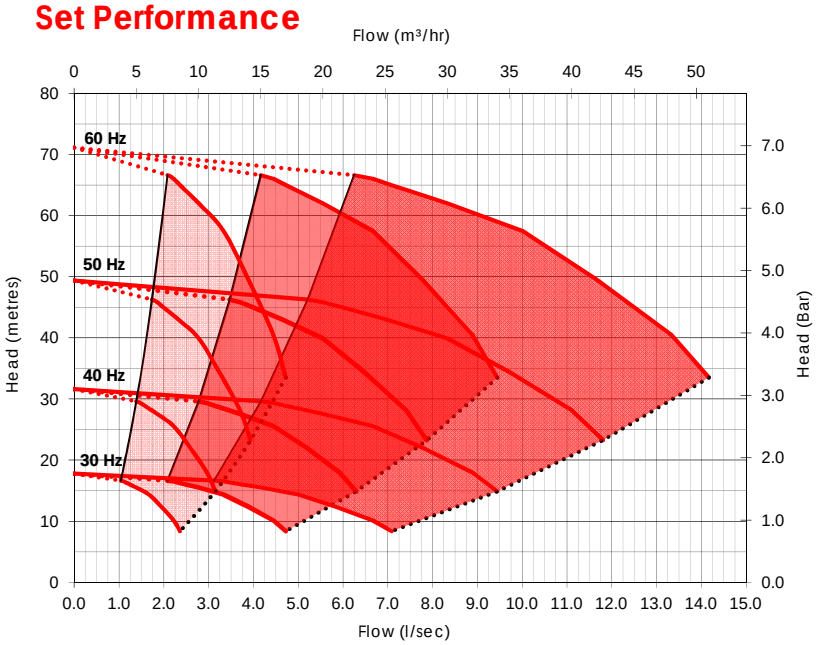
The Dutypoint VT is a cost effective commercial and industrial booster set, designed to be both affordable to purchase and simple to maintain over its lifespan.

The VT features high specification AISI 304 stainless steel vertical multistage pumps with oversized bearings to reduce wear and decrease vibrations from moving parts.

The system is designed to be straightforward to maintain, both electrically and mechanically, for maintenance or replacement while the booster set is operating.

WRAS	• **WRAS Approved**, All products in the new VT Cold Water Pressure Booster range are fully WRAS approved.
Control Panel	• **Variable speed pumps** • Hand / Off / Auto Settings for emergency situations. • **Volt free contacts** for : - Common fault - Low water level - High water level
Protection	• **Anti-Seize** technology which rotates all pumps during low or zero usage and prevents the pumps from seizing up. • **Burst pipe protection** which constantly monitors the system for signs of major leakage. If detected, an alarm is activated followed by full system deactivation if the required duty is still not met. • **Cyclic duty** changeover which ensures even wear across all pumps in the system. • **Low Water Protection** technology which deactivates the pumps if there is no water in the break tank, protecting against dry running. • **HiRISE** technology which protects the building's pipework by ensuring the pumps start slowly during the initial fill process or following power failure to prevent potentially dangerous surges and consequent damage to the riser.

Set Performance





WRAS APPROVED PRODUCT
CERTIFICATION MARK

Specification

Suction connection	DN100
Delivery connection	DN100
Max operating flow (per pump)	4.7 l/s
Max operating pressure	6.5 bar
Closed valve pressure	7.0 bar
Maximum system pressure rating	10 bar
Speed	Variable
IP rating	IP55
Motor power	3 kW
Weight	290 kg
Pressure vessels N° x [Litres]	2 x [24]
Maximum operating temperature	40 °C

DUTYPOINT

www.dutypoint.com

Document # DOC-11927 Revision : 3

Specifications and illustrations are subject to revision without notice. Dutypoint Ltd is not liable for any incompleteness or inaccuracies.

Electrical Data

Single Phase 1Φ Variant	
Operating speed range	30 - 60Hz
Per pump Current @ Full Load	10.4 A
Total Current @ Full Load	31.2 A

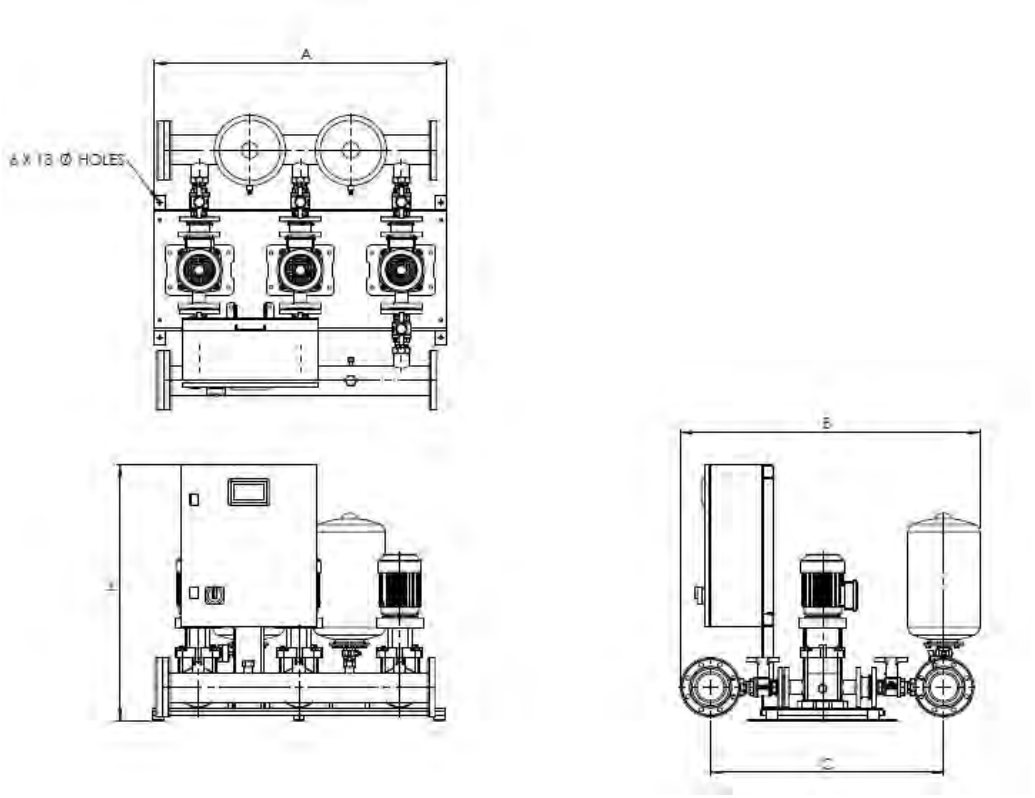
Three Phase 3Φ Variant	
Operating speed range	30 - 60Hz
Per pump Current @ Full Load	6 A
Total Current @ Full Load	18 A

VT model Codes

VT3-10-030T

- Number of pumps
- Nominal flow (m³/h)
- Motor kW per pump
- Power supply

Technical Drawing



Drawing dimensions

Dimension A	1070
Dimension B	1095
Dimension C	853
Dimension H	1200

DUTYPOINT
www.dutypoint.com

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Technical Insulation
Great Britain & Ireland

Kooltherm® Pipe Insulation Quick Guide

HVAC & Building Services Insulation System









Kingspan®

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Kooltherm® Pipe Insulation System	4
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Kooltherm® Insulated Pipe Support Inserts	12
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Introduction

Kingspan Technical Insulation is a market leading manufacturer of high performance pipe and duct insulation products and systems.

Kingspan's technical insulation products are some of the thinnest and most efficient products commonly available for the insulation of pipework and ductwork in building services / HVAC, process and petrochemical applications and refrigeration services.

Products are supported by the complementary Pipeline Technical Advisory Service, providing guidance for designers, specifiers, consulting and mechanical engineers, mechanical and electrical M & E contractors, thermal insulation contractors' as well as building services and facilities managers.

Building Information Modelling (BIM)

Kingspan Kooltherm® Pipe Insulation is now available as a freely downloadable BIM file from NBS Source. For further information, please contact the Kingspan Technical Insulation Technical Services department.



NBS Specification

NBS users should refer to clause(s): S90/570 Insulation to pipelines.

Certification

Kooltherm® Pipe Insulation is CE Marked in accordance with BS EN 14314: 2009 + A1: 2013 (Thermal insulation products for building equipment and industrial installations. Factory made phenolic foam (PF) products specification).

Kooltherm® Pipe Insulation which is manufactured using continuous process lamination, has a best-in-class Eurofins Indoor Air Comfort Gold certificate and Kooltherm® Pipe Insulation which is cut from block technologies has Eurofins Indoor Air Comfort Certification.

Kooltherm® Pipe Insulation System

Kooltherm® Pipe Insulation

Kooltherm® Pipe Insulation comprises sections of Kooltherm® insulation faced with a factory-applied foil vapour barrier jacket bonded to the insulation core during manufacture.

Kooltherm® Pipe Insulation is CE Marked in accordance with BS EN 14314: 2009 + A1: 2013 (Thermal insulation products for building equipment and industrial installations. Factory made phenolic foam (PF) products. Specification).

Kooltherm® Pipe Insulation is available in a range of thicknesses to suit different performance specifications and may be used on mild steel, stainless steel, carbon steel, copper, multiplex and plastic pipework in standard and non-standard pipe diameters. Kooltherm® Pipe Insulation is manufactured using state of the art continuous and cut from block technologies. Both methods feature the use of a unique bore coated liner / bore coating and minimise production wastage.

Kooltherm® Pipe Insulation is supplied in 1 metre lengths and is available in a nominal density of 37 kg / m^3. Higher density pipe insulation sections and insulated pipe supports are also available.

Kooltherm® Insulated Pipe Support Inserts

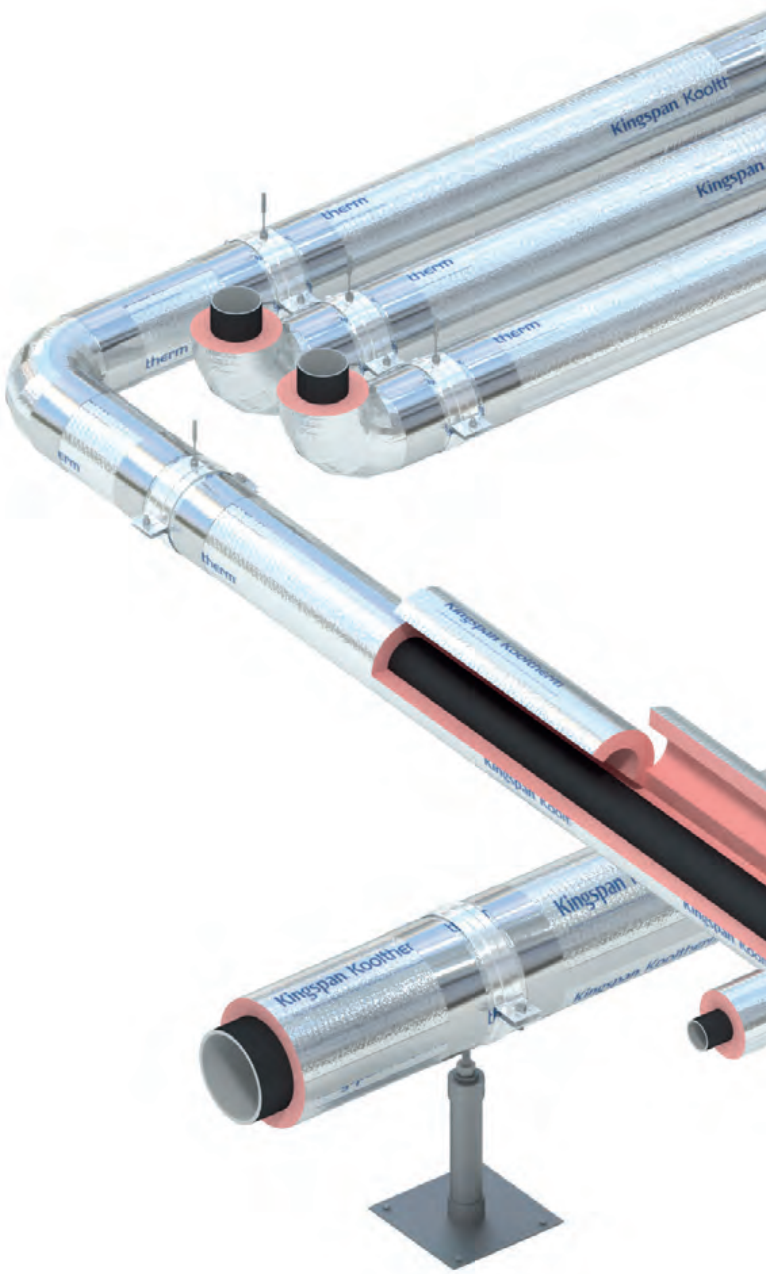
Kooltherm® Insulated Pipe Support Inserts provide optimal load bearing capacity whilst offering protection against insulation compression. Designed for use in pipe supports, hanger brackets and clamps, they will support the compressive loads imposed by horizontal pipework carrying water or other liquids.

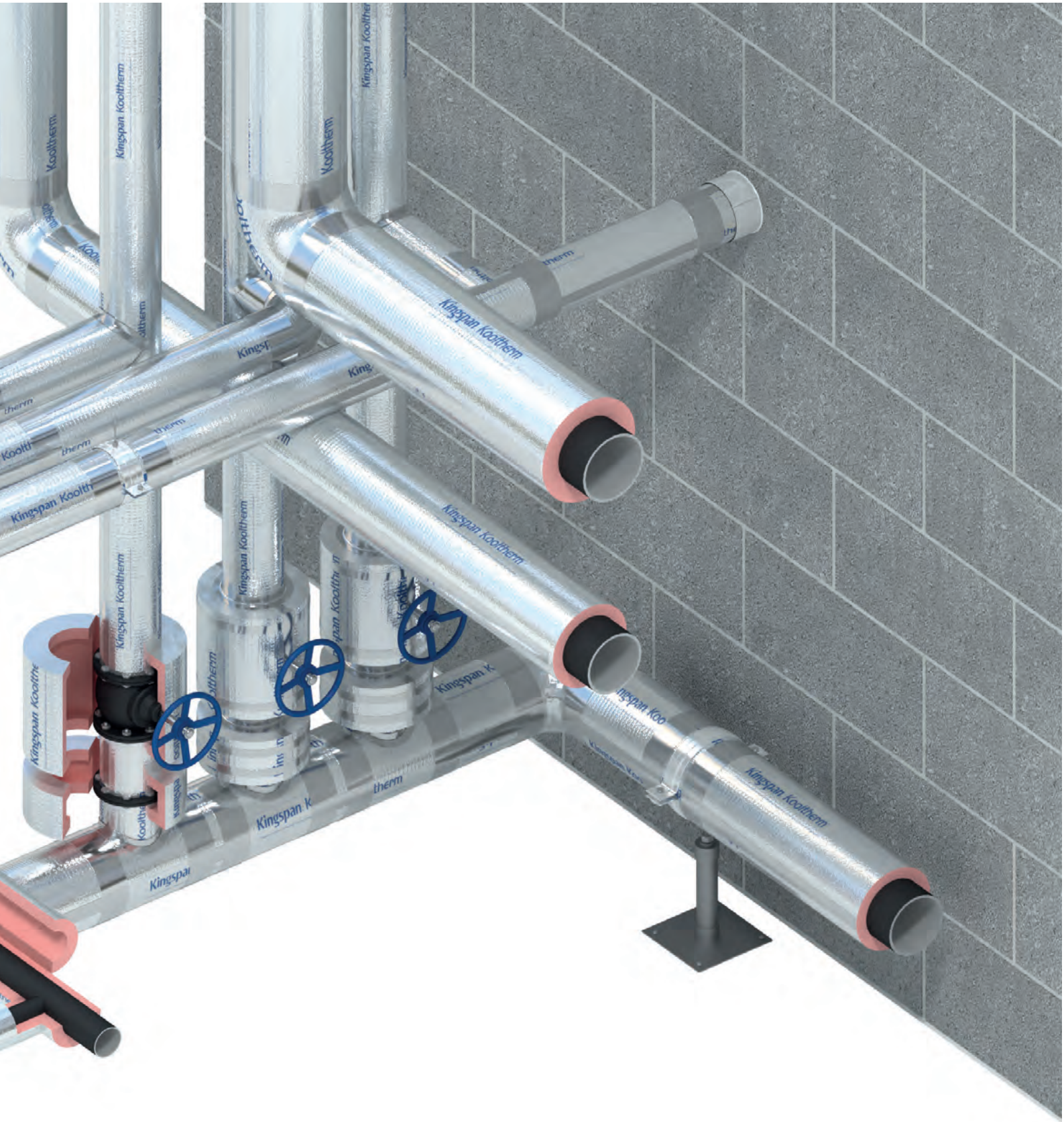
Vapour Barrier Jacket

All Kooltherm® Pipe Insulation products and systems are faced, as standard, with a durable and protective factory applied aluminium foil vapour barrier jacket reinforced with a glass scrim.

A matching self-adhesive tape is used to complete the vapour barrier at joints and breaks.

For applications with an operating temperature below 0°C, a factory applied low permeability multiple layer vapour barrier jacket is recommended in place of the standard reinforced aluminium foil vapour barrier jacket. Please contact Kingspan Technical Insulation Technical Services department for details of relevant certification and compliance.




Kingspan Kooltherm

Features & Benefits

Thermal Performance

With a 25 year aged thermal conductivity as low as 0.025 W/m.K (at 10°C mean), Kooltherm® Pipe Insulation is one of the most thermally efficient insulation materials commonly used. A low thermal conductivity allows specified thermal performance standards to be achieved with thinner insulation.

The thermal performance of Kooltherm® Pipe Insulation derives mainly from its closed cell properties. Its closed cell structure has been optimised to resist heat transfer. The closed cells have a small solid to void volume ratio, are small and uniform in size, and their construction very fine with extremely thin walls and minimum point contacts (struts).

They are filled with a thermally efficient CFC / HCFC-free blowing agent that has low Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

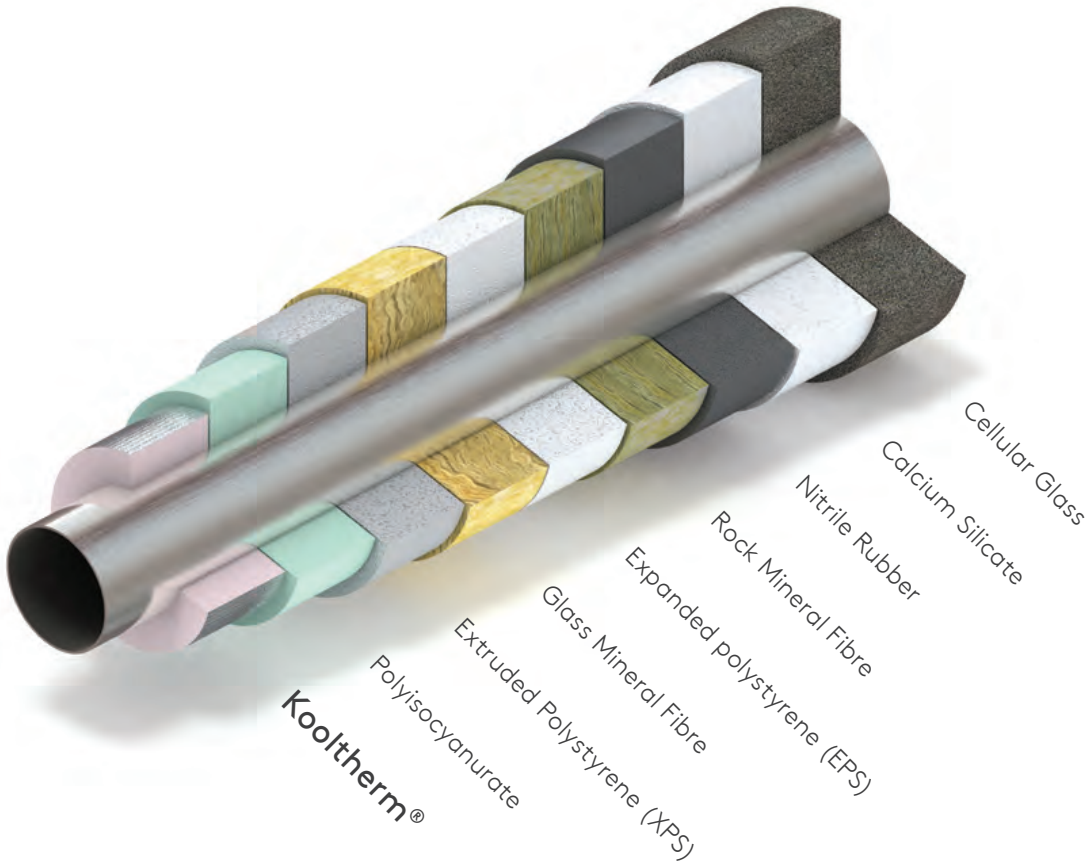
As a result of its closed cell, fibre free structure, Kooltherm® Pipe Insulation is unaffected by air infiltration - problems that can be experienced with mineral fibre and which can reduce thermal performance.

Moisture Resistance

Kooltherm® Pipe Insulation has a closed cell structure. The risk of moisture absorption into the insulation is effectively eliminated as the factory-applied facing to Kooltherm® Pipe Insulation products and systems provides a high performance vapour barrier jacket.



A factory applied low permeability multiple layer vapour barrier jacket is recommended for low temperature sub zero applications.



Features & Benefits

Fire Performance

Kooltherm® Pipe Insulation has achieved European Classification (Euroclass) B_L-s1,d0, with the reinforced aluminium foil vapour barrier jacket facing exposed to the heat source, when classified to BS EN 13501-1: 2018 (Fire classification of construction products and building elements. Classification using data from reaction to fire tests), for pipework with an outer diameter up to and including 300 mm.

Kooltherm® Pipe Insulation is available with FM Approval to FM Approval Class 4924. Not all thicknesses and sizes are covered by the FM Approval. Further details of the current FM Approved specification can be located at www.approvalguide.com. Please contact the Kingspan Technical Insulation Technical Services department for further confirmation.

Environmental

Kooltherm® Pipe Insulation can directly contribute towards the award of credits under the previous and current versions of BREEAM. The product is manufactured to a BS EN ISO 14001: 2015 (Environmental management systems. Requirements with guidance for use) scheme, qualifying for the Responsible Sourcing credit.



Wembley Park, London
Photos are Copyright of Chris Winter.

Recommended Thickness

Insulation Thickness Table to Control Heat Loss: BS 5422: 2023

Steel Pipe Size	Hot Water 60 °C				Low Temperature Heating Water ≤95 °C			
	Kooltherm®	Max. Heat Loss	Kooltherm®	Max. Heat Loss	Kooltherm®	Max. Heat Loss	Kooltherm®	Max. Heat Loss
	Table 17 A		Table 17 B		Table 15 A		Table 15 B	
OD (mm)	ε = 0.05 silver	(W/m)	ε = 0.05 silver	(W/m)	ε = 0.05 silver	(W/m)	ε = 0.05 silver	(W/m)
≤17.2	15	6.60	20	6.04	20	8.90	20	7.78
≤21.3	20	7.13	20	6.45	20	9.28	25	8.42
≤26.9	20	7.83	20	7.00	20	10.06	25	9.05
≤33.7	20	8.62	25	7.71	25	11.07	30	9.86
≤42.4	20	9.72	25	8.46	25	12.30	30	10.83
≤48.3	25	10.21	30	9.01	25	12.94	30	11.42
≤60.3	25	11.57	30	9.94	30	14.45	35	12.61
≤76.1	25	13.09	30	11.25	30	16.35	40	14.12
≤88.9	25	14.58	35	12.17	30	17.91	40	15.28
≤114.3	25	17.20	35	14.29	35	20.77	45	17.51
≤139.7	30	19.65	35	16.09	35	23.71	45	19.72
≤168.3	30	22.31	40	18.24	35	26.89	45	22.34
≤219.1	30	27.52	40	22.06	35	32.54	50	26.61
≤273	40	32.40	50	25.95	50	38.83	50	30.91
>273	40	-	50	-	50	-	50	-
Ambient Temperature:						+15 °C		

Table 1: Indicative thickness (mm) of insulation for Non-Domestic Hot Water (60 °C) and Low Temperature Heating Service Areas (≤95 °C) to control heat loss.

(Based on Non-domestic Building Services Compliance Guide: 2013 Edition, Section 11; TIMSA HVAC Guide Sections 6.2.1 & 6.2.2; and BS 5422: 2023 (Method for specifying thermal insulating materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range - 40 °C to +700 °C) Tables 15 & 17).

Note: Please refer to Kooltherm® Pipe Insulation DoP for full range of values. For pipes and vessels of diameter greater than 273 mm, the items shall be assumed to be 273 mm for calculation purposes.

Recommended Thickness

Insulation Thickness Table to Control Heat Gain & Control Condensation

Steel Pipe Size	Water 0 °C to 4.9 °C		Water >4.9 °C to <10 °C		Water >10 °C	
	Kooltherm®	Max. Heat Loss	Kooltherm®	Max. Heat Loss	Kooltherm®	Max. Heat Loss
	Standard		Standard		Standard	
OD (mm)	ε = 0.05 silver	(W/m)	ε = 0.05 silver	(W/m)	ε = 0.05 silver	(W/m)
≤17.2	25	-3.45	20	-2.97	15	-2.48
≤21.3	25	-3.81	20	-3.27	20	-2.72
≤26.9	30	-4.18	25	-3.58	20	-3.05
≤33.7	30	-4.60	25	-4.01	20	-3.41
≤42.4	35	-5.11	25	-4.53	20	-3.86
≤48.3	35	-5.45	30	-4.82	20	-4.11
≤60.3	35	-6.17	30	-5.48	20	-4.78
≤76.1	40	-6.70	30	-6.30	25	-5.51
≤88.9	40	-7.77	30	-6.90	25	-6.17
≤114.3	40	-9.15	35	-8.31	25	-7.28
≤139.7	45	-10.45	35	-9.49	25	-8.52
≤168.3	45	-11.86	35	-10.97	25	-9.89
≤219.1	50	-14.61	40	-13.57	30	-12.27
≤273	50	-17.48	50	-16.28	35	-14.74
Ambient Air Temperature: Relative Humidity: Minimum Surface Temperature:					+25 °C 80% +21.3 °C	

Table 2: Indicative thickness (mm) of insulation required for cold and chilled water supplies to control heat gain and control condensation.

(Based on Non-domestic Building Services Compliance Guide: 2013 Edition, Section 11; TIMSA HVAC Guide Sections 6.2.3 & 7.2; and BS 5422: 2023 (Method for specifying thermal insulating materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range -40 °C to +700 °C), Tables 6, 8, 10 & 11).

Note: For pipes and vessels of diameter greater than 89 mm, the items shall be assumed to be 89 mm for calculation purposes.

Recommended Thickness

Insulation Thickness Table to Control Heat Loss in Heat Networks

Steel Pipe Size	District Heating 55 °C	
	Kooltherm®	Max. Heat Loss
OD (mm)	ε = 0.05 silver	(W/m)
≤21.3	25	4.4
≤26.9	30	4.7
≤33.7	35	4.7
≤42.4	40	5.1
≤48.3	45	5.1
≤60.3	55	5.4
≤76.1	60	5.8
≤88.9	65	6.1
>89.0	65	-
Ambient Temperature: Flow Temperature:		20 °C 55 °C

Table 3: Indicative thickness (mm) of insulation required to control heat loss in Heat Networks.

(Based on BS 5422: 2023 (Method for specifying thermal insulating materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range -40 °C to +700 °C) Table 19C).

Note: For pipes and vessels of diameter greater than 89 mm, the items shall be assumed to be 89 mm for calculation purposes.

Recommended Thickness

Insulation Thickness Table to Protect Against Freezing

Steel Pipe Size				Pipe Location	
NB (inches)	NB (mm)	OD (mm)	ID (mm)	Indoor	Outdoor
1/2	15	21.3	16.0	30	75
3/4	20	26.9	21.6	15	25
1	25	33.7	27.2	15	15
1 1/4	32	42.4	35.9	15	15
1 1/2	40	48.3	41.8	15	15
2	50	60.3	53.0	15	15
2 1/2	65	76.1	68.8	15	15
3	80	88.9	80.8	15	15
Copper Pipe Size				**Pipe Location**	
NB (mm)			ID (mm)	Indoor	Outdoor
	15		13.6	35	130
	22		20.2	15	30
	28		26.2	15	20
	35		32.6	15	15
	42		39.6	15	15
	54		51.6	15	15
	76		73.1	15	15
	108		105.0	15	15
Ambient Air Temperature - Indoor:				–6 °C	
Ambient Air Temperature - Outdoor:				–10 °C	
Initial Water Temperature:				+15 °C	
Evaluation Period:				12 hours	
Permitted Ice Formation:				50 %	

Table 4: Minimum Thickness (mm) of Insulation required to give protection against freezing under specified commercial and institutional conditions.

(Based on BS 5422: 2023 (Method for specifying thermal insulating materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range -40 °C to +700 °C) Table 29).

Note: All of the above tables have been calculated to BS EN ISO 12241: 2022 (Thermal insulation for building equipment and industrial installations. Calculation rules).

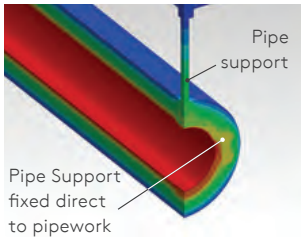
Kooltherm® Insulated Pipe Support Inserts

Kooltherm® Insulated Pipe Support Inserts are available to suit a full range of pipe diameters and in a full range of insulation thicknesses as shown in the following table; however, special sizes are available on request.

In addition to allowing a continuous vapour barrier on below ambient systems, thermal analysis of a + 75°C LTHW system to BS EN ISO 10211: 2007 (Thermal bridges in building construction. Heat flows and surface temperatures. Detailed calculations) has shown that Kooltherm® Insulated Pipe Support System can limit heat loss by up to 4 x more than rubber lined pipe clips, 5 x more than metal pipe clips and 10 x more than hardwood pipe support inserts.

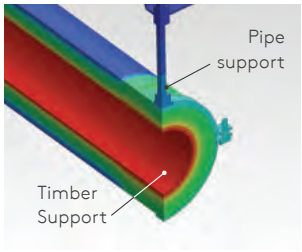
Load bearing calculations for the standard range of Kooltherm® Insulated Pipe Support Inserts are based upon the minimum compressive strength of the relevant density. They are designed to support the static compressive loads imposed by horizontal water filled mild steel and copper pipework with hanger supports spaced at the maximum centres shown below. Kooltherm® Insulated Pipe Support Inserts are not designed to accommodate pipe anchor loads and stresses.

Conventional Pipe Support Methods



Rubber lined pipe support

Thermal analysis* illustrates heat loss of up to 4 x greater than through the Kooltherm® Insulated Pipe Support System.



Timber support insert

Thermal analysis* illustrates significant heat loss of up to 10 x greater than through the Kooltherm® Insulated Pipe Support System.

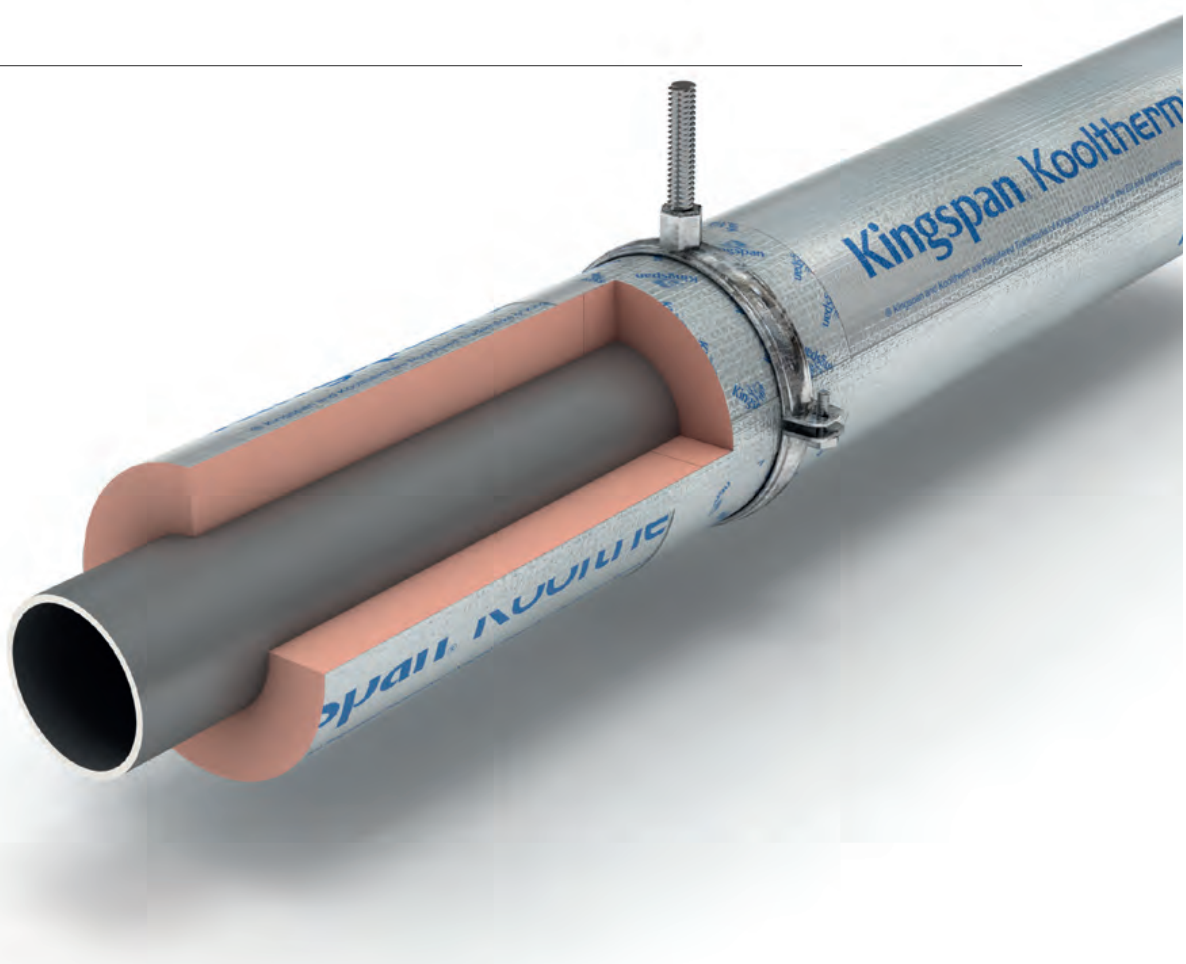
* When analysed in accordance with BS EN ISO 10211: 2007.

Steel Pipe

Steel Pipe Size			Kooltherm® Insulated Pipe Support Inserts			
NB (inches)	NB (mm)	OD (mm)	Length (mm)	Spreader Plate (mm)	Nominal Density (kg / m³)	Design Load (kg / support)
1/2	15	21.3	99	none	60	8.10
3/4	20	26.9	99	none	60	8.47
1	25	33.7	99	none	60	8.92
1 1/4	32	42.4	99	none	60	9.50
1 1/2	40	48.3	99	1.0	60	25.53
2	50	60.3	99	1.0	60	31.87
2 1/2	65	76.1	99	1.0	80	64.36
3	80	88.9	99	1.0	80	75.19
4	100	114.3	99	1.0	80	96.67
5	125	139.7	99	1.0	80	118.15
6	150	168.3	124	1.5	120	356.56
8	200	219.1	124	1.5	120	464.19
10	250	273.0	124	1.5	120	578.38
12	300	323.9	199	2.0	120	1101.27
14	350	355.6	199	2.0	120	1209.05
16	400	406.4	199	2.0	120	1381.77
18	450	457.0	199	2.0	120	1553.81

Values given are based upon Kooltherm® Insulated Pipe Support Inserts with an integral metal spreader plate where specified in the table above.

Kooltherm® Insulated Pipe Support Inserts



Copper Pipe

Copper Pipe Size	Kooltherm® Insulated Pipe Support Inserts			
NB (mm)	Length (mm)	Spreader Plate (mm)	Nominal Density (kg / m^3)	Design Load (kg / support)
15	99	none	60	7.68
22	99	none	60	8.14
28	99	none	60	8.54
35	99	none	60	9.01
42	99	none	60	9.48
54	99	1.0	60	28.54
67	99	1.0	60	35.42
76	99	1.0	80	64.28

Values given are based upon Kooltherm® Insulated Pipe Support Inserts with an integral metal spreader plate where specified in the table above.

Technical Data

General Physical Properties (Kooltherm® Pipe Insulation)

Property	Test Method	Unit	Typical Value
Nominal Density		kg / m^3	37 and 60
Thermal Conductivity at +10°C. Please refer to DoP for full values.	(BS EN 12667: 2001) (BS EN ISO 8497: 1996)	W/m.K	As low as 0.025
Colour			Pink / Grey
Closed Cell Content	(BS EN ISO 4590: 2016) Method 1	%	> 90
Operating Temperature: Pipe Section*	Upper Limit Lower Limit	°C °C	+ 110 - 50

* Factory applied low permeability multiple layer vapour barrier jacket recommended for applications operating below 0 °C.

Fire Test Classifications (Kooltherm® Pipe Insulation)

Property	Test Method	Density (kg/m^3)	Facing	Result	Diameter (mm)	Thickness (mm)
Reaction to fire	(BS EN 13501-1: 2018)	37	HVAC foil*	B_L - s1, d0	≤ 300	Any
			HVAC foil*	B - s1, d0	> 300	50
			Triplex**	E_L	≤ 300	20-50
			Triplex**	E	> 300	20-50
		60	HVAC foil*	B - s1, d0	> 300	25-50
FM Approval	Class 4924	37	Please contact Kingspan Technical Insulation Technical Services for further information.			

* Product tested with its factory applied reinforced aluminium foil vapour barrier.
** Product tested with its factory applied triplex low emissivity and zero permeability finish (for below zero applications).

For technical enquiries and / or insulation thickness calculations, please email **techline.hvac@kingspan.com**.

Notes:

BS EN 12667: 2001 (Thermal performance of building materials and products. Determination of thermal resistance by means of guarded hot plate and heat flow meter methods. Products of high and medium thermal resistance).

BS EN ISO 8497: 1996 (Thermal insulation - Determination of steady-state thermal transmission properties of thermal insulation for circular pipes (ISO 8497: 1994)).

BS EN ISO 4590: 2016 (Rigid cellular plastics. Determination of the volume percentage of open cells and of closed cells).

BS EN 13501-1: 2018 (Fire classification of construction products and building elements - Classification using data from reaction to fire tests).

Technical Data

General Physical Properties (Kooltherm® Insulated Pipe Support Inserts)

Property	Test Method	Unit	Typical Value		
Nominal Density		kg / m^3	60	80	120
Thermal Conductivity at +10°C. Please refer to DoP for full values.	(BS EN ISO 8497: 1996)	W/m.K	0.035	0.037	0.044
Colour			Pink /Grey	Grey	Grey
Closed Cell Content	(BS EN ISO 4590: 2016) Method 1	%	>90%	>90%	>90%
Operating Temperature Pipe Supports	Upper Limit Lower Limit	°C °C	+ 110 -	+ 110 - 50	+ 110 - 50

Fire Test Classifications (Kooltherm® Insulated Pipe Support Inserts)

Property	Test Method	Density (kg/m^3)	Facing	Result	Diameter (mm)	Thickness (mm)
Reaction to fire	(BS EN 13501-1: 2018)	60	HVAC foil	B_L - s1, d0	≤ 300	Any
		80	HVAC foil*	B_L - s1, d0	≤ 300	Any
		120	HVAC foil*	B_L - s1, d0	≤ 300	Any
			HVAC foil*	B - s1, d0	> 300	Any

* Tested with an integral metal spreader plate, with reinforced aluminium foil vapour barrier

For technical enquiries and / or insulation thickness calculations, please email **techline.hvac@kingspan.com**.

Notes:

BS EN ISO 4590: 2016 (Rigid cellular plastics. Determination of the volume percentage of open cells and of closed cells).

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Case Studies



University of Nottingham



Kensington High Street



Acton Gardens

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Interdisciplinary Biomedical Research Building (IBRB)



Birmingham Library



Marks & Spencer

Image supplied courtesy of DB Photography

Kingspan Technical Insulation

Company Details

Kingspan Technical Insulation is part of the Kingspan Group plc., one of Europe's leading construction product manufacturers. The Kingspan Group was formed in the late 1960s and is a publicly quoted group of companies headquartered in Kingscourt, County Cavan, Ireland.

Kingspan Technical Insulation is a market leading manufacturer of premium and high performance rigid insulation products and insulated systems for HVAC / building services, process, petrochemical, refrigeration and passive fire protection applications.

Products & Applications

Kingspan Technical Insulation products are suitable for both new build and refurbishment in a variety of applications. The available insulation solutions are listed below.

- Pipe Insulation
- Insulated Pipe Support Inserts
- Tank and Vessel Insulation
- Duct Insulation
- Pre-insulated Ductwork
- Passive Fire Protection

Technical Insulation Product Benefits

Kingspan Kooltherm® Products

- With a thermal conductivity as low as 0.025 W/mK, these are some of the most thermally efficient insulation products commonly used for pipe and ductwork in HVAC and building services applications.
- Some of the most lightweight and thinnest commonly used insulation products.
- Manufactured with a blowing agent that has low Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

Kingspan K-Roc® Pipe Insulation

- Supplied with a wide, self-adhesive lap.
- Supplied in 1.2 metre lengths.
- Reaction to fire classification $A2_L$/A2-s1,d0.

Kingspan KoolDuct® Products

- Thin insulation - the low thermal conductivity (k-value / l-value) of Kingspan KoolDuct® panels makes them thermally efficient, and hence the thinnest, insulation product commonly used for pre-insulated HVAC ductwork.
- Manufactured with a blowing agent that has low Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

Kingspan Therma™ Products

- With a thermal conductivity as low as 0.023 W/mK, these are amongst the more thermally efficient insulation products commonly used for external ductwork in HVAC and building services applications.

Tarec™pir

- With a thermal conductivity as low as 0.026 W/mK these are amongst the more thermally efficient insulation products commonly used for process and petrochemical applications.
- Manufactured with a blowing agent that has low Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

Tarec™pur

- With a low thermal conductivity these are amongst the more thermally efficient insulation products commonly used for refrigeration applications.
- Manufactured with a blowing agent that has low Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

All Products

- Unaffected by air infiltration - a problem that can be experienced with mineral fibre and which can reduce thermal performance.
- Safe and easy to install.
- If installed correctly, can provide reliable long term thermal performance over the lifetime of the building.
- Each product achieves the required fire performance for its intended application.

Kingspan K-Stop® Passive Fire Protection

- A comprehensive range of passive fire protection products including coated batts, cavity barriers, sealants, and mastics for fire protection in walls and floors.

www.kingspanpassivefireprotection.co.uk

Market Sectors




Apartments
Infrastructure
Commercial
Healthcare
Education

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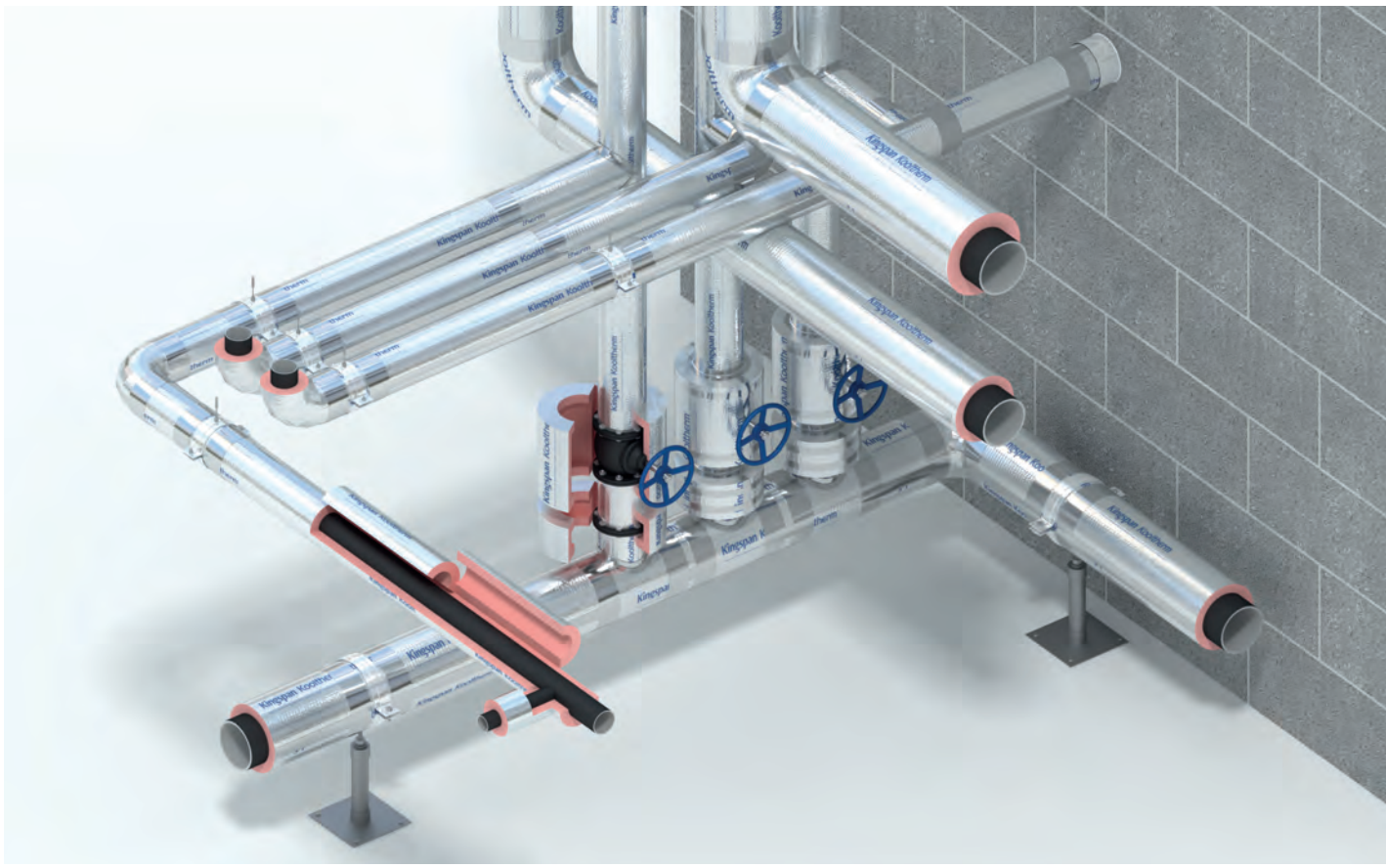
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Ninth Issue | 06/2025

Technical Insulation
Great Britain & Ireland

Kooltherm™ Pipe Insulation

Technical Data Sheet



Kingspan®

Kooltherm® Pipe Insulation

General Physical Properties (Kooltherm® Pipe Insulation)

Property	Test Method	Unit	Typical Value
Nominal Density		kg / m^3	37 and 60
Thermal Conductivity at +10°C. Please refer to DoP for full values.	(BS EN 12667: 2001) (BS EN ISO 8497: 1996)	W/m.K	As low as 0.025
Colour			Pink / Grey
Closed Cell Content	(BS EN ISO 4590: 2016) Method 1	%	> 90
Operating Temperature: Pipe Section*	Upper Limit Lower Limit	°C °C	+ 110 - 50

* Factory applied low permeability multiple layer vapour barrier jacket recommended for applications operating below 0 °C.

Fire Test Classifications (Kooltherm® Pipe Insulation)

Property	Test Method	Density (kg/m^3)	Facing	Result	Diameter (mm)	Thickness (mm)
Reaction to fire	(BS EN 13501-1: 2018)	37	HVAC foil*	B_L - s1, d0	≤ 300	Any
			HVAC foil*	B - s1, d0	> 300	50
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FM Approval	Class 4924	37	Please contact Kingspan Technical Insulation Technical Services for further information.			

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** Product tested with its factory applied triplex low emissivity and zero permeability finish (for below zero applications).

For technical enquiries and / or insulation thickness calculations, please email techline.hvac@kingspan.com.

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Kooltherm® Insulated Pipe Support Inserts

General Physical Properties (Kooltherm® Insulated Pipe Support Inserts)

Property	Test Method	Unit	Typical Value		
Nominal Density		kg / m^3	60	80	120
Thermal Conductivity at +10°C. Please refer to DoP for full values.	(BS EN ISO 8497: 1996)	W/m.K	0.035	0.037	0.044
Colour			Pink / Grey	Grey	Grey
Closed Cell Content	(BS EN ISO 4590: 2016) Method 1	%	>90%	>90%	>90%
Operating Temperature: Pipe Supports	Upper Limit Lower Limit	°C °C	+ 110 -	+ 110 - 50	+ 110 - 50

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Property	Test Method	Density (kg/m^3)	Facing	Result	Diameter (mm)	Thickness (mm)
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			HVAC foil*	B - s1, d0	> 300	Any

* Tested with an integral metal spreader plate, with reinforced aluminium foil vapour barrier

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Eighth Issue | 06/2025

Section C- M R Electrical Detailed Electrical Specification



Victory Quay, Portsmouth

Electrical Services Detailed Specification
Date: 10th July 2025

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1.0 Scope of Works

The design, supply, installation and commissioning of electrical services to 183 No. residential units consisting of one to four bed apartments, maisonettes, houses & flats above garages as per HGP accommodation schedule dated 09.09.2022 plus associated communal areas.

No works are included to commercial areas other than to indicate service duct entries and advise electrical load capacities.

1.1 Materials & Workmanship

The installation shall comply with the standards of good practice and workmanship generally acknowledged in the relevant industry.

All materials or parts supplied, or work carried out shall be new, of good quality and manufactured or fabricated to comply with the current requirements of the relevant British Standard specifications and codes of practice.

1.2 Fire Safety

The electrical services installations shall be compliant with the developments fire safety strategy, to include sealing or firestopping of services to the same fire resistance rating of the fire separating element being penetrated.

2.0 Communal Areas

2.1 Electrical Distribution

The building's primary electrical supplies will emanate from the DNO substations strategically located around the development. The DNO will provide primary landlord/apartment supplies to the electrical plant room of each block terminating in fused cut-outs and metering cabinets.

Downstream of the DNO equipment a main BNO isolator will be fitted to each supply. In general, subsequently a busbar chamber will provide main distribution to the various consumers.

Landlord's services will distribute from a main Landlord's MCB distribution board and strategically located sub-main distribution boards located within the service risers and plant areas.

Cabling will be BASEC approved and of XLPE/SWA/LSF type, to serve distribution and higher current equipment such as the lifts with small power and lighting served by LSF twin & CPC cables (see also Section 2.2). Cables to be supported on medium duty cable tray or locally within high impact plastic conduit as appropriate.

Protection against transient over voltages shall be installed at all supply intakes consisting of type 1 & 2 surge protection devices. Downstream distribution boards shall incorporate type 2 surge protection, where required.

The electrical installation will be designed and installed in accordance with BS7671:2018 IET Wiring Regulations (18th Edition) 3rd Amendment:2024.

2.2 Life-Safety Supplies

Secondary life-safety supplies (where required) for the apartment blocks firefighting and evacuation lifts, automatic water fire suppression systems and smoke ventilation systems will be provided by life-safety diesel generator(s). (Note, all smoke ventilation systems in phase 1 are passive, see below).

The life safety equipment noted above will be served by primary and secondary mains voltage cabling taking diverse routes to automatic transfer switches in the vicinity of the equipment's control panel.

Both cables to the automatic transfer switches will be selected and installed in accordance with BS8519:2020.

Back-up supplies for emergency lighting will be provided by integral batteries & for fire alarm systems & passive smoke ventilation systems (by others) by batteries within the control panels.

2.3 Small & Fixed Power

Cleaner's twin socket outlets will be provided in each communal corridor & in each stair landing, controlled by a lockable key switch located in the entrance lobby of each core. The sockets will be RCBO protected at the local distribution board. The socket outlets will be protected by Arc Fault Detection Devices (AFDD) only where required by BS7671:2018 IET Wiring Regulations (18th Edition) 3rd Amendment:2024. (Note, no requirement in phase 1).

Fused connection units will be installed to serve all small power items of fixed electrical equipment; larger equipment will be fed via suitably rated lockable switch disconnectors.

Wiring accessories in the thoroughfares will be flush mounted white moulded plastic from the Deta slimline or equal and approved range. Plant areas and risers may utilise surface mounted, metal clad, wiring accessories.



Switched fused connection units will be strategically located to allow for the future provision of electric panel heaters within the communal corridors that directly serve apartments.

2.4 Mechanical Services Control Wiring

In addition to power supplies, control wiring for the communal mechanical services will be provided, i.e. boosted water controls.

The containment systems for the electrical services will extend to accommodate the control wiring.

2.5 General & Emergency Lighting

The general communal thoroughfares will be illuminated by surface mounted circular LED bulkheads with microwave sensors.



Plant rooms, cycle and bin stores and other subsidary areas will be illuminated by surface mounted impact resident linear or bulkhead style LED luminiares as appropriate.





The lift shaft & car lighting will be provided by others.

Plant area luminaires will be controlled by local plate switches. Store area lighting will be controlled by passive-infra-red (PIR) occupancy sensors.

The luminaires will be located to afford an average illumination level in accordance with CIBSE Lighting Guide LG9 Lighting for communal residential buildings (2022).

Self-test emergency lighting will be provided in accordance with BS5266-1: 2016 generally utilising integral mains/emergency luminaries of the types specified above. In long corridors separate ‘corridor function’ dedicated emergency LEDs may be employed, subject to detailed design.

Illuminated escape signage will be provided, where it is a requirement of the fire strategy only, elsewhere the emergency luminaires will illuminate vinyl or similar signs, by others.

External entrances will be illuminated by die cast aluminium or polycarbonate diffuser LED bulkheads, with glare control and with emergency provision, where required.



The non-adopted access roads will be provided with background illumination only by LED marine-grade stainless steel bollards, controlled by a solar dial time clock with ‘early OFF’ function, to enable the bollards to illuminate at dusk and extinguish at midnight or other agreed time.

The coastal path shall be illuminated by lanterns and posts to match those on the North Portsea Coastal Flood Scheme and similarly connect to the landlord’s supplies by separate circuits.

All road/path lighting circuits shall be sub-metered to allow apportionment of any service charge.

2.6 Fire Alarm System

A BS5839-1:2025 Category L5 open protocol, analogue addressable, fire alarm system will be installed to meet the requirements of the fire safety strategy, for the purposes of controlling smoke ventilation systems, notification of automatic water fire suppression system (AWFSS) alarms and unlocking electronically controlled communal doors.

As the escape strategy is envisaged as ‘defend in place’ the communal system will be silent, except in ancillary areas.

The fire alarm will include a dial out facility.

No allowance is made for refuge alarms.

See section 3 for evacuation alert systems.

2.7 Communications Installation

Provision of containment to facilitate an Openreach FTTP installation serving the landlord for VSS off-site monitoring, as required. It is envisaged that the lifts will utilise their own GSM system and the fire alarm their own Dualcomm communications system and not connect to the FTTP service. The FTTP installation will also serve each apartment (see Section 3 for further details).

No allowance is made for a second comms or second television provider.

2.8 Door Entry/Intercom System

Paxton Switch 2 access control systems shall control access through each external communal door into the apartment block, utilising proximity readers and electronic releases or magnetic lock. Visitors may gain entry via the main entrance to each block if buzzed in by a resident from their intercom handset (See Section 3.7) which forms part of the Comelit ‘dial number and call’ intercom system. No trades facility has been allowed for.

No electronic access control has been allowed for to refuse & cycle stores.

There is no provision for pedestrian or vehicle gate automation or access control.

2.9 Video Surveillance System (formerly CCTV)

First fix cabling will be provided to enable future video surveillance systems (VSS) to be installed. Camera cabling will be Category 5e and be installed to each communal entrance, both internally and externally, as well as to a suitable location to monitor entry into each common communal area, at each floor level and to the lift control panel (for onward connection to the lift car by others). Cables will connect back to the future VSS control & monitoring equipment location in the plant room via a Category 6 backbone cable.

Provision made will include a power supply and telephone outlet (connected to the landlord’s broadband service) at the VSS equipment location, with space reserved for the future installation of an NVR and monitor.

2.10 Lightning Protection

Subject to requirement being confirmed by strike risk management calculations, lightning protection systems will be installed in accordance with BS EN 62305-1:2011 consisting of a PVC coated roof termination network and either down conductors or connections via the concrete reinforcing bars to low level test points and earth electrode pits.

Bonding to adjacent metallic elements shall be installed as required.

2.11 Electric Vehicle Charging

No EV chargers are included to the communal parking spaces. See Section 3 for chargers to dwellings.

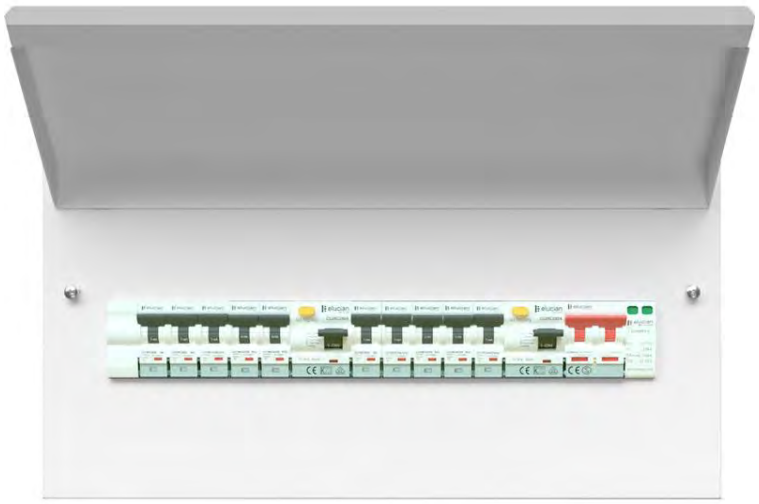
2.12 Photovoltaic System

No photovoltaic systems are included to the apartment blocks (for houses see Section 3.9), however roof, riser space and service ducting should be reserved, and lightning protection and surge protection systems be futureproofed for subsequent photovoltaic systems to be installed.

3.0 Dwellings

3.1 Electrical Distribution

The electrical supply to each flat served via communal corridors will emanate from a BNO multi-service distribution board in the electrical services riser, via a service cut-out and supplier's meter to a surface mounted, non-combustible, split-load RCD consumer unit all located in the services cupboard of the apartment. The consumer unit will be mounted at 1450mm to the top of the circuit-breakers.



As a minimum the following final circuits will be included:

40A –	Cooker (Rented only)
40A –	Hob (Shared only)
20/32A –	Oven (Shared only)
32A –	Kitchen ring (sockets)
32A –	General ring (sockets)
20A –	Electric heaters in living/dining/kitchen & hall
20A –	Electric heaters in bedrooms & bathroom
16A –	Hot water heat pump
6A –	Lighting & ventilation
6A -	Smoke & heat detection

The electrical supply to each house, maisonette, flat over garage and some flats accessed externally will emanate from a service cut-out and supplier's meter in an external meter enclosure or within the garage. As required additional final circuits will be provided to the houses, including splitting the general ring into lower & upper floors, splitting the lighting into lower & upper floors, with the ring of one floor being on the same RCD as the lighting of the other and visa-versa. The houses will also include a 32A circuit for an EV charger and 16A circuit for a PV system. No electric shower supply will be required.

Arc Fault Detection Devices (AFDD) are to be incorporated in the circuit protective devices supplying socket outlets in all apartments connected to a stair core that serves apartments with floor levels above 18m only. (Note, no requirement in phase 1).

A minimum of 2No. spare MCB ways will be provided.

The final circuits will be wired utilising twin & CPC BASEC approved cables generally concealed within the building fabric and where required, protected by plastic capping and clipped along/down the safe wiring zones.

3.2 Small & Fixed Power

Wiring accessories will be flush mounted white moulded plastic from the Deta Slimline or equal and approved range.



The cooker/hob will be afforded a double-pole isolation switch mounted above the kitchen worktop with a low-level cooker connector in the cooker space.

The remaining kitchen appliances will be controlled by engraved grid switches or above the kitchen worktop with low level unswitched single socket outlets to plug in the appliance.

Twin switched socket outlets will be provided as follows:

Living	- 4No. including 2No. adjacent the television
Dining Room	- 3No.
Kitchen	- 4No. for free use
Master Bedrooms	- 3No. including 1No. adjacent the television
Other Bedrooms	- 3No.
Bathrooms	- 1No. Shaver outlet
Hall/Landing	- 1No.
Storage Cupboard	- 1No.
External	- 1No. (Houses and ground floor maisonettes only)

Within the shared ownership dwellings, the above provision should include USB outlets in one of the sockets in the living room, dining room, kitchen & all bedrooms,

A shaver outlet will be provided to bathrooms & en-suites (where applicable).

As required mechanical services wiring will be carried out to serve equipment supplied by others, including the heat pump and the ventilation system (which will be afforded a boost switch above the kitchen worktop).

A fused connection unit will be provided in the services cupboard for a future burglar alarm, on landings for a future ceiling mounted hoist and in the hall of multi-floor dwellings for a future stair lift. No further supplies or equipment have been allowed for (particularly in M4(3) dwellings).

Mounting heights will be in accordance with Building Regulations, in general with socket/television/telecom outlets mounted at 600mm to the bottom and switches and controls mounted at 1200mm to the top of the accessory. Above worktop kitchen accessories will be mounted at 1125m to the centre. M4(3) dwellings will have other specific mounting height requirements.

3.3 Electric Heating

The Apartments will be space heated by Dimplex PLXE or equal and approved Lot 20 compliant range of electric panel heaters with integral time and temperature control except for the bathrooms & en-suites of Shared Ownership units which will utilise straight ladder chrome electric towel rails with attached controllers.





The heating system will be designed to achieve the following internal air temperatures, based on a base external air temperature of minus 3ºC.

Room	Temperature (ºC)	Air changes per hour
Living/Dining Room	21	1.5
Bedroom	18	1
Hall/Landing	18	1.5
Bathroom	22	2
WC	21	2
Kitchen	18	2

3.4 Lighting

Illumination of the apartments will generally be by 225mm pendant and replaceable LED lamps (2No. in lounge, separately switched), inclusive of cloakroom and roof void (where applicable) except:

Kitchens shall be afforded **KSR FRD385 or equal and approved, colour change technology, dual wattage, 'firebreak' LED recessed downlights laid out in a regular pattern. In the shared ownership bathrooms & en-suites the same fitting will be used and be suitably IP rated. These fittings do not have interchangeable lamps, to protect against sub-standard replacement lamps being fitted and potentially compromising the fire-rating of the fitting.



In shared ownership kitchens a separate switched supply will serve LED pelmet lighting.

The affordable rent apartment bathrooms are to be fitted with IP65 rated ceiling mounted polycarbonate LED white round bulkheads.



Stores & understairs cupboards will be afforded a batten holder and replaceable LED lamp.

Patios and balconies will be illuminated by bi-directional LED wall lights with integral PIR.



Sufficient luminaires will be provided to meet the following minimum average illumination levels:

Kitchen – 300 Lux
Bathroom – 150 Lux

All luminaires will be controlled by local plate switches from the Deta Slimline range. Two-way switching will be employed, where required including to landings. Bathroom and cloakroom light switches will be outside of the room. Roof void light switches will be on the landing beneath, engraved and complete with a neon indicator.

** Should luminaire selections become obsolete prior to installation an equal and approved fitting will be selected.

3.5 Communications

Each dwelling will be afforded an Openreach Optical Network Terminal (ONT) located in the services cupboard or garage, with space alongside for the resident's router. Secondary telephone outlets will be provided adjacent the living room and main bedroom television outlets plus an additional outlet in the lounge (near the sofa) and main bedroom (at the bed head). A 'home office' provision will not be provided.

3.6 Television

A Sky Q/terrestrial integrated reception (IRS) television system will be provided to each apartment and maisonette from control equipment located in the service risers. The system will provide Sky Q//terrestrial/DAB/FM to the living room outlet, from where a subsequent Sky set top box in the main bedroom can receive Sky Q wirelessly and terrestrial television via a coaxial outlet.

For houses and flats over garages not connected to communal apartment blocks, individual Sky Q/terrestrial television systems should be installed to afford the same service as above, however only the terrestrial aerial should be fitted (to receive all free to air digital channels). Coils of co-axial cable of suitable length (minimum 7m) shall be left in the roof space for connection to a future satellite dish.

Receipt of Sky services will be subject to the resident's uptake of the service from Sky.

Each dwelling shall be afforded wire ways, by way of ducts and draw wires from adjacent the resident's router location to the communal area and containment space thereafter, to facilitate the future installation of a cable television system, to include blanked outlet plates adjacent the television outlets in the living room and main bedroom.

Later phases of the installation may be able to benefit from a fibre-based television distribution system. As these systems are currently not cost-effective, the co-axial cable proposal has been allowed for at this stage.

3.7 Door Entry/Intercom System

Comelit colour video intercom handsets will be provided in the hall of each apartment connected to the electronic access control & intercom system described in Section 2.8.



All dwellings are to be afforded a standalone hard-wired doorbell push and chime.

3.8 Protective Installations

The dwellings will be protected by an optical smoke detector in the hall, landing (where applicable), living rooms and all bedrooms and a heat detector in the kitchen in accordance with BS5839-6:2019 Category LD1. The detectors will be complete with lithium back-up batteries and be mains-linked to allow all detectors to sound simultaneously.

3.9 Evacuation Alert System

All apartments connected to a stair core that serves apartments with floor levels above 18m will be afforded an evacuation alert sounder located in the hall/open-plan space, connected back to an addressable evacuation alert panel adjacent the fire brigade entrance to each block in accordance with BS8629 + A1:2023. (Note, no requirement in phase 1).

3.10 Photovoltaic System

The PV will be in accordance with the energy strategy.

The works will include making application to the DNO for the connection of the PV systems to the national grid and providing MCS certification.

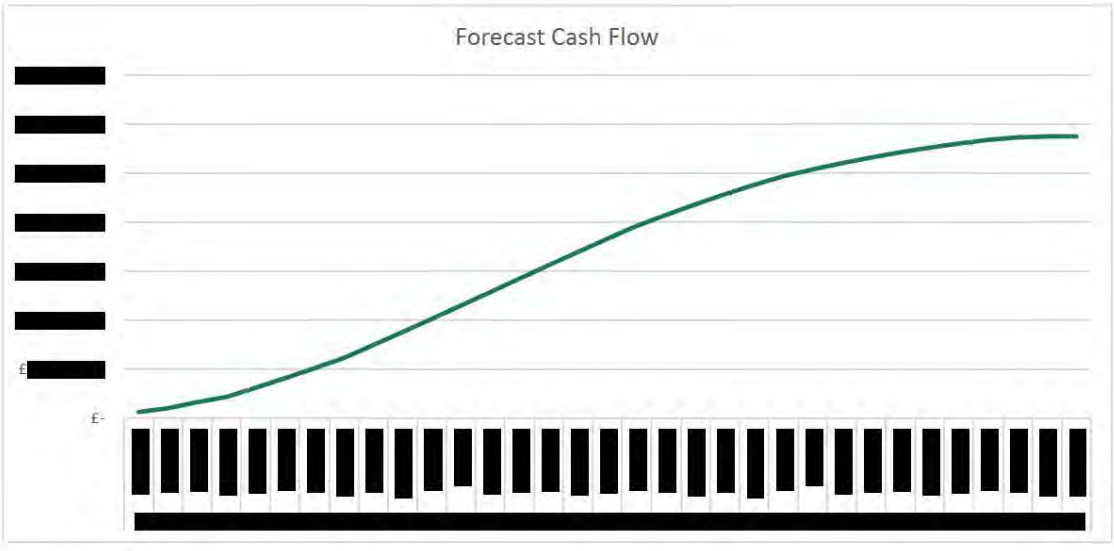
3.11 Electric Vehicle Charging

Each house will be provided with a wall mounted 7kW single-phase, smart, electric vehicle (EV) charger connected to the house supply. The charger will incorporate an electronic key to prevent unauthorised use.

Project: Victory Quay, Portsmouth
Date: 13-Aug-25
Revision: Org

Valuation Nr	Payment Month	Gross
[redacted]		

All Costs exclude: Professional Fees
Loose Fittings and Furniture
VAT



Project: Victory Quay - Tipner
Client: Vestal Developments Ltd
Contractor: PMC Construction & Development Services Ltd

Current Cost Plan - EXCLUDING INFLATION & CONDITION 17	£	[redacted]
Add Cost for PCSA Nr 2	£	[redacted]
Sub-Total	£	[redacted]
Target cost - As PCSA agreement	£	[redacted]
Variance	-£	[redacted]

PCSA - Page 1 Benchmark Figure from RUND
-2.35%

Victory Quay - Tipner			House Block 1	House Block 2	House Block 3	House Block 9	Block F	Block G	Block H	Block L	Infrastructure/BCA	Comments
		GIFA	464.88	973.00	973.00	1,406.49	1,687.32	5,450.02	5,450.02	939.36		
		£/m²	[redacted]	[redacted]								
			Phase 1									
Facilitating Works		£ [redacted]									£ [redacted]	
Building Works Estimate												
1. Substructure		[redacted]					£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2. Superstructure												
2.1 Frame [Traditional, Timber & Concrete]		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.2 Upper Floors		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.3 Roof		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.4 Stairs and Ramps		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.5 External Walls		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.6 Windows and External Doors		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.7 Internal Walls and Partitions		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
2.8 Internal Doors		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
3 Internal Finishes												
3.1 Wall Finishes		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
3.2 Floor Finishes		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
3.3 Ceiling Finishes		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
4. Fittings, Furnishings and Equipment		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]		
5 Services		£ [redacted]	[redacted]							[redacted]		
6. Prefabricated Buildings and Building Units	Excluded											
7. Works to Existing Buildings	Excluded											
8. External Works												
8.1 Site Preparation Works		£ -									[redacted] -	
8.2 Roads, Paths, Paving and Surfacing		£ [redacted]									£ [redacted]	
8.3 Soft Landscaping, Planting and Irrigation Systems		£ [redacted]									£ [redacted]	
8.4 Fencing, Railings and Walls		£ [redacted]									£ [redacted]	
8.5 External Fixtures		£ [redacted]									£ [redacted]	
8.6 External Drainage		£ [redacted]									£ [redacted]	
8.7 External Services		£ [redacted]									£ [redacted]	
8.8 Minor Building Works and Ancillary Buildings		£ [redacted]									£ [redacted]	
9 Section 278 & 104 Works including Of Site Works- See Comments & Provisional Sums		£ [redacted]									£ [redacted]	
10 *Deduct Prov Sums for City wide s278 works as per Client requested*		-£ [redacted]									-£ [redacted]	
11 Design Development Contingency - Blocks G,H&F		Excluded									£ -	
Total Buildings Works Estimate		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Main Contractor's Preliminaries Estimate - This Phase Only	12.5%	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Main Contractor's Overheads and Profit Estimate - Excluding BCA	6.5%	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Works Cost Estimate		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Project / Design Team Fees Estimate												
(a) Fees, Surveys & Investigations	3.1%	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
(b) Main Contractor's Pre-construction Fees		£ -										
(c) Main Contractor's Design Fees - Provisional		£ -										
Sub-Total		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Base Cost Estimate		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
Project / Design Team Fees Estimate												
(a) MSC Design & Construction Risk	See Item 10 above											
(b) SUR Design, Construction & Development Risk	Excluded	£ -										
(c) Employer Other Risks	Excluded	£ -										
Sub-Total		£ -										
Total Estimated Cost - (Excluding Below the line items)		£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	£ [redacted]	
All costs are net and subject to OH&P												
Add provisional sum allowances for off site s278 Works - Planning Condition Nr 17 - Further discussion required		£ [redacted]										
Total Estimated Project Cost (Exc Vat)												

VICTORY QUAY - PORTSMOUTH

Cost Plan

PHASE 1

BLOCKS 1,2,3,5,F,G,H&L

Aug-25

Rev B



PMC Construction and Development Services Ltd

80a High Street, Cosham, Portsmouth, Hampshire PO6 3FL

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd
Contractor: PMC Construction & Development Services Ltd

Priced Item	£	[redacted]	98.2%
Provisional Sum	£		1.8%

Current Cost Plan - EXCLUDING INFLATION & CONDITION 17	[redacted]
Add Cost for PCSA Nr 2	
Sub-Total	
Target cost - As PCSA agreement	
Variance	

PCSA - Page 1 Benchmark Figure from RUND
2.35%

	House Block 1	House Block 2	House Block 3	House Block 5	Block F	Block G	Block H	Block L	Comments
GIFA	[redacted]								
£m²									

Victory Quay - Tipner		Phase 1	Comments
Facilitating Works		[redacted]	
Building Works Estimate			
1. Substructure			
2. Superstructure			
2.1 Frame [Traditional, Timber & Concrete]			
2.2 Upper Floors			
2.3 Roof			
2.4 Stairs and Ramps			
2.5 External Walls			
2.6 Windows and External Doors			
2.7 Internal Walls and Partitions			
2.8 Internal Doors			
3. Internal Finishes			
3.1 Wall Finishes			
3.2 Floor Finishes			
3.3 Ceiling Finishes			
4. Fittings, Furnishings and Equipment			
5. Services			
6. Prefabricated Buildings and Building Units	Excluded		
7. Works to Existing Buildings	Excluded		
8. External Works			
8.1 Site Preparation Works			
8.2 Roads, Paths, Paving and Surfacing			
8.3 Soft Landscaping, Planting and Irrigation Systems			
8.4 Fencing, Railings and Walls			
8.5 External Fixtures			
8.6 External Drainage			
8.7 External Services			
8.8 Minor Building Works and Ancillary Buildings			
9 Section 278 & 104 Works Including Of Site Works- See Comments & Provisional Sums			
10 *Deduct Prov Sums for City wide s278 works as per Client requested*			
11 Design Development Contingency - Blocks G,H&F			
Total Buildings Works Estimate			
Main Contractor's Preliminaries Estimate - This Phase Only	12.5%		
Main Contractor's Overheads and Profit Estimate - Excluding BCA	6.5%		
Works Cost Estimate			
Project / Design Team Fees Estimate			
(a) Fees, Surveys & Investigations	3.1%		
(b) Main Contractor's Pre-construction Fees			
(c) Main Contractor's Design Fees - Provisional			
Sub-Total			
Base Cost Estimate			
Project / Design Team Fees Estimate			
(a) MSC Design & Construction Risk	See Item 10 above		
(b) SUR Design, Construction & Development Risk	Excluded		
(c) Employer Other Risks	Excluded		
Sub-Total			
Total Estimated Cost - [Excluding Below the line items]			
All costs are net and subject to OH&P			
Add provisional sum allowances for off site s278 Works - Planning Condition Nr 17 - Further discussion required.			
Total Estimated Project Cost (Exc Vat)			

Project: Victory Quey - Tipner
Client: Vestal Developments Ltd

Item	Cost Plan Notes & Assumptions
1	All notes comments / assumptions / provisional sums / items contained in this cost plan are based on Rev T Employers Requirements along with the list of derogations
4	No allowance has been included for inflation beyond August 2026. Further discussion is required with Vivid / Vestal and RUND on how inflation will be managed.
5	No Allowances have been included for the affect of war, trade disputes / tariffs, civil unrest and unpredicted surges in the cost of raw materials and labour.
6	No allowance has been included to achieve Future Home Requirements. We have allowed to achieve EPC rating of B.
7	Please note that sub-contractor costs are based on being able to complete House Blocks 1,2,3&5, Blocks F,G,H&L including the associated services and external works, as a single phase of Works. No allowances have been included for separating / splitting this phase of work. Additional mobilisation & demobilisation costs etc. If this is required then the actual costs may change. PMC will work closely with Vivid / Vestal should any early works [e.g. access road] being required.
8	No allowance has been included for dealing with non-hazardous and hazardous materials, in particular the boundary with Bellway's.
9	All commercial spaces are to be shell & core only but commercial glazing is provided
10	We have not included for home lifts to be installed from ground to 1st floor within the House Type 7 & M Units. We have obtained a budget price from Wessex Lifts for 3Nr VM36 home lifts should Vivid require these in the net Sum of [redacted] Please note that we have also not included for automated doors or X&Y hoists generally, but we have included for the infrastructure for the lift and doors if required in the future.
11	No allowance has been included for works to the boundary with bellways land including retaining walls, we note there are still areas of contaminated ground on the boundary between Vivid/Vestal and Bellway Homes. No allowance has been made to remove this. It cannot be treated on site so will have to be removed to a licenced land fill facility.
12	Scaffold will need to erected on Bellway Homes land for building blocks 1, 2 & 3. All agreements and associated costs are to be the responsibility of Vivid/Vestal, we have allowed for the scaffolding only.
13	Annual cost increases are anticipated from Power On until the substations and water services are ordered. We have included a provisional sum for this.
14	No allowance has been made for collapsable bollards for the bus route or bus stops. This matter is still ongoing
15	Due to the nature and sequence of the build there will be a number of instances where the tower cranes will over sail occupied buildings. The notification to local residents will be the responsibility of Vivid/Vestal and we not included for any associated costs.
16	This cost plan is based on PMC having sole occupancy of the development during the contracted works. Should Vivid/Vestal appoint other contractors to undertake works on new phases while PMC are still on site this will need to be planned and agreed before any works commence.
17	No allowance has been made for any works for bus shelters etc and services, including but not limited to information technologies.
18	No work to the boundary of the Park & Ride has been included.
19	No allowance for enhanced landscaping etc has been made for a potential show home/view home, the location and scope of which is to be confirmed.
20	We have allowed for trees to be planted in the planting season. If trees are to be planted outside these times and additional measures are required then Vivid/Vestal will be required to issue the variation for this and take responsibility for the trees
21	PMC will use reasonable endeavours to meet the funding dates set by Homes England, however PMC cannot be held accountable if these dates are missed due to the late instruction to commence or changes in the Client scope / requirements which alter the programme durations.
22	Retention must be released upon practical completion of each section / block.
23	Bulk materials stored on site will be claimed for in the monthly valuations
26	Further details / make up is required for the external Works, and all adoptable works we have therefore made the following allowances / assumptions until the final specifications are confirmed. Amenity Grass - 150mm Topsoil Hedged Areas - 400mm Topsoil Meadow Grass - 150mm Topsoil P1- Macadam Roadway- AC10 30mmthick, AC20 60mm thick, AC32 130mmthick, Type 1 Recycled 300mm, 6F2 Capping350mm P2- Macadam Footpaths- AC6 30mm thick,AC20 60mm thick, Type 1 Recycled 250mm P3- Coloured Macadam Footpaths- AC630mm thick, AC20 60mm thick, Type 1Recycled 250mm P4- Pedestrian Block Paving, Burnt Ochre-Non Permeable, 60mm thick paviours,250mm Type 1 Recycled P5- Block Paving, Natural- Non Permeable,60mm thick paviours, 250mm Type 1Recycled P6- Block Paving, Charcoal, Vehicular- NonPermeable, 80mm thick paviours, 130mmbase course, 300mm type 1 recycled, 6F2Capping 350mm P7 - Block Paving, Brindle, Parking Bays - Non Permeable, 80mm thick paviours, 130mm base course, 300mm type 1 recycled, 6F2 Capping 350mm P8- Slab Paving, Charcoal- Slabs 50mm,Type 1 Recycled 250mm P9- Slab Paving, Grey- Slabs 50mm, Type 1Recycled 250mm P10- Macadam Cycle Way- AC6 30mmthick, AC20 60mm thick, Type 1 Recycled250mm P11- Breedon Gravel or Similar- 75mmthick, Type 1 Recycled 250mm Planting - 300mm topsoil Reed bed - 300mm topsoil Rich Grass - 150mm topsoil Swale & Swale Meadow Grass- 150mmTopsoil Resin Bound - 26mm Resin Bound, 60mm Porous Macadam, 250mm Type 1 No feature edgings have been allowed onlyPCC EF 150 x 50 edgings
27	The HV cable remains under Block 1. The risk remains that blocks 5 & L could be occupied before block 1 is complete , and no allowances have been made for any additional costs or programme implications as a result of this.
28	We have assumed normal working hours including Saturday working.
29	All concrete finishes are based on an ordinary finish as defined by NSCS 4th edition
31	As requested by Vivid, we have deducted the off-site, city-wide Section 278 works required under Planning Condition 17. PMC cannot accept any responsibility or penalties what so ever for the late or untimely discharge of this planning condition.
32	We have allowed for PV & EV chargers to the houses only.
34	All costs associated with acceleration of the programme are excluded.
35	We have assumed that the proposed value engineering changes will be approved by planners in a time manner and will not impact procurement and or the programme.
36	No allowance has been included for blinds and or loose FF&E.
37	No allowance has been included for repairs and or resurfacing the access road outside of the redline boundary
38	We have assumed that al land transfers / easements / wayleaves being controlled by Vivid / Vestal are agreed and in place in accordance with the Construction Programme
39	Not all of the bike stores are compliant with the ER's in particular Block F. However the designs are as requested and have been approved by Mark Gilpin of Vivd.
40	No allowances both programme and cost have been included for the removal of previously unidentified below ground obstructions.

Project: Victory Quey - Tipner
Client: Vestal Developments Ltd

	wks.
	Cost Per Week

Item	Element / Description	Qty	Unit	Rate £	Total £	Comments
P1	**Staff & Labour**					
Site Wide						
P1.1	Company Director	-	Wks.			
P1.2	Pre Construction Management	10.00	Wks.			
P1.3	Commercial Management	10.00	Wks.			
P1.4	Contract Manager	50.40	Wks.			
P1.5	Project Manager - Jason Conway	168.00	Wks.			
P1.6	Project Surveyor	100.80	Wks.			
P1.7	Assistant Surveyor	-	Wks.			
P1.8	QA Manager	100.80	Wks.			
P1.9	Assistant to Jason Conway (Admin etc)	-	Wks.			
P1.10	Gateman	168.00	Wks.			
P1.11	Forklift Driver Nr 1.	148.00	Wks.			
P1.12	Forklift Driver Nr 2.	128.00	Wks.			
	Forklift Driver Nr 3	128.00	Wks.			
P1.13	Site Welfare Labour	168.00	Wks.			
P1.14	Wheel wash Labourer	168.00	Wks.			
P1.15	Brick / Block / Mortar / Lintels Labourer	115.00	Wks.			
Block 1,2,3,5 & L						
P1.16	Senior Site Manager - Paul Parker	103.00	Wks.			
P1.17	Site Manager - Steve Zafferese	87.00	Wks.			
P1.18	Assistant Site Manager -Steve Holdsworth	55.00	Wks.			
P1.19	Crane Driver	85.00	Wks.			
P1.20	Slinger / Signaller	85.00	Wks.			
P1.21	Crane Driver	85.00	Wks.			
P1.22	Slinger / Signaller	85.00	Wks.			
P1.23	Labourer - 1	103.00	Wks.			
P1.24	Labourer - 2	65.00	Wks.			
Blocks F, G & H						
P1.25	Project Manager - Dave Gill	111.00	Wks.			
P1.26	Site Manager -Tim Kemp	97.00	Wks.			
P1.27	Finishing Site Manager - Tony Ashman	55.00	Wks.			
P1.28	Tower Crane Driver	-	Wks.			
P1.29	Slinger / Signaller	-	Wks.			
P1.30	Labourer - 1	111.00	Wks.			
P1.31	Labourer - 2	75.00	Wks.			
P1.31	Labourer - 3	60.00	Wks.			
P1	**Sub-Total**					
P2	**Disbursements**					
P2.1	Contracts Manager	1,209.60	Miles			
P2.2	Project Manager	4,032.00	Miles			
P2.3	Site Management	23,880.00	Miles			
P2.4	Assistant Site Management	6,600.00	Miles			
P2.5	Surveyors / QA	3,628.80	Miles			
P2.6	Finishing Foreman	-	Miles			
P2.7	Labour Generally	-	Miles			
P2.8	Other expenses	-	Wks.			
P2	**Sub-Total**					
P3	**Small Plant / Small Tools / Etc**					
P3.1	Consumables	168.00	Wks.			
P3.2	Smal Tools, Towers, Trestles etc	10.00	Nr			
P3.3	PMC Plant Logistics & Maintenance	168.00	Wks.			
P3.4	Fire Extinguishers	126.00	Nr			
P3.5	Fire Extinguishers - Services / Maintenance	126.00	Nr			
P3	**Sub-Total**					
P4	**Hardstanding's**					
P4.1	Crane Base - Block G & H Only	1.00	Item			
P4.2	Silo Bases	8.00	Nr			
P4.3	General Hardstanding	1.00	Item			
P4.5	Temporary haul road to service Blocks M2,M4 & E					
P4	**Sub-Total**					
P5	**Cranage / Access**					
	Tower Crane					
P5.1	Tower Crane Transportation, Erection and Testing	1.00	Item			
P5.2	Tower Crane Dismantling and Removal	1.00	Item			
P5.3	Tower Crane Hire	85.00	Wks.			
P5.4	Tower Crane Operator	85.00	Wks.			
P5.5	Slinger / Signaller	85.00	Wks.			
P5.6	Tower Crane Base - Fixing Angles	1.00	Item			
P5.7	Independent Inspection	2.00	Visits			
P5.8	Candela aircraft warning lights	-	Item			
P5.9	Anti-Climbing Fan	1.00	Item			
P5.10	Signage	1.00	Item			
P5.11	Chains and bars	1.00	Item			
P5.12	Candela	1.00	Item			
	Crane					
P5.13	Tower Crane Transportation, Erection and Testing	-	Item			
P5.14	Tower Crane Dismantling and Removal	-	Item			
P5.15	Contract lift for bricks and blocks after PCC installation	-	Wks.			
P5.16	Tower Crane Operator	-	Wks.			
P5.17	Slinger / Signaller	-	Wks.			
P5.18	Tower Crane Base - Fixing Angles	-	Item			
P5.19	Independent Inspection	-	Visits			
P5.20	Candela aircraft warning lights	-	Item			
P5.21	Anti-Climbing Fan	-	Item			
P5.22	Signage	-	Item			
P5.23	Chains and bars	-	Item			
P5.24	Candela	-	Item			
	Self Erecting Crane TC 2					
P5.25	Tower Crane Transportation, Erection and Testing	1.00	Item			
P5.26	Tower Crane Dismantling and Removal	1.00	Item			
P5.27	Tower Crane Hire	56.00	Wks.			
P5.28	Tower Crane Operator	56.00	Wks.			
P5.29	Slinger / Signaller	28.00	Wks.			
P5.30	Candela	1.00	Item			
	Self Erecting Crane TC3a					
P5.31	Tower Crane Transportation, Erection and Testing	1.00	Item			
P5.32	Tower Crane Dismantling and Removal	1.00	Item			
P5.33	Tower Crane Hire	60.00	Wks.			
P5.34	Tower Crane Operator	60.00	Wks.			
P5.35	Slinger / Signaller	30.00	Wks.			
P5.36	Candela	1.00	Item			

	Contract Lift			[redacted]	
P5.27	Contract Lift Hire - Allowance	10.00	Item		
P5.27	Contract Lift Hire - Allowance	10.00	Item		
	Mast Climbers Block G&H				
P5.28	Block G	-	Item		N/A
P5.29	Block H	-	Item		N/A
P5	Sub-Total				
P6	**Site Establishment**				
	Storage Containers				
P6.1	Oasis	10.00	Wks.		
P6.2	9 x 7 Store	168.00	Wks.		
P6.3	10 x 8 Store	504.00	Wks.		
P6.4	32 x 10 Office	168.00	Wks.		
P6.5	32 x 10 Office / Meeting Room	168.00	Wks.		
P6.6	32 x 10 Cubicle	168.00	Wks.		
P6.7	32 x 10 Kitchenette	336.00	Wks.		
P6.8	32 x 10 Drying Room	336.00	Wks.		
P6.9	16 x 9 Toilet Block	504.00	Wks.		
P6.10	Shelter	168.00	Wks.		
P6.11	Stair Cases	504.00	Wks.		
P6.12	Links	672.00	Wks.		
P6.13	Stacking	1.00	Item		
P6.14	Destacking	1.00	Item		
P6.15	Delivery	1.00	Item		
P6.16	Collection	1.00	Item		
P6.17	PPE	30.00	Nr		
P6.18	Task Lighting	1.00	Item		
P6.19	Connections	6.00	Nr		
P6.20	Furniture	1.00	Item		
P6.21	Canteen Building	-	Item		N/A
P6.22	Kitchen Fit Out	-	Item		N/A
	Business Rates & Taxes				
P6.22	Chargeable Business Rates on Site Establishment				Excluded Client Direct clarification
P6.23	Chargeable Taxes on the development				Excluded Client Direct clarification
P6	Sub-Total				
P7	**Security & Signage**				
P7.1	Guard (Out of hours and weekends)	-	Wks.		Excluded
P7.2	Sign In Digital Register System	-	Wks.		Excluded
P7.3	CCTV System Monitoring / Wireless	1.00	Item		
P7.4	Vehicle Delivery System	-	Item		Excluded
P7.5	Client Sign Boards	-	Item		Excluded - if additional signage is required PMC to be instructed
P7.6	Site signage	1.00	Item		
P7	Sub-Total				
P8	**Fencing & Access**				
	Heras				
P8.1	Heras Fencing	2,000.00	m		
P8.2	Heras Couplers	2,285.71	Nr		
P8.3	Heras Bracing	571.43	Nr		
P8.4	Barriers	1.00	Item		
	Timber	-	0		
P8.5	Solid Hoarding	650.00	m		As detailed by Vivid Construction Plan required to build G&H
P8.6	Pedestrian door	1.00	Item		
P8.7	Delivery	12.00	Item		
P8.8	Maintenance during first phase	1,950.00	m²		
P8.9	Manage hoarding at completion	650.00	m		
	Other	-	0		
P8.10	Gates	6.00	Nr		
P8.11	Cross overs	8.00	Nr		
P8.12	Fence lines for car park and PPE as the project progresses	-	Nr		Included above
P8.13	Turnstile (budget)	-	Item		Not required
P8	Sub-Total				
P9	**Temporary Power & Water**				
	Temporary				
P9.1	Earth Spike	60.00	Wks.		
P9.2	Small generator - Required for Self erector lifts	60.00	Wks.		
P9.3	Delivery	2.00	Item		
P9.4	Collection	2.00	Item		
P9.5	Fuel - Required for Self erector lifts	36,000.00	Litres		
	Main Works Section				
P9.6	Temporary connection - electrical & testing	1.00	Item		
P9.7	Temporary connection - water	1.00	Item		
P9.8	Transformers	67.00	Nr		
P9.9	Water and electric consumption	1.00	Item		
P9.10	Electrical & Plumbing	1.00	Item		
P9.11	Connection to drainage for wheel washing	1.00	Item		
P9	Sub-Total				
P10	**Cleaning**				
P10.1	Cleaning up site during construction	-	Wks.		
P10.2	Builders, sparkle and Final Cleaning	1.00	Item		
P10.3	Clearance of gullies	1.00	Item		
P10.4	Skips	1.00	Item		
	Other				
P10.5	Diesel storage & Containment	1.00	Item		
P10.6	Wheel wash/ Jet wash	1.00	Item		
P10.7	Wheel wash emptying	1.00	Item		
P10.8	Water for wheel wash	-	Item		
P10.9	Spill kits	12.00	Nr		
P10.10	First Aid kits	6.00	Nr		
P10.11	Defibrillator	1.00	Item		
P10.12	Brick jackets	100.00	Nr		
P10.13	Show units - PMC Management of the Works	1.00	Item		
P10.14	Keys	181.00	Nr		
P10.15	Two way radios	12.00	Nr		
P10.16	O&M Manuals	181.00	Nr		
P10.17	Magic Man - Houses	1.00	Item		
P10.18	Magic Man - Apartments	1.00	Item		
P10.19	Landscape Maintenance during handovers	1.00	Item		Excluding all trees
P10.20	CCS	1.00	Item		
P10.21	Brickwork sample panels	1.00	Item		
P10	Sub-Total				
	TOTAL ORDER OF COST ESTIMATE				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

PCSA Nr 2 Fees moved to Main Contract

Item	Element / Description	PCSA Nr 2 Quant	Unit	Rate £	Total £	Phase 1 Main Contract Works Quant	Unit	Rate £	Total £	Comments
FSI 1	**FEES / SURVEYS / LICENSES & INVESTIGATIONS**									
	PCSA Nr 2									
	HGP Architects									
FS1.1	Stage 3 Redesign Planning Fees	1.00	Item							
FS1.2	Design Changes	1.00	Item							
FS1.3	RIBA Stage 4	1.00	Item							
FS1.4	RIBA Stage 5	1.00	Item							
FS1.5	M & E Coordination	1.00	Item							
FS1.6	Principal Designer To RIBA 4	1.00	Item							
FS1.7	Alterations To Design If Blocks Aren't Identical	1.00	Item							
FS1.8	Drawing Revisions as Requested by Vivid 26-03-2025	1.00	Item							
FS1.9	Additional Fees and disbursements	1.00	Item							
	HRW Engineers									
FS1.10	Stage 3 & 4 Structural Fees	1.00	Item							
FS1.11	RC Detailing	1.00	Item							
FS1.12	Stage 5 Fees & Expenses	1.00	Item							
FS1.13	Block E Sea Defence Wall Redesign/level change	1.00	Item							
FS1.14	Alterations To Design If Blocks Aren't Identical	1.00	Item							
	PBA Civil Engineers									
FS1.15	Spine Road Redesign & Adoption Stage 1 (S38)	1.00	Item							
FS1.16	Spine Road Redesign & Adoption Stage 2 (S38)	1.00	Item							
FS1.17	Portsmouth City Council Fees for Adoption	1.00	Item							
FS1.18	Blocks F G & H Drainage Including Road	1.00	Item							
FS1.19	Redesign of Drainage to accommodate secondary Sea Wall	1.00	Item							
FS1.20	Meetings	1.00	Item							
FS1.21	Expenses/Provisional Sums/Fees	1.00	Item							
	HOP Consulting - Off Site 278 Works									
FS1.22	Stage 1 - Change to shared footpath	1.00	Item							
FS1.23	Stage 2 - Change Pedestrian crossing to Toucan crossing	1.00	Item							
FS1.24	Stage 3 - Create Cyclist cut through	1.00	Item							
FS1.25	Stage 4 - Change Pedestrian crossing to Toucan crossing	1.00	Item							
FS1.26	Stage 5 - Change Pedestrian crossing to Tiger crossing.	1.00	Item							
FS1.27	Additional fees for discussions after initial application	1.00	Item							
FS1.28	Surveys,CCTV, RSA etc	1.00	Item							
FS1.29	Hop additional meetings allowance	1.00	Item							
FS1.30	Portsmouth City Council Fees for Adoption	1.00	Item							
	Fire Engineer - Solas Realta									
FS1.31	Phase 1 Scope of Works	1.00	Item							
	IDOM									
FS1.32	IDOM Merebrook	1.00	Item							
	ILA Landscape Architects									
FS1.33	Phase 1 Scope of Works	1.00	Item							
	Airtight & Noise Associates									
FS1.34	Air & Noise Assessments / advise	1.00	Item							
	Timber Frame Design									
FS1.35	Design from RIBA Stage 3+	1.00	Item							
	Sprinkler Design	1.00	Item							
FS1.36	Mission Planning	1.00	Item							
FS1.37	Chapsticks	1.00	Item							
FS1.38	PCSA 2 - Management Fees & OH&P	1.00	Item							
	Phase 1 Main Contract Works									
FS1.38	Mission Planning					1.00	Item			Balance of remaining planning condition clearance (27Nr Outstanding), S106 Condition Clearance (77Nr Outstanding) Meetings & Monitoring Not instructed under PCSA Nr 2. No further allowances included, including for Client lead changes / VO's, which will require an instruction.
FS1.39	HGP Architects					1.00	Item			Remainin Deisgn Work and PD role [RIBA St 5]
FS1.40	HRW Engineers					1.00	Item			No further works anticipated for this Phase
	PBA Civil Engineers					1.00	Item			
FS1.41	Spine Road Redesign & Adoption Stage 1 (S38)									Included in HOP's PCSA Fee Nr 2 above
FS1.42	Spine Road Redesign & Adoption Stage 2 (S38)									Included above in PBA's PCSA fee for Nr 2 above
FS1.43	Portsmouth City Council Fees for Adoption					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
FS1.44	Blocks F G & H Drainage Including Road					1.00	Item			Included above in PBA's PCSA fee for Nr 2 above
FS1.45	Redesign of Drainage to accommodate secondary Sea Wall					1.00	Item			Included above in PBA's PCSA fee for Nr 2 above
FS1.46	Meetings					1.00	Item			Included above in PBA's PCSA fee for Nr 2 above
FS1.47	Expenses/Provisional Sums/Fees					1.00	Item			Included above in PBA's PCSA fee for Nr 2 above
	HOP Consulting - Off Site 278 Works									
FS1.48	Stage 1 - Change to shared footpath									Included in HOP's PCSA Fee Nr 2 above
FS1.49	Stage 2 - Change Pedestrian crossing to Toucan crossing									Included in HOP's PCSA Fee Nr 2 above
FS1.50	Stage 3 - Create Cyclist cut through									Included in HOP's PCSA Fee Nr 2 above
FS1.51	Stage 4 - Change Pedestrian crossing to Toucan crossing									Included in HOP's PCSA Fee Nr 2 above
FS1.52	Stage 5 - Change Pedestrian crossing to Tiger crossing.									Included in HOP's PCSA Fee Nr 2 above
FS1.53	Additional fees for discussions after initial application					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
FS1.54	Surveys,CCTV, RSA etc					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
FS1.55	Hop additional meetings allowance					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
FS1.56	Portsmouth City Council Fees for Adoption					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
	SRE Energy									
FS1.57	RIBA Stage 4					1.00	Item			Included in Enabling Works
FS1.58	Future Homes Standards Review					1.00	Item			Included in Enabling Works
FS1.59	RIBA Stage 4 Energy Modelling					1.00	Item			
FS1.60	RIBA Stage 6					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
FS1.61	RIBA Stage 6 Energy Modelling					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
FS1.62	Meetings/Construction Support					1.00	Item			Capped Provisional Sum - Balance moved from PCSA Nr 2 to Main Contract Works
	RHDHV									
FS1.63	RHDHV - BCA Construction Stage					1.00	Item			March to September 2026
FS1.64	HRW Interface					1.00	Item			
FS1.65	HGP Interface					1.00	Item			
FS1.66	Ecology Consultation					1.00	Item			
FS1.67	MMO Consultation					1.00	Item			
FS1.68	Inland Water Network					1.00	Item			Drainage/Pump Station Adoption Fee
FS1.69	Mechanical Services					1.00	Item			AD Mechanical - Included
FS1.70	Electrical Services					1.00	Item			MR Electrical - Included
FS1.71	Building Control Services					1.00	Item			Building Control Partnership. Based on Blocks 1,2,3,5,F,G,H&L. No further allowances included, including for Client lead changes / VO's, which will require an instruction.
FS1.72	BSR Applications & submissions					1.00	Item			Not Required for this Phase
FS1.73	PD role from RIBA stage 5 to completion					1.00	Item			
FS1.74	CDM Co-ordinator					1.00	Item			To be appointed by the Client
FS1.75	Temporary Work Designs					1.00	Item			Allowance
FS1.76	Scaffolding Design					1.00	Item			Allowance
FS1.77	Allowance for archaeologist investigations [WSI]					1.00	Item			Provisional Sum included in Enabling Works Contract. All / any associated works and costs to be funded from here.
FS1.78	Carbon reporting					1.00	Item			Capped Provisional Sum
FS1.79	BIM & COBIE					1.00	Item			Excluded
FS1.80	Travel Plans & Assessments					1.00	Item			Capped Provisional Sum
FS1.81	Flood Risk Assessment					1.00	Item			Excluded
FS1.82	EWS 1					1.00	Item			Capped Provisional Sum - Confirmed by Vivid 13th June 2025 PMC to include
FS1.83	SBEM					1.00	Item			Excluded
FS1.84	R&D Surveys					1.00	Item			Excluded
FS1.85	Wind Load Assessment					1.00	Item			Excluded
FS1.86	Daylight Analysis					1.00	Item			Excluded
FS1.87	Part Wall Agreements & Fees					1.00	Item			Excluded
FS1.88	BAPA - Network Rail					1.00	Item			Excluded
FS1.89	MMO					1.00	Item			Provisional Sum included in Enabling Works Contract. All / any associated works and costs to be funded from here.
FS1.90	Marine Biologist Fees					1.00	Item			Excluded
FS1.91	FRAP					1.00	Item			Undertaken during the PCSA stage of Works
FS1.92	CSSW Design					1.00	Item			Allowance
FS1.93	CFD Analysis					1.00	Item			Not Required
FS1.94	Section 104 - including all fees & associated costs					1.00	Item			See provs sums and legal fees
FS1.95	Section 106 - including all fees & associated costs					1.00	Item			See provs sums and legal fees
FS1.96	Section 38 - including all fees & associated costs					1.00	Item			See provs sums and legal fees
FS1.97	Section 278 - including all fees & associated costs					1.00	Item			See provs sums and legal fees
FS1.98	Legal Fees - Section Works / Wayleaves / Easements					1.00	Item			Provisional Sum
FS1.99	Performance Bond					1.00	Item			Performance Bond - for Blocks F, G & H, based Vivid / Vestal Wording, as instructed by Rund 28.08.25
FS1.100	Insurances					1.00	Item			
FS1.101	6.5.1 Insurance					1.00	Item			Excluded
FS1.102	Other project specific insurances					1.00	Item			Excluded
FS1.103	Ground Water monitoring					1.00	Item			Undertaken during the PCSA stage of Works
FS1.104	Building Warranty Fees & Inspections					1.00	Item			To be undertaken directly by the Employer
FS1.105	Air Tests					1.00	Item			
FS1.106	Sound Testing					1.00	Item			
FS1.107	Drainage survey					1.00	Item			Included in measured works
FS1.108	Ecology - Reporting / Approvals					1.00	Item			Capped Provisional Sum
FS1.109	Hoarding Licence					1.00	Item			Excluded
FS1.110	Scaffold Licence					1.00	Item			Excluded
FS1.111	Highways / Parking bays suspensions					1.00	Item			Excluded
FS1.112	Oversailing Licence					1.00	Item			Block F - Capped Provisional Sum
FS1.113	Other Statutory Services / Licences / Agreements					1.00	Item			Excluded
FS1.114	Registering of Postal Addresses					1.00	Item			Allowance
FS1.115	Street Naming					1.00	Item			Allowance
FS1.116	Social Vlaue					1.00	Item			Allowance
FS1.117	IDOM Merebrook Inspection					1.00	Item			Capped Provisional Sum - quote awaited
FSI 1										

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

Item	Element / Description	Quant	Unit	Rate £	Total £	Comments
0.1	TOXIC / HAZARDOUS / CONTAMINATED MATERIAL					
0.1.1	Deleterious Materials	-	Item			Excluded
0.1	Sub-Total					
0.2	DEMOLITION / ALTERATION WORKS					
0.2.1	Allowance for making good / access to site from the M275	1	Item			Excluded - All work outside of the redline site boundary
0.2	Sub-Total					
0.3	TEMPORARY SUPPORT TO ADJACENT STRUCTURES					
0.3.1	Not applicable	-	Item			Excluded
0.3	Sub-Total					
0.4	SPECIALIST GROUNDWORKS					
0.4.1	Construction of BCA Platform, inline with latest drawings from Royal Haskoning DVH issued 17/06/25.	1	Item			No allowance has been made for any topographical surveys, dealing with contaminated material, landscape to this area, or any return visits to top rocks etc. due to on going settlement.
0.4	Sub-Total					
0.5	TEMPORARY DIVERSION WORKS					
0.5.1	Not applicable	-	Item			Excluded
0.5	Sub-Total					
0.6	EXTRAORDINARY SITE INVESTIGATION WORKS					
0.6.1	Not applicable	-	Item			Excluded
0.6	Sub-Total					
	TOTAL ORDER OF COST ESTIMATE					

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	3	GIA (m²)	#REF!	
Item	Element / Description	House Block 2				
		Quant	Unit	Rate £	Total	Comments
1.0	SUBSTRUCTURE					
1.1	Filling to make up levels	239	m³			
1.2	Compacting Ground	383	m²			
1.3	Excavate trenches	254	m³			
1.4	Working space	556	m²			
1.5	Earthwork support	556	m²			
1.6	Disposal of excavated material	254	m³			
1.7	Compact	155	m²			
1.8	Foundations - Blinding	8	m³			
1.9	Foundations	160	m³			
1.10	Up-stands	2	m³			
1.11	Column Encasements	6	m³			
1.12	Formwork - 250-500	173	m			
1.13	Formwork - 500 - 1000	226	m			
1.14	Formwork - >1000	-	m²			
1.15	Formwork - Up-stands	51	m			
1.16	Formwork - Encasements	33	m²			
1.17	Reinforcement - Foundations	24	t			
1.18	Reinforcement - Upstands	0	t			
1.19	Reinforcement - Encasements	1	t			
1.20	Holding Down bolts	16	Nr			
1.21	Holding Down bolts - Casting in	16	Nr			
1.22	Grouting HD plates	16	Nr			
	Sub-structure Masonry - External Walls					
1.23	Facing bricks 100 wide	23	m²			
1.24	External skin - Blockwork 100mm thick	86	m²			
1.25	Internal skin - Blockwork 100 thick	89	m²			
1.26	Screed block - Single screed block	50	m			
1.27	DPC 150mm wide	101	m			
1.28	Coursing bricks	50	m			
1.29	Filing to hollow walls	7	m³			
1.30	Form Cavity	109	m²			
1.31	Periscope vents at 2m centres	25	Nr			
	Sub-Structure Masonry - Internal Walls					
1.32	100mm thick Blockwork	81	m²			
1.33	140mm thick Blockwork	215	m²			
1.34	215mm thick Block laid flat	14	m²			
1.35	Form Cavity	130	m²			
1.36	DPC 150mm wide	167	m			
1.37	DPC 225mm wide	8	m			
1.38	Cross Vents	92	Nr			
	Pre-cast Concrete Floor Planks & Garages					
1.39	175mm beam and block floor	296	m²			
1.40	Brush in	296	m²			
1.41	Pack ends of planks	215	m²			
1.42	Structural concrete	88	m²			
1.43	A252 Mesh	88	m²			
1.44	1200 gauge polythene DPM	296	m²			
	Barriers					
1.45	Gas Barriers	383	m²			
1.46	Protection Board	383	m²			
1.47	Adjustable Z vents	45	Nr			
1.48	Gas membrane edge details	89	m			
1.49	Gas membrane edge primer	89	m			
1.50	Gas membrane edge fillet	89	m			
1.51	Gas membrane edge protection board	89	m			
1.52	Allowance for refuse bases	3	Nr			
1.53	Insulation & Screed	383	m²			
1.55	Paviours to ground floor	11	m²			
1.55	Sub-Contractor Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	FRAME					
2.1.1	Supply & erect timber frame	-	Item			N/A
2.1.2	Steelwork	-	Item			
2.1.3	Galvanising / Intumescent	-	Item			
2.1.4	Lintels - Supply	1	Item			Generally
2.1.5	Lintels - Labour	1	Item			Generally
2.1.6	Padstones	-	Nr			
2.1	Sub-Total					
2.2	UPPER FLOORS					
2.2.1	Floor Type FEB 01 - Exposed internal floor	-	m²			Not Applicable
2.2.2	Floor Type FEB 02 - Terrance	118	m²			Beam and Block Floor, Screed laid to falls, with terrace decking
2.2.3	Floor Type FIT 02, 06 & 09	226	m²			Generally
2.2.4	Latex [Self levelling]	296	m²			Generally
2.2.5	Cellecta Flooring	-	m²			
2.2	Sub-Total					
2.3	ROOF					
2.3.1	Timber Trusses	226	m²			
2.3.2	Pitched Roof - Felt & Batten, Tiles Ridges & Valleys	249	m²			Concrete tiles
2.3.3	E.O Leadwork	7	Nr			Allowance
2.3.4	E.O forming dormers	-	Nr			Not Applicable
2.3.5	Pitched Roof Insulation	249	m²			
2.3.6	Standing Seam	-	m²			
2.3.7	Rainwater goods - Outlets, gutters and down pipes	167	m			
2.3.8	Terrace Drainage Systems	3	Nr			
2.3.9	Fascia's / Soffits / Barges	280	m			
2.3	Sub-Total					

2.4	**STAIRS & RAMPS**				
2.4.1	Timber Stairs	3	Nr		
2.4	Sub-Total				
2.5	**EXTERNAL WALLS**				
2.5.1	WET.01 - Timber Frame/Brickwork (Brick A)	647	m²		
2.5.2	WET.01A - Timber Frame/Blockwork	-	m²		
2.5.3	WEB.17 - Brickwork/Blockwork (Brick A)	115	m²		
2.5.4	WEB.17B - Brickwork/Blockwork (Brick E)	-	m²		
2.5.5	WEB.24 - Blockwork/Blockwork	-	m²		
2.5.6	WEB.26A - Brickwork/Brickwork (Brick A)	-	m²		
2.5.7	WEB.26B - Brickwork/Brickwork (Brick E)	-	m²		
2.5.8	WEB.26B - Brickwork/Brickwork (Brick E) - Terrace Upstand)	-	m²		
2.5.9	WEB.27 - Brickwork/215mm Blockwork (Block E)	-	m²		
2.5.11	Band course	256	m		
2.5.12	Cavity closing	165	m		
2.5.13	DPC (less than 300 mm)	369	m		
2.5.14	DPC (Greater than 300 mm)	275	m		
2.5.15	Fire socks	418	m		
2.5.16	Plant / protection materials	1	nr		
2.5.17	Splash Course	31	m		
2.5.18	Soap Blocks	229	m		
2.5.19	Compriband	165	m		
2.5.20	E.O 25mm Wall Niche	-	Nr		
2.5.21	Balustrading	45	m		
2.5.22	Fire Barriers & Closures	-	m		Included
2.5.23	Scaffolding	1	Item		
2.5.24	Bird boxes	3	Nr		
2.5.25	Canopies	3	Nr		
2.5	Sub-Total				
2.6	**WINDOWS & EXTERNAL DOORS**				
2.6.1	Ancon window reveal plates	104	Nr		
2.6.2	External Windows & Doors	1	Item		PVCu
2.6.3	Window Profiles / surrounds	1	Item		Surrounds
2.6.4	Louvred Bin Store External Door	1	Item		Timber supply and fit
2.6.5	25mm Window Board MDF primed	61	Item		
2.6.6	Curtain Batten	61	Item		
2.6	Sub-Total				
2.7	**INTERNAL WALLS & PARTITIONS**				
2.7.1	External Wall - WL	647	m²		
2.7.2	Party Wall - WIB.03 - Party Wall	137	m²		
2.7.3	Internal Walls - WIT.02 Metal Stud Insulated	22	m²		
2.7.4	Internal Walls - WIT.03 Metal Stud Non-Insulated	302	m²		
2.7.5	Internal Walls - WIT.07 Metal Stud Insulated	14	m²		
2.7.6	Internal Walls - WIT.08 Metal Stud Non-Insulated	24	m²		
2.7.11	EO Moisture Board to Wet Areas	59	m²		
2.7.12	OSB/Ply	3	nr		
2.7.13	Boxings	42	nr		
2.7	Sub-Total				
2.8	**INTERNAL DOORS**				
2.8.1	Internal Single Door - Premdor Paint Grade	33	Nr		Supply and fit including ironmongery
2.8.2	Internal Double Door - Premdor Paint Grade	-	Nr		
2.8.3	Internal Single Communal Door Sets	-	-		Not Applicable
2.8.4	Internal Double Communal Door Sets	-	Nr		Not Applicable
2.8.5	Entrance Door Sets	-	Nr		Included in Windows & External Doors
2.8.6	Door number, Door chain	3	Nr		Front Doors Only
2.8.7	Architraves 25x50mm	337	m		Allowance
2.8.8	Threshold Strip Hardwood	33	Nr		Allowance
2.8.9	Décor To Doors	33	Nr		Allowance
2.8.10	Décor To Door Woodwork	337	m		Allowance
2.8	Sub-Total				
2	SUPERSTRUCTURE TOTAL				
3.1	**WALL FINISHES**				
3.1.1	Plaster Skimming	1,509	m²		
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	1,509	m²		
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	-	m²		Not Applicable
3.1.4	Tiling	88	m²		
3.1.5	Splash Back	7	Nr		
3.1.6	Skirting 19 x 94mm	951	m		
3.1.7	Décor to Woodwork	951	m		
3.1	Sub-Total				
3.2	**FLOOR FINISHES**				
3.2.1	All Rooms within Apartments - Carpet	246	m²		
3.2.2	Bathroom/Ensuite - Vinyl	30	m²		
3.2.3	Kitchen - Vinyl	35	m²		
3.2.4	Bedrooms - Carpet	137	m²		
3.2.5	Entrance Matting	3	nr		
3.2.6	Mastic	3	Nr		
3.2	Sub-Total				

3.3	**CEILING FINISHES**				
3.3.1	Ceiling System	465	m²		
3.3.2	EO Mositure Board in wet rooms	65	m²		Not Applicable
3.3.3	Plaster Skimming	465	m²		
3.3.4	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	465	m²		
3.3.5	2 x 130mm Insulation & Board to Concrete Soffits on GF	-	m²		Not Applicable
3.3	**Sub-Total**				
3	**INTERNAL FINISHES TOTAL**				
4	**FITTINGS, FURNISHINGS & EQUIPMENT**				
4.1.1	Kitchens - Supply	3	Nr		
4.1.2	E.O for rise and fall	-	Nr		Not Applicable
4.1.3	Kitchens - Installation	3	Nr		
4.1.4	Garage Doors	3	Nr		urther details required
4.1.5	Toilet Roll Holder & Towel Rail	9	Nr		
4.1.6	Mirrors	9	Nr		
4.1.7	Shelving	3	Nr		
4.1.8	Built -in Wardrobe - Master bedroom only	-	Nr		Removed by client
4.1.9	Hat & Coat Hooks	3	Nr		
4.1.10	AOV Internal Guardrails	-	£	-	Not Applicable
4.1.11	Cycle stands	9	Nr		
4.1.12	Bins/Euro Bins	3	Nr		
4.1.13	Letter Box System	-	Item		Not Applicable
4.1.14	Doc M Packs	-	Nr		Not Applicable
4	**Sub-Total**				
4	**FITTINGS, FURNISHINGS & EQUIPMENT TOTAL**				
5.1	**ELECTRICAL SERVICES**				
5.1.1	Preliminaires	1	Item		
5.1.2	Design	1	Item		
5.1.3	Domestic Uni (Including Heating)	1	Item		
5.1.4	Communal Lighting & Power	-	Item		N/A
5.1.5	External Lighting (PS Sum)	-	Item		N/A
5.1.6	Ventilation	-	Item		N/A
5.1.7	BT Openreach/Data	-	Item		N/A
5.1.8	Disabled Refuge (PC Sum)	-	Item		N/A
5.1.9	TV Satellites System	-	Item		N/A
5.1.10	Mechanical Services Wiring (PC Sum)	-	Item		N/A
5.1.11	Video Door Entry System SSX	-	Item		N/A
5.1.12	Access Control	-	Item		N/A
5.1.13	AOV & Fire Alarm System	-	Item		N/A
5.1.14	Communal Heating (Spurs Only)	-	Item		N/A
5.1.15	BNO Works	-	Item		N/A
5.1.16	Fire Barriers	-	Item		N/A
5.1.17	Lighting Protection	-	Item		N/A
5.1.18	CCTV (1st Fix Wiring)	-	Item		N/A
5.1.19	Lift Supplies	-	Item		N/A
5.1.20	Evacuation Alrert System	-	Item		N/A
5.1.21	Refurge Alarm	-	Item		N/A
5.1.22	PV	1	Item		
5.1.23	EV Charging Points	1	Item		
5.1.24	Life Safety Supplies	-	Item		N/A
5.1.25	O&M Manuals & As Fitted Drawings	1	Item		
5.1.26	Generator (PC Sum)	-	Item		N/A
5.1.27	MA (3) Uplifts	-	Item		N/A
5.1	**Sub-Total**				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaries - General Prelims	1	Item		
5.2.3	Preliminaries - Design, Calculations and Working Drawings	1	Item		
5.2.4	Preliminaries - Plant Hire, Storage & Access Equipment	1	Item		
5.2.5	Preliminaries - O&M Manuals & Record Drawings	1	Item		
5.2.6	Preliminaries - Home Owners Packs	1	Item		
5.2.7	Domestic Services - Basic Unit Allowance	1	Item		
5.2.8	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.9	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance	1	Item		
5.2.11	Sanitaryware - Install	1	Item		
5.2.12	Sanitaryware - Supply	1	Item		
5.2.13	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.14	Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2	**Sub-Total**				
5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift car	-	Item		N/A
5.3	**Sub-Total**				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	-	Item		
5.4	**Sub-Total**				
5	**SERVICES TOTAL**				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	7	GIA (m²)	973	
Item	Element / Description	House Block 2				
		Quant	Unit	Rate £	Total	Comments
1.0	SUBSTRUCTURE					
1.1	Filling to make up levels	326	m³			
1.2	Compacting Ground	592	m²			
1.3	Excavate trenches	520	m³			
1.4	Working space	995	m²			
1.5	Earthwork support	995	m²			
1.6	Disposal of excavated material	520	m³			
1.7	Compact	316	m²			
1.8	Foundations - Blinding	14	m³			
1.9	Foundations	165	m³			
1.10	Up-stands	2	m³			
1.11	Encasements	9	m³			
1.12	Formwork - 250-500	224	m			
1.13	Formwork - 500 - 1000	325	m			
1.14	Formwork - >1000	-	m²			
1.15	Formwork - Up-stands	20	m			
1.16	Formwork - Encasements	51	m²			
1.17	Reinforcement - Foundations	25	t			
1.18	Reinforcement - Upstands	1	t			
1.19	Reinforcement - Encasements	2	t			
1.20	Holding Down bolts	16	Nr			
1.21	Holding Down bolts - Casting place	16	Nr			
1.22	Grouting plates	16	Nr			
	Sub-structure Masonry - External Walls					
1.23	Facing bricks 100 wide	33	m²			
1.24	Facing bricks 300 wide	44	m²			
1.25	External skin - Blockwork 100mm thick	125	m²			
1.26	Internal skin - Blockwork 100 thick	129	m²			
1.27	Screed block - Single screed block	73	m			
1.28	DPC 150mm wide	146	m			
1.29	Coursing bricks	73	m			
1.30	Filing to hollow walls	10	m³			
1.31	Form Cavity	158	m²			
1.32	Periscope vents at 2m centres	36	Nr			
	Sub-Structure Masonry - Internal Walls					
1.33	100mm thick Blockwork	170	m²			
1.34	140mm thick Blockwork	292	m²			
1.35	215mm thick Block laid flat	129	m²			
1.36	Form Cavity	193	m²			
1.37	DPC 150mm wide	261	m			
1.38	DPC 225mm wide	73	m			
1.39	Cross Vents	203	Nr			
	Pre-cast Concrete Floor Planks & Garages					
1.40	175mm beam and block floor	498	m²			
1.41	Brush in	498	m²			
1.42	Pack ends of planks	355	m²			
1.43	Structural concrete	211	m²			
1.44	A252 Mesh	211	m²			
1.45	1200 gauge polythene DPM	498	m²			
	Barriers					
1.46	Gas Barriers	592	m²			
1.47	Protection Board	592	m²			
1.48	Adjustable Z vents	61	Nr			
1.49	Gas membrane edge details	121	m			
1.50	Gas membrane edge primer	121	m			
1.51	Gas membrane edge fillet	121	m			
1.52	Gas membrane edge protection board	121	m			
1.53	Allowance for refuse bases	7	Nr			
1.54	Insulation & Screed	498	m²			
1.55	Sub-Contractor Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	FRAME					
2.1.1	Supply & erect timber frame	1	Item			Supply & Install
2.1.2	Steelwork	-	Item			
2.1.3	Galvanising / Intumescent	-	Item			
2.1.4	Lintels - Supply	1	Item			Generally
2.1.5	Lintels - Labour	1	Item			Generally
2.1.6	Padstones	-	Nr			
2.1	Sub-Total					
2.2	UPPER FLOORS					
2.2.1	Floor Type FEB 01 - Exposed internal floor	-	m²			Not Applicable
2.2.2	Floor Type FEB 02 - Terrance	202	m²			Beam and Block Floor, Screed laid to falls, with terrace decking
2.2.3	Floor Type FIT 02, 06 & 09	-	-			
2.2.4	Latex [Self levelling]	202	m²			Generally
2.2.5	Cellecta Flooring	-	m²			
2.2	Sub-Total					
2.3	ROOF					
2.3.1	Timber Trusses	-	Item			
2.3.2	Pitched Roof - Felt & Batten, Tiles Ridges & Valleys	349	m²			Concrete tiles
2.3.3	E.O Leadwork	7	Nr			Allowance
2.3.4	E.O forming dormers	-	Nr			Not Applicable
2.3.5	Pitched Roof Insulation	349	m²			
2.3.6	Standing Seam	16	m²			
2.3.8	Box Gutters	91	m			
2.3.9	Rainwater goods - Outlets, gutters and down pipes	184	m			
2.3.10	Terrace Drainage Systems	7	Nr			
2.3.11	Fascia's / Soffits / Barges	280	m			
2.3	Sub-Total					

2.4	**STAIRS & RAMPS**				
2.4.1	Timber Stairs - Type 3	4	Nr		
2.4.2	Timber Stairs - Type 4	3	Nr		
2.4	**Sub-Total**				
2.5	**EXTERNAL WALLS**				
2.5.1	WET.01 - Timber Frame/Brickwork (Brick A)	1,353	m²		
2.5.2	WET.01A - Timber Frame/Blockwork	148	m²		
2.5.3	WEB.17 - Brickwork/Blockwork (Brick A)	136	m²		
2.5.4	WEB.17B - Brickwork/Blockwork (Brick E)	52	m²		
2.5.5	WEB.24 - Blockwork/Blockwork	44	m²		
2.5.6	WEB.26A - Brickwork/Brickwork (Brick A)	30	m²		
2.5.7	WEB.26B - Brickwork/Brickwork (Brick E)	53	m²		
2.5.8	WEB.26B - Brickwork/Brickwork (Brick E) - Terrace Upstand)	134	m²		
2.5.9	WEB.27 - Brickwork/215mm Blockwork (Block E)	74	m²		
2.5.11	Band course	-	m		
2.5.12	Cavity closing	862	m		
2.5.13	DPC (less than 300 mm)	608	m		
2.5.14	DPC (Greater than 300 mm)	544	m		
2.5.15	Fire socks	1,765	m		
2.5.16	Plant / protection materials	1	nr		
2.5.17	Splash Course	54	m		
2.5.18	Soap Blocks	533	m		
2.5.19	Compriband	862	m		
2.5.20	E.O 25mm Wall Niche	-	Nr		
2.5.21	Balustrading	45	m		
2.5.22	Fire Barriers & Closures	-	m		Included
2.5.23	Scaffolding	1	Item		
2.5.24	Bird boxes	7	Nr		
2.5.25	Canopies	7	Nr		
2.5	**Sub-Total**				
2.6	**WINDOWS & EXTERNAL DOORS**				
2.6.1	Ancon window reveal plates	252	Nr		
2.6.2	External Windows & Doors	1	Item		PVCu
2.6.3	Window Profiles / surrounds	1	Item		Surrounds
2.6.4	Louvred Bin Store External Door	1	Item		Timber supply and fit
2.6.5	25mm Window Board MDF primed	89	Item		
2.6.6	Curtain Batten	89	Item		
2.6	**Sub-Total**				
2.7	**INTERNAL WALLS & PARTITIONS**				
2.7.1	Ground Floor - 100mm Blockwork	39	m²		
2.7.2	Ground Floor - Timber Stud Work	-	m²		Including in Timber Frame
2.7.3	First Floor - Timber Stud Work	-	m²		Including in Timber Frame
2.7.4	Second Floor - Timber Stud Work	-	m²		Including in Timber Frame
2.7.5	External Wall - WET.01 - Timber Frame & Brickwork/Blockwork	1,501	m²		
2.7.6	Party Wall - WIT.01 - Timber Frame Party Wall	137	m²		
2.7.7	Internal Walls - WIT.02 Timber Stud Insulated	158	m²		
2.7.8	Internal Walls - WIT.03 Timber Stud Non-Insulated	488	m²		
2.7.9	Internal Walls - WIT.07 Timber Stud Insulated	80	m²		
2.7.10	Internal Walls - WIT.08 Timber Stud Non-Insulated	76	m²		
2.7.11	EO Moisture Board to Wet Areas	138	m²		
2.7.12	OSB/Ply	7	nr		
2.7.13	Boxings	42	nr		
2.7	**Sub-Total**				
2.8	**INTERNAL DOORS**				
2.8.1	Internal Single Door - Premdor Paint Grade	63	Nr		Supply and fit including ironmongery
2.8.2	Internal Double Door - Premdor Paint Grade	14	Nr		Supply and fit including ironmongery
2.8.3	Internal Single Communal Door Sets	-	-		Not Applicable
2.8.4	Internal Double Communal Door Sets	-	Nr		Not Applicable
2.8.5	Entrance Door Sets	-	Nr		Included in Windows & External Doors
2.8.6	Door number, Door chain	7	Nr		Front Doors Only
2.8.7	Architraves 25x50mm	782	m		Allowance
2.8.8	Threshold Strip Hardwood	77	Nr		Allowance
2.8.9	Décor To Doors	77	Nr		Allowance
2.8.10	Décor To Door Woodwork	782	m		Allowance
2.8	**Sub-Total**				
2	**SUPERSTRUCTURE TOTAL**				
3.1	**WALL FINISHES**				
3.1.1	Plaster Skimming	3,241	m²		
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	3,241	m²		
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	-	m²		Not Applicable
3.1.4	Tiling	88	m²		
3.1.5	Splash Back	7	Nr		
3.1.6	Skirting 19 x 94mm	951	m		
3.1.7	Décor to Woodwork	951	m		
3.1	**Sub-Total**				
3.2	**FLOOR FINISHES**				
3.2.1	All Rooms within Apartments - Carpet	304	m²		
3.2.2	Bathroom/Ensuite - Vinyl	46	m²		
3.2.3	Kitchen - Vinyl	148	m²		
3.2.4	Bedrooms - Carpet	248	m²		
3.2.5	Entrance Matting	7	nr		
3.2.6	Mastic	7	Nr		
3.2	**Sub-Total**				

3.3	**CEILING FINISHES**				
3.3.1	Ceiling System	858	m²		
3.3.2	EO Mositure Board in wet rooms	194	m²		
3.3.3	Plaster Skimming	858	m²		
3.3.4	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	858	m²		
3.3.5	2 x 130mm Insulation & Board to Concrete Soffits on GF	-	m²		Not Applicable
3.3	Sub-Total				
3	INTERNAL FINISHES TOTAL				
4	**FITTINGS, FURNISHINGS & EQUIPMENT**				
4.1.1	Kitchens - Supply	7	Nr		
4.1.2	E.O for rise and fall	-	Nr		Not Applicable
4.1.3	Kitchens - Installation	7	Nr		
4.1.4	Garage Doors	7	Nr		urther details required
4.1.5	Toilet Roll Holder & Towel Rail	21	Nr		
4.1.6	Mirrors	21	Nr		
4.1.7	Shelving	7	Nr		
4.1.8	Built -in Wardrobe - Master bedroom only	-	Nr		Removed by client
4.1.9	Hat & Coat Hooks	7	Nr		
4.1.10	AOV Internal Guardrails	-	£ -		Not Applicable
4.1.11	Cycle stands	21	Nr		
4.1.12	Bins/Euro Bins	7	Nr		
4.1.13	Letter Box System	-	Item		Not Applicable
4.1.14	Doc M Packs	-	Nr		Not Applicable
4	Sub-Total				
4	FITTINGS, FURNISHINGS & EQUIPMENT TOTAL				
5.1	**ELECTRICAL SERVICES**				
5.1.1	Preliminaires	1	Item		
5.1.2	Design	1	Item		
5.1.3	Domestic Uni (Including Heating)	1	Item		
5.1.4	Communal Lighting & Power	-	Item		N/A
5.1.5	External Lighting (PS Sum)	-	Item		N/A
5.1.6	Ventilation	-	Item		N/A
5.1.7	BT Openreach/Data	-	Item		N/A
5.1.8	Disabled Refuge (PC Sum)	-	Item		N/A
5.1.9	TV Satellites System	-	Item		N/A
5.1.10	Mechanical Services Wiring (PC Sum)	-	Item		N/A
5.1.11	Video Door Entry System SSX	-	Item		N/A
5.1.12	Access Control	-	Item		N/A
5.1.13	AOV & Fire Alarm System	-	Item		N/A
5.1.14	Communal Heating (Spurs Only)	-	Item		N/A
5.1.15	BNO Works	-	Item		N/A
5.1.16	Fire Barriers	-	Item		N/A
5.1.17	Lighting Protection	-	Item		N/A
5.1.18	CCTV (1st Fix Wiring)	-	Item		N/A
5.1.19	Lift Supplies	-	Item		N/A
5.1.20	Evacuation Alrert System	-	Item		N/A
5.1.21	Refurge Alarm	-	Item		N/A
5.1.22	PV	1	Item		
5.1.23	EV Charging Points	1	Item		
5.1.24	Life Safety Supplies	-	Item		N/A
5.1.25	O&M Manuals & As Fitted Drawings	1	Item		
5.1.26	Generator (PC Sum)	-	Item		N/A
5.1.27	MA (3) Uplifts	-	Item		N/A
5.1	Sub-Total				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaries - General Prelims	1	Item		
5.2.3	Preliminaries - Design, Calculations and Working Drawings	1	Item		
5.2.4	Preliminaries - Plant Hire, Storage & Access Equipment	1	Item		
5.2.5	Preliminaries - O&M Manuals & Record Drawings	1	Item		
5.2.6	Preliminaries - Home Owners Packs	1	Item		
5.2.7	Domestic Services - Basic Unit Allowance	1	Item		
5.2.8	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.9	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance	1	Item		
5.2.11	Sanitaryware - Install	1	Item		
5.2.12	Sanitaryware - Supply	1	Item		
5.2.13	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.14	Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2	Sub-Total				
5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift car	-	Item		N/A
5.3	Sub-Total				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	-	Item		To be looked at when houses becomes fully ttimber
5.4	Sub-Total				
5	SERVICES TOTAL				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	7	GIA (m²)	973	
Item	Element / Description	House Block 2				
		Quant	Unit	Rate £	Total	Comments
1.0	SUBSTRUCTURE					
1.1	Filling to make up levels	326	m³			
1.2	Compacting Ground	592	m²			
1.3	Excavate trenches	520	m³			
1.4	Working space	995	m²			
1.5	Earthwork support	995	m²			
1.6	Disposal of excavated material	520	m³			
1.7	Compact	316	m²			
1.8	Foundations - Blinding	14	m³			
1.9	Foundations	165	m³			
1.10	Up-stands	2	m³			
1.11	Encasements	9	m³			
1.12	Formwork - 250-500	224	m			
1.13	Formwork - 500 - 1000	325	m			
1.14	Formwork - >1000	-	m²			
1.15	Formwork - Up-stands	20	m			
1.16	Formwork - Encasements	51	m²			
1.17	Reinforcement - Foundations	25	t			
1.18	Reinforcement - Upstands	1	t			
1.19	Reinforcement - Encasements	2	t			
1.20	Holding Down bolts	16	Nr			
1.21	Holding Down bolts - Casting place	16	Nr			
1.22	Grouting plates	16	Nr			
	Sub-structure Masonry - External Walls					
1.23	Facing bricks 100 wide	33	m²			
1.24	Facing bricks 300 wide	44	m²			
1.25	External skin - Blockwork 100mm thick	125	m²			
1.26	Internal skin - Blockwork 100 thick	129	m²			
1.27	Screed block - Single screed block	73	m			
1.28	DPC 150mm wide	146	m			
1.29	Coursing bricks	73	m			
1.30	Filing to hollow walls	10	m³			
1.31	Form Cavity	158	m²			
1.32	Periscope vents at 2m centres	36	Nr			
	Sub-Structure Masonry - Internal Walls					
1.33	100mm thick Blockwork	170	m²			
1.34	140mm thick Blockwork	292	m²			
1.35	215mm thick Block laid flat	129	m²			
1.36	Form Cavity	193	m²			
1.37	DPC 150mm wide	261	m			
1.38	DPC 225mm wide	73	m			
1.39	Cross Vents	203	Nr			
	Pre-cast Concrete Floor Planks & Garages					
1.40	175mm beam and block floor	498	m²			
1.41	Brush in	498	m²			
1.42	Pack ends of planks	355	m²			
1.43	Structural concrete	211	m²			
1.44	A252 Mesh	211	m²			
1.45	1200 gauge polythene DPM	498	m²			
	Barriers					
1.46	Gas Barriers	592	m²			
1.47	Protection Board	592	m²			
1.48	Adjustable Z vents	61	Nr			
1.49	Gas membrane edge details	121	m			
1.50	Gas membrane edge primer	121	m			
1.51	Gas membrane edge fillet	121	m			
1.52	Gas membrane edge protection board	121	m			
1.53	Allowance for refuse bases	7	Nr			
1.54	Insulation & Screed	498	m²			
1.55	Sub-Contractor Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	FRAME					
2.1.1	Supply & erect timber frame	1	Item			upply & Install
2.1.2	Steelwork	-	Item			
2.1.3	Galvanising / Intumescent	-	Item			Allowance
2.1.4	Lintels - Supply	1	Item			Generally
2.1.5	Lintels - Labour	1	Item			Generally
2.1.6	Padstones	-	Nr			Generally
2.1	Sub-Total					
2.2	UPPER FLOORS					
2.2.1	Floor Type FEB 01 - Exposed internal floor	-	m²			Not Applicable
2.2.2	Floor Type FEB 02 - Terrance	202	m²			Beam and Block Floor, Screed laid to falls, with terrace decking
2.2.3	Floor Type FIT 02, 06 & 09	-	-			ncluded in Timber Frame
2.2.4	Latex [Self levelling]	202	m²			Generally
2.2.5	Cellecta Flooring	-	m²			Upper Floors
2.2	Sub-Total					
2.3	ROOF					
2.3.1	Timber Trusses	-	Item			ncluded in Timber Frame
2.3.2	Pitched Roof - Felt & Batten, Tiles Ridges & Valleys	349	m²			Concrete tiles
2.3.3	E.O Leadwork	7	Nr			Allowance
2.3.4	E.O forming dormers	-	Nr			Not Applicable
2.3.5	Pitched Roof Insulation	349	m²			
2.3.6	Standing Seam	16	m²			
2.3.8	Box Gutters	91	m			
2.3.9	Rainwater goods - Outlets, gutters and down pipes	184	m			
2.3.10	Terrace Drainage Systems	7	Nr			
2.3.11	Fascia's / Soffits / Barges	280	m			
2.3	Sub-Total					

2.4	**STAIRS & RAMPS**			
2.4.1	Timber Stairs - Type 3	4	Nr	
2.4.2	Timber Stairs - Type 4	3	Nr	
2.4	**Sub-Total**			
2.5	**EXTERNAL WALLS**			
2.5.1	WET.01 - Timber Frame/Brickwork (Brick A)	1,353	m²	
2.5.2	WET.01A - Timber Frame/Blockwork	148	m²	
2.5.3	WEB.17 - Brickwork/Blockwork (Brick A)	136	m²	
2.5.4	WEB.17B - Brickwork/Blockwork (Brick E)	52	m²	
2.5.5	WEB.24 - Blockwork/Blockwork	44	m²	
2.5.6	WEB.26A - Brickwork/Brickwork (Brick A)	30	m²	
2.5.7	WEB.26B - Brickwork/Brickwork (Brick E)	53	m²	
2.5.8	WEB.26B - Brickwork/Brickwork (Brick E) - Terrace Upstand)	134	m²	
2.5.9	WEB.27 - Brickwork/215mm Blockwork (Block E)	74	m²	
2.5.11	Band course	-	m	
2.5.12	Cavity closing	862	m	
2.5.13	DPC (less than 300 mm)	608	m	
2.5.14	DPC (Greater than 300 mm)	544	m	
2.5.15	Fire socks	1,765	m	
2.5.16	Plant / protection materials	1	nr	
2.5.17	Splash Course	54	m	
2.5.18	Soap Blocks	533	m	
2.5.19	Compriband	862	m	
2.5.20	E.O 25mm Wall Niche	-	Nr	
2.5.21	Balustrading	45	m	
2.5.22	Fire Barriers & Closures	-	m	ncluded
2.5.23	Scaffolding	1	Item	
2.5.24	Bird boxes	7	Nr	
2.5.25	Canopies	7	Nr	
2.5	**Sub-Total**			
2.6	**WINDOWS & EXTERNAL DOORS**			
2.6.1	Ancon window reveal plates	252	Nr	
2.6.2	External Windows & Doors	1	Item	PVCu
2.6.3	Window Profiles / surrounds	1	Item	urrounds
2.6.4	Louvred Bin Store External Door	1	Item	Timber supply and fit
2.6.5	25mm Window Board MDF primed	89	Item	
2.6.6	Curtain Batten	89	Item	
2.6	**Sub-Total**			
2.7	**INTERNAL WALLS & PARTITIONS**			
2.7.1	Ground Floor - 100mm Blockwork	39	m²	
2.7.2	Ground Floor - Timber Stud Work	-	m²	ncluding in Timber Frame
2.7.3	First Floor - Timber Stud Work	-	m²	ncluding in Timber Frame
2.7.4	Second Floor - Timber Stud Work	-	m²	ncluding in Timber Frame
2.7.5	External Wall - WET.01 - Timber Frame & Brickwork/Blockwork	1,501	m²	
2.7.6	Party Wall - WIT.01 - Timber Frame Party Wall	137	m²	
2.7.7	Internal Walls - WIT.02 Timber Stud Insulated	158	m²	
2.7.8	Internal Walls - WIT.03 Timber Stud Non-Insulated	488	m²	
2.7.9	Internal Walls - WIT.07 Timber Stud Insulated	80	m²	
2.7.10	Internal Walls - WIT.08 Timber Stud Non-Insulated	76	m²	
2.7.11	EO Moisture Board to Wet Areas	138	m²	
2.7.12	OSB/Ply	7	nr	
2.7.13	Boxings	42	nr	
2.7	**Sub-Total**			
2.8	**INTERNAL DOORS**			
2.8.1	Internal Single Door - Premdor Paint Grade	63	Nr	upply and fit including ironmongery
2.8.2	Internal Double Door - Premdor Paint Grade	14	Nr	upply and fit including ironmongery
2.8.3	Internal Single Communal Door Sets	-	-	Not Applicable
2.8.4	Internal Double Communal Door Sets	-	Nr	Not Applicable
2.8.5	Entrance Door Sets	-	Nr	ncluded in Windows & External Doors
2.8.6	Door number, Door chain	7	Nr	ront Doors Only
2.8.7	Architraves 25x50mm	782	m	Allowance
2.8.8	Threshold Strip Hardwood	77	Nr	Allowance
2.8.9	Décor To Doors	77	Nr	Allowance
2.8.10	Décor To Door Woodwork	782	m	Allowance
2.8	**Sub-Total**			
2	**SUPERSTRUCTURE TOTAL**			
3.1	**WALL FINISHES**			
3.1.1	Plaster Skimming	3,241	m²	
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	3,241	m²	
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	-	m²	Not Applicable
3.1.4	Tiling	88	m²	
3.1.5	Splash Back	7	Nr	
3.1.6	Skirting 19 x 94mm	951	m	
3.1.7	Décor to Woodwork	951	m	
3.1	**Sub-Total**			
3.2	**FLOOR FINISHES**			
3.2.1	All Rooms within Apartments - Carpet	304	m²	
3.2.2	Bathroom/Ensuite - Vinyl	46	m²	
3.2.3	Kitchen - Vinyl	148	m²	
3.2.4	Bedrooms - Carpet	248	m²	
3.2.5	Entrance Matting	7	nr	
3.2.6	Mastic	7	Nr	
3.2	**Sub-Total**			

3.3	CEILING FINISHES				
3.3.1	Ceiling System	858	m²		
3.3.2	EO Mositure Board in wet rooms	194	m²		
3.3.3	Plaster Skimming	858	m²		Allowance further details required
3.3.4	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	858	m²		Allowance further details required
3.3.5	2 x 130mm Insulation & Board to Concrete Soffits on GF	-	m²		Not Applicable
3.3	Sub-Total				
3	INTERNAL FINISHES TOTAL				
4	FITTINGS, FURNISHINGS & EQUIPMENT				
4.1.1	Kitchens - Supply	7	Nr		
4.1.2	E.O for rise and fall	-	Nr		Not Applicable
4.1.3	Kitchens - Installation	7	Nr		
4.1.4	Garage Doors	7	Nr		
4.1.5	Toilet Roll Holder & Towel Rail	21	Nr		
4.1.6	Mirrors	21	Nr		
4.1.7	Shelving	7	Nr		
4.1.8	Built -in Wardrobe - Master bedroom only	-	Nr		Removed by client
4.1.9	Hat & Coat Hooks	7	Nr		
4.1.10	AOV Internal Guardrails	-	£	-	Not Applicable
4.1.11	Cycle stands	21	Nr		
4.1.12	Bins/Euro Bins	7	Nr		
4.1.13	Letter Box System	-	Item		Not Applicable
4.1.14	Doc M Packs	-	Nr		Not Applicable
4	Sub-Total				
4	FITTINGS, FURNISHINGS & EQUIPMENT TOTAL				
5.1	ELECTRICAL SERVICES				
5.1.1	Preliminaires	1	Item		
5.1.2	Design	1	Item		
5.1.3	Domestic Uni (Including Heating)	1	Item		
5.1.4	Communal Lighting & Power	-	Item		N/A
5.1.5	External Lighting (PS Sum)	-	Item		N/A
5.1.6	Ventilation	-	Item		N/A
5.1.7	BT Openreach/Data	-	Item		N/A
5.1.8	Disabled Refuge (PC Sum)	-	Item		N/A
5.1.9	TV Satellites System	-	Item		N/A
5.1.10	Mechanical Services Wiring (PC Sum)	-	Item		N/A
5.1.11	Video Door Entry System SSX	-	Item		N/A
5.1.12	Access Control	-	Item		N/A
5.1.13	AOV & Fire Alarm System	-	Item		N/A
5.1.14	Communal Heating (Spurs Only)	-	Item		N/A
5.1.15	BNO Works	-	Item		N/A
5.1.16	Fire Barriers	-	Item		N/A
5.1.17	Lighting Protection	-	Item		N/A
5.1.18	CCTV (1st Fix Wiring)	-	Item		N/A
5.1.19	Lift Supplies	-	Item		N/A
5.1.20	Evacuation Alrert System	-	Item		N/A
5.1.21	Refurge Alarm	-	Item		N/A
5.1.22	PV	1	Item		
5.1.23	EV Charging Points	1	Item		
5.1.24	Life Safety Supplies	-	Item		N/A
5.1.25	O&M Manuals & As Fitted Drawings	1	Item		
5.1.26	Generator (PC Sum)	-	Item		N/A
5.1.27	MA (3) Uplifts	-	Item		N/A
5.1	Sub-Total				
5.2	MECHANICAL SERVICES				
5.2.1	Preliminaries - General Prelims	1	Item		
5.2.3	Preliminaries - Design, Calculations and Working Drawings	1	Item		
5.2.4	Preliminaries - Plant Hire, Storage & Access Equipment	1	Item		
5.2.5	Preliminaries - O&M Manuals & Record Drawings	1	Item		
5.2.6	Preliminaries - Home Owners Packs	1	Item		
5.2.7	Domestic Services - Basic Unit Allowance	1	Item		
5.2.8	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.9	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance	1	Item		
5.2.11	Sanitaryware - Install	1	Item		
5.2.12	Sanitaryware - Supply	1	Item		
5.2.13	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.14	Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2	Sub-Total				
5.3	LIFT & CONVEYOR INSTALLATIONS				
5.3.1	Lift car	-	Item		N/A
5.3	Sub-Total				
5.4	BWIC				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	-	Item		To be looked at when houses becomes fully ttimber
5.4	Sub-Total				
5	SERVICES TOTAL				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	10	GIA (m²)	#REF!	
Item	Element / Description	House Block 5				
		Quant	Unit	Rate £	Total	Comments
1.0	SUBSTRUCTURE					
1.1	Filling to make up levels	535	m³			
1.2	Compacting Ground	856	m²			
1.3	Excavate trenches	957	m³			
1.4	Working space	1,941	m²			
1.5	Earthwork support	1,941	m²			
1.6	Disposal of excavated material	957	m³			
1.7	Compact	446	m²			
1.8	Foundations - Blinding	22	m³			
1.9	Foundations	362	m³			
1.10	Up-stands	2	m³			
1.11	Encasements	10	m³			
1.12	Formwork - 250-500	349	m			
1.13	Formwork - 500 - 1000	689	m			
1.14	Formwork - >1000	-	m²			
1.15	Formwork - Up-stands	30	m			
1.16	Formwork - Encasements	53	m²			
1.17	Reinforcement - Foundations	55	t			
1.18	Reinforcement - Upstands	1	t			
1.19	Reinforcement - Encasements	2	t			
1.20	Holding Down bolts	16	Nr			
1.21	Holding Down bolts - Casting place	16	Nr			
1.22	Grouting plates	16	Nr			
	Sub-structure Masonry - External Walls					
1.23	Facing bricks 100 wide	46	m²			
1.24	Facing bricks 300 wide	64	m²			
1.25	External skin - Blockwork 100mm thick	181	m²			
1.26	Internal skin - Blockwork 100 thick	175	m²			
1.27	Screed block - Single screed block	102	m			
1.28	DPC 150mm wide	204	m			
1.29	Coursing bricks	102	m			
1.30	Filing to hollow walls	14	m³			
1.31	Form Cavity	221	m²			
1.32	Periscope vents at 2m centres	51	Nr			
	Sub-Structure Masonry - Internal Walls					
1.33	100mm thick Blockwork	317	m²			
1.34	140mm thick Blockwork	438	m²			
1.35	215mm thick Block laid flat	153	m²			
1.36	Form Cavity	274	m²			
1.37	DPC 150mm wide	425	m			
1.38	DPC 225mm wide	86	m			
1.39	Cross Vents	299	Nr			
	Pre-cast Concrete Floor Planks & Garages					
1.40	175mm beam and block floor	717	m²			
1.41	Brush in	717	m²			
1.42	Pack ends of planks	452	m²			
1.43	Structural concrete	283	m²			
1.44	A252 Mesh	283	m²			
1.45	1200 gauge polythene DPM	717	m²			
	Barriers					
1.46	Gas Barriers	856	m²			
1.47	Protection Board	856	m²			
1.48	Adjustable Z vents	86	Nr			
1.49	Gas membrane edge details	171	m			
1.50	Gas membrane edge primer	171	m			
1.51	Gas membrane edge fillet	171	m			
1.52	Gas membrane edge protection board	171	m			
1.53	Allowance for refuse bases	10	Nr			
1.54	Insulation & Screed	717	m²			
1.55	Sub-Contractor Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	FRAME					
2.1.1	Supply & erect timber frame	1	Item			upply & Install
2.1.2	Steelwork	-	Item			upply & Install
2.1.3	Galvanising / Intumescent	-	Item			
2.1.4	Lintels - Supply	1	Item			Generally
2.1.5	Lintels - Labour	1	Item			Generally
2.1.6	Padstones	-	Item			
2.1	Sub-Total					
2.2	UPPER FLOORS					
2.2.1	Floor Type FEB 01 - Exposed internal floor	-	m²			Not Applicable
2.2.2	Floor Type FEB 02 - Terrance	340	m²			Beam and Block Floor, Screed laid to falls, with terrace decking
2.2.3	Floor Type FIT 02, 06 & 09	-	-			ncluded in Timber Frame
2.2.4	Latex [Self levelling]	340	m²			Generally
2.2.5	Cellecta Flooring	-	m²			Upper Floors
2.2	Sub-Total					
2.3	ROOF					
2.3.1	Timber Trusses	-	Item			ncluded in Timber Frame
2.3.2	Pitched Roof - Felt & Batten, Tiles Ridges & Valleys	511	m²			Concrete tiles
2.3.3	E.O Leadwork	7	Nr			Allowance
2.3.4	E.O forming dormers	-	Nr			Not Applicable
2.3.5	Pitched Roof Insulation	511	m²			
2.3.6	Standing Seam	53	m²			
2.3.8	Box Gutters	91	m			
2.3.9	Rainwater goods - Outlets, gutters and down pipes	184	m			
2.3.10	Terrace Drainage Systems	10	Nr			
2.3.11	Fascia's / Soffits / Barges	280	m			
2.3	Sub-Total					

2.4	**STAIRS & RAMPS**			
2.4.1	Timber Stairs - Type 1	1	Item	
2.4.2	Timber Stairs - Type 3	1	Item	
2.4.3	Timber Stairs - Type 4	1	Item	
2.4.4	Timber Stairs - Type 9s	1	Item	
2.4	**Sub-Total**			
2.5	**EXTERNAL WALLS**			
2.5.1	WET.01 - Timber Frame/Brickwork (Brick A)	1,668	m²	
2.5.2	WET.01A - Timber Frame/Blockwork	234	m²	
2.5.3	WEB.17 - Brickwork/Blockwork (Brick A)	191	m²	
2.5.4	WEB.17B - Brickwork/Blockwork (Brick E)	72	m²	
2.5.5	WEB.24 - Blockwork/Blockwork	62	m²	
2.5.6	WEB.26A - Brickwork/Brickwork (Brick A)	31	m²	
2.5.7	WEB.26B - Brickwork/Brickwork (Brick E)	69	m²	
2.5.8	WEB.26B - Brickwork/Brickwork (Brick E) - Terrace Upstand)	181	m²	
2.5.9	WEB.27 - Brickwork/215mm Blockwork (Block E)	106	m²	
2.5.11	Band course	-	m	
2.5.12	Cavity closing	1,201	m	
2.5.13	DPC (less than 300 mm)	965	m	
2.5.14	DPC (Greater than 300 mm)	1,161	m	
2.5.15	Fire socks	2,800	m	
2.5.16	Plant / protection materials	1	nr	
2.5.17	Splash Course	81	m	
2.5.18	Soap Blocks	805	m	
2.5.19	Compriband	1,201	m	
2.5.20	E.O 25mm Wall Niche	-	Nr	
2.5.21	Balustrading	45	m	
2.5.22	Fire Barriers & Closures	-	m	ncluded
2.5.23	Scaffolding	1	Item	
2.5.24	Bird boxes	10	Nr	
2.5.25	Canopies	10	Nr	
2.5	**Sub-Total**			
2.6	**WINDOWS & EXTERNAL DOORS**			
2.6.1	Ancon window reveal plates	324	Nr	
2.6.2	External Windows & Doors	1	Item	PVCu
2.6.3	Louvers & Surrounds	1	Item	Timber supply and fit
2.6.4	Louvred Bin Store External Door	1	Item	
2.6.5	25mm Window Board MDF primed	151	Item	
2.6.6	Curtain Batten	151	Item	
2.6	**Sub-Total**			
2.7	**INTERNAL WALLS & PARTITIONS**			
2.7.1	Ground Floor - 100mm Blockwork	64	m²	
2.7.2	Ground Floor - Timber Stud Work	-	m²	ncluding in Timber Frame
2.7.3	First Floor - Timber Stud Work	-	m²	ncluding in Timber Frame
2.7.4	Second Floor - Timber Stud Work	-	m²	ncluding in Timber Frame
2.7.5	External Wall - WET.01 - Timber Frame & Brickwork/Blockwork	1,902	m²	
2.7.6	Party Wall - WIT.01 - Timber Frame Party Wall	213	m²	
2.7.7	Internal Walls - WIT.02 Timber Stud Insulated	179	m²	
2.7.8	Internal Walls - WIT.03 Timber Stud Non-Insulated	655	m²	
2.7.9	Internal Walls - WIT.07 Timber Stud Insulated	109	m²	
2.7.10	Internal Walls - WIT.08 Timber Stud Non-Insulated	141	m²	
2.7.11	EO Moisture Board to Wet Areas	197	m²	
2.7.12	OSB/Ply	10	nr	
2.7.13	Boxings	58	nr	
2.7	**Sub-Total**			
2.8	**INTERNAL DOORS**			
2.8.1	Internal Single Door - Premdor Paint Grade	93	Nr	upply and fit including ironmongery
2.8.2	Internal Double Door - Premdor Paint Grade	18	Nr	upply and fit including ironmongery
2.8.3	Internal Single Communal Door Sets	-	-	Not Applicable
2.8.4	Internal Double Communal Door Sets	-	Nr	Not Applicable
2.8.5	Entrance Door Sets	-	Nr	ncluded in Windows & External Doors
2.8.6	Door number, Door chain	10	Nr	ront Doors Only
2.8.7	Architraves 25x50mm	1,127	m	Allowance
2.8.8	Threshold Strip Hardwood	111	Nr	Allowance
2.8.9	Décor To Doors	111	Nr	Allowance
2.8.10	Décor To Door Woodwork	1,127	m	Allowance
2.8	**Sub-Total**			
2	**SUPERSTRUCTURE TOTAL**			
3.1	**WALL FINISHES**			
3.1.1	Plaster Skimming	4,283	m²	
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	4,283	m²	
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	-	m²	Not Applicable
3.1.4	Tiling	126	m²	
3.1.5	Splash Back	10	Nr	
3.1.6	Skirting 19 x 94mm	1,367	m	
3.1.7	Décor to Woodwork	1,367	m	
3.1	**Sub-Total**			
3.2	**FLOOR FINISHES**			
3.2.1	All Rooms within Apartments - Carpet	662	m²	
3.2.2	Bathroom/Ensuite - Vinyl	66	m²	
3.2.3	Kitchen - Vinyl	196	m²	
3.2.4	Bedrooms - Carpet	354	m²	
3.2.5	Entrance Matting	10	nr	
3.2.6	Mastic	10	Nr	
3.2	**Sub-Total**			

3.3	**CEILING FINISHES**				
3.3.1	Ceiling System	1,406	m²		
3.3.2	EO Mositure Board in wet rooms	262	m²		Not Applicable
3.3.3	Plaster Skimming	1,406	m²		Allowance further details required
3.3.4	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	1,406	m²		Allowance further details required
3.3.5	2 x 130mm Insulation & Board to Concrete Soffits on GF	-	m²		Not Applicable
3.3	**Sub-Total**				
3	**INTERNAL FINISHES TOTAL**				
4	**FITTINGS, FURNISHINGS & EQUIPMENT**				
4.1.1	Kitchens - Supply	10	Nr		
4.1.2	E.O for rise and fall	-	Nr		Not Applicable
4.1.3	Kitchens - Installation	10	Nr		
4.1.4	Garage Doors	10	Nr		urther details required
4.1.5	Toilet Roll Holder & Towel Rail	30	Nr		
4.1.6	Mirrors	30	Nr		
4.1.7	Shelving	10	Nr		
4.1.8	Built -in Wardrobe - Master bedroom only	-	Nr		Removed by client
4.1.9	Hat & Coat Hooks	10	Nr		
4.1.10	AOV Internal Guardrails	-	£ -		Not Applicable
4.1.11	Cycle stands	30	Nr		
4.1.12	Bins/Euro Bins	10	Nr		
4.1.13	Letter Box System	-	Item		Not Applicable
4.1.14	Doc M Packs	-	Nr		Not Applicable
4	**Sub-Total**				
4	**FITTINGS, FURNISHINGS & EQUIPMENT TOTAL**				
5.1	**ELECTRICAL SERVICES**				
5.1.1	Preliminaires	1	Item		
5.1.2	Design	1	Item		
5.1.3	Domestic Uni (Including Heating)	1	Item		
5.1.4	Communal Lighting & Power	-	Item		N/A
5.1.5	External Lighting (PS Sum)	-	Item		N/A
5.1.6	Ventilation	-	Item		N/A
5.1.7	BT Openreach/Data	-	Item		N/A
5.1.8	Disabled Refuge (PC Sum)	-	Item		N/A
5.1.9	TV Satellites System	-	Item		N/A
5.1.10	Mechanical Services Wiring (PC Sum)	-	Item		N/A
5.1.11	Video Door Entry System SSX	-	Item		N/A
5.1.12	Access Control	-	Item		N/A
5.1.13	AOV & Fire Alarm System	-	Item		N/A
5.1.14	Communal Heating (Spurs Only)	-	Item		N/A
5.1.15	BNO Works	-	Item		N/A
5.1.16	Fire Barriers	-	Item		N/A
5.1.17	Lighting Protection	-	Item		N/A
5.1.18	CCTV (1st Fix Wiring)	-	Item		N/A
5.1.19	Lift Supplies	-	Item		N/A
5.1.20	Evacuation Alrert System	-	Item		N/A
5.1.21	Refurge Alarm	-	Item		N/A
5.1.22	PV	1	Item		
5.1.23	EV Charging Points	1	Item		
5.1.24	Life Safety Supplies	-	Item		N/A
5.1.25	O&M Manuals & As Fitted Drawings	1	Item		
5.1.26	Generator (PC Sum)	-	Item		N/A
5.1.27	MA (3) Uplifts	-	Item		N/A
5.1	**Sub-Total**				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaries - General Prelims	1	Item		
5.2.3	Preliminaries - Design, Calculations and Working Drawings	1	Item		
5.2.4	Preliminaries - Plant Hire, Storage & Access Equipment	1	Item		
5.2.5	Preliminaries - O&M Manuals & Record Drawings	1	Item		
5.2.6	Preliminaries - Home Owners Packs	1	Item		
5.2.7	Domestic Services - Basic Unit Allowance	1	Item		
5.2.8	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.9	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance	1	Item		
5.2.11	Sanitaryware - Install	1	Item		
5.2.12	Sanitaryware - Supply	1	Item		
5.2.13	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.14	Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2	**Sub-Total**				

5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift car	-	Item		N/A
5.3	Sub-Total				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	-	Item		
5.4	Sub-Total				
5	SERVICES TOTAL				

[redacted]

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	17	GIA (m²)	1,687	
Item	Element / Description	Quant	Unit	Rate £	Total	Block F Comments
1.0	**SUBSTRUCTURE**					
1.1	Pile setting out	58	Nr			
1.2	Piling	1	Item			
1.3	Pile cropping	116	Nr			
1.4	Dispose of pile arisings	26	m³			
1.5	Pile attendance	2	Wks			
1.6	To remove pile mat on completion (scrape top 100mm)	89	m³			
1.7	To dispose of the above off site	89	m³			
1.8	Re-grade and compacting on completion	894	m²			
	Sub-structures Slab & Reduce Level					
	Slab					
1.9	Excavate	145	m³			
1.10	Disposal	145	m³			
1.11	Filling - to make up levels, obtained from site	145	m³			
1.12	Filling - to make up level, obtained from off-site imported 6F2	149	m³			
1.13	Filling - to make up levels, obtained from off site, imported Type 1, sub base layer - 100mm thick	50	m³			
1.14	Compact ground	501	m²			
1.15	Slab - Blinding	10	m³			
1.16	Slab - Reinfored oncrete slab	42	m³			
1.17	Thickening - Reinforced concrtee	145	m³			
1.18	Formwork - Edges of beds, Plain certical, height 250-500mm	124	m			
1.19	Formwork - Recess, Plain certical, height 250-500mm	124	m			
1.20	Reinforcement for insitu concrete - 160kg/m³ allowed	30	t			
1.21	Designed joints in situ concrete - no details provisional sum	501	m²			
1.22	Worked Finishes - Skip float finish	501	m²			
1.23	Precast Concrete - 175mm deep rackham beam na dblock floor	289	m²			
	Barries					
1.24	Hydropruffe 6000 Gas Barrier	501	m²			
1.25	Premrete protection board 300	501	m²			
1.26	Adjustable Z vents at 2m centres	62	nr			
1.27	Gas Membrane - allowance for edge detailing	124	m			
1.28	Gas Membrane - allowance for edge primer	124	m			
1.29	Gas Membrane - allowance for fillet to edge	124	m			
1.30	Gas Membrane - allowance for protection board - Girth 520	124	m			
	Sub-structures - Foundations					
1.31	Excavating - pits for pile caps	64	m³			
1.32	Excavating - trenches	128	m³			
1.33	Working space allowance to excavations - pits, backfilling with as dug material	147	m²			
1.34	Working space allowance to excavations - trenches, backfilling with as dug materials	331	m²			
1.35	Earthwork support - pits depth <1m	147	m²			
1.36	Earthwork support - trenches depth ,1m	331	m²			
1.37	Disposal - excavted material, off site	192	m³			
1.38	Surface treaments - compacting bottom of excavations (pads)	85	m²			
1.39	surface treaments - compacting bottom of excavations (strips)	164	m²			
	Foundations					
1.40	Foundations - blinding conrete	9	m³			
1.41	Foundations - reinforced concrete	129	m³			
1.42	Isolated Foundations - blinding concrete	5	m³			
1.43	Isolated Foundations - reinforced concrete	64	m³			
1.44	Formwork - sides of foundation, plain vertical, height 250-500mm	28	m			
1.45	Formwork - sides of foundation, plain vertical, height 500-1000mm	403	m			
1.46	Formwork - sides of isolated foundation, plain vertical, height 500-1000mm	196	m			
1.47	Reinforcement - Foundations, 100kg/m³	13	t			
1.48	Reinforcement - Isolated Foundations, 120kg/m³	8	t			
	Lift Pit					
1.49	Excavating - pits	31	m³			
1.50	Working space allowance to excavations - pits	35	m²			
1.51	Earthwork support - pits, max depth 1m	75	m²			
1.52	Disposal - excavated material, off site	31	m³			
1.53	Surface treatment - applying herbicides	25	m²			
1.54	Surface treatment - compacting bottom of excavations	25	m²			
1.55	Slabs - blinding concrete	2	m³			
1.56	Slabs - reinforced concrete, concrete grade RC40 waterproof	18	m³			
1.57	Slabs - mass concrete lift base	3	m³			
1.58	Walls - reinforced concrete, concrete grade RC40 waterproof	11	m³			
1.59	Formwork - edge of slab, plain vertical, height 250-500mm	90	m			
1.60	Formwork - walls, plain vertical, height 500-1000mm	180	m			
1.61	Formwork - walls, kickers	90	m			
1.62	Reinforcement - 300kg/m³	16	t			
1.63	Waterproofing - tanking, allowance for tanking to lift base	25	m²			
1.64	Waterproofing - tanking, allowance for tanking to lift walls		m²			
	Sub-structure - Masonry, External Cavity Walls					
	Masonry, External Cavity Walls					
1.65	Facing bricks 100 wide	15	m²			
1.66	Facing bricks 215 wide	-	m²			
1.67	Facing bricks 330 wide	-	m²			
1.68	External Skin - Blockwork 100mm thick	35	m²			
1.69	Internal Skin - Blockwork 100mm thick	37	m²			
1.70	Screed Block - Single Screed Block	32	m			
1.71	DPC 150mm Wide	65	m			
1.72	Coursing Brick	32	m			
1.73	Filling to hollow walls (cavity fill)	3	m³			
1.74	Form cavity	50	m²			
1.75	Periscope vents at 2m centres	16	nr			
	Masonry, Internal Walls					
1.75	100m thick Blockwork	56	m²			
1.76	140mm thick Blockwork	72	m²			
1.77	215mm thick Block Laid Flat	3	m²			
1.78	330mm thick Block	-	m²			
1.79	Form cavity	-	m²			
1.80	DPC 150mm Wide	112	m			
1.81	DPC 225mm Wide	3	m			
1.82	DPC 300mm Wide	-	m			
1.83	Cross Vents	59	nr			
1.84	Underslab Drainage & Services	1	Item			
1.85	Insulation & Screed	452	Item			
1.86	Latex [Self levelling]	452	m²			
1.87	Sub-Contractors Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	**FRAME**					
2.1	Suspended slabs - Thickness 150-450mm	173	m³			
2.2	Walls - Thickness 150-450mm	33	m³			
2.3	Columns - Generally	16	m³			
2.4	Formwork - Edges of suspended slab, plain vertical, height <250mm	130	m			
2.5	Formwork - Soffit of slabs, 300mm horizontal, height of soffit 3m	461	m²			
2.6	Formwork - Walls, vertical, two sided, height 2m	332	m²			
2.7	Formwork - Columns, rectangular, isolated, height 3m	236	m²			
2.8	Formwork - Wall kickers	67	m			
2.9	Formwork - Wall ends, soffits and steps in wall, plain, wifht 250-500mm	7	m			
2.10	Prefabricated Stairs - Stairmaster, temporary handrail (GF-FF Only)	2	nr			
2.11	Prefabricated Stairs - EO Permanent handrail, mild steel flat top central & Wall Mounted (GF-FF Only)	2	nr			
2.12	Reinforcement for insitu concrete - bar 16-40mm, slabs @ 540kg/m³	93	t			
2.13	Reinforcement for insitu concrete - bar 16-40mm, walls	2	t			
2.14	Reinforcement for insitu concrete - bar 16-40mm, columns	4	t			
2.15	Worked finishes/cutting to insitu concrete - Skip float	461	m²			
2.16	Worked finishes/cutting to insitu concrete - EO Power Float	461	m²			
2.17	Accessories cast into insitu concrete - Masonry Channel, ancon 30/20	30	m			
2.18	Accessories cast into insitu concrete - Shear rails	10	nr			
2.19	Accessories cast into insitu concrete - Continuity strip/quika strip	15	m			

2.20	Accessories cast into insitu concrete - Slab penetrations, fire collar 100mm	50	nr	
2.21	Sub-Contractor Preliminaries	1	item	
2.1	**Sub-Total**			
2.2	**UPPER FLOORS**			
2.2.1	Intermediate Floors - Hollow Plank (1st - 3rd Floor)	1	item	
2.2.2	Screed - To intermediate floors	844	m^2	
2.2.3	Latex [Self levelling]	1	m^2	llowance further details required
2.2	**Sub-Total**			
2.3	**ROOF**			
	Main Roof			
2.3.1	Roof Structure - Hollow Plank	-	m^2	ncluded in upper floors
2.3.2	100mm Blockwork - AOV Surrounds (1 of 2)	8	m^2	
2.3.3	100mm Blockwork - AOV Surrounds (2 of 2)	8	m^2	
2.3.4	100mm Blockwork - Lift Overrun	11	m^2	
2.3.5	Screed to falls	422	m^2	5mm Screed Laid to Falls
2.3.6	Flat Roof Covering (including membrane, insulation, felt and SVP/Outlet Flashing)	422	m^2	
2.3.7	Allowance for leak testing	1	Item	
2.3.8	Structure for lift overrun	1	Item	
2.3.9	Steel work for lift/lift overrun	1	Item	
2.3.10	Hoppers	9	Nr	
2.3.11	Rainwater pipework	129	m	
2.3.12	Parapet - CP Board	100	m	
2.3.13	Parapet - Capping's	100	m	
2.3.14	AOV	2	Nr	
	Bin Store roof			
2.3.19	Allowance for roof structure and covering	2	Nr	
2.3	**Sub-Total**			
2.4	**STAIRS & RAMPS**			
2.4.1	Pre-Cast Stairs - Flight	1	item	
2.4.2	Balustrading (1st - 3rd Floor)	23	m	op rail 50x8 flat with plastic capping bottom rail 40 x 8 flat infill bars 12 x 12 quare, support posts 40x40xx3 box
2.4.3	Handrails (1st - 3rd Floor)	23	m	0 x 8 flat with plastic capping brackets at 750mm ctrs
2.4.4	Treds	10	Nr	
2.4	**Sub-Total**			
2.5	**EXTERNAL WALLS**			
2.5.1	Lintels	1	Item	
2.5.2	Masonry support systems	1	Item	
2.5.3	External Walls - Danehill Yellow	848	m^2	
2.5.4	External Walls - Stirling Grey	678	m^2	
2.5.5	E.O for specials & cut bricks - Danehill Yellow (10mm Wall Niche)	1,788	Nr	
2.5.6	E.O for specials & cut bricks - Stirling Grey (10mm Wall Niche)	2,991	Nr	
2.5.7	Forming openings (cavity wall)	353	m	
2.5.8	Band course	99	m	
2.5.9	Cavity closing	353	m	
2.5.10	DPC (less than 300 mm)	153	m	
2.5.11	DPC (Greater than 300 mm)	538	m	
2.5.12	Movement Joints	39	m	
2.5.13	Fire socks	935	m	
2.5.14	Window and door reveals	648	m	
2.5.15	Plant / protection materials	1	Item	
2.5.16	Check Reveals	648	m	
2.5.17	Splash Course	44	m^2	
2.5.18	Architectural metal work / cladding	84	m^2	
2.5.19	External mastic - Movement Joints	16	Nr	
2.5.20	External mastic - Doors/Windows	78	Nr	
2.5.21	Balconies	1	Item	
2.5.23	Riser inlet	1	Item	
2.5.24	Porch / Canopy - Front Doors	-	Nr	xcluded none shown
2.5.25	Porch / Canopy - Main Entrance	1	Item	
2.5.26	Railings	-	m	ncluded in balcony costs
2.5.27	Soffit slab	117	m^2	
2.5.28	Scaffolding	1	Item	
2.5.29	Bird Boxes	4	Nr	
2.5.30	Information Box	1	Nr	
2.5.31	Steel Work - Allowance	1	Item	
2.5	**Sub-Total**			
2.6	**WINDOWS & EXTERNAL DOORS**			
2.6.1	Ancon window reveal plates	280	Nr	llowance further details required
2.6.2	External Windows & Doors	1	Item	VCu
2.6.3	Louvers	1	Item	
2.6.4	Ali Window & Doors	1	Item	
2.6.5	Window surrounds	40	m^2	
2.6.6	25mm Window Board MDF primed	70	Nr	
2.6.7	Signage	-	Item	xcluded
2.6.8	Curtain Batten	70	Nr	
2.6	**Sub-Total**			
2.7	**INTERNAL WALLS & PARTITIONS**			
2.7.1	WIB 01B - 140mm Blockwork	66	m^2	
2.7.2	WIB 04 - 2x 100mm Blockwork, 2x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	634	m^2	
2.7.3	WIB 05 - 2x 100mm Blockwork, 1x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	69	m^2	
2.7.4	WIB 05a - 2x 140mm Blockwork, 1x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	11	m^2	
2.7.5	WIB 06 - 2x 140mm Blockwork, 1x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	63	m^2	
2.7.6	WIB 13 - 2x 100mm Blockwork, 2x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	57	m^2	
2.7.7	WIB 14 - 2x 100mm Blockwork, 2x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	168	m^2	
2.7.8	WIM 02 - 2x 15mm Knauf Performance Plus, 60mm Knauf C Studs, 19mm Knauf Core Board	3	m^2	
2.7.9	WIM 03 - 70mm C Stud, 2x 15mm Soundshield Plus, 25mm Acoustic Partition Roll	486	m^2	
2.7.10	WIM 06 - 2x 140mm Blockwork, 1x 12.5mm Plasterboard on Dabs, 100mm Knauf Mineral Wool Insulation	606	m^2	
2.7.11	WL 01 - Plasterboard on Dabs	320	m^2	
2.7.12	WL 04 - 2 x Plasterboard fixed to studs	116	m^2	
2.7.13	Plasterboard to External Walls	913	m^2	
2.7.14	EO Moisture Resistance - in wet rooms	100	m^2	
2.7.15	Boxings	31	Nr	
2.7.16	OSB board	17	Nr	
2.7	**Sub-Total**			

2.8	**INTERNAL DOORS**				
2.8.1	Internal Single Door	92	Nr		
2.8.2	Internal Double Door	14	Nr		
2.8.3	Internal Single Communal Door Sets	17	Nr		
2.8.4	Internal Double Communal Door Sets	4	Nr		
2.8.5	Apartment Entrance Door Sets	16	Nr		
2.8.6	Door number, Door chain	16	Nr		
2.8.7	Door Linings	638	m		
2.8.8	Architraves 25x50mm	1,484	m		
2.8.9	Threshold Strip Hardwood	143	Nr		
2.8.10	Décor To Doors	143	Nr		
2.8.11	Décor To Door Woodwork	1,484	m		
2.8	**Sub-Total**				
2	**SUPERSTRUCTURE TOTAL**				
3.1	**WALL FINISHES**				
3.1.1	Plaster Skimming	5,676	m^2		
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	5,676	m^2		
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	1,037	m^2		
3.1.4	Tiling	17	Nr		
3.1.5	Splash Back	17	Nr		
3.1.6	Skirting 19 x 94mm	1,761	m		
3.1.7	Décor to Woodwork	1,761	m		
3.1	**Sub-Total**				
3.2	**FLOOR FINISHES**				
3.2.1	All Rooms within Apartments - Carpet	618	m^2		
3.2.2	Bathroom/Ensuite - Vinyl	109	m^2		
3.2.3	Bedrooms - Carpet	377	m^2		
3.2.4	Communal Areas - Carpet Tiles	192	m^2		
3.2.5	Communal Areas - Entrance Matting	1	nr		
3.2.8	Mastic	17	Nr		
3.2	**Sub-Total**				
3.3	**CEILING FINISHES**				
3.3.1	MF Ceiling - Residential	1,105	m^2		
3.3.2	EO Mosisture Board in Wet Rooms - Residential	109	m^2		
3.3.3	MF Ceiling - Communal Area	583	m^2		
3.3.4	EO Sound Board - Communal Area	583	m^2		
3.3.5	Plaster Skimming	1,687	m^2		
3.3.6	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	1,687	m^2		
3.3.7	2 x 130mm Insulation & Board to Concrete Soffits on GF	422	m^2		
3.3	**Sub-Total**				
3	**INTERNAL FINISHES TOTAL**				
4	**FITTINGS, FURNISHINGS & EQUIPMENT**				
4.1.1	Kitchens - Supply	17	Nr		
4.1.2	Kitchens - Installation	17	Nr		
4.1.3	Toilet Roll Holder & Towel Rail	17	Nr		
4.1.4	Mirrors	17	Nr		
4.1.5	Shelving	17	Nr		
4.1.6	Built -in Wardrobe - Master bedroom only	-	Nr		Removed by client
4.1.7	Hat & Coat Hooks	17	Nr		
4.1.8	AOV Internal Guardrails	1	Item		
4.1.9	Cycle stands	15	Nr		
4.1.10	Cycle Hoops	-	Nr		Not Applicable
4.1.11	Bins/Euro Bins	17	Nr		
4.1.12	Letter Box System	1	Nr		
4.1.13	Premises Information Box	1	Item		
4.1.14	DOC M Packs	-	Item		Excluded no details provided
4.1.15	Delivery / Drop off fit out	-	Item		Excluded no details provided
4.1.16	Notice boards	1	Item		Allowance
4	**Sub-Total**				
4	**FITTINGS, FURNISHINGS & EQUIPMENT TOTAL**				
5.1	**ELECTRICAL SERVICES**				
5.1.1	Preliminaires	1	Item		
5.1.2	Design	1	Item		
5.1.3	Domestic Uni (Including Heating)	1	Item		
5.1.4	Communal Lighting & Power	1	Item		
5.1.5	External Lighting (PS Sum)	1	Item		
5.1.6	Ventilation	-	Item		N/A
5.1.7	BT Openreach/Data	1	Item		
5.1.8	Disabled Refuge (PC Sum)	-	Item		N/A
5.1.9	TV Satellites System	1	Item		
5.1.10	Mechanical Services Wiring (PC Sum)	1	Item		
5.1.11	Video Door Entry System SSX	1	Item		
5.1.12	Access Control	1	Item		
5.1.13	AOV & Fire Alarm System	1	Item		
5.1.14	Communal Heating (Spurs Only)	1	Item		
5.1.15	BNO Works	1	Item		
5.1.16	Fire Barriers	1	Item		
5.1.17	Lighting Protection	1	Item		
5.1.18	CCTV (1st Fix Wiring)	1	Item		
5.1.19	Lift Supplies	1	Item		
5.1.20	Evacuation Alrert System	-	Item		N/A
5.1.21	Refurge Alarm	-	Item		N/A
5.1.22	PV	-	Item		N/A
5.1.23	EV Charging Points	-	Item		N/A
5.1.24	Life Safety Supplies	-	Item		N/A
5.1.25	O&M Manuals & As Fitted Drawings	1	Item		
5.1.26	Generator (PC Sum)	-	Item		N/A
5.1.27	MA (3) Uplifts	-	Item		N/A
5.1.28	Aspirated Smoke Detection to top of Each Lift Shaft	1	Item		N/A
5.1	**Sub-Total**				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaries - General Prelims	1	Item		
5.2.2	Preliminaries - Design, Calculations and Working Drawings	1	Item		
5.2.3	Preliminaries - Plant Hire, Storage & Access Equipment	1	Item		
5.2.4	Preliminaries - O&M Manuals & Record Drawings	1	Item		
5.2.5	Preliminaries - Home Owners Packs	1	Item		
5.2.6	Domestic Services - Basic Unit Allowance	1	Item		
5.2.7	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.8	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.9	Domestic Services - Landlord Supplies	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance	1	Item		
5.2.11	Above Ground Drainage - Suspended Drainage	1	Item		
5.2.12	Sanitaryware - Install	1	Item		
5.2.13	Sanitaryware - Supply	1	Item		
5.2.14	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.15	CWS Risers & Manifolds Installation	1	Item		
5.2.16	Dry Riser Installation	1	Item		
5.2.17	Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2.18	Supply & Install of Rytons A1 Fire Rated Compartment Ducting	1	Item		
5.2.19	Supply & Installation of Intumescent Fire Collars to Utility Cupboard Duct Penetrations	1	Item		
5.2.20	Smoke Ventilation	1	Item		Dampers/ louvers/ hatches & AOV's
5.2	**Sub-Total**				

5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift cars	1	Item	[redacted]	Otis Gen 2 Life 1000kg 13 pers 1m/s inc 24ths maintenance
5.3	**Sub-Total**				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	1	Nr		
5.40	**Sub-Total**				
5	**SERVICES TOTAL**				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	64	GIA (m²)	5,450	
Item	Element / Description	Block G				
		Quant	Unit	Rate £	Total	Comments
1.0	SUBSTRUCTURE					
1.1	Pile setting out	154	Nr			
1.2	Piling	1	Item			
1.3	Pile cropping	114	Nr			
1.4	Dispose of pile arisings	26	m³			
1.5	Pile attendance	2	Wks			
1.6	Regrade pile matt	1,524	m²			
	Sub-structures Slab & Reduce Level					
1.7	Excavate - To reduce levels	266	m³			
1.8	Excavate - For thickenings	81	m³			
1.9	Disposal	347	m³			
1.10	Filling	99	m³			
1.11	Compact - Ground	992	m²			
1.12	Compact - Filling (sub base layer)	992	m²			
1.13	Slab - Blinding	50	m³			
1.14	Slab - Concrete	273	m³			
1.15	Slab -Thickenings	81	m³			
1.16	Formwork - 250-500	165	m			
1.17	Reinforcement Slab	60	t			
1.18	Design Joints	992	m			
1.19	Skip Float Finish	992	m²			
	Barriers					
1.20	Hydropruffe 6000 Gas Barrier	992	m²			
1.21	Premcrete Proection Board 3000	992	m²			
1.22	Adjustable Z Vents at 2m Centres	75	Nr			
1.23	Gas Membrane - Allowance for edge detailing	149	m			
1.24	Gas Membrane - Allowance for fillet to primer	149	m			
1.25	Gas Membrane - Allowance for fillet to edges	149	m			
1.26	Gas Membrane - Allowance for protection Board - Girth 520	149	m			
	Sub-structures Foundations	-				
1.27	Excavate - pits for pile caps	116	m³			
1.28	Excavate - trenches	133	m³			
1.29	Working space pits	424	m²			
1.30	Working space trenches	317	m²			
1.31	Earthwork support - Pits <1m	424	m²			
1.32	Earthwork support - Pits <2m	-	m²			
1.33	Trenches <1m	317	m²			
1.34	Disposal	249	m³			
1.35	Compact - bottom of excavations (pads)	71	m³			
1.36	Compact - bottom of excavations (strips)	97	m³			
1.37	Foundations - Blinding	5	m³			
1.38	Foundations - Concrete	58	m³			
1.39	Foundations - Isolated - Blinding	4	m³			
1.40	Foundations - Isolated - Concrete	54	m³			
1.41	Formwork - 250-500	231	m			
1.42	Formwork - 500 - 1000	261	m			
1.43	Foundations - bar reinforment @ 110kg/m³	6	t			
1.44	Isolated Foundations - bar reinforment @ 110kg/m132	6	t			
	Lift Pit					
1.45	Excavating	31	m²			
1.46	Working space - Pits	35	m²			
1.47	Earthwork -pits	75	m²			
1.48	Disposal	31	m²			
1.49	Surface Treatments - Applying Berbicides	25	m²			
1.50	Surface Treatments - Compacting Bottom of excavtions	25	m²			
1.51	Slab - Blinding concrete	2	m³			
1.52	Slab - Reinforced Concrete	18	m³			
1.53	Slab - Mass Concrete lift base	3	m³			
1.54	Wall - Mass Concrete Walls	11	m³			
1.55	Edge - Formwork - 500 - 1000	90	m			
1.56	Wall - Formwork - 500 - 1000	180	m			
1.57	Walls - Kickers	90	m			
1.58	Reinforcement to concrete	16	t			
1.59	Tanking lift base	25	m²			
1.60	Tanking lift walls	36	m²			
1.61	Underslab Drainage & Services	1	Item			
1.62	Insulation & Screed	914	m²			
1.63	Latex [Self levelling]	914	m²			
1.64	Sub-Contractors Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	FRAME					
2.1	Suspended Slabs - thickness 150-450mm	1,264	m²			
2.2	Walls - thickness 150 -450mm	146	m³			
2.3	Columns - Generally	96	m³			
2.4	Beams - Generally	-	m³			
2.5	Up-stands - Generally	-	m³			
2.6	Formwork - Edges of slab	1,725	m			
2.7	Formwork - Up-stands	-	m			
2.8	Formwork - Soffits	5,620	m²			
2.9	Formwork - Walls	1,460	m²			
2.10	Formwork - Beams	-	m²			
2.11	Formwork - Columns	1,328	m²			
2.12	Formwork - Kickers	293	m²			
2.13	Formwork - Wall Ends	13	m			
2.14	Reinforcement - Bar 16-40, slabs @195kg/m²	247	t			
2.14	Reinforcement - Bar 16-40, wall @120kg/m³	18	t			
2.14	Reinforcement - Bar 16-40, columns @ C1 120kg/m³, C2 120kg/m³, C1 540/m	45	t			
2.17	Worked Finishes - Skip float	5,620	m²			
2.17	Worked Finishes - EO Power Float	5,620	m²			
2.15	Accessories cast into insitu concrete - Masonry channel - ancon 30/20	271	m			
2.19	Accessories cast into insitu concrete - shear rails	58	Nr			
2.16	Accessories cast into insitu concrete - schoek Thermal Breaks	84	m			
2.18	Accessories cast into insitu concrete - Fix only brackets for bolted balconies	90	Nr			
2.20	Accessories cast into insitu concrete - Contiuity Strip	301	m			
2.21	Accessories cast into insitu concrete - Slab Penertrrations, fire collars 100mm	100	Nr			
2.23	Sub-Contractor Preliminaries	1	Item			
2.1	Sub-Total					

2.2	**UPPER FLOORS**			
2.2.1	Screed	-	Item	N/A
2.2.3	Latex [Self levelling]	4,536	Item	
2.2	**Sub-Total**			
2.3	**ROOF**			
2.3.1	Roof Structure	-	m^2	ncluded in Frame above
2.3.2	Screed to falls	996	m^2	
2.3.3	Flat Roof Covering (including membrane, insulation, felt and SVP/Outlet Flashing)	996	m^2	
2.3.4	Allowance for leak testing	1	Item	
2.3.5	Abutments & flashings	155	m	
2.3.6	AOV surround wall	16	m^2	
2.3.7	Guard rails	-	m	N/A Parapet 1100mm
2.3.8	Roof access steps	1	Item	llowance
2.3.9	SVP	4	Nr	
2.3.10	Outlets	12	Nr	
2.3.11	Sumps	2	Nr	
2.3.12	Hoppers	12	Nr	
2.3.13	Rainwater pipework	180	m	
2.3.14	Parapet - CP Board	155	m	
2.3.15	Parapet - Capping's	155	m	
2.3.16	AOV	2	Nr	
	Bin Store roof			
2.3.19	Allowance for roof structure and covering	2	Nr	llowance further details required
2.3	**Sub-Total**			
2.4	**STAIRS & RAMPS**			
2.4.1	Prefabricated Stairs - Stairmaster, temporary handrail only		Nr	
2.4.2	Prefabricated Stairs - EO Permanent handrail, mild steel flat top central & wall mounted	12	Nr	
2.4.4	Handrails	168	m	0 x 8 flat with plastic capping brackets at 750mm ctrs
2.4.5	Treds	170	Nr	
2.4	**Sub-Total**			
2.5	**EXTERNAL WALLS**			
2.5.1	Lintels	412	m	
2.5.2	Masonry support systems	555	m	
2.5.3	External Walls - Danehill Yellow	2,934	m^2	
2.5.4	External Walls - Stirling Grey	237	m^2	
2.5.5	EO Cut Bricks - Danehill Yellow (25mm Cut Brick Recessed Barcode Banding)	11,136	nr	
2.5.6	EO Cut Bricks - Danehill Yellow (Snapped Brick Header Panel 25mm Cut Brick Niche)	6,221	nr	
2.5.7	EO Cut Bricks - Danehill Yellow (Head & Cill 25mm Single Course Cut Brick Recess)	7,705	nr	
2.5.8	EO Cut Bricks - Danehill Yellow (25mm Wall Niche)	8,653	nr	
2.5.9	Forming openings (cavity wall)	1,829	m	
2.5.10	Band course	174	m	
2.5.11	Cavity closing	1,829	m	
2.5.12	DPC (less than 300 mm)	354	m	
2.5.13	DPC (Greater than 300 mm)	1,631	m	
2.5.14	Movement Joints	-	m	
2.5.15	Recessed Banding	478	m^2	
2.5.16	Projecting header panels	100	m	
2.5.17	Window and door reveals	2,255	m	
2.5.18	Plant / protection materials	1	Item	
2.5.19	Check Reveals	2,255	m	
2.5.20	Splash Course	76	m^2	
2.5.21	SFS Infill External Walls - Metal/Stud Works	2,701	m^2	
2.5.22	SFS Infill External Walls - Windliner Board	2,701	m^2	
2.5.23	EO Non-Combustible Cavity Tray (Above Openings)	412	m	
2.5.24	EO Non-Combustible Cavity Tray (Each Floor)	900	m	
2.5.25	Fire Socks - Horizontal	1,104	m	
2.5.26	Fire Socks - Vertical	242	m	
2.5.27	Fire Socks to Openings	1,834	m	
2.5.28	External mastic - Horizontal Movement Joints	6	Nr	
2.5.29	External mastic - Vertical Movement Joints	90	Nr	
2.5.30	External mastic - Doors/Windows	78	Nr	
2.5.31	Balconies	1	Item	
2.5.32	Riser inlet	2	Item	
2.5.33	Porch / Canopy - Front Doors	12	Nr	
2.5.34	Porch / Canopy - Main Entrance	2	Nr	
2.5.35	Railings	20	m	
2.5.36	Scaffolding	1	Item	
2.5.37	Bird Boxes	4	Nr	
2.5.38	Information Box	1	Nr	
2.5	**Sub-Total**			
2.6	**WINDOWS & EXTERNAL DOORS**			
2.6.1	Ancon window reveal plates	876	Nr	
2.6.2	External Windows & Doors	1	Item	
2.6.3	Louvers & Surrounds	1	Item	
2.6.4	Ali Window & Doors	1	Item	
2.6.5	25mm Window Board MDF primed	234	Nr	
2.6.6	Curtain Batten	234	Nr	
2.6	**Sub-Total**			

2.7	**INTERNAL WALLS & PARTITIONS**			
2.7.1	External Wall - 90mm Insulation and 2 x 15mm Plasterboard	3,170	m²	
2.7.2	WIB.01a - 100mm Blockwork	281	m²	
2.7.3	WIB.01b - 140mm Blockwork	335	m²	
2.7.4	WIM.01 - 2x 70mm Knauf C Stud, 2x 70mm Acoustic Partition Roll, 60mm Acoustic Partition Roll, 4x 15mm Knauf Soundshield Plus	2,249	m²	
2.7.5	WIM.03 - 70mm C Stud, 2x 15mm Soundshield Plus, 25mm Acoustic Partition Roll	1,185	m²	
2.7.6	WIM.05a - 70mm Knauf C Stud, 70mm Acoustic Partition Roll, 60mm Acoustic Partition Roll, 2x 15mm Knauf Soundshield Plus, 100mm Blockwork	116	m²	
2.7.7	WIM.06 - 70mm C Stud, 2x 15mm Soundshield Plus	3,010	m²	
2.7.8	WL.01 - Plasterboard on Dabs	857	m²	
2.7.9	WL.02 - 60mm Knauf I Studs, 60mm Kingspan Kooltherm K12 PIR Insulation, 2x 15mm Knauf Soundshield Plus, 25mm Acoustic Roll	441	m²	
2.7.10	WL.04 - 2 x Plasterboard fixed to studs	391	m²	
2.7.11	EO Moisture Resistance - in wet rooms	249	m²	
2.7.12	EO Service Void	7,668	m²	
2.7.13	Boxings	106	Nr	
2.7.14	OSB board	64	Nr	
2.7	**Sub-Total**			
2.8	**INTERNAL DOORS**			
2.8.1	Internal Single Door	320	Nr	
2.8.2	Internal Double Door	54	Nr	
2.8.3	Internal Single Communal Door Sets	74	Nr	
2.8.4	Internal Double Communal Door Sets	12	Nr	
2.8.5	Apartment Entrance Door Sets	64	Nr	
2.8.6	Door number, Door chain	64	Nr	
2.8.7	Architraves 25x50mm	5,471	m	
2.8.8	Threshold Strip Hardwood	524	Nr	
2.8.9	Décor To Doors	524	Nr	
2.8.10	Décor To Door Woodwork	5,471	m	
2.8.11	E.O Ironmongery and door stops for M units	54	Nr	
2.8	**Sub-Total**			
2	**SUPERSTRUCTURE TOTAL**			
3.1	**WALL FINISHES**			
3.1.1	Plaster Skimming	19,227	m²	
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	19,227	m²	
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	1,758	m²	
3.1.4	Tiling	3,168	m²	
3.1.5	Splash Back	64	Nr	
3.1.6	Skirting 19 x 94mm	8,289	m	
3.1.7	Décor to Woodwork	8,289	m	
3.1	**Sub-Total**			
3.2	**FLOOR FINISHES**			
3.2.1	All Rooms within Apartments - Carpet	2,348	m²	
3.2.2	Bathroom/Ensuite - Vinyl	430	m²	
3.2.3	Bedrooms - Carpet	1,340	m²	
3.2.4	Communal Areas - Carpet Tiles	571	m²	
3.2.5	Communal Areas - Entrance Matting	1	nr	
3.2.8	Mastic	64	Nr	
3.2	**Sub-Total**			
3.3	**CEILING FINISHES**			
3.3.1	MF Ceiling - Residential	4,688	m²	
3.3.2	EO Mosisture Board in Wet Rooms - Residential	430	m²	
3.3.3	MF Ceiling - Communal Area	762	m²	
3.3.4	EO Sound Board - Communal Area	762	m²	
3.3.5	Plaster Skimming	5,450	m²	
3.3.6	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	5,450	m²	
3.3.7	2 x 130mm Insulation & Board to Concrete Soffits on GF	261	m²	
3.3	**Sub-Total**			
3	**INTERNAL FINISHES TOTAL**			
4	**FITTINGS, FURNISHINGS & EQUIPMENT**			
4.1.1	Kitchens - Supply	64	Nr	
4.1.2	E.O for rise and fall	9	Nr	
4.1.3	Kitchens - Installation	64	Nr	
4.1.4	Toilet Roll Holder & Towel Rail	64	Nr	
4.1.5	Mirrors	64	Nr	
4.1.6	Shelving	64	Nr	
4.1.7	Built -in Wardrobe - Master bedroom only	-	Nr	Removed by client
4.1.8	Hat & Coat Hooks	64	Nr	
4.1.9	AOV Internal Guardrails	1	Item	
4.1.10	Cycle stands	60	Nr	
4.1.11	Cycle Hoops	-	Nr	Not Applicable
4.1.12	Bins/Euro Bins	64	Nr	
4.1.13	Letter Box System	1	Nr	
4.1.14	Premises Information Box	1	Item	
4.1.15	DOC M Packs	18	Nr	
4.1.16	Delivery / Drop off fit out	-	Item	Excluded no details provided
4.1.17	Notice boards	1	Item	
4	**Sub-Total**			
4	**FITTINGS, FURNISHINGS & EQUIPMENT TOTAL**			
5.1	**ELECTRICAL SERVICES**			
5.1.1	Preliminaries	1	Item	
5.1.2	Design	1	Item	
5.1.3	O&M	1	Item	
5.1.4	Domestic Units	1	Item	
5.1.5	Communal Lighting and Power	1	Item	
5.1.6	External Lighting	1	Item	
5.1.7	Ventilation	1	Item	
5.1.8	BT Openreach / data	1	Item	
5.1.9	Disabled Refuge	1	Item	

5.1.10	TV / Satellites Systems	1	Item	[redacted]	
5.1.11	Mechanical Services Wiring	1	Item		
5.1.12	Video Door Entry	1	Item		
5.1.13	Access Control	1	Item		
5.1.14	AOV & Fire Alarm	1	Item		
5.1.15	Communal Heating	1	Item		
5.1.16	BNO Works	1	Item		
5.1.17	Fire Barriers	1	Item		
5.1.18	Lighting Protection	1	Item		
5.1.19	CCTV	1	Item		
5.1.20	Lift Supplies	1	Item		
5.1.21	Evacuation Alter Systems	1	Item		
5.1.22	PV	1	Item		
5.1.23	EV Charging	1	Item		
5.1.24	Life Safety Systems	1	Item		
5.1.25	Back up Generator - Shared cost between G&H	1	Item		
5.1	Sub-Total				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaires - General Prelims	1	Item		
5.2.2	Preliminaires - Design, Calculations and Working Drawings	1	Item		
5.2.3	Preliminaires - Plant Hire, Storeage & Aceess Equipment	1	Item		
5.2.4	Preliminaires - O&M Manuals & Record Drawings	1	Item		
5.2.5	Preliminaires - Home Owner Packs	1	Item		
5.2.6	Domestic Services - Basic Unit Allowance	1	Item		
5.2.7	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.8	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.9	Domestic Services - Landlord Supplies (Excludes CAT 5 System)	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance, Edel Unit & MVHR	1	Item		
5.2.11	Above Ground Drainage - Suspended Drainage	1	Item		
5.2.12	Sanitaryware - Install	1	Item		
5.2.13	Sanitaryware - Supply	1	Item		
5.2.14	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.15	Communals - CWS Risers & Manifold Installation	1	Item		
5.2.16	Communals - Dry Riser Installtion	1	Item		
5.2.17	Communals - Sprinkler System Installation 2021 Regs - Resi Apartments, Bin Stores, Plant Rooms & Cycles Stores, Communal Areas inc corridors.	1	Item		
5.2.18	Communals - Sprinkler System Installation 2021 Regs - Addition of stairwell pr	1	Item		
5.2.19	Communals - Booster Set & Break Tank Installation	1	Item		
5.2.20	Communals - Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2.21	Supply & Installations of Rytons A1 Fire Rates Compartment Ducting	1	Item		
5.2.22	Supply & Installations of Intumescent Fire Collars to Utility Cupboard Duct Penertrations	1	Item		
5.2.23	Supply & Install Extract Vents to Separate PV Inverter Cupboard	1	Item		
5.2.24	Smoke Ventilation - Dampers/Louvers & Hatches Etc	1	Item		
5.2	Sub-Total				
5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift car	1	Item		Otis Gen 2 Life 1000kg 13 pers 1m/s inc 24ths maintenance
5.3	Sub-Total				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	1	Item		
5.40	Sub-Total				
5	SERVICES TOTAL				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	64	GIA (m²)	5,450	
Item	Element / Description	Block G				
		Quant	Unit	Rate £	Total	Comments
1.0	SUBSTRUCTURE					
1.1	Pile setting out	154	Nr			
1.2	Piling	1	Item			
1.3	Pile cropping	114	Nr			
1.4	Dispose of pile arisings	26	m³			
1.5	Pile attendance	2	Wks			
1.6	Regrade pile matt	1,524	m²			
	Sub-structures Slab & Reduce Level					
1.7	Excavate - To reduce levels	266	m³			
1.8	Excavate - For thickenings	81	m³			
1.9	Disposal	347	m³			
1.10	Filling	99	m³			
1.11	Compact - Ground	992	m²			
1.12	Compact - Filling (sub base layer)	992	m²			
1.13	Slab - Blinding	50	m³			
1.14	Slab - Concrete	273	m³			
1.15	Slab -Thickenings	81	m³			
1.16	Formwork - 250-500	165	m			
1.17	Reinforcement Slab	60	t			
1.18	Design Joints	992	m			
1.19	Skip Float Finish	992	m²			
	Barriers					
1.20	Hydropruffe 6000 Gas Barrier	992	m²			
1.21	Premcrete Proection Board 3000	992	m²			
1.22	Adjustable Z Vents at 2m Centres	75	Nr			
1.23	Gas Membrane - Allowance for edge detailing	149	m			
1.24	Gas Membrane - Allowance for fillet to primer	149	m			
1.25	Gas Membrane - Allowance for fillet to edges	149	m			
1.26	Gas Membrane - Allowance for protection Board - Girth 520	149	m			
	Sub-structures Foundations	-				
1.27	Excavate - pits for pile caps	116	m³			
1.28	Excavate - trenches	133	m³			
1.29	Working space pits	424	m²			
1.30	Working space trenches	317	m²			
1.31	Earthwork support - Pits <1m	424	m²			
1.32	Earthwork support - Pits <2m	-	m²			
1.33	Trenches <1m	317	m²			
1.34	Disposal	249	m³			
1.35	Compact - bottom of excavations (pads)	71	m³			
1.36	Compact - bottom of excavations (strips)	97	m³			
1.37	Foundations - Blinding	5	m³			
1.38	Foundations - Concrete	58	m³			
1.39	Foundations - Isolated - Blinding	4	m³			
1.40	Foundations - Isolated - Concrete	54	m³			
1.41	Formwork - 250-500	231	m			
1.42	Formwork - 500 - 1000	261	m			
1.43	Foundations - bar reinforment @ 110kg/m³	6	t			
1.44	Isolated Foundations - bar reinforment @ 110kg/m132	6	t			
	Lift Pit					
1.45	Excavating	31	m²			
1.46	Working space - Pits	35	m²			
1.47	Earthwork -pits	75	m²			
1.48	Disposal	31	m²			
1.49	Surface Treatments - Applying Berbicides	25	m²			
1.50	Surface Treatments - Compacting Bottom of excavtions	25	m²			
1.51	Slab - Blinding concrete	2	m³			
1.52	Slab - Reinforced Concrete	18	m³			
1.53	Slab - Mass Concrete lift base	3	m³			
1.54	Wall - Mass Concrete Walls	11	m³			
1.55	Edge - Formwork - 500 - 1000	90	m			
1.56	Wall - Formwork - 500 - 1000	180	m			
1.57	Walls - Kickers	90	m			
1.58	Reinforcement to concrete	16	t			
1.59	Tanking lift base	25	m²			
1.60	Tanking lift walls	36	m²			
1.61	Underslab Drainage & Services	1	Item			
1.62	Insulation & Screed	914	m²			
1.63	Latex [Self levelling]	914	m²			
1.64	Sub-Contractors Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	FRAME					
2.1	Suspended Slabs - thickness 150-450mm	1,264	m²			
2.2	Walls - thickness 150 -450mm	146	m³			
2.3	Columns - Generally	96	m³			
2.4	Beams - Generally	-	m³			
2.5	Up-stands - Generally	-	m³			
2.6	Formwork - Edges of slab	1,725	m			
2.7	Formwork - Up-stands	-	m			
2.8	Formwork - Soffits	5,620	m²			
2.9	Formwork - Walls	1,460	m²			
2.10	Formwork - Beams	-	m²			
2.11	Formwork - Columns	1,328	m²			
2.12	Formwork - Kickers	293	m²			
2.13	Formwork - Wall Ends	13	m			
2.14	Reinforcement - Bar 16-40, slabs @195kg/m²	247	t			
2.14	Reinforcement - Bar 16-40, wall @120kg/m³	18	t			
2.14	Reinforcement - Bar 16-40, columns @ C1 120kg/m³, C2 120kg/m³, C1 540/m	45	t			
2.17	Worked Finishes - Skip float	5,620	m²			
2.17	Worked Finishes - EO Power Float	5,620	m²			
2.15	Accessories cast into insitu concrete - Masonry channel - ancon 30/20	271	m			
2.19	Accessories cast into insitu concrete - shear rails	58	Nr			
2.16	Accessories cast into insitu concrete - schoek Thermal Breaks	84	m			
2.18	Accessories cast into insitu concrete - Fix only brackets for bolted balconies	90	Nr			
2.20	Accessories cast into insitu concrete - Contiuity Strip	301	m			
2.21	Accessories cast into insitu concrete - Slab Penertrrations, fire collars 100mm	100	Nr			
2.23	Sub-Contractor Preliminaries	1	Item			
2.1	Sub-Total					

2.2	**UPPER FLOORS**			
2.2.1	Screed	-	Item	/A
2.2.3	Latex [Self levelling]	4,536	Item	
2.2	**Sub-Total**			
2.3	**ROOF**			
2.3.1	Roof Structure	-	m^2	ncluded in Frame above
2.3.2	Screed to falls	996	m^2	
2.3.3	Flat Roof Covering (including membrane, insulation, felt and SVP/Outlet Flashing)	996	m^2	
2.3.4	Allowance for leak testing	1	Item	
2.3.5	Abutments & flashings	155	m	
2.3.6	AOV surround wall	16	m^2	
2.3.7	Guard rails	-	m	/A Parapet 1100mm
2.3.8	Roof access steps	1	Item	llowance
2.3.9	SVP	4	Nr	
2.3.10	Outlets	12	Nr	
2.3.11	Sumps	2	Nr	
2.3.12	Hoppers	12	Nr	
2.3.13	Rainwater pipework	180	m	
2.3.14	Parapet - CP Board	155	m	
2.3.15	Parapet - Capping's	155	m	
2.3.16	AOV	2	Nr	
	Bin Store roof			
2.3.19	Allowance for roof structure and covering	2	Nr	llowance further details required
2.3	**Sub-Total**			
2.4	**STAIRS & RAMPS**			
2.4.1	Prefabricated Stairs - Stairmaster, temporary handrail only		Nr	
2.4.2	Prefabricated Stairs - EO Permanent handrail, mild steel flat top central & wall mounted	12	Nr	
2.4.4	Handrails	168	m	0 x 8 flat with plastic capping brackets at 750mm ctrs
2.4.5	Treds	170	Nr	
2.4	**Sub-Total**			
2.5	**EXTERNAL WALLS**			
2.5.1	Lintels	412	m	
2.5.2	Masonry support systems	555	m	
2.5.3	External Walls - Danehill Yellow	2,934	m^2	
2.5.4	External Walls - Stirling Grey	237	m^2	
2.5.5	EO Cut Bricks - Danehill Yellow (25mm Cut Brick Recessed Barcode Banding)	11,136	nr	
2.5.6	EO Cut Bricks - Danehill Yellow (Snapped Brick Header Panel 25mm Cut Brick Niche)	6,221	nr	
2.5.7	EO Cut Bricks - Danehill Yellow (Head & Cill 25mm Single Course Cut Brick Recess)	7,705	nr	
2.5.8	EO Cut Bricks - Danehill Yellow (25mm Wall Niche)	8,653	nr	
2.5.9	Forming openings (cavity wall)	1,829	m	
2.5.10	Band course	174	m	
2.5.11	Cavity closing	1,829	m	
2.5.12	DPC (less than 300 mm)	354	m	
2.5.13	DPC (Greater than 300 mm)	1,631	m	
2.5.14	Movement Joints	-	m	
2.5.15	Recessed Banding	478	m^2	
2.5.16	Projecting header panels	100	m	
2.5.17	Window and door reveals	2,255	m	
2.5.18	Plant / protection materials	1	Item	
2.5.19	Check Reveals	2,255	m	
2.5.20	Splash Course	76	m^2	
2.5.21	SFS Infill External Walls - Metal/Stud Works	2,701	m^2	
2.5.22	SFS Infill External Walls - Windliner Board	2,701	m^2	
2.5.23	EO Non-Combustible Cavity Tray (Above Openings)	412	m	
2.5.24	EO Non-Combustible Cavity Tray (Each Floor)	900	m	
2.5.25	Fire Socks - Horizontal	1,104	m	
2.5.26	Fire Socks - Vertical	242	m	
2.5.27	Fire Socks to Openings	1,834	m	
2.5.28	External mastic - Horizontal Movement Joints	6	Nr	
2.5.29	External mastic - Vertical Movement Joints	90	Nr	
2.5.30	External mastic - Doors/Windows	78	Nr	
2.5.31	Balconies	1	Item	
2.5.32	Riser inlet	2	Item	
2.5.33	Porch / Canopy - Front Doors	12	Nr	
2.5.34	Porch / Canopy - Main Entrance	2	Nr	
2.5.35	Railings	20	m	
2.5.36	Scaffolding	1	Item	
2.5.37	Bird Boxes	4	Nr	
2.5.38	Information Box	1	Nr	
2.5	**Sub-Total**			
2.6	**WINDOWS & EXTERNAL DOORS**			
2.6.1	Ancon window reveal plates	876	Nr	
2.6.2	External Windows & Doors	1	Item	
2.6.3	Louvers & Surrounds	1	Item	
2.6.4	Ali Window & Doors	1	Item	
2.6.5	25mm Window Board MDF primed	234	Nr	
2.6.6	Curtain Batten	234	Nr	
2.6	**Sub-Total**			

2.7	**INTERNAL WALLS & PARTITIONS**			
2.7.1	External Wall - 90mm Insulation and 2 x 15mm Plasterboard	3,170	m²	
2.7.2	WIB.01a - 100mm Blockwork	281	m²	
2.7.3	WIB.01b - 140mm Blockwork	335	m²	
2.7.4	WIM.01 - 2x 70mm Knauf C Stud, 2x 70mm Acoustic Partition Roll, 60mm Acoustic Partition Roll, 4x 15mm Knauf Soundshield Plus	2,249	m²	
2.7.5	WIM.03 - 70mm C Stud, 2x 15mm Soundshield Plus, 25mm Acoustic Partition Roll	1,185	m²	
2.7.6	WIM.05a - 70mm Knauf C Stud, 70mm Acoustic Partition Roll, 60mm Acoustic Partition Roll, 2x 15mm Knauf Soundshield Plus, 100mm Blockwork	116	m²	
2.7.7	WIM.06 - 70mm C Stud, 2x 15mm Soundshield Plus	3,010	m²	
2.7.8	WL.01 - Plasterboard on Dabs	857	m²	
2.7.9	WL.02 - 60mm Knauf I Studs, 60mm Kingspan Kooltherm K12 PIR Insulation, 2x 15mm Knauf Soundshield Plus, 25mm Acoustic Roll	441	m²	
2.7.10	WL.04 - 2 x Plasterboard fixed to studs	391	m²	
2.7.11	EO Moisture Resistance - in wet rooms	249	m²	
2.7.12	EO Service Void	7,668	m²	
2.7.13	Boxings	106	Nr	
2.7.14	OSB board	64	Nr	
2.7	**Sub-Total**			
2.8	**INTERNAL DOORS**			
2.8.1	Internal Single Door	320	Nr	
2.8.2	Internal Double Door	54	Nr	
2.8.3	Internal Single Communal Door Sets	74	Nr	
2.8.4	Internal Double Communal Door Sets	12	Nr	
2.8.5	Apartment Entrance Door Sets	64	Nr	
2.8.6	Door number, Door chain	64	Nr	
2.8.7	Architraves 25x50mm	5,471	m	
2.8.8	Threshold Strip Hardwood	524	Nr	
2.8.9	Décor To Doors	524	Nr	
2.8.10	Décor To Door Woodwork	5,471	m	
2.8.11	E.O Ironmongery and door stops for M units	54	Nr	
2.8	**Sub-Total**			
2	**SUPERSTRUCTURE TOTAL**			
3.1	**WALL FINISHES**			
3.1.1	Plaster Skimming	19,227	m²	
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	19,227	m²	
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	1,758	m²	
3.1.4	Tiling	3,168	m²	
3.1.5	Splash Back	64	Nr	
3.1.6	Skirting 19 x 94mm	8,289	m	
3.1.7	Décor to Woodwork	8,289	m	
3.1	**Sub-Total**			
3.2	**FLOOR FINISHES**			
3.2.1	All Rooms within Apartments - Carpet	2,348	m²	
3.2.2	Bathroom/Ensuite - Vinyl	430	m²	
3.2.3	Bedrooms - Carpet	1,340	m²	
3.2.4	Communal Areas - Carpet Tiles	571	m²	
3.2.5	Communal Areas - Entrance Matting	1	nr	
3.2.8	Mastic	64	Nr	
3.2	**Sub-Total**			
3.3	**CEILING FINISHES**			
3.3.1	MF Ceiling - Residential	4,688	m²	
3.3.2	EO Mosisture Board in Wet Rooms - Residential	430	m²	
3.3.3	MF Ceiling - Communal Area	762	m²	
3.3.4	EO Sound Board - Communal Area	762	m²	
3.3.5	Plaster Skimming	5,450	m²	
3.3.6	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	5,450	m²	
3.3.7	2 x 130mm Insulation & Board to Concrete Soffits on GF	261	m²	
3.3	**Sub-Total**			
3	**INTERNAL FINISHES TOTAL**			
4	**FITTINGS, FURNISHINGS & EQUIPMENT**			
4.1.1	Kitchens - Supply	64	Nr	
4.1.2	E.O for rise and fall	9	Nr	
4.1.3	Kitchens - Installation	64	Nr	
4.1.4	Toilet Roll Holder & Towel Rail	64	Nr	
4.1.5	Mirrors	64	Nr	
4.1.6	Shelving	64	Nr	
4.1.7	Built -in Wardrobe - Master bedroom only	-	Nr	emoved by client
4.1.8	Hat & Coat Hooks	64	Nr	
4.1.9	AOV Internal Guardrails	1	Item	
4.1.10	Cycle stands	60	Nr	
4.1.11	Cycle Hoops	-	Nr	Not Applicable
4.1.12	Bins/Euro Bins	64	Nr	
4.1.13	Letter Box System	1	Nr	
4.1.14	Premises Information Box	1	Item	
4.1.15	DOC M Packs	18	Nr	
4.1.16	Delivery / Drop off fit out	-	Item	xcluded no details provided
4.1.17	Notice boards	1	Item	
4	**Sub-Total**			
4	**FITTINGS, FURNISHINGS & EQUIPMENT TOTAL**			
5.1	**ELECTRICAL SERVICES**			
5.1.1	Preliminaries	1	Item	
5.1.2	Design	1	Item	
5.1.3	O&M	1	Item	
5.1.4	Domestic Units	1	Item	
5.1.5	Communal Lighting and Power	1	Item	
5.1.6	External Lighting	1	Item	
5.1.7	Ventilation	1	Item	
5.1.8	BT Openreach / data	1	Item	
5.1.9	Disabled Refuge	1	Item	

5.1.10	TV / Satellites Systems	1	Item	[redacted]	
5.1.11	Mechanical Services Wiring	1	Item		
5.1.12	Video Door Entry	1	Item		
5.1.13	Access Control	1	Item		
5.1.14	AOV & Fire Alarm	1	Item		
5.1.15	Communal Heating	1	Item		
5.1.16	BNO Works	1	Item		
5.1.17	Fire Barriers	1	Item		
5.1.18	Lighting Protection	1	Item		
5.1.19	CCTV	1	Item		
5.1.20	Lift Supplies	1	Item		
5.1.21	Evacuation Alter Systems	1	Item		
5.1.22	PV	1	Item		
5.1.23	EV Charging	1	Item		
5.1.24	Life Safety Systems	1	Item		
5.1.25	Back up Generator - Shared cost between G&H	1	Item		
5.1	Sub-Total				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaires - General Prelims	1	Item		
5.2.2	Preliminaires - Design, Calculations and Working Drawings	1	Item		
5.2.3	Preliminaires - Plant Hire, Storeage & Aceess Equipment	1	Item		
5.2.4	Preliminaires - O&M Manuals & Record Drawings	1	Item		
5.2.5	Preliminaires - Home Owner Packs	1	Item		
5.2.6	Domestic Services - Basic Unit Allowance	1	Item		
5.2.7	Domestic Services - Exhaust Air Heat Pump Cylinders	1	Item		
5.2.8	Domestic Services - Waste Water Heat Recovery (WWHR)	1	Item		
5.2.9	Domestic Services - Landlord Supplies (Excludes CAT 5 System)	1	Item		
5.2.10	Above Ground Drainage - Basic Unit Allowance, Edel Unit & MVHR	1	Item		
5.2.11	Above Ground Drainage - Suspended Drainage	1	Item		
5.2.12	Sanitaryware - Install	1	Item		
5.2.13	Sanitaryware - Supply	1	Item		
5.2.14	Mechanical Ventilation Heat Recovery Installation & Exhaust Air Heat Pump Ducting	1	Item		
5.2.15	Communals - CWS Risers & Manifold Installation	1	Item		
5.2.16	Communals - Dry Riser Installtion	1	Item		
5.2.17	Communals - Sprinkler System Installation 2021 Regs - Resi Apartments, Bin Stores, Plant Rooms & Cycles Stores, Communal Areas inc corridors.	1	Item		
5.2.18	Communals - Sprinkler System Installation 2021 Regs - Addition of stairwell pr	1	Item		
5.2.19	Communals - Booster Set & Break Tank Installation	1	Item		
5.2.20	Communals - Manufacturers Commissioning, Chlorination, Testing & Commissioning	1	Item		
5.2.21	Supply & Installations of Rytons A1 Fire Rates Compartment Ducting	1	Item		
5.2.22	Supply & Installations of Intumescent Fire Collars to Utility Cupboard Duct Penertrations	1	Item		
5.2.23	Supply & Install Extract Vents to Separate PV Inverter Cupboard	1	Item		
5.2.24	Smoke Ventilation - Dampers/Louvers & Hatches Etc	1	Item		
5.2	Sub-Total				
5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift car	1	Item		Otis Gen 2 Life 1000kg 13 pers 1m/s inc 24ths maintenance
5.3	Sub-Total				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	1	Item		
5.40	Sub-Total				
5	SERVICES TOTAL				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

		No. Unit	11	GIA (m²)	939	
Item	Element / Description					Block L
		Quant	Unit	Rate £	Total	Comments
1.0	**SUBSTRUCTURE**					
1.1	Filling to make up levels	175	m³			
1.2	Compacting Ground	369	m²			
1.3	Compacting fill [Sub-base]	369	m²			
1.4	Excavate pits	13	m³			
1.5	Trenches	415	m³			
1.6	Working space - pits, backfilled	43	m²			
1.7	Working space - Trenches, backfilled	718	m³			
1.8	Pits - depth <2m	43	m²			
1.9	Trenches - Depth <1m	46	m²			
1.10	Trenches - Depth <2m	672	m³			
1.11	Disposal of excavated material	428	m³			
1.12	Surface treatment compact excavations [pads]	10	m²			
1.13	Surface treatment compact excavations [strips]	279	m²			
1.14	Foundations - Blinding	14	m³			
1.15	Foundations - Reinforced Concrete	177	m²			
1.16	Foundations - Reinforced Concrete	13	m³			
1.17	Isolated foundations - Blinding	1	m³			
1.18	Isolated foundations - Reinforced Concrete	8	m³			
1.19	Formwork - 250-500mm	95	m			
1.20	Formwork - 500 - 1000mm	461	m			
1.21	Reinforcement - Foundations	30	t			
	Sub-structure Masonry - External Walls					
1.22	Facing bricks 100 wide	41	m²			
1.23	External skin - Blockwork 100mm thick	90	m²			
1.24	Internal skin - Blockwork 100 thick	85	m²			
1.25	Screed block - Single screed block	90	m			
1.26	DPC 150mm wide	181	m			
1.27	Coursing bricks	90	m			
1.28	Filing to hollow walls	7	m³			
1.29	Form Cavity	125	m²			
1.30	Periscope vents at 2m centres	45	Nr			
	Sub-Structure Masonry - Internal Walls					
1.31	100mm thick Blockwork	156	m²			
1.32	140mm thick Blockwork	92	m²			
1.33	Form Cavity	88	m²			
1.34	Filing to hollow walls	11	m³			
1.35	DPC 150mm wide	248	m			
1.36	Cross Vents	124	Nr			
	Pre-cast Concrete Floor Planks					
1.37	175mm beam and block floor	369	m²			
1.38	Brush in	369	m²			
1.39	Pack ends of planks	92	m²			
1.40	Structural concrete	369	m²			
1.41	A252 Mesh	369	m²			
1.42	1200 gauge polythene DPM	717	m²			
	Barriers					
1.43	Gas Barriers	384	m²			
1.44	Protection Board	384	m²			
1.45	Adjustable Z vents	45	Nr			
1.46	Gas membrane edge details	90	m			
1.47	Gas membrane edge primer	90	m			
1.48	Gas membrane edge fillet	90	m			
1.49	Gas membrane edge protection board	90	m			
1.50	Allowance for refuse bases	2	Nr			
1.51	Insulation & Screed	369	m²			
1.52	Sub-Contractor Prelims	1	Item			
1.0	Sub-Total					
1	SUBSTRUCTURE TOTAL					
2.1	**FRAME**					
2.1.1	Steelwork	1	Item			Supply & Install
2.1.2	Intumescent paint	1	Item			Allowance
2.1.3	Wind Posts	18	Nr			
2.1.4	Padstones	52	Nr			Allowance
2.1.5	Lintels	1	Item			Supply & Install
2.1.6	Batten, insulate and box steels	44	m			
2.1	Sub-Total					
2.2	**UPPER FLOORS**					
2.2.1	Hollowcore planks	1	Item			
2.2.2	Screed	689	Item			
2.2.3	Latex [Self levelling]	689	Item			
2.2	Sub-Total					
2.3	**ROOF**					
	Main Roof					
2.3.1	Roof Structure	-	Item			
2.3.2	Screed to falls	352	m²			
2.3.3	Breather membrane	352	m²			
2.3.4	Insulation	352	m²			
2.3.5	Roof membrane	352	m²			
2.3.6	Allowance for leak testing	1	Item			
2.3.7	Abutments & flashings	107	m			
2.3.8	AOV surround wall	8	m²			
2.3.9	Guard rails	98	m			
2.3.10	Roof access steps	1	Item			
2.3.11	SVP	2	Nr			
2.3.12	Outlets	1	Item			
2.3.13	Sumps	12	Nr			
2.3.14	Hoppers	12	Nr			
2.3.15	Rainwater pipework	138	m			UPVC
2.3.16	Cappings	110	m			
2.3.17	AOV	1	Nr			
2.3.18	Sub-Contractors prelims	1	Item			
	Bin Store roof					
2.3.19	Allowance for roof structure and covering	1	Nr			

2.3	Sub-Total				
2.4	STAIRS & RAMPS				
2.4.1	Stairs and landings	1	Item		
2.4.2	Balustrading	44	Item		Top rail 50x8 flat with plastic capping bottom rail 40 x 8 flat infill bars 12 x 12 square, support posts 40x40xx3 box
2.4.3	Handrails	30	Item		50 x 8 flat with plastic capping brackets at 750mm ctrs
2.4.4	Treds	40	Item		Allowance
2.4	Sub-Total				
2.5	EXTERNAL WALLS				
2.5.1	Lintels	1	Item		
2.5.1	External Walls - Materials	1	Item		
2.5.2	External Walls - Labour	1	Item		
2.5.3	E.O for specials & cut bricks	-	m²		Inc
2.5.4	E.O for feature brickwork	-	m²		Inc
2.5.5	Fire Barriers & Closures	-	m		Inc
2.5.6	External mastic	154	m		
2.5.8	Riser inlet	1	Item		Supply & fit
2.5.9	Porch / Canopy	-	-		Excluded - None shown
2.5.17	Scaffolding	1	Item		
2.5.18	Bird Boxes	4	Nr		
2.5.19	Information Box	1	Nr		
2.5	Sub-Total				
2.6	WINDOWS & EXTERNAL DOORS				
2.6.1	Ancon window reveal plates	236	Nr		
2.6.2	External Windows & Doors	1	Item		
2.6.3	Louvers	1	Item		
2.6.4	Communal Doors	1	Item		
2.6.5	Refuse store doors	2	Item		External Stores
2.6.6	25mm Window Board MDF primed	79	Nr		
2.6.7	Curtain Batten	79	Nr		
2.6	Sub-Total				
2.7	INTERNAL WALLS & PARTITIONS				
2.7.1	Internal Wall Type WIB 01 A/B	123	m²		
2.7.2	Internal Wall Type WIB 04	390	m²		
2.7.3	Internal Wall Type WIB 05	75	m²		
2.7.4	Internal Wall Type WIB 06	6	m²		
2.7.5	Internal Wall Type WIM 04	72	m²		
2.7.6	Internal apartment walls generally	1,254	m²		
2.7.7	Plasterboard generally	4,208	m²		
2.7.8	Boxings	22	Nr		
2.7.9	OSB board	90	m²		
2.7	Sub-Total				
2.8	INTERNAL DOORS				
2.8.1	Internal Single Door	50	Nr		
2.8.2	Internal Double Door	5	Nr		
2.8.3	Internal Single Communal Door Sets	11	Nr		
2.8.4	Internal Double Communal Door Sets	6	Nr		
2.8.5	Apartment Entrance Door Sets	11	Nr		
2.8.6	Door number, Door chain	11	Nr		
2.8.7	Architraves 25x50mm	936	m		
2.8.8	Threshold Strip	83	Nr		
2.8.9	Décor To Doors	83	Nr		
2.8.10	Décor To Door Woodwork	936	m		
2.8	Sub-Total				
2	SUPERSTRUCTURE TOTAL				
3.1	WALL FINISHES				
3.1.1	Plaster Skimming	4,208	m²		
3.1.2	Paint (General)- Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	4,208	m²		
3.1.3	Paint Extra Over (Communal) - Dulux Trade Diamond Matt or Equiv	974	m²		
3.1.4	Tiling	275	m²		
3.1.5	Splash Back	11	Nr		
3.1.6	Skirting 19 x 94mm	1,429	m		
3.1.7	Décor to Woodwork	1,429	m		
3.1	Sub-Total				
3.2	FLOOR FINISHES				
3.2.1	Anti statics / sealed flooring	92	m²		Bins/Stores etc
3.2.2	Vinyl Floor	768	m²		
3.2.3	Tiled Ceramic Floor Tiles	99	m²		
3.2.7	Carpet	244	m²		
3.2.8	Heavy Duty Carpet	114	m²		
3.2.9	Heavy Duty Carpet Stair Cores	21	m²		
3.2.11	Entrance Matting	2	Nr		
3.2.12	Mastic	11	Nr		
3.2	Sub-Total				
3.3	CEILING FINISHES				
3.3.1	Ceiling System	1,022	m²		
3.3.2	Class C suspended ceiling	73	m²		
3.3.3	Plaster Skimming	1,022	m²		
3.3.4	Paint (General) - Dulux Trade Vinyl matt emulsion paint or equiv 1 mist coat and 2 full coats	1,022	m²		
3.3.5	2 x 130mm Insulation & Board to Concrete Soffits on GF	60	m²		
3.3	Sub-Total				
3	INTERNAL FINISHES TOTAL				
4	FITTINGS, FURNISHINGS & EQUIPMENT				
4.1.1	Kitchens	11	Nr		
4.1.2	Kitchens - Installation	11	Nr		

4.1.3	Toilet Roll Holder & Towel Rail	11	Nr		Wall Mounted
4.1.4	Mirrors	11	Nr		600 x 400 plain mirror wall mounted
4.1.5	Shelving	11	Nr		
4.1.6	Built -in Wardrobe - Master bedroom only	11	Nr		
4.1.7	Hat & Coat Hooks	11	Nr		
4.1.8	AOV Internal Guardrails	1	Item		
4.1.9	Cycle stands	11	Nr		
4.1.10	Cycle Hoops	-	-		Not applicable
4.1.11	Bins/Euro Bins	11	Nr		
4.1.12	Letter Box System	1	Nr		
4.1.13	Premises Information Box	-	-		Not applicable
4.1.14	Access Ladder	1	Item		
4.1.15	DOC M Packs	-	-		Not applicable
4.1.16	Notice boards	1	Item		
4	Sub-Total				
4	FITTINGS, FURNISHINGS & EQUIPMENT TOTAL				
5.1	**ELECTRICAL SERVICES**				
5.1.1	Preliminaries	1	Item		
5.1.2	Design	1	Item		
5.1.3	O&M	1	Item		
5.1.4	Domestic Units	1	Item		
5.1.5	Communal Lighting and Power	1	Item		
5.1.6	External Lighting	1	Item		
5.1.7	Ventilation	1	Item		
5.1.8	BT Openreach / data	1	Item		
5.1.9	Disabled Refuge	1	Item		
5.1.10	TV / Satellites Systems	1	Item		
5.1.11	Mechanical Services Wiring	1	Item		
5.1.12	Video Door Entry	1	Item		
5.1.13	Access Control	1	Item		
5.1.14	AOV & Fire Alarm	1	Item		
5.1.15	Communal Heating	1	Item		
5.1.16	BNO Works	1	Item		
5.1.17	Fire Barriers	1	Item		
5.1.18	Lighting Protection	1	Item		
5.1.19	CCTV	1	Item		
5.1.20	Lift Supplies	1	Item		
5.1.21	Evacuation Alter Systems	1	Item		
5.1.22	PV	1	Item		
5.1.23	EV Charging	1	Item		
5.1.24	Life Safety Supplies	1	Item		
5.1	Sub-Total				
5.2	**MECHANICAL SERVICES**				
5.2.1	Preliminaries	1	Item		
5.2.2	O&M	1	Item		
5.2.3	Domestic Services	1	Item		
5.2.4	Exhaust Air Heat Pumps	1	Item		
5.2.5	Waste Water Heat Recovery [WWHR]	1	Item		
5.2.6	Landlord Supplies	1	Item		
5.2.7	Above ground drainage	1	Item		
5.2.8	Sanitaryware - Supply	1	Item		
5.2.9	Sanitaryware - Installation	1	Item		
5.2.10	MVHR	1	Item		
5.2.11	CWS Risers & Manifolds	1	Item		
5.2.12	Dry Riser Installation	1	Item		
5.2.13	Fire rated ducting	1	Item		
5.2.14	Fir collars to ducting	1	Item		
5.2.15	Testing & Commissioning	1	Item		
5.2.16	Smoke Ventilation	1	Item		Dampers/ louvers/ hatches
5.2	Sub-Total				
5.3	**LIFT & CONVEYOR INSTALLATIONS**				
5.3.1	Lift car	1	Item		Not required as confirmed
5.3	Sub-Total				
5.4	**BWIC**				
5.4.1	Allowance for BWIC	1	Item		
5.4.2	Fire Stopping	1	Item		
5.40	Sub-Total				
5	SERVICES TOTAL				

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

Item	Element / Description	Section 278 & 104Works				
		Quant	Unit	Rate £	Total	Comments
	Twyford Avenue - S278 Works [PMC Mark up Item's 1 - 3]					
1	***Item Nr 1 Change to shared footpath*** *- **Provisional Sum** for 1) All Design Fees including checking and monitoring, 2) BoQ production [if required], 3) All legal fees, 4) All Road Safety Audits - Including works resulting from 12 months of operational validation. 5) Undertaking all Section Works including all traffic and pedestrian management. 6) Lowering and or diverting of existing services 7) Dealing with deleterious materials 8) All Administration and inspections fees 8) Commuted Maintenance Payments and or transferring of ownership. 9) Performance Bonds 10) All Scheduled items that may be appended to the agreement 11) MC OH&P*	1	Item			*Assumes some reinstatement of existing hard surfaces [N/E 200m²] however the scope of Works is yet to be confirmed*
2	***Item Nr 2 Change pedestrian crossing to Toucan Crossing - Provisional Sum*** *for 1) All Design Fees including checking and monitoring, 2) BoQ production [if required], 3) All legal fees, 4) All Road Safety Audits - Including works resulting from 12 months of operational validation. 5) Undertaking all Section Works including all traffic and pedestrian management. 6) Lowering and or diverting of existing services 7) Dealing with deleterious materials 8) All Administration and inspections fees 8) Commuted Maintenance Payments and or transferring of ownership. 9) Performance Bonds 10) All Scheduled items that may be appended to the agreement. 11) MC OH&P*	1	Item			*Provisional Sum only - Further design development required.*
3	***Item Nr 3 Create Cyclist Cut Through - Provisional Sum*** *for 1) All Design Fees including checking and monitoring, 2) BoQ production [if required], 3) All legal fees, 4) All Road Safety Audits - Including works resulting from 12 months of operational validation. 5) Undertaking all Section Works including all traffic and pedestrian management. 6) Lowering and or diverting of existing services 7) Dealing with deleterious materials 8) All Administration and inspections fees 8) Commuted Maintenance Payments and or transferring of ownership. 9) Performance Bonds 10) All Scheduled items that may be appended to the agreement. 11) MC OH&P*	1	Item			*Provisional Sum only - Further design development required.*
	Sub-Total					
	Stamshaw Road A3 - S278 Works [PMC Mark up Item's 4]					
	Item Nr 4 Change pedestrian crossing to Toucan Crossing - Provisional Sum *for 1) All Design Fees including checking and monitoring, 2) BoQ production [if required], 3) All legal fees, 4) All Road Safety Audits - Including works resulting from 12 months of operational validation. 5) Undertaking all Section Works including all traffic and pedestrian management. 6) Lowering and or diverting of existing services 7) Dealing with deleterious materials 8) All Administration and inspections fees 8) Commuted Maintenance Payments and or transferring of ownership. 9) Performance Bonds 10) All Scheduled items that may be appended to the agreement. 11) MC OH&P*	1	Item			*Provisional Sum only - Further design development required.*
	Sub-Total					
	Wharf Rd - S278 Works [PMC Mark up Item's 5]					
1.00	***Item Nr 5 Change crossing to Tiger Crossing - Provisional Sum*** *for 1) All Design Fees including checking and monitoring, 2) BoQ production [if required], 3) All legal fees, 4) All Road Safety Audits - Including works resulting from 12 months of operational validation. 5) Undertaking all Section Works including all traffic and pedestrian management. 6) Lowering and or diverting of existing services 7) Dealing with deleterious materials 8) All Administration and inspections fees 8) Commuted Maintenance Payments and or transferring of ownership. 9) Performance Bonds 10) All Scheduled items that may be appended to the agreement. 11) MC OH&P*	1	Item			*Provisional Sum only - Further design development required. Note due to the location and access to the Wharf and Ferries that additional traffic management is likely to be required.*
	Sub-Total					
	Twyford Avenue - S278 Works [PMC Mark up Item 6]					
1	Existing macadam surfacing broken out to an assumed depth not 150mm	106	m²			
2	Plane off existing carriage way	288	m²			
3	Allowance to regulate levels	97	m²			
4	E.O the above for additional depth	192	m²			
5	Allowance for making good base course, should this be required by HCC	-	m²			
6	Breakout existing macadam surface to an assumed depth not exceeding 150mm	340	m²			
7	Existing footway planed off assumed not exceeding 20mm	29	m²			
8	Breaking out existing macadam under new verge areas assumed not exceeding 150mm	53	m²			
9	Breakout out macadam under new tactile areas assumed not exceeding 150mm	8	m²			
10	Existing PCC kerbs Broken Out & Dispose off site	90	m			
11	Existing PCC Edgings Broken Out & Dispose off site	31	m			
12	Remove existing light column	1	Item			
13	*Electrical disconnections of the above*	-	m²			*Provisional Sum, locations to be confirmed*
14	Remove existing bollards	3	Nr			
15	Excavate to reduce levels	253	m³			253m³
16	Disposal on site	32	m²			32m³
17	Allowance to double handle back to site	221	m³			221m³
18	Disposal off site	221	m³			221m³ - Assumed inert no allowance has been included for non-hazardous or hazardous waste
19	Filling to make up levels	221	m³			221m³
20	Compacting bottom of excavations	463	m³			
21	Compacting fill, capping layer	116	m²			
22	Compacting fill, sub-base	463	m³			
23	Prepare subsoil for topsoil	52	m³			
24	Grading topsoil	52	m²			
25	Capping layer of 6F2	70	m³			
26	Type 1 Primary	60	m³			

27	Top Soil BS/3882	8	m^3	
28	E.O for distributing materials to working areas	138	m^3	
	Flex Resurfacing			
29	40mm thick surface course 40/60	405	m^3	
30	60mm thick binder course AC20 40/60	405	m^3	
31	125mm thick HDM base course AC32 40/60	405	m^3	
32	Allow for bond coat x2	405	m^3	
33	Geogrid	405	m^3	
34	HCC Tie in Detail - 23m			
35	40mm thick surface course 40/60			ncluded above
36	600mm width 60mm depth AC20 binder	23	m	
37	300mm width x 160mm thick AC32 base course	23	m	
38	HCC Tie in Detail - 7m			
39	40mm thick surface course 40/60			ncluded above
40	600mm width 60mm depth AC20 binder	7	m	
41	300mm width x 160mm thick AC32 base course	7	m	
	Type 1A HCC Footpath			
42	20mm thick dense asphalt concrete surface course AC6 dense 100/150	340	m^2	
43	50mm thick cold recycled bound material	340	m^2	
44	Allow bond coat	340	m^2	
	Footway Resurface			
45	25mm thick AC6 Dense 100/150	289	m^2	
46	40mm depth carriageway resurfacing	289	m^2	
47	600mm width x 60mm depth AC20 binder curved	7	m	
48	300mm width x 160mm thick AC32 base course curved	7	m	
49	600mm x 60mm depth AC20 binder	23	m	
50	300mm x 160mm thick AC32 base	23	m	
51	400 x 400 x 50 Tactile paving	8	m^2	
52	Road line markings	1	Item	
53	Kerbs & Edgings	1	Item	
54	Remove existing Items	2	Nr	
55	Breakout and remove existing posts	2	Nr	
56	Install new posts	2	Nr	
57	Reconnect items	2	Nr	
58	Adjust cover levels of FW manholes	1	Item	No allowance has been included for any replacement works, only to adjust existing.
59	Adjust existing BT cover levels	1	Item	No allowance has been included for any replacement works, only to adjust existing.
60	Traffic Management	1	Item	
61	Sub-Contractor Prelims - associated with the above Works	1	Item	
	Section 104 Works			
62	Excavate drainage trenches for pipe dia <200mm, depth not exceeding 1500mm	24	m	To be included in Main Works
63	Excavate drainage trenches for pipe dia <225mm, depth not exceeding 2250mm	5	m	To be included in Main Works
64	Beds & surrounds granular to 150mm pipe	24	m	To be included in Main Works
65	Beds & surrounds granular to 225mm pipe	5	m	To be included in Main Works
66	Assumed 150mm dia pipe	24	m	To be included in Main Works
67	Assumed 225mm dia pipe	5	m	To be included in Main Works
68	Road Gullies	4	Nr	To be included in Main Works
69	Junction 150 x 150	3	Nr	To be included in Main Works
70	Junction 150 x 225	1	Nr	To be included in Main Works
71	Excavate and remove chambers	2	Nr	To be included in Main Works
72	Excavate existing line, cut to make ready for new junction	2	Nr	To be included in Main Works
73	Saw cutting trench lines	70	m	To be included in Main Works
74	Breaking out road macadam	31	m^2	To be included in Main Works
75	Reinstate base and binder course	31	m^2	To be included in Main Works
76	Saw Cutting to road gullies	16	m	To be included in Main Works
77	Traffic Management	1	Item	To be included in Main Works
78	Sub-Contractor Prelims - associated with the above Works	1	Item	To be included in Main Works
79	*Provisional Sum for 1) ~~All Design Fees~~ including checking and monitoring, 2) BoQ production [if required], 3) All legal fees, 4) All Road Safety Audits - Including works resulting from 12 months of operational validation. 5) traffic and pedestrian management. 6) Lowering and or diverting of existing services 7) Dealing with deleterious materials 8) All Administration and inspections fees 8) Commuted Maintenance Payments and or transferring of ownership. 9) Performance Bonds 10) All Scheduled items that may be appended to the agreement. 11) MC OH&P*	*1*	*Item*	*Provisional Sum*
0.0	Sub-Total			
	Twyford Avenue - S278 & 104 Works [PMC Mark up Item 7]			
1	***Item Nr 7 TBC*** *-* ***Provisional Sum*** *for 1) Legal Fees only*	*1*	*Item*	

Project: Victory Quay - Tipner
Client: Vestal Developments Ltd

Item	Element / Description	Quant	Unit	Rate £	Total £	Comments
8.1	**SITE PREPARATION WORKS**					
8.1.1	Site Clearance	1	Item			Completed under previous phases / works
8.1	Sub-Total					
8.2	**ROADS, PATHS, PAVINGS AND SURFACINGS**					
8.2.1	**Spine Road Construction**					
8.2.1.1	Excavate to reduce level	285	m^3			
8.2.1.2	Disposal of material, On site for later reuse	285	m^3			
8.2.1.3	Disposal of material, off site	-	m^3			
8.2.1.4	Fill to levels - Material on site	511	m^3			
8.2.1.5	Imported subsoil to make up levels	1,117	m^3			
8.2.1.6	Imported 6F1/2/5 to make up levels	2,428	m^3			
8.2.1.7	Reduction in above as material generated from Attenuation, pumpstation and associated drainage	(1,528)	m^3			
8.2.1.8	Transport of material from costal walkway	1,528	m^3			
8.2.1.9	Reduction in disposal off site	(1,528)	m^3			
8.2.1.10	6F2/ 5 Capping Layer	1,837	m^3			
8.2.1.11	Type 1 Primary Sub Base	1,449	m^3			
8.2.1.12	Type 3 [Permeable]	-	m^3			
8.2.1.13	Surface Treatment - Applying herbicides	7,792	m^2			
8.2.1.14	Surface Treatment - Compact ground	6,625	m^2			
8.2.1.15	Surface Treatment - Compact fill	3,759	m^2			
8.2.1.16	Surface Treatment - Compact capping layer	6,625	m^2			
8.2.1.17	Terram 1000	-	m^2			
	Kerbs/Edgings/Channels					
8.2.1.18	Excavate trenches	267	m^3			
8.2.1.19	Disposal of material	267	m^3			
8.2.1.20	Compact	958	m^2			
8.2.1.21	Edging kerb	1,667	m^2			
	Temp Kerbs					
8.2.1.22	Temporary Kerbs - Spine Road	1,210	m			
8.2.1.23	Temporary Kerbs - Spine Road - Parking bays	387	m			
8.2.1.24	Temporary Kerbs - Spine Road - Radius	101	m			
8.2.1.25	Temporary Kerb - Tempoary route around Block G&H	542	m			
	Kerbs					
8.2.1.26	HB2 Kerbs - Spine Road & Parking	-	m			
8.2.1.27	HB2 Kerbs - Radius	-	m			
8.2.1.28	HB2 - Blocks G&H	-	m			
8.2.1.29	E.O for drop kerbs	-	Nr			
8.2.1.30	Internal / External angles	-	m			
	Spine Road - Carriageway (Macadam Road)					
8.2.1.31	Binder Course	3,237	m^2			
8.2.1.32	Base Course	3,237	m^2			
8.2.1.33	Bond coat	3,237	m^2			
8.2.1.34	Geo Grid	3,237	Item			
8.2.1.35	E.O. for carrying out surface course in 3 separate visits [1st visit is included]	2	Nr			
8.2.1.36	E.O for caring out the surface course in 2026	3,237	m^2			
	Spine Road - Flexible Carriagewat Construction Raised Tables					
8.2.1.37	Binder Course	65	m^2			
8.2.1.38	Base Course	65	m^2			
8.2.1.39	Bond Coat	65	m^2			
8.2.1.40	Geogrid	65	m^2			
	Spine Road - Flexible Carriageway Construction Ramps					
8.2.1.41	Binder Course	135	m^2			
8.2.1.42	Base Course	135	m^2			
8.2.1.43	Bond Coat	135	m^2			
8.2.1.44	Geogrid	135	m^2			
	Spine Road - Block Paving Rasied tables					
8.2.1.45	Base Course	322	m^2			
8.2.1.46	Bond Coat	322	m^2			
8.2.1.47	Geogrid	322	m^2			
	Spine Road - Block Paving Parking Bays West					
8.2.1.48	Base Course	632	m^2			
8.2.1.49	Bond Coat	632	m^2			
8.2.1.50	Geogrid	632	m^2			
	Footpath - Macadam Paving					
8.2.1.51	Surface Cousre -20mm thick	1,391	m^2			
8.2.1.52	Base course - 45mm thick	1,391	m^2			
8.2.1.53	Bond Coat	1,391	m^2			
	Cycleway - Flexiable Construction					
8.2.1.54	Surface Cousre -20mm thick	1,205	m^2			
8.2.1.55	Base course - 45mm thick	1,205	m^2			
8.2.1.56	Bond Coat	1,205	m^2			
	Interlocking Brick/Block Road/Paving					
8.2.1.57	Block Paving Footpath Construction - Marshall Keyblok 60mm Thick, laid in herringbone pattern	170	m^2			
8.2.1.58	Tactile Pavings - Cordoury Paving 400x400x50mm Buff	63	m^2			
8.2.1.59	Tactile Pavings - Tactile Paving 400x400x50mm Buff	36	m^2			
8.2.1.60	Allowance tempoary white lining	1	Item			
	Street Signage					
8.2.1.61	DIAG 956 sign installed on new 76mm post	2	Nr			
8.2.1.62	DIAG 957 back to back with diag 956	2	Nr			
8.2.1.63	DIAG 675 sign installed on new 76mm post	1	Nr			
8.2.1.64	DIAG 616 sign installed on new 76mm post	2	Nr			
8.2.1.65	DIAG 675 sign installed on new 76mm post	2	Nr			
8.2.1.66	DIAG 674 installed back to back with diag 675	2	Nr			
8.2.1.67	DIAG 956 sign installed on new 76mm post	1	Nr			
8.2.1.68	DIAG 957 back to back with diag 956	1	Nr			
8.2.1.69	Concrete bases	8	Nr			
	Finishes to Spine Road (East)					
	Final Fill					
8.2.1.70	Topsoil	117	m^3			
8.2.1.71	Prepare subsoil to receive topsoil	1,167	m^2			
8.2.1.72	Grading topsoil	1,167	m^2			
	Kerbs					
8.2.1.73	HB2	840	m			
8.2.1.74	HB2 to Radius	101	m			
8.2.1.75	BN Kerb	356	m			
8.2.1.76	DK - E.O for drop kerb	36	Nr			
8.2.1.77	Internal / External angles	15	Nr			
8.2.1.78	Trief Kerb	14	m			

8.2.1.79	Treif Kerb Transitions	2	Nr	
8.2.1.80	Breaking out temproary kerbs	1,853	m	
	Spine Road East - Macadam Road			
8.2.1.81	Road - Surface Course	2,370	m^2	
8.2.1.82	Road - Bond Coat	2,370	m^2	
8.2.1.83	Raised tables - Surface Course	33	m^2	
8.2.1.84	Raised tables - Bond Coat	33	m^2	
8.2.1.85	Ramps - Surface Course	105	m^2	
8.2.1.86	Ramps - Bond Coat	105	m^2	
	Marshall Keyblock 80mm thick			
8.2.1.87	Block Paving Carriageway Construction - Marshall Keyblok 80mm thick 60mm Thick, laid in herringbone pattern	284	m^2	
	Road Markings			
8.2.1.88	100mm wide lane	456	m	
8.2.1.89	Double yellow	745	m	
8.2.1.90	1049.B	398	m	
8.2.1.91	Bus Stops	3	Nr	
8.2.1.92	Bike logos	36	Nr	
8.2.1.93	Pedestrian Logos	18	Nr	
8.2.1.94	Giveways	4	Nr	
8.2.1.95	Ramp Triangles	34	Nr	
8.2.1.96	Lettering	192	Nr	300mm high
	Finishes to Spine Road (West)			
	Spine Road West - Macadam Road			
8.2.1.97	Road - Surface Course	867	m^2	
8.2.1.98	Road - Bond Coat	-	m^2	
8.2.1.99	Raised tables - Surface Course	32	m^2	
8.2.1.100	Raised tables - Bond Coat	-	m^2	
8.2.1.101	Ramps - Surface Course	30	m^2	
8.2.1.102	Ramps - Bond Coat	-	m^2	
	Marshall Keyblock 80mm thick			
8.2.1.103	Block Paving Carriageway Construction (Raised Tables) - Marshall Keyblok 80mm thick 60mm Thick, laid in herringbone pattern	38	m^2	
8.2.1.104	Block Paving Carriageway Construction (Spine Road Bays) - Marshall Keyblok 80mm thick 60mm Thick, laid in herringbone pattern	632	m^2	
8.2.2	**Phase 1 Residential External Works & Roads**			
8.2.2.1	Excavation to reduce levels	140	m^3	
8.2.2.2	Disposal of excavated material	140	m^3	
8.2.2.3	First Stage, Filling to make up levels - From onsite spoil heap	140	m^3	
8.2.2.4	First Stage, Filling to make up levels - Imported sub-soil to make up levels	2,723	m^3	
8.2.2.5	First Stage, Filling to make up levels - Imported 6F1/2/5	2,824	m^3	
8.2.2.6	Second Stage, Construction Depth - 6F2/5 Capping Layer	2,201	m^3	
8.2.2.7	Second Stage, Construction Depth - Type 1 recycled sub-base	2,526	m^3	
8.2.2.8	Second Stage, Construction Depth - Type 3 Permeable	-	m^3	
8.2.2.9	Third Stage, Final Fill - Breedon Gravel	-	m^3	
8.2.2.10	Third Stage, Final Fill - Topsoil	1,173	m^3	
		-	£ -	
8.2.2.11	Surface Treatment - Applying herbicides	12,628	m^2	
8.2.2.12	Surface Treatment - Compact, Ground	8,845	m^2	
8.2.2.13	Surface Treatment - Compact filling, capping layer	6,288	m^2	
8.2.2.14	Surface Treatment - Compact filling, sub-base layer	8,845	m^2	
8.2.2.15	Surface Treatment - Preparing subsoil to receive topsoil	3,783	m^2	
8.2.2.16	Surface Treatment - Grading topsoil	3,783	m^2	
8.2.2.17	Geotextiles - Terram 1000	8,345	m^2	
	Kerbs / Edging			
8.2.2.18	Excavate Trenches	240	m^3	
8.2.2.19	Disposal of material off site	240	m^3	
8.2.2.20	Compact	980	m^3	
8.2.2.21	HB2 Kerb	486	m	
8.2.2.22	HB2 Kerb - To radius	81	m	
8.2.2.23	RN Kerb	1,323	m	
8.2.2.24	Transition kerbs	20	Nr	
8.2.2.25	Internal / External angles	30	Nr	
	Tempoary Kerb			
8.2.2.26	Temporary kerbs	1,984	m	
8.2.2.27	Edgings - EF Edging	1,578	m	
8.2.2.28	Edgings - EF Edging - Radius	270	m	
	Macadam Layer			
8.2.2.29	P1 Macadam Roadway - AC10 30mm thick, AC20 60mm thick,AC32 130mm thick	1,656	m^2	
8.2.2.30	P2 Macadam Footpaths - AC6 30mm thick, AC20 60mm thick	1,140	m^2	
8.2.2.31	P3 Macadam Footpaths - AC6 30mm thick, AC20 60mm thick	409	m^2	
8.2.2.32	P10 Macadam Cycle Way - AC6 30mm thick, AC20 60mm thick		m^2	
8.2.2.33	Bond coat	4,861	m^2	
8.2.2.34	Geogrid	3,312	m^2	
	Gravels / Blocks / Paving's			
8.2.2.35	P11 Gravel 75mm thick	-	m^2	
8.2.2.36	P4 Block Paving, Burnet Orche - 60mm Paviour on 50mm sand bed	2,922	m^2	
8.2.2.37	P5 Block Paving, Natural - 60mm Paviour on 50mm sand bed	734	m^2	
8.2.2.38	P6 Vehicular Block Paving, Charcoal 80mm on 50mm sand bed	252	m^2	
8.2.2.39	P7 Vehicular Block Paving, Brindel 80mm on 50mm sand bed	723	m^2	Parking Bays
8.2.2.40	P8 Slab paving, Charcoal 400 x 400, 50mm thick on 50mm mortar	228	m^2	
8.2.2.41	P9 Slab paving, buff 400 x 400, 50mm thick on 50mm mortar	767	m^2	
8.2.2.42	Allowance for road line markings	1	Item	
8.2.3	**Coastal Walkway**			We have assumed that a small area of the coastal walkway will be constructed in a temporary finish to allow for Block A to be constructed under a closure license at a later date.
	Excavating and Filling			
8.2.3.1	Excavate to reduce levels	129	m^3	
8.2.3.2	Disposal - Excavated material, onsite for later use	129	m^3	
8.2.3.3	Disposal - Excavated material, off site	77	m^3	
8.2.3.4	First Stage Filling - From onsite spoil heaps	52	m^3	
8.2.3.5	First Stage Filling - Imported fill 6F1/2/5	-	m^3	
	Second Stage			
8.2.3.6	First Stage Filling - Type 1 Recycled sub-base	447	m^3	
8.2.3.7	Surface Treatment - Apply herbicides	1,910	m^3	
8.2.3.8	Surface Treatment - Compact	1,910	m^3	
8.2.3.9	Surface Treatment - Compact Sub base	1,910	m^3	
8.2.3.10	Terram 1000	1,910	m^2	
	Kerbs/Edging/Channels			
8.2.3.11	Excavating - Excavating Trenches	97	m^3	
8.2.3.12	Excavating - Disposal	97	m^3	
8.2.3.13	Excavating - Compact bottom of excavations	325	m^3	
8.2.3.14	Edging - EF edging Kerb	696	m	
	Macadam Surface			

8.2.3.14	P2 - Macadam Footpaths - AC6 30mm thick AC20 60mm thick	949	m^2	[redacted]	
8.2.3.15	P10 - Macadam Cycle Way - AC6 30mm thick, AC20 60mm thick	961	m^2		
8.2.3.16	Bond Coat	1,910	m^2		
8.2.3.17	Geo Grid	-	m^2		
8.2.3.18	Sub-Contractor Prelims - Coastal Walkway	1	Item		
8.2.3.19	Sub-Contractor Prelims - Spine Road	1	Item		
8.2.3.20	Sub-Contractor Prelims - Remaining External Works	1	Item		
8.2	**Sub-Total**				
8.3	**SOFT LANDSCAPING, PLANTING & IRRIGATION**				
8.3.1	Topsoil	-	m^3		Included above
8.3.2	Soft landscaping trees and shrubs	1	Item		Capped Provisional Sum - Further development required to include all low level planting / turfing,
8.3.3	Excavation and instalaltion of tree pits	47	Item		
8.3.4	Boulevard Trees	47	Nr		Capped Provisional Sum - Further development required to include all low level planting / turfing,
8.3.5	Allowance for temporary landscaping [gravel] & Plant Pots	1	Item		Capped Provisional Sum
8.3.6	Allowance for potted plants / shrubs	1	Item		Capped Provisional Sum - As per Client Request to included irrigation system if required
8.3.7	Allowance for maintenance	1	Item		Capped Provisional Sum - For 12mths only following PC of Phase 1 residential. No allowance has been included for Maintenance beyond that period, as we have assumed that this will be undertaken by Vivid. - Relates to 8.3.2
8.3	**Sub-Total**				
8.4	**FENCING, RAILINGS AND WALLS**				
8.4.1	Timber Fencing, rails & Wind Panels	1,200	m		
8.4.2	Gates	47	Nr		
8.4.3	Metal Railings	350	m		
8.4.4	Retaining Walls - Footings	1	Item		Excluded - Further design Development required
8.4.5	Retaining Walls	1	Item		Excluded - Further design Development required
8.4.6	Retaining Walls - Steps	1	Item		Excluded - Further design Development required
8.4	**Sub-Total**				

8.5	**EXTERNAL FIXTURES & LIGHTING**			
8.5.1	Street Bollards	1	Item	
8.5.2	Street Lighting	1	Item	
8.5.3	Costal Walkway Street Lighting	1	Item	
8.5.4	Shed bases	27	Nr	Excluded - As not required for the site
8.5.5	Sheds - 6x4 timber	27	Nr	Excluded - As not required for the site
8.5.6	Cycle Stands / Hoops - Site Wide	8	Nr	
8.5.7	Litter Bins - Site Wide	5	Nr	
8.5.8	Removable Bollards - Site Wide	12	Nr	
8.5.9	Water Butts - Vivid to confirm if required?	27	Nr	
8.5.10	Bench's & Picnic Table Set etc - Site Wide	15	Nr	
8.5.11	Rotary Dryers - Houses Only	27	Nr	
8.5.12	Bridges / Walkways - Assumed to be timber	3	Nr	
8.5.13	Log / Stones / Ecology Items	1	Item	
8.5.14	Allowance for sculpture / public art	1	Item	Excluded
8.5.15	Allowance for marketing / front of house / entrance improvements / specification changes	1	Item	Excluded - Vestal to confirm requirements and to use sales budgets as agreed with Mark Gilpin 11.06.25
8.5	**Sub-Total**			
8.6	**EXTERNAL DRAINAGE**			
	Surface Water Drainage Foul Water Drainage - Spine Road			
	Surface Water			
	The following manholes only are included			
	SW19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 43, 50, 55, 57, 58, 59, 99, 100, 101, 122,			
	Excavating trenches, commencing from reduced level, backfilling with as dug materials, including disposal of surplus etc			
	Pipes 225mm nominal size			
	Average depth of trench n.e. 750mm	10	m	
	Average depth of trench n.e. 1000mm	42	m	
	Average depth of trench n.e. 1250mm	40	m	
	Average depth of trench n.e. 2000mm	35	m	
	Average depth of trench n.e. 2250mm	6	m	
	Pipes 300mm nominal size			
	Average depth of trench n.e. 1000mm	17	m	
	Average depth of trench n.e. 1500mm	66	m	
	Average depth of trench n.e. 1750mm	2	m	
	Pipes 375mm nominal size			
	Average depth of trench n.e. 1500mm	85	m	
	Average depth of trench n.e. 1750mm	84	m	
	Average depth of trench n.e. 2000mm	10	m	
	Pipes 450mm nominal size			
	Average depth of trench n.e. 1500mm	9	m	
	Average depth of trench n.e. 1750mm	41	m	
	Average depth of trench n.e. 2000mm	32	m	
	Pipes 525mm nominal size			
	Average depth of trench n.e. 2000mm	23	m	
	Average depth of trench n.e. 2500mm	18	m	
	Pipes 600mm nominal size			
	Average depth of trench n.e. 1750mm	23	m	
	Average depth of trench n.e. 2000mm	59	m	
	Beds & Surrounds			
	Granular bed & surround, 600 x 475 (225 dia. pipes)	132	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	132	m	
	Extra for; Compressible material 75mm thick	132	m	
	Granular bed & surround, 600 x 550 (300 dia. pipes)	85	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	85	m	
	Extra for; Compressible material 75mm thick	85	m	
	Granular bed & surround, 600 x 550 (375 dia. pipes)	178	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	178	m	
	Extra for; Compressible material 75mm thick	178	m	
	Granular bed & surround, 900 x 700 (450 dia. pipes)	83	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	83	m	
	Extra for; Compressible material 75mm thick	83	m	
	Granular bed & surround, 600 x 550 (525 dia. pipes)	42	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	42	m	
	Extra for; Compressible material 75mm thick	42	m	
	Granular bed & surround, 900 x 775 (600 dia. pipes)	69	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	69	m	
	Extra for; Compressible material 75mm thick	69	m	
	Granular bed & surround, 900 x 850 (675 dia. pipes)	63	m	
	Extra for; RC40 Concrete Cover Slab 150mm thick, 600mm wider than B&S width, with A393 mesh	63	m	
	Extra for; Compressible material 75mm thick	63	m	
	Pipes			
	225mm dia.	132	m	
	300mm dia.	85	m	
	375mm dia.	178	m	
	450mm dia.	83	m	
	525mm dia.	42	m	
	600mm dia.	69	m	
	675mm dia.	63	m	
	Pipe Fittings			
	225mm dia. rocker pipes	16	Nr	
	300mm dia. rocker pipes	8	Nr	
	375mm dia. rocker pipes	17	Nr	
	450mm dia. rocker pipes	7	Nr	
	525mm dia. rocker pipes	6	Nr	
	600mm dia. rocker pipes	8	Nr	
	675mm dia. rocker pipes	12	Nr	
	Manholes			
	1200 diameter, depth to invert n.e. 1250	1	Nr	
	1200 diameter, depth to invert n.e. 1500	3	Nr	
	1200 diameter, depth to invert n.e. 1750	2	Nr	
	1200 diameter, depth to invert n.e. 2000	2	Nr	
	1350 diameter, depth to invert n.e. 1000	1	Nr	
	1350 diameter, depth to invert n.e. 1250	1	Nr	
	1350 diameter, depth to invert n.e. 1500	3	Nr	
	1350 diameter, depth to invert n.e. 1750	2	Nr	
	1500 diameter, depth to invert n.e. 1000	1	Nr	
	1500 diameter, depth to invert n.e. 2000	5	Nr	
	1500 diameter, depth to invert n.e. 2250	3	Nr	
	1500 diameter, depth to invert n.e. 2500	4	Nr	
	1800 diameter, depth to invert n.e. 2000	2	Nr	
	1800 diameter, depth to invert n.e. 2250	1	Nr	
	1800 diameter, depth to invert n.e. 3250	1	Nr	
	2400 diameter, depth to invert n.e. 1750	1	Nr	

2400 diameter, depth to invert n.e. 2250	1	Nr	
Attenuation Tank No. 1 - 15 x 12 x 0.8m - CL 4.500, ToC 3.900	1	Item	
Attenuation Tank No. 2/1 - 9 x 3 x 0.4m - CL 4.650, ToC 3.545	1	Item	
Attenuation Tank No. 2/2 - 8 x 2 x 0.4m - CL 4.750, ToC 3.545	1	Item	
Stage Testing	589	m	
CCTV Survey	589	m	
Foul Water Drainage			
The following manholes only are included			
FW9, 10, 14, 20, 25, 26, 72			
Excavating trenches, commencing from reduced level, backfilling with as dug materials, including disposal of surplus etc			
Pipes 200mm nominal size			
Average depth of trench n.e. 500mm	119	m	
Average depth of trench n.e. 1250mm	24	m	
Average depth of trench n.e. 2000mm	26	m	
Average depth of trench n.e. 2250mm	32	m	
Average depth of trench n.e. 2500mm	53	m	
Average depth of trench n.e. 2750mm	111	m	
Average depth of trench n.e. 3000mm	3	m	
Average depth of trench n.e. 3250mm	13	m	
Average depth of trench n.e. 3500mm	18	m	
Average depth of trench n.e. 3750mm	47	m	
Average depth of trench n.e. 4000mm	9	m	
Average depth of trench n.e. 4250mm	10	m	
Average depth of trench n.e. 4250mm	-	m	
Pipes 225mm nominal size			
Average depth of trench n.e. 500mm	13	m	
Average depth of trench n.e. 750mm	99	m	
Beds & Surrounds			
Granular bed & surround, 450 x 350 (100 dia. pipes)	37	m	
Granular bed & surround, 600 x 400 (150 dia. pipes)	271	m	
Granular bed & surround, 600 x 475 (225 dia. pipes)	99	m	
Concrete bed & surround, 600 x 475 (225 dia. pipes)	119	m	
Concrete bed & surround, 600 x 475 (100 dia. pipes)	13	m	
Pipes			
100mm dia. UPVC	20	m	
150mm dia. UPVC	288	m	
225mm dia. UPVC	24	m	
Rising main	243	m	
Surge Analysis	1	Item	
Pipe Fittings			
100mm dia. rocker pipes	7	Nr	
150mm dia. rocker pipes	25	Nr	
225mm dia. rocker pipes	6	Nr	
100mm dia. end caps	-	Nr	
150mm dia. end caps	-	Nr	
Manholes			
1200 diameter, depth to invert n.e. 1000	1	Nr	
1200 diameter, depth to invert n.e. 2500	5	Nr	
1200 diameter, depth to invert n.e. 2750	1	Nr	
1200 diameter, depth to invert n.e. 3000	2	Nr	
1200 diameter, depth to invert n.e. 3250	1	Nr	
1200 diameter, depth to invert n.e. 3750	2	Nr	
1200 diameter, depth to invert n.e. 4250	1	Nr	
1350 diameter, depth to invert n.e. 1000	1	Nr	
Testing & Commissioning	585	m	
CCTV Survey	585	m	
Drainage outside of the site boundary - For the rising Main Works are not part of the 278 Works			
Saw Cutting	228	m	
Breaking out macadam	86	m^2	
Reinstatement of Macadam	86	m^2	
Traffic Management	1	Item	
Highway working	114	m	
Surface Water Drainage & Foul Water Drainage - Coastal Walkway			
Surface Water Drainage			
The following manholes only are included			
SW29,33,34,36,37,38,85			
Excavating trenches, commencing from reduced level, backfilling with as dug materials, including disposal of surplus etc			
Pipes 225mm nominal size			
Average depth of trench n.e. 1500mm	6	m	
Average depth of trench n.e. 1750mm	5	m	
Average depth of trench n.e. 2000mm	7	m	
Pipes 600mm nominal size			
Average depth of trench n.e. 2000mm	21	m	
Pipes 675mm nominal size			
Average depth of trench n.e. 1750mm	81	m	
Average depth of trench n.e. 2000mm	80	m	
Average depth of trench n.e. 2250mm	9	m	
Beds & Surrounds			
Granular bed & surround, 600 x 475 (225 dia. pipes)	18	m	
Granular bed & surround, 900 x 850 (600 dia. pipes)	21	m	
Granular bed & surround, 900 x 925 (675 dia. pipes)	171	m	
Pipes			
225mm dia	18	m	
600mm dia	21	m	
675mm dia	171	m	
Pipe Fittings			
225mm dia. rocker pipes	4	Nr	
600mm dia. rocker pipes	3	Nr	
675mm dia. rocker pipes	14	Nr	
225mm dia. End Caps	5	Nr	
600mm dia. End Caps	2	Nr	
675mm dia. End Caps	2	Nr	
Manholes			
Precast concrete manholes complete			
1200 diameter, depth to invert n.e. 1750 - S37, S38	2	Nr	
1800 diameter, depth to invert n.e. 2250 - S85	1	Nr	
1500 diameter, depth to invert n.e. 2500 - S33, S36, S34	3	Nr	

1800 diameter, depth to invert n.e. 2500 - S29	1	Nr	
Extra for outfall	1	Nr	
Pumps and Interceptors			
Bypass Separator	1	Nr	
Testing & Commissioning			
Stage tests	210	m	
CCTV Survey	210	m	
Foul Drainage Coastal Walkway			
Excavating trenches, commencing from reduced level, backfilling with as dug materials, including disposal of surplus etc			
Pipes 200mm nominal size			
Average depth of trench n.e. 2750mm	10	m	
Bed & Surrounds			
Granular bed & surround, 600 x 400 (150 dia. pipes)	10	m	
Pipes			
150mm dia	10	m	
Pipe Fittings			
150mm dia rocker	2	Nr	
Manholes			
Precast concrete manholes complete			
1200 diameter, depth to invert n.e. 2500	1	Nr	
1200 diameter, depth to invert n.e. 2500	1	Nr	
E/O for back drops	1	Nr	
Testing & Commissioning			
Stage tests	10	m	
CCTV Survey	10	m	
Surface Water Drainage & Foul Water Drainage - Residential			
Surface Water Drainage - Phase 1 Residential			
The following manholes only are included SW10,32,33,39,40,41,42,44,45,46,47,48,49,51,52,53,54,72,73,75,76,80,81,119,123,125,71 74,68,4,38,37,2,36,34,102,35			
Excavating trenches, commencing from reduced level, backfilling with as dug materials, including disposal of surplus etc			
Pipes < 200mm nominal size			
Average depth of trench n.e. 1000mm	-	m	
Average depth of trench n.e. 1500mm	33	m	
Average depth of trench n.e. 2000mm	6	m	
Pipes 225mm nominal size			
Average depth of trench n.e. 1250mm	2	m	
Average depth of trench n.e. 1500mm	35	m	
Average depth of trench n.e. 1750mm	29	m	
Average depth of trench n.e. 2000mm	56	m	
Average depth of trench n.e. 2250mm	6	m	
Average depth of trench n.e. 2500mm	34	m	
Pipes 300mm nominal size			
Average depth of trench n.e. 1750mm	46	m	
Average depth of trench n.e. 2000mm	105	m	
Pipes 375mm nominal size			
Average depth of trench n.e. 1750mm	61	m	
Average depth of trench n.e. 2000mm	108	m	
Average depth of trench n.e. 2250mm	81	m	
Pipes 450mm nominal size			
Average depth of trench n.e. 2000mm	11	m	
Average depth of trench n.e. 2500mm	22	m	
Pipes 525mm nominal size			
Average depth of trench n.e. 2000mm	10	m	
Average depth of trench n.e. 2250mm	18	m	
Pipes 600mm nominal size			
Average depth of trench n.e. 2500mm	12	m	
Pipes 675mm nominal size			
Average depth of trench n.e. 1000mm	21	m	
Average depth of trench n.e. 1250mm	1	m	
Average depth of trench n.e. 2250mm	81	m	
Average depth of trench n.e. 2500mm	67	m	
Average depth of trench n.e. 2750mm	12	m	
Beds & Surrounds			
Granular bed & surround, 450 x 350 (100 dia. pipes)	18	m	
Granular bed & surround, 600 x 400 (150 dia. pipes)	21	m	
Granular bed & surround, 600 x 475 (225 dia. pipes)	161	m	
Granular bed & surround, 600 x 550 (300 dia. pipes)	151	m	
Granular bed & surround, 600 x 550 (375 dia. pipes)	250	m	
Granular bed & surround, 900 x 700 (450 dia. pipes)	33	m	
Granular bed & surround, 900 x 775 (525 dia. pipes)	12	m	
Granular bed & surround, 900 x 925 (675 dia. pipes)	162	m	
Pipes			
100mm dia.	18	m	
150mm dia.	21	m	
225mm dia.	161	m	
300mm dia.	151	m	
375mm dia.	250	m	
450mm dia.	33	m	
600mm dia.	12	m	
675mm dia.	183	m	
Pipe Fittings			
100mm dia. rocker pipes	2	Nr	
150mm dia. rocker pipes	6	Nr	
225mm dia. rocker pipes	22	Nr	
300mm dia. rocker pipes	10	Nr	
375mm dia. rocker pipes	20	Nr	
450mm dia. rocker pipes	5	Nr	
525mm dia. rocker pipes	1	Nr	
675mm dia. rocker pipes	1	Nr	
150mm dia. End Caps	-	Nr	
225mm dia. End Caps	-	Nr	
300mm dia. End Caps	-	Nr	
375mm dia. End Caps	-	Nr	
450mm dia. End Caps	24	Nr	
675mm dia. End Caps	-	Nr	
Manholes - Pre Cast			
1200 diameter, depth to invert n.e. 1250	3	Nr	
1200 diameter, depth to invert n.e. 1500	8	Nr	
1200 diameter, depth to invert n.e. 1750	7	Nr	
1200 diameter, depth to invert n.e. 2000	3	Nr	

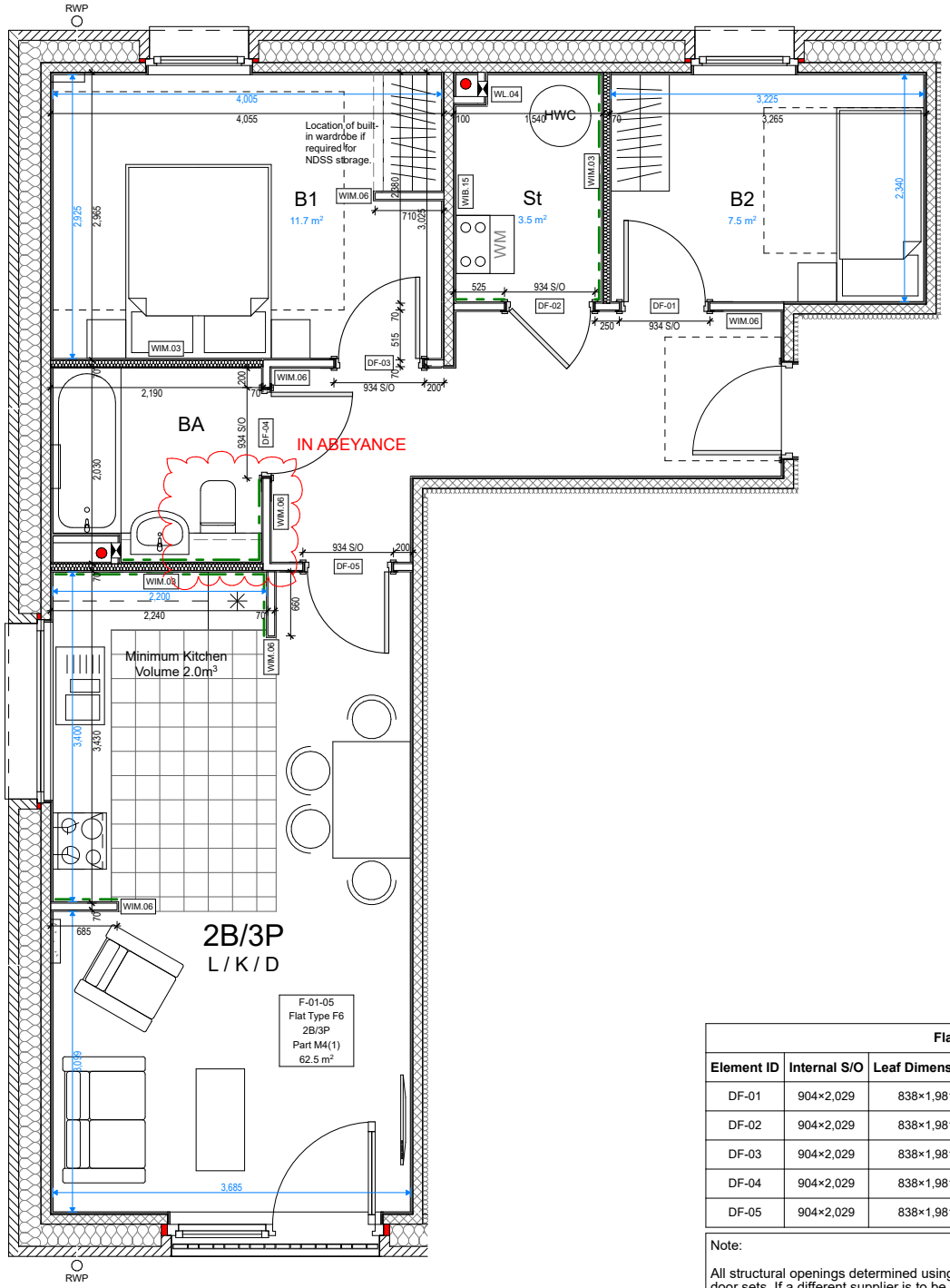
1200 diameter, depth to invert n.e. 2500	1	Nr	
1350 diameter, depth to invert n.e. 1250	1	Nr	
1350 diameter, depth to invert n.e. 1500	2	Nr	
1350 diameter, depth to invert n.e. 2000	1	Nr	
1500 diameter, depth to invert n.e. 1750	1	Nr	
1500 diameter, depth to invert n.e. 2000	2	Nr	
1500 diameter, depth to invert n.e. 2250	2	Nr	
1500 diameter, depth to invert n.e. 2500	3	Nr	
1500 diameter, depth to invert n.e. 2750	2	Nr	
1800 diameter, depth to invert n.e. 2250	-	Nr	
Bypass separator	2	Nr	
Stage Tests	829	m	
CCTV Survey	829	m	
Foul Water Drainage - Phase 1 Residential			
The following manholes only are included			
FW11,12,13,16,17,18,19,21,22,23,24,30,32,38,63,64,71,73,56,62,36,35			
Pipes < 200mm nominal size			
Average depth of trench n.e. 500mm	-	m	
Average depth of trench n.e. 1250mm	-	m	
Average depth of trench n.e. 1500mm	-	m	
Average depth of trench n.e. 1750mm	17	m	
Average depth of trench n.e. 2000mm	19	m	
Average depth of trench n.e. 2250mm	58	m	
Average depth of trench n.e. 2500mm	79	m	
Average depth of trench n.e. 2750mm	87	m	
Average depth of trench n.e. 3000mm	149	m	
Average depth of trench n.e. 3250mm	9	m	
Average depth of trench n.e. 3750mm	-	m	
Average depth of trench n.e. 4000mm	26	m	
Average depth of trench n.e. 4250mm	17	m	
Pipes < 225mm nominal size			
Average depth of trench n.e. 500mm	-	m	
Average depth of trench n.e. 4000mm	-	m	
Average depth of trench n.e. 4500mm	9	m	
Beds & Surrounds			
Granular bed & surround, 450 x 350 (100 dia. pipes)	63	m	
Granular bed & surround, 600 x 400 (150 dia. pipes)	401	m	
Granular bed & surround, 600 x 475 (225 dia. pipes)	9	m	
Concrete bed & surround, 450 x 350 (100 dia. pipes)	-	m	
Concrete bed & surround, 600 x 475 (225 dia. pipes)	-	m	
Pipe			
100mm dia.	63	m	
150mm dia.	401	m	
225mm dia.	9	m	
Pipe Fittings			
100mm dia. rocker pipes	7	Nr	
150mm dia. rocker pipes	31	Nr	
225mm dia. rocker pipes	4	Nr	
150mm dia. end caps	6	Nr	
Manholes - Pre Cast			
1200 diameter, depth to invert n.e. 1250	1	Nr	
1200 diameter, depth to invert n.e. 1500	1	Nr	
1200 diameter, depth to invert n.e. 2000	2	Nr	
1200 diameter, depth to invert n.e. 2250	3	Nr	
1200 diameter, depth to invert n.e. 2500	5	Nr	
1200 diameter, depth to invert n.e. 2750	3	Nr	
1200 diameter, depth to invert n.e. 3000	2	Nr	
1200 diameter, depth to invert n.e. 3250	1	Nr	
1200 diameter, depth to invert n.e. 4250	3	Nr	
1200 diameter, depth to invert n.e. 4500	1	Nr	
1200 diameter, depth to invert n.e. 6000	-	Nr	
1350 diameter, depth to invert n.e. 1000	-	Nr	
3000 diameter, depth to invert n.e. 6000	-	Nr	
E/O for back drops	9	Nr	
Stage Testing	473	m	
CCTV Survey	473	m	
Surface Water Drainage & Foul Water Drainage - Private			
Surface Water Drainage			
Excavating trenches, commencing from reduced level, backfilling with as dug materials, including disposal of surplus etc			
Pipes < 200mm nominal size			
Average depth of trench <250mm	634	m	
Average depth of trench n.e. 500mm	551	m	
Average depth of trench n.e. 750mm	340	m	
Average depth of trench n.e. 1000mm	186	m	
Average depth of trench n.e. 1250mm	48	m	
Average depth of trench n.e. 1500mm	50	m	
Average depth of trench n.e. 1750mm	35	m	
Average depth of trench n.e. 2000mm	15	m	
Average depth of trench n.e. 2250mm	2	m	
Average depth of trench n.e. 2500mm	1	m	
Pipes 225mm nominal size			
Average depth of trench n.e. 1250mm	19	m	
Average depth of trench n.e. 1500mm	19	m	
Average depth of trench n.e. 1750mm	14	m	
Beds & Surrounds			
Granular bed & surround, 450 x 350 (100 dia. pipes)	463	m	
Granular bed & surround, 600 x 400 (150 dia. pipes)	71	m	
Granular bed & surround, 600 x 475 (225 dia. pipes)	53	m	
Concrete bed & surround, 450 x 350 (100 dia. pipes)	1,330	m	
Pipes			
100mm dia.	1,793	m	
150mm dia.	71	m	
225mm dia.	53	m	
Pipe Fittings			
100mm dia. rocker pipes	393	Nr	
150mm dia. rocker pipes	4	Nr	
225mm dia. rocker pipes	5	Nr	
300mm dia. rocker pipes	274	Nr	
Rodding eye assembly	3	Nr	
Rainwater Pipe Adapter	180	Nr	
Junction 100/100	81	Nr	
Yard Gully	44	Nr	
Back drops	4	Nr	
Manholes - Pre Cast			
1200 diameter, depth to invert n.e. 1250	2	Nr	
1200 diameter, depth to invert n.e. 1750	2	Nr	
1200 diameter, depth to invert n.e. 2000	1	Nr	
1350 diameter, depth to invert n.e. 1500	1	Nr	
1500 diameter, depth to invert n.e. 2000	1	Nr	
1500 diameter, depth to invert n.e. 2250	1	Nr	

1500 diameter, depth to invert n.e. 2500	1	Nr	
1500 diameter, depth to invert n.e. 2750	1	Nr	
1800 diameter, depth to invert n.e. 2000	2	Nr	
Inspection Chambers			
450 diameter, depth to invert n.e. 500	2	Nr	
450 diameter, depth to invert n.e. 750	40	Nr	
450 diameter, depth to invert n.e. 1000	55	Nr	
450 diameter, depth to invert n.e. 1250	13	Nr	
450 diameter, depth to invert n.e. 1500	8	Nr	
450 diameter, depth to invert n.e. 1750	7	Nr	
450 diameter, depth to invert n.e. 2000	1	Nr	
450 diameter, depth to invert n.e. 2250	1	Nr	
Stage Testing	1,916	m	
CCTV Survey	1,916	m	
Foul Water Drainage - Private			
The following manholes only are included			
F11 F16 F17 F18 F19 F21 F23 F24 F26 F31 F65 F71 PF106 PF110 PF114 PF115 PF116			anholes F36, F38, F56, S2, S4, S10, S68 have not been detailed on manholes
PF125 PF130 PF131 PF135 PF139 PF14 PF143 PF147 PF157 PF160 PF163 PF165 PF168			chedules and have therefore all been allowed as 1200 dia PCC chambers
PF171 PF20 PF205 PF206 PF207 PF213 PF214 PF218 PF222 PF226 PF229 PF23 PF232 PF233			
PF235 PF240 PF242 PF243 PF246 PF248 PF250 PF251 PF254 PF257 PF26 PF260 PF261			
PF266 PF268 PF271 PF281 PF29 PF294 PF295 PF297 PF299 PF301 PF305 PF307 PF32 PF34			
PF348 PF350 PF353 PF355 PF360 PF366 PF367 PF368 PF383 PF42 PF44 PF45 PF46 PF49			
PF51 PF52 PF54 PF57 PF59 PF63 PF65 PF68 PF70 PF74 PF78 PF82 PS126 PS174 PS177			
PS180 PS184 PS187 PS190 PS193 PS196 PS199 PS202 PS103 PS108 PS114 PS115 PS116			
PS117 PS120 PS124 PS126 PS127 PS131 PS133 PS135 PS142 PS151 PS155 PS156 PS163			
PS177 PS185 PS191 PS197 PS200 PS206 PS209 PS215 PS219 PS228 PS231 PS233 PS239			
PS242 PS244 PS246 PS257 PS259 PS262 PS267 PS267A PS27 PS271 PS273 PS276 PS280			
PS283 PS286 PS289 PS29 PS292 PS296 PS30 PS303 PS304 PS305 PS307 PS311 PS315 PS316			
PS322 PS34 PS340 PS341 PS345 PS346 PS347 PS348 PS352 PS355 PS36 PS361 PS380 PS386			
PS389 PS39 PS392 PS398 PS40 PS405 PS407 PS408 PS414 PS417 PS42 PS420 PS423 PS424			
PS430 PS431 PS438 PS440 PS444 PS447 PS45 PS46 PS462 PS463 PS465 PS471 PS481 PS483			
PS485 PS487 PS489 PS49 PS491 PS493 PS494 PS495 PS511 PS513 PS52 PS520 PS56 PS58			
PS59 PS67 PS70 PS71 PS73 PS74 PS79 PS82 PS85 PS88 PS95 PS97 PS99 S119 S36 S40 S42			
S45 S48 S49 S51 S53 S61			
S83			
Excavating trenches, commencing from reduced level, backfilling with as dug, including disposal of surplus etc			
Pipes < 200mm nominal size			
Average depth of trench n.e. 250mm	-	m	
Average depth of trench n.e. 500mm	799	m	
Average depth of trench n.e. 750mm	236	m	
Average depth of trench n.e. 1000mm	317	m	
Average depth of trench n.e. 1250mm	210	m	
Average depth of trench n.e. 1500mm	94	m	
Average depth of trench n.e. 1750mm	47	m	
Average depth of trench n.e. 2000mm	58	m	
Average depth of trench n.e. 2250mm	8	m	
Average depth of trench n.e. 2500mm	45	m	
Average depth of trench n.e. 3000mm	13	m	
Average depth of trench n.e. 3250mm	21	m	
Average depth of trench n.e. 3750mm	13	m	
Beds & Surrounds			
Granular bed & surround, 450 x 350 (100 dia. pipes)	968	m	
Granular bed & surround, 600 x 400 (150 dia. pipes)	894	m	
Pipes			
100mm dia.	1,862	m	
Pipe Fittings			
100mm dia. rocker pipes	341	Nr	
100mm Long Radius Bend	1	Nr	
100mm bend	251	Nr	
SVP	106	Nr	
SS	52	Nr	
DC	53	Nr	
100x100 Junction	56	Nr	
Bottle gully	11	Nr	
Back Drops	20	Nr	
Manholes - Pre-Cast			
1200 diameter, depth to invert n.e. 1250	-	Nr	
1200 diameter, depth to invert n.e. 1750	1	Nr	
1200 diameter, depth to invert n.e. 2000	2	Nr	
1200 diameter, depth to invert n.e. 2250	1	Nr	
1200 diameter, depth to invert n.e. 2500	3	Nr	
1200 diameter, depth to invert n.e. 2750	2	Nr	
1200 diameter, depth to invert n.e. 3000	1	Nr	
1200 diameter, depth to invert n.e. 4000	2	Nr	
Inspection Chambers			
450 diameter, depth to invert n.e. 1000	45	Nr	
450 diameter, depth to invert n.e. 1250	16	Nr	
450 diameter, depth to invert n.e. 1500	5	Nr	
450 diameter, depth to invert n.e. 1750	11	Nr	
450 diameter, depth to invert n.e. 2000	12	Nr	
450 diameter, depth to invert n.e. 2250	1	Nr	
450 diameter, depth to invert n.e. 2500	1	Nr	
450 diameter, depth to invert n.e. 2750	2	Nr	
450 diameter, depth to invert n.e. 3000	1	Nr	
450 diameter, depth to invert n.e. 3250	1	Nr	
450 diameter, depth to invert n.e. 4250	1	Nr	
Stage Testing	1,862	m	
CCTV Survey	1,862	m	
Capped Provisional Sum Allowance for Block F, G & H Drainage	1	item	
Pump Station			
Excavate to reduce levels at angle of repose	432	m^3	
Disposal of arisings	432	m^3	
Compact reduced level	72	m^2	
Surface packing battered face of excavation	204	m^2	
Excavate for pump chamber	105	m^3	
Disposal of arisings	105	m^3	
Earthwork support Titan Box	1	Item	
Compact bottom of excavation	27	m^2	
Excavation for Penstock chamber	21	m^3	
Disposal of arisings	21	m^3	
Earthworks support Mini Box	1	Item	
Compact bottom of excavation	6	m^2	
Excavate for valve Pit	13	m^3	
Disposal of arisings	13	m^3	
Working space	19	m^2	
Earthwork support	19	m^3	
Compact bottom of excavation	6	m^2	
Excavate & full balance	483	m^3	

	Dewatering - 4nr wells 7.7m deep install pumps, pipework and electrical equipment	1	Item	[redacted]	
	Dewatering hire of pump equipment & generator [excluding fuel]	6	Wks		
	Dewatering Fuel	6	Wks		
	Dewatering attendant labour	6	Wks		
	2.7m dia manhole	1	Item		
	Edge Formwork, <250mm high and curved	9	m		
	Concrete to base	2	m^3		
	Shuttering to base	7	m^3		
	Benching to bottom of base	1	Item		
	Coverslab 2.7m Dia	1	Item		
	Wall formwork	67	m^3		
	Concrete to walls	10	m^3		
	Cover slab 2.1 x 3.3m	1	Item		
	1.2m Dia Manhole				
	1200 dai manhole casings x 6m deep	1	Item		
	Edge Formwork, <250mm high and curved	4	m		
	Concrete to base	1	m^3		
	Finish surface of the slab	1	m^2		
	Benching to bottom of base	1	Item		
	Cover slab 1.2m dia	1	Nr		
	Formwork for surround	23	m^2		
	Concrete surround	3	m^3		
	Construct 1800x3000x1500 deep - internal dimensions				
	Concrete to base	1	m^3		
	Shuttering to base	11	m		
	Benching Bottom of base	7	m^2		
	Wall formwork	32	m^2		
	Concrete to walls	2	m^3		
	Cover slab 21x3.3m	1	nr		
	Supply & Install pump station	1	Item		
	Excavate for the 17m x 3m storage vessel	298	m^3		
	Disposal of arisings	298	Item		
	EWS System	181	m^2		
	Installation with crane	1	Item		
	Compacting bottom excavations	74	m^2		
	Concrete base 250mm thick	15	m^3		
	Finish top concrete	74	m^2		
	Tank 17.6m 3m dia	1	Item		
	Placement of tank	1	Item		
	Removal of EWS including crane	1	Item		
	Concrete surround to tank	136	m^3		
	Pumpstation hard standings				
	Allowance for bollards to pump yard	7	Nr		
	AC10 Surface Course 30mm thick	48	m^2		
	AC20 Binder Course 75mm thick	48	m^2		
	AC32 Base Course 150mm thick	48	m^2		
	Bond coat between layers	96	m^2		
	Compact	48	m^2		
	Type 1 - 250mm deep	12	m^3		
	Compact Fill	48	m^2		
	6F2 - 350mm deep	17	m^3		
	Compacting ground	48	m^2		
	Excavating to reduce levels	41	m^3		
	Disposal of Excavated material	41	m^3		
	Tanker hard standings				
	Pea shingle finish 75mm thick	203	m^2		
	Compacting fill	203	m^2		
	Type 1 - 300mm thick	61	m^3		
	Compacting ground	203	m^3		
	Excavating to reduce levels	76	m^3		
	Disposal of excavated materials off site	76	m^3		
	Allowance for Kiosk Base	1	Item		Allowance further details required
	Ducting to kiosk base	1	Item		
	Allowance for Wall to Perimeter of Yard				
	Foundation 300 x 300	60	m		
	Allowance for 215mm thick high wall	108	m^2		Assumed 1.8m high
	Allowance for Dwarf Wall				
	Foundation 300 x 300	60	m		
	Allowance for 215mm thick high wall	36	m^2		Assumed 0.6m high
	Attenuation Tank 3 & Associated Drainage				
	S83,84,85,120,121				
	Pipes 225mm nominal size				
	Average depth to invert n.e. 1500mm	1	m		
	Pipes 675mm nominal size				
	Average depth to invert n.e. 1750mm	139	m		
	Average depth to invert n.e. 2000mm	65	Item		
	Beds & Surrounds				
	Granular bed & surround 600 x 475 [225mm]	1	m		
	Concrete cover slab 150mm thick	1	m		
	Compressible material	1	m		
	Granular bed & surround 900 x 850 [675mm]	204	Item		
	Concrete cover slab 150mm thick	204	Item		
	Compressible material	204	Item		
	Pipes				
	225mm dia	1	m		
	675mm dia	204	m		Rigid Sewer XL
	Pipe Fittings				
	225mm dia. Rocker pipes	1	Nr		
	675mm dia. Rocker pipes	16	Nr		
	Precast Manholes				
	1500 dia depth to invert n.e. 2000	1	Nr		
	1500 dia depth to invert n.e. 2500	1	Nr		
	1800 dia depth to invert n.e. 2000	2	Nr		
	1800 dia depth to invert n.e. 2500	1	Nr		
	Attenuation/Soakaway Tank - No. 3 - 31x17x1.2m - CL 4.300, ToC 3.100	1	item		
	Bypass separator & Earthwork Support System	1	Nr		
	Testing & Commissioning	205	m		
	CCTV Survey	205	m		
	Foul Water Pump Drainage				
	F32, F64, F66				
	for pipes <200mm - Average depth of trench n.e 4000mm	10	m		
	for pipes 225mm - Average depth of tench n.e. 4000mmm	39	m		
	for pipes 225mm - Average depth of tench n.e. 57500mm	3	m		

	Bed & Surround - Granular bed & surround, 600x400 (150 dia pipe)		m	[redacted]	
	Bed & Surround - Granular bed & surround, 600x475 (225 dia pipe)		m		
	Pipes - 150mm dia UPVC	10	m		
	Pipes - 225mm dia UPVC	42	m		
	Pipe Fittings - 150mm dia Rocker Pipe	1	nr		
	Pipe Fittings - 225mm dia Rocker Pipe	4	nr		
	Manhole - 1200 diameter, depth to invert n.e 4000	2	nr		
	Manhole - 1200 diameter, depth to invert n.e 4250	1	nr		
	Stage testing	52	m		
	CCTV Survey	52	m		
	Other Items				
	Carbon Gate				
	Carbon Gate Construction	1	Item		
	Installation of Carbon to Pipework	1	Item		
	Temporary Drainage for Surface Water Management				
	Trenches to suit 450mm dia <2000m deep	30	m		
	Shingle bed and surround to suit 450mm dia pipe	30	m		
	Pipes - 450mm Rigidsewer	30	m		
	Rocker pipes	4	Nr		
	Manhole PCC 1200 dia <1000	1	Nr		
	Manhole PCC 1200 dia <3000	1	Nr		
	Swales				
	Excavating Ponds - Depth assumed max 1.2m plus construction make up of 350mm	192	m^3		
	Disposal	192	m^3		
	Blinding sand - assumed 100mm thick	15	m^3		
	Subsoil - 150mm thick	22	m^3		
	Topsoil - 150mm thick	22	m^3		
	Compacting ground - Sloping	149	m^3		
	Battering	149	m^3		
	Pond Liner	149	m^3		
	Sub-Contractor Prelims				
8.6.516	Sub-Contract Prelims - Pump Station	1	Item		
8.6.517	Sub-Contract Prelims - Attenuation & Associated Drainage		Item		
8.6.518	Sub-Contract Prelims - Residential & Private Drainage	1	Item		
8.6	**Sub-Total**				
8.7	**EXTERNAL SERVICES**				
8.7.1	Substation foundations & enclosures and bases	1	Item		
	Power On Multi Service Option	1	Item		
8.7.2	Electric & Water Non-Contestable & Contestable	1	Item		Ref E12262
8.7.3	Electric & Water Non-Contestable & Contestable - Omit amount Paid to date	1	Item		Amount Paid by PMC @ 5th March 2025
8.7.4	Option 1 - LV Internals	1	Item		
8.7.5	Fibre	1	Item		Excluded further discussion required with Vivid
8.7.6	Power on cost increase due to the timing of the order and phased plan of works	1	Item		VO For Power On Price Increase
8.7.7	BWIC - Electrical, Water, lighting	1	Item		
8.7.8	Relay HV cable	1	Item		Capped Provisional Sum including any additional BWIC
8.7.9	Allowance for inflation due to timing of instructions	1	Item		Excluded
8.7.10	Sub-Contract Prelims - External Services	1	Item		
8.7	**Sub-Total**				
8.8	**MINOR BUILDING WORKS AND ANCILLARY BUILDINGS**				
8.1	Allotment Store	1	Item		Provisional Sum - Further details required
8.8	**Sub-Total**				
	TOTAL ORDER OF COST ESTIMATE				

PMC Construction and Development Services Ltd
80a High Street, Cosham, Portsmouth, Hampshire PO6 3FL



IN ABEYANCE

Storage Assessment
NDSS requirement = 2.0m²
St 1 = 1.0m²
Total = 1.0m²

Kitchen Storage Assessment
ER requirement = 2.0m³
Base Units:
1x 1000 sink; 1x 800 corner;
1x 800; 1x 500; 1x 300.
3.4m total length.
Volume ≈ 1.17m³

Wall units:
1.6m total length.
Volume ≈ 0.26m³

Kitchen total ≈ 1.43m³
(assuming 1x 600 base unit achieves 0.19m³ and 1x 600 wall unit achieves 0.10m³)

IN ABEYANCE

Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party, HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/1106

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.		
DF-01	Door Reference	XXX	Structural Dimension
WIM.00	Wall Reference Refer to 6900 Detail series	XXX	Finished Dimension
/	SVP / stub, refer to M&E layouts		
	SVP / SS Access Panel - Refer to GA plans & M&E drawings for locations		

Refer to M&E Drawings for typical utility cupboard layouts.

Flat type F6				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	904×2,029	838×1,981	100	FD30
DF-02	904×2,029	838×1,981	100	FD30
DF-03	904×2,029	838×1,981	100	FD30
DF-04	904×2,029	838×1,981	100	FD30
DF-05	904×2,029	838×1,981	100	FD30

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

VIVID

Rev	Description	Date	DB	CB
P03	Patress extent amended. Alt Staorage calc. added., Window added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

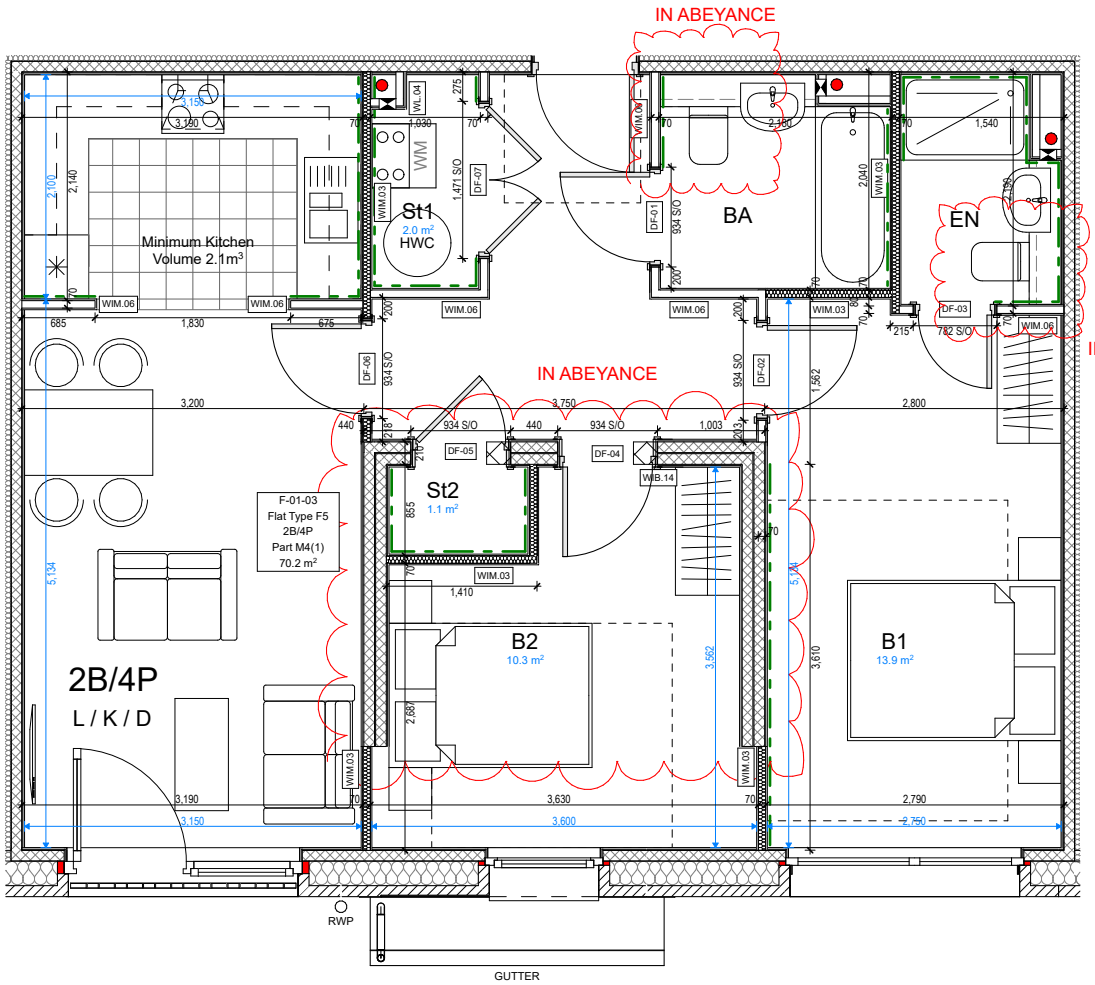
Block F - Flat Type F6

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50, 1:1 @ A3	DATE JUN 2025
DRAWN BY / CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-DR-A-4005	STATUS Preliminary

hgp

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0 1000 2000 3000mm



IN ABEYANCE

Storage Assessment
NDSS requirement = 2.0m²
St 1 = 0.3m²
St 2 = 0.5m²
Total = 0.8m²

IN ABEYANCE

Kitchen Storage Assessment
ER requirement = 2.1m³
Base Units:
1x 1000 sink; 2x 800 corner; 1x 600; 2x 400.
4.000m total length.
Volume ≈ 1.27m³

Wall units:
4.950m total length.
Volume ≈ 0.82m³

Kitchen total ≈ 2.09m³
(assuming 1x 600 base unit achieves 0.19m³ and 1x 600 wall unit achieves 0.10m³)

Please Note:

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Building regs Ref: PF/23/1106

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.		
DF-01	Door Reference	XXX	Structural Dimension
WM.00	Wall Reference Refer to 6900 Detail series	XXX	Finished Dimension
● / ●	SVP / stub, refer to M&E layouts		
	SVP / SS Access Panel - Refer to GA plans & M&E drawings for locations		

Refer to M&E Drawings for typical utility cupboard layouts.

Flat type F5				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	904×2,029	838×1,981	100	FD30
DF-02	904×2,029	838×1,981	100	FD30
DF-03	752×2,029	686×1,981	100	-
DF-04	904×2,029	838×1,981	260	FD30
DF-05	904×2,029	838×1,981	260	FD30
DF-06	904×2,029	838×1,981	100	FD30
DF-07	1,441×2,029	1,375×1,981	100	FD30

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

VIVID

Rev	Description	Date	DB	CB
P03	SVP moved., Patress extent amended. Alt Staorage calc. added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

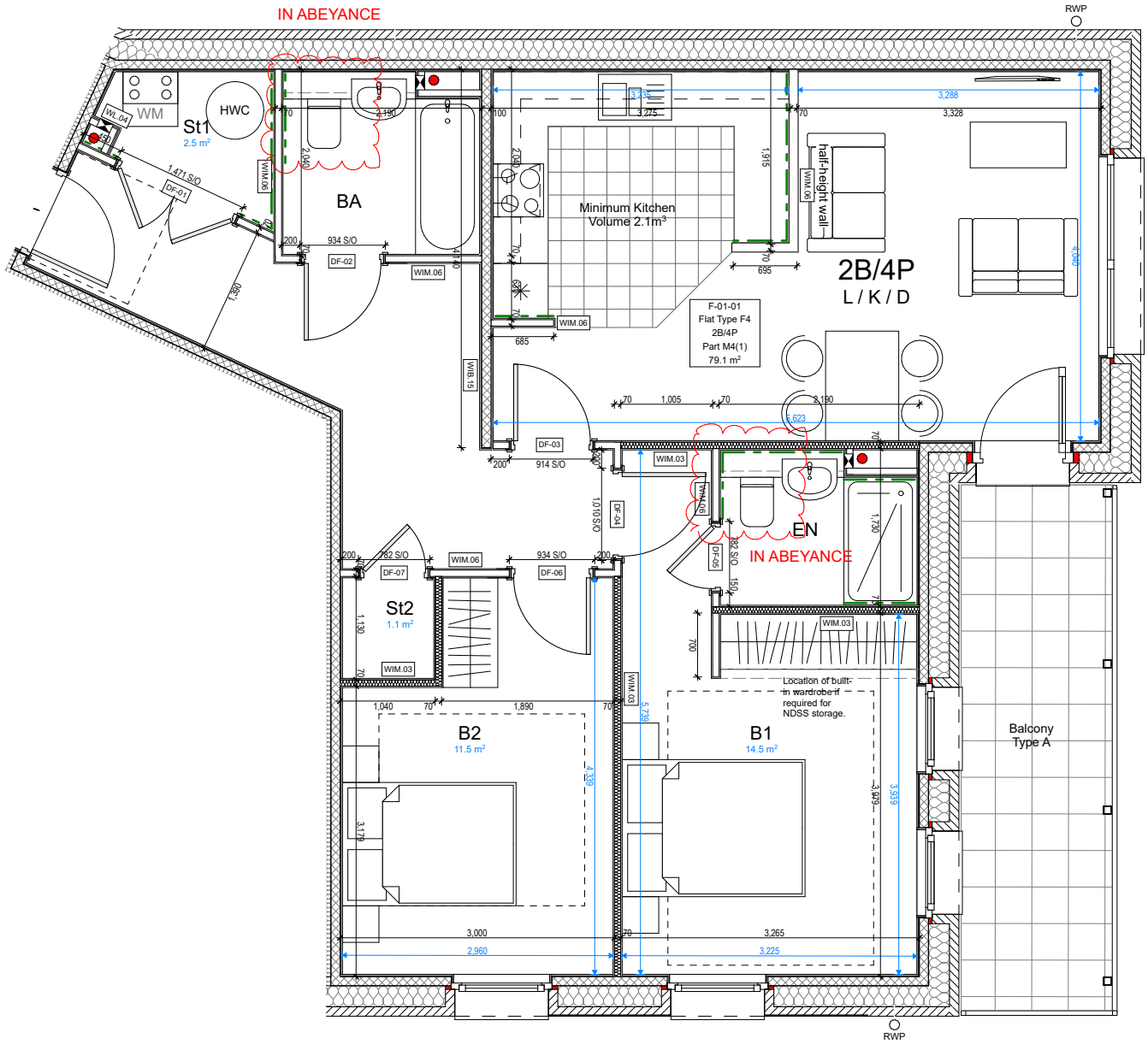
Block F - Flat Type F5

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50, 1:1 @ A3	DATE JUN 2025
DRAWN BY / CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-DR-A-4004	STATUS Preliminary

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0 1000 2000 3000mm

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IN ABEYANCE

Storage Assessment
NDSS requirement = 2.0m²
St 1 = 0.6m²
St 2 = 0.6m²
B1 Wardrobe = 0.6m²
Total = 1.8m²

IN ABEYANCE

Kitchen Storage Assessment
ER requirement = 2.1m³
Base Units:
1x 1000 sink; 1x 800 corner; 2x 600; 1x 500; 1x 400; 1x 300.
4.200m total length.
Volume ≈ 1.33m³

Wall units:
4.100m total length.
Volume ≈ 0.68m³

Kitchen total ≈ 2.01m³
(assuming 1x 600 base unit achieves 0.19m³ and 1x 600 wall unit achieves 0.10m³)

Please Note:

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Building regs Ref: PF/23/1106

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.		
DF-01	Door Reference	XXX	Structural Dimension
WM.00	Wall Reference Refer to 6900 Detail series	XXX	Finished Dimension
● / ●	SVP / stub, refer to M&E layouts		
	SVP / SS Access Panel - Refer to GA plans & M&E drawings for locations		

Refer to M&E Drawings for typical utility cupboard layouts.

Flat type F4				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	1,441×2,029	1,375×1,981	100	FD30
DF-02	904×2,029	838×1,981	100	FD30
DF-03	904×2,029	838×1,981	100	FD30
DF-04	980×2,029	914×1,981	100	FD30
DF-05	752×2,029	686×1,981	100	-
DF-06	904×2,029	838×1,981	100	FD30
DF-07	752×2,029	686×1,981	100	FD30

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

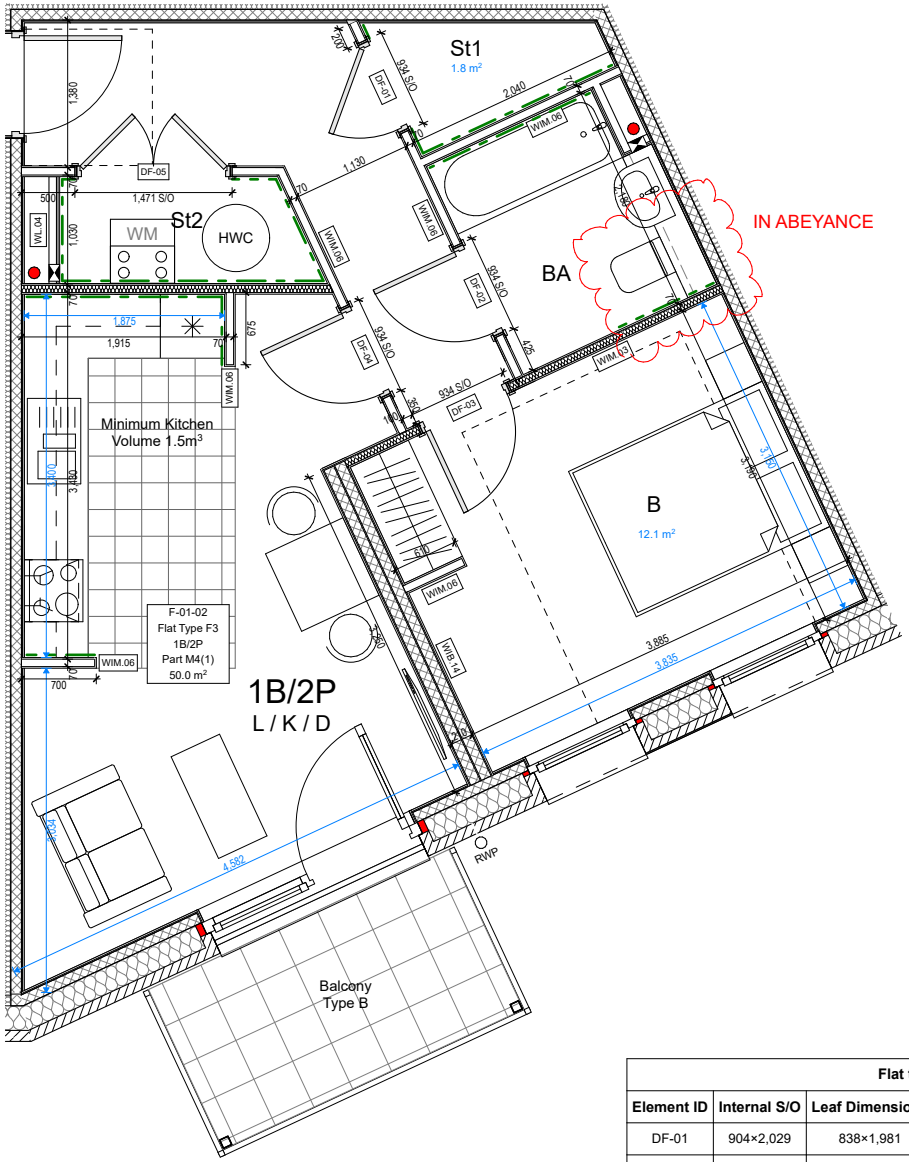
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Rev	Description	Date	DB	CB
P03	Patress extent amended. Alt Staorage calc. added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Flat Type F4

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50, 1:1 @ A3	DATE JUN 2025
DRAWN BY / CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-DR-A-4003	STATUS Preliminary

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Storage Assessment
NDSS requirement = 1.5m²
St 1 = 1.8m²
St 2 = 0.0m²
Total = 1.8m²

Kitchen Storage Assessment
ER requirement = 1.5m³
Base Units:
1x 1000 sink; 1x 800 corner; 1x 600; 1x 300; 1x 200.
2.900m total length.
Volume ≈ 0.92m³

Wall units:
3.400m total length.
Volume ≈ 0.56m³

Kitchen total ≈ 1.48m³
(assuming 1x 600 base unit achieves 0.19m³ and 1x 600 wall unit achieves 0.10m³)

Please Note:

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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/1106

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.		
DF-01	Door Reference	XXX	Structural Dimension
WIM.00	Wall Reference Refer to 6900 Detail series	XXX	Finished Dimension
/	SVP / stub, refer to M&E layouts		
	SVP / SS Access Panel - Refer to GA plans & M&E drawings for locations		

Refer to M&E Drawings for typical utility cupboard layouts.

Flat type F3				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	904×2,029	838×1,981	100	FD30
DF-02	904×2,029	838×1,981	100	FD30
DF-03	904×2,029	838×1,981	100	FD30
DF-04	904×2,029	838×1,981	100	FD30
DF-05	1,441×2,029	1,375×1,981	100	FD30

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

0 1000 2000 3000mm

VIVID

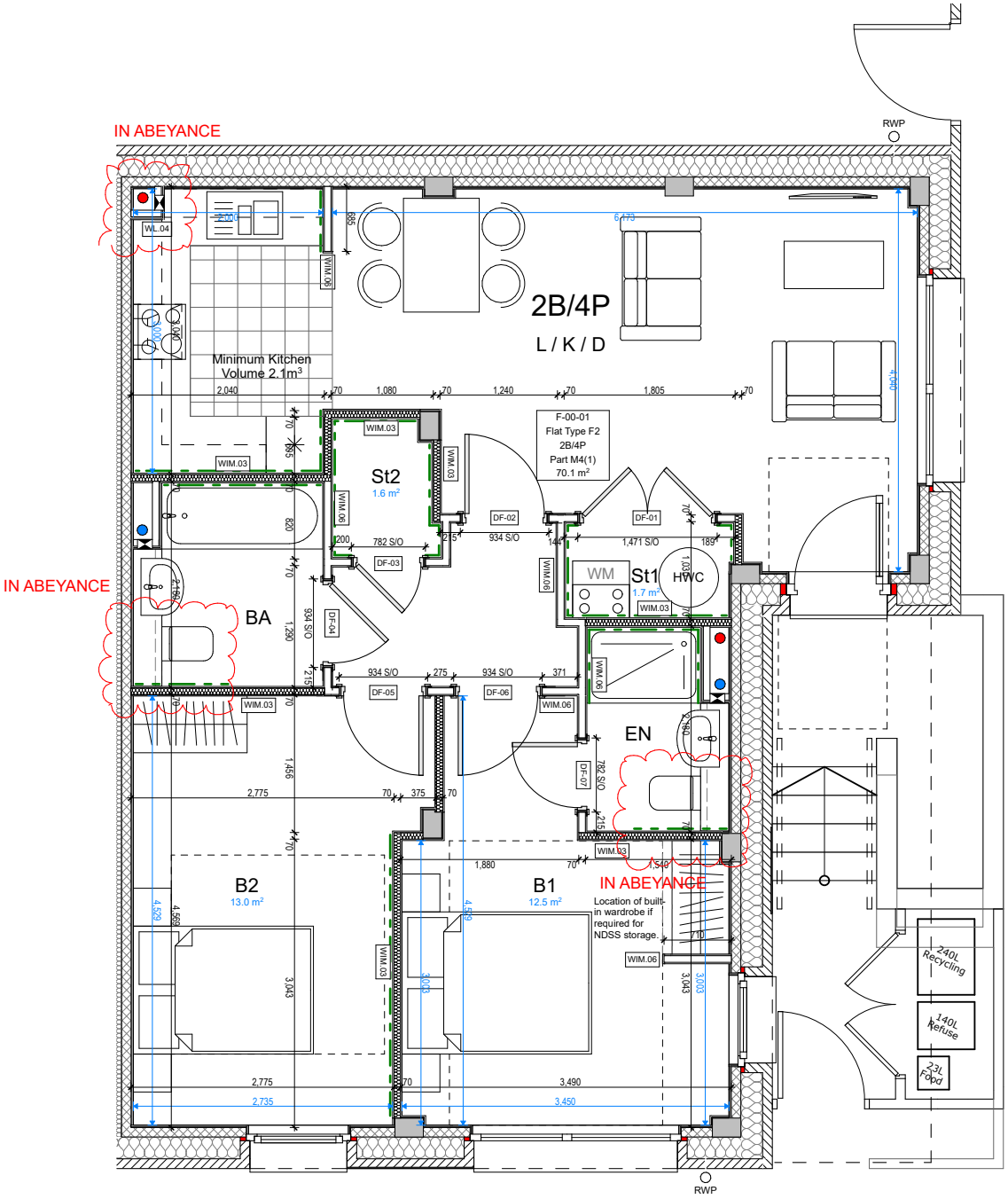
Rev	Description	Date	DB	CB
P03	SVP moved., Patress extent amended. Alt Staorage calc. added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

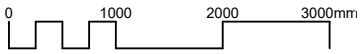
Block F - Flat Type F3

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50, 1:1 @ A3	DATE JUN 2025
DRAWN BY / CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-DR-A-4002	STATUS Preliminary

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IN ABEYANCE

Storage Assessment
NDSS requirement = 2.0m²
St 1 = 0.0m²
St 2 = 0.8m²
Total = 0.8m²

IN ABEYANCE

Kitchen Storage Assessment
ER requirement = 2.1m³
Base Units:
1x 1000 sink; 2x 800 corner; 1x 400; 2x 300.
3.600m total length.
Volume ≈ 1.14m³

Wall units:
4.900m total length.
Volume ≈ 0.81m³

Kitchen total ≈ 1.95m³
(assuming 1x 600 base unit achieves 0.19m³ and 1x 600 wall unit achieves 0.10m³)

Flat type F2				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	1,441×2,029	1,375×1,981	100	FD30
DF-02	904×2,029	838×1,981	100	FD30
DF-03	752×2,029	686×1,981	100	FD30
DF-04	904×2,029	838×1,981	100	FD30
DF-05	904×2,029	838×1,981	100	FD30
DF-06	904×2,029	838×1,981	100	FD30
DF-07	752×2,029	686×1,981	100	-

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Please Note:

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Building regs Ref: PF/23/1106

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.		
DF-01	Door Reference	XXX	Structural Dimension
WIM.00	Wall Reference Refer to 6900 Detail series	XXX	Finished Dimension
● / ●	SVP / stub, refer to M&E layouts		
	SVP / SS Access Panel - Refer to GA plans & M&E drawings for locations		

Refer to M&E Drawings for typical utility cupboard layouts.

VIVID

Rev	Description	Date	DB	CB
P03	Column positions updated. Patress extent amended. Alt Staorage calc. added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Flat Type F2

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50, 1:1 @ A3	DATE JUN 2025
DRAWN BY / CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-DR-A-4001	STATUS Preliminary

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IN ABEYANCE

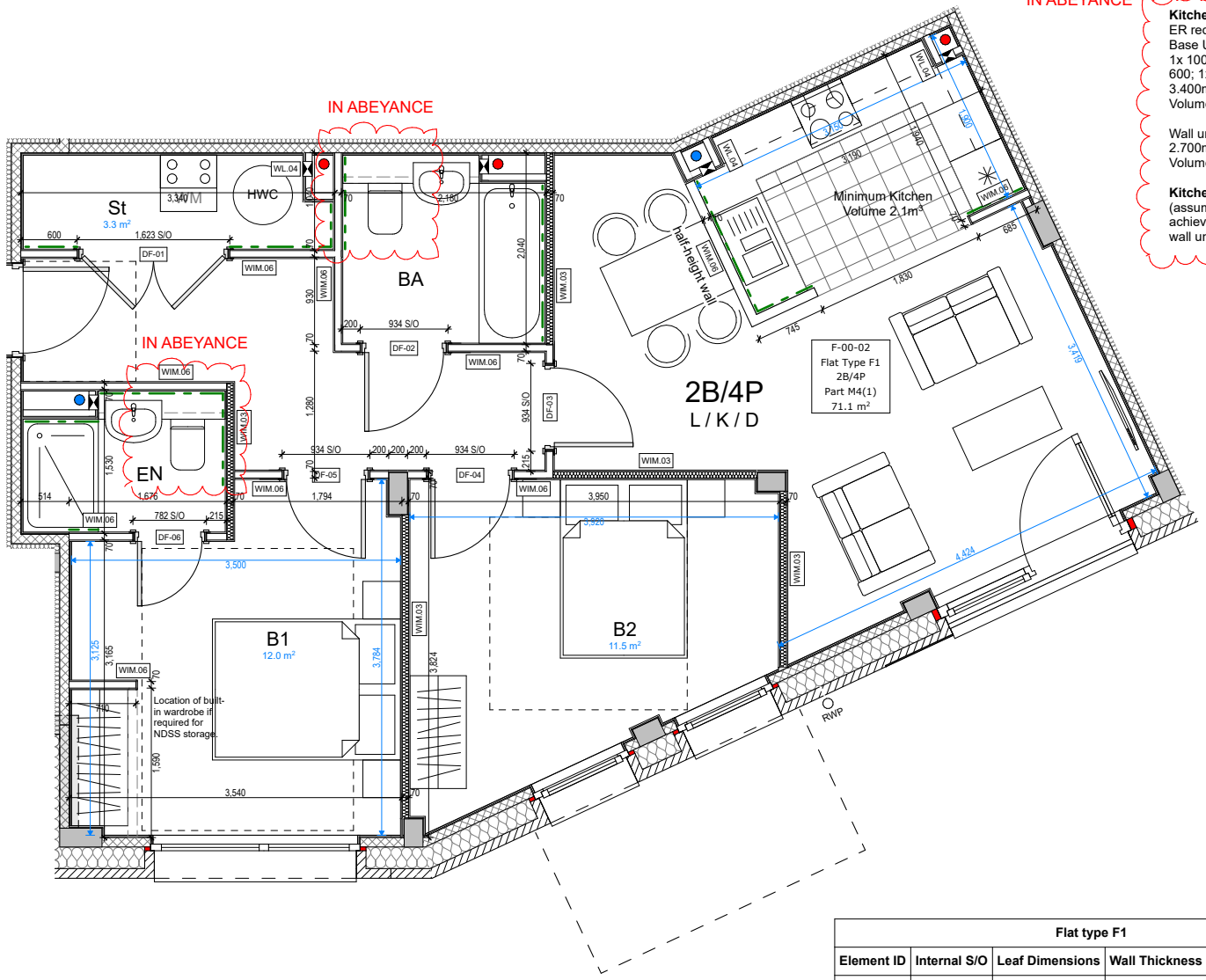
Storage Assessment
NDSS requirement = 2.0m²
St 1 = 0.9m²
B1 Wardrobe = 0.2m²
Total = 1.1m²

IN ABEYANCE

Kitchen Storage Assessment
ER requirement = 2.1m³
Base Units:
1x 1000 sink; 2x 800 corner; 1x 600; 1x 200.
3.400m total length.
Volume ≈ 1.08m³

Wall units:
2.700m total length.
Volume ≈ 0.45m³

Kitchen total ≈ 1.53m³
(assuming 1x 600 base unit achieves 0.19m³ and 1x 600 wall unit achieves 0.10m³)



Flat type F1				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	1,593×2,029	1,527×1,981	100	FD30
DF-02	904×2,029	838×1,981	100	FD30
DF-03	904×2,029	838×1,981	100	FD30
DF-04	904×2,029	838×1,981	100	FD30
DF-05	904×2,029	838×1,981	100	FD30
DF-06	752×2,029	686×1,981	100	-

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

0 1000 2000 3000mm

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Building regs Ref: PF/23/1106

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.		
DF-01	Door Reference	XXX	Structural Dimension
WIM.00	Wall Reference Refer to 6900 Detail series	XXX	Finished Dimension
/	SVP / stub, refer to M&E layouts		
	SVP / SS Access Panel - Refer to GA plans & M&E drawings for locations		

Refer to M&E Drawings for typical utility cupboard layouts.

VIVID

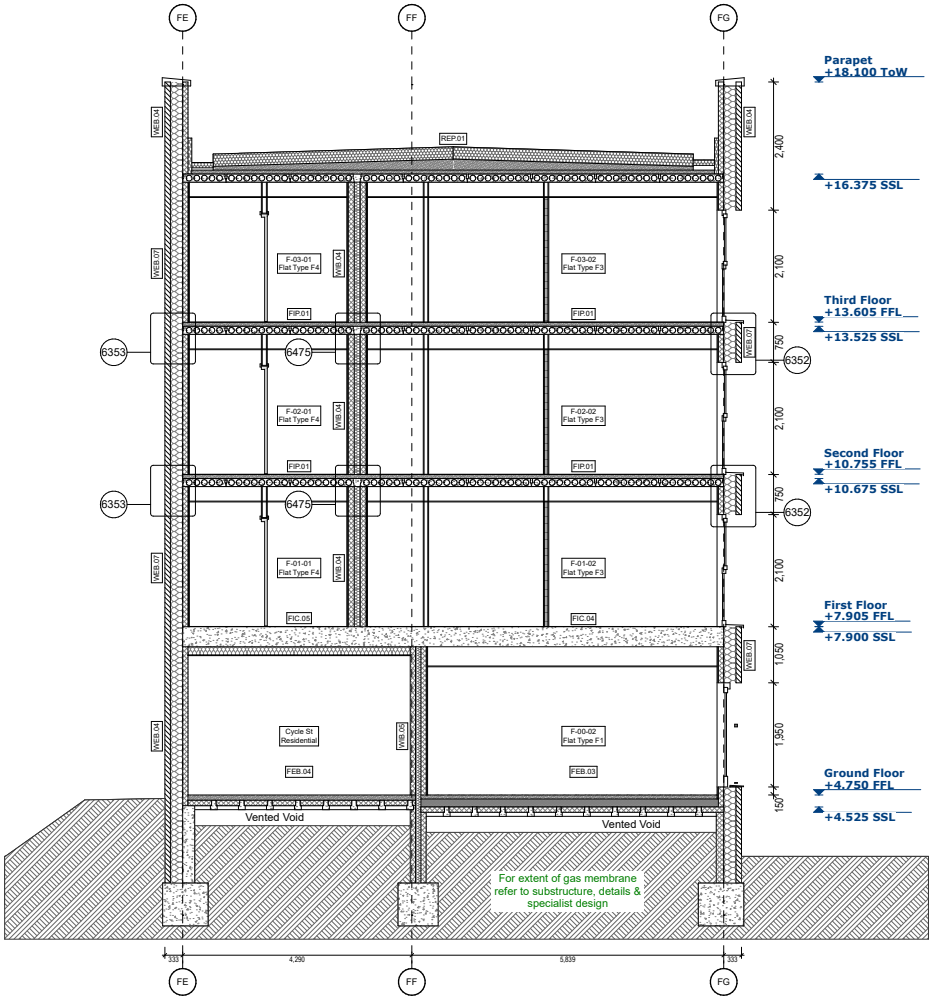
Rev	Description	Date	DB	CB
P03	Column positions updated. Patress extent amended. Alt Staorage calc. added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Flat Type F1

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50, 1:1 @ A3	DATE JUN 2025
DRAWN BY / CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-DR-A-4000	STATUS Preliminary

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0 1000 2000 3000 4000 5000mm

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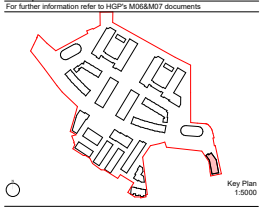
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Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Sections

	Masonry Support Refer to SE's Drawings & details	
MJ	MJ – Movement joint	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Non-load bearing blockwork requires head restraint.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from DPC and the internal FFL.

For Wall / Floor Types details refer to HGP detail drawing series 6900.

All penetrations between different fire compartments are to be fire stopped and must maintain the fire resistance of the fire separating element.

All cavity barriers shown indicatively, please refer to details & fire engineers report. Cavity closers required to all external door and window openings.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

VIVID

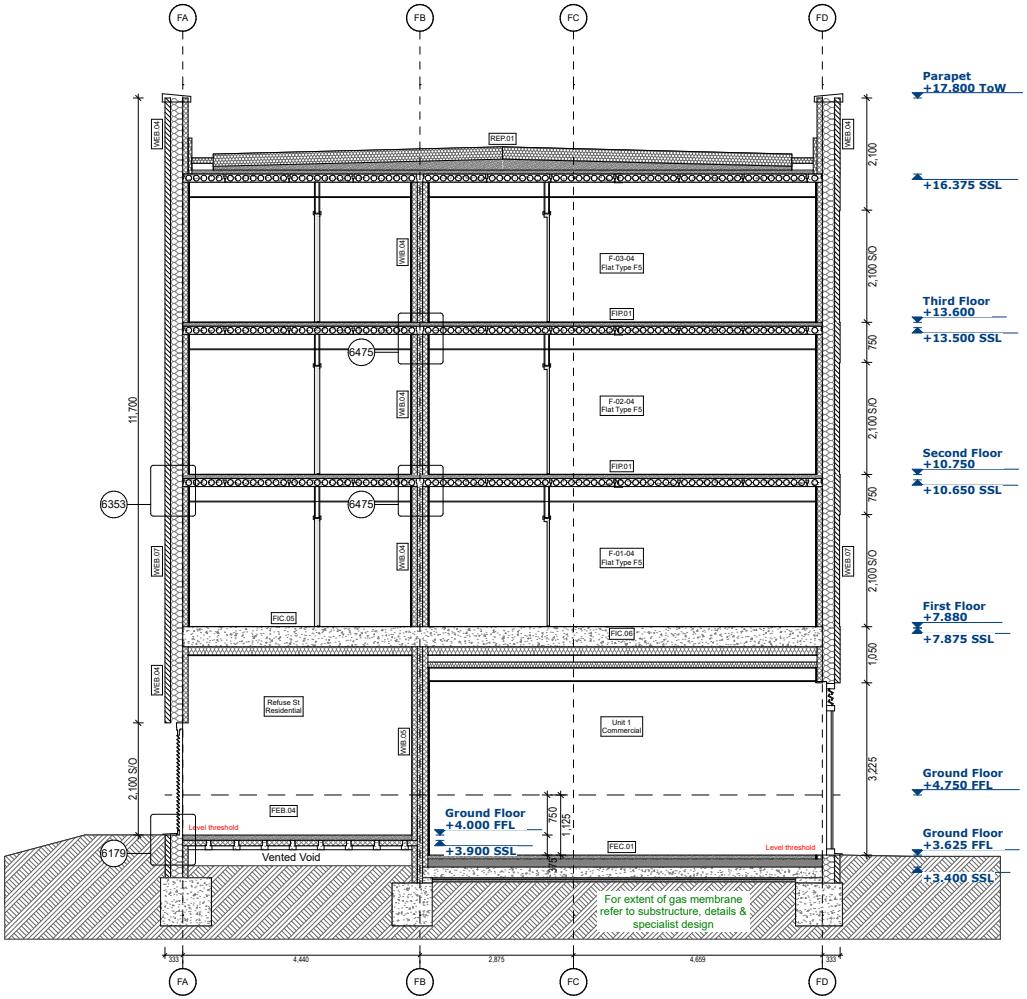
Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Revised to Client's mark-ups., FFL raised by 25mm., Floor types updated to HRW.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - GA Section F5-F5

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3204	S3

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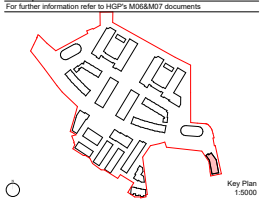
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Building regs Ref: PF/23/106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Sections

	Masonry Support Refer to SE's Drawings & details
MJ	MJ – Movement joint

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Non-load bearing blockwork requires head restraint.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from DPC and the internal FFL.

For Wall / Floor Types details refer to HGP detail drawing series 6900.

All penetrations between different fire compartments are to be fire stopped and must maintain the fire resistance of the fire separating element.

All cavity barriers shown indicatively, please refer to details & fire engineers report. Cavity closers required to all external door and window openings.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

VIVID

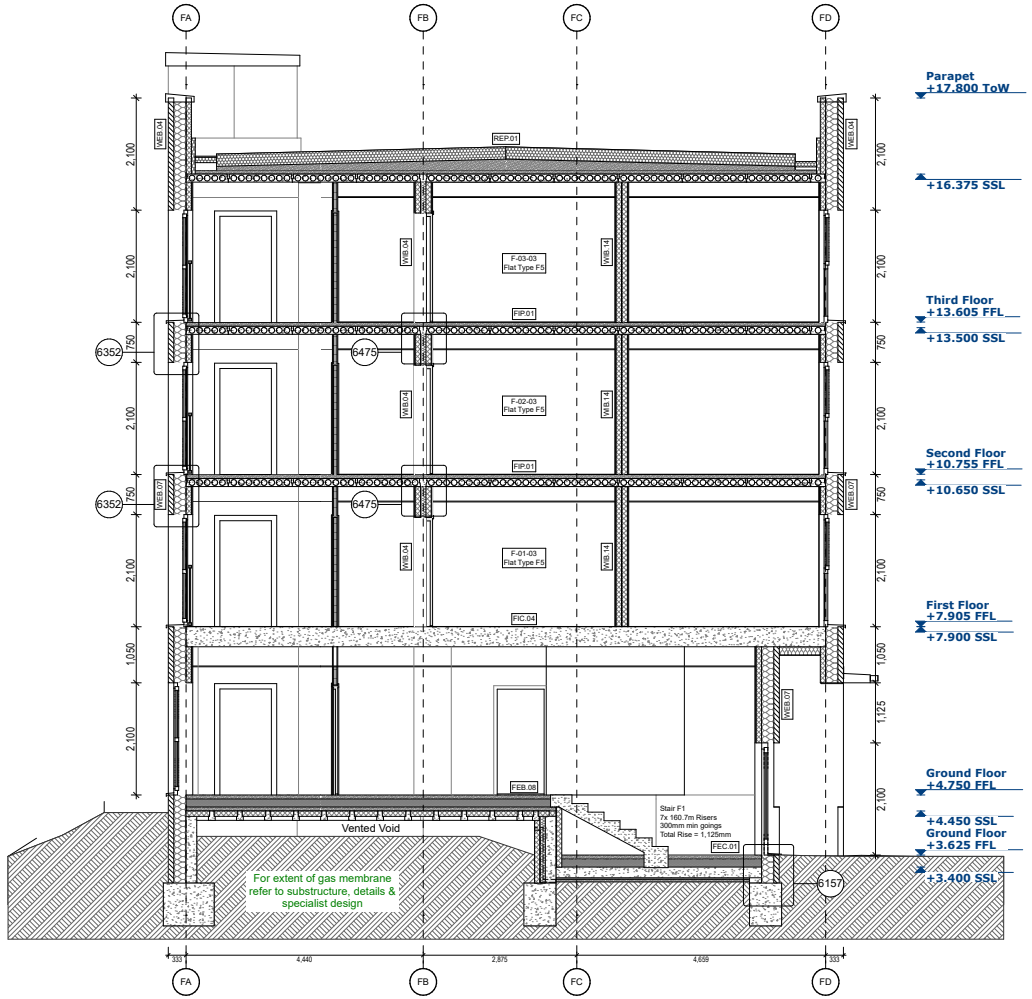
Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Revised to Client's mark-ups., FFL raised by 25mm., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - GA Section F4-F4

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3203	S3

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0 1000 2000 3000 4000 5000mm

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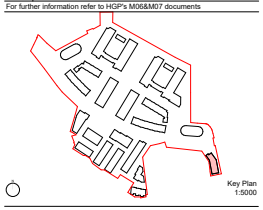
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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Sections

Masonry Support Refer to SE's Drawings & details	
MJ – Movement joint	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Non-load bearing blockwork requires head restraint.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from DPC and the internal FFL.

For Wall / Floor Types details refer to HGP detail drawing series 6900.

All penetrations between different fire compartments are to be fire stopped and must maintain the fire resistance of the fire separating element.

All cavity barriers shown indicatively, please refer to details & fire engineers report. Cavity closers required to all external door and window openings.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Revised to Client's mark-ups., FFL raised by 25mm., Floor types updated to HRW., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

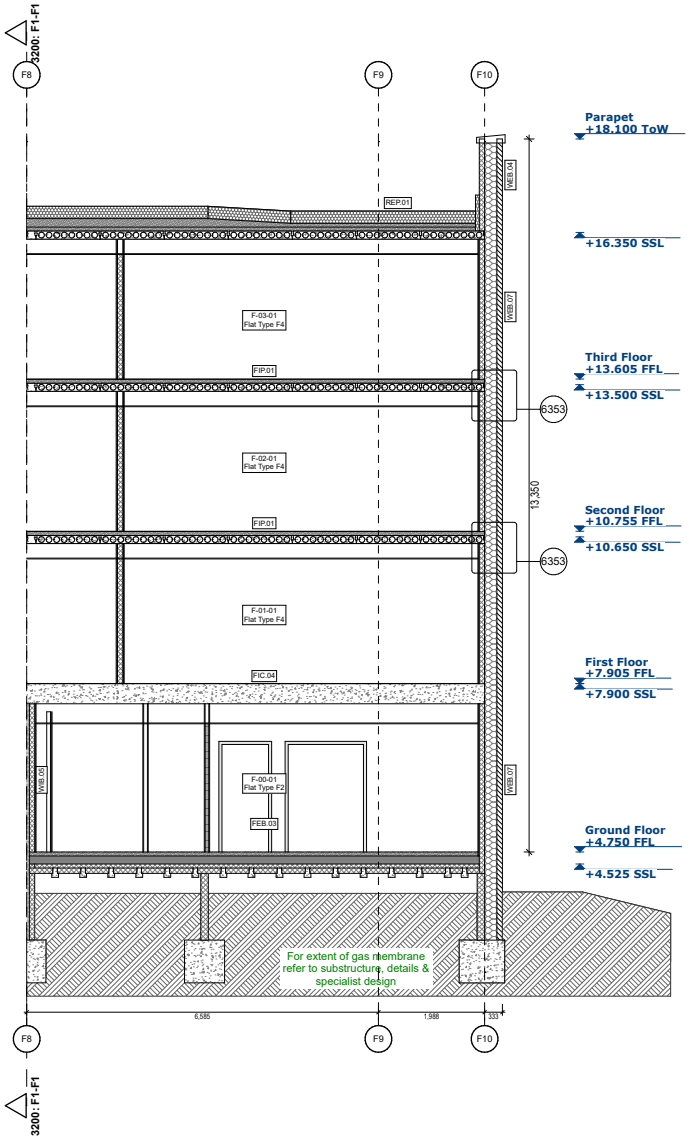
Block F - GA Section F3-F3

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3202	S3

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0 1000 2000 3000 4000 5000mm

Please Note:

This drawing can only be scaled for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party, HGP accept no responsibility for accuracy or completeness of the survey.

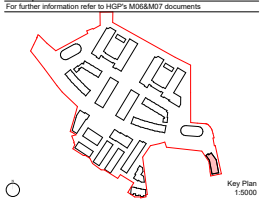
This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



Key Plan
1:5000

GA Sections

	Masonry Support Refer to SE's Drawings & details
	MJ – Movement joint

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Non-load bearing blockwork requires head restraint.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from DPC and the internal FFL.

For Wall / Floor Types details refer to HGP detail drawing series 6900.

All penetrations between different fire compartments are to be fire stopped and must maintain the fire resistance of the fire separating element.

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Location of existing drainage positions TBC & Incoming Services locations TBC.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Revised to Client's mark-ups., FFL raised by 25mm., Floor types updated to HRW.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

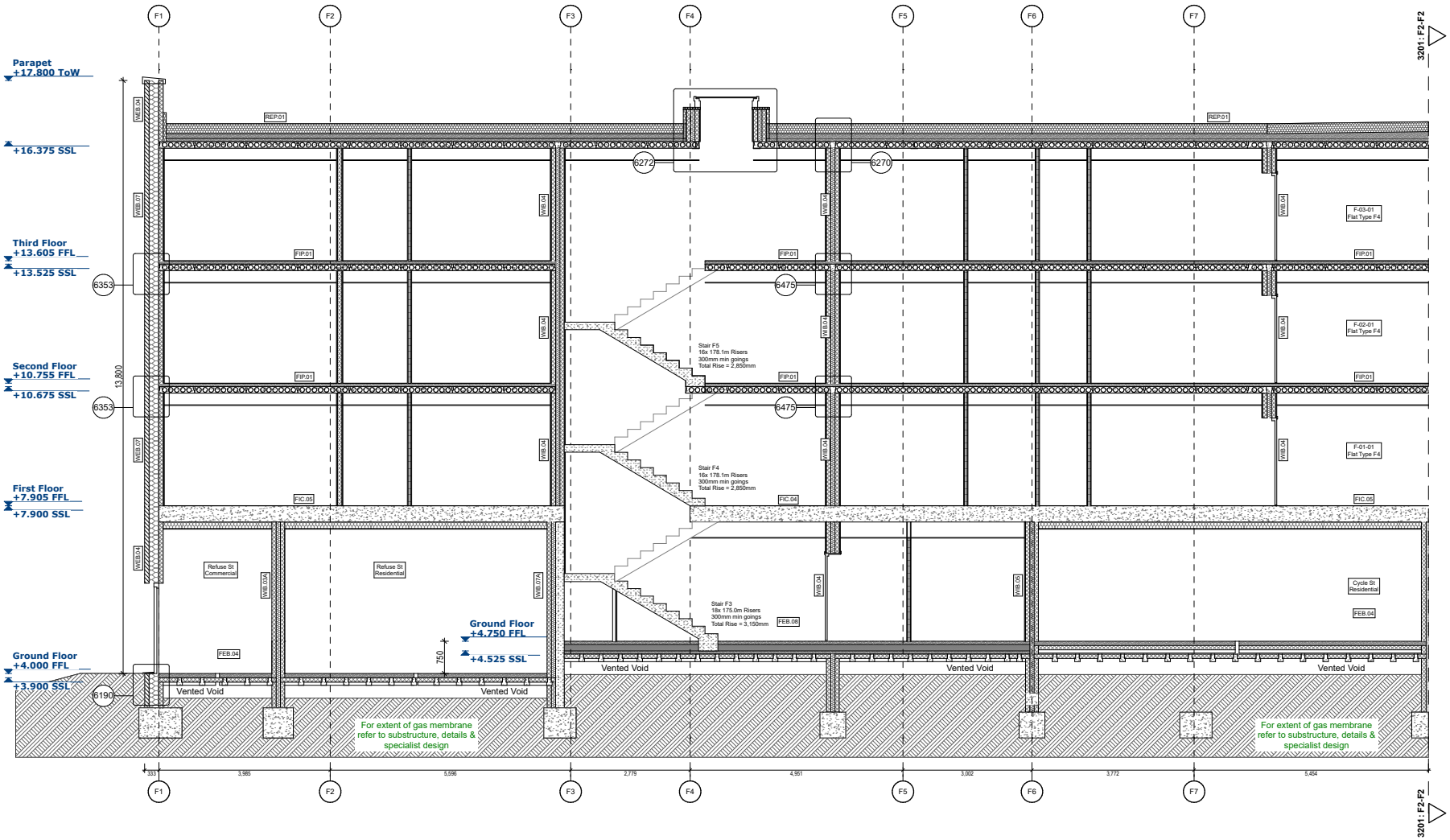
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PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3201	S3

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0 1000 2000 3000 4000 5000mm

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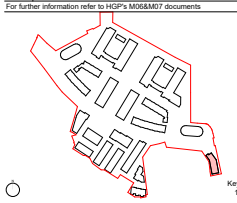
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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



Key Plan
1:5000

GA Sections

Masonry Support Refer to SE's Drawings & details	
MJ – Movement joint	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

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Floor finishes - Refer to Clients specifications & Schedule of Works.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Revised to Client's mark-ups., FFL raised by 25mm., Floor types updated to HRW.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

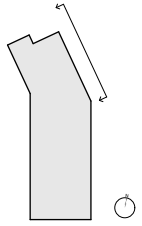
Block F - GA Section F1-F1

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A1	DATE JUN 2025
DRAWN BY/CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-ZZ-D-A-3200	STATUS S3

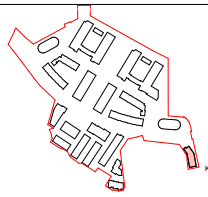
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0 1000 2000 3000 4000 5000mm



Key Plan
1:5000

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Building regs Ref: PF/23/1106

Notes

DPC Line (min 150mm above finished external ground level)		XXX	Dimensions
MJ – Movement joint		XXX	Brick detailing dimensions
Masonry support. Refer to SE's drawings and details		XXX	AD Part K Min. Critical glazing line. Refer to AD Part K for details
MVHR/ ASHP - Inlet / Outlet			



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to S.E drawings and details for movement joint locations and information.

ITEMS IN ABEYANCE

Movement Joints
Roof Services
Balcony design

Masonry support
Mechanical Inlets / outlets

Notes

Materials & Detail key:
A. Danehill Yellow Light mortar
B. Flint Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pegas Light mortar

01. 10mm Wall Niche (Refer to details)
08. Windows
09. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy

Refer to material schedule for further information

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	14.06.25	AVC	MLE
P02	Revised to Client's mark-ups.	20.06.25	AVC	MLE
P03	FFL raised by 25mm.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

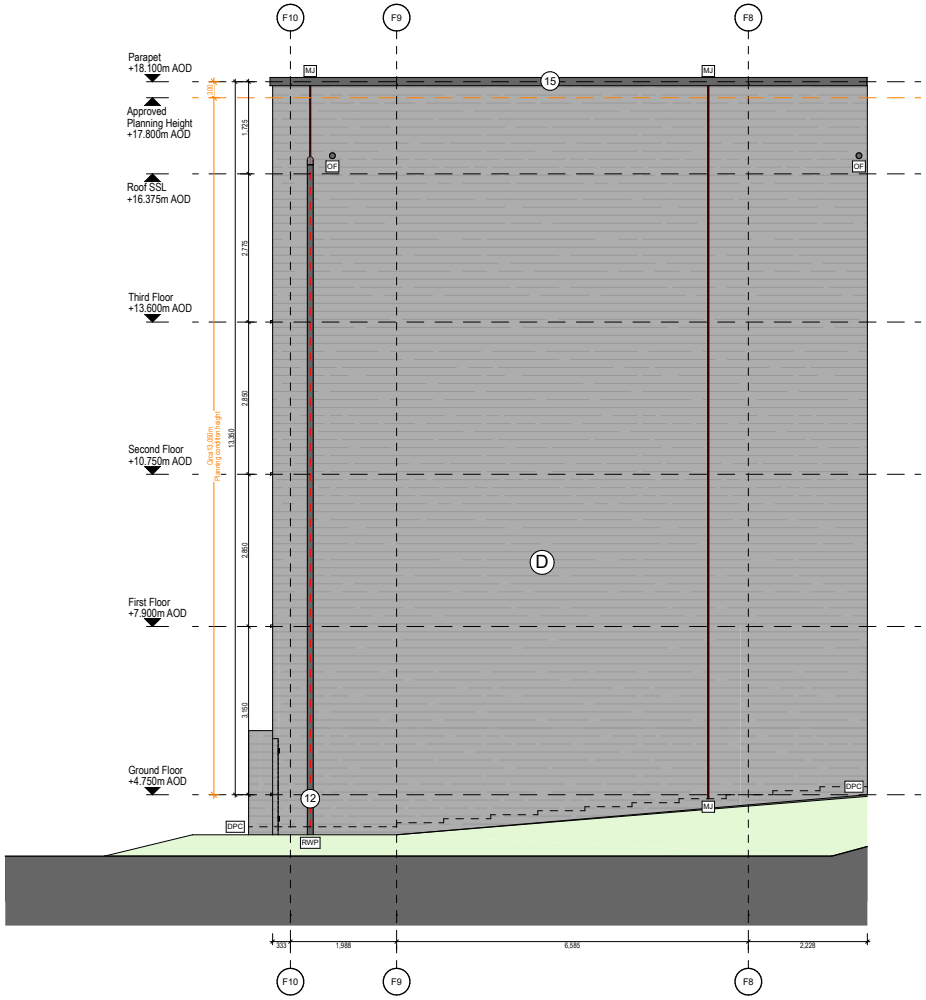
Block F - North East GA Elevation

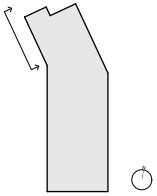
PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY / CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3005	S3

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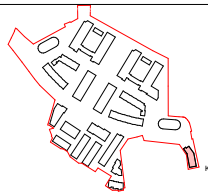
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Building regs Ref: PF/23/1106

Notes

	DPC Line (min 150mm above finished external ground level)	XXX	Dimensions
MJ	MJ – Movement joint	XXX	Brick detailing dimensions
	Masonry support. Refer to SE's drawings and details	XXX	AD Part K Min. Critical glazing line. Refer to AD Part K for details
ASHP	MVHR/ ASHP - Inlet / Outlet		



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm grenular fill.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to S.E drawings and details for movement joint locations and information.

ITEMS IN ABEYANCE

Movement Joints
Roof Services
Balcony design

Masonry support
Mechanical Inlets / outlets

Notes

Materials & Detail key:
A. Darwhill Yellow Light mortar
B. Flint Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pegas Light mortar

01. 10mm Wall Niche (Refer to details)
08. Windows
09. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy

Refer to material schedule for further information

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	14.06.25	AVC	MLE
P02	Revised to Client's mark-ups.	20.06.25	AVC	MLE
P03	FFL raised by 25mm.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - South West GA Elevation

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY / CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3004	S3

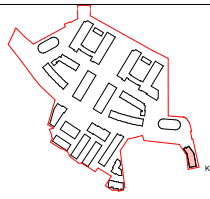
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Schedule of unprotected areas:
1x door @ 4.511m² ea = 4.511m²
2x door @ 2.148m² ea = 4.296m²
4x AOV @ 2.148m² ea = 8.592m²
9x window @ 2.148m² ea = 19.332m²
Total unprotected area = 36.731m²
Total face area = 354.890m²
Percentage of unprotected area = 10.4%
Closest point to boundary = 1.650m

0 1000 2000 3000 4000 5000mm



Please Note:

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Building regs Ref: PF/23/1106

Notes

	DPC Line (min 150mm above finished external ground level)	XXX	Dimensions
	MJ – Movement joint	XXX	Brick detailing dimensions
	Masonry support. Refer to SE's drawings and details	XXX	AD Part K Min. Critical glazing line. Refer to AD Part K for details
replace	MVHR/ ASHP - Inlet / Outlet		



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

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Refer to S.E drawings and details for movement joint locations and information.

ITEMS IN ABEYANCE

Movement Joints
Roof Services
Balcony design

Masonry support
Mechanical Inlets / outlets

Notes

Materials & Detail key:
A. Danehill Yellow Light mortar
B. Flint Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pegas Light mortar

01. 10mm Wall Niche (Refer to details)
08. Windows
09. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy

Refer to material schedule for further information

VIVID

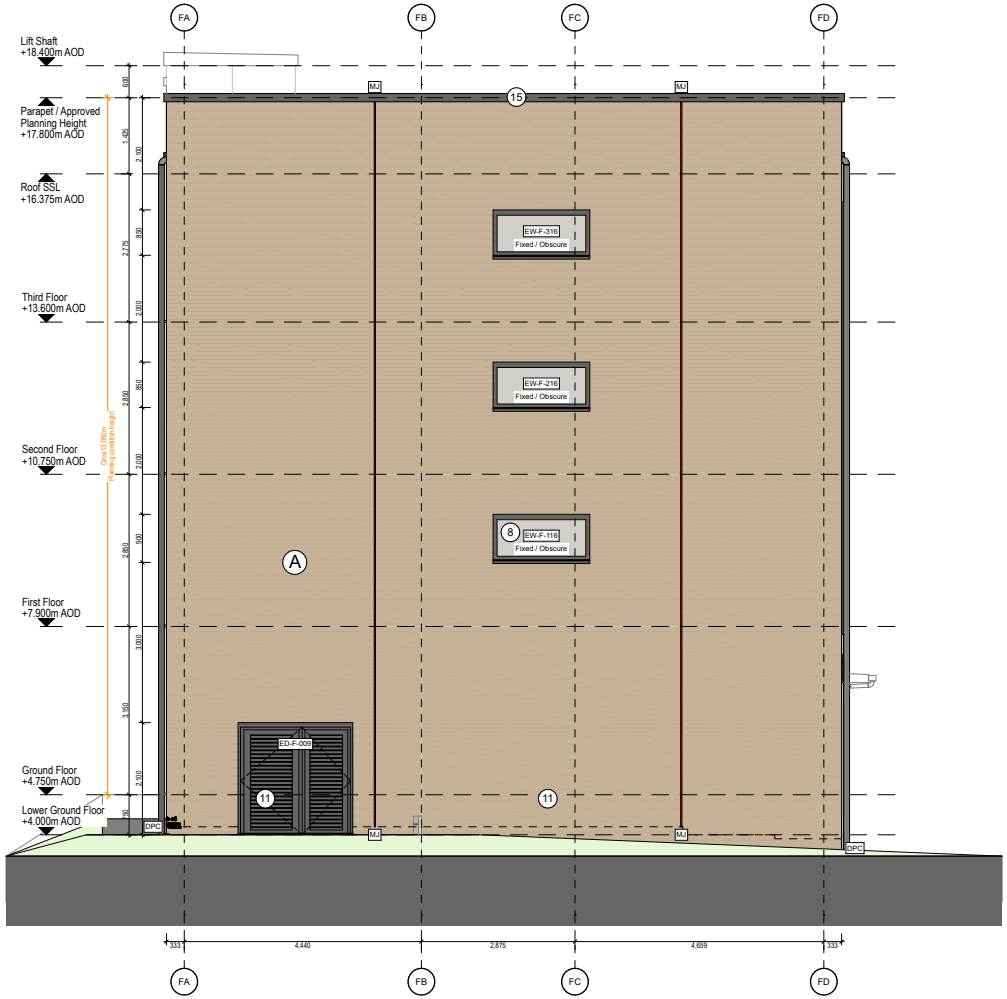
Rev	Description	Date	DB	CB
P01	Initial Issue	14.06.25	AVC	MLE
P02	Revised to Client's mark-ups.	20.06.25	AVC	MLE
P03	FFL raised by 25mm., Unprotected area schedule added.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - West GA Elevation

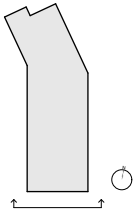
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TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY / CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3003	S3

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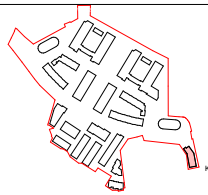
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Schedule of unprotected areas:
1x door @ 4.511m² ea = 4.511m²
3x window @ 1.629m² ea = 4.887m²
Total unprotected area = 9.398m²
Total face area = 175.820m²
Percentage of unprotected area = 5.4%
Closest point to boundary = 3.100m



0 1000 2000 3000 4000 5000mm



Please Note:

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Building regs Ref: PF/23/1106

Notes

	DPC Line (min 150mm above finished external ground level)	XXX	Dimensions
MJ	MJ – Movement joint	XXX	Brick detailing dimensions
	Masonry support. Refer to SE's drawings and details	XXX	AD Part K Min. Critical glazing line. Refer to AD Part K for details
MVHR	MVHR/ ASHP - Inlet / Outlet		



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

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ITEMS IN ABEYANCE

Movement Joints
Roof Services
Balcony design

Masonry support
Mechanical Inlets / outlets

Notes

Materials & Detail key:
A. Darwhill Yellow Light mortar
B. Flint Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pagus Light mortar

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09. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy

Refer to material schedule for further information

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	14.06.25	AVC	MLE
P02	Revised to Client's mark-ups.	20.06.25	AVC	MLE
P03	FFL raised by 25mm., Window added., Unprotected area schedule added.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

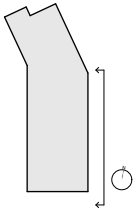
Block F - South GA Elevation

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY / CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3002	S3

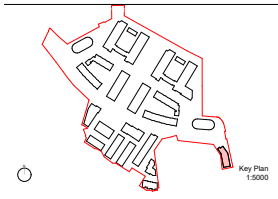
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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Coolings cannot be finalised until approval /confirmation by relevant authorities and Client.

Building regs Ref: PF/23/1106

Notes

	DPC Line (min 150mm above finished external ground level)	XXX	Dimensions
MJ	MJ – Movement joint	XXX	Brick detailing dimensions
	Masonry support. Refer to SE's drawings and details	XXX	AD Part K Min. Critical glazing line. Refer to AD Part K for details
ASHP	MVHR/ ASHP - Inlet / Outlet		



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to S.E drawings and details for movement joint locations and information.

ITEMS IN ABEYANCE

Movement Joints
Roof Services
Balcony design

Masonry support
Mechanical Inlets / outlets

Notes

Materials & Detail key:
A. Darwhill Yellow Light mortar
B. Flint Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pagus Light mortar

01. 10mm Wall Niche (Refer to details)
08. Windows
09. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy

Refer to material schedule for further information

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	14.06.25	AVC	MLE
P02	Revised to Client's mark-ups.	20.06.25	AVC	MLE
P03	FFL raised by 25mm., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - East GA Elevation

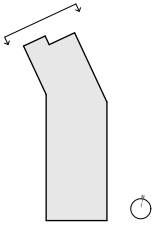
PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY / CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3001	S3

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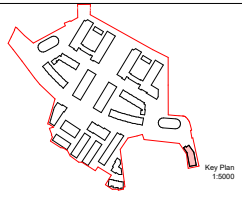
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0 1000 2000 3000 4000 5000mm



Please Note:

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Building regs Ref: PF/23/1106

Notes

	DPC Line (min 150mm above finished external ground level)	XXX	Dimensions
MJ	MJ – Movement joint	XXX	Brick detailing dimensions
	Masonry support. Refer to SE's drawings and details	XXX	AD Part K Min. Critical glazing line. Refer to AD Part K for details
MVHR	MVHR/ ASHP - Inlet / Outlet		



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to S.E drawings and details for movement joint locations and information.

ITEMS IN ABEYANCE

Movement Joints
Roof Services
Balcony design

Masonry support
Mechanical Inlets / outlets

Notes

Materials & Detail key:
A. Danehill Yellow Light mortar
B. Flint Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pagus Light mortar

01. 10mm Wall Niche (Refer to details)
08. Windows
09. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy

Refer to material schedule for further information

VIVID

Rev	Description	Date	DB	CB
01	Initial Issue	14.06.25	AVC	MLE
P02	Revised to Client's mark-ups.	20.06.25	AVC	MLE
P03	FFL raised by 25mm., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - North West GA Elevation

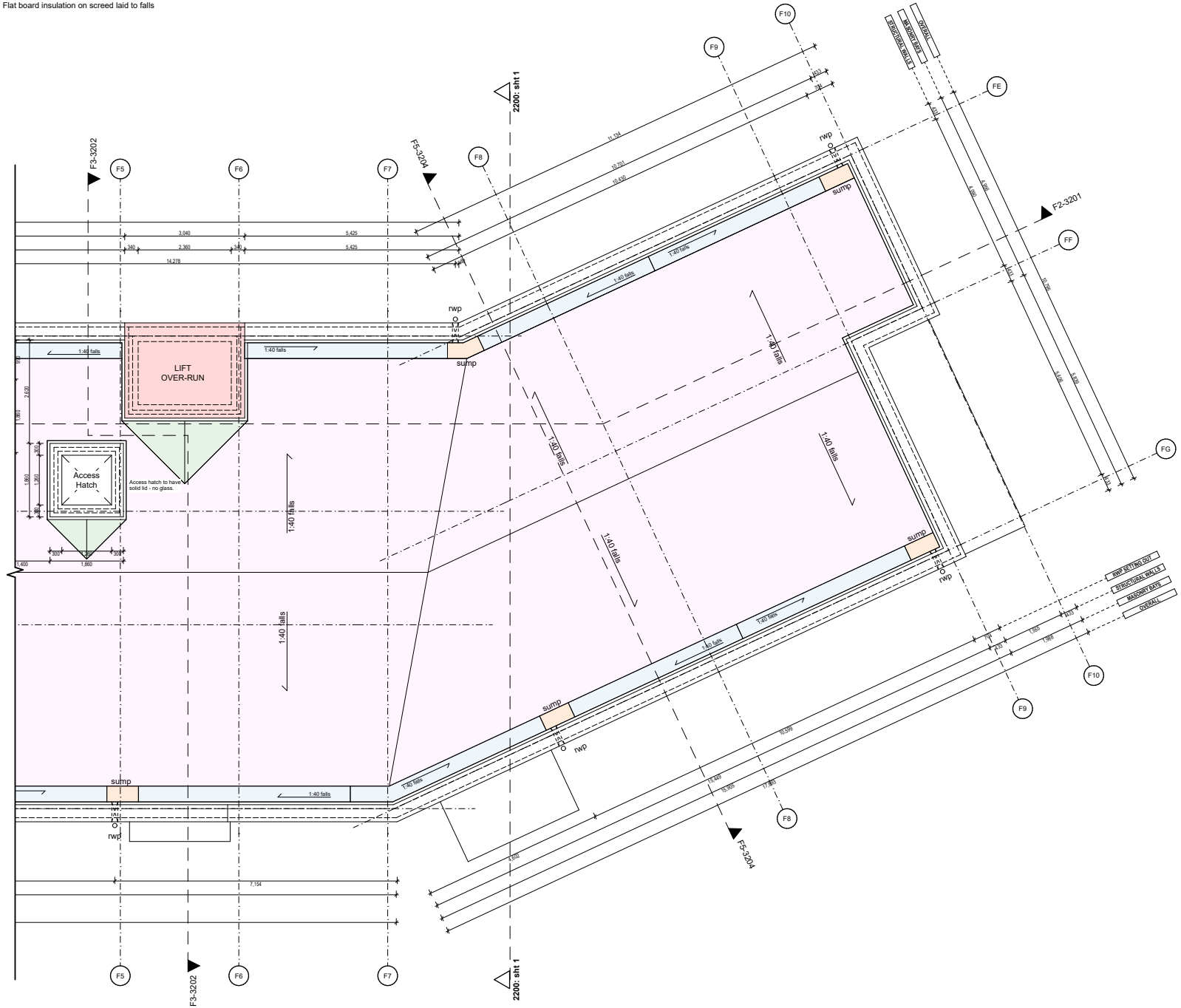
PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY / CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-ZZ-D-A-3000	S3

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Legend

- Flat board insulation on flat slab
- Flat board insulation on ply on firrings
- Insulated kicker on screed laid to falls
- Tapered insulation on flat slab
- Flat board insulation on screed laid to falls



Please Note:

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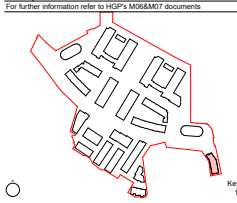
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Building regs Ref: PF/23/106

Risk Schedule	
⚠1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
⚠1	Asbestos - Refer to Specialist Asbestos Survey.
⚠2	Potential to fall from height.
⚠3	Potential to fall from height through voids within floors.
⚠4	Harm caused by handling lead.
⚠5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		Setting out dimension - Externals	
SVP – Soil vent pipe		Indicative builder's work penetrations	
SS – Sub Stack		Cavity barrier	
DC – Direct Connection		Dummy column / Column	
Structural steel & padstone, refer to SE drawings and specification		Lead flashing	
ASHP / MVHR		MJ – Movement joint	
Windpost (as per SIEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

P01	Initial Issue	14.06.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE
Rev	Description	Date	DB	CB

Block F - Roof Plan sht 2

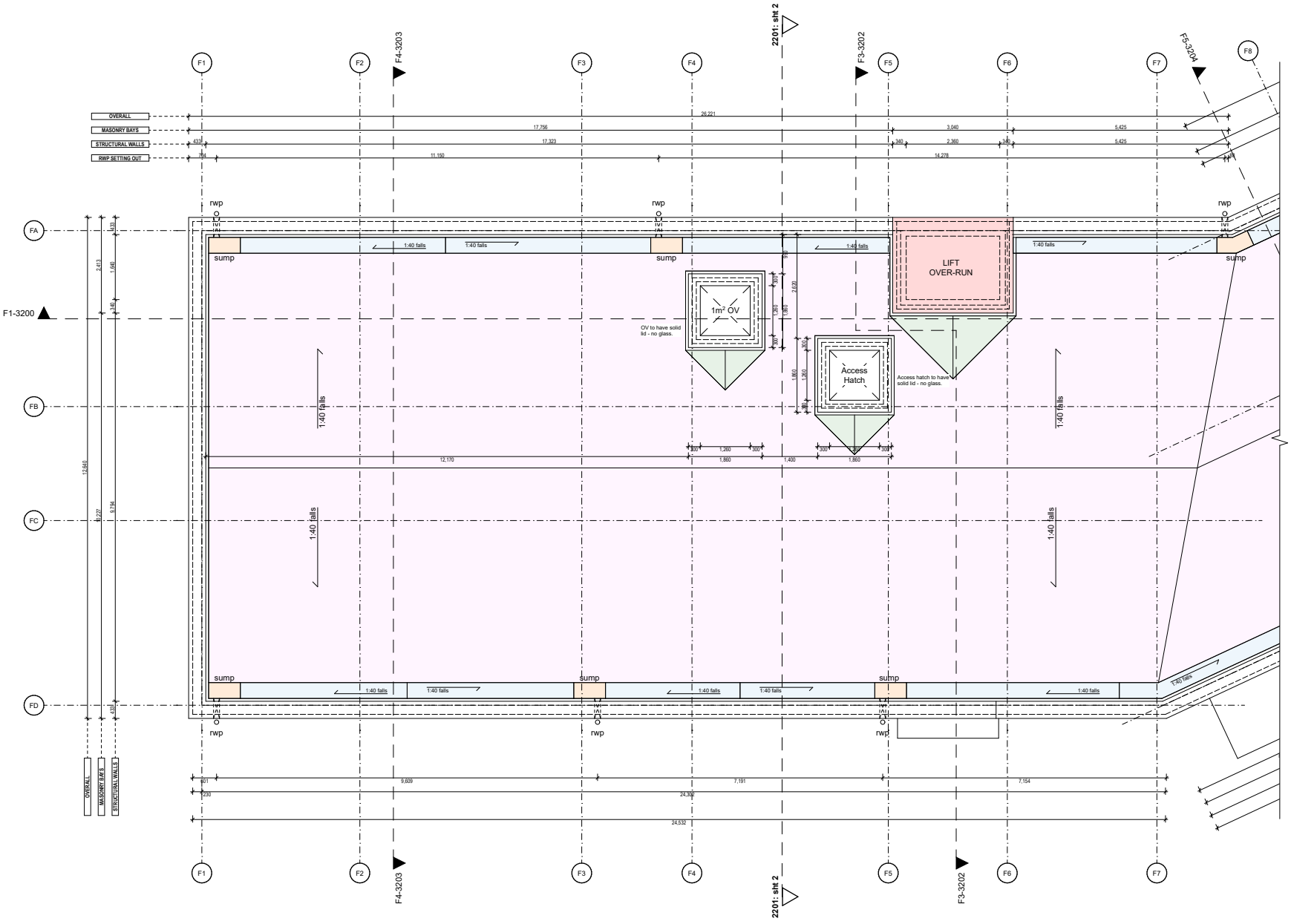
PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-RF-D-A-2201	S3

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Legend

- Flat board insulation on flat slab
- Flat board insulation on ply on firrings
- Insulated kicker on screed laid to falls
- Tapered insulation on flat slab
- Flat board insulation on screed laid to falls



0 1000 2000 3000 4000 5000mm

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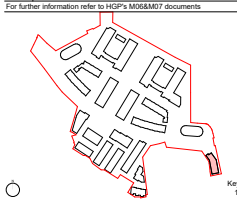
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Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		Setting out dimension - Externals	XXX
SVP – Soil vent pipe		Indicative builder's work penetrations	
SS – Sub Stack		Cavity barrier	
DC – Direct Connection		Dummy column / Column	
Structural steel & padstone, refer to SE drawings and specification		Lead flashing	
ASHP / MVHR		MJ – Movement joint	MJ
Windpost (as per SIEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

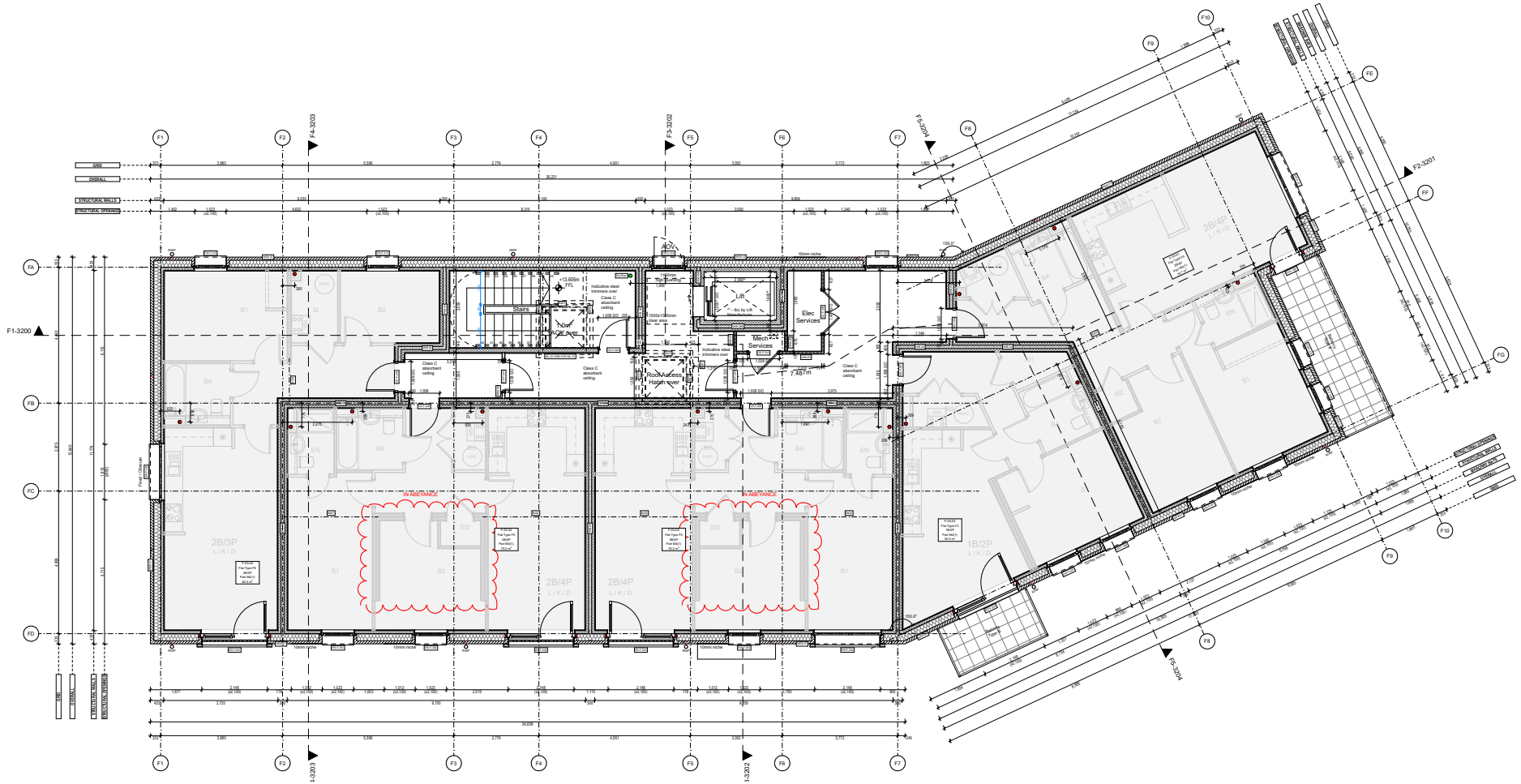
Rev	Description	Date	DB	CB
P01	Initial Issue	14.06.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Roof Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-RF-D-A-2200	S3

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Key Plan
1:6000

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Risk Schedule

Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk.
Refer to risk schedule on individual drawing.

- Asbestos - Refer to Specialist Asbestos Survey.
- Potential to fall from height.
- Potential to fall from height through voids within floors.
- Harm caused by handling lead.
- Harm caused by uncontrolled collapse.

For further information refer to HGP's MS6AM37 documents.

Further design information:

Reference should be made to the following drawing series

00 Preliminary
0500 Planning
1000 Site Plan & Site Wide
1500 Basement & Sub Structure
2000 Ground Plans
2500 Roof Plans
3000 Elevations
3500 Sections
3600 Roddings
3700 Stairs
3800 Lifts
4000 Flat Types
4100 Flat Type Partition Plans
4500 Structural Coordination
4600 Ceiling Plans
5000 Window Schedule
5100 Door Schedule
5200 Louvres
6000 Construction Details
6100 Ground Floor Details
6200 Roof Details
6300 External Envelope Details
6400 Internal Details
6500 Balcony Details
7000 Fire Strategy
7500 Sustainability Strategy
8000 Conveyance Plans
8100 Marketing Plans
8500 Sales Plans

GA Plans

	RWP – Rainwater pipe		Setting out dimension - Externals
	SVP – Soil vent pipe		Indicative builder's work penetrations
	BS – Sub Stock		Cavity barrier
	SC – Stand Connection		Rooney columns / Column
	Structural steel & padstone, refer to SE drawings and specification		Load Bearing
	ASVP / SDVP		SC – Movement joint
	Windpost (as per SI/Hgp details)		
	Penetrations are to be the smallest & must maintain the fire resistance of the fire-separating element		

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Omit subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to reconciliated M&E Supplier drawings for locations of RWP, before ground drainage commences. Refer to Structural Engineer's drawings, details and specifications, 45 degree passing under buildings is not measured in 100 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions.

For all side levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, brick loadings / sizes for building (inserting services and sleeves) details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 0900.

Dimensions subject to measured survey, basis information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifiedsee & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed filled with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 6 (Impact).

VIVID

P02	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P03	Grid & Int drainage dim'd, SVP moved., Window added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE
Rev	Description	Date	OB	CB

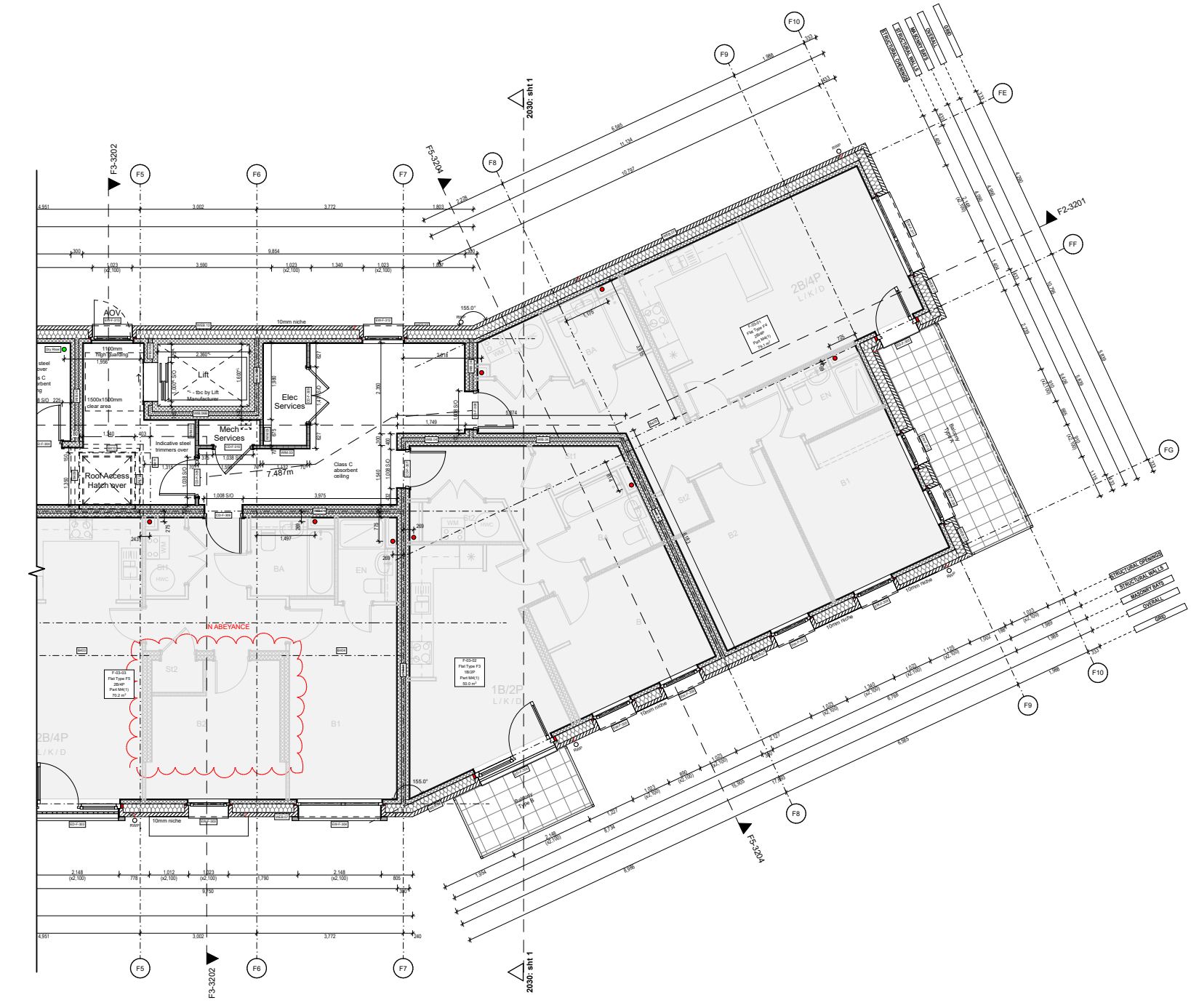
Block F - Third Floor Plan

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:50@A1	JUN 2025
DRAWN BY/CHECKED BY	**REVISION**
HC / MLE	T01
DWG#	**STATUS**
25048-HGP-FX-03-DR-A-2032	S3

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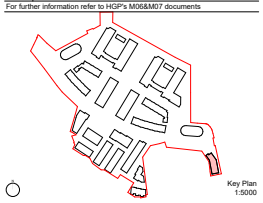
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Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



Key Plan 1:5000

GA Plans

	RWP – Rainwater pipe	XXX	Setting out dimension - Externals
	SVP – Soil vent pipe		Indicative builder's work penetrations
	SS – Sub Stack		Cavity barrier
	DC – Direct Connection		Dummy column / Column
	Structural steel & padstone, refer to SE drawings and specification		Lead flashing
	ASHP / MVHR	MJ	MJ – Movement joint
	Windpost (as per SIEng details)		
	Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element		

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

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Gas meter locations subject to confirmation of incoming service positions

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Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

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VIVID

Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

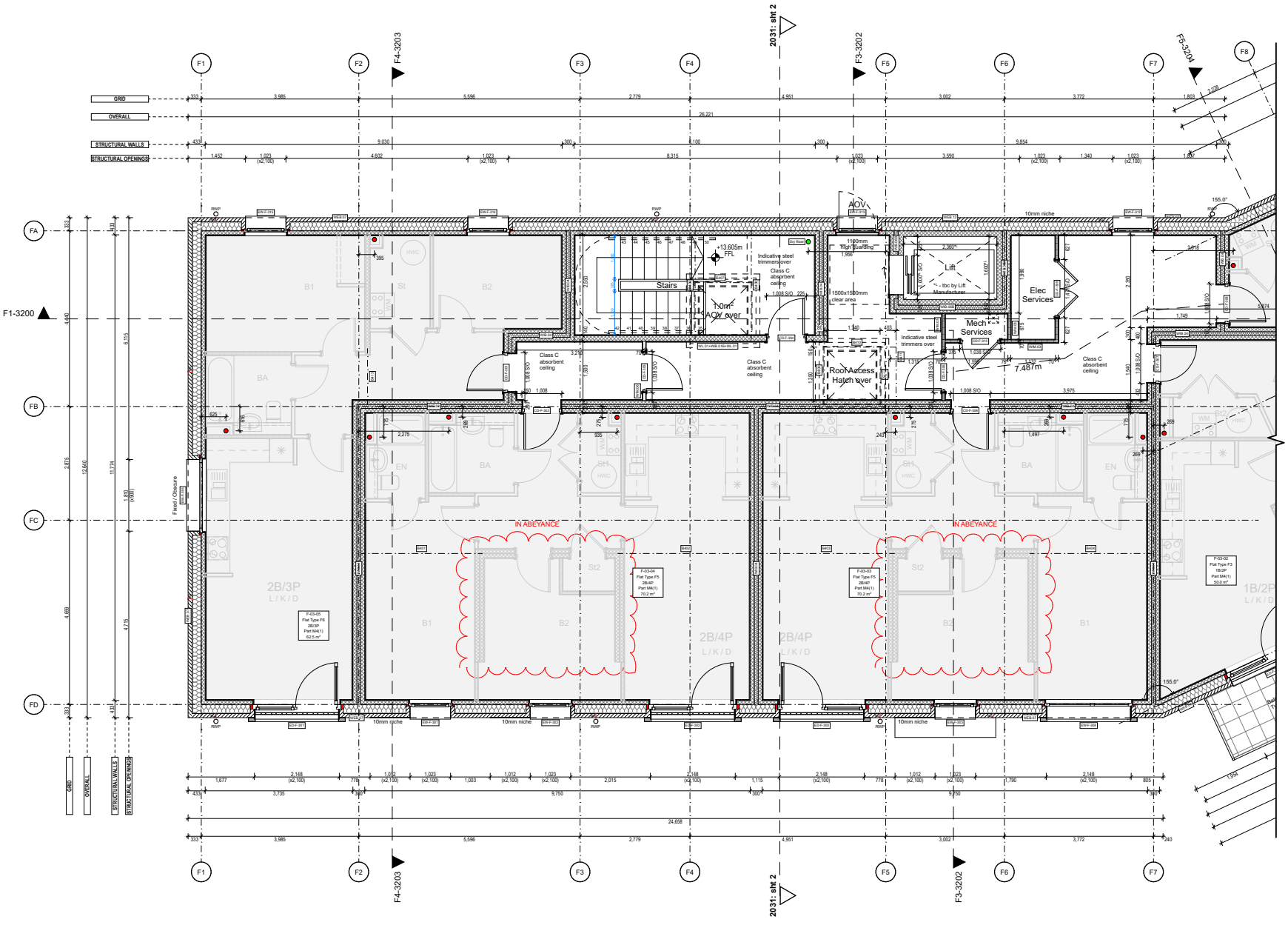
Block F - Third Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-03-D-A-2031	S3

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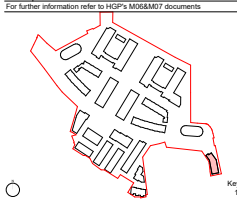
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Building regs Ref: PF/23/1106

Risk Schedule	
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5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		XXX	Setting out dimension - Externals
SVP – Soil vent pipe			Indicative builder's work penetrations
SS – Sub Stack			Cavity barrier
DC – Direct Connection			Dummy column / Column
Structural steel & padstone, refer to SE drawings and specification			Lead flashing
ASHP / MVHR		MJ	MJ – Movement joint
Windpost (as per SiEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., Window added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

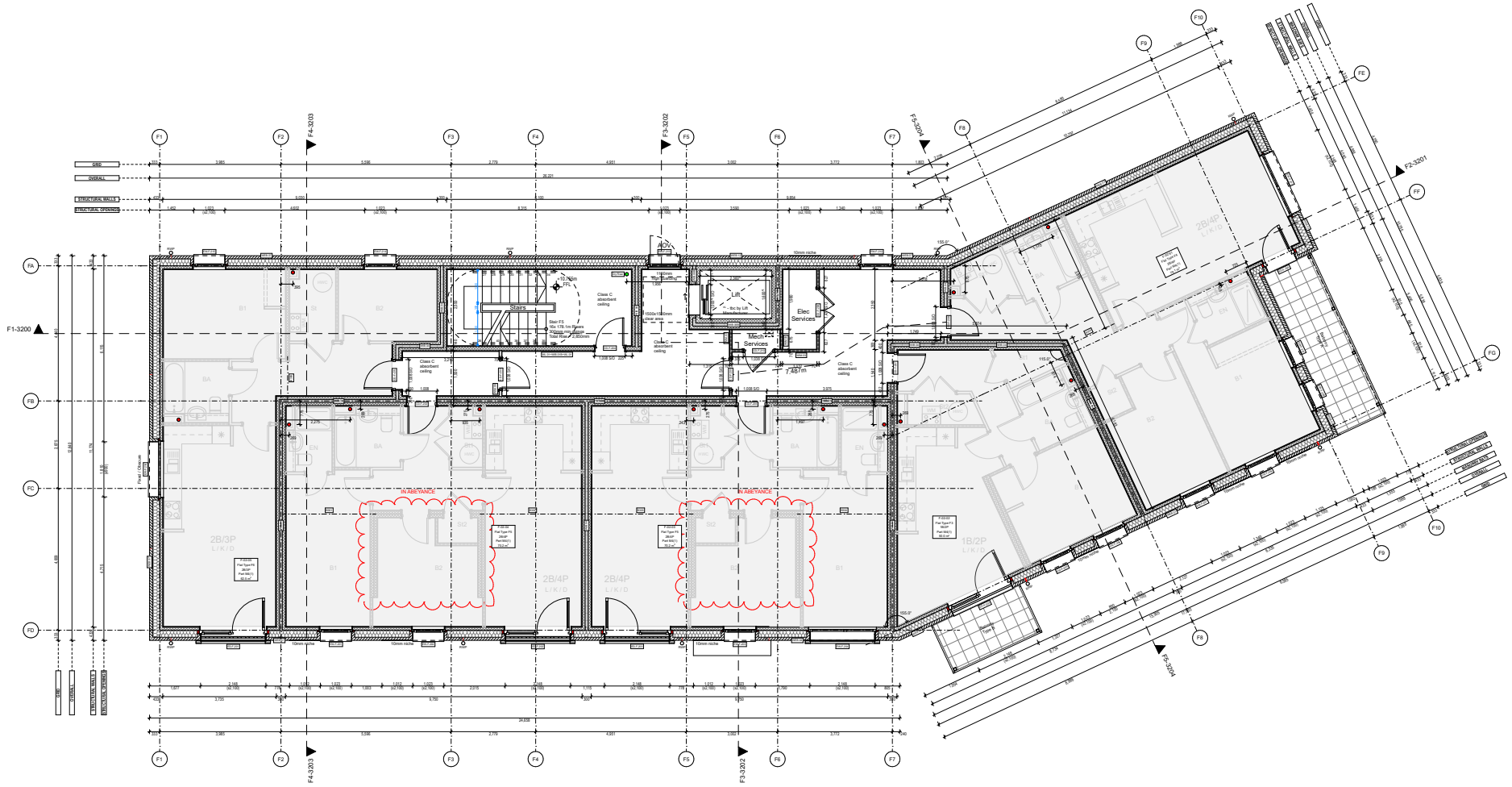
Block F - Third Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-03-D-A-2030	S3

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Key Plan
1:6000

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Topographical / Ordnance Survey information shown has been prepared by a third party, HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Risk Schedule

Specific hazards & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk.
Refer to risk schedule on individual drawing.

- Asbestos - Refer to Specialist Asbestos Survey.
- Potential to fall from height.
- Potential to fall from height through voids within floors.
- Harm caused by handling lead.
- Harm caused by uncontrolled collapse.

For further information refer to HGP's MS6AM37 documents.

Further design information:

Reference should be made to the following drawing series

00 Preliminary
0500 Planning
1000 Site Plan & Site Wide
1500 Basement & Sub Structure
2000 Ground Plans
2500 Roof Plans
3000 Elevations
3500 Sections
3600 Roddings
3700 Stairs
3800 Lifts
4000 Flat Types
4100 Flat Type Partition Plans
4500 Structural Coordination
4600 Ceiling Plans
5000 Window Schedule
5100 Door Schedule
5200 Louvres
6000 Construction Details
6100 Ground Floor Details
6200 Roof Details
6300 External Envelope Details
6400 Internal Details
6500 Balcony Details
7000 Fire Strategy
7500 Sustainability Strategy
8000 Conveyance Plans
8100 Marketing Plans
8500 Sales Plans

GA Plans

RWP – Rainwater pipe	Setting out dimension - Externals
SVP – Soil vent pipe	Indicative builder's work penetrations
SS – Sub Stack	Cavity barrier
SC – Stand Connection	Masonry columns / Column
Structural steel & padstone, refer to SE drawings and specification	Load Bearing
ASVP / SSVP	SJ – Movement joint
Windpost (as per SVPog details)	
Penetrations are to be stopped & must maintain the fire resistance of the fire-separating element	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to reconciliated M&E Supplier drawings for locations of RWP, below ground drainage, soil vent pipes, gas meters, electrical intake cupboards, ventilation and specifications. All items passing under buildings to be encased in c.100 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, brick loadings / sizes for building movening versions and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 0900.

Dimensions subject to measured survey, basis information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifiedsions & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed flled with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 6 (Impact).

Rev	Description	Date	DB	CB
P02	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P03	Grid & Int drainage dim'd, SVP moved., window added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

VIVID

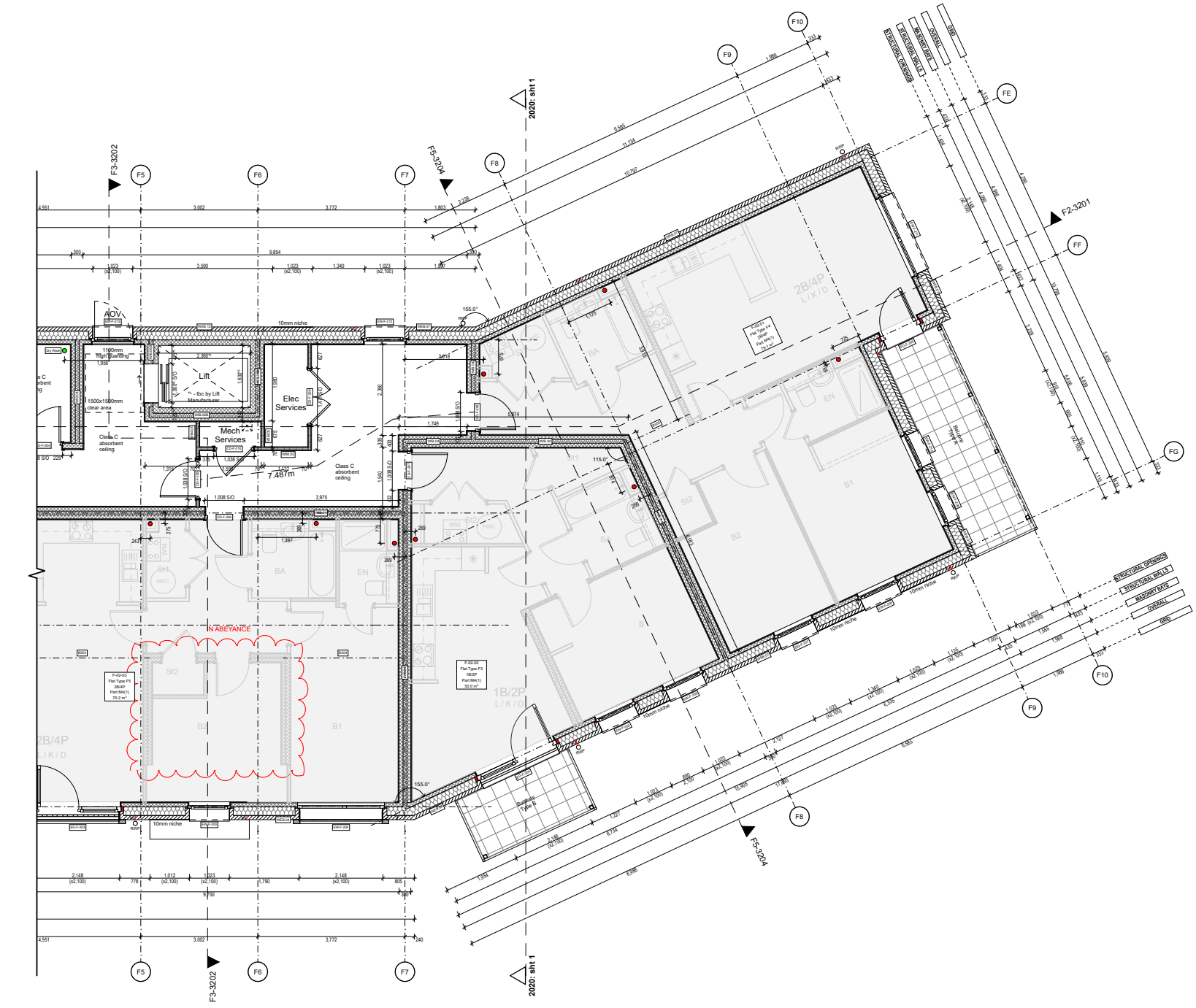
Block F - Second Floor Plan

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:50@A1	JUN 2025
DRAWN BY/CHECKED BY	**REVISION**
HC / MLE	T01
DWG#	**STATUS**
25048-HGP-FX-02-DR-A-2022	S3

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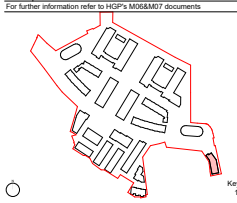
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Building regs Ref: PF/23/1106

Risk Schedule	
⚠	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
⚠1	Asbestos - Refer to Specialist Asbestos Survey.
⚠2	Potential to fall from height.
⚠3	Potential to fall from height through voids within floors.
⚠4	Harm caused by handling lead.
⚠5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		XXX	Setting out dimension - Externals
SVP – Soil vent pipe			Indicative builder's work penetrations
SS – Sub Stack			Cavity barrier
DC – Direct Connection			Dummy column / Column
Structural steel & padstone, refer to SE drawings and specification			Lead flashing
ASHP / MVHR		MJ	MJ – Movement joint
Windpost (as per SiEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

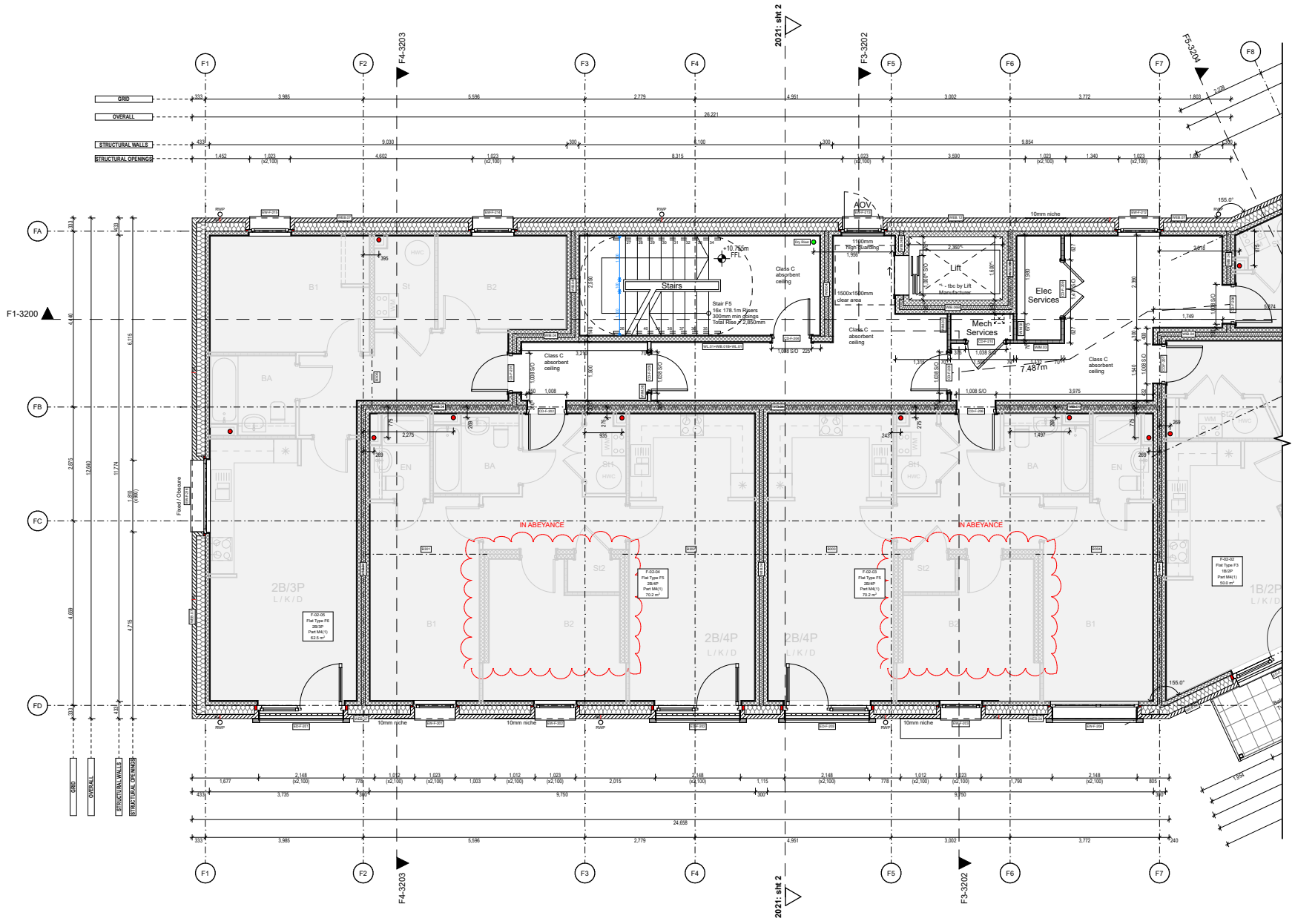
Block F - Second Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-02-D-A-2021	S3

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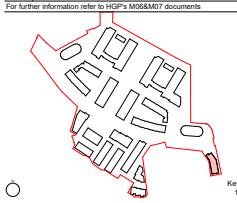
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Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
A	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



Key Plan 1:5000

GA Plans

RWP – Rainwater pipe		XXX	Setting out dimension - Externals
SVP – Soil vent pipe			Indicative builder's work penetrations
SS – Sub Stack			Cavity barrier
DC – Direct Connection			Dummy column / Column
Structural steel & padstone, refer to SE drawings and specification			Lead flashing
ASHP / MVHR		MJ	MJ – Movement joint
Windpost (as per SiEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., Window added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

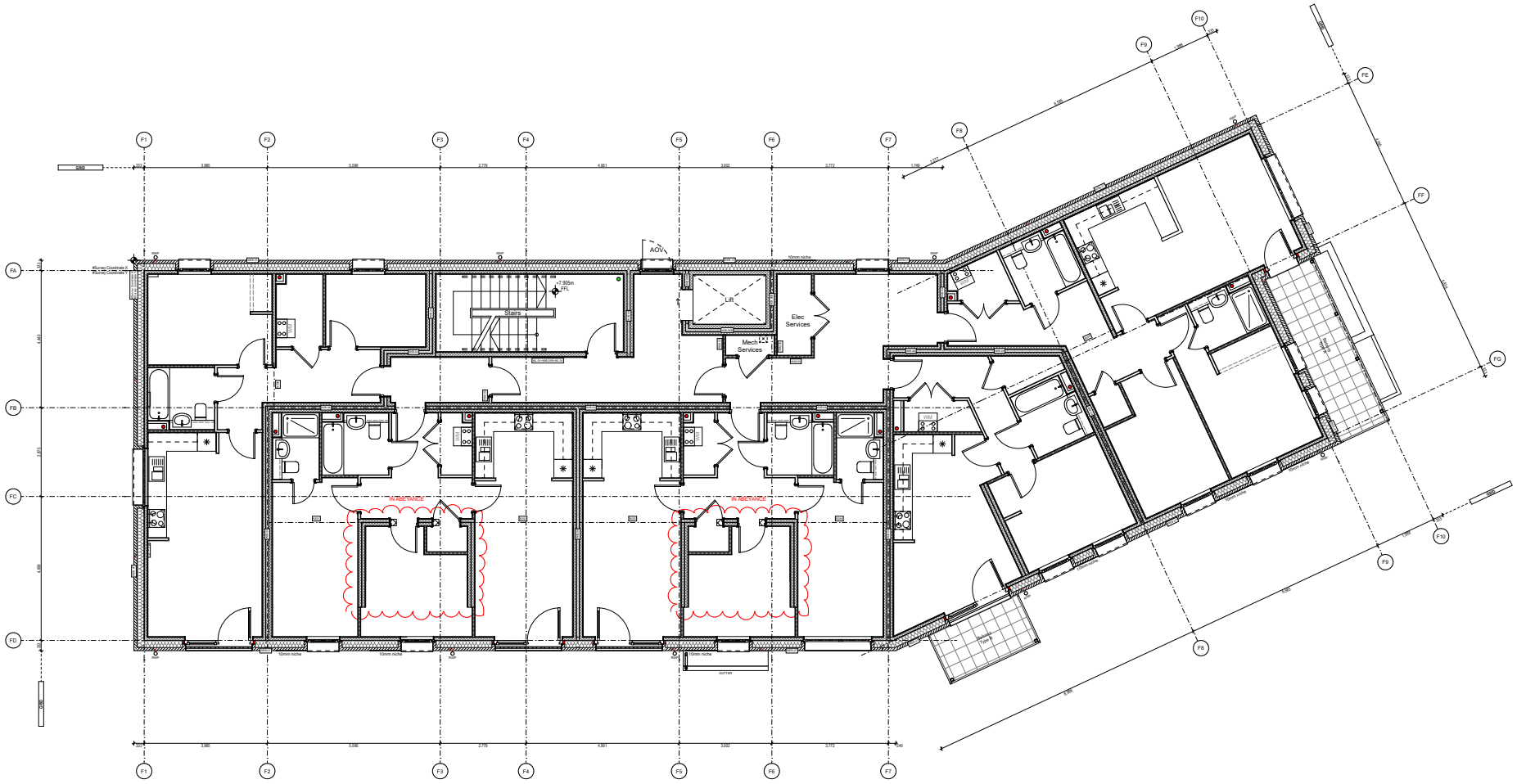
Block F - Second Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-02-D-A-2020	S3

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Key Plan
1:6000

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Risk Schedule

	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
	Asbestos - Refer to Specialist Asbestos Survey.
	Potential to fall from height.
	Potential to fall from height through voids within floors.
	Harm caused by handling lead.
	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06MA97 documents.

Further design information:

Reference should be made to the following drawing series

00 Preliminary	4600 Ceiling Plans
0000 Planning	5000 Window Schedule
1000 Site Plan & Site Wide	5100 Door Schedule
1500 Basement & Sub Structure	5200 Louvres
2000 Floor Plans	6000 Elevations Details
2500 Roof Plans	6100 Ground Floor Details
3000 Elevations	6200 Roof Details
3500 Sections	6300 External Envelope Details
3600 Roddings	6400 Internal Details
3700 Stairs	6500 Balcony Details
3800 Lifts	7000 Fire Strategy
4000 Unit Types	7500 Sustainability Strategy
4100 Flat Type Partition Plans	8000 Conveyance Plans
4500 Structural Coordination	8100 Marketing Plans
	8500 Sales Plans

GA Plans

RWP – Rainwater pipe	Setting out dimension - Externals
SVP – Soil vent pipe	Indicative Architect's work specification
BS – Sub Stock	Cavity barrier
SC – Stand Connection	Masonry columns / Column
Structural wall & positioner, refer to SE drawings and specification	Load Bearing
ASHP / SDHR	DJ – Movement joint
Windpost (as per SI/Eng details)	
Penetrations are to be the stopped & must maintain the fire resistance of the fire separating element	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to reconciliated M&E Supplier drawings for locations of RWP, before ground drainage commences. Refer to Structural Engineer's drawings, details and specifications. All drains passing under buildings to be encased in c.100 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, brief loadings / sizes for building (investing services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 0900

Dimensions subject to measured survey, basis information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to be fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 6 (Impact).

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	SVP moved, , Window added, , In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

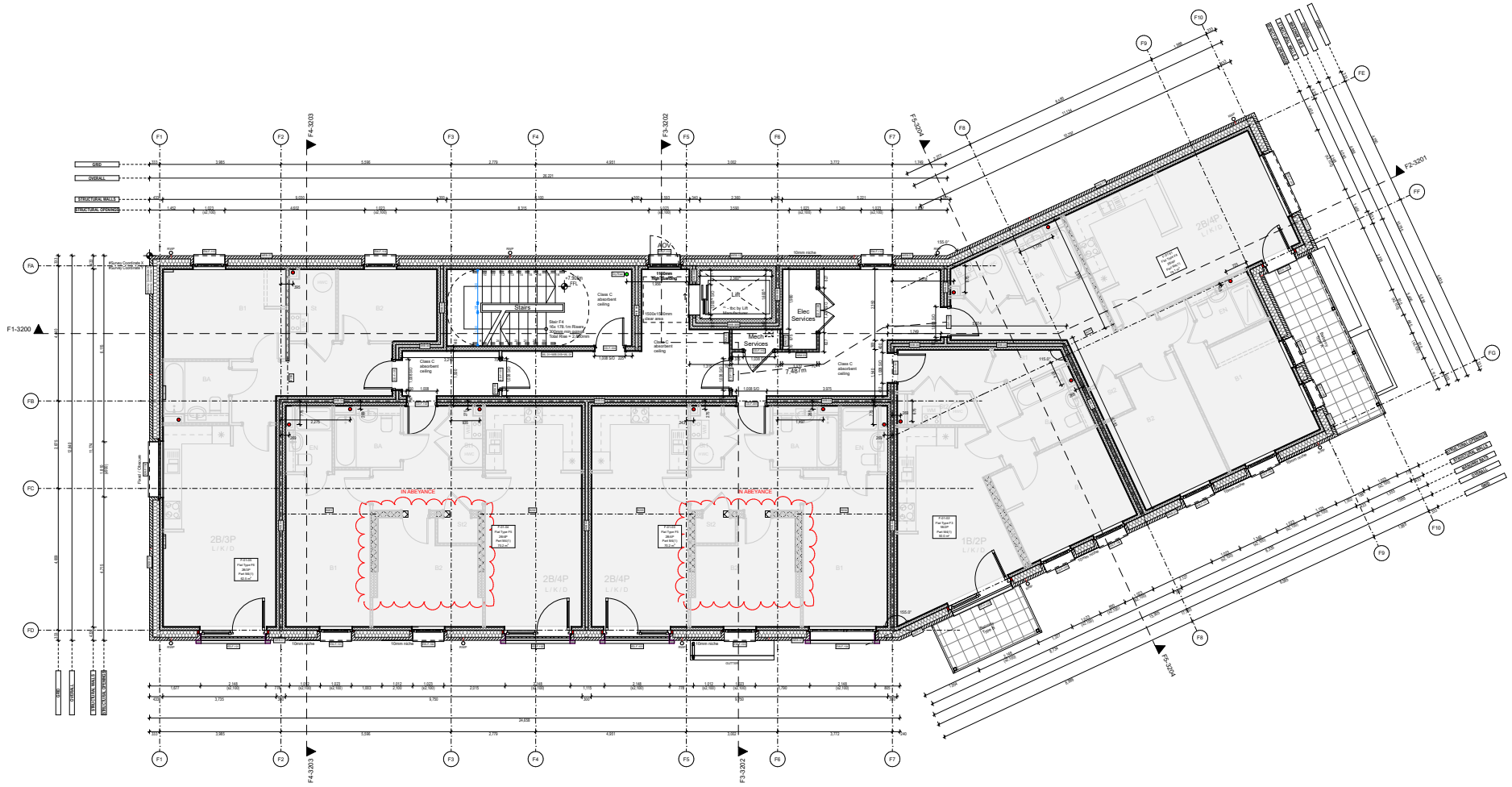
Block F - First Floor Structural Co-ord

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:50@A1	JUN 2025
DRAWN BY/CHECKED BY	**REVISION**
AVC / MLE	T01
DWG#	**STATUS**
25048-HGP-FX-01-DR-A-2512	S3

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Key Plan
1:6000

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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Risk Schedule

	Specific hazards & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
	Asbestos - Refer to Specialist Asbestos Survey.
	Potential to fall from height.
	Potential to fall from height through voids within floors.
	Harm caused by handling lead.
	Harm caused by uncontrolled collapse.

For further information refer to HGP's MS6AM37 documents.

Further design information:

Reference should be made to the following drawing series

00 Preliminary	4600 Ceiling Plans
0000 Planning	5000 Window Schedule
1000 Site Plan & Site Wide	5100 Door Schedule
1500 Basement & Sub Structure	5200 Louvres
2000 Floor Plans	6000 Construction Details
2500 Roof Plans	6100 Ground Floor Details
3000 Elevations	6200 Roof Details
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4100 Flat Types	7500 Sustainability Strategy
4100 Flat Type Partition Plans	8000 Conveyance Plans
4500 Structural Coordination	8100 Marketing Plans
	8500 Sales Plans

GA Plans

RWP – Rainwater pipe	Setting out dimension - Externals
SVP – Soil vent pipe	Indicative builder's work penetrations
BS – Sub Stock	Cavity barrier
SC – Stand Connection	Rodding column / Column
Structural steel & padstone, refer to SE drawings and specification	Load Bearing
ASVP / SDVR	SC – Movement joint
Windpost (as per S0/reg details)	
Penetrations are to be stopped & must maintain the fire resistance of the fire-rated by element	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Dimensions to be confirmed by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to reconciliated M&E Supplier drawings for locations of RWP, before ground drainage commences. Refer to Structural Engineer's drawings, details and specifications. All drains passing under buildings to be encased in c.100 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, brick loadings / sizes for building movening versions and clerestory details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 0900.

Dimensions subject to measured survey, basis information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifiedwhere & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed filled with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 6 (Impact).

Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., Window added., In abeyance marked in green	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

VIVID

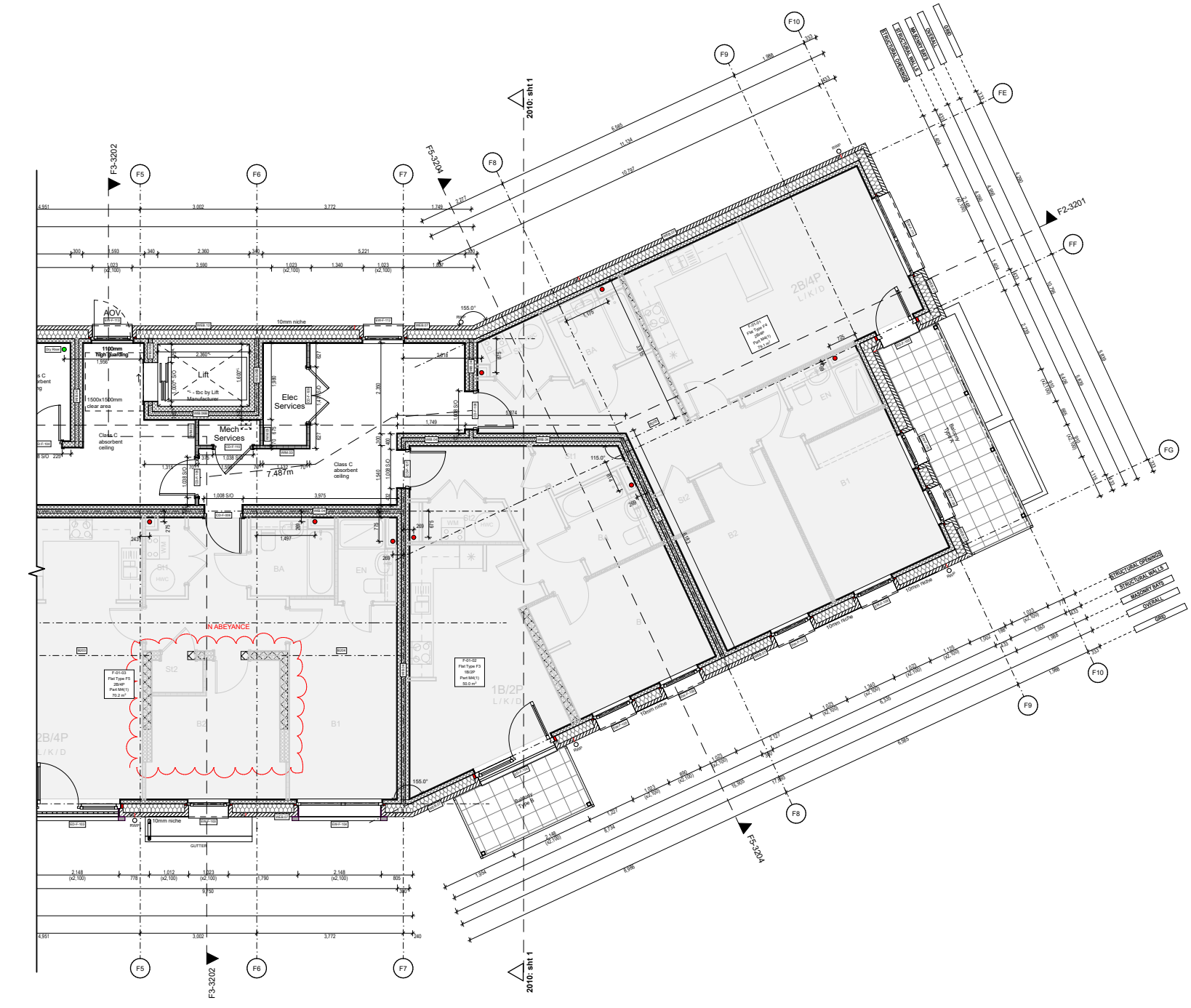
Block F - First Floor Plan

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:50@A1	MAY 2025
DRAWN BY/CHECKED BY	**REVISION**
HC / MLE	T01
DWG#	**STATUS**
25048-HGP-FX-01-DR-A-2012	S3

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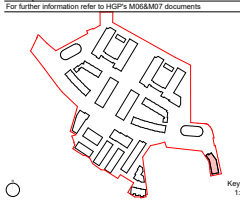
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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/1106

Risk Schedule	
⚠1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
⚠A	Asbestos - Refer to Specialist Asbestos Survey.
⚠2	Potential to fall from height.
⚠3	Potential to fall from height through voids within floors.
⚠4	Harm caused by handling lead.
⚠5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

	RWP – Rainwater pipe	XXX	Setting out dimension - Externals
	SVP – Soil vent pipe		Indicative builder's work penetrations
	SS – Sub Stack		Cavity barrier
	DC – Direct Connection		Dummy column / Column
	Structural steel & padstone, refer to SE drawings and specification		Lead flashing
	ASHP / MVHR	MJ	MJ – Movement joint
	Windpost (as per SiEng details)		
	Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element		

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to be fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

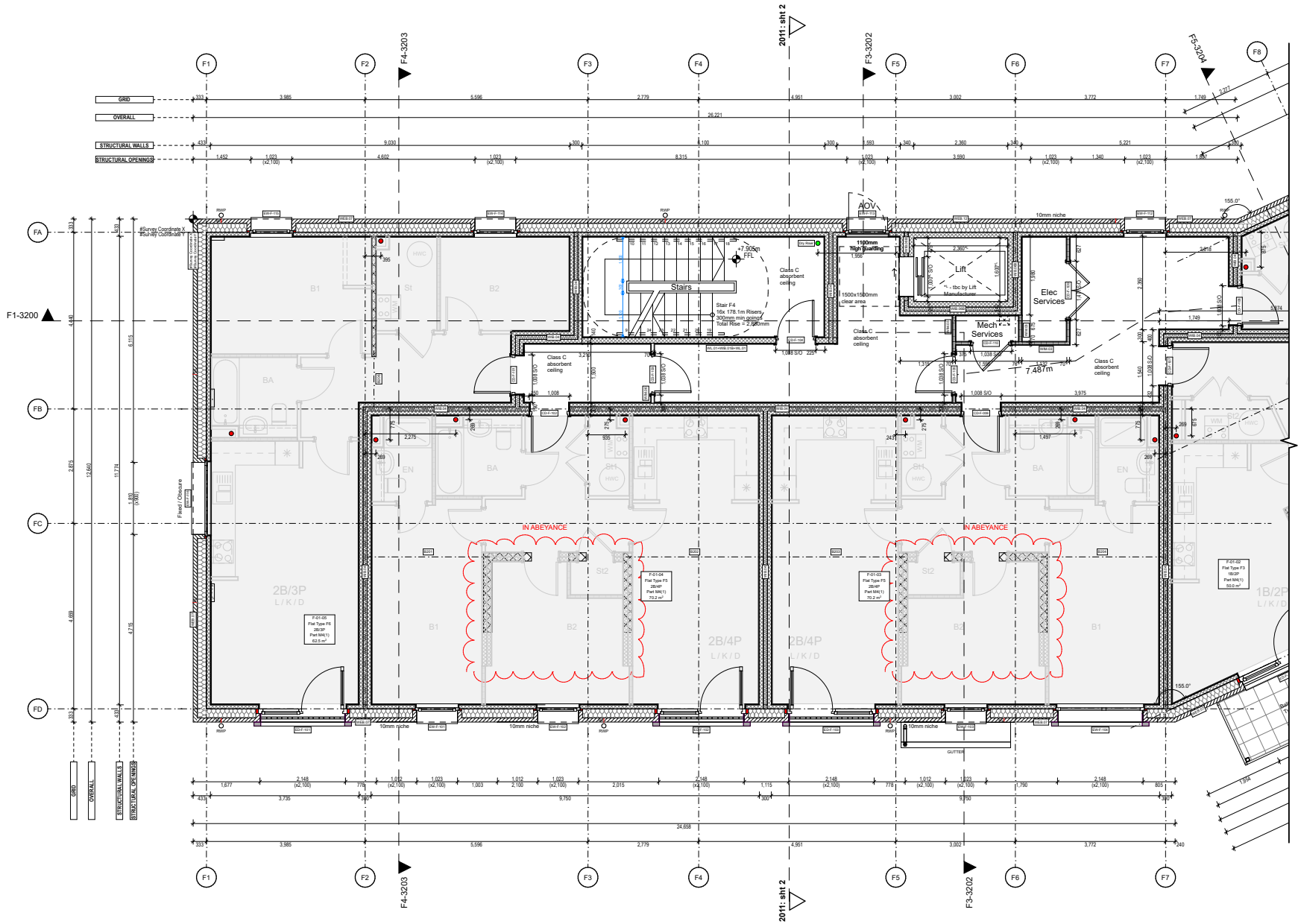
Block F - First Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-01-D-A-2011	S3

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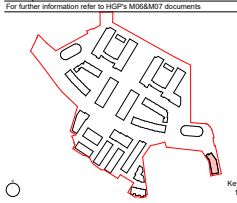
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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		XXX	Setting out dimension - Externals
SVP – Soil vent pipe			Indicative builder's work penetrations
SS – Sub Stack			Cavity barrier
DC – Direct Connection			Dummy column / Column
Structural steel & padstone, refer to SE drawings and specification			Lead flashing
ASHP / MVHR		MJ	MJ – Movement joint
Windpost (as per SEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

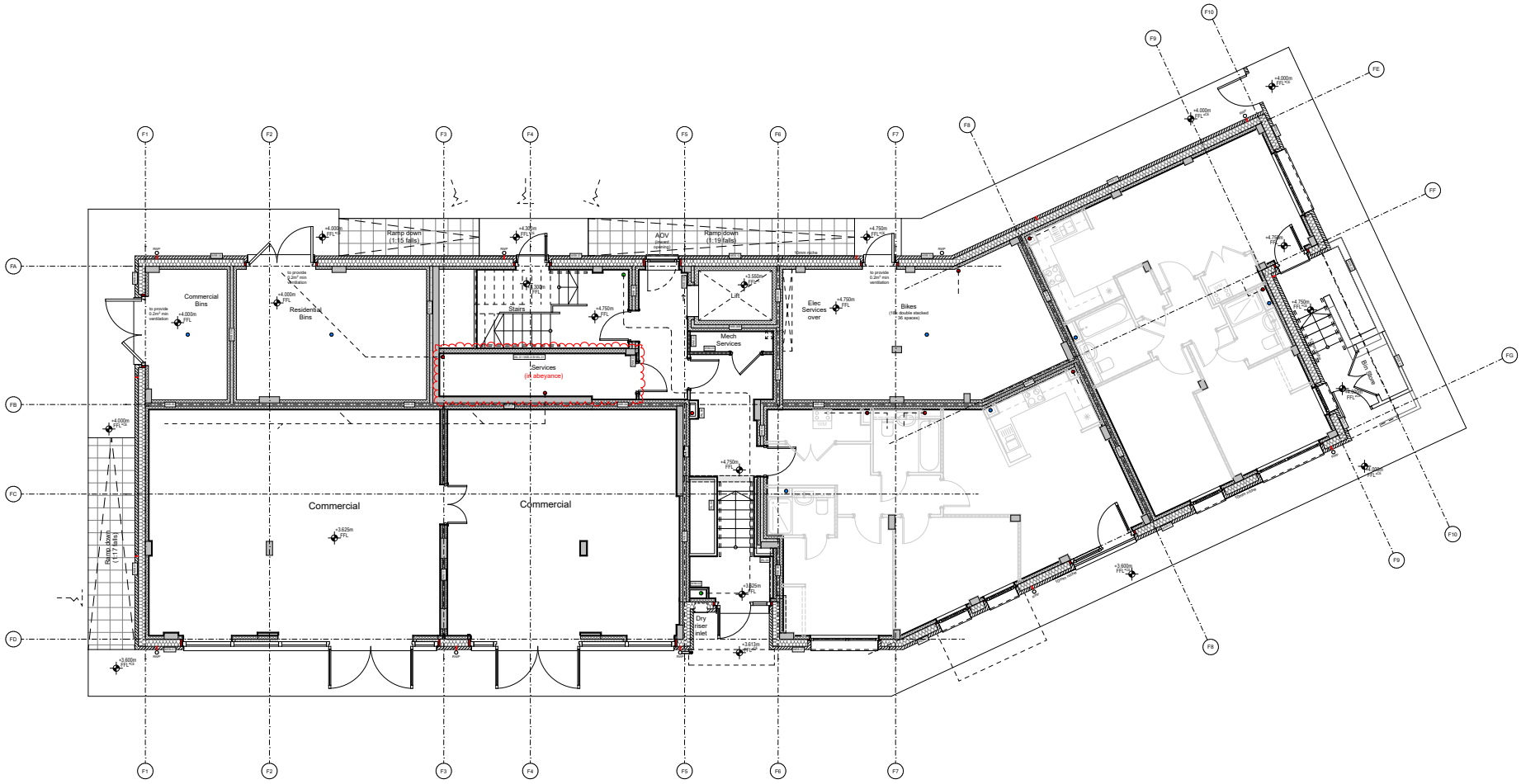
Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid & Int drainage dim'd, SVP moved., Window added., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - First Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-01-D-A-2010	S3

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Key Plan
1:6000

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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Risk Schedule

	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
	Asbestos - Refer to Specialist Asbestos Survey.
	Potential to fall from height.
	Potential to fall from height through voids within floors.
	Harm caused by handling lead.
	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06AM07 documents.

Further design information:

Reference should be made to the following drawing series

00 Preliminary	4600 Ceiling Plans
0000 Planning	5000 Window Schedule
1000 Site Plan & Site Wide	5100 Door Schedule
1500 Basement & Sub Structure	5200 Louvres
2000 Floor Plans	6000 Construction Details
2500 Roof Plans	6100 Ground Floor Details
3000 Elevations	6200 Roof Details
3500 Sections	6300 External Envelope Details
3600 Roddings	6400 Internal Details
3700 Stairs	6500 Balcony Details
3800 Lifts	7000 Fire Strategy
4000 Unit Types	7500 Sustainability Strategy
4100 Flat Type Partition Plans	8000 Conveyance Plans
4500 Structural Coordination	8100 Marketing Plans
	8500 Sales Plans

GA Plans

RWP – Rainwater pipe	Setting out dimension - Externals
SVP – Soil vent pipe	Indicative builder's work construction
SS – Sub Stack	Cavity barrier
DC – Direct Connection	Rodding solution / Column
Structural steel fit positioner, refer to SE drawings and specification	Load Bearing
ASVP / SDVR	DC – Movement joint
Windpost (as per S0/reg details)	
Penetrations are to be the stopped & must maintain the fire resistance of the fire-separating element	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design/ specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to reconciliated M&E Supplier drawings for locations of RWP, before ground drainage commences. Refer to Structural Engineer's drawings, details and specifications, 45 degree passing under buildings is not ensured in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, brick loadings / sizes for building investing services and chemical details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 0900

Dimensions subject to measured survey, basis information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding ADVs

ADVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

ADVs to be certified to **BS EN 12101-2** as a whole system.

ADVs above ground floor to be fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 6 (Impact).

Column Legend

598 Column
598 Column that HGP wishes to move
Preferred Column location

VIVID

Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
	Stair widened., Grid dim'd. Int drainage amended & dim'd., Column positions updated to S/E latest., Wall type amended., New proposed column location., In abeyance marked in green.			
P02	to S/E latest., Wall type amended., New	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

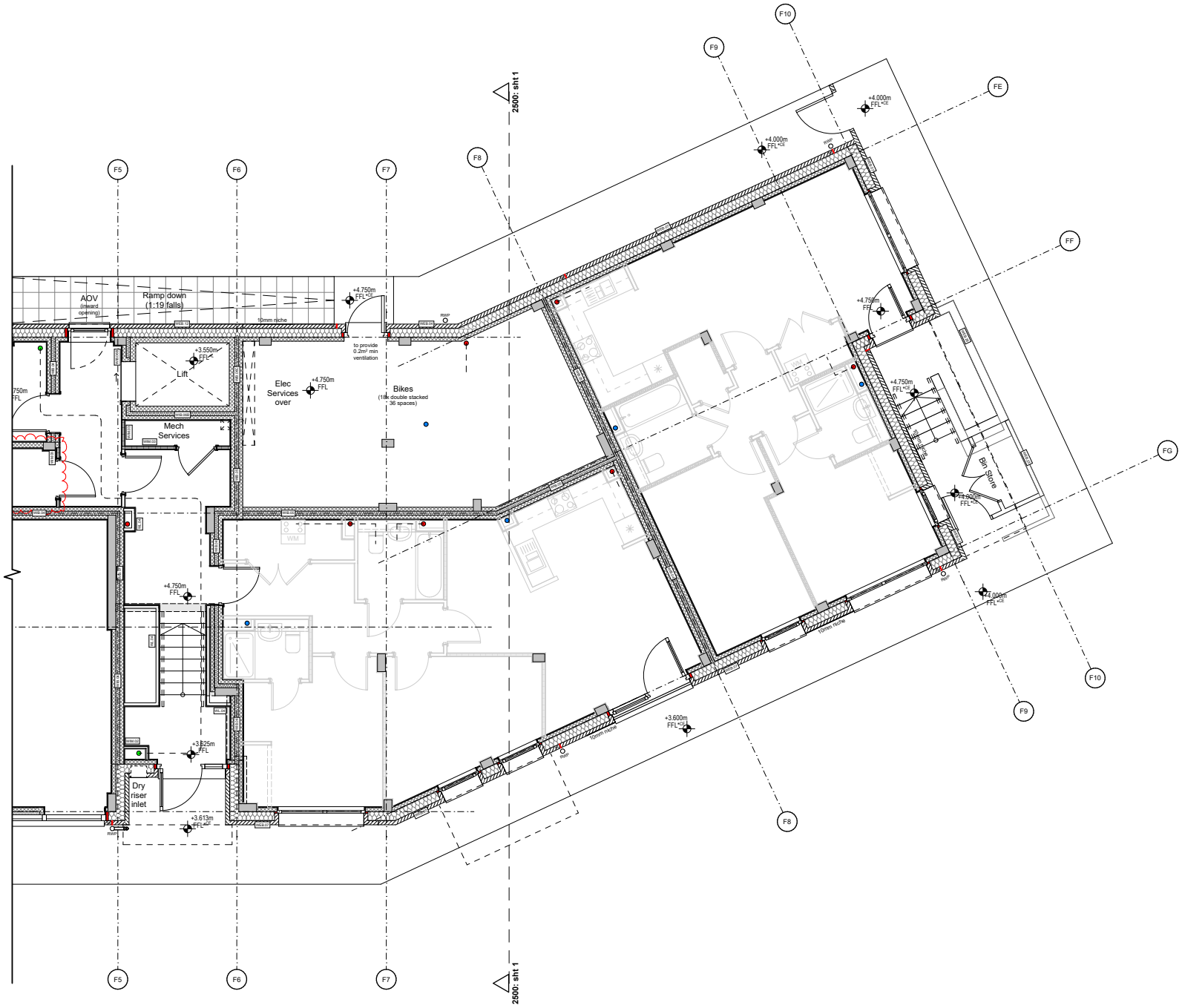
Block F - Ground Floor Structural Co-ord

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:50@A1	JUN 2025
DRAWN BY/CHECKED BY	**REVISION**
AVC / MLE	T01
DWG#	**STATUS**
25048-HGP-FX-00-DR-A-2502	S3

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Column Legend

- S&E Column
- S&E Column that HGP wishes to move
- Preferred Column location

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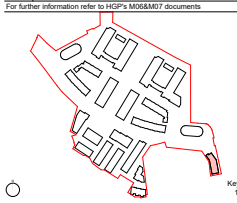
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Building regs Ref: PF/23/106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

	RWP – Rainwater pipe	XXX	Setting out dimension - Externals
	SVP – Soil vent pipe		Indicative builder's work penetrations
	SS – Sub Stack		Cavity barrier
	DC – Direct Connection		Dummy column / Column
	Structural steel & padstone, refer to SE drawings and specification		Lead flashing
	ASHP / MVHR	MJ	MJ – Movement joint
	Windpost (as per SIEng details)		
	Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element		

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

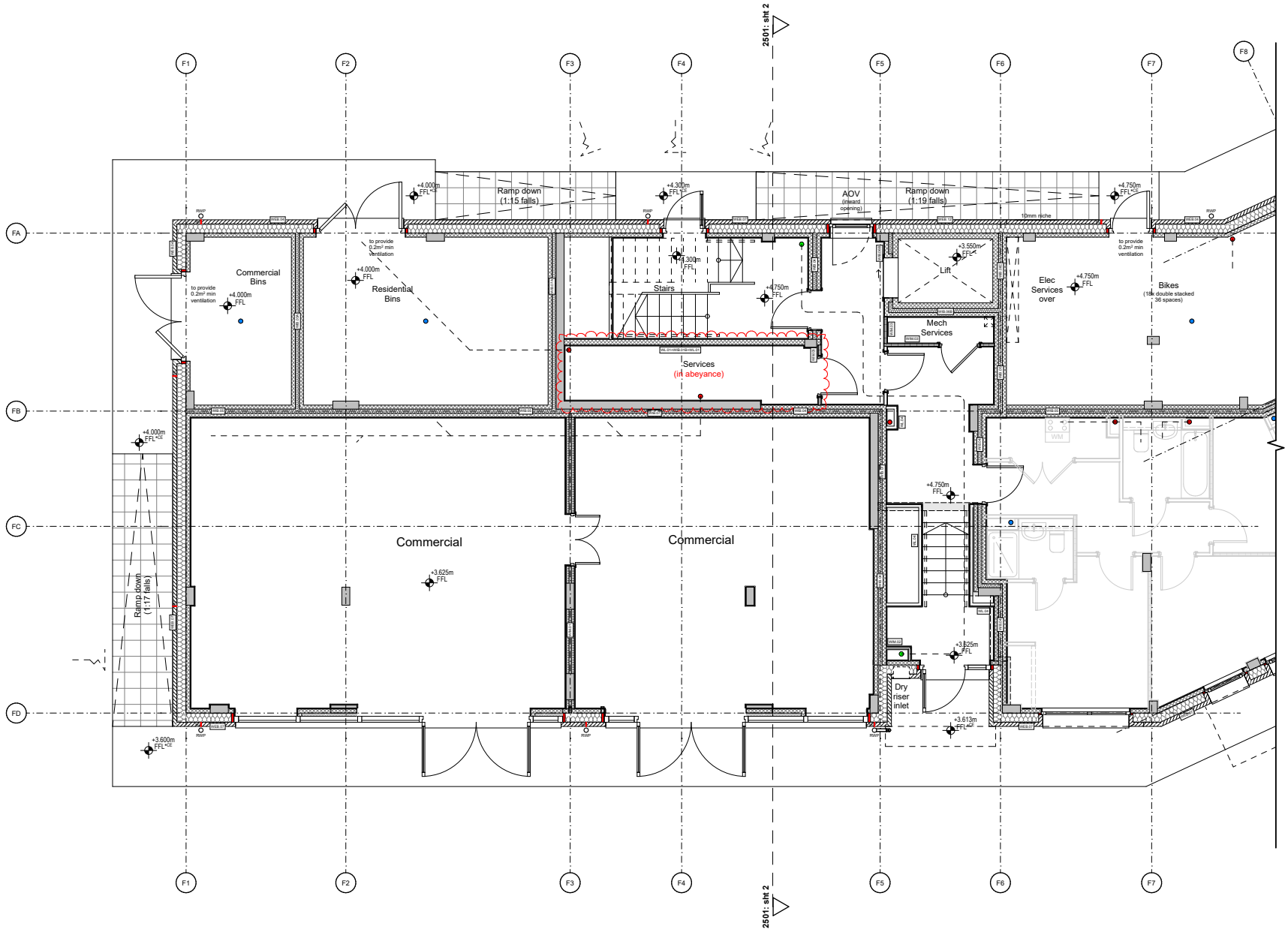
Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Stair widened., Grid dim'd. Int drainage amended & dim'd., Column positions updated to S/E latest., New proposed column location., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Ground Floor Structural Co-ord sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	JUN 2025
DRAWN BY/CHECKED BY	REVISION
AVC / MLE	T01
DWG#	STATUS
25048-HGP-FX-00-D-A-2501	S3

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Column Legend

- S&E Column
- S&E Column that HGP wishes to move
- Preferred Column location

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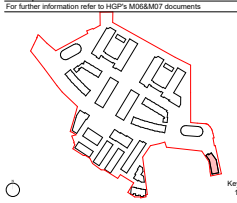
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Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		XXX	Setting out dimension - Externals
SVP – Soil vent pipe			Indicative builder's work penetrations
SS – Sub Stack			Cavity barrier
DC – Direct Connection			Dummy column / Column
Structural steel & padstone, refer to SE drawings and specification			Lead flashing
ASHP / MVHR		MJ	MJ – Movement joint
Windpost (as per StEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

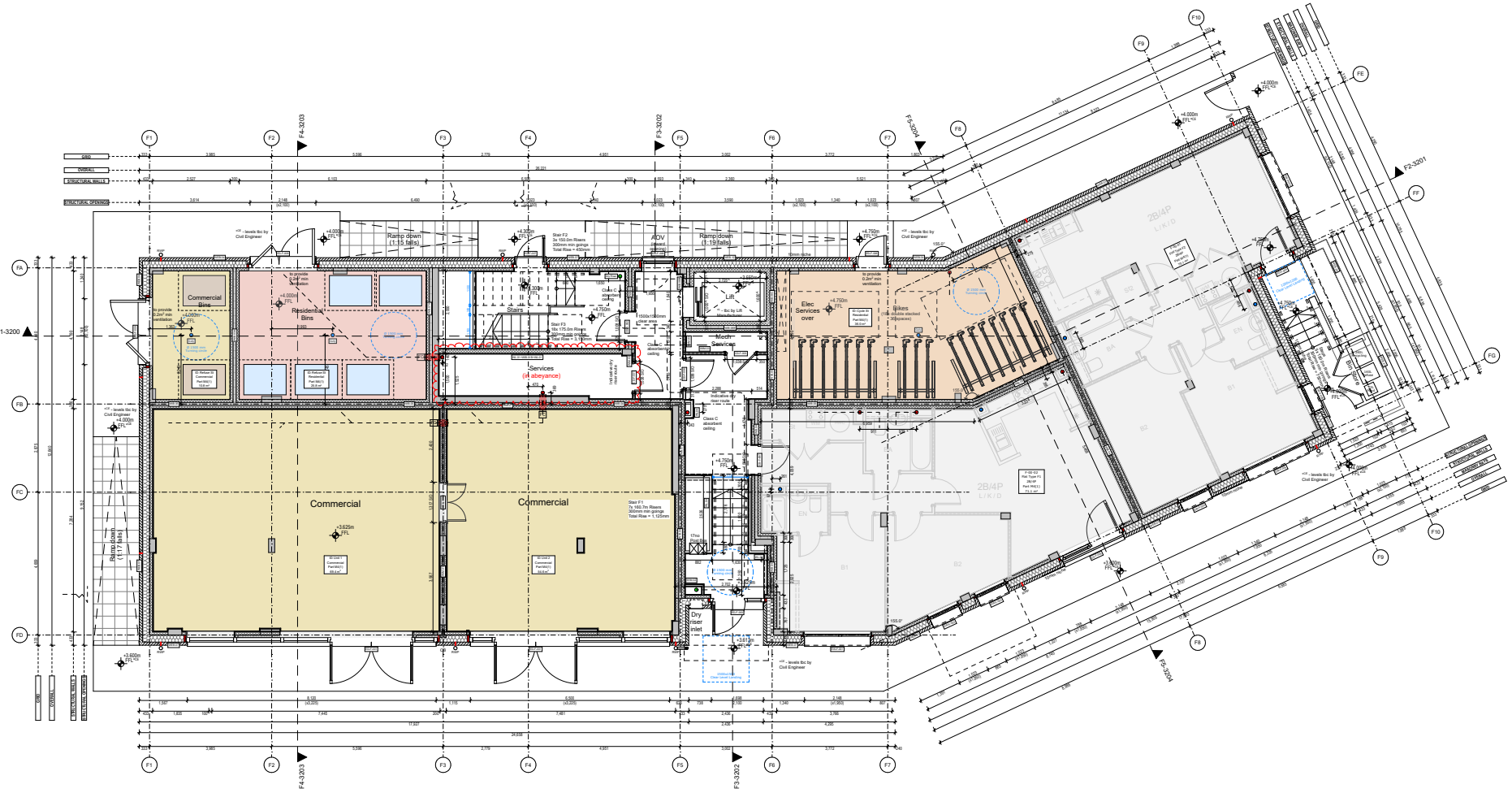
Rev	Description	Date	DB	CB
P01	Initial Issue	20.06.25	AVC	MLE
P02	Stair widened., Grid dim'd. Int drainage amended & dim'd., Column positions updated to S/E latest., Wall type amended., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Ground Floor Structural Co-ord sht 1

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A1	DATE JUN 2025
DRAWN BY/CHECKED BY AVC / MLE	REVISION T01
DWG# 25048-HGP-FX-00-D-A-2500	STATUS S3

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Key Plan
1:6000

Please Note:

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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Risk Schedule

Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk.
Refer to risk schedule on individual drawing.

- Asbestos - Refer to Specialist Asbestos Survey.
- Potential to fall from height.
- Potential to fall from height through voids within floors.
- Harm caused by handling lead.
- Harm caused by uncontrolled collapse.

For further information refer to HGP's M56AM57 documents.

Further design information:

Reference should be made to the following drawing series

00 Preliminary
0000 Planning
1000 Site Plan & Site Wide
1500 Basement & Sub Structure
2000 Ground Plans
2500 Roof Plans
3000 Elevations
3500 Sections
3600 Roddings
3700 Stairs
3800 Lifts
4000 Wall Types
4100 Flat Type Partition Plans
4500 Structural Coordination
4600 Ceiling Plans
5000 Window Schedule
5100 Door Schedule
5200 Louvres
6000 Construction Details
6100 Ground Floor Details
6200 Roof Details
6300 External Envelope Details
6400 Internal Details
6500 Balcony Details
7000 Fire Strategy
7500 Sustainability Strategy
8000 Conveyance Plans
8100 Marketing Plans
8500 Sales Plans

GA Plans

RWP - Rainwater pipe	Setting out dimension - Externals
SVP - Soil vent pipe	Indicative builder's work penetration
SS - Sub Stack	Cavity barrier
DC - Direct Connection	Rodding eyebrow / Column
Structural steel fit positioner, refer to SE drawings and specification	Load Bearing
ASVP - Upvent	NLB - Non-load
Windpost (as per SI Reg details)	
Penetrations are to be fire stopped & must maintain the fire resistance of the fire-separating element	

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to reconciliated M&E Supplier drawings for locations of RWP, before ground drainage commences. Refer to Structural Engineer's drawings, details and specifications. All drains passing under buildings to be encased in c.100 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building bounding services and chimney details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 0900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding ADVs

ADVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

ADVs to be certified to **BS EN 12101-2** as an whole system.

ADVs above ground floor to be fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 6 (Impact).

VIVID

Rev	Description	Date	OB	CB
P04	Grid dim'd. Int drainage amended & dim'd. Column positions updated to S/E latest. Wall type amended, . In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

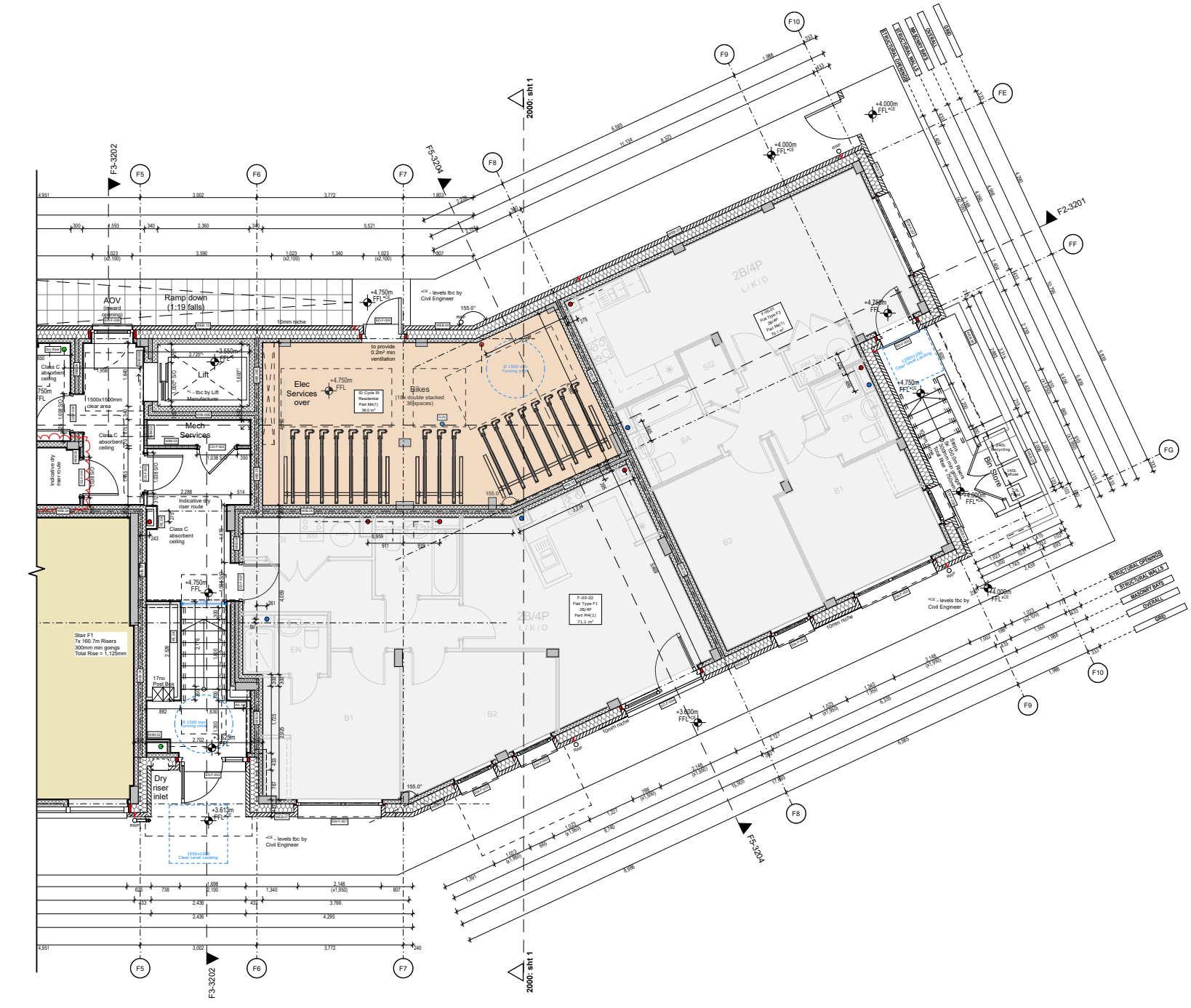
Block F - Ground Floor Plan

PROJECT	**JOB NO**
TIPNER EAST REGENERATION	25.048
SCALE	**DATE**
1:50@A1	MAY 2025
DRAWN BY/CHECKED BY	**REVISION**
HC / MLE	T01
DWG#	**STATUS**
25048-HGP-FX-00-DR-A-2002	S3

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Column Legend

- S&E Column
- S&E Column that HGP wishes to move
- Preferred Column location

Please Note:

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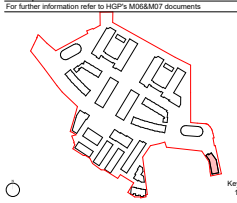
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Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Building regs Ref: PF/23/106

Risk Schedule	
⚠	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
⚠	Asbestos - Refer to Specialist Asbestos Survey.
⚠	Potential to fall from height.
⚠	Potential to fall from height through voids within floors.
⚠	Harm caused by handling lead.
⚠	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents



GA Plans

RWP – Rainwater pipe		XXX	Setting out dimension - Externals
SVP – Soil vent pipe			Indicative builder's work penetrations
SS – Sub Stack			Cavity barrier
DC – Direct Connection			Dummy column / Column
Structural steel & padstone, refer to SE drawings and specification			Lead flashing
ASHP / MVHR		MJ	MJ – Movement joint
Windpost (as per SiEng details)			
Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element			

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

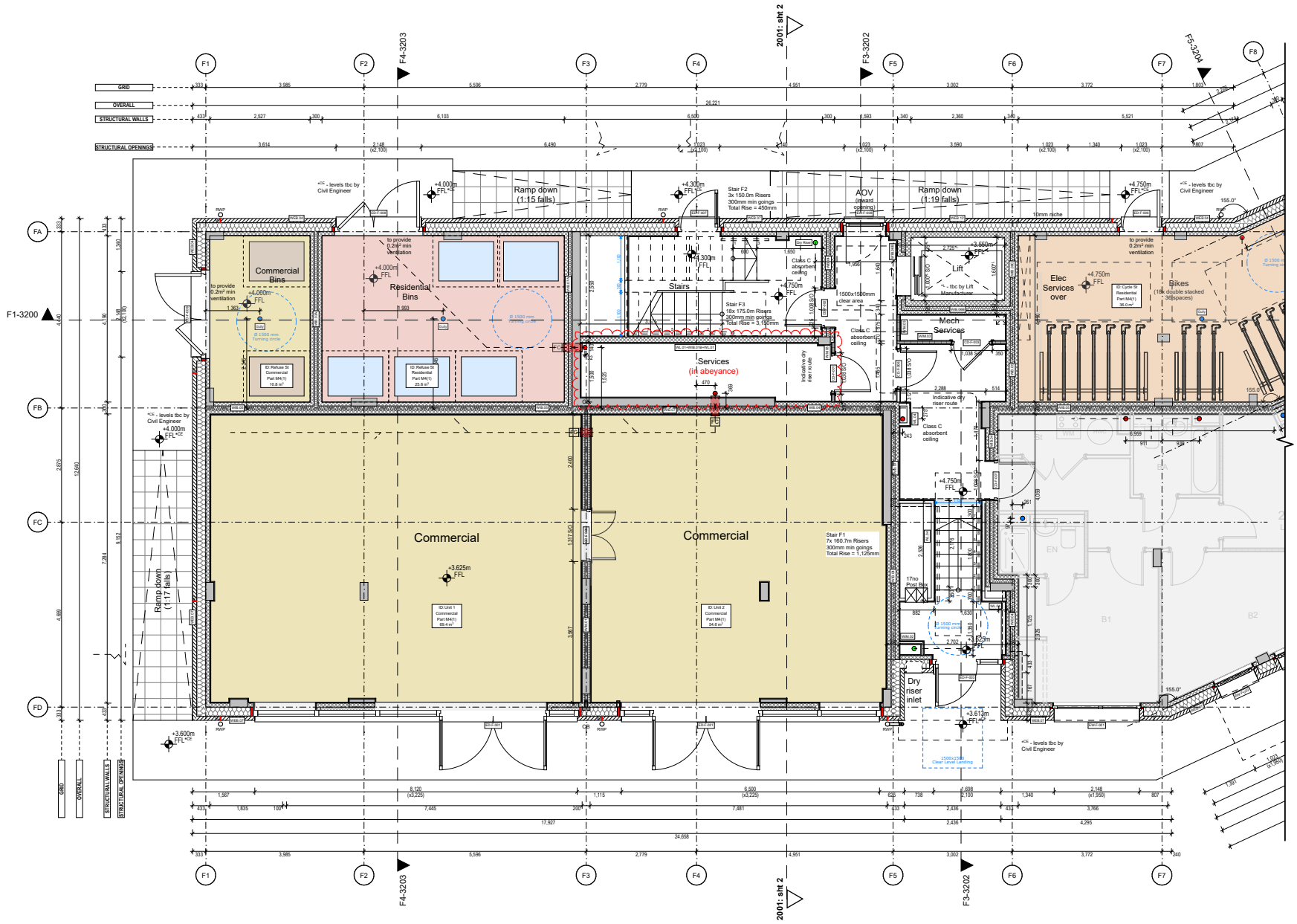
Rev	Description	Date	DB	CB
P03	Revised to Client's mark-ups. Struc columns to HRW design added.	20.06.25	AVC	MLE
P04	Grid dim'd. Int drainage amended & dim'd., Column positions updated to S/E latest., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Ground Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-00-D-A-2001	S3

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Building regs Ref: PF/23/1106

Risk Schedule	
1	Specific health & safety risks associated with this building are highlighted, but not limited to the caution symbol adjacent to the item of risk. **Refer to risk schedule on individual drawing.**
1	Asbestos - Refer to Specialist Asbestos Survey.
2	Potential to fall from height.
3	Potential to fall from height through voids within floors.
4	Harm caused by handling lead.
5	Harm caused by uncontrolled collapse.

For further information refer to HGP's M06&M07 documents

GA Plans

	RWP – Rainwater pipe	XXX	Setting out dimension - Externals
	SVP – Soil vent pipe		Indicative builder's work penetrations
	SS – Sub Stack		Cavity barrier
	DC – Direct Connection		Dummy column / Column
	Structural steel & padstone, refer to SE drawings and specification		Lead flashing
	ASHP / MVHR	M	MJ – Movement joint
	Windpost (as per SEng details)		
	Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element		

Notes

General

Structure shown indicatively, subject to Structural Engineer's detailed design. Grid subject to confirmation by Structural Engineer. Refer to Structural Engineer's design / specification for floor loadings. Drawing to be read in conjunction with coordinated site setting out plan by Structural Engineer.

Refer to co-ordinated M&E Supplier drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

Gas meter locations subject to confirmation of incoming service positions

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to Structural Engineer's drawings, details and schedules for block strengths, lintel loadings / sizes for building incoming services and steelwork details.

Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

Drawing must be read with Wall, Floor & Roof Types details. Refer to HGP detail drawing series 6900.

Dimensions subject to measured survey, basic information gathered from selective site measurements.

Refer to the Clients Schedule of Works.

Floor finishes - Refer to Clients specifications & Schedule of Works.

Regarding AOVs

AOVs to achieve 1.5m2 clear area. Refer to **M&E** specification & **Fire Engineer's** reports.

AOVs to be certified to **BS EN 12101-2** as a whole system.

AOVs above ground floor to bed fitted with guarding. Guarding to conform with Building Regulations Part K Section 3 (Protection from falling) & Section 5 (Impact).

VIVID

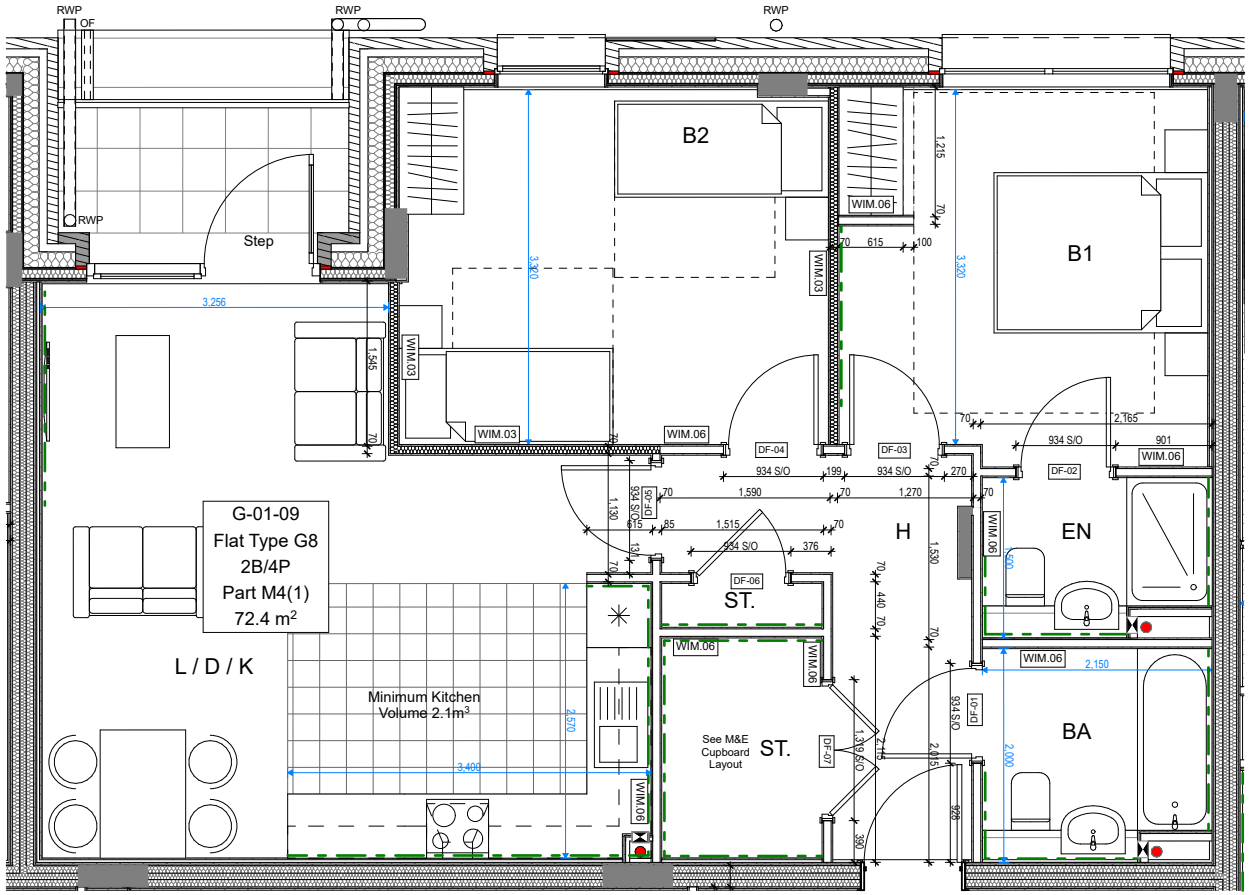
Rev	Description	Date	DB	CB
P04	Grid dim'd. Int drainage amended & dim'd., Column positions updated to S/E latest., Wall type amended., In abeyance marked in green.	08.07.25	AVC	MLE
T01	PCSA Issue	25.07.25	AVC	MLE

Block F - Ground Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	MAY 2025
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T01
DWG#	STATUS
25048-HGP-FX-00-D-A-2000	S3

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NDSS Storage Requirement - 2B4P - 2m²

Shortfall - 0.9m²

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

0 1000 2000 3000mm

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

VIVID

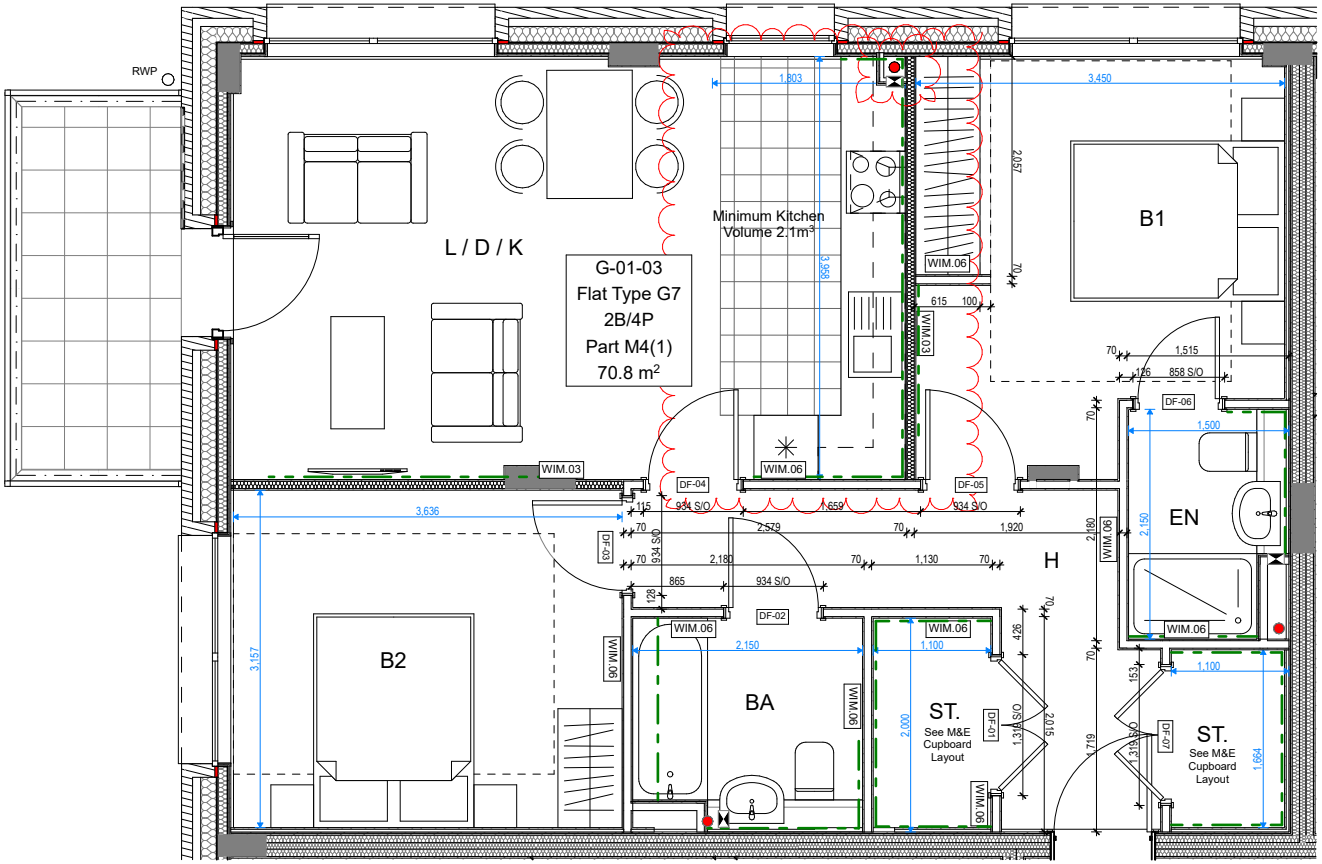
Rev	Description	Date	DB	CB
P02	Flat type title changed	08.07.25	HC	MLE
P03	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G8

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4009	STATUS PCSA Tender

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NDSS Storage Requirement - 2B4P - 2m²

Shortfall - 0.5m²

0 1000 2000 3000mm

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

VIVID

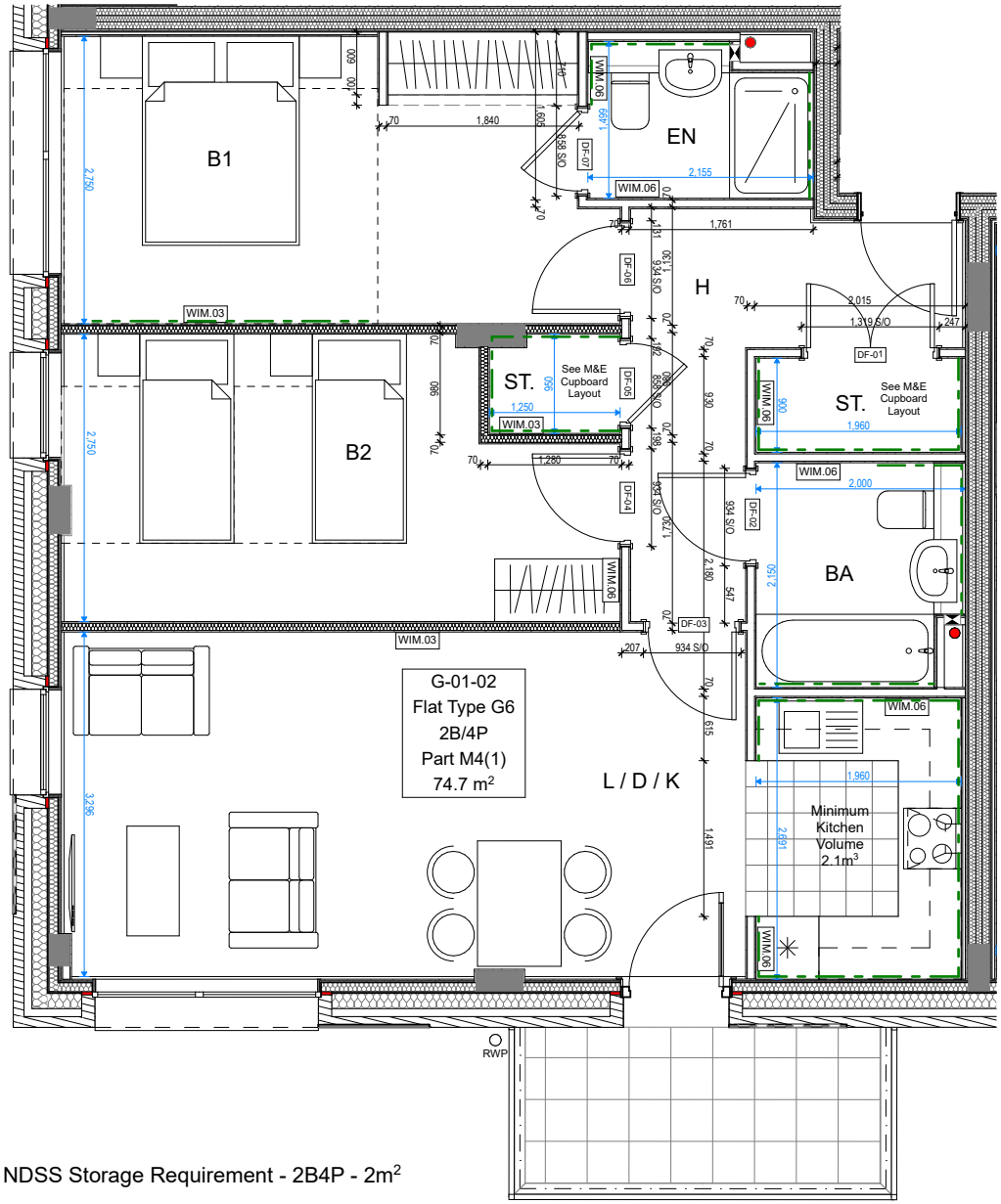
Rev	Description	Date	DB	CB
P03	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork, Kitchen layout change	08.08.25	LW	MLE

Block G - Flat Type G7

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4008	STATUS PCSA Tender

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NDSS Storage Requirement - 2B4P - 2m²

Shortfall - 0.6m²

0 1000 2000 3000mm

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

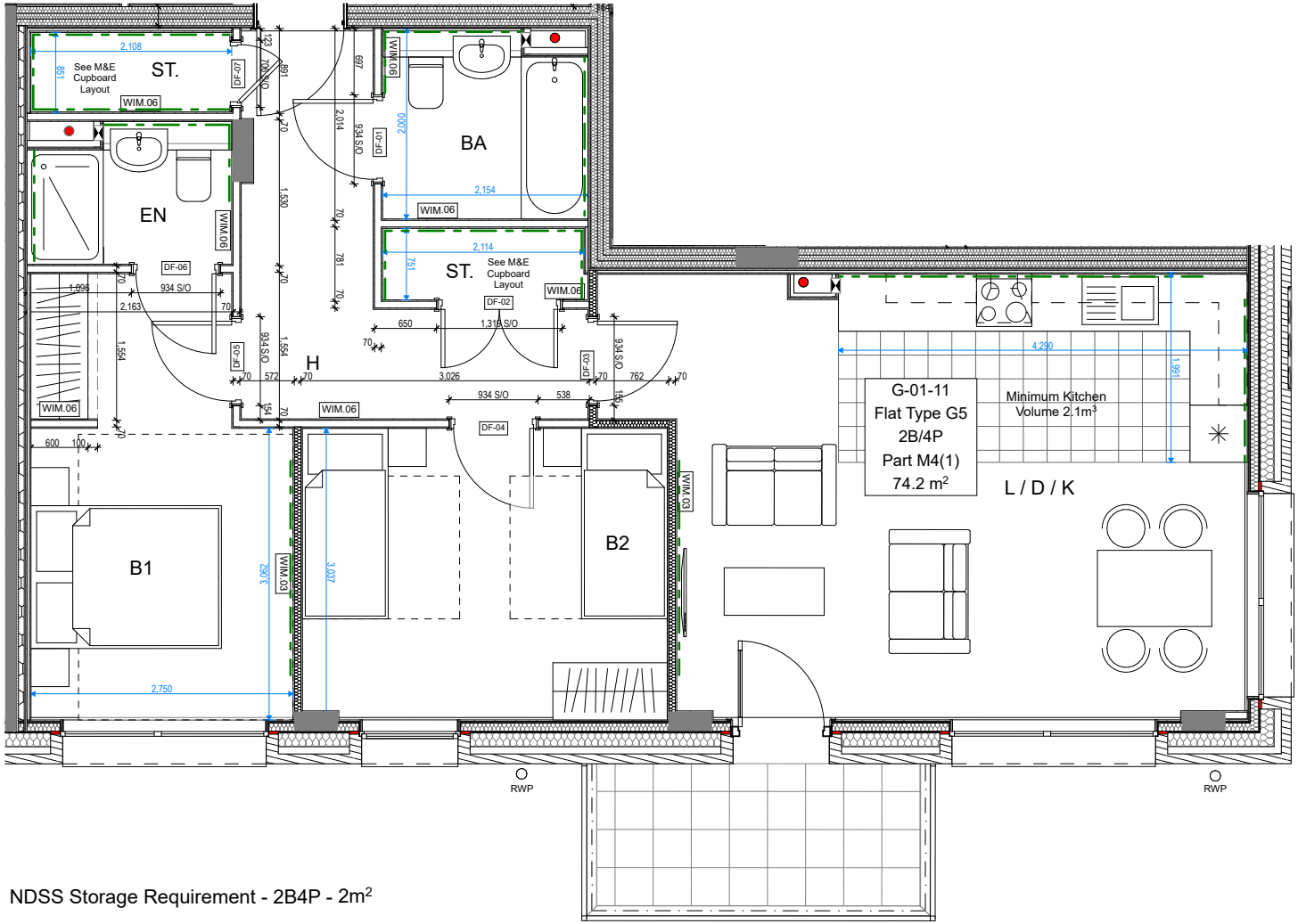
Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

Rev	Description	Date	DB	CB
P04	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G6

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4007	STATUS PCSA Tender

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NDSS Storage Requirement - 2B4P - 2m²

Shortfall - 0.8m²

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

0 1000 2000 3000mm

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

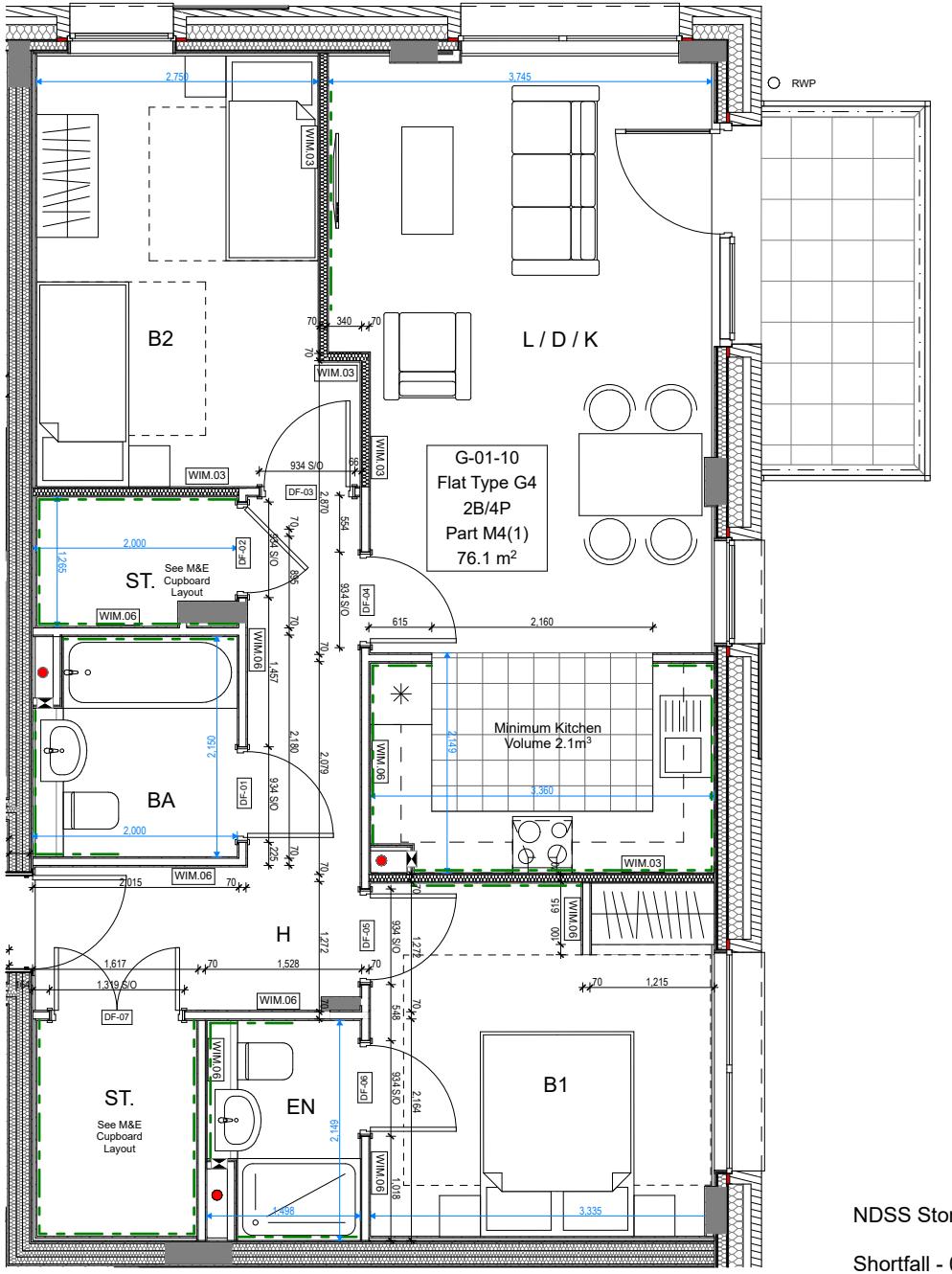
Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

Rev	Description	Date	DB	CB
P03	Cup'd door revised position	11.07.25	LW	MLE
P04	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G5

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4006	STATUS PCSA Tender

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0 1000 2000 3000mm

NDSS Storage Requirement - 2B4P - 2m²

Shortfall - 0m²

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

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Flat Types

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	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

VIVID

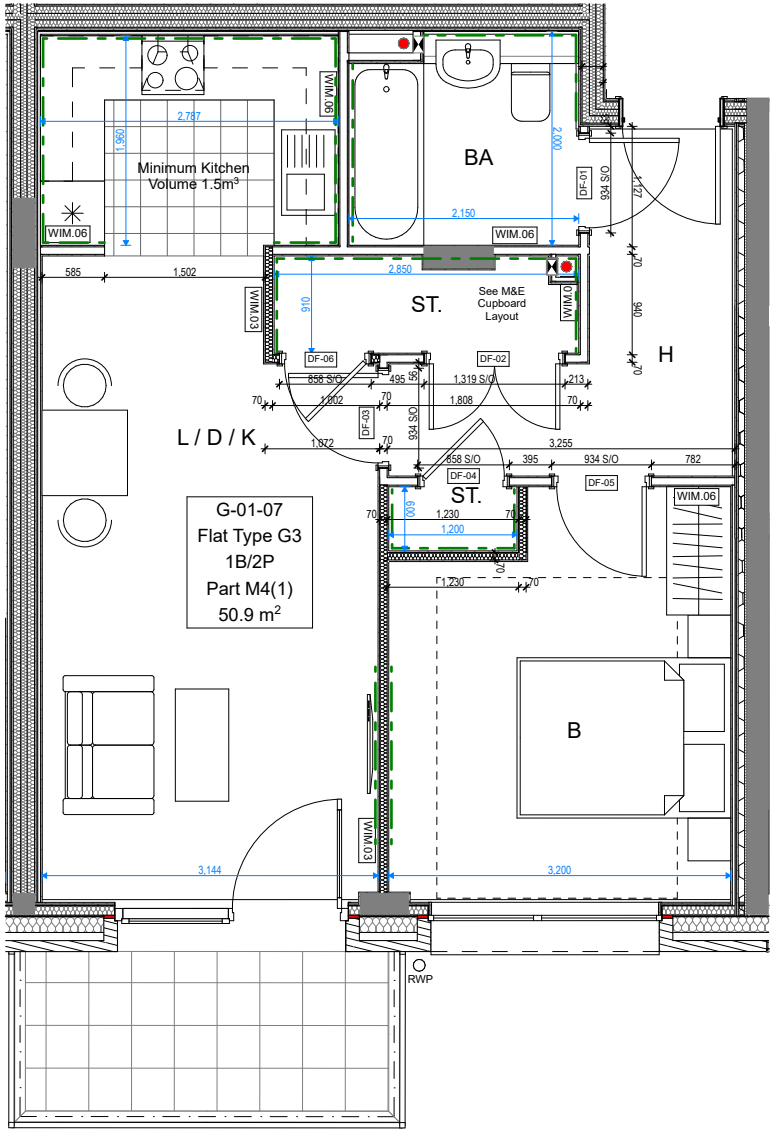
Rev	Description	Date	DB	CB
P02	Flat type title changed	08.07.25	HC	MLE
P03	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G4

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4005	STATUS PCSA Tender

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NDSS Storage Requirement - 1B2P - 1.5m²

Shortfall - 0.6m²

0 1000 2000 3000mm

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
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DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

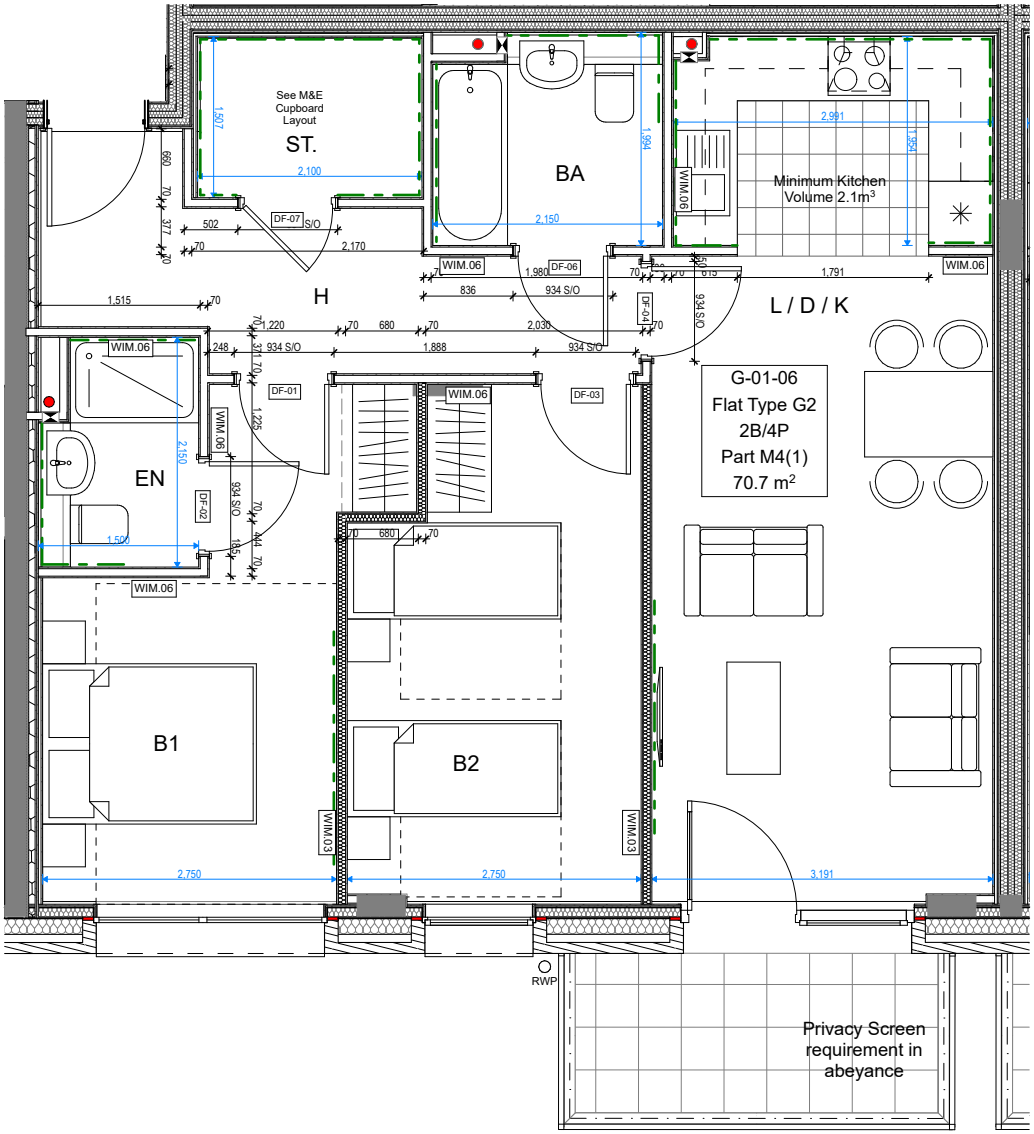
Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

Rev	Description	Date	DB	CB
P04	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G3

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4004	STATUS PCSA Tender

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NDSS Storage Requirement - 2B4P - 2m²

Shortfall - 1.5m²

0 1000 2000 3000mm

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

VIVID

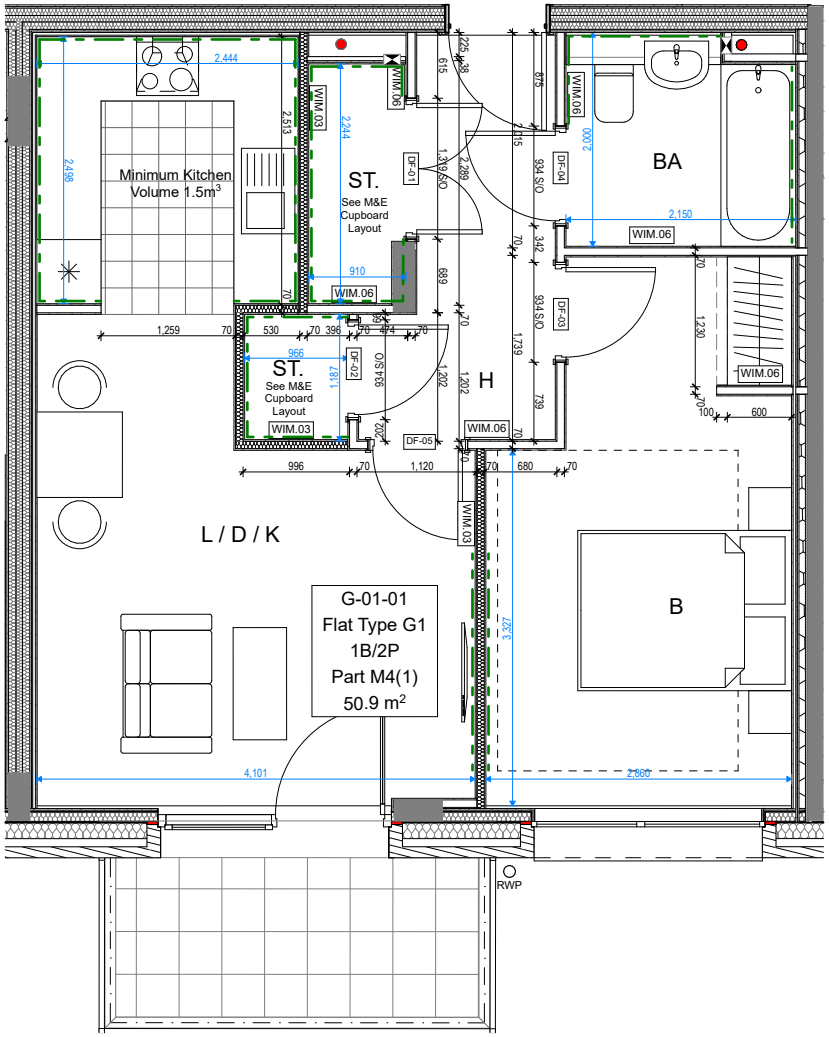
Rev	Description	Date	DB	CB
P02	Flat type title changed	08.07.25	HC	MLE
P03	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G2

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4003	STATUS PCSA Tender

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NDSS Storage Requirement - 1B2P - 1.5m^2

Shortfall - 0.7m^2

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

0 1000 2000 3000mm

Please Note:

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Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
	30 min protective corridor - Wall finished to underside of structural soffit, deflection heads to S.E details - The fire integrity of the protective corridors must be maintained. All penetrations through the protective corridor walls / ceiling should be appropriately fire stopped.
DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(2) minimum space requirement zones
	Access Panel

Notes

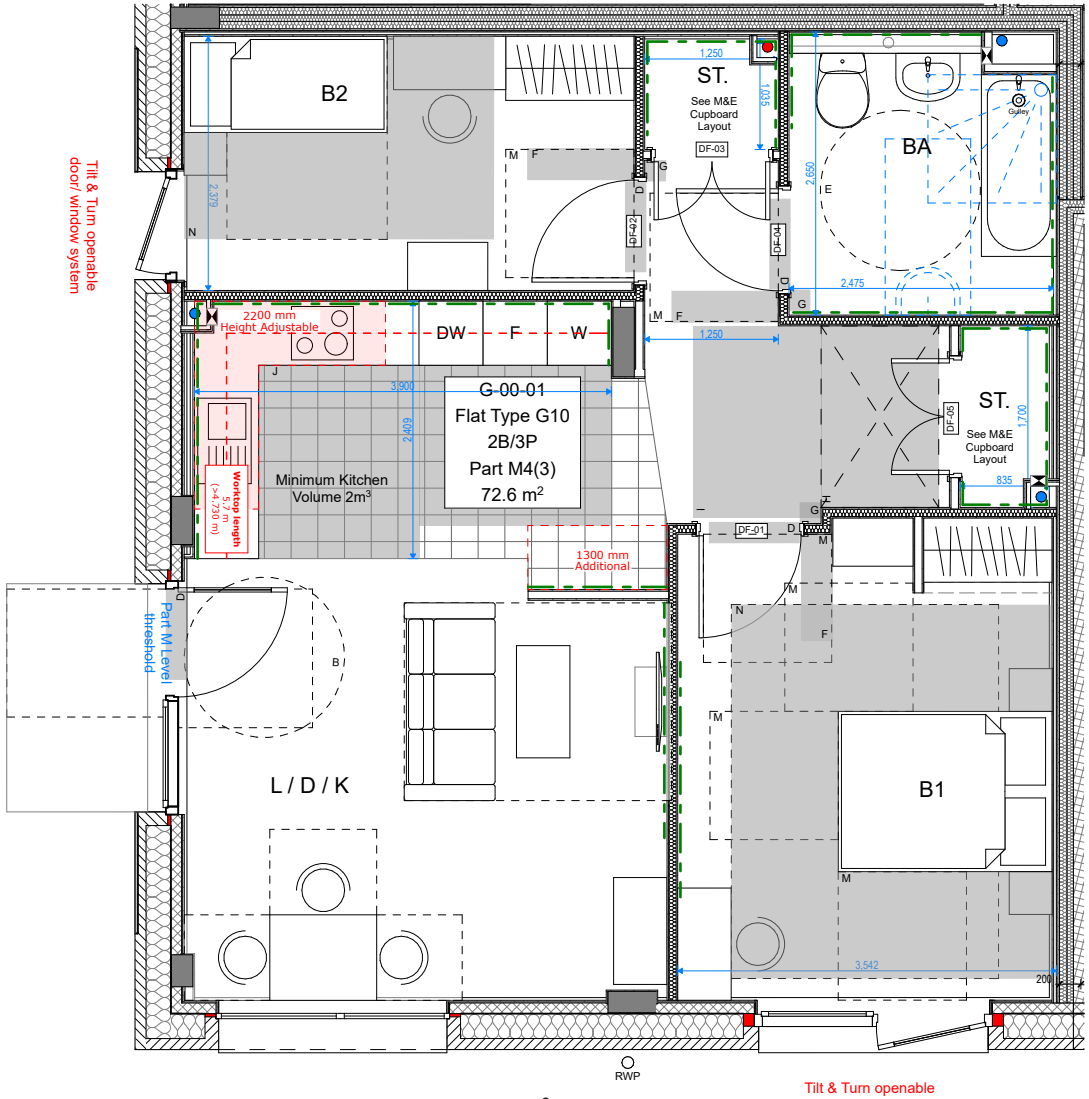
Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations

Rev	Description	Date	DB	CB
P03	Cup'd layout changes	11.07.25	LW	MLE
P04	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G1

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-DR-A-4002	STATUS PCSA Tender

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Tilt & Turn openable door/ window system

NDSS Storage Requirement - 2B3P - 2m²

Shortfall - 1m²

0 1000 2000 3000mm

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

Kitchen Storage requirements
NDSS storage

Private entrances
A.There is a level external landing with a minimum width and depth of 1500mm and clear of any door swing and is covered for a minimum width and depth of 1200mm. (3.22a & 3.22b)
B.There is a minimum 1500mm clear turning circle inside the entrance area, in front of the door when closed. (3.22d)
C.A minimum 300mm nib is provided to the leading edge of the door and the extra width created by this nib is maintained for a minimum of 1800mm beyond it. (3.22e)
D.The door has a minimum clear opening width of 850mm and have an accessible threshold. (3.22f & 3.22i)

Internal Doors
E.Where an outward opening door is located close to a corner and another door is located on the return wall within 800mm of that corner, the leading edge of the outward opening door is a minimum of 800mm from the corner unless a 1500mm turning circle is provided immediately outside the door. (3.24e)
F.A minimum 300mm nib is provided to the leading edge of every door. (3.24f)
G.A minimum 200mm nib is provided to the following edge of every door. (3.24g)

Wheelchair Storage
H.A minimum 1100mm deep by 1700mm wide space is available on the entrance storey, preferably close to the principal private entrance. (3.25a)
I.Is accessible from a space that has a minimum clear width of 1200mm. (3.25b)

Kitchens
J.There is a minimum clear access zone 1500mm wide in front of, and between, all kitchen units and appliances. (3.32b)
K.Height adjustable or lowerable section of worktop with open leg room below. Minimum 300mm worktop each side of corner where height adjustable or lowerable section is in a corner. (3.34b)

Bedrooms
L.Every bedroom to provide a minimum clear access route, 750mm wide, from the doorway to the window. (3.35a)
M.Every bedroom to provide a minimum 1200mm by 1200mm manoeuvring space inside the doorway, clear of the bed and the door (when the door is in the closed position). (3.35b)
N.The principal double bedroom can provide a minimum 1000mm wide clear access zone to both sides and the foot of the bed and in front of all furniture, and a minimum 1200mm by 1200mm manoeuvring space on both sides of the bed. (3.35e)
O.Every other double bedroom can provide a 1000mm wide clear access zone to one side and the foot of the bed, and in front of all furniture. (3.35g)
P.All single and twin bedrooms provide a minimum 1000mm clear access zone to one side of each bed and in front of all furniture. (3.35h)

Space Requirements

	1B2P	2B3P	2B4P
Portsmouth CC Apartment Size Required (m²)	55	72	78
Apartment Size Achieved (m²)			
M4(3) Storage Space Required (m²)	1.5	2.0	2.0
Storage Space Achieved (m²)			
M4(3) Living/Dining/Kitchen Space Req (m²)	25	27	29
Living/Dining/Kitchen Space Achieved (m²)			
Double bedrooms > 13.5m²			
Single bedrooms > 8.5m²			

Please Note:

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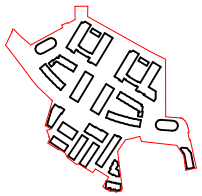
Design subject to detail development / approval. Measurements and accommodation schedules subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client

Flat Types

	Lining Patress (to withstand imposed load of 4.5N/mm2) For radiator pattresses, refer to MR Electrical drawings.
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DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(3) minimum space requirement zones
	Access Panel

Notes

Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations



Key Plan
1:5000

VIVID

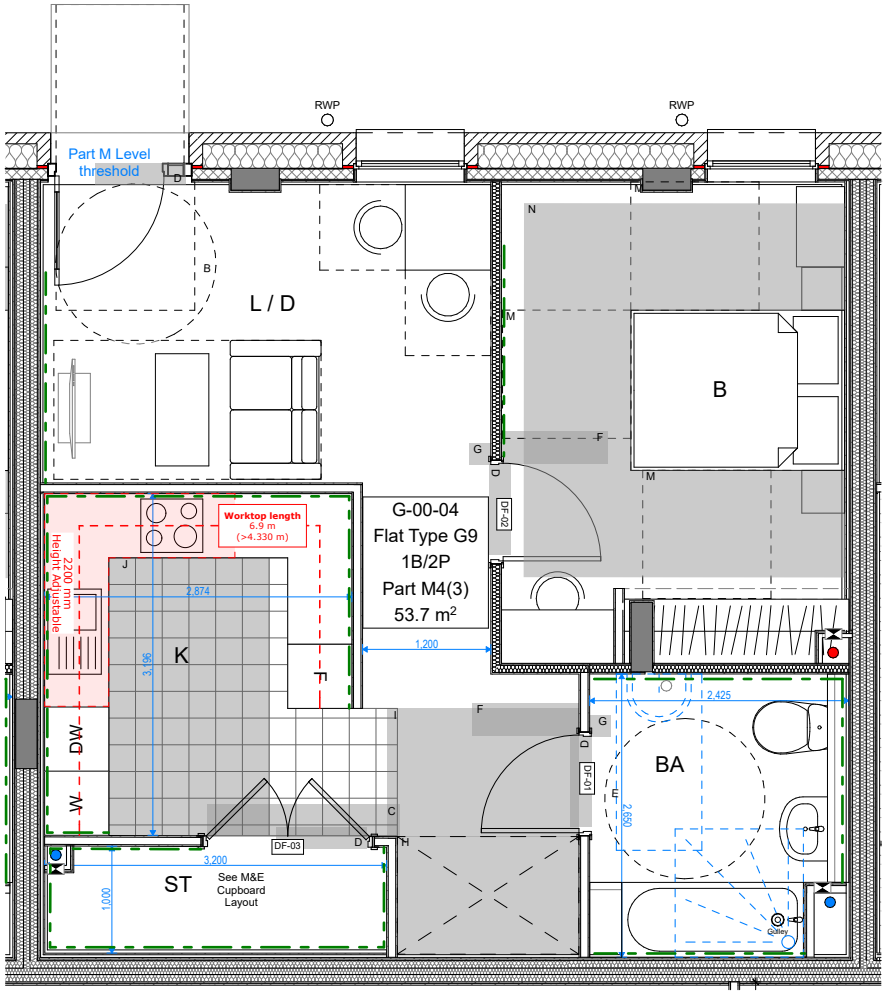
Rev	Description	Date	DB	CB
P03	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	M43 notes added, M43 Window/ door opener added GF, GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G10

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-D-A-4001	STATUS PCSA Tender

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NDSS Storage Requirement - 1B2P - 1.5m²

Shortfall - 0.5m²

0 1000 2000 3000mm

Notes:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Location of built in wardrobe if required for NDSS storage provision.

ITEMS IN ABEYANCE

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NDSS storage

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Living/Dining/Kitchen Space Achieved (m²)			
Double bedrooms > 13.5m²			
Single bedrooms > 8.5m²			

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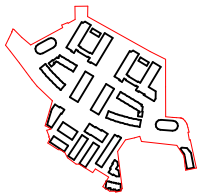
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DF01	Door Reference
WIM.00	Wall Reference Refer to 6900 Detail series
	SVP or stub, refer to M&E layouts
	M4(3) minimum space requirement zones
	Access Panel

Notes

Flat type shown for specific plot. Refer to GAs for drainage, boxing & RC column locations



Key Plan
1:5000

VIVID

Rev	Description	Date	DB	CB
P04	PCSA 2 Issue	17.07.25	HC	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
T02	M43 notes added, GF external walls reverted to blockwork	08.08.25	LW	MLE

Block G - Flat Type G9

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 03.06.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T02
DWG# 25.048-HGP-BG-ZZ-D-A-4000	STATUS PCSA Tender

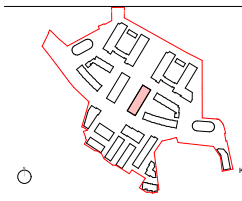
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1 **West Elevation**
1:100

0 2000 4000 6000 8000 10000mm



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Materials & Detail key:
A. Danehill Yellow Light mortar
B. Fiori Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pagus Light mortar
01. 25mm Wall Niche (Refer to details)
02. 25mm Cut brick recessed barcode banding
03. Snapped brick header panel in 25mm cut brick wall niche
04. Head & cill 25mm single course cut brick recess
05. 25mm Cut brick recessed barcode banding at parapet
06. Vertical black bonded brickwork (Refer to details)
07. Window
08. External doors
10. Metal louvres
11. Louvered doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy
18. Roof tiles
20. Render board rain screen cladding
21. Garage door

Refer to material schedule for further information

DPC Line (min 150mm above finished external ground level) — XXX — Dimensions
MJ — MJ – Movement joint — XXX — Brick detailing dimensions
Masonry support. Refer to 3D's drawings and details — XXX — AD Part K Min. Critical glazing line. Refer to AD Part K for details
MVHR/ ASHP – Inlet / Outlet



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

Refer to co-ordinated M&E drawings for locations of RWP, below ground drainage connections. All incoming services refer to M&E supplier's details and specifications. All drains passing under buildings to be encased in 150 mm granular fill.

For all site levels refer to Civil Engineer's drawings, in all instances a distance of at least 150 mm is required from external finished levels and the internal FFL.

Refer to S.E drawings and details for movement joint locations and information.

VIVID

Rev	Description	Date	DB	CB
T02	All window transoms raised , Overflows added, M43 Window/ door opener added GF	08.08.25	LW	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
P01	Initial Issue	13.06.25	HC	MLE

ITEMS IN ABEYANCE

Movement Joints/ bed joint reinforcement (HRW)
M43 External doors & Entrance Canopy

Block G - West GA Elevation

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:100 @ A1	13.06.25
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T02
DWG#	STATUS
25.048-HGP-BG-ZZ-D-A-3002	PCSA Tender

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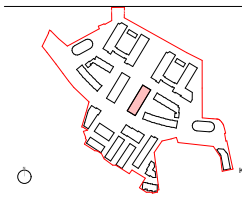


1 **South Elevation**
1:100



2 **North Elevation**
1:100

0 2000 4000 6000 8000 10000mm



Key Plan
1:5000

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Materials & Detail key:
A. Danehill Yellow Light mortar
B. Fiori Light mortar
C. Stirling Grey Light mortar
D. Stirling Grey Dark mortar
E. Pagus Light mortar
01. 25mm Wall Niche (Refer to details)
02. 25mm Cut brick recessed barcode banding
03. Snapped brick header panel in 25mm cut brick wall niche
04. Head & cill 25mm single course cut brick recess
05. 25mm Cut brick recessed barcode banding at parapet
06. Vertical stack bonded brickwork (Refer to details)
07. Window
08. External doors
10. Metal louvres
11. Louvred doors
12. Rainwater pipe
13. Architectural metal work
15. Parapet capping
17. Entrance canopy
18. Roof tiles
20. Render board rain screen cladding
21. Garage door

Refer to material schedule for further information

DPC Line (min 150mm above finished external ground level) — XXX — Dimensions
MJ — MJ – Movement joint — XXX — Brick detailing dimensions
Masonry support. Refer to 3Ex's drawings and details — XXX — AD Part K Min. Critical glazing line. Refer to AD Part K for details
ASHP — MVHR/ ASHP – Inlet / Outlet



Notes

General

FFL level shown to top of screed.

Refer to Clients Schedule of Works.

Location of existing drainage positions TBC & Incoming Services locations TBC.

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Refer to S.E drawings and details for movement joint locations and information.

VIVID

Rev	Description	Date	DB	CB
T02	All window transoms raised , Overflows added, M43 Window/ door opener added GF	08.08.25	LW	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
P02	Window added to south elevation	04.07.25	HC	MLE
P01	Initial Issue	13.06.25	HC	MLE

Block G - South & North GA Elevation

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:100 @ A1	13.06.25
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T02
DWG#	STATUS
25.048-HGP-BG-ZZ-D-A-3001	PCSA Tender

ITEMS IN ABEYANCE

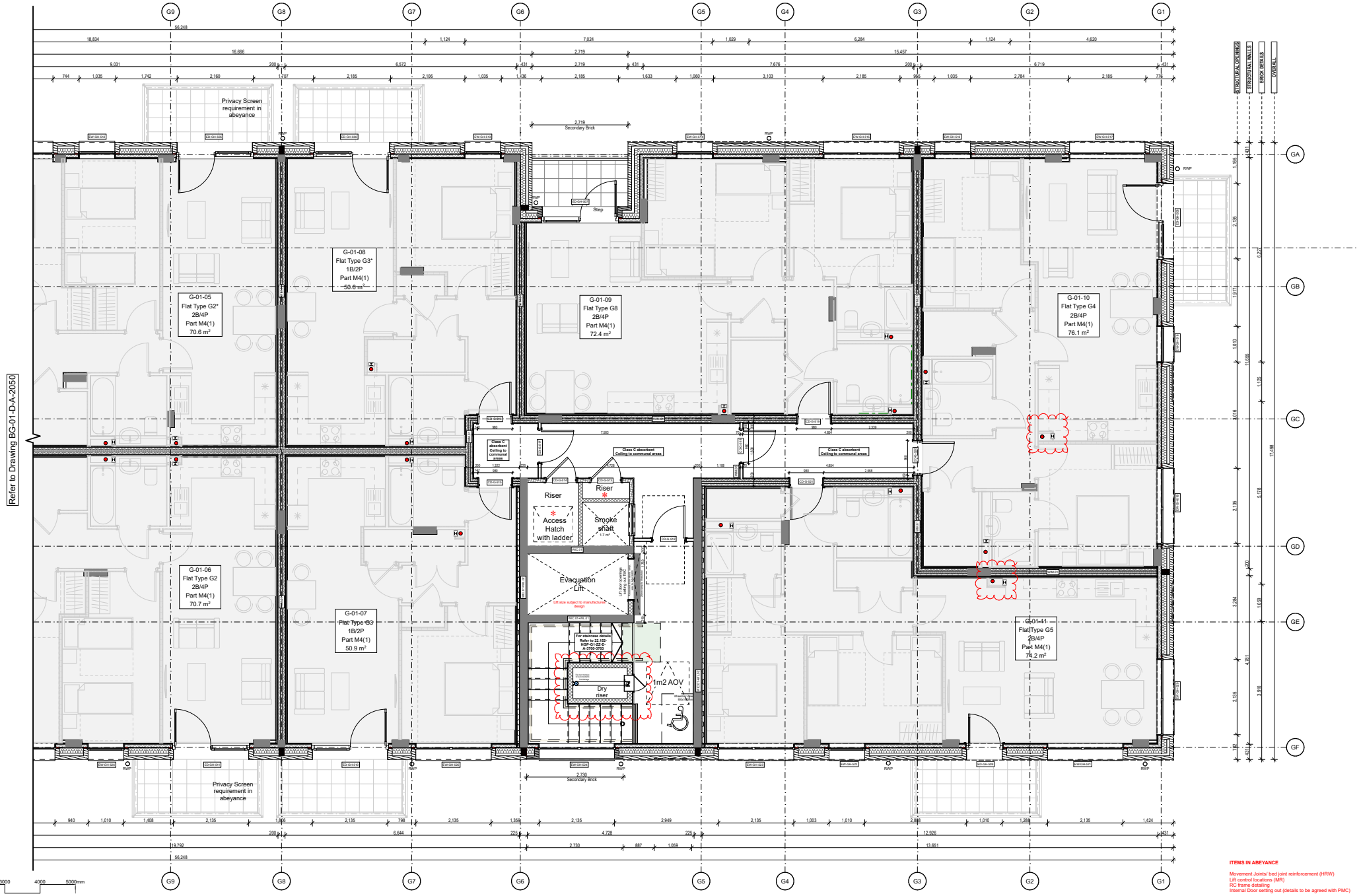
Movement Joints/ bed joint reinforcement (HRW)
M43 External doors & Entrance Canopy

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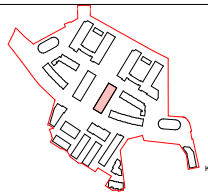
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06-Sixth floor
FFL+ 22.050
05-Fifth floor
FFL+ 19.200
04-Fourth floor
FFL+ 16.350
03-Third floor
FFL+ 13.500
02-Second floor
FFL+ 10.650
01-First Floor
FFL+ 7.800
GF-Ground Floor
FFL+ 4.800
GF-Existing
FFL+ 3.600
1100mm guarding to lower parapet height
DPC
Ridge FFL+ 23.100
Top of Parapet FFL+ 22.800
Top of Roof FFL+ 22.650
Top of Roof FFL+ 22.500
Top of Roof FFL+ 22.350
Top of Roof FFL+ 22.200
Top of Roof FFL+ 22.050
Top of Roof FFL+ 21.900
Top of Roof FFL+ 21.750
Top of Roof FFL+ 21.600
Top of Roof FFL+ 21.450
Top of Roof FFL+ 21.300
Top of Roof FFL+ 21.150
Top of Roof FFL+ 21.000
Top of Roof FFL+ 20.850
Top of Roof FFL+ 20.700
Top of Roof FFL+ 20.550
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Top of Roof FFL+ 20.250
Top of Roof FFL+ 20.100
Top of Roof FFL+ 19.950
Top of Roof FFL+ 19.800
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Top of Roof FFL+ 19.350
Top of Roof FFL+ 19.200
Top of Roof FFL+ 19.050
Top of Roof FFL+ 18.900
Top of Roof FFL+ 18.750
Top of Roof FFL+ 18.600
Top of Roof FFL+ 18.450
Top of Roof FFL+ 18.300
Top of Roof FFL+ 18.150
Top of Roof FFL+ 18.000
Top of Roof FFL+ 17.850
Top of Roof FFL+ 17.700
Top of Roof FFL+ 17.550
Top of Roof FFL+ 17.400
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Top of Roof FFL+ 16.050
Top of Roof FFL+ 15.900
Top of Roof FFL+ 15.750
Top of Roof FFL+ 15.600
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Top of Roof FFL+ -1.050
Top of Roof FFL+ -1.200
Top of Roof FFL+



ITEMS IN ABEYANCE

Movement Joints/ bed joint reinforcement (HRW)
Lift control locations (MR)
RC frame detailing
Internal Door setting out (details to be agreed with PMC)



Please Note:

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GA Plans

	RWP – Rainwater pipe	xxx	Setting out dimension - Externals
	SVP – Soil vent pipe		Indicative builder's work penetrations
	SS – Sub Slack		Cavity barrier
	DC – Direct Connection		Dummy column / Column
	Structural steel & padstone, refer to SE drawings and specification		Lead flashing
	ASHP / MVHR	MJ	MJ – Movement joint
No.	Windpost (as per SI/Eng details)		
	Penetrations are to be fire stopped & must maintain the fire resistance of the fire separating element		

Notes

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Gas meter locations subject to confirmation of incoming service positions

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Location of movement joints of blockwork TBC by Structural Engineer.

Non-load bearing blockwork requires head restraint.

For Wall Types details refer to HGP detail drawing series 6900.

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Alterations from planning drawings

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VIVID

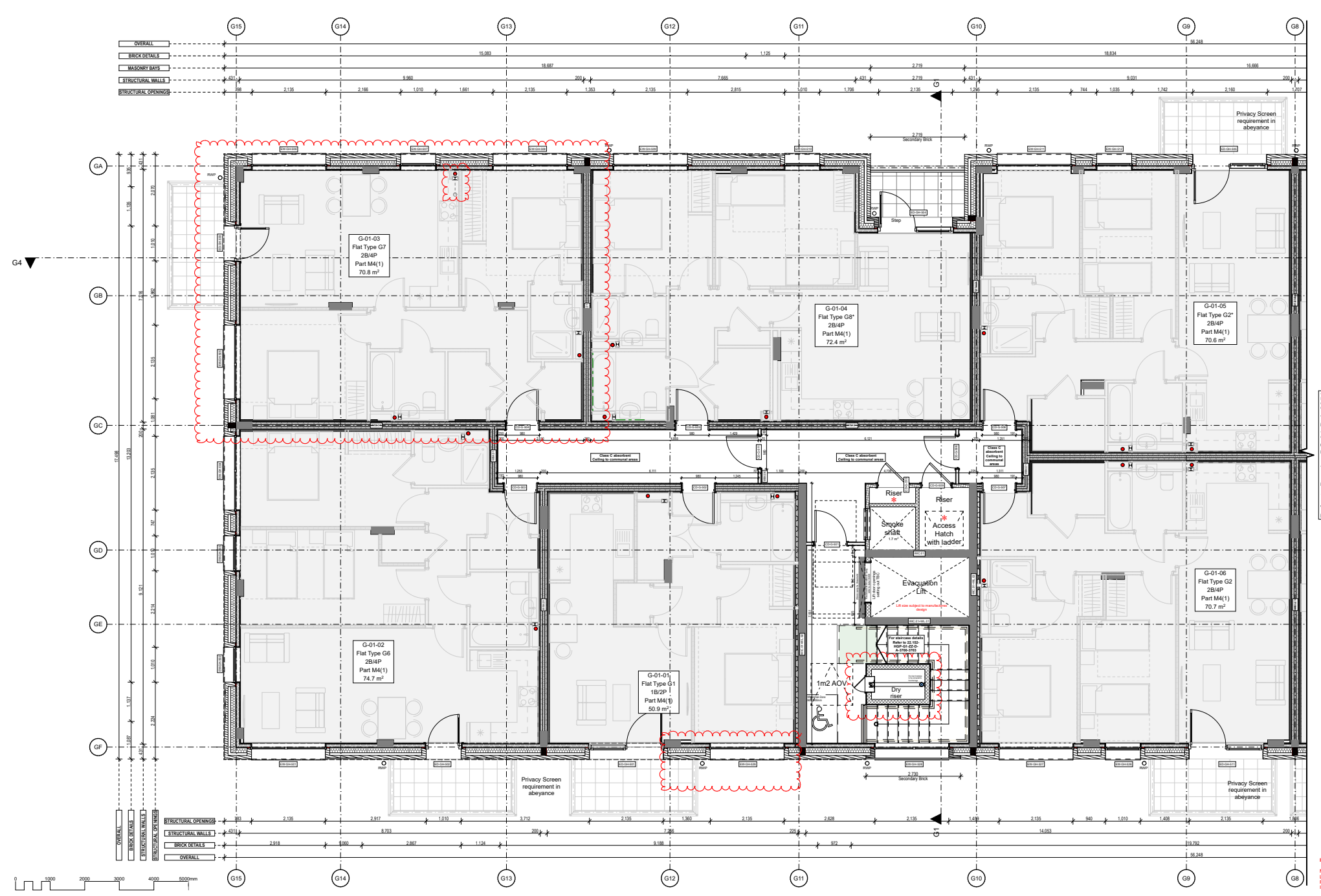
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T01	PCSA Tender Pack	25.07.25	HC	MLE
Rev	Description	Date	DB	CB

Block G - Fifth Floor
GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
25.048-HGP-BG-05-D-A-2051	PCSA Tender

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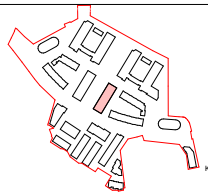
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email@hgp-architects.co.uk
hgp-architects.co.uk



0 1000 2000 3000 4000 5000mm

ITEMS IN ABEYANCE

Movement Joints/ bed joint reinforcement (HRW)
Lift control locations (MR)
RC frame detailing
Internal Door setting out (details to be agreed with PMC)



Key Plan 1:5000

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GA Plans

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	SS – Sub Slack		Cavity barrier
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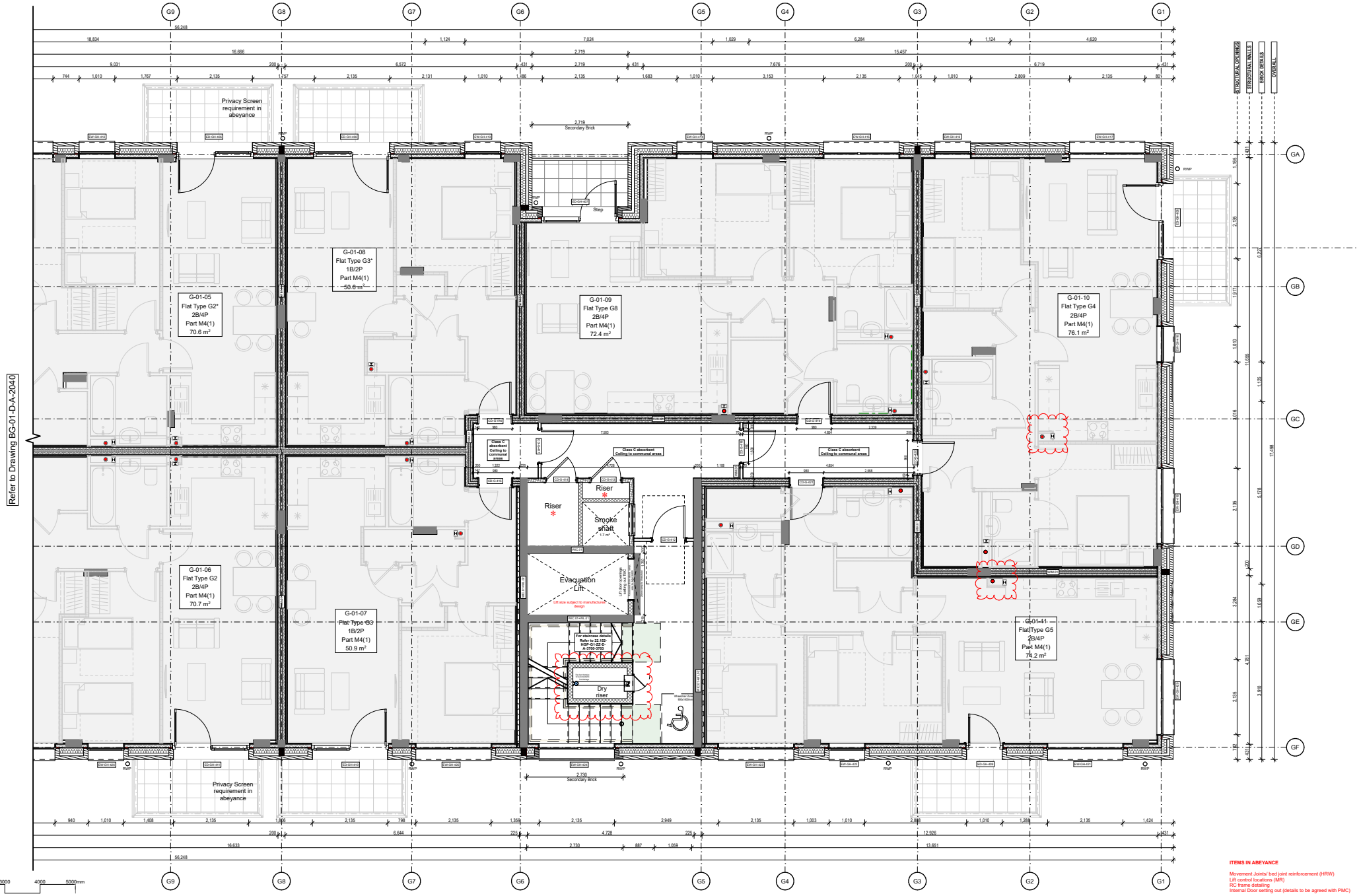
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T01	PCSA Tender Pack	25.07.25	HC	MLE
Rev	Description	Date	DB	CB

Block G - Fifth Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
25.048-HGP-BG-05-D-A-2050	PCSA Tender

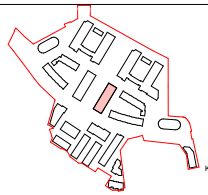
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ITEMS IN ABEYANCE

Movement Joints/ bed joint reinforcement (HRW)
Lift control locations (MR)
RC frame detailing
Internal Door setting out (details to be agreed with PMC)



Key Plan
1:5000

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GA Plans

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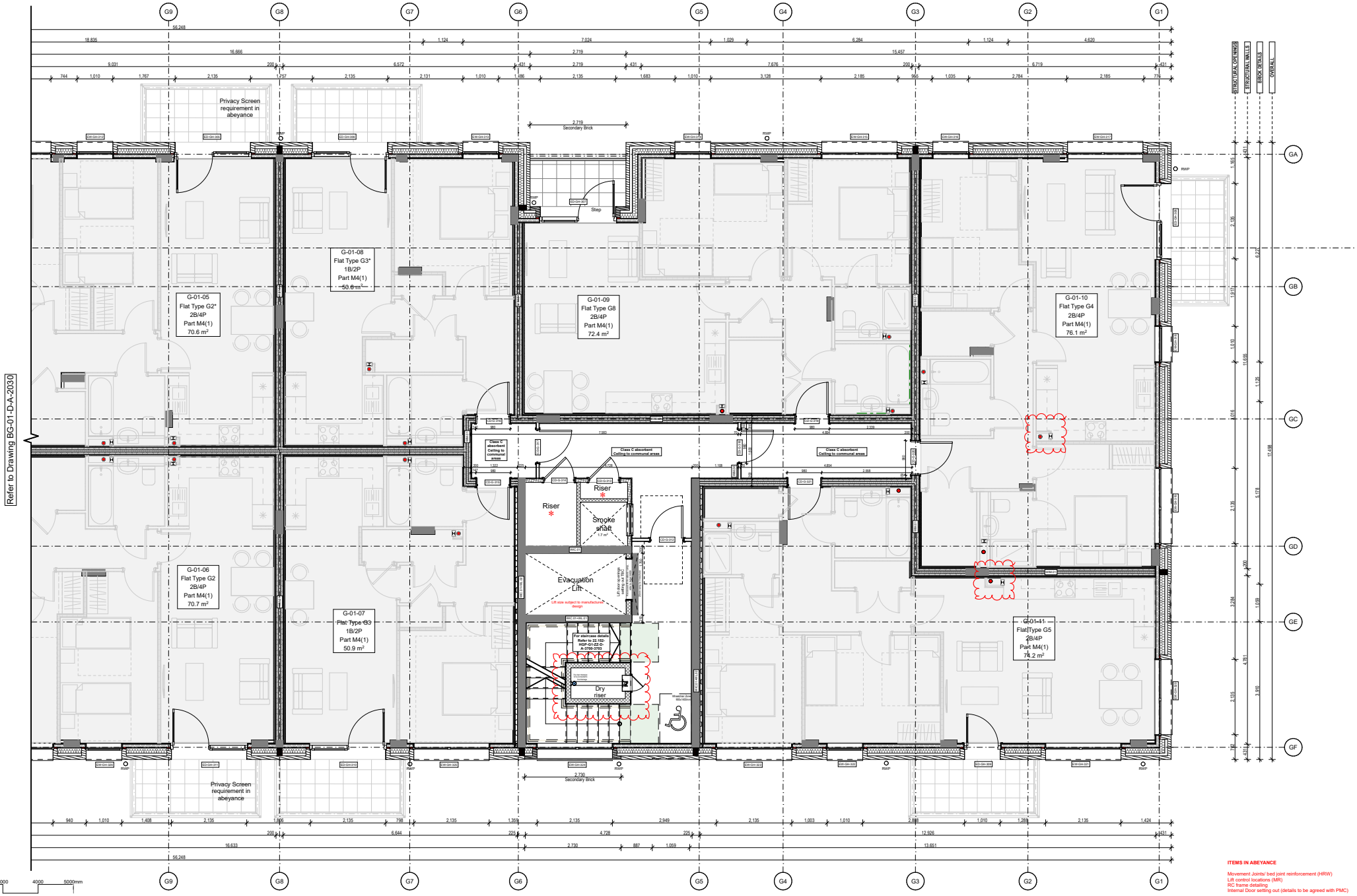
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T01	PCSA Tender Pack	25.07.25	HC	MLE
Rev	Description	Date	DB	CB

Block G - Fourth Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
25.048-HGP-BG-04-D-A-2041	PCSA Tender

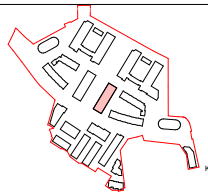
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ITEMS IN ABEYANCE

Movement Joints/ bed joint reinforcement (HRW)
Lift control locations (MR)
RC frame detailing
Internal Door setting out (details to be agreed with PMC)



Key Plan
1:5000

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GA Plans

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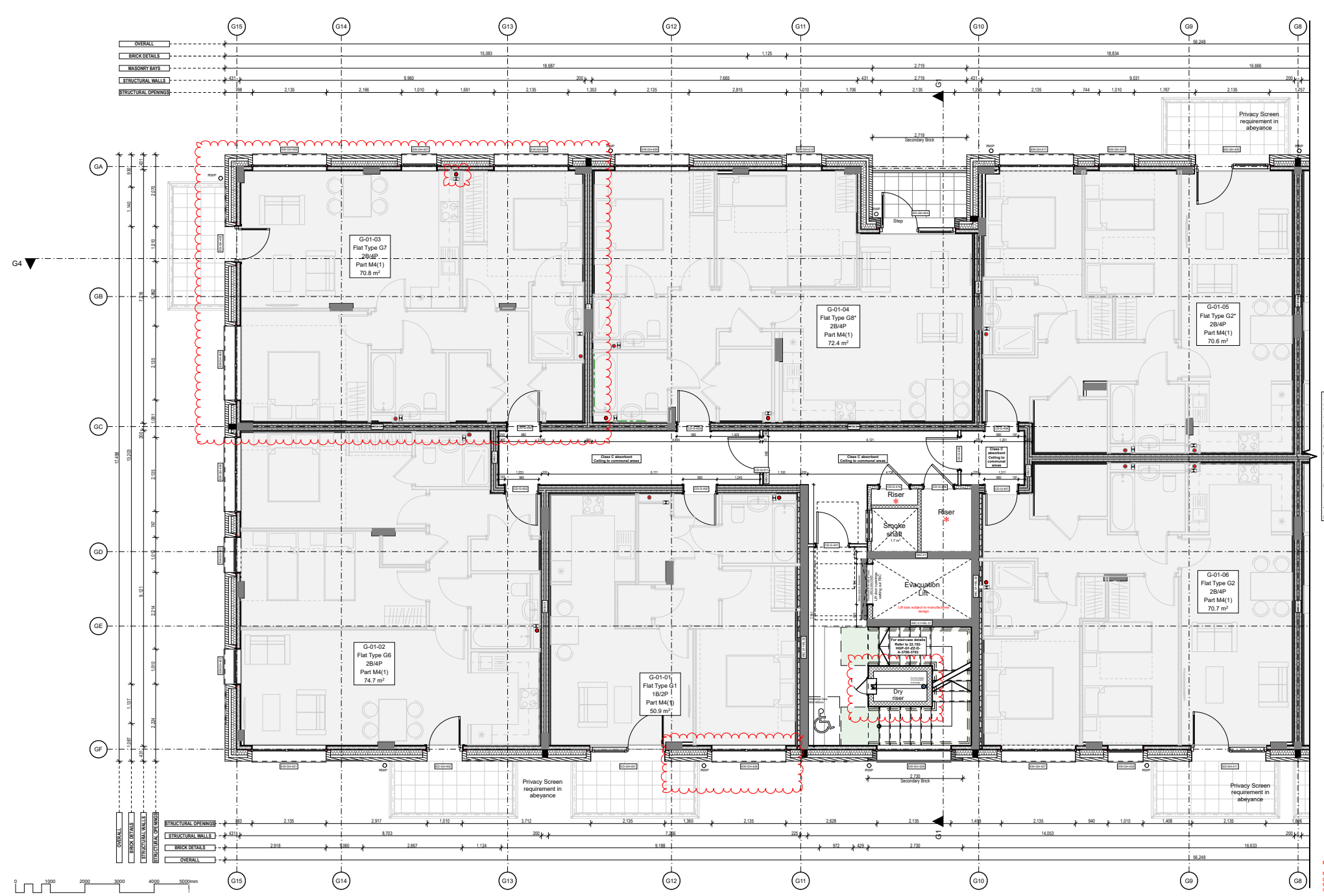
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T01	PCSA Tender Pack	25.07.25	HC	MLE
Rev	Description	Date	DB	CB

Block G - Third Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
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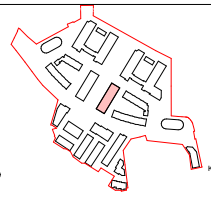
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ITEMS IN ABEYANCE

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Key Plan
1:5000

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GA Plans

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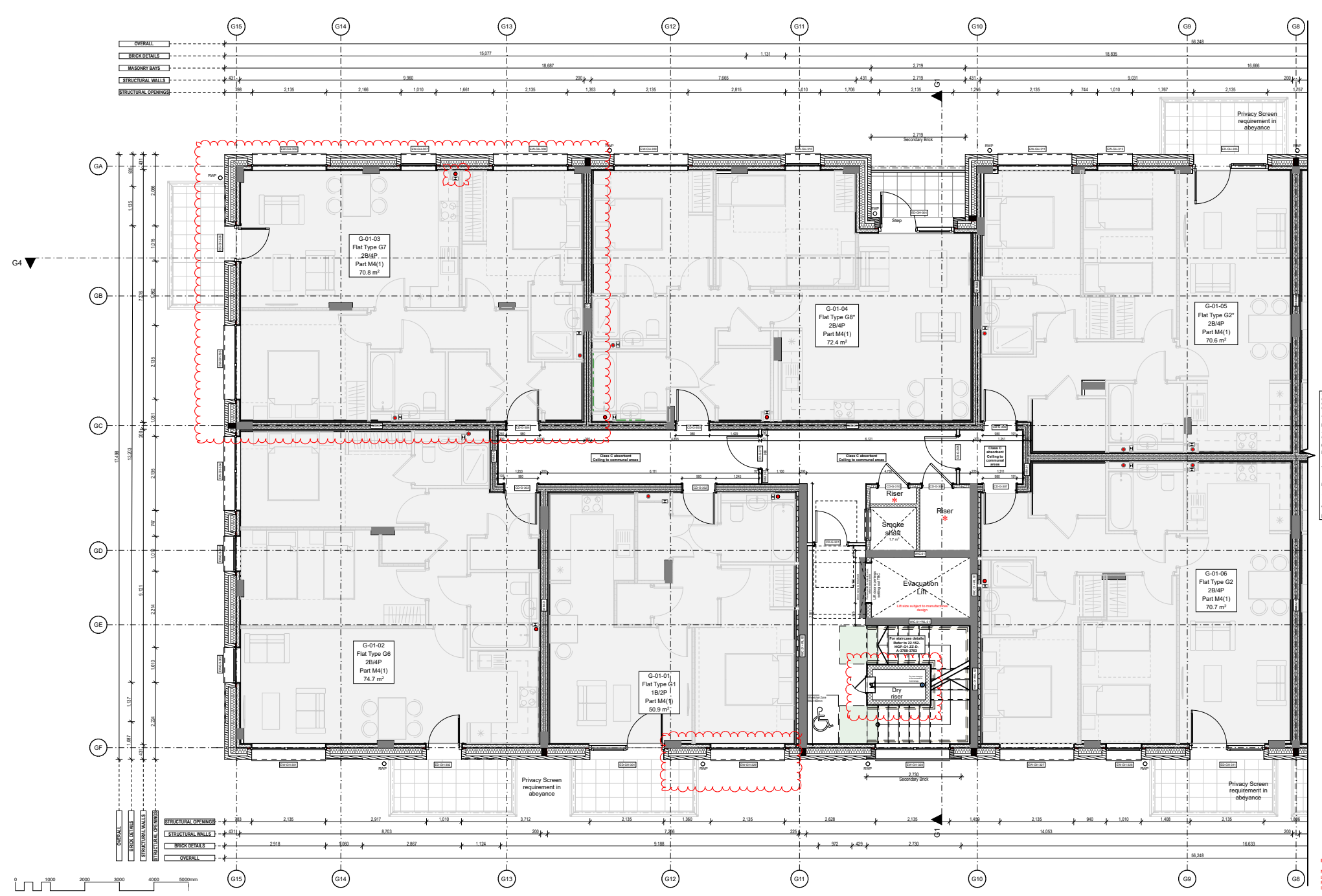
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T01	PCSA Tender Pack	25.07.25	HC	MLE
Rev	Description	Date	DB	CB

Block G - Fourth Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
25.048-HGP-BG-04-D-A-2040	PCSA Tender

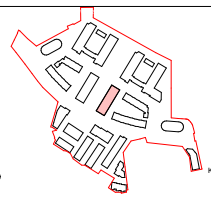
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ITEMS IN ABEYANCE

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VIVID

T02	Door & Window heights amended, M43 openable window/ door detail, dimensions added, communal tags added, Flat layout changes, Column rationalisation at GF, Drainage positions change, Flat layout change, balcony overflows added	08.08.25	LW	MLE
T01	PCSA Tender Pack	25.07.25	HC	MLE
Rev	Description	Date	DB	CB

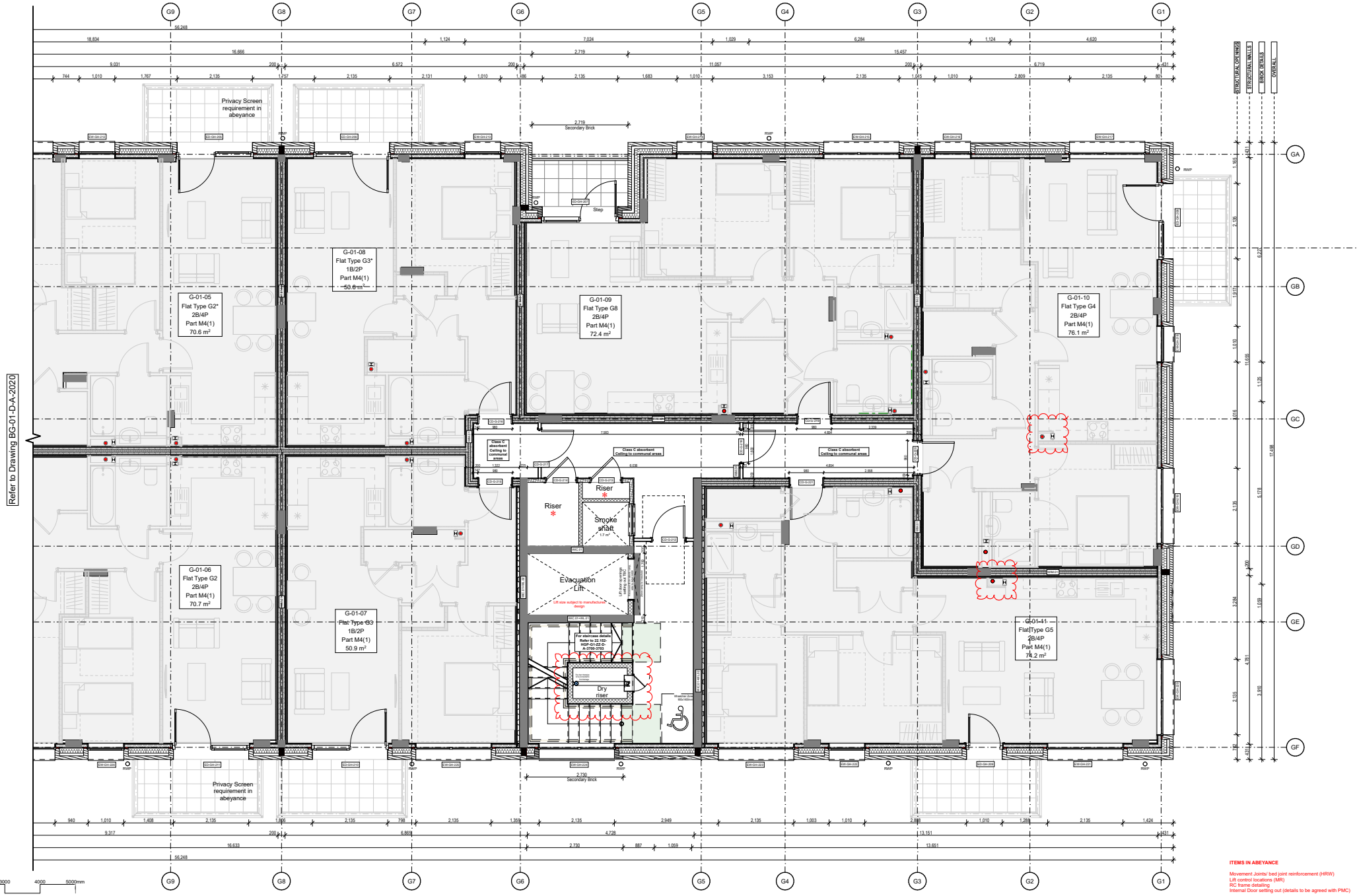
Block G - Third Floor GA Plan sht 1

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
25.048-HGP-BG-03-D-A-2030	PCSA Tender

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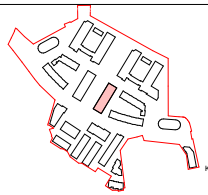
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ITEMS IN ABEYANCE

Movement Joints/ bed joint reinforcement (HRW)
Lift control locations (MR)
RC frame detailing
Internal Door setting out (details to be agreed with PMC)



Key Plan
1:5000

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	Windpost (as per SI/Eng details)		
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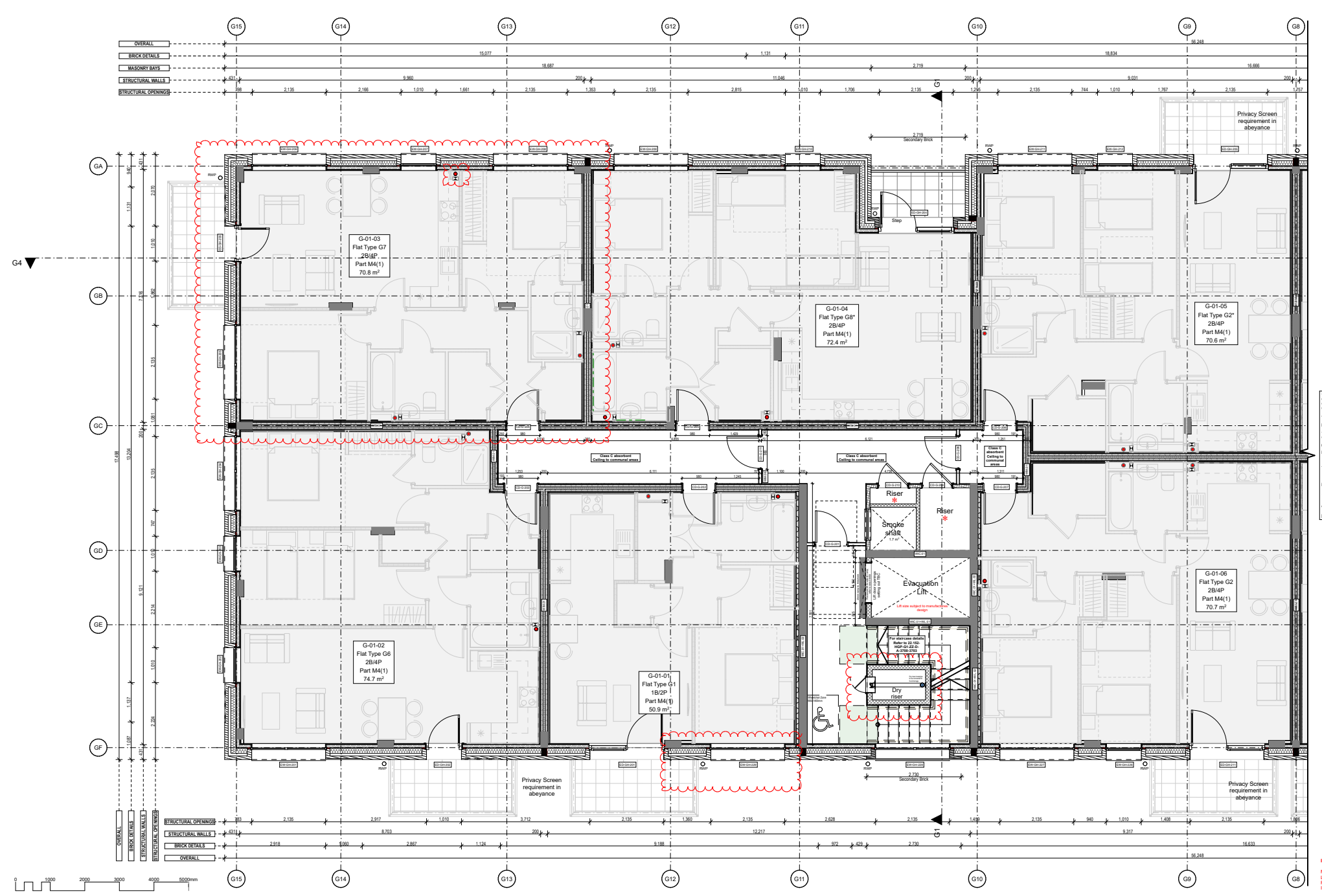
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T01	PCSA Tender Pack	25.07.25	HC	MLE

Block G - Second Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	
DRAWN BY/CHECKED BY	REVISION
/	T02
DWG#	STATUS
25.048-HGP-BG-02-D-A-2021	PCSA Tender

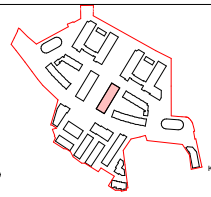
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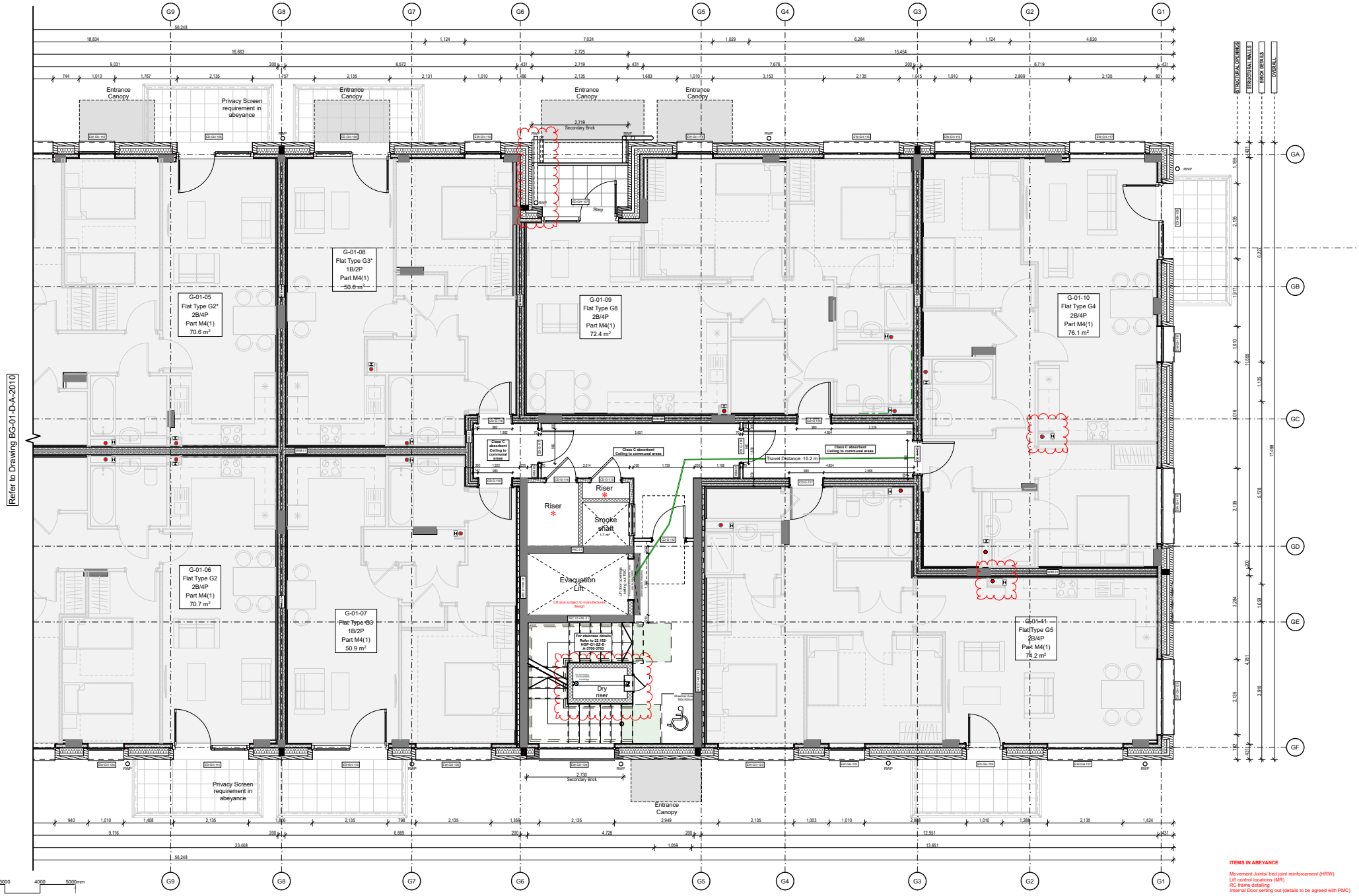
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Block G - Second Floor GA Plan sht 1

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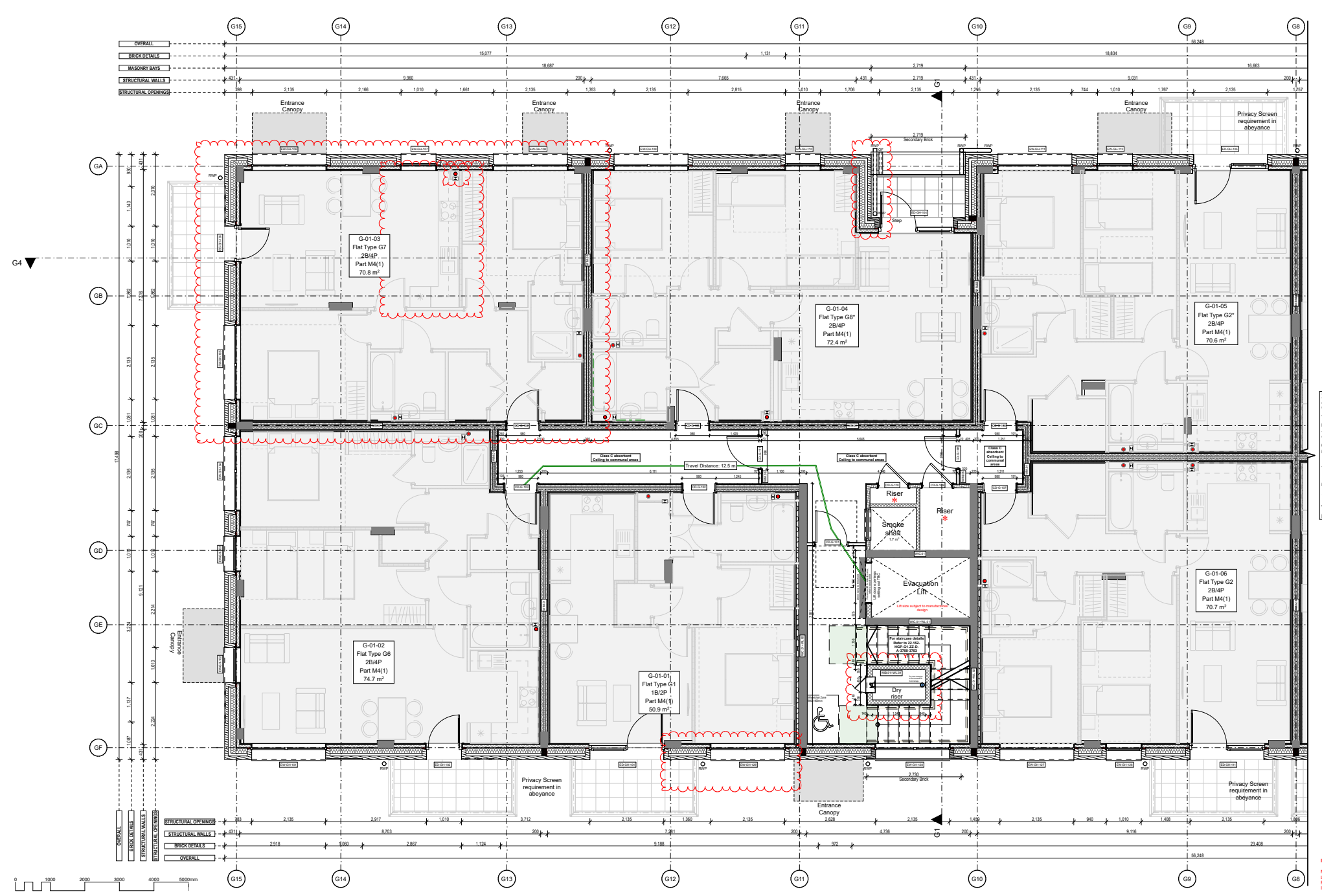
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Block G - First Floor GA Plan sht 2

PROJECT	JOB NO
TIPNER EAST REGENERATION	25.048
SCALE	DATE
1:50 @ A1	23.05.25
DRAWN BY/CHECKED BY	REVISION
HC / MLE	T02
DWG#	STATUS
25.048-HGP-BG-01-D-A-2011	PCSA Tender

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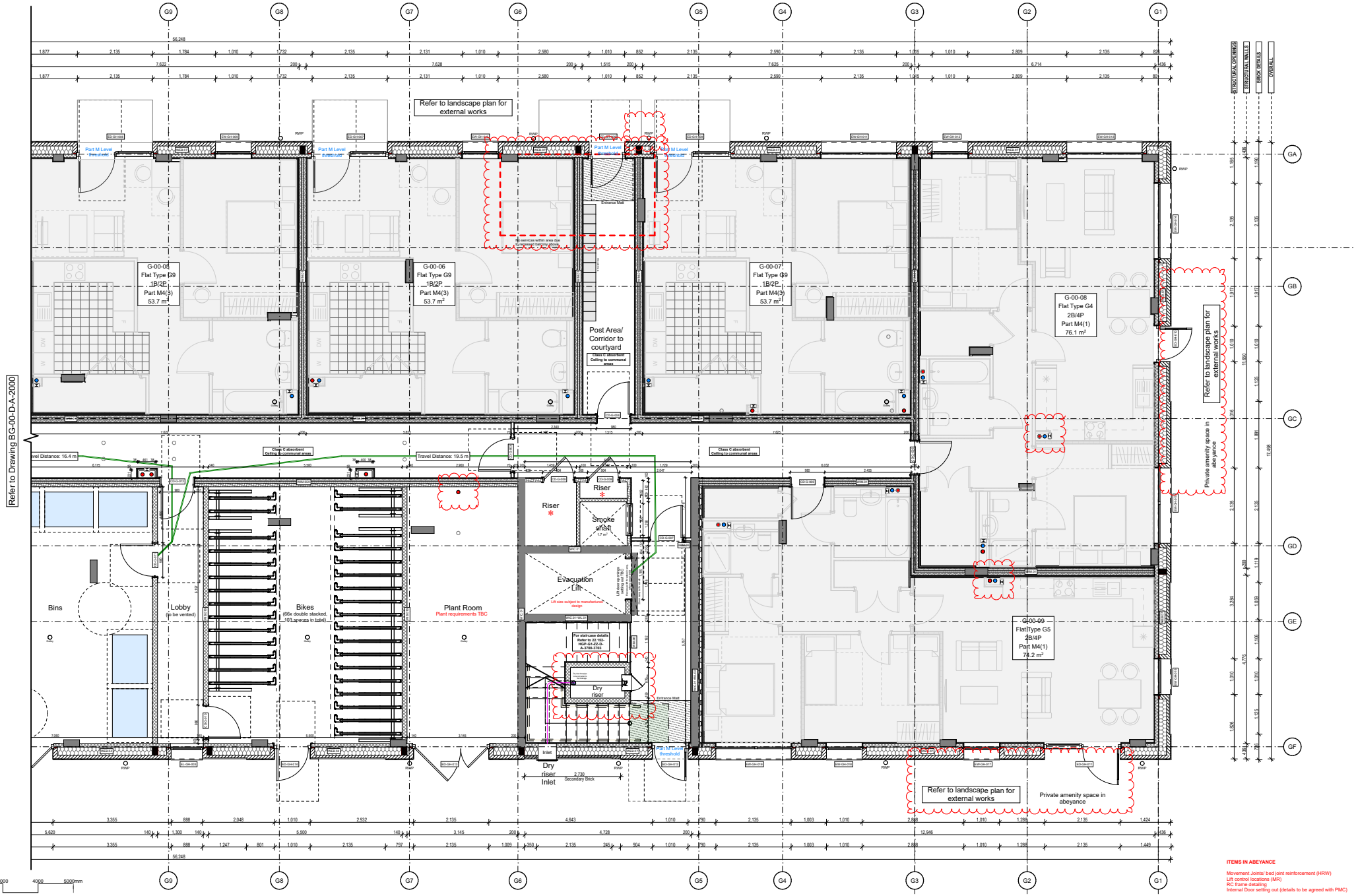
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Block G - First Floor GA Plan sht 1

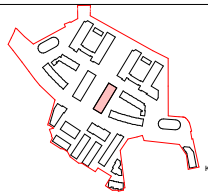
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0 1000 2000 3000 4000 5000mm



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Block G - Ground Floor GA Plan sht 2

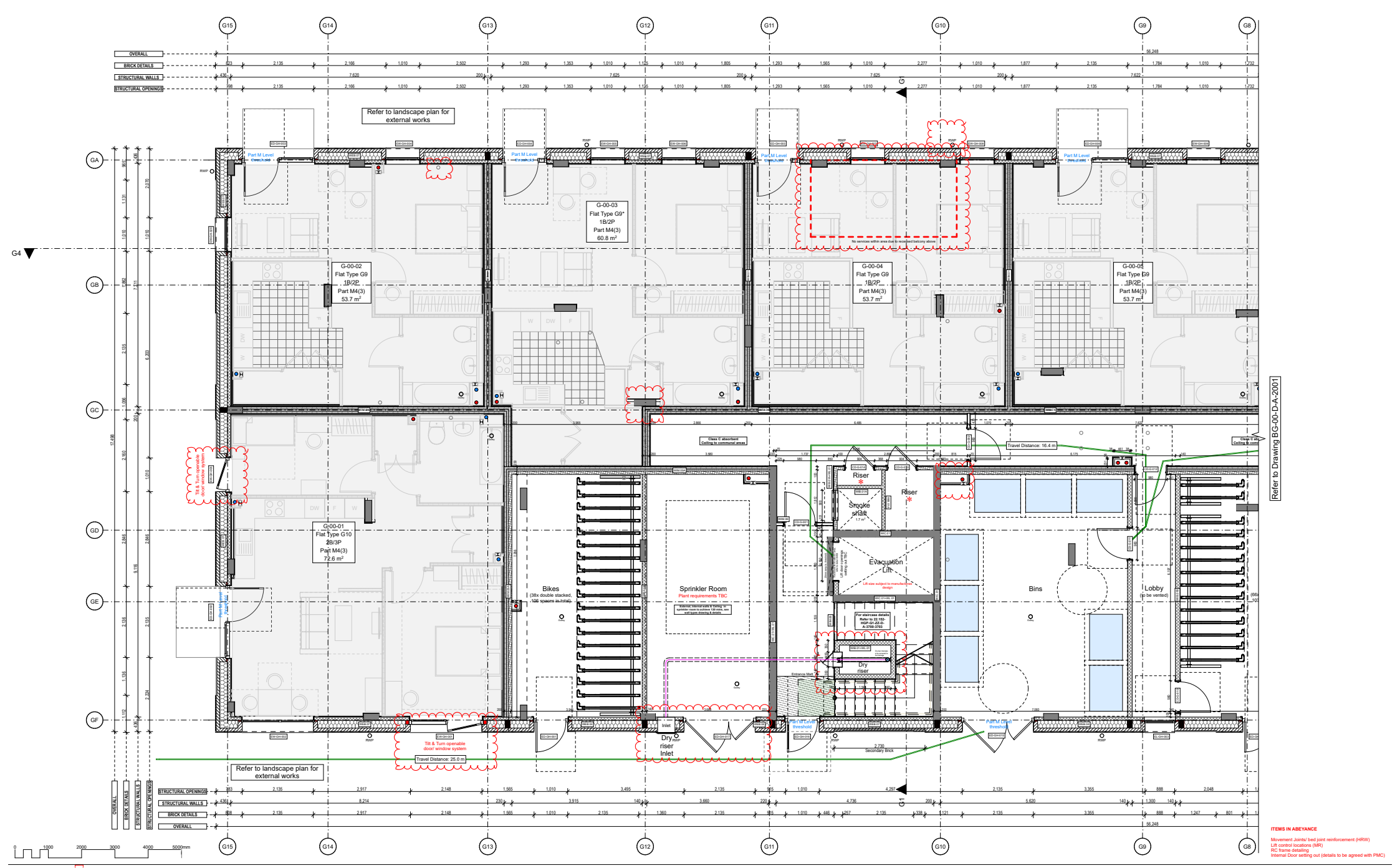
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25.048-HGP-BG-00-D-A-2001	PCSA Tender

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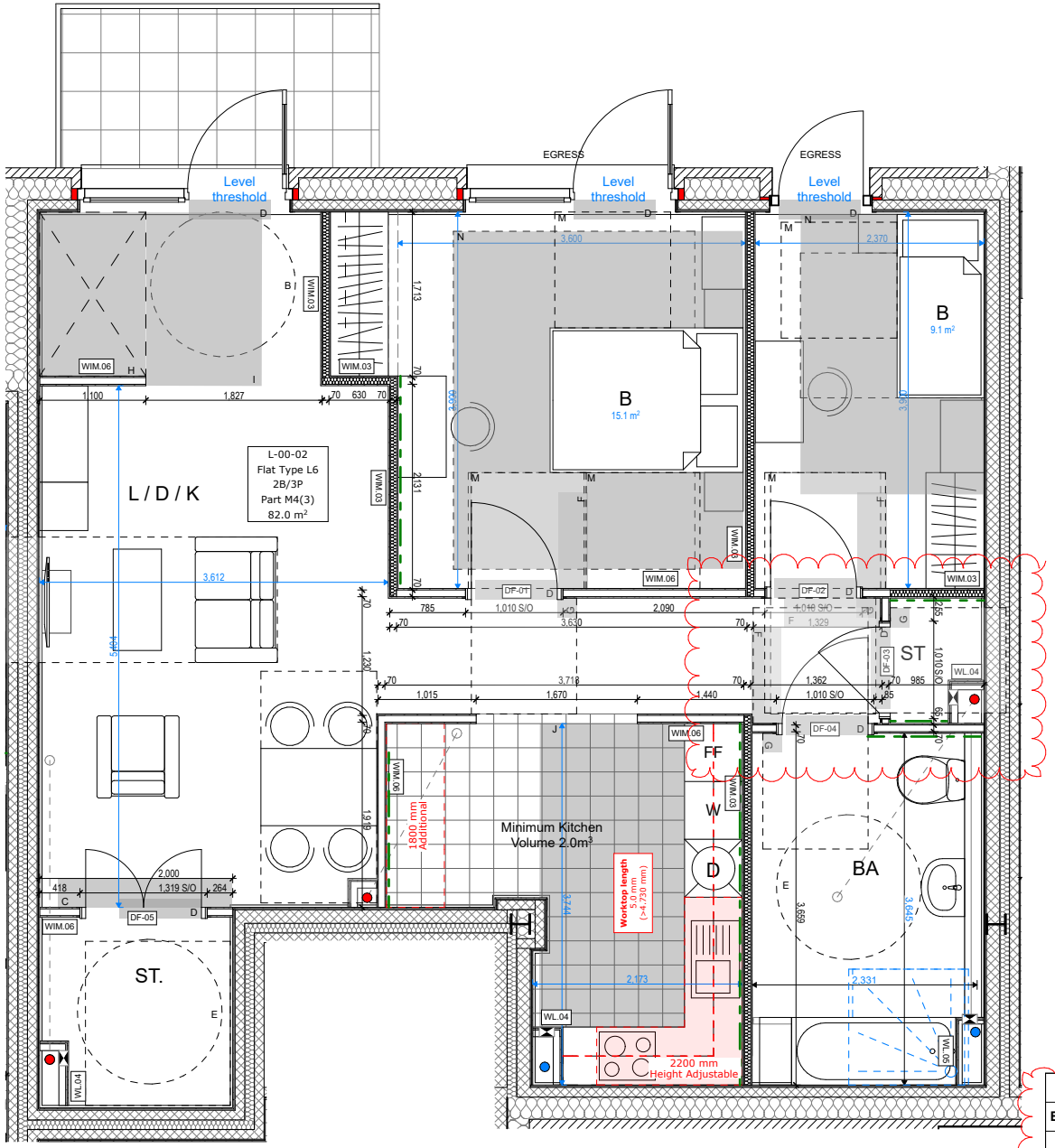
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0 1000 2000 3000mm

Storage Assessment
NDSS requirement = 2m²
St 1 = 2.6m²
St 2 = 0.5m²
Built in Ward = 0.3m²

Total = 3.4m²
Pass

M4(3) Flat Type Requirements

Wheelchair user units have been designed to meet Approved Document M4(3), including but not limited to, the following criteria:

1. Minimum 1500mm turning circle inside entrance door
2. Minimum 300mm nib on leading edge and 200mm nib to following edge of all doors
3. 300mm nib to leading edge of main entrance door and external doors to extend for 1800mm beyond it
4. Minimum clear width in the internal hallway is 1050mm or 1200mm when approach to door isnt head on, outward opening doors to comply with diagram 3.5
5. Minimum 850mm clear door opening width
6. Wheelchair transfer zone of 1100mm x 1700mm accessible from clear zone of 1200mm wide adjacent
7. Minimum 1500mm in front of all kitchen units
8. 2200mm long height adjustable kitchen worktop containing sink & drainer and hob, total kitchen length to comply with table 3.3 of Part M4(3)
9. Clear route to windows of 750mm
10. Every bedroom to provide 1200mm x 1200mm manoeuvring space inside doorway
11. Principal double room to have minimum area of 13.5sqm and be minimum 3000mm wide with 1200mmx1200mm manoeuvring space to both side of the bed
12. Every single room to have a minimum area of 8.5sqm and be minimum 2400mm wide, 1000mm clear access zone to one side of the bed
13. All other double beds to provide 1000mm clear access zone to side and foot
14. All bathrooms to be designed in accordance with Part M4(3) diagrams illustrating sanitary ware placement and dimensions.
15. Clear turning circle of 1500mm to all private amenity spaces free from door swing
16. Level thresholds to all doors
17. Ceiling construction to be such that a ceiling hoist can be installed
18. All furniture to comply with Appendix D of Part M approved document. All sockets, switches & small power to comply with Part M
19. A built in wardrobe counts towards the gross internal area and bedroom floor area requirements, but should not reduce the effective width of the rooms set out above. Built in storage in excess of 0.72m² for double bedrooms and 0.36m² for single bedrooms counts towards the total storage requirements.

Private entrances

A. There is a level external landing with a minimum width and depth of 1500mm and clear of any door swing and is covered for a minimum width and depth of 1200mm. (3.22a & 3.22b)
B. There is a minimum 1500mm clear turning circle inside the entrance area, in front of the door when closed. (3.22d)
C. A minimum 300mm nib is provided to the leading edge of the door and the extra width created by this nib is maintained for a minimum of 1800mm beyond it. (3.22e)
D. The door has a minimum clear opening width of 850mm and have an accessible threshold. (3.22f & 3.22i)

Internal Doors

E. Where an outward opening door is located close to a corner and another door is located on the return wall within 800mm of that corner, the leading edge of the outward opening door is a minimum of 800mm from the corner unless a 1500mm turning circle is provided immediately outside the door. (3.24e)
F. A minimum 300mm nib is provided to the leading edge of every door. (3.24f)
G. A minimum 200mm nib is provided to the following edge of every door. (3.24g)

Wheelchair Storage

H. A minimum 1100mm deep by 1700mm wide space is available on the entrance storey, preferably close to the principal private entrance. (3.25a)
I. Is accessible from a space that has a minimum clear width of 1200mm. (3.25b)

Kitchens

J. There is a minimum clear access zone 1500mm wide in front of, and between, all kitchen units and appliances. (3.32b)
K. Height adjustable or lowerable section of worktop with open leg room below. Minimum 300mm worktop each side of corner where height adjustable or lowerable section is in a corner. (3.34b)

Bedrooms

L. Every bedroom to provide a minimum clear access route, 750mm wide, from the doorway to the window. (3.35a)
M. Every bedroom to provide a minimum 1200mm by 1200mm manoeuvring space inside the doorway, clear of the bed and the door (when the door is in the closed position). (3.35b)
N. The principal double bedroom can provide a minimum 1000mm wide clear access zone to both sides and the foot of the bed and in front of all furniture, and a minimum 1200mm by 1200mm manoeuvring space on both sides of the bed. (3.35e)
O. Every other double bedroom can provide a 1000mm wide clear access zone to one side and the foot of the bed, and in front of all furniture. (3.35g)
P. All single and twin bedrooms provide a minimum 1000mm clear access zone to one side of each bed and in front of all furniture. (3.35h)

Space Requirements

	1B2P	2B3P	2B4P
Portsmouth CC Apartment Size Required (m²)	55	72	78
Apartment Size Achieved (m²)			
M4(3) Storage Space Required (m²)	1.5	2.0	2.0
Storage Space Achieved (m²)			
M4(3) Living/Dining/Kitchen Space Req (m²)	25	27	29
Living/Dining/Kitchen Space Achieved (m²)			
Double bedrooms > 13.5m²			
Single bedrooms > 8.5m²			

Flat type L6

Element ID	Internal S/O	Leaf Dimensions	Wall Thickness	Fire Resistance Rating
DF-01	1,010×2,029	914×1,981	100	FD30
DF-02	1,010×2,029	914×1,981	100	FD30
DF-03	1,010×2,029	914×1,981	100	FD30
DF-04	1,010×2,029	914×1,981	100	FD30
DF-05	1,319×2,029	1,223×1,981	100	FD30

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

Please Note:

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Flat Types

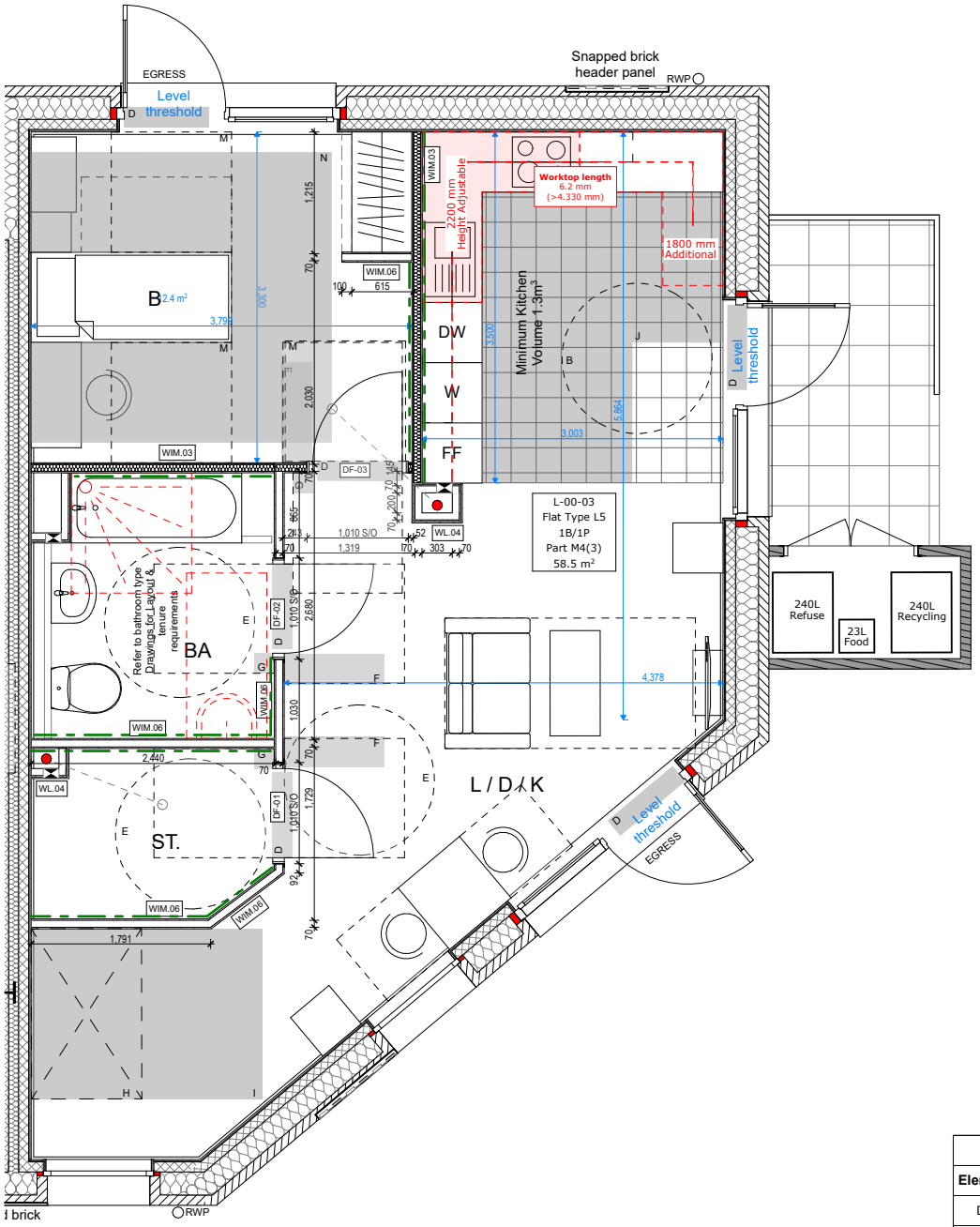
- Lining Patress (to withstand imposed load of 4.5N/mm2) For radator pattresses, refer to MR Electrical drawings.
- DF01 — Door Reference
- WIM.00 — Wall Reference Refer to 6900 Detail seties
- SVP or stub, refer to M&E layouts
- M4(2) minimum space requirement zones
- Access Panel - Refer to GA plans & M&E drawings for locations
- M4(3) Minimum space requirements: Clear space through doors; Circulation zones; Wheelchair transfer zones
- XXX — Dimension
- XXX — Finishes

Rev	Description	Date	DB	CB
T02	Pattress walls added to main bedroom and lounge/ TV wall, NDSS storage changes, Store cupboard added, bathroom change	01.06.25	HC	MLE
T03	PCSA Issue	25.07.25	LW	MLE

Block L - Flat Type L6

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 14.05.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T03
DWG# 25048-HGP-BL-ZZ-DR-A-4005	STATUS Preliminary

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0 1000 2000 3000mm

M4(3) Flat Type Requirements

Wheelchair user units have been designed to meet Approved Document M4(3), including but not limited to, the following criteria:

1. Minimum 1500mm turning circle inside entrance door
2. Minimum 300mm nib on leading edge and 200mm nib to following edge of all doors
3. 300mm nib to leading edge of main entrance door and external doors to extend for 1800mm beyond it
4. Minimum clear width in the internal hallway is 1050mm or 1200mm when approach to door isnt head on, outward opening doors to comply with diagram 3.5
5. Minimum 850mm clear door opening width
6. Wheelchair transfer zone of 1100mm x 1700mm accessible from clear zone of 1200mm wide adjacent
7. Minimum 1500mm in front of all kitchen units
8. 2200mm long height adjustable kitchen worktop containing sink & drainer and hob, total kitchen length to comply with table 3.3 of Part M4(3)
9. Clear route to windows of 750mm
10. Every bedroom to provide 1200mm x 1200mm manoeuvring space inside doorway
11. Principal double room to have minimum area of 13.5sqm and be minimum 3000mm wide with 1200mmx1200mm manoeuvring space to both side of the bed
12. Every single room to have a minimum area of 8.5sqm and be minimum 2400mm wide, 1000mm clear access zone to one side of the bed
13. All other double beds to provide 1000mm clear access zone to side and foot
14. All bathrooms to be designed in accordance with Part M4(3) diagrams illustrating sanitary ware placement and dimensions.
15. Clear turning circle of 1500mm to all private amenity spaces free from door swing
16. Level thresholds to all doors
17. Ceiling construction to be such that a ceiling hoist can be installed
18. All furniture to comply with Appendix D of Part M approved document. All sockets, switches & small power to comply with Part M
19. A built in wardrobe counts towards the gross internal area and bedroom floor area requirements, but should not reduce the effective width of the rooms set out above. Built in storage in excess of 0.72m² for double bedrooms and 0.36m² for single bedrooms counts towards the total storage requirements.

Private entrances

A. There is a level external landing with a minimum width and depth of 1500mm and clear of any door swing and is covered for a minimum width and depth of 1200mm. (3.22a & 3.22b)
B. There is a minimum 1500mm clear turning circle inside the entrance area, in front of the door when closed. (3.22d)
C. A minimum 300mm nib is provided to the leading edge of the door and the extra width created by this nib is maintained for a minimum of 1800mm beyond it. (3.22e)
D. The door has a minimum clear opening width of 850mm and have an accessible threshold. (3.22f & 3.22i)

Internal Doors

E. Where an outward opening door is located close to a corner and another door is located on the return wall within 800mm of that corner, the leading edge of the outward opening door is a minimum of 800mm from the corner unless a 1500mm turning circle is provided immediately outside the door. (3.24e)
F. A minimum 300mm nib is provided to the leading edge of every door. (3.24f)
G. A minimum 200mm nib is provided to the following edge of every door. (3.24g)

Wheelchair Storage

H. A minimum 1100mm deep by 1700mm wide space is available on the entrance storey, preferably close to the principal private entrance. (3.25a)
I. Is accessible from a space that has a minimum clear width of 1200mm. (3.25b)

Kitchens

J. There is a minimum clear access zone 1500mm wide in front of, and between, all kitchen units and appliances. (3.32b)
K. Height adjustable or lowerable section of worktop with open leg room below. Minimum 300mm worktop each side of corner where height adjustable or lowerable section is in a corner. (3.34b)

Bedrooms

L. Every bedroom to provide a minimum clear access route, 750mm wide, from the doorway to the window. (3.35a)
M. Every bedroom to provide a minimum 1200mm by 1200mm manoeuvring space inside the doorway, clear of the bed and the door (when the door is in the closed position). (3.35b)
N. The principal double bedroom can provide a minimum 1000mm wide clear access zone to both sides and the foot of the bed and in front of all furniture, and a minimum 1200mm by 1200mm manoeuvring space on both sides of the bed. (3.35e)
O. Every other double bedroom can provide a 1000mm wide clear access zone to one side and the foot of the bed, and in front of all furniture. (3.35g)
P. All single and twin bedrooms provide a minimum 1000mm clear access zone to one side of each bed and in front of all furniture. (3.35h)

Space Requirements

	1B2P	2B3P	2B4P
Portsmouth CC Apartment Size Required (m²)	55	72	78
Apartment Size Achieved (m²)			
M4(3) Storage Space Required (m²)	1.5	2.0	2.0
Storage Space Achieved (m²)			
M4(3) Living/Dining/Kitchen Space Req (m²)	25	27	29
Living/Dining/Kitchen Space Achieved (m²)			
Double bedrooms > 13.5m²			
Single bedrooms > 8.5m²			

Storage Assessment
NDSS requirement = 1m²
St 1 = 2.3m²

Total = 2.3m²
Pass

Flat type L5

Element ID	Internal S/O	Leaf Dimensions	Wall Thickness	Fire Resistance Rating
DF-01	1,010×2,029	914×1,981	100	FD30
DF-02	1,010×2,029	914×1,981	100	FD30
DF-03	1,010×2,029	914×1,981	100	FD30

Note:

All structural openings determined using Premdor FD30 solid and standard rebate door sets. If a different supplier is to be used all S/O are to be reviewed and amended to suit.

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Flat Types

- Lining Patress (to withstand imposed load of 4.5N/mm2) For radaitor pattresses, refer to MR Electrical drawings.
- DF01 — Door Reference
- WIM.00 — Wall Reference Refer to 6900 Detail seties
- SVP or stub, refer to M&E layouts
- M4(2) minimum space requirement zones
- Access Panel - Refer to GA plans & M&E drawings for locations
- M4(3) Minimum space requirements
  - Clear space through doors
  - Circulation zones
  - Wheelchair transfer zones
- XXX — Dimension
- XXX — Finishes

VIVID

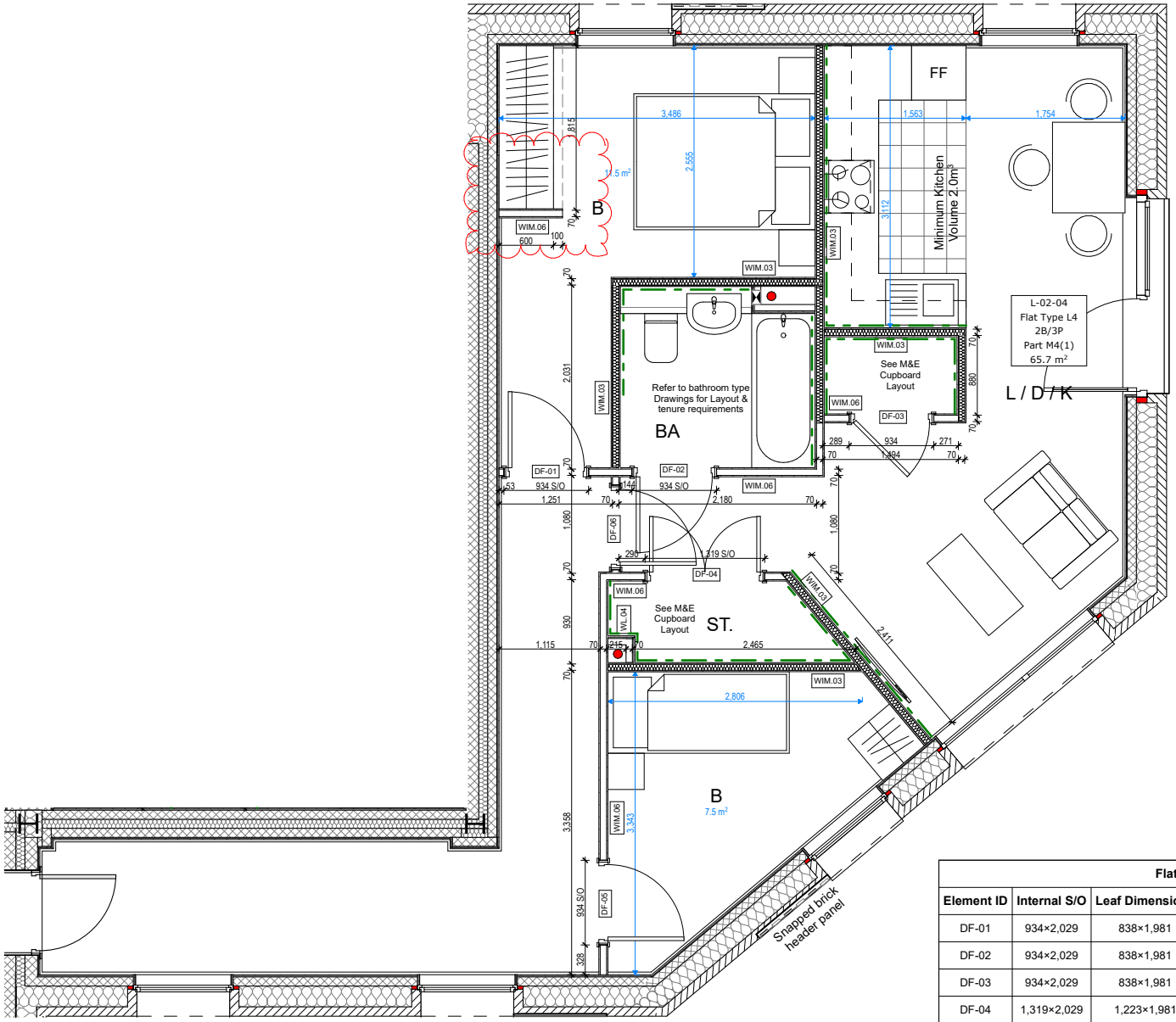
Rev	Description	Date	DB	CB
T01	Tender Issue	20.06.25	HC	MLE
T02	Pattress walls added to main bedroom and lounge/ TV wall, NDSS storage changes	01.06.25	HC	MLE
T03	PCSA Issue	25.07.25	LW	MLE

Block L - Flat Type L5

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
SCALE 1:50 @ A3	DATE 14.05.25
DRAWN BY/CHECKED BY HC / MLE	REVISION T03
DWG# 25048-HGP-BL-ZZ-DR-A-4004	STATUS Preliminary

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0 1000 2000 3000mm

Storage Assessment
NDSS requirement = 2m²
St 1 = 0.5m²
St 2 = 0.5m²
Built in Ward = 0.4m²

Total = 1.4m²
Fail

Flat type L4				
Element ID	**Internal S/O**	**Leaf Dimensions**	**Wall Thickness**	**Fire Resistance Rating**
DF-01	934×2,029	838×1,981	100	FD30
DF-02	934×2,029	838×1,981	100	FD30
DF-03	934×2,029	838×1,981	100	FD30
DF-04	1,319×2,029	1,223×1,981	100	FD30
DF-05	934×2,029	838×1,981	100	FD30
DF-06	934×2,029	838×1,981	100	FD30

Note:

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Building regs Ref: PF/23/1106

Flat Types

Lining Patress (to withstand imposed load of 4.5N/mm2)
For radiator pattresses, refer to MR Electrical drawings.

DF01 Door Reference

WIM.00 Wall Reference
Refer to 6900 Detail series

SVP or stub, refer to M&E layouts

M4(2) minimum space requirement zones

Access Panel - Refer to GA plans & M&E drawings for locations

M4(3) Minimum space requirements
- Clear space through doors
- Circulation zones
- Wheelchair transfer zones

XXX Dimension

XXX Finishes

VIVID

Rev	Description	Date	DB	CB
T01	Tender Issue	20.06.25	HC	MLE
T02	Pattress walls added to main bedroom and lounge/ TV wall, NDSS storage changes	01.06.25	HC	MLE
T03	PCSA Issue	25.07.25	LW	MLE

Block L - Flat Type L4

PROJECT TIPNER EAST REGENERATION	JOB NO 25.048
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