14 April, 2025

LEGIONELLA RISK ASSESSMENT

West Wimbledon Primary School

On behalf of: *West Wimbledon Primary School*

Carried out by: Mr. S. Wood. M.W.M.Soc. (Snr)

reef water solutions

EXECUTIVE SUMMARY

This legionella risk assessment has been undertaken in compliance with the requirements of the HSE's Approved Code of Practice (ACOP L8) to identify potential risks of exposure to legionella bacteria from work activities and water systems. This report quantifies the potential for a case or outbreak of legionnaires' disease or Legionellosis from the water systems present on this premises and provides recommendations for improvements to and on-going management of water systems. Having carried out an extensive survey of the water systems and gathered information on the use of the premises, the people present, and standards of knowledge and management of the risk by the organisation in control of the premises, our competent risk assessor has provided guidance on how to best minimise and control the risk and therefore ensure compliance with ACOP L8 and ultimately the statutory obligations of the Health & Safety at Work etc. Act 1974.

West Wimbledon Primary School is a two-form entry, community primary school with a nursery for children aged 3-11, and a base for children with autism.

This premises is not registered for healthcare under the Department of Health and therefore the Duty holder does not recognise the need to comply with the standards prescribed in the Department of Health's Health & Technical Memorandum HTM 04-01 Parts 1 and 2 as appropriate.

RWS Ltd Customer:	West Wimbledon Primary School
Statutory Duty holder:	Rosie Williamson Head Teacher
Site Name:	West Wimbledon Primary School
Site Address:	Bodnant Gardens, West Barnes Lane, Raines Park
RWS Risk Assessor(s):	Mr. S. Wood. M.W.M.Soc. (Snr)
Signature(s):	
Checked by (RWS):	Tracey Swash
Signature:	

Statement of Risk Assessor Competence:

Steve Wood is an accomplished City and Guilds Risk Assessor. He is a member of The Water Management Society and has a good understanding of the building services sector with over 30 years' experience in the Industry. He has training and experience in a wide variety of water hygiene disciplines, including water hygiene regime management; he has held various supervisory roles.

Certificates of training and competency assessments can be made available on request.

If any of the risk systems listed following are present on the premises but not included in this assessment, please contact your Reef Water Solutions representative for advice with completing the assessment. Fire suppression systems are not assessed as part of our standard survey and assessment.

Risk Systems Present:		Included in Assessment:
Open Evaporative Cooling	✗	No
Hot & Cold Water Services	✓	Yes
Dental Equipment	✗	No
Spa Pools inc hot tubs & whirlpool baths	✗	No
Other (non-specific) risk system	✗	No
Other non risk system	✗	No

As a result of a reasonably foreseeable risk of exposure being present from these systems, action should be taken in accordance with the recommendations contained in this report.

Where any of the above systems are present, is there evidence that the duty holder has given due consideration to preventing the risk by means of elimination or substitution prior to implementing control measures? Yes

Showers are capable of producing and disseminating aerosols that could, given the correct circumstances, lead to infection, however should the scheme of control be adopted and maintained correctly the risk should prove negligible, and removal or substitution is unrealistic and certainly unreasonable.

The risk assessment is a living document that must be reviewed to ensure it remains up-to-date. The suggested date for review given below is proportional to the level of risk identified during the assessment. In addition, it should also be reviewed when there is reason to suspect it is no longer valid, which may result from:

(a) changes to the water system or its use;

(b) changes to the use of the building in which the water system is installed;

(c) the availability of new information about risks or control measures;

(d) the results of checks indicating that control measures are no longer effective;

(e) changes to key personnel;

(f) a case of legionnaires' disease or legionellosis being associated with the system.

Date of Survey: 14 April, 2025

Review required by: Two Years

The methodology used in undertaking this risk assessment has been adapted from the British Standard BS8580-1:2019: Water Quality - Risk Assessments for Legionella Control - Code of Practice. During the survey of this premises, the risk assessor will have made various observations, inspected the water systems and taken measurements to assess system performance in order to understand the risk potential to the best of his or her ability. It must be noted however that access to all parts of the water systems may not have been possible for a variety of reasons and therefore the data contained within this report may not be exhaustive. Should new information about the water system come to light at a later occasion, the owner of this report should make suitable amendments, or if necessary, carry out a full review in accordance with the requirements of ACOP L8.

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Reef Water Solutions are registered with the Legionella Control Association for the provision of legionella risk assessments for all system types.

Please refer to our website for copies of the latest Legionella Control Association Code of Conduct for Service Providers and our Annual Certificate of Registration

SECTION 1 - HOW TO READ & USE THIS REPORT

This report is designed to be used primarily by those responsible for managing the risk, who should have a basic knowledge of legionella control as a very minimum. Where risks have been identified, this report provides guidance and recommendations to prevent, minimise and control the risk where reasonably practicable.

Where a risk exists in a system due to its type, location, use and other factors, the risk level shown will be regardless of any action taken to control it - this is known as the system's **inherent risk.** The subsequent level of risk that exists due to its design, maintenance and the scheme of control is known as the **residual risk.** Assessment of the risk is made on the assumption that the system will be inoculated at some point with legionella bacteria. The recommendations given in this report are intended to enable the duty holder to remove or replace work activities and systems or their component parts in order to minimise risks where possible, and implement a scheme to ensure risks are controlled on an on-going basis. The level that can be achieved, taking into account practicality and reasonable cost, is identified in this report by the **target residual risk**. Please refer to the section titled Risk Assessment Conclusion for the reported inherent and residual risks associated with this premises.

Risk assessment categories used in this report are derived from the principles of section 4 of the British Standard BS8580-1:2019 Water Quality - Risk Assessments for Legionella Control - A Code of Practice. This method enables each factor in the chain of events leading to a potential infection to be considered separately. In addition, the separation of risk factors gives more focus to the impact of corrective actions. These factors are listed below:

Contamination:
The potential for legionella bacteria to enter the water system, either at source or from ingress into the system elsewhere:

HIGH RISK	Uncontrolled source of water and/or parts of the system open to ingress of contaminants
MEDIUM RISK	Parts of the system may allow ingress of contaminants
LOW RISK	Ingress of contaminants highly unlikely under normal conditions

Amplification:
The conditions in and around the water system which support the growth of legionella bacteria and biofilm, including the temperature of water and the presence of nutrients and habitats which allow undisturbed growth, and stagnation in parts or all of the system.

HIGH RISK	Water temperatures between 20°C and 50°C; nutrients present; habitats for amplification; evidence of stagnation; contamination likely
MEDIUM RISK	Presence of nutrients likely; ingress of contaminants possible; temperatures questionable; suspected stagnation
LOW RISK	System clean and compliant with Water Regs, temperatures satisfactory and/or effective biocide control used

Transmission:
The generation of small droplets of water or aerosols which may be inhaled

HIGH RISK	Dissemination of water regularly from showers, spray nozzles and misting devices
MEDIUM RISK	Water is often sprayed and/or splashed from taps, hoses and other devices
LOW RISK	Limited transmission of water droplets

Exposure:
The proximity and quantity of people in relation to the source of the transmission of aerosols, and the environment in which exposure may occur:

HIGH RISK	Regular exposure to people within close proximity to transmission source
MEDIUM RISK	Exposure likely and/or common to low number of people
LOW RISK	Limited exposure potential due to prevention measures or proximity of transmission source

Host Susceptibility:
The susceptibility of the resident, working or visiting population to infection from legionella bacteria. Although everyone is at risk, resistance to infection is weakened with increasing age, or through underlying health conditions and treatment which compromises the immune system:

HIGH RISK	Persons over 60 years; people suffering from serious ill health or otherwise immunocompromised; neo-natal babies
MEDIUM RISK	Persons of reasonable health generally between 45yrs and 60yrs; smokers
LOW RISK	Persons of good health generally less than 45yrs old

Management Control:
The effectiveness of the management regime for controlling the risk, including the availability and quality of policy and arrangements; the appointment of competent Responsible Person, deputies and others; the knowledge of legionella risks where necessary; and the implementation of a control scheme that addresses all aspects of risk with sufficient records of all activity:

HIGH RISK	Little or no policy or arrangements in place; no Responsible Person appointed; no scheme of control
MEDIUM RISK	Ineffective arrangements, general lack of competence; ineffective or incomplete scheme of control
LOW RISK	Effective arrangements in place; good standards of competence, appointed Responsible Person and deputies; good scheme of control

ACOP L8 gives specific requirements for management of the risk to ensure compliance with health and safety law and effective implementation and maintenance of the scheme control. The recommendations for specific improvements and an on-going scheme of control are presented separately in this report as follows:

Recommended Corrective Actions (see Section 3):

Often called remediation works, corrective actions are generally intended to be undertaken as a one-off activity that will remove or minimise residual sources of risk, such that the recommended control measures can be effective. These works are commonly engineering improvements or cleaning activities that will enable the system to maintain the water contained within it free from sources and causes of contamination and able to control the growth of legionella bacteria.

Recommended Scheme of Control (see Section 4):

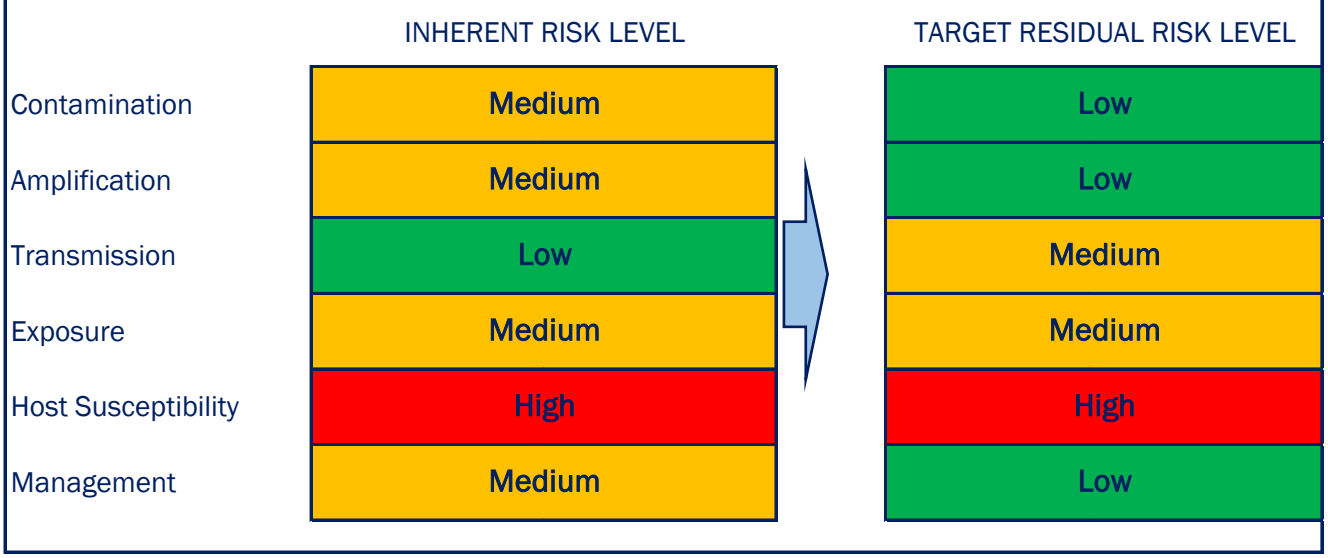
The scheme of control is determined by the level of inherent risk posed by the water system, and must not be confused with "written scheme". The scheme of control encompasses a set of control measures and a programme of inspection, testing, monitoring and maintenance designed to consistently control the growth of legionella bacteria and prevent exposure to water droplets which may be inhaled. The control measures recommended in this risk assessment will assume that all remedial works have been completed, therefore should there be any delay with completion of these, there may be good reason to enhance the monitoring regime including regular sampling for legionella.

In order to achieve the lowest possible residual risk, meet the minimum standards for legal compliance, and therefore ensure the greatest chance of avoiding a case or outbreak of Legionellosis or Legionnaires' Disease, the recommendations contained in this report should be complied with as a minimum.

SECTION 2 - RISK ASSESSMENT CONCLUSION

The recommendations contained in this report provide guidance on achieving the target residual risk levels identified above, please refer to the specific recommendations for remedial works and control measures contained in this risk assessment report.

Hot & Cold Water Services



In order to achieve the lowest possible residual risk, duty holders should aim to meet and where practicable, exceed the minimum standards for legal compliance; thereby ensuring the greatest chance of avoiding a case or outbreak of Legionellosis or Legionnaires' Disease.

SECTION 3 - CORRECTIVE ACTIONS & CONCERNS

The following recommended actions must be undertaken by competent persons with sound knowledge of the requirements for legionella control, in order to ensure the work is carried out safely and effectively, and with the desired outcome. Failure to undertake any of these recommendations is likely to affect the ability of the system to control the risk of infection using the identified control measures. Where the temperature of hot water is increased at the outlets, there may be an increased risk of scalding. An assessment of the risk of scalding should therefore be undertaken and consideration given to fitting suitable thermostatic controls at the point of use where necessary.

Action Required:	Applies to:	Priority:	Action Complete:
Whole Property			
Management Actions	Corrective Actions		
Ensure management protocols and a suitable scheme of control is in place as detailed in Section Five paying particular attention to areas highlighted in red.		MEDIUM	
Hot & Cold Water Services			
Calorifier/Cylinder >15 litres	Corrective Actions		
Improve access to and around tank for inspection and maintenance.	Cal Calorifier 8, 9 And 10	MEDIUM	
Insulate exposed areas of pipe to reduce the impact of heat from the environment.	All Accessible Pipe Work As Required	LOW	
Label pipework clearly to aid maintenance and inspection.	All Accessible Pipe Work As Required	LOW	
Increase temperature of stored water in accordance with the control measures.	Calorifiers 1, 2, 5, 6, 8, And 11 1	MEDIUM	
Insulate exposed areas of pipe to reduce loss of heat.	All Accessible Pipe Work As Required	LOW	
Reposition pressure vessel - inlet/outlet should be at the bottom to avoid creating a sump.	Calorifiers 4 And 11	MEDIUM	
Ensure recirculated hot water reaches 50°C or above in accordance with the control measures.	Calorifiers 1, 2 And 3	MEDIUM	

Action Required:	Applies to:	Priority:	Action Complete:
Low Volume Water Heaters <15 litres	Corrective Actions		
Reposition pressure vessel - inlet/outlet should be at the bottom to avoid creating a sump.	LVWH 1, 2 And 4	MEDIUM	
Increase temperature of stored water in accordance with the control measures.	LVWH 2 And 5	MEDIUM	
Combination (Fortic) Water Heaters	Corrective Actions		
Continue to monitor water quality.	CH 1	ON-GOING	
Cold Water Storage Tanks	Corrective Actions		
Provide safe means of access to internal surfaces of tank to enable cleaning and maintenance. This may involve some structural work, refer to Water Supply (Water Fittings) Regulations 1999 for advice.	All Cold Water Storage Tanks	MEDIUM	
Continue to monitor water quality.	All Cold Water Storage Tanks	ON-GOING	
Domestic Water Outlets	Corrective Actions		
Carry out in-service testing, including measuring and recording feed and mixed temperatures, checking non-return valves, removal and cleaning of any strainers, fail-safe testing and report on asset condition.	All Thermostatic Mixing Valves	ON-GOING	
Improve hot water circulation to deliver at >50°C within 1 minute.	Refer to Outlets Sheet	MEDIUM	
Measure and record the temperature of sentinel outlets on a monthly basis. Water should reach 50°C (55°C in healthcare premises) within a minute of running the outlet.	All Sentinel Outlets	ON-GOING	
Measure and record the temperature of sentinel outlets on a monthly basis. Water should remain below 20°C at all times.	All Sentinel Outlets	ON-GOING	

Action Required:	Applies to:	Priority:	Action Complete:
Take necessary action to ensure correct outlet temperature levels are maintained.	Refer to Outlets Sheet	MEDIUM	
Check source and distribution of cold water for sources of heat.	Refer to Outlets Sheet	MEDIUM	
Consider removal of outlet if no longer required, flush regularly until removed.	Disused showers	MEDIUM	
Carry out scalding risk assessment to determine the need for TMVs.	Refer to Outlets Sheet	MEDIUM	
Domestic Outlet Matters of Concern	Corrective Actions		
Check Spray Nozzles, Flow Straighteners, Spray Heads , and Tap Strainers, and if required clean, descale and disinfect.	All Outlets As Required	ON-GOING	
Replace cartridge filters in accordance with manufacture's guidance - typically every 6 months.	All Cartridge Filters	ON-GOING	
Hot & Cold Water Services	Matters of Concern		
Scheme of Control		MEDIUM	
Site			
All of the individuals and organisations appointed to manage the risk of exposure to legionella should be identified. Responsibilities should be clearly defined and lines of communication properly established. Management details and communication procedures should be regularly reviewed to ensure that they remain up to date. Control Of Substances Hazardous to Health Regulations 2002 (as amended) HSE L8 Control of Legionella Bacteria in Water Systems A suitable written scheme for controlling the risk from exposure to legionella was not available for inspection during this assessment. A written scheme for controlling the risk from exposure to legionella should be drawn up and implemented. The written scheme for control should include: 1) An up-to-date schematic, including parts that are temporarily out of use 2) A description of the correct and safe operation of the system 3) The precautions to be taken (e.g. - a ppm schedule) 4) Checks to be carried out and their frequency 5) Remedial action to be taken in the event that the scheme is shown not to be effective Control Of Substances Hazardous to Health Regulations 2002 (as amended) HSE L8 Control of Legionella Bacteria in Water Systems			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Capped pipe on roof		MEDIUM	
Dead leg A capped pipe was noted on the roof. This appears to be a former down service pipe. This will form a dead leg on the associated service. All dead legs have the potential to harbour bacteria.			
Remove All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded. This is of particular importance due to the pipe work material, as mentioned above.			
			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Pipe work and materials		MEDIUM	
Much of the pipe noted on site is of galvanized steel. This material is prone to deteriorate with age, with corrosion deposits providing a nutrient source for bacteria and creating a habitat favouring the proliferation of bacteria. The poor internal surfaces can be colonised by bacteria which then form a biofilm and can be difficult to remove by disinfection.			
Regular flushing and sampling will help to minimise a potential contamination risk. A programme of refurbishment, in conjunction with removing redundant services may be advisable, particularly if sampling results indicate poor conditions. Discoloured water was seen at several outlets across site.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
CWST drains		ON-GOING	
It should be noted that drains have been installed on the tank bases that provide a useful facility. An isolation valve has been installed under the tank, close to the connection, but there is still a small dead leg existing.			
All dead legs, however small have the potential to harbour bacteria. Regular flushing of this for a few seconds weekly will reduce the risk from dead leg effects and may also help to reduce sediment levels. All actions should be recorded.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Feed and Expansion Tank		LOW	
Some water supplies are, by their very nature, seldom used. The mains cold water feed to the LTHW should be rarely used providing the system is operating satisfactorily			
In such cases, it is recommended that some form of backflow protection is fitted as close as possible to the normally active supply to reduce any dead leg effects.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Capped pipe		MEDIUM	
A capped pipe was noted in the tank room on the down service from CWST 1&2. This will create a dead leg on the associated pipe work. All dead legs have the potential to harbour bacteria.			
All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Outside bib taps Bib taps are often subject to seasonal variation in use. As such they should be included in a flushing and monitoring regime, or a suitable backflow prevention should be installed at the base of the branch serving the outlet. Where hoses are attached & coiled, care should be taken to not generate spray as the hose may have lain dormant for some time increasing the risk of bacteria build-up.		ON-GOING	

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Tank Capacity and Balance		ON-GOING	
A film was noted on the tank sides at the waterline. This suggests a low turnover of water and/or that one tank of each pair is taking most of the demand. At the time of our survey it was noted that only tank of each pair was engaging.			
Often with two or more tanks one will engage before the other with the second tank only engaging during high demand, if at all. Careful monitoring and balancing of the tank is recommended. An enhanced flushing programme should be enacted during the school holidays, particularly in the summer.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Loft tank room vent A capped branch was noted in the RH tank loft, possibly for venting the system. This will form a dead leg on the associated pipe work, with the potential to harbour bacteria. All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded. Alternatively, the branch should be flushed through at least weekly, with all actions recorded.		MEDIUM	

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
RH loft dead leg		MEDIUM	
Dead legs were noted on the down service and on the tank outlet manifold in the RH tank loft. The dead legs have the potential to harbour bacteria.			
All dead legs, however small have the potential to harbour bacteria. If removal of the dead legs in impractical, then flushing should be carried out at least weekly.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Connected equipment A potato peeler is connected to a bib tap in the main kitchen. All connected equipment and appliances should have adequate backflow protection, either in the appliance itself, or the connection point. It should be ensured that all outlets with connected equipment are not left idle, they should be flushed through regularly.		MEDIUM	

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Filters conditioners		ON-GOING	
Filters/conditioners were noted on site in the main kitchen.			
The very purpose of these is to trap debris, which can provide a harbour and nutrient source for bacteria proliferation. Filters and conditioners should be checked regularly and cleaned/serviced or replaced according to manufacturer's instructions. All actions should be recorded in the site log book.			
			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Capped pipes in kitchen		MEDIUM	
Capped pipe were noted in the main kitchen. These will create dead legs on the associated pipe work, with the potential to harbour bacteria.			
All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Strainers		ON-GOING	
Strainers Were noted on the supplies to the integrated thermostatic taps and in the main kitchen. Filters and strainers are designed to trap debris, which can then provide a harbour and nutrient source for bacteria.			
All strainers should be checked and cleaned regularly according to the rate of fouling. All actions should be recorded.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Thermostatic Mixing Valves Access		ON-GOING	
The majority of DHWS outlets on site are regulated via Thermostatic Mixing Valves. Many of the TMVs are concealed. Some T.M.V.s do not have local isolation. Valves are required to enable servicing and safety checks.			
Adequate access is required for temperature monitoring, servicing and cleaning of the units. Regular servicing and safety checks of TMV's will ensure that safety is maintained, as well as removing the build-up of scale, as this may reduce flow capacity.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Pressure Reducing Valves Pressure reducing valves were noted on site. All Pressure reducing valves require an annual service. It should be ensured that the correct valve layout is in place to allow for these ongoing maintenance works. All actions should be recorded in the site log.		ON-GOING	

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Missing insulation and labelling.		LOW	
It was noted that much of the pipe work across site was not insulated or labelled.			
Insulation will aid in maintaining appropriate temperature by minimising heat loss/transfer and heat gain from ambient conditions. Annual checks should be carried out to ensure all areas are insulated and labelled.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Little Use Shower		MEDIUM	
Showers naturally create aerosols & they are considered a high risk for Legionnaires' disease. The head was removed from the shower in Female toilets 14 at the time of our survey. We were advised on site that the outlet is little used.			
Regular checks, cleaning and flushing are essential to reduce the risk to the next user; as the initial opening of the outlet may release a large amount of stagnant water. All actions should be recorded in the site log. If the outlet is deemed redundant the pipe work should be cut back to the active system.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Strainers		ON-GOING	
Strainers Were noted in the first aid room. Filters and strainers are designed to trap debris, which can then provide a harbour and nutrient source for bacteria.			
All strainers should be checked and cleaned regularly according to the rate of fouling. All actions should be recorded.			
			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Capped pipe		MEDIUM	
A capped pipe was noted in the first aid room under the sink. This will create a dead leg on the associated service, with the potential to harbour bacteria.			
All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded.			

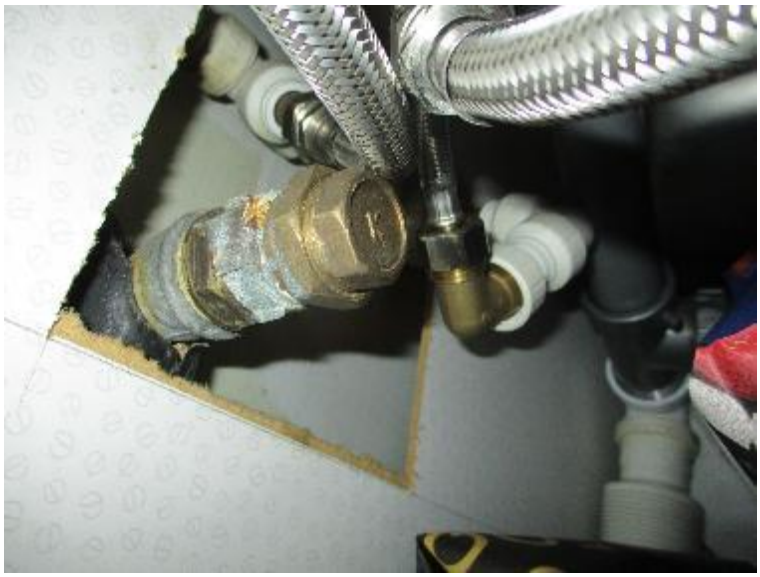
Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Shower Block Disused Outlets		MEDIUM	
The "Shower Block" showers are not used and the area is used for storage. There are showers and basins in the area. This will create substantial dead legs on the associated systems, with the potential to harbour bacteria.			
All redundant pipe work should be cut back to the active system, with all actions recorded.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Capped pipe and Bib Tap		MEDIUM	
A capped pipe and a bib tap were noted outside the adult toilet, adjacent the disused showers. These will create dead legs, with the potential to harbour bacteria.			
The bib tap should be included in a flushing regime. The capped pipe should be cut back to the active system. If the bib tap is deemed redundant, it to should be removed back to the active system. All actions should be recorded.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Poor MCWS flow		MEDIUM	
Poor flow was noted from the cold water service outlet in Room 13 day care. This will create a lesser dead leg effect, as the pipe work will not be flushed through in normal use. Additionally the outlet may be shunned in favour of anther.			
The flow deficiency should be investigated and rectified as soon as possible. All actions should be recorded in the site log book.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Poor flow		MEDIUM	
Poor flow was noted from the outlets in Male toilet 14e. This will create a lesser dead leg effect, as the pipe work will not be flushed through in normal use. Additionally the outlets may be shunned in favour of anther.			
The flow deficiency should be investigated and rectified as soon as possible. All actions should be recorded in the site log book.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Capped pipe Staff Room		MEDIUM	
A capped pipe was noted in the staff room on the first under the sink. This will create a dead leg on the associated service, with the potential to harbour bacteria.			
All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded.			



Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Drinks Vending Machines		ON-GOING	
Drinks vending machines, producing boiling and chilled water, are installed in the On Site..			
The machines should be serviced and maintained according to the manufacturer's instructions, with all actions recorded.			

Hot & Cold Water Services	Matters of Concern		
Capped pipe		MEDIUM	
A capped pipe was noted in the cleaners cupboard in cleaners in female toilet 76 on the first floor. This will create a dead leg on the associated service, with the potential to harbour bacteria.			
All dead legs and redundant pipe work should be removed back to the active system, with all actions recorded.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
Classroom 71		MEDIUM	
At the time of our survey, the outlets in classroom 76 were out of use. This will create a dead leg on the associated services, with the potential to harbour bacteria.			
The reason for the outlets being out of use should be rectified as soon as possible and the outlets flushed through. All actions should be recorded in the site log book. Alternatively, if deemed redundant, the pipe work should be cut back to that active system.			

Action Required:	Applies to:	Priority:	Action Complete:
Hot & Cold Water Services	Matters of Concern		
School Holidays		ON-GOING	
Naturally, there is an issue of holiday periods for educational establishments, when care should be taken to avoid prolonged periods when stagnated water could become an issue with the long summer holiday a particular concern.			
There will be an increased risk to the reduced number of users (if any) during the summer break, particularly from higher risk outlets such as any showers or spray taps. An enhanced flushing schedule should be in place for holiday periods to ensure all outlets are thoroughly flushed through to avoid potential contamination, particularly in the summer period when high ambient temperatures can be expected.			
Subsequently, an annual clean and disinfection of the Cold Water Storage Tanks and associated systems should be considered. A good time for this to happen would be the week prior to the new term which should significantly reduce the risk to the next user			

Action Required:	Applies to:	Priority:	Action Complete:
Summary	Corrective Actions		
It should be noted that the majority of the corrective actions recommended above were noted on previous reports. There is no record of any remedial actions, nor of any enhanced monitoring actions such as increased sampling, flushing etc. If the faults cannot be completed in a reasonable time frame, the monitoring regime should be enhanced to ensure the risk is under control, but the remedial actions should still be carried out as soon as practicable. As with all actions and enhanced monitoring, a plan for rectifying problems should be recorded.		MEDIUM	

Following any significant maintenance or installation work on the water systems, all pipework and fittings must be disinfected in accordance with current approved codes, guidelines etc such as ACOP L8 Pts 1 – 3, PD855468-2015 etc . (used to be BS8558 2015)

Key	
Non-compliances/faults noted that do not inherently create a high risk issue in isolation but require addressing. Action within 1 year.	LOW
Non-compliances/faults noted that have the potential to create high risk. Action within 3 months.	MEDIUM
Evidence of poor conditions/operation at time of survey. Immediate action required.	HIGH
On-going (part of scheme of control or external regime). Implement / upgrade as necessary.	ON-GOING

SECTION 4 - RECOMMENDED SCHEME OF CONTROL

The following recommendations should be undertaken by suitably competent persons and in accordance with the recommendations given in ACOP L8 and HSG274. It is essential that records of all tests, inspections and other work undertaken must be kept throughout the period they are current, and for a minimum of 5 years afterwards. Where the control measures fail to maintain the specified requirements, the Responsible Person must ensure that appropriate investigation and corrective action is taken to minimise any subsequent risk.

The effectiveness of this scheme of control depends entirely on the recommended corrective actions contained in this report being completed to a desirable standard. If these works have not been undertaken, additional controls, such as weekly sampling for legionella, should be undertaken as a precautionary measure.

Mains Cold Water Services (MCWS)	Frequency:
Check water temperatures at sentinel outlets.	Monthly
Check water temperatures at a representative selection of outlets on a rotational basis to create a temperature profile of the whole system.	Monthly
Remove scale and clean cold water outlets regularly in accordance with the rate of fouling.	3-Monthly or as required
Check water temperature at mains fed outlets remote from incoming service pipe to identify any local heat gain.	6-Monthly
Take samples of water from representative outlets and analyse for contamination indicator organisms and legionella to verify the effectiveness of control measures.	6-Monthly
Check thermal insulation periodically to ensure it is intact; consider weather proofing where components are exposed to the environment.	Annually
Hot Water Services (DHWS)	Frequency:
Check water temperatures at sentinel outlets & returns of principal routes of recirculating systems - water should exceed 50°C at all times.	Monthly
Check water temperatures at a representative selection of outlets on a rotational basis to create a temperature profile of the whole system.	Monthly
Check water temperatures at subordinate and tertiary loops of recirculating systems - water should exceed 50°C at all times.	3-Monthly
Remove scale and clean hot water outlets regularly in accordance with the rate of fouling.	3-Monthly or as required
Take samples of water from representative outlets and analyse for contamination indicator organisms and legionella to verify the effectiveness of control measures.	6-Monthly
Check thermal insulation periodically to ensure it is intact; consider weather proofing where components are exposed to the environment.	Annually

Calorifier/Cylinder >15 litres	Frequency:
Alternate the duty of recirculation pumps to avoid stagnation in standby pipework and fittings	Weekly
Measure and record the temperature of water at the flow and return (if fitted), and a mid-point of the vessel on a monthly basis to check for stratification.	Monthly
Check water temperature exceeds 50°C on a monthly basis at the return to the calorifier (test at pipe surface)	Monthly
Check flow temperatures - water should be stored as close to 60°C as practicable without going below 60°C.	Monthly
Inspect internally and clean by draining and removing inspection hatch on an annual basis, or more often if conditions require	Annually
Where internal inspection is not possible, purge to drain, inspecting initial flush for clarity, recording water temperature	Annually
Take a sample of drain water and analyse for contamination indicator organisms and legionella (6 months from annual internal inspection)	Annually
Drain, descale and inspect internal surfaces on an annual basis. Disinfect chemically before, or thermally after refilling.	Annually
Where practical, flush through and purge to drain at least annually. Diaphragms should be changed in accordance with manufacturer's guidance.	Annually
Low Volume Water Heaters <15 litres	Frequency:
Check water temperature at spout or nearest outlet to establish if stored water is between 50°C and 60°C	3-Monthly
Combination (Fortic) Water Heaters	Frequency:
Check water temperature at nearest outlet reaches 60°C within a minute, indicating storage temperature of at least 60°C	Monthly
Check water temperature at sentinel outlets of non-recirculating systems (nearest, furthest & ends of long branches) - water must reach 50°C within 1 minute of running	Monthly
Inspect integral cold water storage vessel for cleanliness and evidence of hot water overflow	Annually
POUWH	Frequency:
Check to ensure water heater spout and spray device (if fitted) is clean and free from blockages. Temperature test as a cold water outlet only.	3-Monthly
Cold Water Storage Tanks	Frequency:
Check the temperature of stored water (remote from the ball-valve) and incoming mains water at the ball-valve remains below 20oC	6-Monthly
Take a sample of stored water from bulk storage tanks for grey water and fires suppression systems and analyse for legionella bacteria	6-Monthly
Inspect tanks for security of fittings, general internal and external condition and cleanliness of the stored water	Annually

Tank Supplied Cold Water Services (DCWS or BCWS if pumped)	Frequency:
Check water temperatures at sentinel taps do not exceed 20°C within 2 mins. Observe temperature during flushing to identify any local heat gain.	Monthly
Check water temperatures at a representative selection of outlets on a rotational basis to create a temperature profile of the whole system.	Monthly
Remove scale and clean cold water outlets regularly in accordance with the rate of fouling.	3-Monthly or as required
Take samples of water from representative outlets and analyse for contamination indicator organisms and legionella to verify the effectiveness of control measures.	6-Monthly
Take samples of water for microbiological analysis (coliforms & e-coli) from tank supplied outlets designated for drinking.	6-Monthly
Check thermal insulation periodically to ensure it is intact; consider weather proofing where components are exposed to the environment.	Annually
Showers & Spray Taps	Frequency:
Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted.	3-Monthly
Infrequently Used Outlets & Connected Equipment (i.e. used < 7 days)	Frequency:
Flush outlets until temperature stabilises and is comparable to the supply water and purge to drain on a weekly basis.	Weekly
Thermostatic Mixing Valves (TMV) & Integrated TMV Taps	Frequency:
Carry out in-service testing of TMVs to check for safe operation and identify any deterioration in performance.	6-Monthly
Inspect, clean, descale and disinfect any associated strainers or filters, taking into account manufacturer's recommendations.	Annually

Grey water Recycling Systems:

Ensure grey water systems and treatment plant are inspected and serviced in accordance with manufacturer's guidance.

Fire Suppression Systems:

Ensure fire suppression system is maintained in accordance with manufacturer's guidelines. Minimise the risk of inhalation of aerosols when carrying out testing of sprinklers.

Closed Water Systems:

Closed systems are often overlooked in the management of risks from legionella, due to the very low frequency of release of water as water droplets or aerosols, and the limitation of exposure to a susceptible population when this occurs. Also, micro-organisms are unlikely to thrive in closed systems during normal operation due to low temperature in cooling systems and high temperatures in heating systems. During their respective off-seasons however, temperatures and the environment within these systems (including corrosion products and potential dead-legs) will be suitable for microbiological growth. Those carrying out maintenance of the systems must take adequate precautions to avoid the creation of water droplets or aerosols when venting, opening and draining systems.

General Recommendations

Where parts or all of the system are not used in accordance with design or "normal use" then a programme of flushing should be initiated until normal service use is returned. As an alternative for extended periods of time, systems can be drained down and isolated from service. When this takes place, disinfection and flushing of the system should take place by a competent person before use of the system is permitted.

SECTION 5 - ASSESSMENT OF MANAGEMENT CONTROLS

	DETAILS	ACTION?
Does the organisation have a written policy for the control of legionella, or is it included in another policy such as Health & Safety?	No evidence	✓
Does the organisation have a set of arrangements or procedures that determine how the risk of legionella will be managed and controlled?	Yes	
Are control measures for all risk systems clearly defined?	Yes	
Are all tasks required to monitor the control measures and their frequencies clearly defined?	Some, but not all	✓
Are there procedures for periods of little or no-use of the premises or water systems?	Yes but need improving	✓
Are there procedures for out-of-specification results and/or emergencies?	In-part, but needs improvement	✓
Are all roles and responsibilities critical to the control of legionella clearly defined and documented?	Appointments are limited and/or not recorded	✓
Has a Responsible Person been formally appointed? To be formal the appointment must be in writing and accepted by the appointee.	Yes, but not documented	✓
Responsible Person's name and job title:	No Information	
The Responsible Person (RP) should have received training over and above awareness to suit their roles and within the last 5 years as a minimum.	No evidence or records available	✓
Is there effective communication between the Duty Holder, responsible Person, and when applicable, the Water Safety Person?	N/A	
Describe communication between the Duty Holder, responsible Person, and when applicable, the Water Safety Person	N/A	
Has a deputy Responsible Person been nominated to cover periods of absence?	No	✓
Deputy Responsible Person's name and job title:	N/A	
The Deputy Person (DP) should have received training over and above awareness to suit their roles and within the last 5 years as a minimum.	N/A	
Are duties allocated to in-house staff?	Yes	

Are in-house staff appropriately trained & assessed for the duties they undertake?	Yes	
Are duties allocated to external contractors?	Yes	
Are external contractors members of the Legionella Control Association (LCA)?	Yes	
Is the competence of contractor staff assessed regularly?	Yes	
Is an external/independent auditor appointed to audit compliance regularly?	No	✓
Other observations or concerns		
Is there a previous legionella risk assessment?	Yes	
Was the previous risk assessment suitable and sufficient?	Yes	
Is there evidence that the risk assessment was undertaken by a competent person?	Yes	
Have all actions identified in the previous risk assessment been followed up?	Not all actions completed	
Has a programme of testing, inspecting and maintenance been implemented in accordance with the risk assessment?	Yes	
Are records of all tasks kept up-to-date?	Yes	
Is there evidence that problems with control measures have been identified, reported and recorded?	Not all clearly identified and/or recorded	✓
Is there evidence that appropriate corrective action has been undertaken?	N/A	
Is the current scheme of control adequate to control the risk?	Yes	
Risk Assessment Review Date?	Two Years	
Other observations or concerns		

Important Actions Required:

- ☑ A document should be produced to state the organisation's policy for controlling the risk of legionella in water systems and compliance with associated law.
- ☑ All control scheme tasks and frequencies should be clearly recorded.
- ☑ Procedures for managing the risk during periods when the system is not used as normal and the control measures will not be sufficient should be documented.
- ☑ Procedures for recording and acting upon out-of-specification results or other matters that affect control of the risks should be clearly documented.
- ☑ The Responsible Person and others involved in the scheme should be formally appointed in writing.
- ☑ The appointment of the Responsible Person should be clearly documented.
- ☑ Ensure the appointed responsible person receives appropriate training in accordance with the risk systems present and the scheme of control, and records are always available.
- ☑ At least one competent person must be nominated to cover the appointed Responsible Person during periods of absence.
- ☑ Independent auditing is a highly valuable way of checking standards of compliance and the standard of service provided by those carrying out risk control duties.
- ☑ Implement a system for recording out of specification results and any corrective action taken.

SECTION 6 - DOMESTIC WATER SYSTEM SUMMARY

The Mains Cold Water enters the building and feeds the dedicated drinking outlets. It then rises to feed Four Cold Water Storage Tanks. Two are in a roof housing to the left of the site, and two in the loft to the right of the site, as viewed from the front. There are two calorifiers in the plant room, and a single calorifier in the Deputy Heads Office. There are a further seven smaller calorifiers (30-75l) around the site serving local outlets. There are also three Low Volume Water Heaters and two Point Of Use instant water heaters. There is a small calorifier in the external building.

Location of water supply isolation valve: Not found

Location of primary water supply meter: Not found

	Y/N	OBSERVATION	ACTION?
Are schematic or other suitable drawings readily available?	No		✓
Has a new set of schematic drawings been provided with this assessment?	Yes		
Are there seasonal variations in any of the water systems, e.g. School Holidays?	Yes	School	✓
Are any of the water systems used less than weekly?	Yes	Several little used outlets	✓
Is the water supply direct from a wholesome source?	Yes		
Is there evidence of scale from hard water?	Yes		✓
Is sampling for legionella and/or other microbiology being undertaken?	Yes		
Does any pre-treatment plant exist, such as UV / RO / Filtration exist?	No		

Primary Domestic Water System Assets Present:

Cold Water Storage Tanks	4
Calorifier/Cylinder >15 litres	11
Low Volume Water Heaters <15 litres	5
Combination (Fortic) Water Heaters	1
POUWH	2
TMV Mixers or TMV Taps	27
Bib Taps	4
Showers	5
Spray Taps	1
Basins/Sinks	85
Dishwashers	2
Washing Machines	1
Drinks Vending Machines	1

(SECTION 6) CALORIFIER/CYLINDER >15 LITRES

Asset Reference	Cal 1	
	DETAIL	ACTION?
Location	Boiler room	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	300l	
Primary / supplementary heat source(s)	Gas	
Cold water source	MCWS	
Cold water supply pipe size & material	35mm copper	
Cold supply pipe sufficiently insulated	Yes	
Cold supply pipe labelled	Yes	
Water temperature at flow/nearest outlet	55	
Temperature within acceptable limits	No	✓
Flow pipe size & material	35mm copper	
Flow pipe sufficiently insulated	Yes	
Flow pipe labelled	Yes	
Recirculation pump(s) fitted	Yes	
Return water temperature (at pipe surface)	38	
Return temperature within acceptable limits	No	✓
Return pipe size & material	22mm copper	
Return pipe sufficiently insulated	Yes	
Return pipe labelled	Yes	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	Yes	
Inspection hatch size	150mm	
Drain valve fitted	Yes	
Drain water condition	Clear	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	Yes	
Other observations or concerns		

Boiler room

General View

Asset Reference	Cal 2	
	DETAIL	ACTION?
Location	Boiler room	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	300l	
Primary / supplementary heat source(s)	Gas	
Cold water source	MCWS	
Cold water supply pipe size & material	35mm copper	
Cold supply pipe sufficiently insulated	Yes	
Cold supply pipe labelled	Yes	
Water temperature at flow/nearest outlet	55	
Temperature within acceptable limits	No	✓
Flow pipe size & material	35mm copper	
Flow pipe sufficiently insulated	Yes	
Flow pipe labelled	Yes	
Recirculation pump(s) fitted	Yes	
Return water temperature (at pipe surface)	38	
Return temperature within acceptable limits	No	✓
Return pipe size & material	22mm copper	
Return pipe sufficiently insulated	Yes	
Return pipe labelled	Yes	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	Yes	
Inspection hatch size	150mm	
Drain valve fitted	Yes	
Drain water condition	Clear	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	Yes	
Other observations or concerns		

Boiler room

General View

Asset Reference	Cal 3	
	DETAIL	ACTION?
Location	Office cupboard	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	190mm	
Primary / supplementary heat source(s)	Immersion	
Cold water source	CWDS	
Cold water supply pipe size & material	¾" galvanised	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	60	
Temperature within acceptable limits	Yes	
Flow pipe size & material	¾" galvanised	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	Yes	
Return water temperature (at pipe surface)	20	
Return temperature within acceptable limits	No	✓
Return pipe size & material	¾" galvanised	
Return pipe sufficiently insulated	No	✓
Return pipe labelled	No	✓
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	Yes	
Drain water condition	Clear	
Is a pressure vessel fitted?	No	
Other observations or concerns		

Office cupboard

General View

Asset Reference	Cal 4	
	DETAIL	ACTION?
Location	Pupils Toilet Albatross	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	30	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	60	
Temperature within acceptable limits	Yes	
Flow pipe size & material	15mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	No	✓
Other observations or concerns		

Pupils Toilet Albatross

General View

Asset Reference	Cal 5	
	DETAIL	ACTION?
Location	First Aid	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	30	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	42	
Temperature within acceptable limits	No	✓
Flow pipe size & material	15mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	Yes	
Other observations or concerns		

First Aid

General View

Asset Reference	Cal 6	
	DETAIL	ACTION?
Location	Office 12	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	30	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	33	
Temperature within acceptable limits	No	✓
Flow pipe size & material	15mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	Yes	
Other observations or concerns		

Office 12 General View

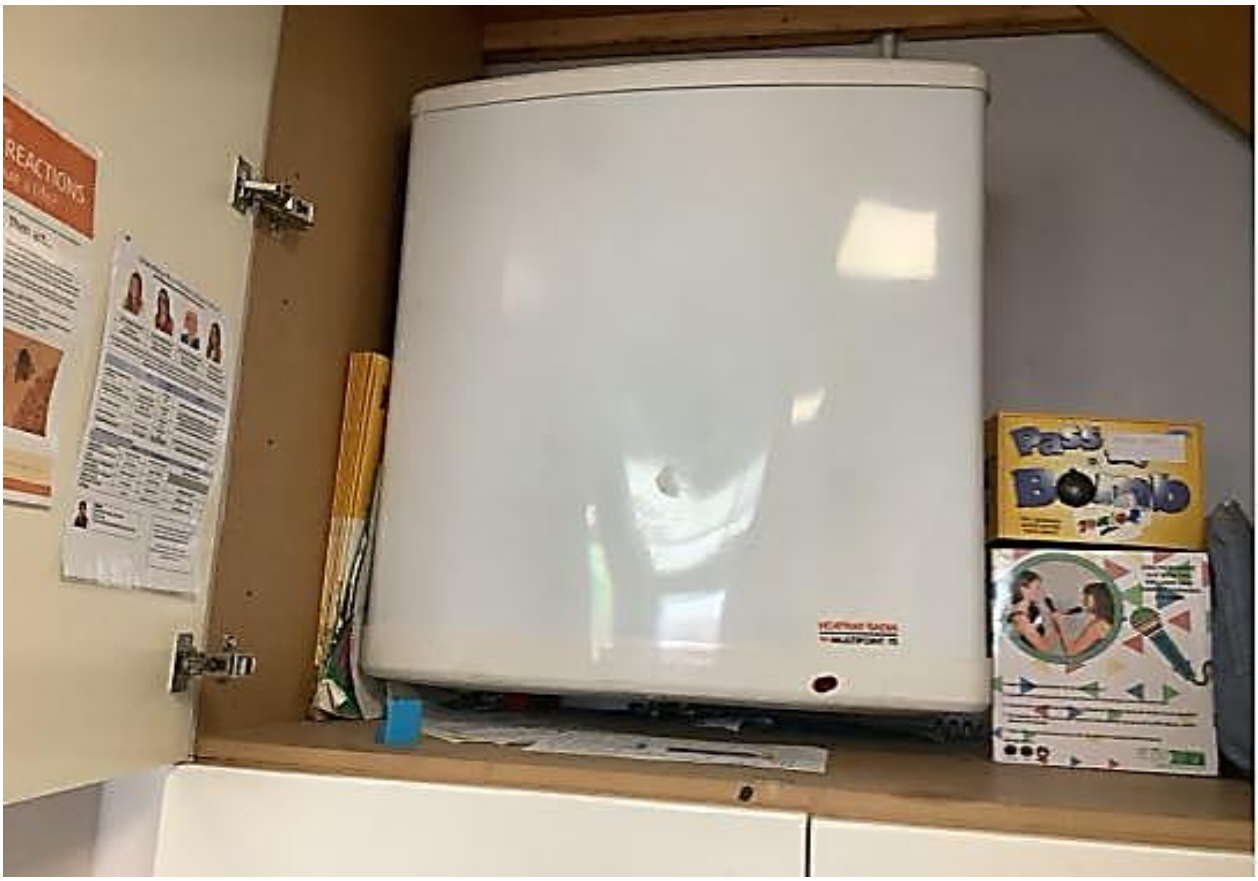
Asset Reference	Cal 7	
	DETAIL	ACTION?
Location	Classroom 10	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	30	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	60	
Temperature within acceptable limits	Yes	
Flow pipe size & material	15mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	Yes	
Other observations or concerns		

Classroom 10 General View

Asset Reference	Cal 8	
	DETAIL	ACTION?
Location	Room 20 Cupboard	
Services fed	DHWS	
Access for inspection and maintenance	Poor	✓
Volume/Capacity (litres)?	75l	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	54	
Temperature within acceptable limits	No	✓
Flow pipe size & material	15mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	Yes	
Other observations or concerns		

Room 20 Cupboard

General View



Asset Reference	Cal 9	
	DETAIL	ACTION?
Location	Female toilets 68	
Services fed	DHWS	
Access for inspection and maintenance	Poor	✓
Volume/Capacity (litres)?	50l	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	60	
Temperature within acceptable limits	Yes	
Flow pipe size & material	22mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	No	
Other observations or concerns		

Female toilets 68

General View

Asset Reference	Cal 10	
	DETAIL	ACTION?
Location	Male toilets 67	
Services fed	DHWS	
Access for inspection and maintenance	Poor	✓
Volume/Capacity (litres)?	50l	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	No Access	
Temperature within acceptable limits	No Access	
Flow pipe size & material	22mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	No	
Other observations or concerns		

Male toilets 67

General View

Asset Reference	Cal 11	
	DETAIL	ACTION?
Location	External building store	
Services fed	DHWS	
Access for inspection and maintenance	Good	
Volume/Capacity (litres)?	50l	
Primary / supplementary heat source(s)	Immersion	
Cold water source	MCWS	
Cold water supply pipe size & material	15mm copper	
Cold supply pipe sufficiently insulated	No	✓
Cold supply pipe labelled	No	✓
Water temperature at flow/nearest outlet	57	
Temperature within acceptable limits	No	✓
Flow pipe size & material	22mm copper	
Flow pipe sufficiently insulated	No	✓
Flow pipe labelled	No	✓
Recirculation pump(s) fitted	No	
Is calorifier/cylinder sufficiently insulated?	Yes	
Is an anti-stratification pump fitted to the vessel?	No	
Is there evidence of stratification in vessel?	No	
Is an inspection hatch fitted?	No	✓
Drain valve fitted	No	
Is a pressure vessel fitted?	Yes	
Pressure vessel correctly aligned	No	✓
Other observations or concerns		

External building store

General View

(SECTION 6) LOW VOLUME WATER HEATERS <15 LITRES

Asset Reference	LVWH 1	
	DETAIL	ACTION?
Location	Classroom 27	
Services fed	DHWS	
Does heater supply multiple outlets?	No	
Access is required for inspection, maintenance and testing	Good	
Nominal storage volume	10l	
Stored water temperature (°C)	60	
Temperature within acceptable limits	Yes	
Used daily	Yes	
Cold water source	MCWS	
Cold supply pipe size & material	15mm copper	
Cold supply pipe insulated	No	✓
Integral TMV fitted	No	
Flow/outlet type	Piped to taps	
Flow pipe size & material	15mm copper	
Flow pipe insulated	No	✓
Is a pressure vessel fitted?	Yes	
Is pressure vessel correctly aligned?	No	✓
Other observations or concerns		

Classroom 27

General View of LVWH

Asset Reference	LVWH 2	
	DETAIL	ACTION?
Location	Staff room	
Services fed	DHWS	
Does heater supply multiple outlets?	No	
Access is required for inspection, maintenance and testing	Good	
Nominal storage volume	10l	
Stored water temperature (°C)	30	
Temperature within acceptable limits	No	✓
Used daily	Yes	
Cold water source	MCWS	
Cold supply pipe size & material	15mm flexible	
Cold supply pipe insulated	No	✓
Integral TMV fitted	No	
Flow/outlet type	Piped to taps	
Flow pipe size & material	15mm flexible	
Flow pipe insulated	No	✓
Is a pressure vessel fitted?	No	
Other observations or concerns		

Staff room

General View of LVWH

Asset Reference	LVWH 3	
	DETAIL	ACTION?
Location	Workshop	
Services fed	DHWS	
Does heater supply multiple outlets?	No	
Access is required for inspection, maintenance and testing	Good	
Nominal storage volume	10l	
Stored water temperature (°C)	55	
Temperature within acceptable limits	Yes	
Used daily	Yes	
Cold water source	MCWS	
Cold supply pipe size & material	15mm copper	
Cold supply pipe insulated	No	✓
Integral TMV fitted	No	
Flow/outlet type	Piped to taps	
Flow pipe size & material	15mm copper	
Flow pipe insulated	No	✓
Is a pressure vessel fitted?	Yes	
Is pressure vessel correctly aligned?	No	✓
Other observations or concerns		

Work

General View of LVWH

Asset Reference	LVWH 4	
	DETAIL	ACTION?
Location	Class room 60	
Services fed	DHWS	
Does heater supply multiple outlets?	No	
Access is required for inspection, maintenance and testing	Good	
Nominal storage volume	10l	
Stored water temperature (°C)	60	
Temperature within acceptable limits	Yes	
Used daily	Yes	
Cold water source	MCWS	
Cold supply pipe size & material	15mm copper	
Cold supply pipe insulated	No	✓
Integral TMV fitted	No	
Flow/outlet type	Piped to taps	
Flow pipe size & material	15mm copper	
Flow pipe insulated	No	✓
Is a pressure vessel fitted?	Yes	
Is pressure vessel correctly aligned?	Yes	
Other observations or concerns		

Class room 60

General View of LVWH

Asset Reference	LVWH 5	
	DETAIL	ACTION?
Location	Class room 61	
Services fed	DHWS	
Does heater supply multiple outlets?	No	
Access is required for inspection, maintenance and testing	Good	
Nominal storage volume	10l	
Stored water temperature (°C)	38	
Temperature within acceptable limits	No	✓
Used daily	Yes	
Cold water source	MCWS	
Cold supply pipe size & material	15mm copper	
Cold supply pipe insulated	No	✓
Integral TMV fitted	No	
Flow/outlet type	Piped to taps	
Flow pipe size & material	15mm copper	
Flow pipe insulated	No	✓
Is a pressure vessel fitted?	Yes	
Is pressure vessel correctly aligned?	Yes	
Other observations or concerns		

Class room 61

General View of LVWH

(SECTION 6) COMBINATION (FORTIC) WATER HEATERS

Asset Reference	Classroom 65	
	DETAIL	ACTION?
Reference	CH 1	
Access for inspection & maintenance	Good	
Cold water header tank		
Cold water source	CWDS	
Cold water feed temperature	15	
Temperature within acceptable limits	Yes	
Cold water pipe size & material	15mm copper	
Cold water pipe insulated	No	✓
Lid/cover fitted and secure	Yes	
Screened vent fitted to tank lid/cover	Yes	
Stored water temperature	27	
Temperature within acceptable limits	Yes	
Visual condition of stored water	Light debris and sediment present	✓
Visual condition of tank	Clean and sound	
Are cold water outlets fed from header tank?		
Water heater & storage vessel		
Services fed	DHWS	
Primary heat/energy source	Immersion	
Vessel storage capacity (litres)	50l	
Temperature of hot water at nearest outlet	55	
Temperature within acceptable limits	No	✓
Hot water feed pipe size & material	22mm copper	
Hot water feed pipe insulated	No	✓
Drain valve fitted	No	
Other		
Other observations or concerns		

CH 1 General View

(SECTION 6) POUWH

Asset Reference	POU 1	
	DETAIL	ACTION?
Location	Female toilet 14	
Primary heat/energy source	Immersion	
Cold water source	MCWS	
Cold water pipe insulated	No	✓
Cold water supply temperature	13	
Cold water temperature over 21°C	No	
Hot water temperature within acceptable limits	No	✓
Other observations or concerns		

Female toilet 14

General View

Asset Reference	POU 1	
	DETAIL	ACTION?
Location	Male toilet 15	
Primary heat/energy source	Immersion	
Cold water source	MCWS	
Cold water pipe insulated	No	✓
Cold water supply temperature	17	
Cold water temperature over 21°C	No	
Hot water temperature within acceptable limits	No	✓
Other observations or concerns		

Male toilet 15

General View

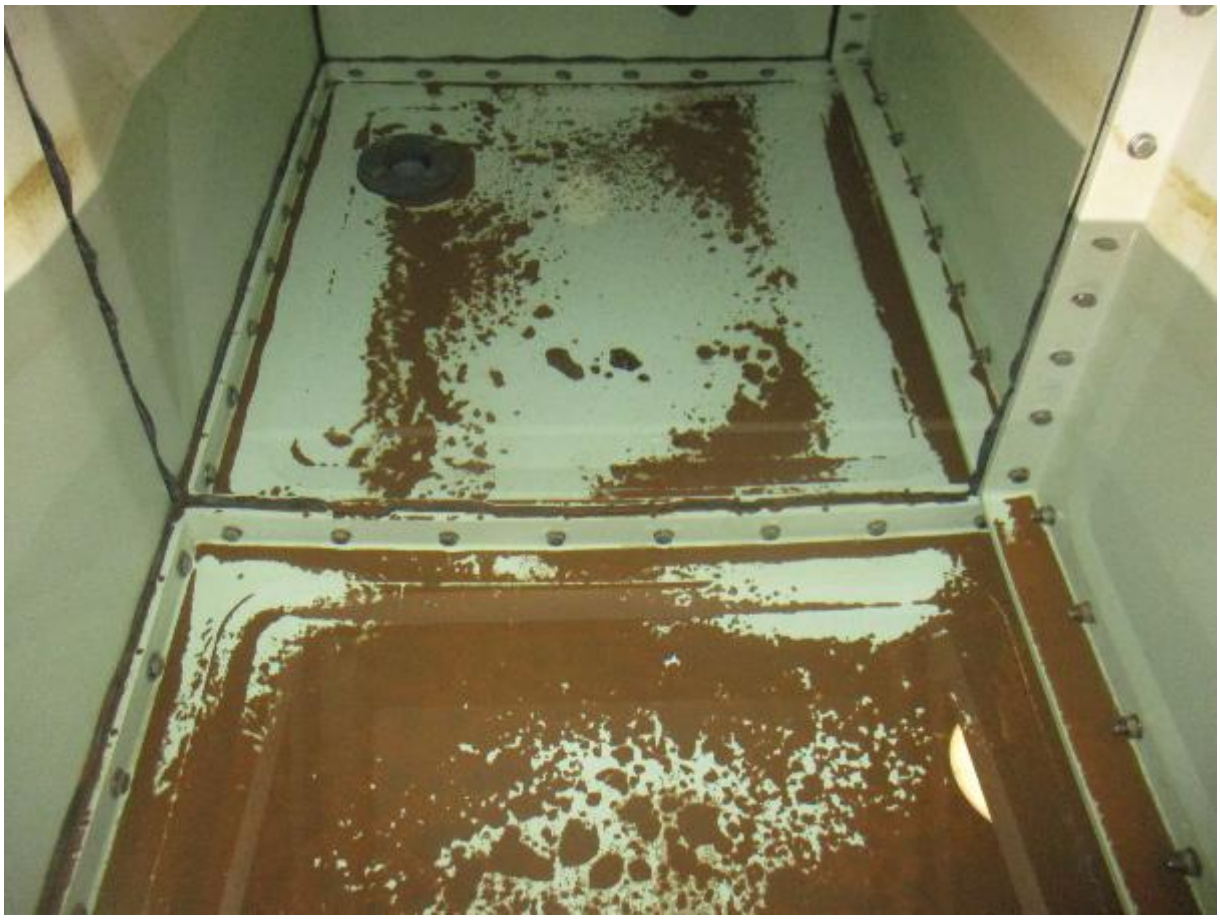
(SECTION 6) COLD WATER STORAGE TANKS

Asset Reference	Roof Tank Room LH	
	DETAIL	ACTION?
Reference	CWST 1	
Services supplied	CWDS	
Access for inspection & maintenance	Good	
Is there a need for internal ladders?	No	
Ambient temperature around tank	12	
Is confined space access required to clean and maintain the tank?	Yes	✓
Tank area lighting and power	Lighting but no power nearby	
Material of construction	GRP/Fibreglass	
Has tank been lined or coated?	No	
Tank dimensions (L x W x H)	2.0 x 1.0 x 1.0	
Approximate stored water volume (litres)	1400	
Tank sufficiently insulated	Yes - integrated insulation	
Potential for stagnant areas in tank	Negligible - inlets and outlets opposing	
Inlet pipework size and material	28mm copper	
Inlet pipework insulated?	Yes	
Inlet pipework labelled	Yes	
Outlet pipe size and material	2" plastic	
Outlet pipework labelled	Yes	
Outlet pipe insulated	Yes	
Tank lid/cover fitted and secure	Yes	
Screened vent fitted to tank lid/cover	Yes	
Overflow fitted to tank	Yes - screened	
Warning pipe fitted to tank	Yes - screened	
Is an open vent from HWS able to discharge into tank?	No	
Stored water temperature	14	
Temperature within acceptable limits	Yes	
Incoming water temperature	12	
Temperature within acceptable limits	Yes	
Visual condition of stored water	Light debris and sediment present	✓
Visual condition of tank	Clean and sound	

Other observations or concerns	Tank drains	

CWST 1 General View

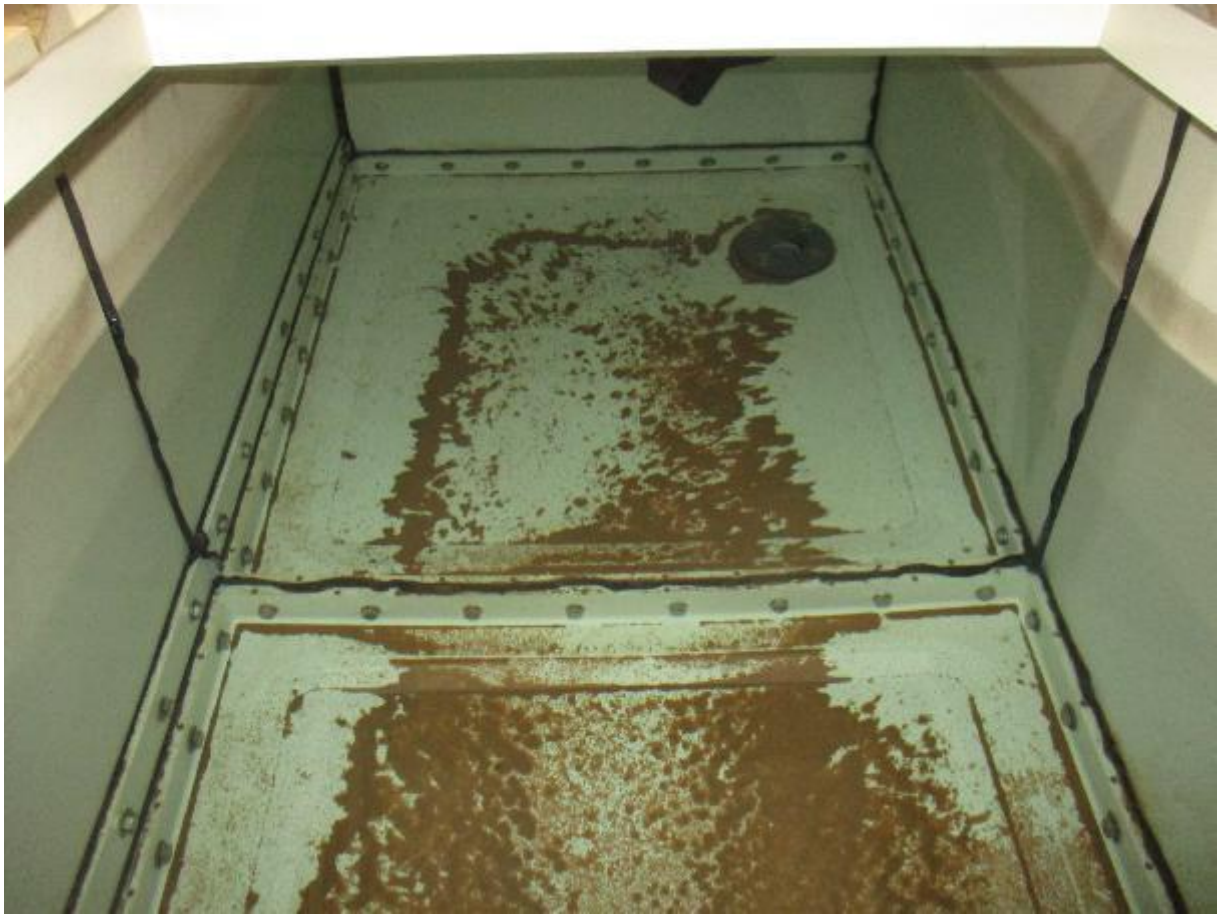
CWST 1



Asset Reference	Roof Tank Room LH	
	DETAIL	ACTION?
Reference	CWST 2	
Services supplied	CWDS	
Access for inspection & maintenance	Good	
Is there a need for internal ladders?	No	
Ambient temperature around tank	14	
Is confined space access required to clean and maintain the tank?	Yes	✓
Tank area lighting and power	Lighting but no power nearby	
Material of construction	GRP/Fibreglass	
Has tank been lined or coated?	No	
Tank dimensions (L x W x H)	2.0 x 1.0 x 1.0	
Approximate stored water volume (litres)	1400	
Tank sufficiently insulated	Yes - integrated insulation	
Potential for stagnant areas in tank	Negligible - inlets and outlets opposing	
Inlet pipework size and material	28mm copper	
Inlet pipework insulated?	Yes	
Inlet pipework labelled	Yes	
Outlet pipe size and material	2" plastic	
Outlet pipework labelled	No	✓
Outlet pipe insulated	Yes	
Tank lid/cover fitted and secure	Yes	
Screened vent fitted to tank lid/cover	Yes	
Overflow fitted to tank	Yes - screened	
Warning pipe fitted to tank	Yes - screened	
Is an open vent from HWS able to discharge into tank?	No	
Stored water temperature	14	
Temperature within acceptable limits	Yes	
Incoming water temperature	12	
Temperature within acceptable limits	Yes	
Visual condition of stored water	Light debris and sediment present	✓
Visual condition of tank	Clean and sound	
Other observations or concerns		

CWST 2 General View

CWST 2



Asset Reference	Loft Tank Room RH	
	DETAIL	ACTION?
Reference	CWST 3	
Services supplied	CWDS	
Access for inspection & maintenance	Good	
Is there a need for internal ladders?	No	
Ambient temperature around tank	16	
Is confined space access required to clean and maintain the tank?	Yes	✓
Tank area lighting and power	Lighting but no power nearby	
Material of construction	GRP/Fibreglass	
Has tank been lined or coated?	No	
Tank dimensions (L x W x H)	2.0 x 1.0 x 1.0	
Approximate stored water volume (litres)	1400	
Tank sufficiently insulated	Yes - integrated insulation	
Potential for stagnant areas in tank	Negligible - inlets and outlets opposing	
Inlet pipework size and material	28mm copper	
Inlet pipework insulated?	Yes	
Inlet pipework labelled	Yes	
Outlet pipe size and material	150mm copper	
Outlet pipework labelled	Yes	
Outlet pipe insulated	Yes	
Tank lid/cover fitted and secure	Yes	
Screened vent fitted to tank lid/cover	Yes	
Overflow fitted to tank	Yes - screened	
Warning pipe fitted to tank	Yes - screened	
Is an open vent from HWS able to discharge into tank?	No	
Stored water temperature	16	
Temperature within acceptable limits	Yes	
Incoming water temperature	12	
Temperature within acceptable limits	Yes	
Visual condition of stored water	Light debris and sediment present	✓
Visual condition of tank	Clean and sound	
Other observations or concerns		

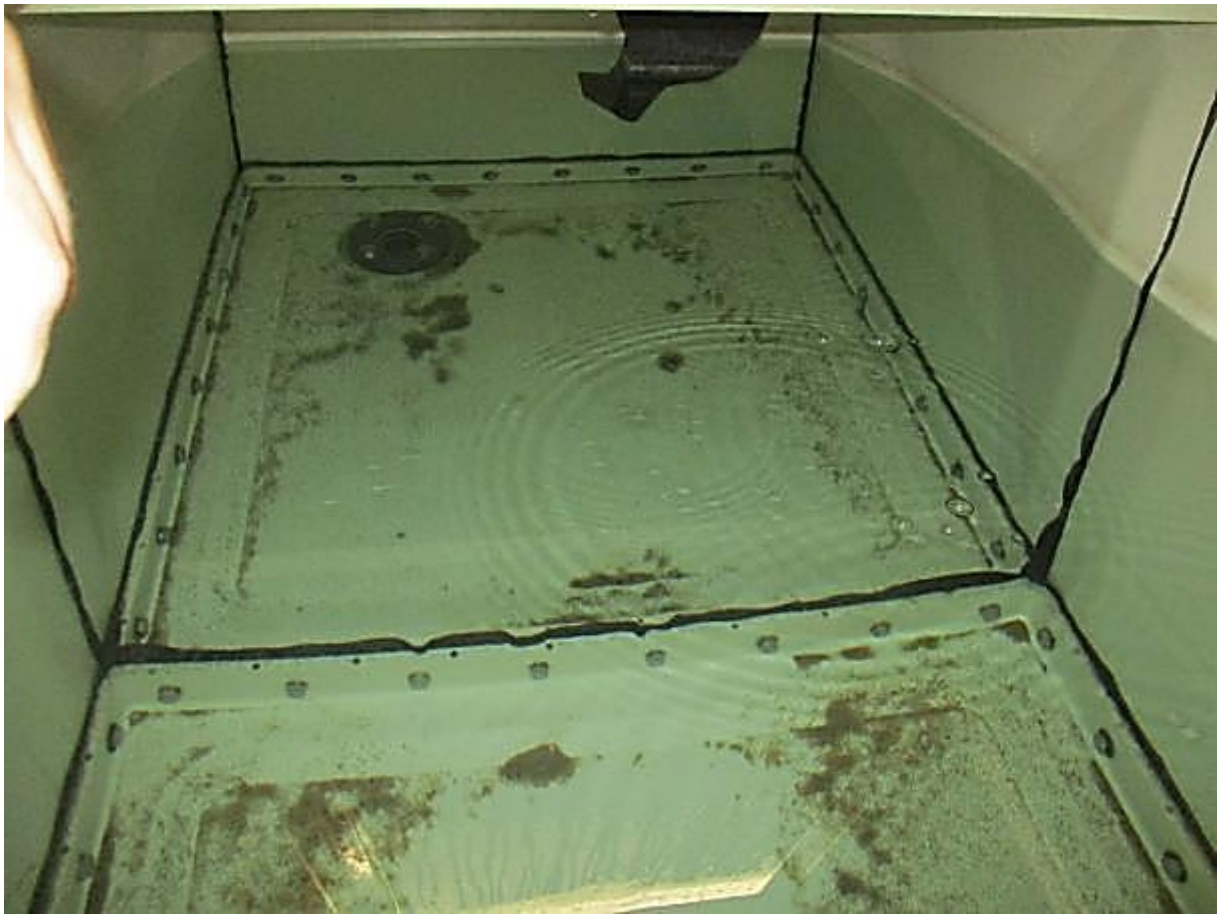
CWST 3 General View

CWST 3

Asset Reference	Loft Tank Room RH	
	DETAIL	ACTION?
Reference	CWST 4	
Services supplied	CWDS	
Access for inspection & maintenance	Good	
Is there a need for internal ladders?	No	
Ambient temperature around tank	16	
Is confined space access required to clean and maintain the tank?	Yes	✓
Tank area lighting and power	Lighting but no power nearby	
Material of construction	GRP/Fibreglass	
Has tank been lined or coated?	No	
Tank dimensions (L x W x H)	2.0 x 1.0 x 1.0	
Approximate stored water volume (litres)	1400	
Tank sufficiently insulated	Yes - integrated insulation	
Potential for stagnant areas in tank	Negligible - inlets and outlets opposing	
Inlet pipework size and material	28mm copper	
Inlet pipework insulated?	Yes	
Inlet pipework labelled	Yes	
Outlet pipe size and material	150mm copper	
Outlet pipework labelled	Yes	
Outlet pipe insulated	Yes	
Tank lid/cover fitted and secure	Yes	
Screened vent fitted to tank lid/cover	Yes	
Overflow fitted to tank	Yes - screened	
Warning pipe fitted to tank	Yes - screened	
Is an open vent from HWS able to discharge into tank?	No	
Stored water temperature	16	
Temperature within acceptable limits	Yes	
Incoming water temperature	12	
Temperature within acceptable limits	Yes	
Visual condition of stored water	Light debris and sediment present	✓
Visual condition of tank	Clean and sound	
Other observations or concerns		

CWST 4 General View

CWST 4



6. DOMESTIC OUTLETS SUMMARY

FLOOR	ROOM NAME OR NUMBER	TEMPERATURE (°C) IF SHOWN IN RED - ATTENTION IS REQUIRED (TEMPERATURES ABOVE 55°C SCALDING RISK ONLY)						WATER SOURCE			ENTER QUANTITY PRESENT													SENTINEL / TEST POINT (✓)				DHWS RETURN LOOP (✓)	EVIDENT LITTLE USE (✓)	LABELLED FOR DRINKING (✓)	QUANTITY OF FLEXI HOSES
		MCWS	BCWS	CWDS	DHWS	Mixed	TMV	COLD SUPPLY (MCWS OR CWST REF)	CALORIFIER / WATER HEATER REF	LOCAL POUWH (✓)	TMV / TMV TAP	BIB TAP	WC OR URINAL	SHOWER	SPRAY TAP	BASIN / SINK	BATH	DISHWASHER	WASHING MACHINE	DRINKS VENDING MACHINE	OTHER	SLUICE/WASTE DISPOSAL	LOCAL FILTER	MCWS	BCWS	CWDS	DHWS				
Ground	Outside main kitchen							CWDS				1																			
Ground	Main kitchen	13		16	52			MCWS/CWDS	Cal 1/2			1			1	5		1								✓	✓				
Ground	Kitchen staff toilet			16	53			CWDS	Cal 1/2				1			1															
Ground	Male pupils toilet 58			15	14		15	CWST 1/2	Cal 1/2		1		3			3															
Ground	Female pupils toilet 56			15	20		19	CWST 1/2	Cal 1/2		1		3			3															
Ground	Cleaners 57			14	37			CWST 1/2	Cal 1/2							1															
Ground	Classroom 60			15	60		44	CWST 1/2	LVWH 4		1					1															
Ground	Classroom 61			15	60		44	CWST 1/2	LVWH 5		1					1															
Ground	Classroom 62			14				CWST 1/2								2															
Ground	Classroom 63			14				CWST 1/2								2															
Ground	Pupils toilet	16			60		44	MCWS	Cal 4		1		2			2											✓				
Ground	Unisex toilet 38			15	42			MCWS	Cal 5				1			1															
Ground	First aid	14			42			MCWS	Cal 5							1											✓				
Ground	Bib tap outside entrance							MCWS				1																			
Ground	Disused showers							CWST 1/2	Cal 1/2			1		2														✓			
Ground	Room 45 toilet			19	44		38	CWST 1/2	Cal 1/2		1		1			1															
Ground	Adult toilet							MCWS	Cal 1/2																						
Ground	Room 39 toilet			20				MCWS								1															
Ground	Classroom 2			18	30		26	CWST 3/4	Cal 3		1					1															
Ground	Classroom 5			18	30		26	CWST 3/4	Cal 3							1															

BEWARE: WATER TEMPERATURES OVER >43°C MAY PRESENT A RISK OF SCALDING

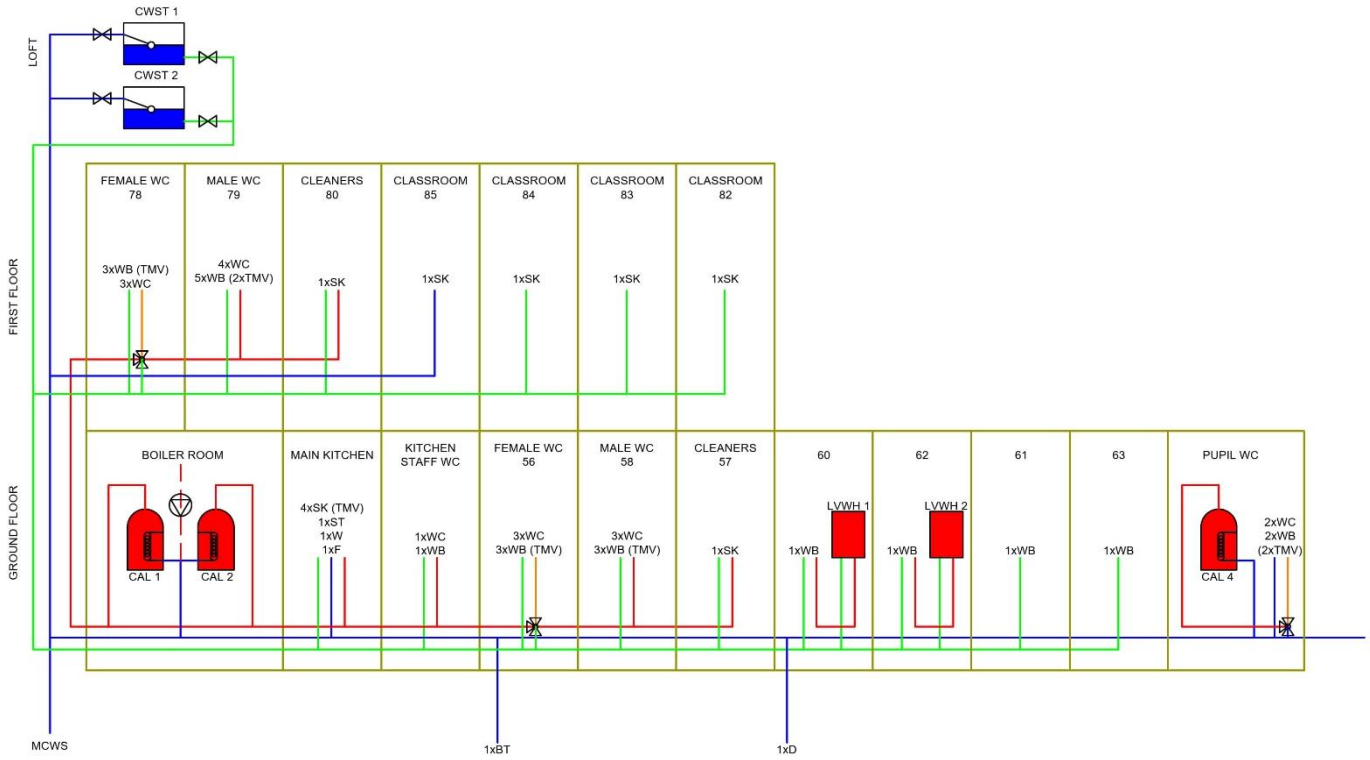
Ground	Pupils toilet 6			18	30		27	CWST 3/4	Cal 3		1		4			4														
Ground	Pupils toilet 9			18	27		26	CWST 3/4	Cal 3		1		6			6														
Ground	Adult toilet/shower 7			18	47			CWST 3/4	Cal 3				1	1		1										✓				
Ground	Classroom 10	17			62		42	MCWS	Cal 7		1					2								✓						
Ground	Room 12	18			33			MCWS	Cal 6							1			1											
Ground	Room 13	19						MCWS								1														
Ground	Female toilet 14	13			16			MCWS	POU 1	✓			1	1		1														
Ground	Male toilet 15	17			18			MCWS	POU 2	✓			2			1														
Ground	Classroom 27	15			61		43	MCWS	LVWH 1		1					1														
Ground	Classroom 19	17						MCWS								1														
Ground	Classroom 20	14						MCWS								1														
Ground	Accessible toilet 21	16			52		42	MCWS	Cal 8		1		1	1		1														
Ground	Toilet 22	15			53		30	MCWS	Cal 8		1		1			1														
Ground	Toilet 23	15			53		33	MCWS	Cal 8		1		1			1														
Ground	Classroom 26	13						MCWS								1								✓						
Ground	Premisis Officer Room	14			55			MCWS	LVWH 3							1														
First																														
First	Male pupils toilet 79			15	18		18	CWST 1/2	Cal 1/2		1		5			3														
First	Female pupils toilet 78			15	20		19	CWST 1/2	Cal 1/2		1		3			3														
First	Cleaners 80			14	34			CWST 1/2	Cal 1/2							1														
First	Classroom 81			21				CWST 1/2								2														
First	Classroom 83			16				CWST 1/2								2														
First	Classroom 84			14				CWST 1/2								2														
First	Classroom 82			17				CWST 1/2								1														
First	Staff room	15			30			MCWS	LVWH 2							1		1		1										
First	Male toilet 74			16	56			CWST 3/4	Cal 3				2			2														
First	Female toilet 76			14	55			CWST 3/4	Cal 3				2			2														
First	Classroom 71															1														
First	Female toilets 68			15	60		40	CWST 1/2	Cal 9		3		3			3														
First	Male toilets 67			15	60		40	CWST 1/2	Cal 10		3		3			3														
First	Classroom 66							CWST 3/4	CH 1																					

First	Classroom 65							CWST 3/4	CH 1																						
External																															
Ground	Class 86	14			56		41	MCWS	Cal 11		1				1																
Ground	Toilets 88				55		39	MCWS	Cal 11		1		2		2																
Ground	Toilets 89				55		37	MCWS	Cal 11		1		1		1																
Ground	Class 90	14			55		38	MCWS	Cal 11		1				2																
Ground	Toilets 92				55		40	MCWS	Cal 11		1		2		2																

Total Quantities of Assets Present:

TMV Mixers or TMV Taps	27
Bib Taps	4
WC or Urinals	51
Showers	5
Spray Taps	1
Basins/Sinks	85
Service Appliances	4

Excludes assets in rooms not accessed



KEY

DHWSF	DOMESTIC HOT WATER SERVICE FLOW
DHWSR	DOMESTIC HOT WATER SERVICE RETURN
MCWS	MAINS COLD WATER SERVICE
BCWS	BOOSTED COLD WATER SERVICE
BW	BLENDED WATER
RW	RAINWATER / GREY WATER

OUTLETS

WC/U	TOILET / URINAL
WB/SK	WASH HAND BASIN / SINK
B	BATH
ES	ELECTRIC SHOWER
SH	SHOWER
W	WASHING MACHINE, WASTE APPLIANCE OR SLUICE
F	FOOD APPLIANCE
D	DRINKS VENDING OR ICE MAKER
BT	BIB TAP
HR	HOSE REEL
EEW	EMERGENCY EYE WASH
EMS	EMERGENCY SHOWER
ST	SPRAY TAP
QF	QUICK FILL

HEATER / TANK SYMBOLS

CAL	CALORIFIER / WATER HEATERS WITH GREATER THAN 15 LITRES STORAGE
LVWH	LOW VOLUME WATER HEATERS WITH 15 LITRES STORAGE OR LESS
POUWH	INSTANTANEOUS WATER HEATER WITH NO STORAGE - THESE WILL BE SMALL OVER SINKS
IWH	INSTANTANIOUS WATER HEATER WITH NO STORAGE SUCH AS A GAS COMBI OR PLATE HEAT EXCHANGER
CH	COMBINATION WATER HEATER WITH INTERGRATED COLD WATER CISTERN ABOVE THE WATER HEATER TANK
CWST	COLD WATER STORAGE TANK

SYMBOLS

M	WATER METER
SO	WATER SOFTENER
	SENTINEL
	VALVE OPEN / CLOSED
	TMV
	PRESSURE REDUCER VALVE
	STRAINER
	PRESSURE VESSEL
	NON RETURN VALVE
	SOLENOID VALVE
	PUMP
	DEAD LEG
Fi	FILTER (Fi)
	DRAIN / SAMPLE POINT

REVISION	DATE	DRAWN	CHECKED
1.0	14-04-2023	JP	SW

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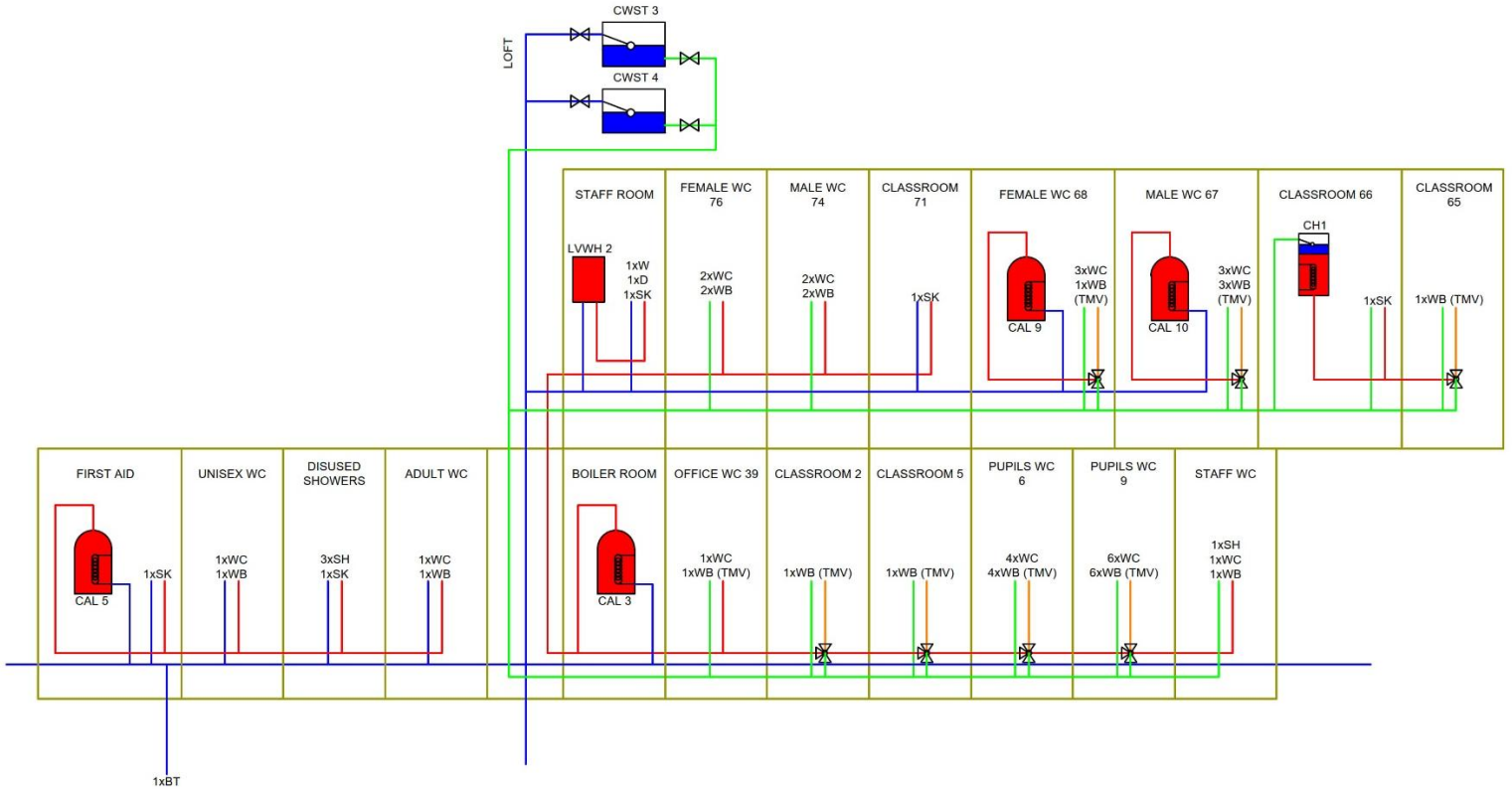

KEY

DHWSF	DOMESTIC HOT WATER SERVICE FLOW
DHWSR	DOMESTIC HOT WATER SERVICE RETURN
MCWS	MAINS COLD WATER SERVICE
BCWS	BOOSTED COLD WATER SERVICE
BW	BLENDED WATER
RW	RAINWATER / GREY WATER

OUTLETS

WC/U	TOILET / URINAL
WB/SK	WASH HAND BASIN / SINK
B	BATH
ES	ELECTRIC SHOWER
SH	SHOWER
W	WASHING MACHINE, WASTE APPLIANCE OR SLUICE
F	FOOD APPLIANCE
D	DRINKS VENDING OR ICE MAKER
BT	BIB TAP
HR	HOSE REEL
EEW	EMERGENCY EYE WASH
EMS	EMERGENCY SHOWER
ST	SPRAY TAP
QF	QUICK FILL

HEATER / TANK SYMBOLS

CAL	CALORIFIER / WATER HEATERS WITH GREATER THAN 15 LITRES STORAGE
LVWH	LOW VOLUME WATER HEATERS WITH 15 LITRES STORAGE OR LESS
POUWH	INSTANTANEOUS WATER HEATER WITH NO STORAGE - THESE WILL BE SMALL OVER SINKS
IWH	INSTANTANIOUS WATER HEATER WITH NO STORAGE SUCH AS A GAS COMBI OR PLATE HEAT EXCHANGER
CH	COMBINATION WATER HEATER WITH INTERGRATED COLD WATER CISTERN ABOVE THE WATER HEATER TANK
CWST	COLD WATER STORAGE TANK

SYMBOLS

M	WATER METER
SO	WATER SOFTENER
	SENTINEL
	VALVE OPEN / CLOSED
	TMV
	PRESSURE REDUCER VALVE
	STRAINER
	PRESSURE VESSEL
	NON RETURN VALVE
	SOLENOID VALVE
	PUMP
	DEAD LEG
	FILTER (Fi)
	DRAIN / SAMPLE POINT

REVISION	DATE	DRAWN	CHECKED
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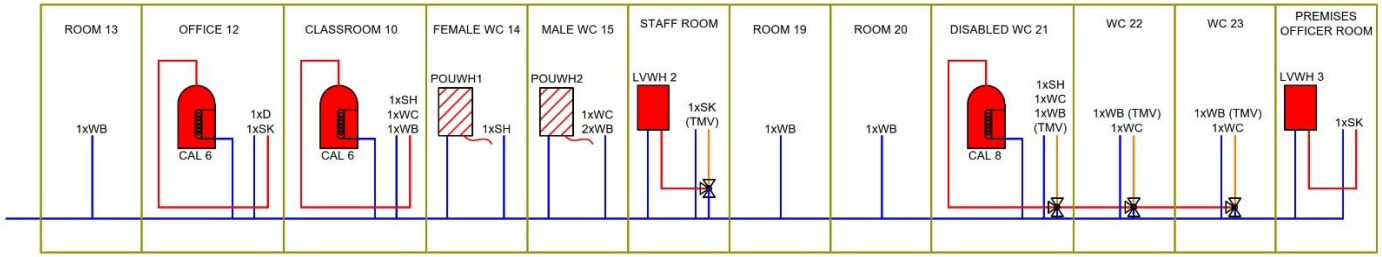

KEY

DHWSF	DOMESTIC HOT WATER SERVICE FLOW
DHWSR	DOMESTIC HOT WATER SERVICE RETURN
MCWS	MAINS COLD WATER SERVICE
BCWS	BOOSTED COLD WATER SERVICE
BW	BLENDED WATER
RW	RAINWATER / GREY WATER

OUTLETS

WC/U	TOILET / URINAL
WB/SK	WASH HAND BASIN / SINK
B	BATH
ES	ELECTRIC SHOWER
SH	SHOWER
W	WASHING MACHINE, WASTE APPLIANCE OR SLUICE
F	FOOD APPLIANCE
D	DRINKS VENDING OR ICE MAKER
BT	BIB TAP
HR	HOSE REEL
EEW	EMERGENCY EYE WASH
EMS	EMERGENCY SHOWER
ST	SPRAY TAP
QF	QUICK FILL

CAL — CALORIFIER / WATER HEATERS WITH GREATER THAN 15 LITRES STORAGE

LVWH — LOW VOLUME WATER HEATERS WITH 15 LITRES STORAGE OR LESS

POUWH — INSTANTANEOUS WATER HEATER WITH NO STORAGE - THESE WILL BE SMALL OVER SINKS

IWH — INSTANTANIOUS WATER HEATER WITH NO STORAGE SUCH AS A GAS COMBI OR PLATE HEAT EXCHANGER

CH — COMBINATION WATER HEATER WITH INTERGRATED COLD WATER CISTERN ABOVE THE WATER HEATER TANK

CWST — COLD WATER STORAGE TANK

SYMBOLS

- WATER METER
- WATER SOFTENER
- SENTINEL
- VALVE OPEN / CLOSED
- TMV
- PRESSURE REDUCER VALVE
- STRAINER
- PRESSURE VESSEL
- NON RETURN VALVE
- SOLENOID VALVE
- PUMP
- DEAD LEG
- FILTER (Fi)
- DRAIN / SAMPLE POINT

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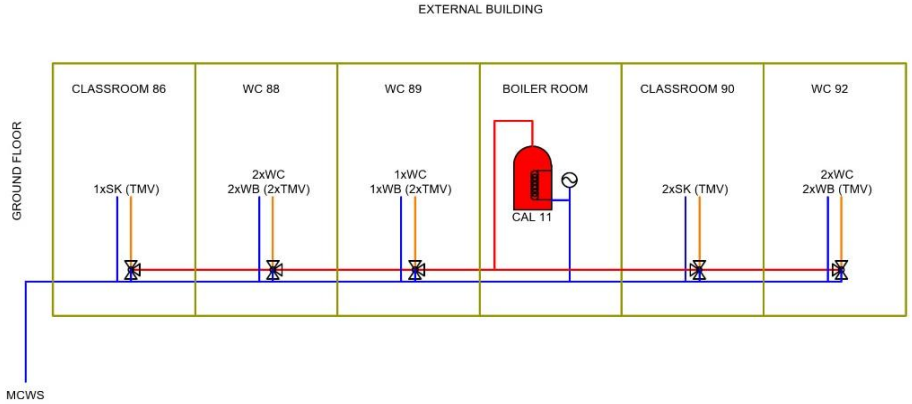
3 of 3



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MCWS	MAINS COLD WATER SERVICE
BCWS	BOOSTED COLD WATER SERVICE
BW	BLENDED WATER
RW	RAINWATER / GREY WATER

OUTLETS

WC/U	TOILET / URINAL
WB/SK	WASH HAND BASIN / SINK
B	BATH
ES	ELECTRIC SHOWER
SH	SHOWER
W	WASHING MACHINE, WASTE APPLIANCE OR SLUICE
F	FOOD APPLIANCE
D	DRINKS VENDING OR ICE MAKER
BT	BIB TAP
HR	HOSE REEL
EEW	EMERGENCY EYE WASH
EMS	EMERGENCY SHOWER
ST	SPRAY TAP
QF	QUICK FILL

HEATER / TANK SYMBOLS

CAL — CALORIFIER / WATER HEATERS WITH GREATER THAN 15 LITRES STORAGE

LVWH — LOW VOLUME WATER HEATERS WITH 15 LITRES STORAGE OR LESS

POUWH — INSTANTANEOUS WATER HEATER WITH NO STORAGE - THESE WILL BE SMALL OVER SINKS

IWH — INSTANTANIOUS WATER HEATER WITH NO STORAGE SUCH AS A GAS COMBI OR PLATE HEAT EXCHANGER

CH — COMBINATION WATER HEATER WITH INTERGRATED COLD WATER CISTERN ABOVE THE WATER HEATER TANK

CWST — COLD WATER STORAGE TANK

SYMBOLS

- WATER METER
- WATER SOFTENER
- SENTINEL
- VALVE OPEN / CLOSED
- TMV
- PRESSURE REDUCER VALVE
- STRAINER
- PRESSURE VESSEL
- NON RETURN VALVE
- SOLENOID VALVE
- PUMP
- DEAD LEG
- FILTER (Fi)
- DRAIN / SAMPLE POINT

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SECTION 8 - ABOUT LEGIONELLA

Legionella bacteria are commonly found in low numbers in the natural environment such as rivers lakes and streams, but conditions are rarely conducive for people to catch an infection. The bacterium is also found in man-made water systems such as cooling systems, hot and cold water systems and spa baths where, if conditions permit, the bacteria will multiply and increase the risk of infection.

There are over 50 species of legionella bacteria which can cause a range of infections including a group of non-fatal illnesses known collectively as Legionellosis, however the main concern is an illness known as Legionnaires' Disease which can be fatal.

Infection is normally caused through inhalation of small droplets of water containing legionella bacteria, and can affect anyone, although some groups of people are more susceptible. The risk of an infection is increased under certain conditions, including:

(a) water temperatures in some or all parts of the system between 20°C and 45°C which allow legionella to grow;

(b) where there are sources of nutrient that support bacterial growth, including rust, scale, sludge, organic matter and biofilms;

(c) where water droplets are produced and dispersed where they may be inhaled;

(d) where water is stored and/or recirculated.

Legionnaires disease can affect anyone, however some people are at higher risk, including:

- ✓ people over 45 years of age
- ✓ smokers and heavy drinkers
- ✓ people suffering from chronic respiratory or kidney disease
- ✓ anyone with an impaired immune system

SECTION 9. STATUTORY OBLIGATIONS

The following information provides guidance on the requirements for managing legionella risks in accordance with ACOP L8, and therefore the COSHH Regulations and the Management of Health & Safety at Work Regulations. ACOP status applies to the following areas:

(a) risk assessment;

(b) the specific role of the responsible person;

(c) the control scheme and what it should include;

(d) review of control measures;

(e) duties and responsibilities of those involved in the supply of water systems including the suppliers of services, designers, manufacturers, importers, suppliers and installers of water systems.

ACOP L8 has been approved by the Health & Safety Executive, with the consent of the Secretary of State, and therefore has a special legal status. If you are prosecuted for a breach of health and safety law, and it is proved that you did not follow the relevant provisions of the Code, you will need to show that you have complied with the law in some other way or a Court will find you at fault.

The following information is summarised from ACOP L8 to help the recipient or reader of this risk assessment understand their primary duties. Further information can be found in ACOP L8 which is available for free download from the HSE's website (www.hse.gov.uk/legionnaires).

If this risk assessment considers the risks to be insignificant and are being properly managed to comply with the law, the assessment is complete. It may not be necessary to take further action, however it is important to review the assessment periodically in case anything has changed.

If this risk assessment shows that there is a reasonably foreseeable risk, the duty holder must appoint a competent person or persons to take day to day responsibility for controlling the identified risks from legionella bacteria - this person is commonly known as the **Responsible Person**, and should be sufficiently competent and knowledgeable, and with sufficient authority to ensure all operational procedures are carried out in a timely and effective way.

The appointed responsible person must be properly trained to a level that ensures tasks are carried out in a safe, technically competent manner; and should receive regular refresher training. They should have a clear understanding of their role and the overall health and safety management structure and policy in the organisation. Where the responsible person may be absent for periods of time during which on-going management of the risk is necessary, suitably competent deputies should be formally appointed.

The Role of the Responsible Person

The primary role of the Appointed Responsible Person is to implement and manage a written scheme for controlling the risk, including where appropriate and with reference to the risk assessment:

(a) an up-to-date plan showing the layout of the plant or water system, including parts temporarily out of use - a schematic diagram is sufficient;

(b) a description of the correct and safe operation of the system; including:

  (i) Commissioning and recommisioning procedures

  (ii) Shutdown procedures

  (iii) Checks of warning and diagnostic systems in case of system malfunctions

  (iv) maintenance requirements and frequencies

  (v) operating cycles - including when system plan is in use and idle.

(c) the precautions to take;

(d) checks to carry out to ensure the written scheme is effective and the frequency of such checks;

(e) the remedial action to take if the written scheme is shown to be not effective.

(f) a comprehensive system of records (see below)

In particular, The written scheme should give details on how to use and carry out the various control measures and water treatment regimes, including:

(a) the physical and/or chemical treatment programme;

(c) COSHH information for chemicals required;

(d) Control parameters, methods of inspection, testing, measurement and sampling, including locations, frequencies and procedures for maintaining consistency;

(f) actions to be taken if control limits are exceeded and lines of communication;

(g) cleaning and disinfecting procedures;

(h) emergency procedures;

The responsible person must ensure that all tasks allocated to employees and/or consultants and/or contractors involved in the written scheme are done so with clarity, and that all requirements are fully addressed. The responsible person must ensure, through a programme of routine checks that all tasks are being completed in a safe, effective and timely manner.

Record Keeping

Records of all management arrangements, the findings of the risk assessment and the written scheme must be retained throughout the period they are current and for at least two years afterwards.

Records of any monitoring inspection, test or check carried out must be retained for at least five years. It is advisable to have a log-book system for this purpose and to allow analysis of previous results when a problem is identified. All records should be dated and verified or otherwise authenticated by the person carrying out the various tasks assigned to them.

This risk assessment provides you with the information needed to comply with these statutory requirements. Reef Water Solutions Ltd are able to provide comprehensive support with all areas of compliance. For further advice and support please contact your nearest Reef office or representative.

10. BIBLIOGRAPHY

The following documents were used in preparation of this risk assessment report:

1. Health & Safety at Work etc. Act, 1974
2. Control of Substances Hazardous to Health Regulations, 2002
3. Management of Health & Safety at Work Regulations, 1999
4. Management of Health & Safety at Work Regulations, 2000
5. Approved Code of Practice L8 4th Edition Legionnaires' Disease, the control of legionella bacteria in water systems, 2013
6. HSG 274 Legionnaires Disease Technical Guidance, 2013 & 2014
7. BS8580-1:2019 Water Quality, Risk Assessments for Legionella Control
8. Water Supply (Water Fittings) Regulations, 1999
9. BS8558:2011 Guide to the design, testing and maintenance of services supplying water for domestic use within buildings and their curtilages
10. Legionella Control Association, Standards of Services for Service Providers
11. CIBSE Minimising the Risk of Legionnaire's Disease, 2013
12. PD855468:2015 Guide to the flushing and disinfection of services supplying water for domestic use within buildings and their curtilages.