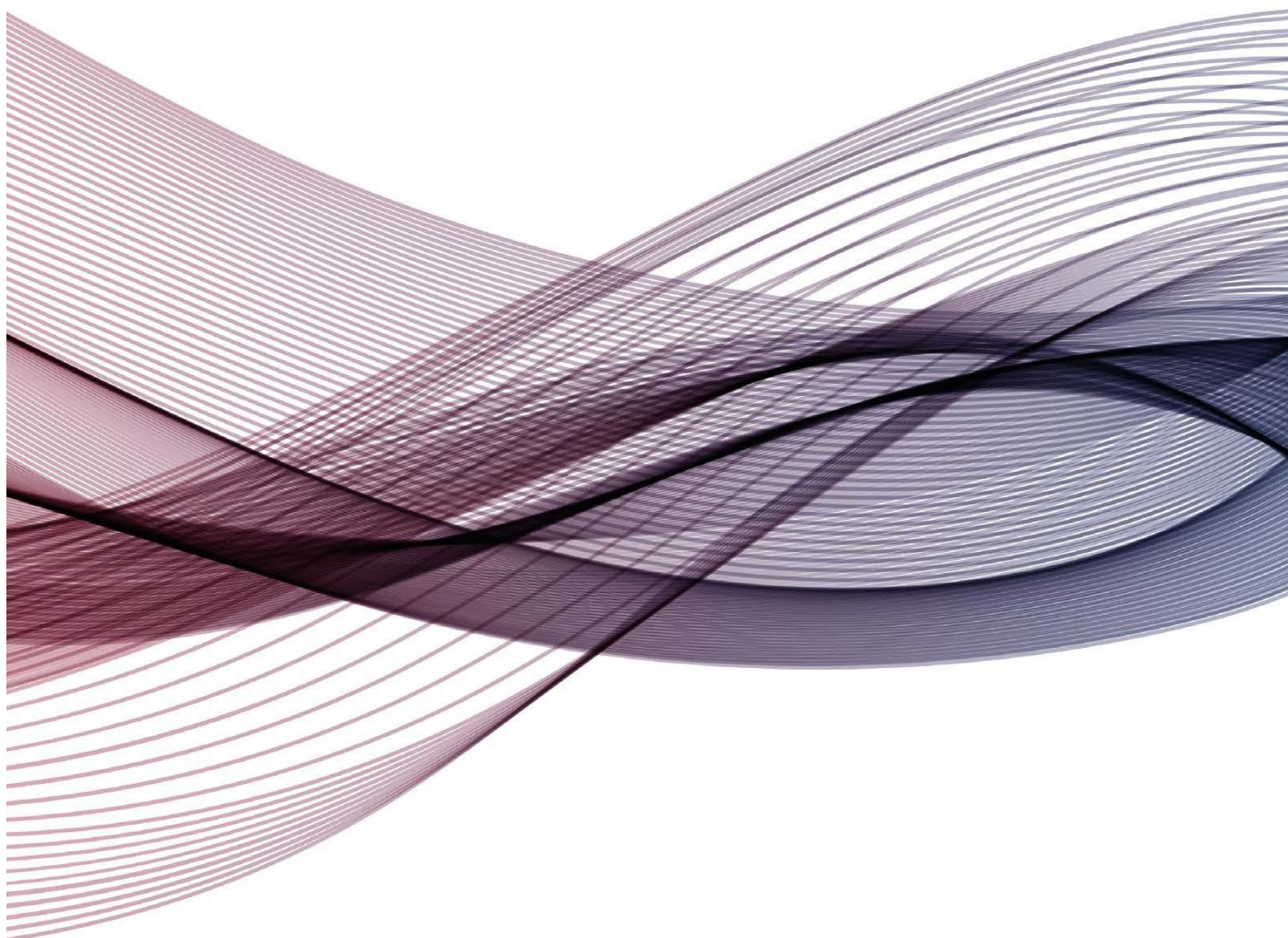




Legionella Risk Assessment of Hot & Cold Water Systems in Healthcare Premises

Site Address: (Horizon No: 10004461) Tier 1 - Clevedon Hospital – Inpatients Building, Old Street, Clevedon, North Somerset, BS21 6BS

On behalf of: NHS Property Services Limited

Date: 6th February 2026

Recommended Review Date: 6th February 2027

Site Name: (Horizon No: 10004461) Tier 1 - Clevedon Hospital – Inpatients Building, Clevedon

Report Reference:	270210-2072346-W94
Date of Previous Risk Assessment:	21st March 2025
Prepared for SafeCare by: Sam Jenkins	Signature 
Clients Representative: Jenny Ganfield	Clients Signature: 
LCA Registration for SafeCare:	2021/3851
LCA Registration for Entity:	Marlowe Environmental Services Limited/1999/583

The Client Representative signature in the table above confirms SafeCare attendance on the date stated on the front of this report. This signature does not verify quality assurance of this report or acceptance of responsibility for the water system and its management.

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Preface

Customer:	NHS Property Services Limited
Customer Contact:	Jenny Ganfield
Site:	Old Street Clevedon North Somerset BS21 6BS
Site Contact:	Jenny Ganfield
Account Manager:	Jonathan James
Office Address:	17 Wheatstone Court Waterwells Business Park Gloucester GL2 2AQ
Telephone:	01454 299 310
Email:	info@wcs-group.co.uk
Risk Assessment Consultant:	Sam Jenkins

Any further information concerning this report should be requested by contacting the above-named Account Manager.

Section 1 – Introduction

SafeCare

SafeCare is the consultancy division of Marlowe Environmental Services Limited, a WCS Company. While owned and operated by the group SafeCare is able to effectively operate independently and impartially through its own management and administration function. The risk assessors and consultants working for SafeCare do not benefit in any way from the actions identified in this report.

Legionellosis Including Legionnaires' Disease

Legionellosis is the group term for all infections principally caused by the inhalation of aerosol containing an ineffective dosage of legionella bacteria. Legionnaires' disease and Pontiac Fever are the most commonly reported legionellosis. Legionnaires' disease is a potentially fatal form of pneumonia which can affect anybody, but which principally affects those who are susceptible because of factors such as age, illness, immunosuppression, and smoking.

Health and Safety Requirements

In the UK, guidance on undertaking a Legionella Risk Assessment is provided by the Approved Code of Practice. "Legionnaires' disease: "The control of legionella bacteria in water systems" (L8 Fourth edition). In effect this guidance identifies a Health Safety Executive approved approach to comply with the Health and Safety at Work etc Act 1974 sections 2, 3, 4, and 6 and the Control of Substances Hazardous to Health regulation 6, 7, 8, 9 and 12. L8 (Fourth edition) also gives guidance on compliance with relevant parts of the Management of Health and Safety at Work Regulations (MHSWR). Technical guidance in how to comply is provided by HSG274. HSG274 is split into 3 parts covering evaporative cooling systems, hot and cold water, and other risk systems.

Failure to comply with the requirements of L8 (Fourth edition) is not an offence in itself. However, deviations from its guidance have been used to prove a person has contravened a legal requirement. In this situation a person will have to demonstrate they have fulfilled the legal requirement in some other way.

Whilst the HSWA is the primary legislation at places of work and therefore applies to all employees in healthcare settings, there is additional legislation in place to protect the health and wellbeing for everyone entering a healthcare premises from Legionella. This comes in the form of the Health and Social Care Act and its ACOP, the Health and Social Care Act (Regulated Activities) Regulations, and the Health Technical Memorandum Water 04-01: Safe water in healthcare premises Part A and Part B, and performance specification D 08. Also, very relevant to healthcare settings is the Decontamination Health Technical Memorandum 01-05: Decontamination in primary care dental practices. Viewed together these empower the Care Quality Commission (CQC) to maintain a register of those delivering regulated activities, and take steps to ensure suitable planning, organisation, and implementation of controls on water quality from source, through site water systems, all the way through to the use of water.

Additionally, this assessment considers the requirements of the Health Technical Memorandum HTM 04-01: The control of Legionella, hygiene, "safe" hot water, cold water, and drinking water systems Part A and Part B.

Other waterborne pathogens, outside of the control and prevention of Legionella are not covered within this report.

How to use this risk assessment report

Terms of reference and our survey information can be found in the appendices of this report.

This risk assessment contains a detailed survey of the site's water system which is reproduced in the appendices of the report. The knowledge this provides enable us to conscientiously identify the overall level of risk. This is not limited to the formation of the recognised legionella causal chain, but also includes an assessment of the corporate risk, i.e. the availability documentation to enable a due diligence defense should something go wrong despite your best efforts. A series of risk matrices are used to evaluate the opportunity for legionella to amplify in the system, be aerosolised, and inhaled by a susceptible individual. This enables the reader to identify the risk at each stage of the causal chain as well as the overall risk.

The risk matrices use a scoring system to help achieve consistency within our assessment team. However, the scores should not distract you from the action plan which is formatted in a manner that allows you to prioritise and sign off actions.

This risk assessment should be regularly reviewed to keep it live. The function of the review should establish change and motivate the completion of actions to control the risk. As a guide we recommend:

- **Very High** risk systems review quarterly until the risk is reduced to its residual level after which the review period may be extended.
- **High** risk systems review six monthly until the risk is reduced to its residual level after which the review period may be extended.
- **Medium** risk systems review annually until the risk is reduced to its residual level after which the review period may be extended.
- **Low** risk systems review every 2 years until the risk is reduced to its residual level.
- **Insignificant** risk sites reassess periodically or as and when change can be identified, not to exceed every 5 years.

Following four reviews a reassessment should normally be planned dependent on the attainment of residual risk.



Section 2 – Scope

The scope of this report was initially identified by Jenny Ganfield through conversation with Jonathan James. This was then independently verified by Safecare Admin.

The assessment was conducted by Sam Jenkins of the SafeCare consultancy division of Marlowe Environmental Services Limited, a WCS Group Company on the 6th February 2026 on behalf of NHS Property Services Limited.

(Horizon No: 10004461) Tier 1 - Clevedon Hospital – Inpatients Building is a inpatient department with ward facilities and treatment areas, located in Clevedon.

The site is occupied: 24 hours a day, every day of the year

The number of people typically employed/present on site is approximately 50.

The water system was inspected as described below taking into consideration all available documentation.

Water Supply Company: : Bristol Water

Incoming Water Main Location: : Plant Room

Access and Limitations

We would like to thank Jenny Ganfield who assisted us with the assessment while on site and who was responsible for showing us each of the site assets.

Unfortunately despite the support we received we were unable to access plant rooms containing the water heaters , consequently there are limitations in this report.

The effect of omissions are to survey the water heaters however temperatures are monitored monthly and all ppm task are carried and documented so no further action has been generated at this time however for future monitoring purposes it is crucial that access be made possible to survey any and all plant within the building.

We cannot guarantee that all pipework passing underground or through floors, walls and ceilings has been traced, and it is possible that certain system dead-ends or dead legs may not have been identified.

Whilst every effort has been made to ensure the accuracy of the content of this document, Marlowe Environmental Services Limited, a WCS Group Company will accept no responsibility for any omissions.

Section 3 – Executive Summary

Following a pre-site visit meeting held between WCS, SafeCare Consultancy Services and NHS Property Services, a centralised approach covering the high-level documentation has been implemented. The Water Safety Plan is comprised of both TECHNICAL GUIDANCE (TG-03-Water) January 2024 – Version 2.5 and the site specific water management system held at site level within the logbooks. NHS Property Services have clearly communicated their approach to the control and prevention of Legionella within their site water systems and evidence has been shared with SafeCare. This assessment recognises the tools and management systems that have been put into place by NHS Property Services and any omissions or deficiencies identified during the time of the visit will be raised for further action as a failure to implement the NHS Property Services strategy at site-level.

Cold water is provided directly to all cold outlets via a split GRP tank located within the first floor plant room, the direct storage water heater, located in the plant room. During our recent checks, we measured cold-water temperatures and found them to meet the guidelines laid out in the HTM 04-01: Safe Water in Healthcare Premises document.

Hot water to the inpatients department is supplied from a direct storage water heater.

Anti-scalding devices are subjected to a six-monthly service. Service records associated with the thermostatic mixing taps can be found in the water management folder. We found that each of the mixing taps was supplying blended water temperatures inside of the parameters laid out in HTM 04-01: Safe Water in Healthcare Premises.

Shower heads and hoses are cleaned and descaled every three months by the NHSPS. Records can be found in the water management folder.

Upon arriving at Clevedon Hospital, we were presented with the water management folder, which contained important documents. Inside, we found a copy of the last legionella risk assessment and the water technical guidance document. The folder also included the latest version of the hierarchy pathway.

We do recommend that up-to-date Legionella training certificates are inserted into the folder, and the latest copy of the Technical Guidance TG-03-Water is also added to the folder.

Temperatures at the time of the survey were absolute and also within the records provided.

In conclusion, the site was observed to feature a population consisting to be of an at-risk type. The group susceptibility if exposed to an outbreak of a legionellosis is therefore considered to be a high level of risk. This is mainly due to the high proportion of at-risk individuals who are likely to be present due to advanced age, ill health, respiratory and/or immunosuppressant conditions. The site staff, however, were considered to be a typical cross-section of the population and were therefore considered to be at a medium level of risk if exposed to legionellosis.

Site Water Services Register:

This table only details the water system assets identified during this risk assessment:

Assets:	Present
Mains Water Supply to Site	1
Cold Water Tanks	2
Direct Storage Water Heaters	1
Thermostatic Mixing Devices	19
Showerheads	3

Section 4 – Risk Assessment

There are guidance notes relating to the risk matrix in the appendices of this report.

Amplification Potential

Risk Rating	Risk Criteria					Risk Score
	System Capacity & Turnover	System Design & Materials of Construction	System Condition	Control Strategy	Aerosol Exposure Potential	
Very High 5	High risk systems such as cooling towers identified, or significant volume of hot or cold water or severe lack of use in pipework system	High risk systems present and issues identified, or severe issues present on hot and cold water system	High risk systems present and issues identified, or severe issues present on hot and cold water system	High risk systems present and issues identified, or severe issues present on hot and cold water system	High risk systems generating aerosol, or large site with high number of aerosol generating outlets	22 to 25
High 4	System comprises, high risk systems without issues, or significant volume of hot or cold water or significant lack of use in pipework system	System comprises, high risk systems without issues, or significant issues present on hot and cold water system	System comprises, high risk systems without issues, or significant issues present on hot and cold water system	System comprises, high risk systems without issues, or significant issues present on hot and cold water system	Multiple spray outlets present	17 to 21
Medium 3	Suitable storage of water. Areas of pipe work showing lack of use	Hot or cold water system showing with design and construction issues	Hot or cold water system showing signs of contamination	Some temperature control issues identified	Spray outlets present	12 to 16
Low 2	Suitable storage of water. No usage issues identified	Only low risk actions identified	Slight or no contamination	Temperature control is absolute	Sink splash only or large site	06 to 11
Insignificant 1	No storage, no lack of use	No issues. Minimal stored water at point of use	No stored water and clean	No stored water and good temperature control	Sink splash only or small site	5
Total						
Site Score	2	2	2	2	4	12

Interpretation

If no controls were in place the site would represent an inherent high risk.

The current risk rating is low due to the controls that have been put in place.

Once the recommendations specified in the action plan of this report have been completed the residual amplification risk will be/remain low which represents the As Low As Reasonable Practicable (ALARP) risk for this site.

Population Susceptibility Potential

Risk Rating	Population Description	Risk Score
Very High	A significant population of at risk types identified who could be exposed to the sites water systems	47
High	A population of at risk types identified who could be exposed to the sites water systems	36
Medium	Normal cross section of the population	17
Low	Access strictly controlled to non at risk groups, some visitors and contractors visit site whose susceptibility is unknown	10
Insignificant	Access strictly controlled to non at risk groups and those with temporary susceptibility not permitted access	5
		Total
Population Susceptibility Site Score		36

Interpretation

We have identified a high risk rating due to the following factors:

- The site was a large building with a large volumes of persons present who may be temporarily susceptible at any given time
- Immunosuppressed persons on site

Management Control

Risk Rating	Risk Criteria				Risk Score
	Policy / Strategy Communication	Written Scheme / WSP	Training	Records	
Very High 5	No evidence found	No evidence found	No evidence found	No evidence found	18 to 20
High 4	Omissions and/or deficiencies identified	Omissions and/or deficiencies identified	Omissions and/or deficiencies identified	Omissions and/or deficiencies identified	14 to 17
Medium 3	A minor omission identified, and a minor deficiency identified	A minor omission identified, and a minor deficiency identified	A minor omission identified, and a minor deficiency identified	A minor omission identified, and a minor deficiency identified	10 to 13
Low 2	No omissions identified, a minor deficiency identified	No omissions identified, a minor deficiency identified	No omissions identified, a minor deficiency identified	No omissions identified, a minor deficiency identified	5 to 9
Insignificant 1	No deficiencies or omissions identified	No deficiencies or omissions identified	No deficiencies or omissions identified	No deficiencies or omissions identified	4
					Total
Site Score	1	1	1	1	4

Interpretation

The current risk rating is insignificant due to the controls that have been put in place.

Completing the actions in this report will result in the demonstration of due diligence and a minimal risk of losing management control.

This assessment is based on the information provided at the time of our visit. We cannot be held responsible for errors or omissions in this report, due to inadequate information being provided at time of survey.

Overall Risk Rating

Risk Rating	Risk Description	Risk Score
Very High	Where exposure may often occur, and the presence of a significant susceptible population is foreseeable	65 to 92
High	Where exposure may often occur, and the presence of a susceptible population is foreseeable	51 to 64
Medium	Where exposure may sometimes occur, and the presence of a vulnerable population whilst foreseeable is limited	37 to 50
Low	Where exposure may seldom occur, and only a very small susceptible population is foreseeable on an infrequent basis	15 to 36
Insignificant	Exposure and presence of a susceptible population is not foreseeable	14
		Total
Overall Risk Rating Score		52

Interpretation

The overall inherent risk, that is the risk associated with the site's water system and management before any action has been taken to control it would be very high.

This assessment has identified an overall current risk rating of high due to the controls that have been put in place.

Once the recommendations specified in the action plan of this report have been completed the residual overall risk will be high which is ALARP for this site.

Section 5 – Action Plan

It is considered that the following action points should be implemented in order to reduce risk from legionella. The priority ratings are given for guidance only to assist implementation. It is recommended that the work be carried out as soon as reasonably practicable.

High: These are urgent and important actions that directly relate to a loss of control. When appropriate this will include actions for when management roles are not being fulfilled. In either case it will be our considered opinion that the action relates to exposure to unacceptable levels of risk. These actions will have already been conveyed to you and should be completed immediately.

Medium: These are matters which relate to accepted standards, codes of practice and legal requirements.

Low: These are actions which represent or suggest minor improvements to existing procedures or conditions in line with best practice guidance.

All actions will be aimed at reducing risk to as low as reasonably practicable (ALARP). It is the Duty holder's responsibility to resource the completion of these actions within a reasonable timeframe in consideration of the overall risk profile of the business.

If an action is not to be completed under the terms of reasonable practicability, the reasoning behind the decision should be clearly documented. Concise records of action completion should be made available during the next risk assessment review.

Section 6 – Appendices

Achieving Compliance

A Risk Assessment Water Hygiene Survey should be used to create a scheme of control that will prevent proliferation of legionella bacteria. L8 (Fourth edition) places responsibility on employers and others to: -

- (a) Identify and assess sources of risk.
- (b) Prepare a scheme for preventing or controlling the risk.
- (c) Implement and manage precautions.
- (d) Keep records of the precautions implemented.
- (e) Appoint person to be managerially responsible.

The assessment covers the building systems susceptible to colonisation by legionella and which incorporate a potential means for creating and disseminating water droplets. The assessment covers both the routine operation and use of the system and also in relation to breakdown, abnormal operation, commissioning or unusual circumstances.

In assessing risk and drawing up precautions, particular attention has been paid to circumstances where: -

- (a) The population contains a high proportion of susceptible people because of age, illness, immunosuppression, smoking etc. as, for example, in many hospitals and nursing homes, or
- (b) The number of people at potential risk is high as, for example, in densely populated areas.

To satisfy the requirements of L8 (Fourth edition), this Risk Assessment includes:

- (a) Potential for water droplet formation
- (b) Potential for bacteria amplification
- (c) A detailed plan of the water system
- (d) Details of how the systems operate
- (e) The nature and degree of risk posed by the building's water systems
- (f) Details of remedial actions required to minimise the risk

This Risk Assessment must be reviewed regularly or whenever there is a reason to believe that the original assessment may no longer be valid. This may be necessary due to any of the following: -

- (a) Changes to the plant or water system(s) or its use
- (b) Changes to the use of the building itself
- (c) The availability of new information relating to the control of any risk
- (d) As a result of checks indicating that control measures are no longer effective
- (e) Changes to key personnel
- (f) A case of Legionnaires' disease/legionellosis is associated with the system

Management Control

The Health & Safety Executive (HSE) has highlighted that poor management control and lack of record keeping can contribute to the inadequate control of water quality. This can include inadequate training, poor communication, lack of supervision and defined responsibility.

Role	Name	Contact Details (include information available to include address, email address, and telephone number)	Further Action Required
Statutory Duty Holder	Martin Steele	Chief Executive Officer	
Appointed Responsible Person	Trish Stephenson	Chief Operating Officer	
Deputy Appt Responsible Person	Andrew Windsor	Estates Delivery Partner , 07887 631 090	
Site Responsible Person	Jenny Ganfield	07799 071 753, Jenny.ganfield@property.nhs.uk, NHS PS	
Deputy Site Responsible Person	David Morris	07585 994 680, david.morris@property.nhs.uk, NHS PS	

General Policy		Further Action Required
Is record keeping suitably organised?	Yes	
Is there a suitably comprehensive and current Legionella risk assessment in place?	Yes	
Have all risk assessment (or risk assessment review) recommendations been implemented, where reasonably practicable?	Yes	
If the building has been unoccupied or had a reduced occupancy; have increased control measures been implemented to reduce the risk of legionella growth?	N/A	
Are accurate and up to date as fitted drawings available?	Yes	
Health and Safety Policy		Further Action Required
Is the company's Health and Safety policy statement available?	Yes	
Is there provision for policy review?	Yes	
Legionella Management Policy		Further Action Required
Is there a specific management policy for legionella control?	Yes	
Does this policy relate to the COSHH requirement of removal of high risk systems ahead of risk management?	Yes	
Is there a policy available that ensures only WRAS approved materials are used in the site water systems?	Yes	
Written Scheme Water Safety Plan Review		Further Action Required
Is there a site specific task list that identifies who is responsible for each task in the site water management system?	Yes	
Are method statements suitable and task/site specific, adequately covering safe operation and start-up & shut-down procedures?	Yes	
Have appropriate control parameters and actions for out of parameter results been agreed and documented? For example, changes to the water systems to remedy Legionella?	Yes	
Are corrective actions for out of parameter results undertaken in a timely manner?	Yes	
Is evidence available that all instruments used for temperature monitoring purposes are calibrated and at the correct frequencies?	Yes	
Is there a Legionella incident plan, including detection actions, that considers actions to be undertaken in the event that the site is the source of a Legionella outbreak, or is located within the area of an outbreak where the source is unknown?	Yes	
Has a Water Safety Group (WSG) been suitably assembled to include the Legionella Responsible Person(s)?	Yes	
Does the WSG meet suitably frequently or at least annually or whenever incidents occur or organisations make changes to; water supplies and usage; control measures; its risk management policies?	Yes	
Has the WSG created a suitable Water Safety Plan (WSP) that demonstrates a comprehensive understanding of the water system and the potential risks associated with Legionella, such as delivery, storage and usage?	Yes	
Does the WSP suitably define roles and responsibilities?	Yes	
Is the use and safe operation for any third-party equipment brought onto site, used in association with servicing, monitoring and maintenance of the water system, suitably documented?	Not Required	
Training and Competency Statements		Further Action Required
Are legionella awareness training records comprehensive?	Yes	
Has the training provided resulted in the water management system being used effectively and displays competence for the persons who carry out the tasks, including those who deliver training and monitor competence?	Yes	
Does the training review process in place include provision for signing and dating & is there a nominated person who has responsibility for monitoring these records?	Yes	
COSHH and Other Health and Safety Information		Further Action Required
Is all relevant information readily accessible on site?	Yes	
Is this information up to date?	Yes	

COSHH and Other Health and Safety Information		Further Action Required
Are the necessary personal protective measures needed suitably documented?	Yes	

Monitoring / Documentation

Cold Water Tanks		Further Action Required
Annual summer checking of tank water temperature remote from float valve and mains temperature at float valve carried out?	Yes	
Are tanks inspected annually and necessary remedial work carried out?	Yes	
Are suitable records available for tank cleaning and disinfection?	Yes	

Direct Storage Water Heaters		Further Action Required
Are temperatures monitored monthly?	Yes	
Are quarterly purges from drain carried out or up to annually as determined by risk assessment if inspections have found little accumulation of debris?	Yes	
If an access hatch is fitted, is the direct storage water heater thoroughly cleaned, to remove sludge, loose debris and scale, on an annual basis as per HTM:04-1 part B?	Not Fitted	
If present is the header tank inspected annually and are temperatures monitored?	Not Present	

Hot and Cold Water Systems		Further Action Required
Are temperatures of hot water outlet sentinel points (nearest outlet, furthest outlet, and long branches to outlets and, if present, subordinate loops on a monthly rota) recorded monthly in accordance with HTM 04-01 Table 1 checklist?	Yes	
Are a representative selection of other hot water points (intermediate outlets of single pipe systems and, if present, tertiary loops in circulating systems) recorded on a rotational basis, to create a temperature profile of the whole system, in accordance with HTM 04-01 Table 1 checklist?	Yes	
Are temperatures of cold water outlet sentinel points (nearest outlet, furthest outlet, and key locations such as long branches to zones or floor levels) recorded monthly in accordance with HTM 04-01 Table 1 checklist?	Yes	
Are a representative selection of temperatures of other cold water outlets recorded on a rotational basis, to create a temperature profile of the whole system, in accordance with HTM 04-01 Table 1 checklist?	Yes	
Are little used outlets, including showers, flushed and logged at least weekly and in accordance with HTM 04-01 Part B Table 1?	Yes	
If present, is the current little used outlet flushing regime suitable and sufficient and does it cover occupied areas where patients may have limited mobility?	Yes	
Do monitoring records indicate control against set parameters?	Yes	
If spray outlets are present, are they descaled and disinfected at a suitable frequency?	Not Present	
Are all water meters read on a monthly basis and consumption monitored?	Yes	
Is thermal insulation checked on an annual basis?	Yes	
Are systems regularly disinfected?	Yes	
Are all outlets regularly cleaned as necessary to ensure they are free from scale build-up?	Yes	
Is RPZ valve maintenance suitably recorded?	Not Present	
Are BMS temperature sensors regularly calibrated?	Yes	
Is legionella sampling required?	No	

Note:
Where are the records kept? Records are held within the on site logbook.

Showers		Further Action Required
Showerheads and hoses cleaned and descaled quarterly or as necessary?	Yes	
If legionella is detected is point of use filtration used?	No Current Issues	
Has replacement of all flexi hose showers with fixed headed showers been implemented where practicable?	Yes	

Thermostatic Mixing Valves (TMVs) / Anti-Scalding Devices		Further Action Required
Are TMVs documented as being routinely maintained?	Yes	
Is an up to date asset register of all TMVs present?	Yes	
Is there provision for annual TMV risk assessments and where the risk of scalding has been identified as insignificant; has the removal of TMVs been documented as considered?	Yes	

Vending, Chilled Water & Ice Making Machines		Further Action Required
Do records show that ice bins are regularly emptied?	Not Present	
Do records show that the units are being routinely cleaned and serviced in accordance with the manufacturer's guidelines?	Yes	

Legionella Sampling		Further Action Required
If a loss of control, associated with issues such as non-compliant temperatures or stagnation has been identified, has a suitable and effective programme of Legionella sampling been implemented?	Yes	
If Legionella sampling is currently being carried out, is the programme effective to display control across the system?	Yes	
Do sampling results demonstrate adequate control of the system?	Yes	
When initial sampling results have demonstrated a loss of control, have appropriate remedial actions been documented, signed, and dated?	Yes	

General Observations and Photographic Evidence

Cold Water Tanks

General - Supporting Information

In general terms and if current guidelines L8 (Fourth edition) and the Water Supply (Water Fittings) Regulations are adhered to, cold water tanks present a 'low' risk for legionella proliferation.

Poor control over water temperature, substandard water quality, external contamination and poor internal conditions may all be contributory factors to the colonisation of legionella within the tank and, therefore, producing a possible source for the bacteria to infect other water services downstream.

Observations and Photographic Evidence

View of the newly installed cold water storage tanks supplying the inpatient building.	
Internal view of the left side tank.	

Cold Water Tank – Plant Survey Data

ID / Asset No.	Left side tank	Further Action Required
Location	First floor plant room	
Design		
Is there safe access for risk assessment purposes?	Yes	
Tank supplies water to	Whole Inpatients	
System served Hot	Yes	
System served cold	Yes	
Water temperature °C	Make up: 11.9 Tank: 13	
Manufacturer	Tricel	
Materials of construction	GRP	
Overall dimensions (metres)	Length: 1 Width: 1 Diameter: 1 Height: 1	
Water storage content estimated: (Capacity measured up to normal water level)	1000 Litres	
Is the water storage content in line with guidance?	Yes	
Is water usage metered?	Yes	
Is connection to other tanks avoided?	No	
Make-Up & outlet opposed	Yes	
Inlet pipe	Diameter: 42 mm Material: Copper	
Outlet pipe	Diameter: 2 inch Material: Copper	
Warning pipe (Tanks > 1,000L)	Diameter: 20 mm Material: PVC	
Insect Screen / Vermin Guard	Yes	
Rodent screen fitted to overflows?	Yes	
Overflow pipe discharges at a visible location	Yes	
Pipe Size	55 mm	
Overflow pipe accessibility	Good	
Type of Overflow screen	Inline	
Type of inlet valve within tank / Inlet valve suitable?	Yes	
Type of inlet valve	Delayed Action	
Water Supply (Water Fittings) Regulations lid with vent installed	Yes	
Is open vent discharging into the tank avoided	Yes	
Tank Labelling	Yes	
Inlet/Outlet Labelling	Yes	
Effective insulation fitted to tank	Yes	
Effective insulation fitted to lid	Yes	
Effective insulation fitted to makeup	Yes	
Effective insulation fitted to Outlets	Yes	

ID / Asset No.	Left side tank		Further Action Required
Location	First floor plant room		
Design			
Accessibility and ease of cleaning (Access to tank room & around tank)	Good Loft Hatch Size: Standard door access Tank Hatch Size: 0.5 x 0.5		
Is fixed access provided?	Yes		
Can tank be isolated from service?	Yes		
Are hollow supports avoided?	Yes		
Are dead legs avoided?	Yes		
Are dead ends avoided?	Yes		
Operation			
Is the tank fit for purpose?	Yes		
Corrosion Level?	Nil		
Tank free from internal contamination such as slime & algae, significant sediment or scale build-up?	Yes		
Tank free from black spotting	Yes		

Observations and Photographic Evidence

Internal view of the left side tank.



Cold Water Tank – Plant Survey Data

ID / Asset No.	Right side tank	Further Action Required
Location	First floor plant room	
Design		
Is there safe access for risk assessment purposes?	Yes	
Tank supplies water to	Whole Inpatients	
System served Hot	Yes	
System served cold	Yes	
Water temperature °C	Make up: 11.9 Tank: 13	
Manufacturer	Tricel	
Materials of construction	GRP	
Overall dimensions (metres)	Length: 1 Width: 1 Diameter: 1 Height: 1	
Water storage content estimated: (Capacity measured up to normal water level)	1000 Litres	
Is the water storage content in line with guidance?	Yes	
Is water usage metered?	Yes	
Is connection to other tanks avoided?	No	
Make-Up & outlet opposed	Yes	
Inlet pipe	Diameter: 42 mm Material: Copper	
Outlet pipe	Diameter: 2 inch Material: Copper	
Warning pipe (Tanks > 1,000L)	Diameter: 20 mm Material: PVC	
Insect Screen / Vermin Guard	Yes	
Rodent screen fitted to overflows?	Yes	
Overflow pipe discharges at a visible location	Yes	
Pipe Size	55 mm	
Overflow pipe accessibility	Good	
Type of Overflow screen	Inline	
Type of inlet valve within tank / Inlet valve suitable?	Yes	
Type of inlet valve	Delayed Action	
Water Supply (Water Fittings) Regulations lid with vent installed	Yes	
Is open vent discharging into the tank avoided	Yes	
Tank Labelling	Yes	
Inlet/Outlet Labelling	Yes	
Effective insulation fitted to tank	Yes	
Effective insulation fitted to lid	Yes	
Effective insulation fitted to makeup	Yes	
Effective insulation fitted to Outlets	Yes	

ID / Asset No.	Right side tank	Further Action Required
Location	First floor plant room	
Design		
Accessibility and ease of cleaning (Access to tank room & around tank)	Good Loft Hatch Size: Standard door access Tank Hatch Size: 0.5 x 0.5	
Is fixed access provided?	Yes	
Can tank be isolated from service?	Yes	
Are hollow supports avoided?	Yes	
Are dead legs avoided?	Yes	
Are dead ends avoided?	Yes	
Operation		
Is the tank fit for purpose?	Yes	
Corrosion Level?	Nil	
Tank free from internal contamination such as slime & algae, significant sediment or scale build-up?	Yes	
Tank free from black spotting	Yes	

Hot and Cold Water Distribution Services

General - Supporting Information

Water temperatures and the design are the most significant factor in variation of risk. Spray and fine droplets will always be present as water hits the sink, however this may be compounded by the use of spray nozzles which increases the risk of Legionella proliferation

Temperature Monitoring

Temperature is an important means of protecting water quality. Temperatures are recorded from the moment the outlet is switched on to help identify concerns with temperature control within the supplying system including lack of use, uninsulated pipework and indeed areas where heat gain may be occurring due to high ambient temperatures.

Note – Method used to monitor temperatures is in accordance with HTM 04-01 Part B, Table 1 'Checklist for hot and cold water systems (adapted from HSG274 Part 2)'.

Test Parameters:

- The cold water services temperature should be below 20°C after running the water until it equilibrates or up to two minutes.
- The hot water temperature should be at least 55°C within a minute of running the water or when it equilibrates.

In addition to Legionella, other risks from a hot & cold water distribution system may include scalding. To reduce the risk of scalding, thermostatic mixing devices are required for specific hot water outlets (detailed in Table 2 in HTM 04-01 Part A). Thermostatic Mixing Valves (TMVs) are valves that use a temperature sensitive element and blend hot and cold water to produce water at a temperature that safeguards against the risk of scalding, typically between 38°C and 46°C depending on outlet use. The blended water downstream of TMVs may provide an environment in which legionella can multiply, thus increasing the risks of exposure. HTM 04-01 Part B guidance states that a scalding risk assessment is necessary to establish the need and type of device to be installed.

To control Legionella effectively temperatures may be used or recommended which may create a scalding risk. Persons responsible for the management of the water system should assess the scald risk and implement appropriate action such as labelling the associated outlets with scald warning signage to warn the unwary user.

Backflow and or back siphonage mechanical or non-mechanical device should be installed where there is a potential cross contamination risk on site to any water system.

Remote sensor-operated outlets may feature more complicated internal tap designs which may increase the need for additional routine maintenance to mitigate contamination risks. The risk assessment may justify a different tap assembly for clinical wash-hand basins in augmented care settings should a Legionella risk be identified.

Observations and Photographic Evidence

Representative view of a thermostatic mixer tap found on site.



Hot and Cold Water Distribution Services – Asset Analysis

Location		Ground floor main kitchen	Ground floor toilet 00/022	Ground floor room 00/018	Ground floor sluice
Assets & Number Present		WHB x 1, Sink x 1, TMV x 1, H-B, Dishwasher,	WC x 1, WHB x 1, TMV x 1, SH x 1	WHB x 1, TMT x 1	WHB x 1, TMT x 1, Sluice, Macerator
Cold Water Supply (CWS)	Source	Tank (ID:)	Tank (ID:)	Tank (ID:)	Tank (ID:)
	Temp (°C)	13	13.1	13.4	13.4
	SP		Yes	Yes	
Hot Water Supply (HWS)	Source	DSWH	DSWH	DSWH	DSWH
	Temp (°C)	55	55.4	56	57
	SP		Yes	Yes	
	TMV (°C)		41	41	
	Return Loop				
Dead Ends Avoided?		Yes	Yes	Yes	Yes
Infrequently Used Outlets / Dead Legs Avoided?		Yes	Yes	Yes	Yes
Backflow Protection Present? Level Required?					
Comments					
Further Action Required?					

Location		First floor shower room	First floor cavel	First floor Day room Toilet	First floor shower room
Assets & Number Present		WC x 1, WHB x 1, SH x 1, TMT x 1	WHB x 1, TMT x 1	WC x 1, WHB x 1, TMT x 1	WC x 1, WHB x 1, SH x 1, TMT x 1
Cold Water Supply (CWS)	Source	Tank (ID:)	Tank (ID:)		Tank (ID:)
	Temp (°C)	13.9	13.4	13.9	13.9
	SP	Yes		Yes	
Hot Water Supply (HWS)	Source	DSWH	DSWH	DSWH	DSWH
	Temp (°C)	55.6	55.5		56.7
	SP	Yes		Yes	
	TMV (°C)	36.9	41	39.8	44.4
	Return Loop				
Dead Ends Avoided?		Yes	Yes	Yes	Yes
Infrequently Used Outlets / Dead Legs Avoided?		Yes	Yes	Yes	Yes
Backflow Protection Present? Level Required?					
Comments					
Further Action Required?					

Key

POUWH = Point of use water heater to include any water heater located at point of use, capacity if storing water e.g. 10 litres to be included in Facilities present column

INSTWH = Instantaneous Water Heater

DSWH = Direct Storage Water Heater

SP = Indicates if the location is a sentinel monitoring point

Return Loop = Indicates if the location is part of a principal, subordinate, or tertiary loop

TMV = Thermostatic mixing valve / Anti-scald device

TMT = Thermostatic mixing tap

WC = Water Closet

UR = Urinal

WHB = Wash-hand Basin

SH = Shower

DWD = Drinking Water Dispenser

Vend = Vending Machine

DWT = Drinking Water Tap

H-B = Hydro Boil (Beverage)

PW = Pot Wash Sink

FP = Food Preparation Sink

DWM = Dishwashing Machine

WM = Washing Machine

Note – The number of ticks in the further action required column relates to the number of actionable issues identified in each location.

Hot and Cold Water Distribution Services – Plant Survey Data

Design		Further Action Required
Serves	Whole Building	
Is the water system metered sufficiently?	Yes	
Do outlets avoid creation of excessive aerosol?	Yes	
Are all pipes suitably insulated?	Yes	
Is heat gain being avoided throughout the cold water system including mains fed outlets?	Yes	
Is excessive heat loss being avoided throughout the hot water system?	Yes	
Does our temperature testing show hot water is being delivered to outlets within the recommended range?	Yes	
Does our temperature testing show cold water is being delivered to outlets below the recommended maximum?	Yes	
Are tap and spray outlets clean and free from scale?	Yes	
Are flexible pipework connections suitably fit for purpose and WRAS approved?	Not Present	
Thermostatic Mixing Valves		
Are all TMVs easily accessible?	Yes	
Have TMVs been fitted as close to the point of use as practicable (two metres or less)?	Yes	
Has the use of single TMVs to feed multiple outlets been avoided?	Yes	
Where TMVs are fitted; have the cold water outlets been removed if appropriate?	Yes	
Where TMVs are fitted, has the fitting of low flow rate spray taps been avoided?	Yes	
Are adequate non return check valves fitted to protect potential back contamination from TMVs?	Yes	
Backflow Prevention		
Is safe access available to the system backflow devices?	Yes	
Are backflow devices suitable for the fluid categories present?	Yes	
Where enhanced backflow protection is being recommended can the system be adequately drained?	Yes	
Are RPZ valves adequately maintained?	Not Present	
Are non-return valves fitted where a stagnation risk cannot be eliminated?	Yes	
If the backflow protected system has low draw off, is a non return valve fitted adjacent to the point of connection to the live supply?	Yes	

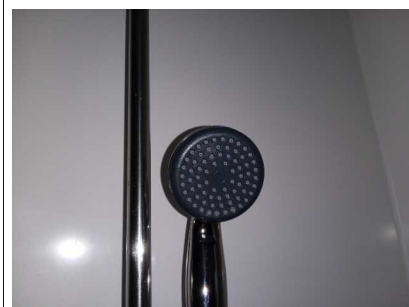
Showers

General - Supporting Information

Water systems which create and disseminate breathable water droplets or aerosol presents a risk of acquiring legionellosis. Due to the design of showers, they are classed as potentially 'high risk' areas as aerosols are formed, again the degree of risk is governed by general cleanliness of showerheads, water temperature control and design flaws such as dead legs or long runs of pipework. Showerheads with adjustable spray patterns should be avoided in healthcare premises as they will exacerbate possible stagnation problems.

Observations and Photographic Evidence

Representative view of a shower head found in visibly clean condition.



Showers – Plant Survey Data

No. of Showers	3	Further Action Required
Location	Changing Room	
Shower cold feed fed from?	Cold water storage tank	
Type of shower?	Mixer	
Frequency of use?	Daily	
Showerhead condition satisfactory?	Yes	
Is a central thermostatic mixing valve avoided?	Yes	
Is showerhead design suitable avoiding adjustable spray patterns?	Yes	

Risk Assessor Competency

Sam Jenkins has been trained to a competent level in accordance with the requirements of the Legionella Control Association for service providers. The initial training is structured over a 12-week period where they will be mentored by an experienced SafeCare consultant. During this period, the training received is formally recorded and reviewed on a weekly basis by the mentor and the SafeCare technical team. Focus is then provided on continued training and development. Continued refresher training is delivered alongside internal training associated with any changes to guidance and standards referenced within the final pages of this report. Additionally, risk assessors will undergo City and Guilds accredited training including Legionella risk assessment for Healthcare Premises unless they already possess recent training to a recognised standard in water hygiene risk assessment and receive on-site training and evaluation. All consultants are subject to frequent on-site competency evaluations and re-inspection procedures, carried out by senior members of the SafeCare division.

Additional information associated with training, experience and competency is available on request. All SafeCare Risk Assessors have the necessary training and experience to be able to demonstrate competence through procedures adopted to meet "Legionella Control Association (LCA)" service provider commitments.

Risk Assessment Quality Assurance	
Authorised for SafeCare by:	Signature
Please note not all reports are checked, a proportionate number of reports are checked in line with our quality system requirements, where the report will be signed by both the risk assessor and the moderator.	

Risk Matrix Guidance

Amplification Potential

Overall it is intended that the larger sites with the most complex water systems will score highly while more basic water systems in small buildings will score lowly based on the inherent risk of having large volumes of water on site. However, good control of these systems can be recognised, and poorer control of smaller sites can also be scored accordingly. This means that a well-controlled large site can, and often will, attract a score similar to a less well controlled small site. This is especially true when scoring 'system capacity and turnover'.

System design, materials of construction, system condition and control strategy is looking at compliance with BS8558 and HSG274 Part 2. (HPSC in Ireland) requirements as determined by our plant survey questions.

Sites with open evaporative cooling systems and/or where other high risk systems are present will attract a high risk rating due to the inherent risk they pose, even when well controlled.

Scoring Guidance

1. The use of chlorine dioxide dosing may reduce Control Strategy Rating if well controlled.
2. Presence of common TMV's feeding multiple showers combined with lack of use may increase the Proliferation Potential rating.

Population Susceptibility Potential

Population susceptibility will change almost all the time with non-at-risk groups attaining susceptibility during illness, as a result the volume of population able to be exposed to a water system must also be considered. Consequently sites with open evaporative cooling systems must once again be considered high risk, especially so if large susceptible populations are present in the surrounding area as often represented by healthcare premises.

Very high risk: Site is a large building, may be a hospital or a prison, or has an open evaporative cooling system or an "other risk system" which poses an inherent risk of bacteria proliferation and dissemination; and there is the presence of healthcare premises in proximity, bearing in mind that aerosols have been shown to travel long distances.

High risk: Site may be small healthcare premises with a vulnerable population on site, or a large site with a high normally distributed population present. Sites with open evaporative cooling systems may be scored in this region if they do not have any healthcare premises in proximity.

Medium Risk: Sites that would not normally be classified as large in terms of population, containing a typical cross section of the population. It is unlikely that an open evaporative cooling tower site would fall into this category unless particularly rural with no significant populations in the vicinity. Even so, it is foreseeable that most sites would fall into this category.

Low risk: Unlikely that a site would fall into this category unless the population profile is tightly controlled to prevent those susceptible (or even temporarily susceptible through illness) entering the site.

Insignificant: Exposure to bacteria is not foreseeable, therefore site must have very little water and the population profile is tightly controlled to prevent those susceptible (or even temporarily susceptible through illness) entering the site.

Management Control

Poor communication and lack of understanding has been identified as causal factors in outbreaks of Legionnaires Disease and is consequently considered a risk item when considering the overall sites risk rating. A very high risk rating must be allocated to any site that cannot provide any evidence of requirement be it electronic or in hard copy.

If a site has a water management system which is yet to be implemented or is in the first months of being implemented a very high risk score should be awarded as the evidence required to demonstrate a due diligence defence is yet to be built. However, the complexity of the site may have a bearing on the risk rating given simple sites will have relatively fewer compliance actions required. Therefore simple sites may be scored high rather than very high risk if there is no documentation present.

For sites with elements of management control in place an omission can be defined as a missing element. For example failure to record calorifier flow and return temperatures on a monthly basis. A deficiency can be defined as something being done but not to the minimum standard. Using the same example a deficiency would be undertaking calorifier flow and return temperatures on a quarterly basis, or missing the implementation of a check for a given month or two in the last annual period.

Overall Risk Rating

The overall risk rating is obtained by adding each of the risk scores together to identify the combined risk from the water system, the population exposed to the water system and the evidence of control being achieved. Interpreting this risk rating should identify the inherent risk posed by the site and the residual risk that would remain once all actions have been implemented.

Terms and Definitions

Aerosol	A suspension in a gaseous medium of solid particles, liquid particles or solid and liquid particles having negligible falling velocity.
Air-conditioning	A form of air treatment whereby temperature humidity and air cleanliness are all controlled within limits determined by the requirements of the air-conditioned enclosure.
ALARP	As Low As Reasonably Practicable. This involves weighing the risk against the trouble, time and money needed to control it, and beyond which action would be disproportionate to the risk.
Algae	A small, usually aquatic, plant which requires light to grow, can be found in and around cold water tanks
Antibodies	Substances in the blood which destroy or neutralise various toxins or components of bacteria known generally as antigens. The antibodies are formed as a result of the introduction into the body of the antigen to which they antagonistic as in all infectious diseases.
Aspiration	Liquid accidentally passing into the lungs when swallowing.
Bacteria	(singular bacterium) a microscopic, unicellular (or more rarely multicellular) organism.
Biocide	A substance which kills micro-organisms .
Biofilm	A community of bacteria and other micro-organisms, embedded in a protective layer with entrained debris, attached to a surface.
Calorifier	An apparatus used for the transfer of heat to water in a vessel by indirect means, the source of heat being contained within a pipe or coil immersed in the water.
Chlorine	An element used in disinfection .
Cold water service (CWS)	Installation of plant, pipes and fitting in which cold water is stored, distributed and subsequently discharged.
Competent Person	individual appointed with, and who has accepted, responsibility under the authority of the duty holder for ensuring that the organization's responsibilities for the control of Legionella are met and that all individuals and organizations assigned to carry out tasks in the scheme of Legionella control are competent to do so NOTE 1 Also referred to as the "nominated responsible person". This role can be taken by more than one individual, for example, in a water safety group. NOTE 2 In a large undertaking there may be more than one competent person, each responsible for a part of the undertaking, e.g. each block of a large teaching hospital
Cooling tower	An apparatus through which warm water is discharged against an air stream; in doing so part of the water is evaporated to saturate the air and this cools the water. The cooler water is usually pumped to a heat exchanger to be reheated and recycled through the tower.
Dead end/blind end	A length of pipe closed at one end through which no water passes.
Deadleg	Pipes leading to a fitting through which water only passes when there is draw-off from the fitting.
Dip slide(s)	A dip slide is a means of testing the microbial content of liquids. It consists of a plastic carrier bearing a sterile culture medium which can be dipped in the liquid to be sampled. It is then incubated to allow microbial growth. The resulting microbial colonies are estimated by reference to a chart.
Disinfection	A process which destroys or irreversibly inactivates micro-organisms and reduces their number to a non-hazardous level.
Distribution circuit	Pipework which distributes water from hot or cold water plant to one or more fittings/appliances.
Domestic water services	Hot and cold water intended for personal hygiene, culinary, drinking water or other domestic purposes.
Duty holder	Individual(s) with the legal responsibility to ensure that health and safety is managed effectively NOTE 1 The duty holder is the employer where the risk is from their undertaking to their staff or others, the self-employed person where the risk is from their undertaking to themselves or others, or the person in control of the premises where the risk is from systems in the building (e.g. a landlord who remains responsible for the maintenance of the systems). See ACoP L8, para. 28. NOTE 2 In most cases there will only be one duty holder, but in cases of shared accommodation there could be a shared duty. There might be some cases where the duty holder is a group such as a corporate body, Trust, etc. The duty holder cannot delegate this duty, but can delegate managerial responsibility to the competent person, also known as the nominated responsible person
Evaporative condenser	A heat exchanger in which refrigerant is condensed by a combination of air movement and water sprays over its surface.
Fouling	Organic growth or other deposits on heat transfer surfaces causing loss in efficiency.

Hazard	biological, chemical or physical agents or water conditions with potential to cause adverse health or safety-related effects
Hot water service (HWS)	Installation of plant, pipes and fittings in which water is heated, distributed and subsequently discharged (not including cold water feed tank or cistern).
Inherent risk	Risk associated with the system before any action has been taken to control it.
<i>L. pneumophila</i>	One of the causative organisms of Legionnaires' disease .
<i>Legionella</i>	Type of aerobic bacterium which is found predominantly in warm water environments. (singular of legionellae).
<i>Legionella</i> risk assessment	process of identifying and assessing the risk of exposure to Legionella from work activities and from water systems or equipment.
Legionellae	The genus Legionella belongs to the family legionellaceae which has over 40 species. These are ubiquitous in the environment and found in a wide spectrum of natural and artificial collections of water.
Legionellosis	Any illness caused by exposure to Legionella.
Legionnaires' disease	A form of pneumonia caused by Legionella bacteria.
Micro-organism	An organism of microscopic size including bacteria , fungi and viruses.
Non-oxidising biocide	A non-oxidising biocide is one that functions by mechanisms other than oxidation, including interference with cell metabolism and structure.
Nutrient	A food source for micro-organisms .
Oxidising biocide	Agents capable of oxidising organic matter, eg cell material, enzymes or proteins which are associated with microbiological populations resulting in death of the micro-organisms. The most commonly used oxidising biocides are based on chlorine or bromine (halogens) which liberate hypochlorous or hypobromous acids on hydrolysis in water. The exception is chlorine dioxide, a gas which does not hydrolyse but which functions in the same way.
Pasteurisation	Heat treatment to destroy micro-organism usually at high temperature.
Pontiac fever	A disease caused by species of legionella, an upper respiratory illness less severe than legionnaires' disease .
Ppm	Parts per million: a measure of dissolved substances given as the number of parts there are in a million parts of solvent. It is numerically equivalent to milligrams per litre mg/l with respect to water.
Reassessment	process of reassessing a system after the need is determined by review, or after a time period has passed since the last risk assessment, this may be defined by the written scheme.
Residual risk	risk remaining after the application of control measures.
Risk	likelihood of a hazardous event occurring and its consequences.
Risk assessment	overall process of risk identification, risk analysis and risk evaluation.
Risk assessment review	process of determining if the current risk assessment and scheme of control are still valid and effective.
Scale inhibitors	Chemicals used to control scale. They function by holding up the precipitation process and/or distorting the crystal shape, thus preventing the build-up of a hard adherent scale.
Sentinel taps	For a hot water services – the first and last taps on a recirculating system. For cold water systems (or non-recirculating hot water systems), the nearest and furthest taps from the storage tank. The choice of sentinel taps may also include other taps which are considered to represent a particular risk.
Sero-group	A sub-group of the main species.
Sessile	Aquatic micro-organisms adhering to a surface normally as part of a biofilm
Shunt pump	A circulation pump fitted to hot water service/plant to overcome the temperature stratification of the stored water.
Siphoning	draw off or convey liquid.
Slime	A mucus-like exudate which covers a surface produced by some micro-organisms .
Sludge	A general term for soft mud-like deposits found on heat transfer surfaces or other important sections of a cooling system. Also found at the base of calorifiers and Cold Water Tanks.
Stagnation	The condition where water ceases to flow and is therefore liable to microbiological growth.
Strainers	A coarse filter usually positioned upstream of a sensitive component such as a pump control valve or heat exchanger to protect it from debris.
Thermal disinfection	Heat treatment to disinfect a system.
Thermostatic mixing valve	Mixing valve in which the temperature at the outlet is pre-selected and controlled automatically by the valve.

Water management system	A system that can be either located in hard copy, such as a physical log book, on site or via an on-line/electronic portal that stores documentation and records associated with the management control of Legionella
Water safety group (WSG)	multi-disciplinary group formed to undertake the commissioning and development and ongoing management of the risk assessment and the scheme of control.
Written scheme of control	procedures and checks intended to control the risk of Legionella, including an up-to-date schematic diagram
WRAS	Water Regulations Advisory Scheme.

Equipment List

The following items of equipment (including Personal Protective Equipment [PPE]) were used for this assessment:

Temperature Probe Model Therna 1, Calibrated 6th May 2025

Ladder

Tablet PC

Torch

Hard hat

High visibility vest

Gloves

Safety Shoes

Safety Spectacles

Callipers

Adjustable spanner

Screw drivers

Disinfectant wipes

Face mask

Site Services Risk Assessment

Print: Sam Jenkins

Sign: 

HAZARD IDENTIFIED		A PERSONS AT RISK			B WORST OUTCOME			C LIKELIHOOD			RISK RATING = A + (B x C)
		EMPLOYEES	CLIENT'S STAFF	OTHERS (General Public)	SERIOUS	SIGNIFICANT	MINOR	LIKELY	POSSIBLE	REMOTE	
No.		0	1	2	3	2	1	3	2	1	
1	Contact with Moving Parts/Machinery										0
2	Contact with Live Electrical Equipment										0
3	Working at Height (Ladders, etc.)										0
4	Harmful Bacterial/Micro-organisms										0
5	Substances Covered by COSHH Regs.										0
6	Adverse Weather Conditions										0
7	Remote or Lone Working Conditions										0
8	Working in Confined Spaces										0
9	Working with Power Tools										0
10	Workplace Noise Levels										0
11	Slips, Trips and Falls	✓					✓			✓	1

RISK CONTROL LEVELS: LOW = 0-3 MEDIUM = 4-7 HIGH = 8+

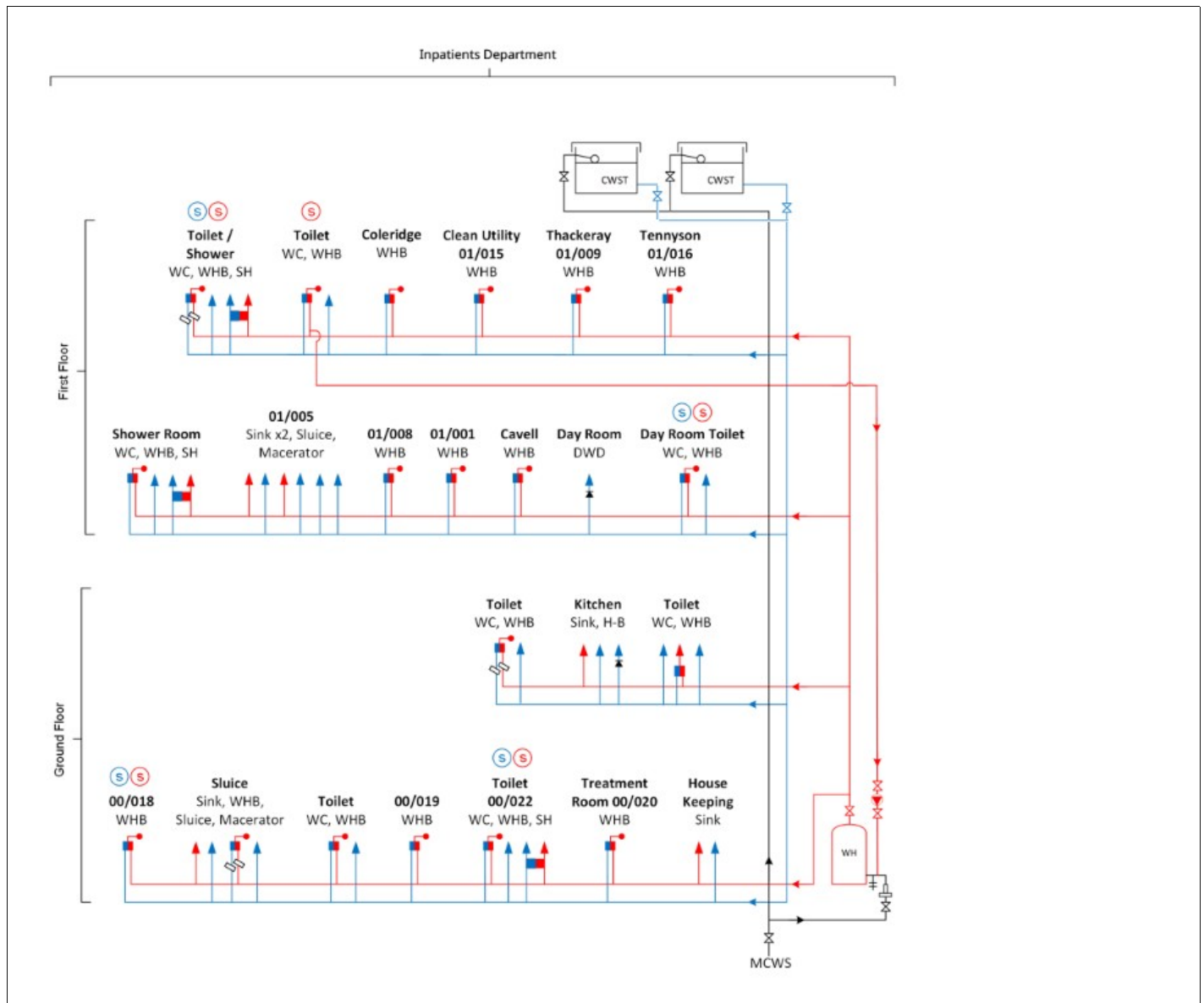
No.	CONTROL MEASURES/PRECAUTIONS
11	Stick to designated walkways. Maintain vigilance. Avoid placing bags and tools where they may create a trip hazard.

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Schematic Diagram



Schematic Diagram – Key To Abbreviations Legends					
	Mains Cold Water Services		Calorifier		Electric Shower
	Hot Water Services		Direct Storage Water Heater With Header Tank		Thermostatic Mixing Valve
	Tank Cold Water Services				
	Softened/RO Water Services		Direct Storage Water Heater Without Header Tank		Thermostatic Mixing Shower
	Reclaim/Rain Water Services				
	Pump		Point of Use Water Heater		Thermostatic Mixing Tap
	Valve - Open				
	Valve - Closed		Temperature Gauge		Mixer Tap
	Non-Return Valve				
DWD	Drinking Water Dispenser		Instantaneous Water Heater		Accumulator
Vend	Vending Machine				Tundish
DWT	Drinking Water Tap		Buffer Vessel		RPZ Valve
H-B	Hydro-Boil Unit				
PW	Pot Wash Sink		Cold Water Storage Tank		Dead-Leg
FP	Food Preparation Sink				Dead-End
DWM	Dishwashing Machine		Expansion Vessel		Pressure Gauge
WM	Washing Machine				Filter
SH	Showerhead		Combination Boiler		Subordinate Return Loop
WC	Water Closet				
WHB	Wash-hand Basin		Plate Heat Exchanger		Loop Monitoring Point
UR	Urinal				
TMV	Thermostatic Mixing Valve		Pressure Release Valve		Dosage Tank & Pump
TMT	Thermostatic Mixing Tap				
	Water Meter		Water Softener		Chemical Line
	Cold Sentinel Point				Electrical Impulse Line
	Hot Sentinel Point		Fire Hose Reel		RO Equipment
	Legionella Sampling Points				Chiller
	Boundary Marker		Flow Control Valve		Evaporative Condenser
	Drain				
	Strainer		UV Steriliser		Cooling Tower
	Pressure Reducer				
			Brominator		Brominator With Flow Indicator