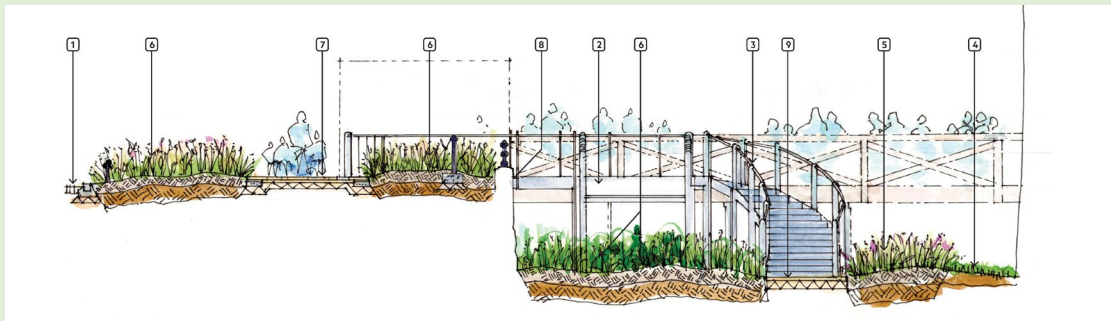


# TOWER OF LONDON: NEW MOAT ACCESS RAMP AND ASSOCIATED LANDSCAPE



## SCHEME DESIGN STAGE BIODIVERSITY NET GAIN REPORT

01<sup>st</sup> July 2025

Rev 3.0\_issue

## EXECUTIVE SUMMARY

### Overview

The present report is a RIBA Stage 3 scheme design stage assessment of the Statutory Biodiversity Net Gain (BNG) associated with a new project for a public access ramp and associated landscape situated in the south-eastern corner of the moat of the Tower of London World Heritage Site. The primary goal of the project is to improve the visitor experience at the Tower of London, whilst also enhancing the educational value by creating an enriched landscape of notably greater value to native biodiversity. The project is being proposed by Historic Royal Palaces (HRP) who manage the site.

The assessment has been made with reference to all relevant legislation and planning policy relating to nature conservation and BNG.

The present assessment report is required as statutory BNG exemptions do not apply.

Post-planning, the present BNG assessment will be reviewed and updated as required in relation to any design development and submitted as a formal *Biodiversity Gain Plan* in advance of the commencement of construction.

### Project Design

The project has been designed by an expert design team of leading professionals working closely with the in-house HRP estates management team and advised by a convened panel of experts (The Moat Legacy Advisory Group). The proposals are fully in keeping with relevant planning policy on biodiversity.

The current proposals function as a standalone, coherent project. However, HRP sees them as part of a broader, long-term initiative: a new Legacy Landscape for the Tower of London moat. Proposals for this larger project have just been presented as a Pre-Application consultation to the London Borough of Tower Hamlets. The present proposals are also closely connected to the recently consented plans to convert the nearby building on The Wharf (known as the Reveller Building) and internal spaces under the adjacent Tower Bridge Approach to create a new Schools and Communities facility. Together, these proposals aim to significantly enrich the moat landscape for native biodiversity, while preserving the historic character and Outstanding Universal Values of the World Heritage Site. They also complement the All-London Green Grid, offering improved public access and facilities for engagement, as well as promoting historical and environmental education.

## Quantitative Assessment

There are no irreplaceable habitats on or near the site that would be adversely affected by the proposals.

Baseline habitat parcels have been mapped in accordance with the UK Habitat Classification (V2.01 July 2023) and their conditions assessed in line with the Statutory Biodiversity Metric Habitat Condition assessment methodology (Version v1.0.2) July 2024.

The assessment of habitats provided is considered valid at the date of the present application for the reasons provided in the separate *Ecological Appraisal*.

The biodiversity value of the site has not been reduced by unauthorised damage prior to the present application nor by authorised damage on or after 25<sup>th</sup> August 2023.

The *proposed* habitat parcels after scheme implementation have also been mapped in accordance with the UK Habitat Classification (V2.01 July 2023) and their conditions assessed, with due consideration given the risks associated with habitat creation and maintenance.

The quantitative assessment indicates that implementation of the proposals would result in a gain of **0.11 Area Habitat Biodiversity Units** representing a net gain of **ca. 30.5%** over baseline, with no breach in trading rules and no recourse to offsite compensation.

There are no hedgerow or watercourse units in the Application Site and there is no riparian habitat within 10 m of the red line boundary.

The completed statutory metric in excel form has been separately provided and BNG plans submitted in both PDF and Shapefile Formats.

## Qualitative Assessment

The proposals have been assessed qualitatively against the *Biodiversity Net Gain Good Practice Principles for Development*. At this stage in the design the project is as fully compliant as possible with all ten principles.

Mitigation proposals for the protected plant species (Jersey Cudweed *Gnaphalium luteoalbum* and the London Notable plant species Knotted Hedge-parsley *Torilis nodosa* have been carefully contrived and will be equally carefully implemented.

## Delivery and Aftercare

The detailed design of the project would be completed by the same design team in close liaison with HRP's core development, planning and interpretations teams, estate management teams, and term contractors to ensure that all the commitments are met in full.

Long-term management would again be led by the expert in-house Estate Management team, advised as necessary by leading experts. Public assistance with management and monitoring may also be brought to bear in the form of organised volunteers.

Ongoing compliance monitoring will be undertaken by expert consultants to HRP as well as by HRP in-house estate management staff.

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## 1.0 INTRODUCTION

### 1.1 REQUIREMENT FOR BNG ASSESSMENT

New development, with certain exceptions, is subject to a mandatory requirement to achieve at least 10% Biodiversity Net Gain (BNG) in accordance with Schedule 7A (Biodiversity Gain in England) of the Town and Country Planning Act 1990 which was inserted by Schedule 14 of the Environment Act 2021. The statutory exemptions as set out in the Biodiversity Gain Requirements (Exemptions Regulations) 2024, do not apply to the present applications. In summary, these exemptions and the reasons for their non applicability, are summarised below:

- *Existing planning applications:* the proposals are being submitted for planning after the day that BNG became mandatory – namely 12<sup>th</sup> February 2024.
- *Variations of planning permission:* the proposals are not being submitted as variation to an existing planning permission.
- *Developments below the threshold:* whilst not impacting a Priority Habitat the proposals will entail the loss of more than 25 square metres of on-site habitat of a 'Distinctiveness' score above zero.
- *Householder applications:* the proposals are not being made as a Householder Application as defined within article 2(1) of the Town and Country Planning (Development Management Procedure) (England) Order 2015.
- *Self-build and custom build applications:* the proposals are not for the construction of dwellings.
- *Biodiversity gain site:* the proposals are not being made for the purpose of fulfilling the BNG planning condition for another development.
- *High speed rail transport network:* the proposals are not related to the high-speed rail network.
- *Urgent Crown Development:* the proposals are not being submitted as an urgent crown development.
- *Development Order:* the proposals are not already consented by a development order (e.g. Permitted Development Rights).

### 1.2 COMMISSIONING CLIENT, SITE NAME AND PURPOSE OF REPORT

**Commissioning Client:** Historic Royal Palaces

**Site Name:** Land at the Tower of London



**Purpose of Report:** To present a BNG analysis associated with a proposed new moat access ramp and associated landscape at the Tower of London World Heritage Site.

### 1.3 BACKGROUND TO PROJECT

The background to this project is described in the *Design and Access Statement*. HRP intends for the current proposals to complement the eventual creation of a permanent, highly biodiverse, and educational Legacy Landscape across much of the Tower of London moat.

The proposals also relate to a recently submitted planning application for a recently consented new Schools and Communities Centre, which will be created by refurbishing the existing building known as The Reveller, located on The Wharf next to the current application site, as well as repurposing several rooms and voids beneath Tower Bridge Approach.

### 1.4 BRIEF PROJECT SITE DESCRIPTION, INCLUDING BASELINE LAND USES

The project is described in detail in the submitted Design and Access Statement and architectural, landscape plans and other submitted drawings.

The Application Site (see **Figures 1.1 to 1.3**) comprises two key elements as follows:

- An area of amenity lawn just west of the Reveller building on The Wharf.
- The eastern corner of the South moat roughly between the northern end of the Develin Tower in the east and the eastern end of the Cradle Tower in the west (see **Figure 1.2**).

In summary, the project aims to build a new permanent access ramp and stairway into the moat for public use, along with a new public entrance and visitor queuing area at the top of the ramp on The Wharf, set within an enhanced landscape. Visitors will be able to access this landscape via the new ramp as well as via the existing ramp entering the West Moat.

Whilst the proposed project stands alone as a coherent and self-contained set of components HRP intends that the project is designed to complement the *long-term biodiverse Legacy Landscape* for the moat, which will be the subject of a separate planning application. These wider proposals are still at an early stage, but an initial pre-application request has recently been submitted to the London Borough of Tower Hamlets.

There are no irreplaceable habitats on or near site that would be adversely affected by the proposals.

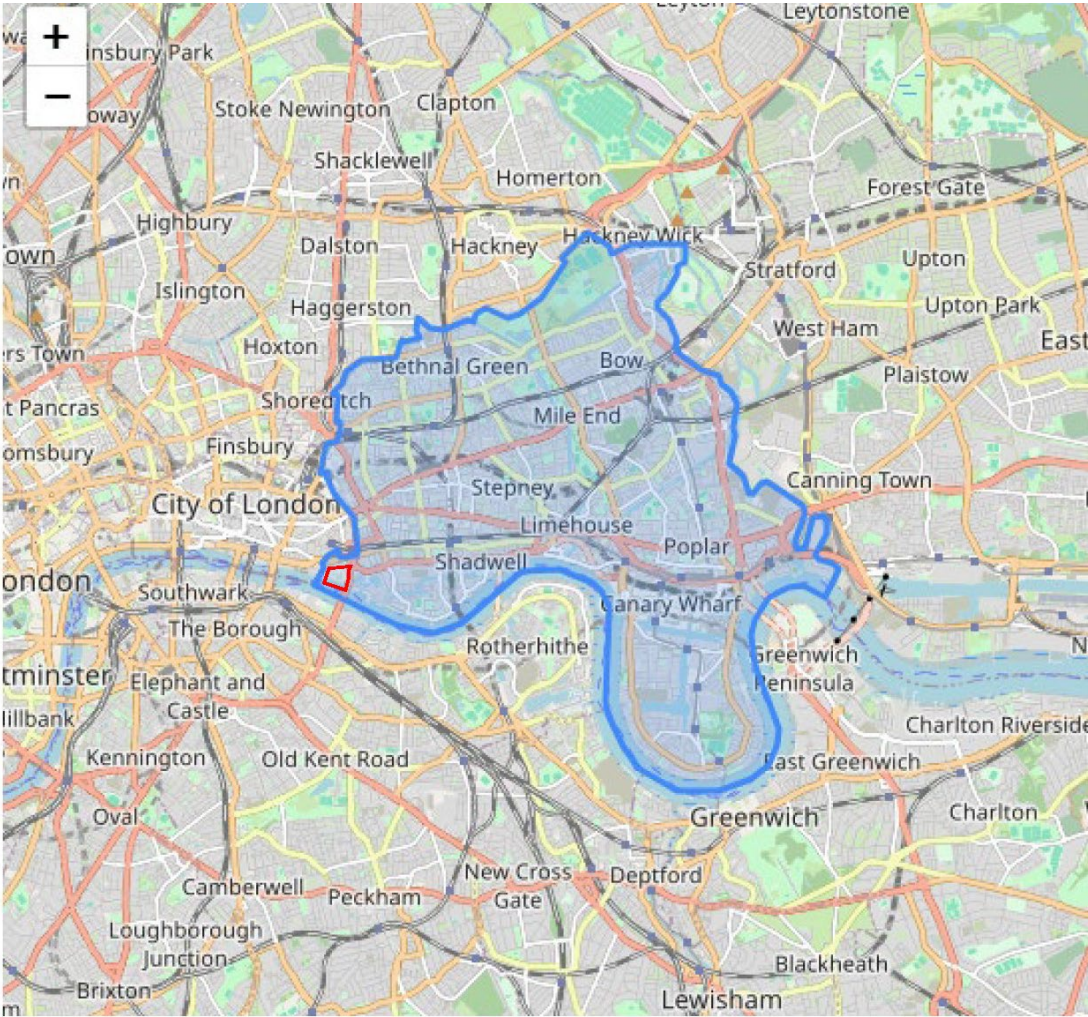


Figure 1.1: The Tower of London site as managed by HRP in the London borough of Tower Hamlets (blue boundary): source MapIT, UK.

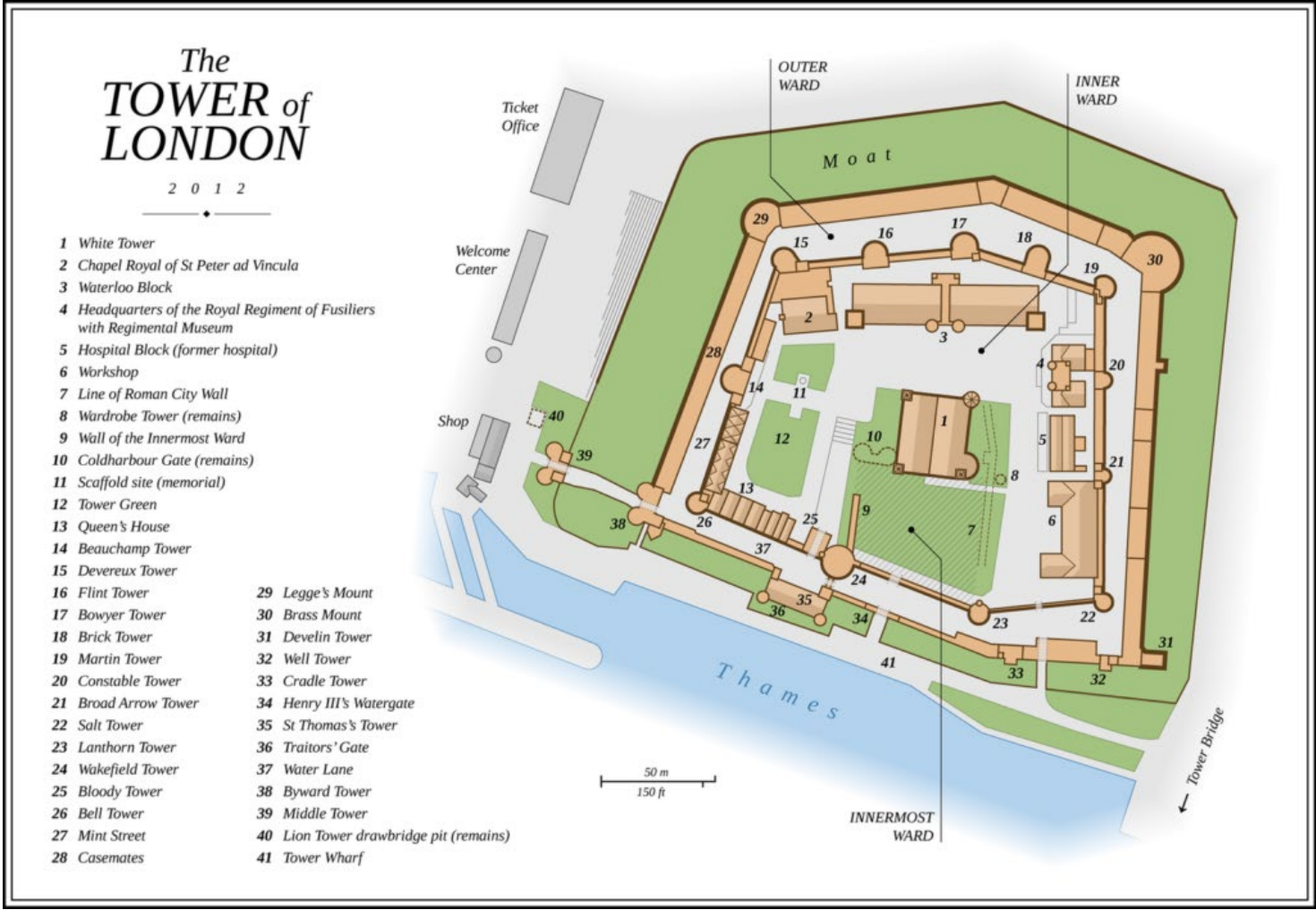


Figure 1.2: Tower of London site: nomenclature of key buildings and features.





Figure 1.3: The Application Site red line boundary in the context of the wider Tower of London Site.

The proposed project is described in further detail in **Section 4.0**.

## 1.5 PLANNING STATUS OF PROJECT, CERTAINTY OF DESIGN AND ASSUMPTIONS MADE

The project has reached RIBA Stage 3 design and is being submitted for full planning consent. Development of Stage 4 design will continue whilst the planning review and approval process proceeds.

There are no client-based uncertainties about delivery of the design whether in terms of design intent, funding or delivery mechanism.

The project is part of the overall vision for the moat Legacy Landscape that is subject to the scrutiny of an expert **Moat Legacy Advisory Group** (see **Section 6.4** and **Appendix 3.0**).

The ultimate goal of HRP is the creation of new tourist, community and educational facilities in the moat that enhance the World Heritage Site - one of the world's leading tourist attractions – and to achieve a significant net gain in biodiversity.

## 1.6 AIMS/OBJECTIVES/SCOPE

The aim of this report is to support the planning case for a new moat access ramp and associated landscape enhancements at the Tower of London by demonstrating that a statutory 10% BNG can be achieved without violating trading rules or relying on offsite compensation. This report should be read in conjunction with the Statutory Biodiversity Metric Calculation Tool, which is provided in Microsoft Excel format.

## 1.7 RELEVANT LEGISLATION & POLICY

Key relevant legislation and biodiversity-related policy relevant to the proposals is described in detail in **Appendix 1.0** of the *Ecological Appraisal*.

### 1.7.1 Legislation

Specifically in relation to Biodiversity Net Gain the relevant primary **legislation** is set out under **Schedule 7A (Biodiversity Gain in England)** of the **Town and Country Planning Act 1990** which was inserted by **Schedule 14 of the Environment Act 2021**. This legislation was amended by the **Levelling Up and Regeneration Act 2023**. The **Biodiversity Gain (Town and Country Planning) (Consequential Amendments) Regulations 2024** made consequential amendments to other parts of the 1990 act.

The **regulations** most relevant to BNG in planning are:



- The **Environment Act 2021 (Commencement No., 8 and Transitional Provisions) Regulations 2024** which commenced statutory BNG for most types of new planning applications.
- The **Biodiversity Gain Requirements (Exemptions Regulations) 2024**, which prescribe exemptions for categories of development to which BNG does not apply.
- The **Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024** which amend the **Town and Country Planning (Development Management Procedure) (England) Order 2015** and the **Town and Country Planning (Section 62A Applications) (Procedure and Consequential Amendments) Order 2013** to include, *inter alia*, provisions in respect of applications for planning permission and the submission and determination of Biodiversity Gain Plans.
- The **Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024** which set out the modification for irreplaceable habitat.

### 1.7.2 Policy

The present proposals support the achievement of several targets in the UK's National Biodiversity Strategy and Action Plan, most especially Target 12 namely:

*The UK will significantly increase the area and quality, and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas sustainably, by mainstreaming the conservation and sustainable use of biodiversity, and ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity and integrity, and improving human health and well-being and connection to nature, and contributing to inclusive and sustainable urbanisation and to the provision of ecosystem functions and services.*

Of greatest relevance to the present BNG assessment is that *Species-rich Grassland* is a London Borough of Tower Hamlets Priority Habitat. The Gardens and Ground Action Plan also promotes the provision of '*nectar-rich flowers to provide food for wild bees and other insects*'. Bats, House Sparrows *Passer domesticus*, and Wild Bees are also of primary interest being LBTH BAP Priority Species.

The Tower Hamlets BAP also promotes as a BAP Priority Species the nationally protected Jersey Cudweed *Gnaphalium luteoalbum* which has, over recent years, spread across much of Greater London.

## 2.0 METHODS

### 2.1 APPROACH TO BNG

#### 2.1.1 Guidance

This report and the analyses within it have been produced in accordance with:

- UKHAB Ltd (July 2023). **UK Habitat Classification**. Version 2.0.1 (at <https://www.ukhab.org>).
- Baker *et al.* (2019). **Biodiversity Net Gain. Good Practice Principles for Development**. (Chartered Institute of Ecology and Environmental Management, Winchester UK).
- British Standard BS 8683:2021. **Process for Designing and Implementing Biodiversity Net Gain. Specification**.
- CIEEM (2021). **Biodiversity Net Gain Reporting and Audit Templates**. (Chartered Institute of Ecology and Environmental Management, Winchester UK).
- DEFRA (2024a). **The UK Statutory Biodiversity Metric (User Guide)** Last updated July 2024.
- DEFRA (2024b). **Statutory Biodiversity Metric Calculation Tool**. Version 1.0.3, 23/07/2024).
- DEFRA (2024c). **Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology**. (Version v1.0.2) July 2024.
- Department of Housing, Communities and Local Government and Levelling Up (2024). **Guidance. Biodiversity Net Gain**. (Last updated, 1 May 2024).

The *Biodiversity Gain Hierarchy* (see Ministry of Housing Communities and Local Government 2024 as described in **Articles 37A and 37 D of the Town and Country Planning (Development Management Procedure) (England) Order 2015** has been followed. This stipulates that:

*‘First in relation to onsite habitats which have a medium, high and very high distinctiveness ...the avoidance of adverse effects from the development and if they cannot be avoided, the mitigation of those effects; and then in relation to all onsite habitat which are adversely affected by the development, the adverse effects should be compensated by prioritising or order where possible the enhancement of existing onsite habitat, creation of new onsite habitats, allocation of registered offsite gains and finally the purchase of biodiversity credits.’*

### 2.1.2 Quantitative Assessment

The Statutory Biodiversity Metric has been used to complete a quantitative assessment which involves calculation of:

- Baseline biodiversity value (before implementation of the project);
- Biodiversity value after implementation of the project; and
- The net change in biodiversity value.

There are three habitat quality components of the metric, namely '*Distinctiveness*', '*Condition*' and '*Strategic significance*'. These considerations require weightings to be applied to all calculations of new habitat areas.

#### *Distinctiveness*

Distinctiveness is a measure based on the type of habitat and its distinguishing features. The classification of distinctiveness of a habitat is generated automatically by the Statutory Biodiversity Metric which assigns distinctiveness categories to habitat types broadly based on the categories set out in **Table 2.1** and their associated scores. This is the starting point for calculating the number of biodiversity units per hectare for each habitat.

**Table 2.1: Distinctiveness categories and scores in the Statutory Biodiversity Metric (for area-based habitats only)**

Distinctiveness Category	Distinctiveness score applied in the metric
Very High	8
High	6
Medium	4
Low	2
Very Low	0

#### *Condition*

Habitat condition is a measure of the state of a habitat and is used to capture variation between parcels of the same habitat type. Condition is often linked to past management, present management, and land use. **Table 2.2** outlines biodiversity metric condition categories and scores.

**Table 2.2: Biodiversity metric condition categories and scores**

Condition Category	Condition Score applied
Good	3
Fairly Good	2.5
Moderate	2
Fairly Poor	1.5
Poor	1
Condition Assessment N/A	1
N/A	0



### Strategic Significance

'Strategic significance' is a key factor in the Biodiversity Metric scoring approach. The 'strategic significance' score is a landscape scale factor that gives additional unit value to habitats located in preferred locations for biodiversity and other environmental objectives. For the London Borough of Tower Hamlets, the emerging Greater London Local Nature Recovery Strategy (GLLNRs) is most relevant. In this project, each habitat parcel — both at baseline and post-intervention — has been assessed for its strategic significance, following the Statutory Guidance (DEFRA, 2024a, see above), which is summarized in **Table 2.3** below. Note that this includes for emerging LNRs that have not yet been formally published.

**Table 2.3: Biodiversity metric strategic significance categories and score applied in the metric where an LNR has not yet been published.**

Category	Score	Description
High (Formally identified in local strategy)	1.15	<p>The habitat type is mapped and described as locally ecologically important within a specific location, within documents specified by the relevant planning authority.</p> <p>If your project delivers the mapped habitat creation, enhancement or actions set out within specified alternative documents, or enhances an existing habitat identified within specified alternative documents as locally ecologically important, strategic significance can be recorded as high in the post-intervention sheets.</p> <p>If the specified alternative documents identify existing habitat as locally ecologically important within a specified location, strategic significance may be recorded as high in the baseline.</p> <p>You should record the name of the plan the relevant planning authority has specified in the user comments and record that you have used the specified document in your gain plan.</p>
Medium (Location ecologically desirable but not in local strategy)	1.1	<p>This category can be applied when the LPA has not identified a suitable document for assessing strategic significance. Users should:</p> <ul style="list-style-type: none"><li>• explain how the habitat type is ecologically important within a specific location demonstrate the importance of that habitat in providing ecological linkage to other strategically significant locations use professional judgement.</li><li>• When the above criteria are met, strategic significance may be recorded as medium in the baseline and post-intervention sheets.</li></ul>
Low (Area / compensation not in local strategy)	1	<p>Where the definitions for high or medium strategic significance are not met.</p>

The Tower of London grasslands of which the Application Site is part are classified as Public Open Space in the *London Borough of Tower Hamlets Local Plan 2031* (see Appendix 1.0 to the *Ecological Appraisal*) but are not part of any SSSI and are not identified by the London Borough of Tower Hamlets as especially important from an ecological perspective, being mown lawns.

However, in a consultation draft of the *All-London Green Grid*, which was until recently available online, the HRP-managed Tower of London site was identified as a site of '*opportunity is for General Habitat Improvement of Mixed Habitat.*' (see **Figure 2.1**).

This draft shows the Tower of London site as part of a potential arc of habitats that could be improved or created to link via Thames Site of Metropolitan Importance to relatively green areas of London to the south of the river Thames; and also via a band of land through the heart of the City of London that is currently an area of Deficiency in accessible greenspace that is notably in need of ecological enhancement.

Moreover, the *London Borough of Tower Hamlets Local Plan 2031* mandates the importance of the *London Borough of Tower Hamlets Biodiversity Action Plan* in assessing ecological importance of sites and their ecological appraisal. This emphasises the importance in the Borough of creating flower-rich grasslands and flower-rich pollinator swards.

On the balance of these considerations the Strategic importance of the Application Site is taken to be **Medium** (Location ecologically desirable but not in local strategy) – applicable to all habitat parcels except hard standing/buildings and hence a multiplier of **1.1** for strategic significance has been applied.

It is considered that in this location mown lawns, especially as part of ‘mixed habitat’ have a role in supporting important biodiversity including some relatively uncommon annual plants and Species Action Plan species such as Starlings *Sturnus vulgaris*.

### *Trading Rules*

Within the calculator, trading rules are factored in to ensure loss of habitat is replaced in alignment with the ‘like for like’ or ‘like for better’ principle. This avoids replacing certain high-distinctiveness habitats with more but lower quality habitat. For area-based habitats the rules are as set out in **Table 2.4**:

**Table 2.4: Statutory Biodiversity Metric Trading rules (Rule 1) to compensate for losses (July 2024).**

Baseline Habitat Distinctiveness	Rules to compensate for loss
Very high	Priority should be given to replacing losses with area habitat units of the same habitat type (see below notes on trading).
High	Losses must be replaced with area habitat units of the same habitat type.
Medium	Losses must be replaced by area habitat units of either medium band habitats within the same broad habitat type or, any habitat from a higher band from any broad habitat type.
Low	Losses must be replaced with area habitat units of the same or higher band.



**Figure 2.1:** Nature Improvement Areas covering the Tower of London Site and environs. The opportunity already identified in the consultation draft, is for *General Habitat Improvement of Mixed Habitat*.

### *Time to Target Condition*

Every habitat type is assigned a score based on the time it typically takes to reach the target condition, which varies between habitats. More time is required to reach better condition, and a fractional multiplier is therefore applied by the metric calculator to reduce the ABHUs delivered by the habitat creation activity to account for the longer duration before targets are reached. This reduction is greater the better the target condition set; and greatest for habitats that are hardest to create.

### *Time Delay between Habitat Loss/Harm and Habitat Creation/Enhancement*

Any delay between loss of existing habitats and creation of new habitats is added (in units of complete years) by the calculation tool to reflect the additional time lag between habitat clearance and habitat creation.

At present the best estimate is for a year-long construction programme commencing with the construction of the ramp. Hence the delay in habitat creation is likely to exceed 6 months and so a single year's delay in habitat creation has been assumed.

## **2.1.3 Qualitative Assessment**

A qualitative assessment has been completed, whereby the project proposals have been assessed against the *Biodiversity Net Gain: Good Practice Principles for Development* (see above, **Section 2.1.1**)

## **2.2 DESK AND FIELD STUDY**

### **2.2.1 Ecological Appraisal**

The desk and field study methods that have provided the data for the present Design Stage BNG assessment are set out in the accompanying Ecological Appraisal (Biodiversity by Design, 2025a).

### **2.2.2 Date of Baseline**

Justification for the contention that the surveys providing the baseline for the current BNG assessment are reliable and sufficiently current is set out in the Ecological Appraisal Report (Biodiversity by Design, 2025).

## 2.3 TECHNICAL COMPETENCE AND EXPERIENCE

All work on the design of the proposals and the production of the present BNG design state statement has been undertaken by suitably qualified persons as defined in BS8683:2020.

Lead design and assessment ecologist Dr Mike Wells RDI FCIEEM of Biodiversity by Design has undertaken multiple BNG assessments and is fully familiar with relevant guidance listed in **Section 2.1.1**. High level of botanical expertise has been provided by Sharon Pilkington MCIEEM – former Botanical Society of the British Isles recorder for Wiltshire and the British Bryological Society's Recorder for mosses.

The landscape proposals are being developed by the world-renowned landscape architects Grant Associates working in close association with the award-winning project Design Ecologists, Biodiversity by Design.

Biodiversity by Design is also coordinating the advice from several additional experts including Donald MacIntyre, CEO of Emorsgate Seeds, the UK's oldest and largest wildflower seed producer and renowned conservation pioneer and author of 'Restoring the Wild' (Crowood Press, 2024).

Further advice has been provided by Tim O'Hare Associates (a leading consultancy on soils) and the rest of the team developing the Legacy Landscape proposals for the wider moat.

Water engineering inputs relating to the wider moat Legacy Landscape scheme, that are summarised here where relevant, have been provided by expert and ecologically-oriented hydrological engineers at Expedition Engineering.

## 2.4 LIMITATIONS

There have been no significant limitations on the work leading to the production of the present BNG Design Stage Assessment (see Ecological Appraisal).



## 3.0 BASELINE CONDITIONS

### 3.1 SUMMARY DESCRIPTION OF BASELINE

The baseline ecological conditions are described in detail in the Ecological Appraisal accompanying the present application.

- There are no Priority Habitats on the proposal site nor near enough to it to be affected indirectly.
- There are no Priority Species permanently on site, though low numbers of relatively light-tolerant bat species do fly and forage across it.
- Current habitats on site are mown lawns (Modified Grassland (low Distinctiveness) in Good or Moderate condition and Other Neutral Grassland (Medium Distinctiveness) in Poor condition. Some of these lawn areas gain ecological importance due to the presence of London Notable native annuals plants.

Habitat survey for the present proposals was undertaken in February 2025. The Project Design Ecologists are regularly on site and in regular contact with HRP. It can be confirmed that there have been no significant changes in site conditions/degradation of baseline conditions since the completion of the baseline surveys.

### 3.2 BASELINE HABITATS AND THEIR CONDITION

#### 3.2.1 General

The baseline habitat condition plan is provided in **Figure 3.1** drawn in accordance with UK Habitat Classification mapping methodologies.

A summary of the habitats that are present, their areas, and their conditions defined in accordance with the Biodiversity Metric Condition assessment methodology (DEFRA 2024c, see **Section 2.1.1**, previous), is provided in **Table 3.1**.

#### 3.2.2 Habitat Condition

The quadrat data for grasslands, habitat classifications and habitat condition assessments are provided in the *Ecological Appraisal* (Biodiversity by Design, 2016). The detailed assessments of baseline habitat condition are also presented in the present document in **Appendix 1.0** for ease of reference.



Figure 3.1: Existing habitats within the Application Site boundary (dotted black line) and its near environs with habitat parcel labels.

Essentially the close-mown nature of the sward, and occasional droughting lead to characteristics of much of the grassland as being relatively species rich mown lawn – ONG in poor condition.

The condition of two parcels of Modified Grassland was only Moderate due to local damage caused by the ramp for Superbloom installed in 2022 and subsequent essential moat wall conservation works.

**Table 3.1: Summary of habitats within the Application Site and their condition**

Habitat	Location	Parcel	Condition	Area (ha)	Habitat Units
<b>Areal habitats</b>					
Modified Grassland (g4)	Moat	Mod Grass_M1	Good	0.0088	0.06
Modified Grassland (g4)	Moat	Mod Grass_M2	Moderate	0.0104	0.05
Modified Grassland (g4)	The Wharf	Mod Grass_W1	Moderate	0.0161	0.07
Other Neutral Grassland (g3c)	Moat	ONG_M1 and ONG_M2	Poor	0.0418	0.18
Unvegetated sealed and unsealed surface (u1b and u1c)	Moat and Wharf	-	N/A	0.0483	0
Sentry Box (u1b5)	Wharf		N/A	0.0003	0
Total Area of Application Site				<b>0.1257</b>	<b>0.36</b>



## 4.0 PROPOSED DESIGN

### 4.1 RATIONALE FOR THE PROPOSED DESIGN AND ITS RELATION TO PLANNING POLICIES AND STRATEGIES

The design and its relation to planning policy and strategies is set out in detail in the Ecological Appraisal.

### 4.2 HABITAT RETENTION

In keeping with the Planning Mitigation Hierarchy and the Biodiversity Gain Hierarchy it is proposed to retain a significant band of the existing Other Neutral Grassland in the moat, where this lies either in the existing maintenance strip next to the inner moat wall or to the west of the main landscape intervention west of the Eastern Drawbridge.

The functions of these areas will remain largely as at present and hence no enhancements to habitat condition of the ONG currently in *Poor* condition are proposed. However, their management will change to be even more conducive to the long-term health and expansion of notable native plants including relatively uncommon annual plants such as Knotted Hedge-parsley *Torilis nodosa*.

### 4.3 HABITAT CREATION

#### 4.3.1 General

The proposed habitats and the techniques for their creation are described in the *Ecological Appraisal* and are summarised in **Table 4.1** along with their target conditions and the risks in their creation and the management of those risks.

The map of the habitats on site after project implementation following the UK Habitat Classification, together with habitat parcel boundaries, is provided as **Figure 4.1**.

#### 4.3.2 Target Habitat Conditions

The formal condition assessment sheets for the created habitats are provided in **Appendix 2.0**.

The ONG will be established on at least a 20 cm depth of bespoke low-nutrient, substrates from material already on site or, if necessary, imported.



Figure 4.1: Habitats after project implementation, with parcel labels.

**Table 4.1: Summary of habitats within the Application Site and their conditions after implementation and maturation of the proposed project.**

Habitat	Location	Habitat Parcel Names	Distinctive -ness	Target Condition	Area (ha)	Habitat Units retained or delivered	Management of Risks in habitat retention/ creation.
<b>Areal habitats</b>							
<b>Habitats Retained</b>							
Other Neutral Grassland (g3c)	Next to the inner curtain wall	ONG_M2 (part)	Medium	Poor	0.0103	0.05	This retained area will be kept mown as a maintenance strip. This will be subject to supplementary seeding with native fine grasses and forbs and other measures as appropriate to maintain its cover and habitat for less common native annual species.
Modified Grassland (g4)	West of the East Drawbridge	Mod Grass_M1 (part)	Low	Good	0.0057	0.04	This retained area will be kept mown. This will be subject to supplementary seeding with native fine grasses and lawn forbs as appropriate.
<b>Habitats Created</b>							
Other Neutral Grassland (g3c)	The Wharf	ONG_W1 and_W2	Medium	Good	0.0101	0.09	This habitat at the 'gateway to the moat' will be very well managed and maintained – and repaired rapidly as and when needed, protected if required, and watered <i>in extremis</i> if the benefits of watering to the biodiversity are considered likely to exceed any disbenefits.
Other Neutral Grassland (g3c)	Either side of the proposed ramp	ONG_M3, ONG_M4, ONG_M5	Medium	Moderate	0.0252	0.18	This habitat will also be very well maintained but due to the shape of the strips and adjacency of other shade habitats the precautionary target condition is 'Moderate' rather than 'Good'.
Other Neutral Grassland (g3c) (Semi-shade of ramp, 1.5m clearance)	Under ramp and East Drawbridge, where over 1.5 m clearance	ONG_Ramp 1	Medium	Moderate	0.0112	0.08	This parcel will gain sufficient light through the grid of the ramp and angled direct and reflected light from the moat walls for the growth of a varied sward, but possibly with some bare ground.
Built-up Areas and Gardens, Flower Bed (u1, 846)	Under ramp with at least 1 m clearance	Shade Bed	Low	N/A	0.0060	0.01	This will be a native shade-tolerant sward. The parcel will be expertly maintained by the horticulturally skilled staff of the Tower. Some 0.0002 ha of this will be dedicated to creation of the Jersey Cudweed mitigation area, on low nutrient substrates.
Built-up Areas and Gardens, Flower Bed (u1, 846)	North of main path in moat	Flower Bed	Low	N/A	0.0117	0.02	This parcel will be expertly maintained by the horticulturally skilled staff of the Tower. Some 0.0002 ha of this will be dedicated to creation of the Jersey Cudweed mitigation area, on low nutrient substrates.
Unvegetated sealed and unsealed surface (u1b and u1c)	Other areas within the red line boundary	Not named	Low	N/A	0.0455	0	
<b>Total Area of the Application Site</b>					<b>0.1257</b>	<b>0.47</b>	

HRP is confident, from the experience already gained from other recent landscape interventions in the moat (namely 'Superbloom' the 'Echo Phase' displays and the 'Prototype'; see *Ecological Appraisal*, Biodiversity by Design, 2025 for a description of these installations), in the delivery of 'Good' condition ONG where this is fully in the open on the Wharf.

In the moat areas where there will be the influence of the ramp and moat walls on microclimate, the target condition is set at 'Moderate'.

Compaction of the higher nutrient topsoil below (known from the recent works for moat intervention projects) will reduce the risk of nutrient enrichment from below.

Ongoing meadow management to cut and remove arisings (see Draft *Management and Monitoring Plan*, Biodiversity by Design 2025b) will steadily reduce overall nutrient status counteracting aerial deposition of nutrients.

Under the ramp the semi-shade-tolerant grassy sward is predicted to reach 'Moderate' condition, where there is sufficient clearance (> 1.5m). The management regime will be similar to that for ONG in the open, but adaptive management approaches will be taken to adjust the cutting regime to suit best sward development.

Annuals and biennials added as a nurse crop or re-emerging from reused onsite soils should soon diminish as full grassy cover is achieved.

The area of mown maintenance strip along the inner moat wall that will be retained is to be kept as ONG (even though only in 'Poor' condition) by *ad hoc* overseeding with fine grasses and forbs as required alongside lawn management practices adapted to further promote the successful survival of valued native 'lawn annuals'.

The biodiverse non-native planting zone will be designed with a combination of both perennials and patches of (annually or biannually sown) annuals on suitably high-nutrient soils. There will be species with notable drought tolerance in the planting palette. Watering of this sward will be undertaken as required to maintain a healthy, resilient and biodiverse mosaic.

At the far western end of this zone an area of approximately 12 m<sup>2</sup> will be designed as a bespoke mitigation area for Jersey Cudweed on a low-nutrient gravel, sand and soil substrate.

The bed under the ramp will support low-growing native woodland grasses, forbs and ferns.

## 5.0 BNG METRIC CALCULATIONS AND NET GAIN

### 5.1 BIODIVERSITY METRIC SPREADSHEET

The completed statutory biodiversity metric spreadsheet has been completed and is submitted separately.

### 5.2 SUMMARY OF CHANGES IN HABITAT UNITS

The changes in habitat units following implementation of the proposals and maturation of the habitats are summarised in **Table 5.1** from the Metric Calculator.

**Table 5.1: Summary of the Biodiversity Metric Calculations**

Tower of London Access Ramp and Stairs

Headline Results

Scroll down for final results ▲

On-site baseline

Habitat units0.36

Hedgerow units0.00

Watercourse units0.00

On-site post-intervention

(Including habitat retention, creation & enhancement)

Habitat units0.47

Hedgerow units0.00

Watercourse units0.00

On-site net change

(units & percentage)

Habitat units0.1130.50%

Hedgerow units0.000.00%

Watercourse units0.000.00%

Off-site baseline

Habitat units0.00

Hedgerow units0.00

Watercourse units0.00

Off-site post-intervention

(Including habitat retention, creation & enhancement)

Habitat units0.00

Hedgerow units0.00

Watercourse units0.00

Off-site net change

(units & percentage)

Habitat units0.000.00%

Hedgerow units0.000.00%

Watercourse units0.000.00%

Combined net unit change

(Including all on-site & off-site habitat retention, creation & enhancement)

Habitat units0.11

Hedgerow units0.00

Watercourse units0.00

Spatial risk multiplier (SRM) deductions

Habitat units0.00

Hedgerow units0.00

Watercourse units0.00

FINAL RESULTS

Total net unit change

(Including all on-site & off-site habitat retention, creation & enhancement)

Habitat units0.11

Hedgerow units0.00

Watercourse units0.00

Total net % change

(Including all on-site & off-site habitat retention, creation & enhancement)

Habitat units30.50%

Hedgerow units0.00%

Watercourse units0.00%

Trading rules satisfied?

Yes ✓

Return to results menu

The net result would be a gain of **0.11 habitat units** which would be a percentage net gain of ca. **30.5 %** with no breach of trading rules.

### 5.3 OTHER PROPOSED ENHANCEMENTS FOR BIODIVERSITY

Other proposed enhancements for biodiversity are described in the *Ecological Appraisal* and landscape plans.

The project proposals include, subject to the consent of the London Borough of Tower Hamlets and Historic England and the terms of the Heritage Impact Assessment, for the installation of the following bespoke integrated refuges for fauna:

- 2 No. bat refuges for crevice-dwelling bat species,
- 1 No. refuge for Starling.
- 3 No. refuges for House Sparrow.
- 1 No. refuge for other common songbirds and
- 4 No. invertebrate hotels.

The creation of a mitigation area for Jersey Cudweed should in the long-term constitute a net enhancement as this will become a recognised and actively and expertly monitored and managed site for the species.

## 6.0 BNG GOOD PRACTICE PRINCIPLES FOR DEVELOPMENT

### 6.1 GENERAL

Sections 6.2 to 6.11 below set out the qualitative assessment against the principles and provides a review to determine if wider BNG Good Practice Principles (i.e. in addition to the quantitative BNG assessment) have been met. Adherence of the proposals to these principles is based on the current stage in the BNG process. In conclusion, the project as assessed achieves a strong qualitative project-wide biodiversity net gain as ten of the ten principles are achieved.

### 6.2 PRINCIPLE 1. APPLY THE MITIGATION HIERARCHY

*'Measures to avoid and minimise biodiversity loss and to rehabilitate/restore biodiversity affected by the project are: 1) defined and documented, 2) implemented and monitored; and 3) managed for the duration of the project's impacts. For example, maintain records of the consideration of alternatives as evidence of avoidance measures implemented.'*

The project is fully compliant with this principle up to the current stage of the project for the following reasons:

- Retention of some of the flowering lawn maintenance strip that is classified as Other Neutral Grassland in 'Poor' condition is proposed.
- Carefully contrived mitigation measures for loss of existing small patch of the legally protected native annual plant Jersey Cudweed *Gnaphalium luteoalbum* and more extensive areas of the London Notable native annual plant Knotted Hedge-parsley *Torilis nodosa*.
- There will be no breach of trading rules in terms of loss of grassland (lawn habitat) due to the amount of species-rich grassland being created.
- Long-term management and monitoring are assured for this project and site due to the in-house capabilities in Estate Management of HRP and their access to expert biodiversity advice (both the Moat Legacy Advisory Group, see **Appendix 3.0**) and design consultants retained as required.
- As the habitats being proposed are taken from the palette of habitats being developed for the wider moat Legacy Landscape, there has been no need for consideration of alternatives.
- Impermeable surface creation will direct runoff where possible to the new Other Neutral Grassland and a non-native biodiverse planting zone, aiding their development.



### 6.3 PRINCIPLE 2. AVOID LOSING BIODIVERSITY THAT CANNOT BE OFFSET BY GAINS ELSEWHERE

*'Project documents describe any impacts to irreplaceable and vulnerable biodiversity resources, e.g., permanent loss or damage to semi-natural ancient woodland, ancient climax vegetation communities, veteran trees, endemic and internationally rare species that cannot be replaced within reasonable timeframes. Projects with impacts on irreplaceable habitats cannot achieve BNG. These projects should demonstrate where biodiversity compensation has been provided but cannot claim project-wide achievement of BNG. These projects should transparently and comprehensively refer to the impacts on irreplaceable habitats in communications and reports.'*

The project is fully in compliance with this principle for the following reasons:

- No irreplaceable or vulnerable biodiversity resources occur on Site.
- Mitigation proposals have been developed to ensure that the native London Notable plants of dry lawn areas on the Application Site continue to thrive on site, and that the conservation status of the overall population on the Tower of London site as managed by HRP is not compromised, but rather consolidated, in the long term.

### 6.4 PRINCIPLE 3. BE INCLUSIVE AND EQUITABLE

*'Evidence of input from and consultation with nature conservation bodies, the local community, the local planning authority and other relevant stakeholders. (NB: For smaller scale projects, this may be part of the planning consultation process). Terms of Reference for any Stakeholder Partnerships are agreed and published, with the roles and responsibilities of members clearly defined.'*

The proposals are fully in compliance with this principle to the extent possible for the following reasons:

- HRP obtains regular advice from Historic England as regards overall management objectives. These put heritage first but also include consideration of the protection and promotion of native biodiversity within that context.
- HRP is regularly advised by a formally convened Moat Legacy Advisory Group with representatives from key regulators and conservation organisations/charities, including Mathew Frith of the London Wildlife Trust, Paul Hetherington of Buglife, the Bumblebee Conservation Trust and the Pollinating London Together initiative. For a full list of members and Terms of Reference, see **Appendix 3.0**.



- Until recently the Legacy Advisory Panel also included the leading London conservationist since the days of the London Ecology Unit and former Planning Ecologist for the London Borough of Tower Hamlets, John Archer. Unfortunately, since Mr Archer retirement in mid-2024 there has been no replacement of the London Borough of Tower Hamlets Ecology Officer and hence continued technical liaison on biodiversity matters has not been possible.
- The Tower of London is a fundamentally public site on constant display and under constant local national and international scrutiny. Historic Royal Palaces has an expert communications department that constantly apprises the local community of its project intentions as far as possible at any given stage in the conceptualisation, design or delivery processes.

## 6.5 PRINCIPLE 4. ADDRESS RISKS

*‘Evidence that BNG has been achieved within the project. Sources of risk and uncertainty in design and implementation of mitigation are documented. Identify risks that may present themselves during the 30-year management period and how these should be dealt with.’*

The proposals are fully in compliance with this principle to the extent possible at this design stage for the following reasons:

- The present document provides the necessary evidence that a significant net gain notably above 10% should be obtainable in the project when implemented.
- Key design-related risks have been identified and addressed in the present document (see **Section 7.2.2**).
- The Metric uses in-built multipliers to address risk for calculating biodiversity gains, such as “time to target condition” and “difficulty of creation”.
- A prototype of key elements of the envisioned future Legacy Landscape (including species-rich grasslands) has been built in the northeast moat and is being formally monitored to identify further risks and their resolutions. The monitoring results will further inform the development of Stage 4 design of the present project.
- Documents relating to management challenges and options have been produced internally for HRP but the specialist design team, identifying risk and challenges of habitat creation and long-term management and have been endorsed by the HRP estates management team who have

integrated considerations of management requirements into their long-term planning.

## 6.6 PRINCIPLE 5. MAKE A MEASURABLE NET GAIN

*'Suitable metric is used for all habitat impacts quantified relative to the 'pre-project' condition of each habitat. Gains anticipated from habitat creation, enhancement and positive management are quantified relative to the predicted condition in the absence of BNG activities.'*

The proposals are fully in compliance with this principle as evidenced by the present document. Although the Small Sites metric could have been used for this small proposal site which is notably smaller than 0.5 ha, the full DEFRA Statutory Biodiversity Metric (version 23 July 2024) has been used to benefit from its greater descriptive content.

## 6.7 PRINCIPLE 6. ACHIEVE THE BEST OUTCOMES FOR BIODIVERSITY

*'Evidence is provided that BNG commitments contribute (now or in the future) to regional and national conservation goals, e.g., Local Nature Recovery Strategies. Provide evidence that the BNG design has considered where it is possible to contribute to supporting priority species populations.'*

The proposals are fully in compliance with this principle to the extent possible at this stage for the following reasons:

- The project proposed is designed to be as suitably biodiverse and supportive of native species as possible within the framework of the wider aspirations for the moat Legacy Landscape, heritage constraints and visitor access.
- Being a small area only some of the intended moat Legacy Landscape habitats can be incorporated within the Application Site; but do include species rich ONG (The Tower Meadow in the Design and Access Statement), a biodiverse non-native planting zone (The 'Tower Provides' landscape typology in the Design and Access Statement), and various artificial faunal refuges.
- The construction of a partly translucent access ramp provides the opportunity to promote a relatively shade-tolerant ONG variant, thereby further increasing the overall diversity of the mosaic of habitats that will be present in the moat long term.

## 6.8 PRINCIPLE 7. BE ADDITIONAL

*‘Provide evidence to show where additionality has been proven within the built environment and what gains are achieved.’*

The proposed project fully complies with this principle because without the intention of creating a permanent access ramp the associated habitat creation would not occur. Instead, the moat would continue to be managed as a mown lawn.

## 6.9 PRINCIPLE 8. CREATE A NET GAIN LEGACY

*‘Evidence is provided that those responsible for implementing project biodiversity management have the requisite management and technical capacity for their specified roles. Key Performance Indicators are set for biodiversity features affected by the project and specific, measurable and time-bounded targets for indicating conservation success are clearly stated. Evidence is provided that any reasonably foreseeable future developments that might affect long-term commitments to biodiversity, including developments by third parties, have been considered. Evidence that legal and financial mechanisms are in place to guarantee the financial and institutional viability of all biodiversity management for a minimum 30 years or at least the duration of the project’s impacts. Evidence is provided that management is adapted, where necessary, throughout implementation to deliver the agreed conservation outcomes and monitoring is in place to identify risks to achieving specified outcomes. Evidence that the design has considered where it is possible to create features for species, in particular, priority species.’*

The proposed project is fully in compliance with this principle for the following reasons:

- Management principles, draft prescriptions and KPIs for the habitats proposed in the wider moat Legacy Landscape project (to come forth to planning early in 2026) have been developed by the design team including Grant Associates Landscape Architects, Biodiversity by Design, Tim O’Hare Associates, Expedition Engineering working closely with the Head of Estates Management for HRP, HRP’s term landscape contractors Landform and many others including lighting experts BEAM to ensure their suitability and long-term viability.
- A draft *Habitat Management and Monitoring Plan* furnishing the core details required under this Principle has been drafted and is supplied separately with the present application. This would be completed in full after grant of planning consent.

## 6.10 PRINCIPLE 9. OPTIMISE SUSTAINABILITY

*'Evidence provided that the project prioritises BNG targets but then seeks opportunities for gains for the wider environment, the community and the economy.'*

The proposed project is fully in compliance with this principle for the following reasons:

- The project proposed is fundamentally multi-functional as it is being contrived within the essential context of protecting and enhancing the Outstanding Universal Values of the Tower of London World Heritage Site — to improve the environmental amenity for visitors that range from international tourists through to local school parties and special needs groups — whilst also notably enhancing value for native biodiversity.
- Historic Royal Palaces is a charity with terms of reference that place its role in serving the community front and centre of its overall mission. The present proposals are absolutely core to this mission, facilitating as it does the full functionality of the recently consented Schools and Communities project in a refurbished building (the former venue known at the Reveller) on the adjacent historic Wharf to the south and integrated rooms in the arches of Tower Bridge Approach to the east.

## 6.11 PRINCIPLE 10. BE TRANSPARENT

*'The commitment to BNG is stated by the project developer in a publicly available document. Results of project audits are publicly available where claims of BNG are made at relevant project stages, including project closure and any deviations from original design specifications are clearly stated. Evidence that the best available scientific knowledge and methods have been used in BNG design and implementation, and knowledge is transferred back to the scientific community.'*

The proposed project is fully in compliance with this principle for the following reasons:

- The commitment to net BNG through enhancement of the Tower of London moat landscape of which the present proposals form part has been advertised widely including on public display boards on Tower Hill.
- Biodiversity Net Gain in the moat Legacy Landscape, which the current scheme is designed to complement, has been considered; and a target notably above 10% targeted at every design stage from the first concept stage ecological report produced by Biodiversity by Design for Grant Associates in 2022 through to the present.

## 7.0 PROJECT IMPLEMENTATION AND CONSTRUCTION PLAN

### 7.1 GENERAL

The implementation and construction plan for the project and detailed landscape planting schedules would be developed as part of Stage 4 RIBA design work after the securing of planning consent. However, the likely key elements of this are set out below.

### 7.2 DESIGN UP TO TENDER STAGE

#### 7.2.1 Responsible Agents

Responsibility for detailed design of the new habitats would remain vested with the expert design consultancy team already described (see **Section 2.3**).

#### 7.2.2 Risk Management

The Project Design Risk Register is maintained by experts in risk management (currently Harley Haddow) and regular review is undertaken by all members of the design team and client project team. Oversight of the detailed design will be maintained by the Moat Legacy Advisory Group (see **Appendix 3.0**).

Key risks in the design stage up to tender, and their envisaged mitigation are listed in **Table 7.1**.

**Table 7.1: Risk management for the detailed design stage of the project.**

Key risks	Risk Mitigation
Climate change and severe weather	The nature of the habitats selected for creation and their envisaged semi-shaded and sheltered physical environment and management regime should help to ensure reasonable resilience in drought and other severe weather that may increase in frequency with climate change (see also the design risks below).
Flood risk	Currently the habitats proposed on site are not at appreciable risk of flooding. Water entering the moat from adjacent land drains to large underground culverts in the west north and east moats with the capacity to store the rainwater before later controlled release to the Thames. Increasing long-term increased flood risk in the moat with tidal locking of the discharge due to sea level rise is being addressed in the forthcoming moat Legacy Landscape scheme.
Fire hazard	The irrigation system would be designed to maintain appropriate soil moisture status. This system will either be derived from the system installed for Superbloom or a sustainable preplacement being designed for the moat Legacy Landscape scheme.
Visitor pressure	The intention is to channel most visitors' activity down the ramp and into the east moat, where the landscape is due to be enhanced by the moat Legacy Landscape scheme. Information signage could be envisaged explain the need to protect the habitats. The habitats proposed have a low level of creation 'Difficulty' to enable their rapid repair if harmed by visitors.

The Design and Access statement explains the recent history of the moat in delivery of public floristic displays. A trial installation (prototype) for the moat Legacy Landscape which includes further trials for species-rich grassland establishment secured planning consent in 2024 and has been constructed in the northeast moat. Information gleaned from the design and delivery of these landscapes is being fed into the project design knowledge base and risk register.

## 7.3 CONSTRUCTION DELIVERY

### 7.3.1 Responsible Agents

The delivering agent would be Historic Royal Palaces and their term contractors, most likely to be *Landform* - highly experienced landscape contractors who have delivered all the recent significant landscape interventions in the moat.

### 7.3.2 Risk Management

The construction risk register for the project will also be maintained by risk management professionals (probably Harley Hadow as at present). Regular meetings between the design team and the implementing contractors will ensure that this register is maintained up to date. The key construction phase risks relevant to biodiversity net gain and their mitigation are set out in **Table 7.2** below.

**Table 7.2: Risk Management During Construction**

Key Construction Risks to the achievement of the proposed habitats	
Buried heritage	HRP will maintain a close watching brief in accordance with Historic England and UNESCO requirements.
Soil management	Strict soil management will be guided by professional soil consultants. A soil management plan will ensure that soil structures are maintained, and types not mixed. Removal of soil as part of mitigation for uncommon plant species will be undertaken under the expert supervision of suitably qualified ecologists and soil scientists.
Runoff	Runoff management in construction will be addressed within a project Construction Environmental Management Plan. Any runoff will be channelled through settlement tanks as required before discharge.
Quality assurance of seeding and planting	Native seed of the highest quality and reliability of provenance will be obtained from an fully reliable source of native seed origin e.g. Emorsgate Seeds (as has been the case through the Echo Phase of Superbloom). Emorsgate has a Royal Warrant as official suppliers of wildflower and grass seeds to His Majesty The King.) Regardless of seed supplier, detailed technical advice will continue to be given by both Emorsgate and Biodiversity by Design in best seeding practice and early aftercare.

## 7.4 CONSTRUCTION HANDOVER CHECKLIST

As-built levels drawings, drainage and landscape plans and architectural plans would be transferred as a matter of course to HRP's term contractors.

## 7.5 LONG-TERM MANAGEMENT

### 7.5.1 Responsible Agents

Management of the created habitats and infrastructure would be undertaken by HRPs expert in-house maintenance team. The team is responsible for the management of six Royal Palaces and their extensive grounds that include multiple semi-natural habitats. The Head Gardener's experience includes native species-rich meadow creation both in the Tower of London Moat in the echo phase of Superbloom and on other projects. A qualified ecologist is also being appointed shortly as HRP Biodiversity and Sustainability Manager.

### 7.5.2 Risk Management

Risk management during long-term management of the created and retained habitats is addressed in the *Habitat Management and Monitoring Plan* provided in first draft separately with this application. The key risks in the creation and management of the habitats to achieve and maintain target conditions are itemised in **Table 7.3**.

**Table 7.3: Risk management for the management and nurturing of created habitats over the long-term**

Key risks	
Climate change and severe weather	Given the high-profile nature of the site, management resources will be provided to combat any effects of severe weather. (It is also intended that an even more sustainable irrigation solution be realised in due course in the form of a water harvesting and reuse system with a back-up borehole brought forward as part of the intended wider moat Legacy Landscape scheme.)
Flood risk management	Flood risk in the Application Site is currently low. Long-term flood risk management of the entire moat will be addressed in the moat Legacy Landscape scheme. This is required to protect the built heritage as well as the habitats.
Fire hazard (late summer long-grass sward)	This risk is considered low. The hydric status of grasses will be managed in extreme drought, if necessary, by supplementary watering. In <i>extremis</i> if tall dry grass was considered a hazard to built heritage in a severe drought, it could be cut and removed. This should be relatively infrequent and should not compromise good habitat development.
Visitor pressure on the habitats,	Visitor pressure from footfall and touching is inevitable – and some wear of the grassland swards will result. This could be managed by signage, wardening, use of temporary low barriers and incidental repairs to the sward as required.
Deterioration of faunal refuges	Faunal refuges will be serviced annually to ensure correct positioning, alignment and absence of parasites/old nesting material/wasps etc.

## APPENDIX 1.0: GRASSLAND EXISTING CONDITION ASSESSMENTS

### OTHER NEUTRAL GRASSLANDS

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)				
UK Habitat Classification (UKHab) Habitat Types				
Habitat Description				
Other Neutral Grassland				
<u>ukhab – UK Habitat Classification</u>				
On-site or off-site, site name and location	Tower of London grounds, The Wharf and the Moat	Surveyor names		Sharon Pilkington MCIEEM (SP) Helen Saunders MCIEEM (HS) Dr Mike Wells FCIEEM (MW)
Limitations (if applicable)	Winter survey but careful inspection by experienced botanists so still feasible to characterise the habitats. Then verification survey at ideal time in mid-June.	Habitat parcel reference		
		ONG_M1	ONG_M2	See habitat plan for locations of parcels
Condition Assessment Criteria		Date of Survey and Surveyors		
		03/02/25 HS, MW 11/06/25 SP/HS/MW	03/02/25 HS, MW 11/06/25 SP/HS/MW	
		Criterion passed (Yes or No)		Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). <sup>1</sup>  <b>Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</b>	No <sup>1</sup>	No <sup>2</sup>	1 and 2: alongside perennials, species tally comprises many annuals and herbs characteristic of lawns Not that many characteristics indicator species present.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	No	Uniformly mown
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens <sup>2</sup> .	No <sup>1</sup>	No <sup>2</sup>	1 and 2: bare soil > 5 % of parcel



D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes	Yes	No Bracken in the moat.
E	Combined cover of species indicative of suboptimal condition <sup>3</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.  If any invasive non-native plant species <sup>4</sup> (as listed on Schedule 9 of WCA <sup>5</sup> ) are present, this criterion is automatically failed.	No <sup>1</sup>	No <sup>2</sup>	
<b>Additional Criterion - must be assessed for all non-acid grassland types</b>				
F	There are 10 or more vascular plant species per m <sup>2</sup> present, including forbs that are characteristic of the habitat type (species referenced in Footnotes 3 and 5 cannot contribute towards this count).  <b>Note - this criterion is essential for achieving Good condition for non-acid grassland types only.</b>	Yes (mean = 11.2,) (10,4 excluding <i>Cotula</i> )	Yes/No borderline (mean = 10.1) (9.6 excluding <i>Cotula</i> )	
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No	No	
Number of criteria passed		2	1	
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓		
<b>Non-acid grassland types (Result out of 6 criteria)</b>				
Passes 5 or 6 criteria including essential criterion A and additional criterion F	Good (3)			
Passes 3 to 5 criteria including essential criterion A	Moderate (2)			
Passes 2 or fewer criteria or passes 3 or 4 criteria excluding criteria A and F.	Poor (1)	✓	✓	
<b>Notes</b>				

**Footnote 1** - Professional judgement should be used alongside the UKHab description.

**Footnote 2** - For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

**Footnote 3** - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*. There may be additional relevant species local to the region and or site.

**Footnote 4** - Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

**Footnote 5** - Wildlife and Countryside Act 1981 (as amended).

## MODIFIED GRASSLANDS

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)					
UKHabitat Classification Habitat Type		Modified Grassland (g4)			
Site Name and location		Tower of London: New moat access ramp and associated landscape application site.			
Surveyors and initials		Sharon Pilkington MCIEEM (SP) Helen Saunders MCIEEM (HS) Dr Mike Wells FCIEEM (MW)			
MCIE		Mod Grass_W1	Mod Grass_M1	Mod Grass_M2	
Date of Survey and Surveyors		3 Feb 2025 HS/MW 11/06/25 SP/HS/MW	3 Feb 2025 HS/MW 11/06/25 SP/HS/MW	3 Feb 2025 HS/MW 11/06/25 SP/HS/MW	
Survey constraints		Winter assessment, but mown lawn, expert surveyors and extra time taken, so reliable. Then verification survey at ideal time in mid-June.			
Condition Assessment Criteria		Criterion passed (Yes or No)			Notes
A	There are 6-8 vascular plant species per m <sup>2</sup> present, including at least 2 forbs (these may include those listed in Footnote 1). <b>Note - this criterion is essential for achieving Moderate or Good condition.</b>  Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m <sup>2</sup> (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Yes (7.4)	Yes (6.6)	Yes (7.3)	<i>Torilis nodosa</i> present due to tight mowing regime. Character of <i>Lolium</i> -rich. species-poor sward is very much of Modified Grassland.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	No	No	Closely mown

C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present).  Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	Yes	Yes	Presence of woody plants not tolerated in the moat due to protection of buried heritage
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	No <sup>1</sup>	Yes	No <sup>2</sup>	1 and 2: sward damage exceeds 5% of parcel
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) <sup>2</sup> .	No	Yes	No	1 and 2: bare ground exceeds 5% of parcel
F	Cover of Bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes	Yes	Yes	No Bracken on site.
G	There is an absence of invasive non-native plant species <sup>3</sup> (as listed on Schedule 9 of WCA <sup>4</sup> ).	Yes	Yes	Yes	None noted.
Essential criterion achieved (Yes or No)		Yes	Yes	Yes	
Number of criteria passed		4	6	4	
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓			
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		✓		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	✓		✓	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)				
<b>Footnotes</b>					
<p><b>Footnote 1</b> – Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i>.</p> <p><b>Footnote 2</b> – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.</p> <p><b>Footnote 3</b> – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.</p> <p><b>Footnote 4</b> – Wildlife and Countryside Act 1981 (as amended).</p>					

## APPENDIX 2.0: TARGET CONDITIONS OF CREATED GRASSLAND

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)							
UK Habitat Classification (UKHab) Habitat Types							
Habitat Description							
Other Neutral Grassland							
On-site or off-site, site name and location		Tower of London grounds, The Wharf and the Moat		Surveyor names		Not applicable	
Limitations (if applicable)		Winter survey but careful inspection by experienced botanists so still feasible to characterise the habitats.		Habitat parcel reference			
				ONG_W1 ONG_W2	ONG_M3 ONG_M4 ONG_M5	ONG_Ramp 1	See habitat plan for locations of parcels
Condition Assessment Criteria							
				Criterion passed (Yes or No)			Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). <sup>1</sup>  <b>Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</b>			Yes	Yes	Yes	Full resowing on suitably low nutrient imported soils of suitable native seed mixes followed by long-term hay meadow management by dedicated staff.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.			Yes	Yes	Yes	Will be managed to provide such height variation.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens <sup>2</sup> .			Yes <sup>1</sup>	No <sup>2</sup>	No <sup>2</sup>	1. Will be very well-maintained in this strategic location and repaired as needed. Showcase sward at the entrance. 2. Degree of shade under ramp could lead to patchiness in sward. Also somewhat more relaxed regime desirable for ground nesting bees.

D	Cover of Bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes	Yes	Yes	Bracken is unlikely to colonise, but it does, will be weeded out.
E	<p>Combined cover of species indicative of suboptimal condition<sup>3</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.</p> <p>If any invasive non-native plant species<sup>4</sup> (as listed on Schedule 9 of WCA<sup>5</sup>) are present, this criterion is automatically failed.</p>	Yes	No <sup>1</sup>	No <sup>1</sup>	1. Will be very well-maintained in this strategic location and repaired as needed Showcase sward at the entrance. 2. Somewhat more relaxed regime in moat considered desirable.
Additional Criterion - must be assessed for all non-acid grassland types					
F	<p>There are 10 or more vascular plant species per m<sup>2</sup> present, including forbs that are characteristic of the habitat type (species referenced in Footnotes 3 and 5 cannot contribute towards this count).</p> <p><b>Note - this criterion is essential for achieving Good condition for non-acid grassland types only.</b></p>	Yes <sup>1</sup>	Yes <sup>1</sup>	No <sup>2</sup>	1. Excellent seed mix and no direct overhead shade. 2. Should be achieved but not targeted due to uncertainties about shade condition under ramp.
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		Yes	Yes	Yes	
Number of criteria passed		6	4	3	
Condition Assessment Result	Condition Assessment Score	Score Achieved x/√			
Non-acid grassland types (Result out of 6 criteria)					
Passes 5 or 6 criteria including essential criterion A and additional criterion F	Good (3)	✓			
Passes 3 to 5 criteria including essential criterion A	Moderate (2)		✓	✓	
Passes 2 or fewer criteria or passes 3 or 4 criteria excluding criteria A and F.	Poor (1)				
Notes					

**Footnote 1** - Professional judgement should be used alongside the UKHab description.

**Footnote 2** – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

**Footnote 3** - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*. There may be additional relevant species local to the region and or site.

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**Footnote 5** – Wildlife and Countryside Act 1981 (as amended).

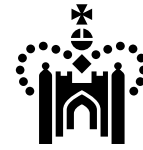


## APPENDIX 3.0: MEMBERS OF TOWER OF LONDON MOAT LEGACY ADVISORY GROUP & FORMAL TERMS OF REFERENCE

### *Members*

Name	Position	Organization
Andrew Jackson	Tower Director - Chair	Historic Royal Palaces
John Barnes	CEO	Historic Royal Palaces
Tom O'Leary	Director of Public Engagement	Historic Royal Palaces
Rhiannon Goddard (HRP)	Legacy Project Sponsor & Secretary to the Group	Historic Royal Palaces
Alex Wigley (HRP)	Head of Gardens (from 26 <sup>th</sup> October 2024 onwards)	Historic Royal Palaces
Camilla Finlay	Trustee	Historic Royal Palaces
Chris Laine	Landscape Advisor	Historic England
John Archer	Biodiversity Officer – (up until autumn 2024)	London Borough of Tower Hamlets
Mathew Frith	Director of Research & Policy	London Wildlife Trust
Paul Heatherington	Director of Fundraising and Communications	Buglife
Nicola Hutchinson	CEO	Plantlife
Ian Dunn	Ex CEO	Plantlife
Heather Barrett-Mold	Chair of Science Working Group	Pollinating London Together
Gill Perkins		Bumblebee Conservation Trust
Professor Michael Garratt	Invertebrate ecology & ecosystem services expert.	Dept of Sustainable Land Management, University of Reading
Emily Brennan	Natural Environment Director	City of London Corporation
David Johnson	Technical Director	The Rivers Trust

Other advisors that have been individually consulted include the Nature Recovery Specialist and Nature Officer to the Royal Household, Charlotte Lemmon.



**HISTORIC ROYAL PALACES**

*Formal Terms of Reference: Moat Legacy Advisory Group*

Approved July 2022

**Purpose and Objectives of the Board**

- To provide specific expertise and support to the Moat Legacy Project at the Tower of London in relation to the project objective, 'To create a sustainable habitat for bees, butterflies, insects, bugs and pollinators in an otherwise urban setting'.
- To input into the design process at key stages to provide relevant experience, advice and support.
- To provide advocacy to the project and access to further networks of specialists in this field as relevant/necessary.

**Membership**

See above

**Decision-making**

This is an advisory group, with no decision-making powers as such but advice will be presented to the Project Board to help to inform HRP's internal decision-making process.

**Meetings**

- Meetings to be held every 4-6 weeks during the design of the Moat Legacy scheme, organised by the Secretary to the Group.
- Extraordinary meetings may be convened for discussion of specific topic.
- Actions and decisions to be recorded in the minutes by the Secretary to the Group.

**Reporting and Monitoring**

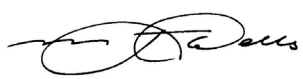
The Group will report to the Project Board.



## DOCUMENT CONTROL

**PROJECT:** TOWER OF LONDON  
**CLIENT:** HISTORIC ROYAL PALACES  
**REPORT TITLE:** NEW MOAT ACCESS RAMP AND ASSOCIATED LANDSCAPE:  
SCHEME DESIGN STAGE BIODIVERSITY NET GAIN REPORT  
**STATUS:** Rev 3.0\_issue

**PREPARED BY:**

<b>PRINT NAME</b> Dr Mike Wells	<b>POSITION</b> Director	<b>SIGNATURE</b> 
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**CHECKED BY:**

<b>PRINT NAME</b>	<b>POSITION</b>	<b>SIGNATURE</b>
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**APPROVED BY:**

<b>PRINT NAME</b>	<b>POSITION</b>	<b>SIGNATURE</b>
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### REVISIONS:

Rev No.	Comments	Date
0.1-0.8	INTERNAL	13/04/2025 – 06/05/2025
1.0_issue	For Design Team Review	07/05/2025
2.0_issue	For Design Team Review	18/05/2025
3.0_issue	For Design Team Review	01/07/2025

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