Legionella Risk Assessment & Water Hygiene Survey Report

Site External Image:

Client Name:	Bouygues E&S FM UK
Site Name:	The Royal Hospital for Children & Young People
Site Address:	Little France Crescent, Edinburgh, EH16 4TJ
Survey Date:	18th – 21st February 2019
Surveyor Name:	[redacted]

Contents

1.0 Executive Summary & Overall Site Risk Rating

The table below shows how the overall risk rating for the site has been calculated. The risk of each water system has also been taken into account. See section 5 of this report for more information on the assessment of risk.

Assessment of the Risk of Exposure to Legionella Bacteria			
Risk Parameter	**Risk Rating**	**Numerical Value**	**Numerical Score**
1. Formation of Water Droplets			
Still Water	Low	10	
Droplets	Medium	20	
Aerosol	High	30	30
2. Water Condition			
Chemical Regime	Low	10	
Clean	Low/Medium	15	15
Contaminated	Medium/High	25	
Heavily Contaminated	High	30	
3. Water Temperature x 2 (hot & cold)			
Below 20˚C	Low	10	
21˚C-25˚C	Medium	20	
26˚C-45˚C	High	30	30
46˚C-50˚C	Medium	20	
Above 50˚C	Low	10	10
4. Water Turnover			
Stagnant	High	30	
Low Turnover	Medium	20	20
Moderate Turnover	Medium/Low	15	
High Turnover	Low	10	
5. Susceptibility of Exposed Population			
Average Population	Medium	20	20
Susceptible Populations	High	30	
6. Population Density of Exposed Population			
Low Density	Low	10	
Medium Density	Medium	20	20
High Density	High	30	
		Total Numerical Value	145
7. Legionella Positive Rating Factor (if samples are positive multiply by a factor of 2)			
Risk Rating			**HIGH**

1.1 Risk Rating of each Water System

The table below summarises the potential risk rating for each water system surveyed on site; further details of each system and the reasoning for the rating are detailed in Section 5 of this report.

Water System(s)	Asset Reference	Risk Rating
Mains Cold Water Supply & Associated Services	MCWS01	Medium
Cold Water Storage Tank & Associated Services	CWST01	High
Cold Water Storage Tank & Associated Services	CWST02	High
Cold Water Storage Tank & Associated Services	CWST03	High
Cold Water Storage Tank & Associated Services	CWST04	High
Cold Water Storage Tank & Associated Services	CWST05	High
Cold Water Storage Tank & Associated Services	CWST06	High
Cold Water Storage Tank & Associated Services	CWST07	High
Cold Water Storage Tank & Associated Services	CWST08	High
Cold Water Storage Tank & Associated Services	CWST09	Medium
Cold Water Storage Tank & Associated Services	CWST10	Medium
Cold Water Storage Tank & Associated Services	CWST11	High – No Access
Calorifier & Associated Services	CAL01	High
Calorifier & Associated Services	CAL02	High
Calorifier & Associated Services	CAL 03	High
Calorifier & Associated Services	CAL04	High
Calorifier & Associated Services	CAL05	High
Calorifier & Associated Services	CAL06	High
Calorifier & Associated Services	CAL07	High
Calorifier & Associated Services	CAL08	High
Calorifier & Associated Services	CAL09	Medium
Calorifier & Associated Services	CAL10	Medium
Calorifier & Associated Services	CAL11	Not Yet Connected

1.2 Limitations of the Survey & Risk Assessment

The table below shows any omissions, limitations of the survey or factors that may impact on the outcome of the survey and the assessment of the risk., the table may identify areas with no or restricted access, the availability of assistance from site personnel, the availability of information relating to the Management arrangements and records associated with the Written Scheme.

Item	Comments
1	It should be noted that this Risk Assessment has been carried out on the basis that the building is currently still under the control of the building contractors. It is recommended that the site will need to be reassessed when the Hospital becomes occupied and operational.
2	Due to the site being under the control of the building contractors not all rooms were accessible during the survey. Some areas were found to be locked as stock/equipment is moved into the premises in readiness for opening.

During the course of the survey water sources within the building were risk assessed. These Sources were chosen as being representative of the overall water systems and outlets within the building. It should be noted that not all areas were accessible during the survey visit. This document has been produced using the best information available at the time of the assessment. Whilst every effort has been made to ensure its accuracy, CLIRA LTD takes no responsibility for any unforeseen omissions, relating to equipment and systems that we were not made aware of at the time of the assessment.
The survey and risk assessment was undertaken in order to comply with the Health and Safety Commission - Executives requirements on- Legionnaires` Disease -The Control of Legionella Bacteria in Water Systems HSG 274 PARTS 1, 2 & 3. The assessment has also been carried out to the requirements set in the Scottish Health and Technical Memorandum 04-01: The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems. (SHTM 04-01) and all other statutory and non-statutory documentation. *BSI 8580:2010 – Water quality – Risk Assessments for Legionella control & HTM 01-05*
The survey has been limited to the terms of reference agreed between Bouygues E&S FM UK and CLIRA LTD. Observations relating to system condition and other factors applicable to the requirements of HSG 274 PART 2 have been recorded during the survey and specific references are made to compliance with HSG274 in the recommendations section of the report.
The recommendations section places responsibility on Duty holders/employers and others to prepare a scheme for preventing or controlling the risk from Legionellosis. Adoption of a monitoring scheme in conjunction with a regime of preventative maintenance and associated record keeping will meet those requirements.

1.3 Summary of Findings

- Item 1: A Responsible Person & Deputy Responsible Person should be nominated;
- Item 2: Training Records should be set up & maintained;
- Item 3: A Written Scheme with a management structure needs to be put in place for this site;
- Item 4: Set up & maintain a record keeping log book for this site;
- Item 5: Calorifiers temperatures should be checked monthly;
- Item 6: Flush expansion vessels on a six monthly basis or convert to flow through vessels;
- Item 7: Provide access portholes in side of calorifiers to allow temperature probes to be inserted;
- Item 8: Calorifiers should be fitted with destratification pumps to prevent stratification for occurring;
- Item 9: Fit insulation to pipe work one metre around Calorifier 11;
- Item 10: Ensure Water Boilers & Hydrotaps have a good turnover of water & clean regularly;
- Item 11: Cold Water Storage Tanks (CWST) should be inspected on a Bi-annual basis;
- Item 12: Shorten length of Drain Valves on CWST's to prevent dead ends or place on flushing regime;
- Item 13: Clear overflow traps should be cleaned quarterly
- Item 14: Ensure minimal expose to aerosol when the Fire Sprinkler Tank is tested;
- Item 15: Repair the broken Keraflow valve on CWST 9 & 10 & remove parts from base of the tank;
- Item 15: Inspect Rainwater Tank 6 monthly, carry out sampling when tank is in use;
- Item 16: Maintain filters in Filtration Plant as per manufacturer's recommendations;
- Item 17: Hot & Cold water temperatures should be taken from sentinel points monthly & recorded;
- Item 18: People categorised as 'at risk' should not be exposed to aerosols if possible;
- Item 19: Clean & de-scale showers & spray attachments quarterly;
- Item 20: Remove identified Dead Ends / Legs identified:
- Item 21: Where Flexible Link Hose are required on adjustable sinks ensure it is WRAS approved & do not allow pipe to kink;
- Item 22: Whilst site is unoccupied flush all water system outlets twice weekly for 5 minutes;
- Item 23: Identify location of Tertiary Loops on receipt of 'as fitted' drawings;
- Item 24: Heating Pressure Tank should have tight fitting lid & check a biocide is added to tank;
- Item 25: Flush Emergency showers & eyewashes twice weekly;
- Item 26: Ensure Hose Union Bib Taps (HUBT's) are fitted with backflow prevention, flush weekly if not used, concealed taps should be checked to ensure they are on flushing regime;
- Item 27: Bin Wash equipment should be dismantled & cleaned quarterly;
- Item 28: Investigate reason for high cold water temperatures recorded;
- Item 29: Thermostatic Mixing Valves (TMVs) & TMV taps should be condition & temperature checked regularly;
- Item 30: The RPZ valve should be tested annually by an approved tester;
- Item 31: Flush dental line equipment twice daily & between patients;
- Item 32: Re-set, repair or replace faulty TMV's;
- Item 33: Clean flow straighteners on Markwick taps annually or remove if possible;
- Item 34: Service & maintain Air Handling equipment as per manufacturer's instruction, disinfect U Bend trap quarterly;
- Item 35: Y Type Strainers should be cleaned quarterly & recorded in site log book;
- Item 36: Service & maintain Ice Making Machine as per manufacturer's instructions, do not allow ice to stagnate in storage bin;
- Item 37: Service & maintain Autoclave Unit as per manufacturer's instructions & monitor header tank annually;
- Item 38: Service & maintain water fed equipment as per manufacturer's instructions;
- Item 39: Ensure backflow prevention is fitted at the branch of main supply pipe to the Chiller& HUBT on the Roof Top;
- Item 40: Pipe work to the Chiller should be labelled correctly;
- Item 41: Service & maintain Dishwashers & Washing Machines as per manufacturer's instructions, ensure machines are used weekly;

1.4 Reviewing the Risk Assessment

Note: The assessment of risk is an ongoing process and not merely a paper exercise. Duty holders should arrange to review the assessment regularly and specifically when there is reason to suspect it is no longer valid.

It is a requirement that the assessment is carried out by a competent person(s) and is reviewed regularly, usually every year unless there is reason to suspect that it is no longer valid in which case the review should be carried out immediately. For example when the following have occurred:

- Changes to the water system or its use.
- Changes to the use of the building in which the water system is installed.
- Availability of new information about risks or control measures.
- The results of checks indicating that control measures are no longer valid.
- A case of legionnaires' disease/legionellosis is associated with the system.
- Changes to key personnel with roles/responsibilities to the control measures.

At the time of this survey the building was preparing for the hand over stage, and occupied by building and maintenance staff.

The risk assessment should be carried out again as soon as the building is under normal occupation and being used for the intention that it was constructed for.

2.0 Recommended Remedial Action

2.1 Management Procedures

Risk Rating	Item: 1 Recommended Action	Photo Ref.
High	Nominate a Responsible Person and Deputy Responsible Person who must sign to say that he or she agrees and understands their role and responsibilities to manage the control of Legionella	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item: 2 Recommended Action	Photo Ref.
HIGH	***Training Records*** No training records were available, a review of the training requirements is recommended for individuals managing and controlling the risk of legionella of the water systems. Appropriate training should be given to ensure competency, and a centralised record of; who has been trained, content of the course and dates completed (as per requirements laid out in HSG 274 PART 1,2 & 3. & SHTM 04-01.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item: 3 Recommended Action	Photo Ref.
HIGH	***Written Scheme*** There should be a written scheme for controlling the risk from exposure that should be properly implemented and managed. The written scheme should specify measures to take to ensure that it remains effective. Schematic drawings should be made of the water systems on site. The written scheme should include, 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- schematic drawings should be arranged); (b) a description of the correct and safe operation of the system; (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. *Further information about the written scheme can be found in section 7 Appendices of this report 'Appendix 2.2 Legionella written control scheme'.*	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item: 3 Recommended Action	Photo Ref.
HIGH	***Record Keeping*** A control and record-keeping logbook document was <u>not</u> present on the day of the risk assessment. A log book should be produced and maintained for the premises and the scheme contained within the logbook requires implementing and monitoring in order to meet the requirements under the HSG 274 PART 2 & SHTM 04-01. A logbook system of control documentation will best achieve the requirement for maintaining records of precautions implemented. The logbook documentation should include: (a) names and positions of people responsible, and their deputies, for carrying out the various tasks under the written scheme; (b) a risk assessment and a written scheme of actions and control measures; (c) schematic diagrams of the water systems;	

Risk Rating	Item: 3 Recommended Action	Photo Ref.
	(d) details of precautionary measures that have been applied/implemented including enough detail to show that they were applied/implemented correctly, and the dates on which they were carried out; (e) remedial work required and carried out, and the date of completion; (f) a log detailing visits by contractors, consultants and other personnel; (g) cleaning and disinfection procedures and associated reports and certificates; (h) results of the chemical analysis of the water; (i) results of any biological monitoring (j) information on other hazards, e.g. treatment chemicals; (k) cooling tower and evaporative condenser notification; (l) training records of personnel; (m) the name and position of the person or people who have responsibilities for implementing the written scheme, their respective responsibilities and their lines of communication; (n) records showing the current state of operation of the water system, e.g. when the system or plant is in use and, if not in use, whether it is drained down; (o) Either the signature of the person carrying out the work, or other form of authentication where appropriate. See page 19, paragraph 70, Record keeping, of the Health and Safety Executive, Legionnaires disease, Approved Code of Practice and Guidance L8 (fourth edition). Ensure logbook documentation is incorporated into one manual. The logbook, documentation and operation should be audited on a period basis in order to ensure that the system conditions and precautionary procedures are being maintained and to verify the record documentation. The record logbook should contain simple schematic diagrams of the domestic hot and cold water systems indicating the areas of storage and areas of distribution. This information may already be available in the building record drawing systems but for ease of reference simple line diagrams are included in this report. The precise procedures relating to the precautionary measures i.e. cleaning of water tank systems and calorifiers together with start up and shut down procedures for calorifiers should be maintained within the log book system and updated as required. The details of persons who are trained and competent to undertake the works should also be recorded in the log book with details of the training undertaken. This also applies to specialist contractors who may undertake part of these duties.	

Risk Rating	Item: 3 Recommended Action	Photo Ref.
	The operating logbook document should state the details of the persons appointed as being responsible for the operational policy and management of precautions regarding control of Legionellosis on the site. The responsibilities should be clearly set out and lines of communication defined. Any specialist water treatment company providing a service on site and persons responsible for any auditing of the system operation and documentation should also be defined within the structure. Precautionary measures and maintenance activities should be implemented and the measures should be reviewed on an ongoing basis dependant on feedback on systems conditions and updated knowledge on the control of Legionella bacteria. Consideration should be given to the inclusion of periodic water quality tests in order to monitor and record changes in local water conditions i.e. cold water from storage tanks, calorifiers together with associated outlets. A simple and speedy bacterial assay such as the dip slide method can be utilised for this purpose, to get an indication of the condition of the systems. Any positive findings should be followed up by re sampling using a UCAS accredited Laboratory . Further information about record keeping can be found in section 7 Appendices 'Record keeping – Extract from HSG274 Part 2' in this report.	

Rectified By	Comments	Date
Name: Signature:		

2.2 Hot Water Storage/Heaters

Risk Rating	Item 5 Recommended Action	Photo Ref.
Medium	All water heaters temperatures should be monitored monthly Check calorifier (CAL) flow temperatures. SHTM's recommend temperatures are maintained above 50°C We recommend that thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C. Check calorifier return temperatures are not below 55 °C. Also take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 55°C within one minute. Annually inspect calorifier internally by removing the inspection hatch or using a boroscope and clean by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded. Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature. All actions must be recorded within the sites log book. After any shut down periods of more than a week, in which time the water systems have not been used and hot water storage vessels have been allowed to cool, it is recommended that the HWS is to operate at its highest temperature for at least one day before any water is drawn off this to allow for the pasteurisation of the system.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 6 Recommended Action	Photo Ref.
Medium	The Expansion vessel fitted to CAL11 (supplying Bin Wash) should be fitted (if possible) with an isolation drain valve. This would ensure that the water stored within it is flushed through and would reduce the possibility of the water within it becoming stagnant.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 7 Recommended Action	Photo Ref.
Medium	There was no access to take temperatures through the Calorifiers insulation. The Calorifiers require suitable port holes so temperature probes can be inserted, so that temperature recordings can be taken at the top middle and bottom of the water heater. Doing this will also ascertain whether there is stratification within the Calorifiers.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 8 Recommended Action	Photo Ref.
Medium	No Stratification pumps on Calorifiers. It is recommended that the installation of destratification pumps on these calorifiers will help to achieve greater 'mixing' of the water and prevent stratification. Fitting a pump will also create a better stabilisation of temperatures within the calorifier, and therefore, better thermal disinfection conditions.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 9 Recommended Action	Photo Ref.
Medium	Pipe work around Calorifier -CAL11 was not fitted with insulation. Insulation should be installed on pipe work one metre in all directions from water heaters.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 10 Recommended Action	Photo Ref.
Medium	Low storage volume heaters (i.e. no greater than 15 litres) such as Hydrotaps & Water Boilers, may be generally regarded as lower risk. Instantaneous water heaters are susceptible to scale formation in hard water areas, where they will require frequent maintenance. In order to maintain good hygiene conditions within the cold-water storage section there must be a good water turnover and a programme of regular cleaning and disinfection must be introduced.	
Rectified By	**Comments**	**Date**
Name: Signature:		

2.3 Cold water Storage

Risk Rating	Item 11 Recommended Action	Photo Ref.
	A minimum annual inspection of the cold water storage tanks (CWST) should be done to check their condition inside and outside, and the water within. We recommend a Bi-annual check. Water temperatures in the tanks should be checked, if for example the tank is within a roof space or on a roof a temperature check should be made in summer. The lid should be closely fitting and in good condition. The insect and vermin screen on the overflow and warning pipes and any vents should be intact and in good condition. The thermal insulation should be in good condition so that it protects from extremes of temperature. The water surface should be clean and free from any visible, significant contamination. If scale, debris or surface contamination is seen the cold water storage tank should be cleaned, disinfected and any faults rectified. If debris or traces of vermin are found, the inspection should be carried out more frequently. All actions must be recorded within the sites log book.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 12 Recommended Action	Photo Ref.
High	The Drain points on all cold-water storage tanks are too long and acting as dead legs. It is recommended that these are shortened or that they are placed onto a twice weekly flushing regime to ensure that all stagnation products are removed.	3.1

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 13 Recommended Action	Photo Ref.
High	The glass overflows on CWST5, CWST06, CWST07 and CWST08, should be cleaned quarterly and kept topped up with added biocide, to ensure no biofilm is allowed to grow.	3.2 3.3

Risk Rating	Item 13 Recommended Action	Photo Ref.
Rectified By	**Comments**	**Date**
Name: Signature:		
Risk Rating	**Item 14 Recommended Action**	**Photo Ref.**
High	Fire Sprinkler Tank for the helipad. – The lack of flow in the tank and temperatures stored may be a Legionella risk, however, the risk from fire outweighs the risk from Legionella. When testing or flushing the system, there is a high risk from aerosols of contaminated water. The work has to be completed with minimum exposure to aerosols, preferably discharging water into a closed container or drain, perhaps at times when there is a minimum number of people on site, to be exposed to any aerosol produced.	3.4
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 15 Recommended Action	Photo Ref.
Medium	The Keraflow valve in the garden tanks (CWST9 & 10) is broken and this should be repaired & the part lying at the bottom of the tank removed.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 16 Recommended Action	Photo Ref.
Medium	The Rain Water Harvesting Storage Tank located in Plant Room 016 is currently not feeding any outlets and is being drained via pumps. Ensure that the tank complies with BS8515:2009. The tank should be insulated to prevent heating and freezing of the collected water, water tight, avoid stagnation, resist microbial growth and be sited so as not to create an environment suitable to the growth of Legionella. The size of the tank should be suitable for use, not oversized to ensure regular turnover of stored water, with screened vents fitted to prevent the ingress of contaminants. When the system is used it is recommended that a six monthly check of condition (sediment, bio-film and temperatures etc.), clean and disinfect as per inspection results and consider the use of a biocide treatment. Consider water sampling to check condition of water (TVC's & Legionella).	3.5

Risk Rating	Item 16 Recommended Action	Photo Ref.
	Ensure that there is adequate backflow prevention is in place, i.e. Type AA air gap to BS EN 13076 or a Type AB air gap to BS EN 13077.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 17 Recommended Action	Photo Ref.
Medium	Filters have been associated with the support of bacterial growth. Therefore, the filtration plant off CWST03 & CWST04 should be maintained as per the manufacturer's instructions	3.6
Rectified By	**Comments**	**Date**
Name: Signature:		

2.4 Other Risk Factors

Risk Rating	Item 18 Recommended Action	Photo Ref.
	Hot and Cold water temperatures should be taken from sentinel outlets monthly and ensure the cold water temperatures are maintained below 20°C.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 19 Recommended Action	Photo Ref.
High	**'At Risk' People** The survey has shown that people who; ➢ smoke ➢ are over 45 years old ➢ have immunodeficiency ➢ suffer from chronic respiratory or kidney disease ➢ diabetes ➢ lung disease ➢ heart disease Use the site or could use the site at some point in the future. It is recommended that anyone categorised above should not be subjected to conditions which have the possibility to create an aerosol if possible. This includes staff that have duties in carrying out monitoring and PPM programmes. The site should have a clear method statement for staff performing tasks in order to reduce exposure. Legionnaires' disease is a potentially fatal form of pneumonia and everyone is susceptible to infection. The risk increases with age, but some people are at higher risk, e.g. people over 45, smokers and heavy drinkers, people suffering from chronic respiratory or kidney disease, diabetes, lung and heart disease or anyone with an impaired immune system.	
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 19 Recommended Action	Photo Ref.
High	Showers / Combi Oven & Shower spray wash attachments - Aerosols of water are the means by which legionella bacteria are transmitted. It is recommended that all showerheads and spray wash attachments are de-scaled and disinfected every three months, as scale is a nutrient for bacterial growth. Those showers, which are not used on a weekly basis, should be flushed through with hot and cold water supplies for a minimum of 5 minutes at least twice weekly without the creation of an aerosol. Alternatively both the hot and cold water supplies could be permanently disconnected and pieced through at the main branch and actions recorded within the site log book.	3.7 3.8

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 20 Recommended Action	Photo Ref.
High	Dead Legs/Dead Ends were seen in the following locations; • I2-006 (Drain valve) • B-51-001 (No appliances fitted yet) • GF1-054 (Only one Washing Machine fitted) • G-A1-101 (No appliance fitted) • G-I1-006 (No appliance fitted) • 3.C1.4-013 Dead Leg no appliance fitted yet • 4 K2-068 dead Leg No appliance fitted yet • G-Y-1-004 (bin wash connections) • BS1-015 – waste station isolated • IP1-016 Below sink • Hot Water Return CAL01 & CAL02 • Drain points on expansion vessels • Drain Too long acting as a dead leg on all CWS tanks • Supply Pipe to chillers on roof All dead ends identified should be removed and all associated pipe cut back to its main source and isolated, to prevent stagnation within the water system. Dead ends / legs provide an environment for bacterial growth, due to the lack of water movement. Due to the period of time that the appliance outlets have not had equipment attached it is recommended that flushing points are created to allow the dead legs that are created to be placed on a twice weekly flushing regime.	3.9 3.10 3.11 3.12 3.13 3.14 3.15 3.16 3.17 3.18 3.19 3.20

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 21 Recommended Action	Photo Ref.
High	Flexible Link Hoses are fitted on the adjustable height sink in 2-M2-009. Evidence from scientific investigations have shown that some flexible hoses used to connect washbasin taps to plumbing systems were heavily infected with biofilm which included the Legionella bacteria. The rough inner surfaces and the pits provide ideal places for bacteria to attach and form biofilm and evade attempts at disinfection. Where flexi hoses must be used (e.g. on essential equipment such as hi – low sinks or where vibration occurs) they must be lined with a suitable alternative to EPDM, as well as being WRAS approved. Care should be taken to avoid kinking or distorting the pipes during installation.	3.21

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 22 Recommended Action	Photo Ref.
High	While the building is unoccupied, all systems and outlets are infrequently used. There is a flushing regime currently in place, but it was deemed not to be vigorous enough to prevent stagnation, with the potential for bacterial growth. All outlets should be flushed through with hot and cold water supplies for a minimum of 5 minutes twice a week, without the creation of an aerosol. Records need to be set up to substantiate that flushing has taken place as no records currently in place. Checks should be made on the Kemper flushing devices to ensure they are auto flushing correctly.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 23 Recommended Action	Photo Ref.
High	Tertiary Loops could not be pin pointed at the time of visit. These should be identified from 'As fitted' drawings when the building is handed over by the contractor.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 24 Recommended Action	Photo Ref.
High	The Pressurisation Unit Tank in the Energy Centre does not have a lid fitted, it is open around the top and has stagnant water in the tank. This runs the risk of creating aerosols from this water. The unit should have a tight-fitting lid fitted. At the time of survey, we were informed that a biocide was being added to the tank. However, the additive seen was a heating system inhibitor for scale & corrosion and did not appear to have a biocide added. Further investigation should be made to check if a biocide is added to the Unit.	3.22 3.23
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 25 Recommended Action	Photo Ref.
High	It is recommended that the emergency showers and eye wash spray are flushed on a twice weekly regime, ensuring that there is a minimum risk of exposure to aerosols and the details recorded within the site log book.	3.24
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 26 Recommended Action	Photo Ref.
High	If the hose union bib taps (HUBT) are considered to be infrequently used or unused, it is recommended that they are placed onto a weekly flushing regime and all information documented to prevent stagnation within the water system or remove the taps ensuring that all associated pipes are cut back to its original supply and isolated. Ensure that the HBUT's are fitted with backflow prevention. Also, it is recommended that the hose pipes are reeled back into their respective containers after each use and disconnected from the tap.	3.25
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 27 Recommended Action	Photo Ref.
High	It is recommended that the Bin wash equipment is monitored monthly. Check supply water temperatures and maintain below 20˚C if possible. Check equipment is in a good clean condition, free from nutrients for bacterial growth e.g. oil, soil, grit etc. All actions should be recorded in the site log book including training staff on correct usage, to avoid exposure to aerosols if possible. It is recommended Legionella samples be taken quarterly, especially in summer months. The spray attachment should be cleaned and descaled quarterly. Ensure the correct back flow prevention device is fitted, as close as possible to the mains source. (CAT 4 double check valve)	3.26

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 28 Recommended Action	Photo Ref.
High	High cold water temperatures were recorded from outlets in Rooms:- **GROUND FLOOR** G-Q1-046, G-Q1-019, G-D5-002, G-N1-004, **FIRST FLOOR** 1-B1-063, 1-B1-021, 1-L1-016, 1-L1-006, 1-L1-007, 1-L1-005, 1-L1-029, 1-L1-001, **SECOND FLOOR** 2-M3-062, 2-M3-132, 2-M3-090, 2-M3-091, 2-M3-125, 2-M3-126, 2-M3-111, 2-M3-110, 2-M3-121, 2-M3-108, 2-M3-139, 2-M3-138, 2-M3-140, 2-M3-141, 2-M3-078, 2-M3-092, 2-M3-093, 2-M3-086, 2-M3-065, **FOURTH FLOOR** 4-H1-014, 4-H1-018, 4-H1-027, Further investigation is required to ascertain the reason for this high cold water temperatures and appropriate actions taken to ensure the temperature is maintained below 20°C including vigorous flushing.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 29 Recommended Action	Photo Ref.
High	Thermostatic Mixing Valves (TMV's) and TMV taps produce water at a temperature that safeguards against the risk of scalding. The temperature range that these are set at, means that the downstream blended water may provide an environment where legionella & other bacterial growth can multiply. Therefore, they should be as close as possible to the outlet and the outlet used frequently. Where TMV's are employed to control hot water to outlets temperatures in order to prevent scalding, they should be set to give the following maximum temperatures. • Wash hand basins /showers /sinks 41°C • Baths (None assisted) 44°C • Baths assisted 46°C As part of statutory compliance all TMVs & TMV taps should be serviced regularly- minimum annually. All TMV's employed need to be temperature checked, condition inspected, including fail safe check. Also, inspect, clean, descale and disinfect any strainers or filters associated with TMVs.	3.27 3.28

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 30 Recommended Action	Photo Ref.
High	RPZ valves. You will be required to give prior notification to your local Water Supplier if you are intending to install this type of device. There are a number of installation requirements that must be complied with, therefore you are advised to have the valve fitted and commissioned by a reputable company. The valve will require testing annually or more frequently if determined either by the local Water Supplier or the manufacturers of the device. Testing must be carried out by an Approved Tester, who on completion, must furnish the customer and the local Water Supplier with a current test report and certificate verifying that the valve is working correctly	3.29

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 31 Recommended Action	Photo Ref.
High	Dentistry Areas -Flush all system components and pipe work, twice daily for 2 to 4 minutes at the start and finish of each working day also, flush for at least 30 seconds between patients. Clean storage bottles daily and rinse with distilled or Reverse Osmosis (RO) water, drain, and leave inverted overnight. If mains water is used to fill bottles, then a disinfection agent e.g. Alpron or A-dec ICX should be used. Spittoons and aspirating units need to be washed through at the end of a session according to manufacturers' instructions. All sinks need to be labelled in surgeries, they should be labelled dirty or clean sink. Dental equipment requiring protection against backflow such as dental spittoons, three-in-one syringes, wet-line suction apparatus, and self-filling automatic radiographic processors should have anti-retraction valves incorporated on all handpieces, ultrasonic descalers and/or water lines. Responsible persons should ensure these are fitted where required. They must be regularly monitored and maintained.	3.30

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 32 Recommended Action	Photo Ref.
Medium	The temperatures from the taps indicate that the TMV is possibly faulty in Rooms:- G-56-023, BI-12-002, BSI-013, BSI-024, BSI-010, BSI-023, BS6-019, GF1-071, GF1-040, GNI-004, GD5-004, L1-015, L2-029, L2-043, AM36-125, AM36-121, M3-078, M3-092, N2-002, CI-1-013, CI-4-065 Checks, including fail safe checks, should be made to see if the TMV needs to have the temperature re set or be repaired / replaced. The TMV in GN1-004 is broken & needs replacing.	

Rectified By	Comments	Date
Name: Signature:		

Risk Rating	Item 33 Recommended Action	Photo Ref.
Medium	Markwik Taps -04-01 Addendum Para 3.9 advises -Owing to their high surface-area-to-volume ratio and location at the tap outlet, certain designs of flow straightener may present a greater surface area for colonisation and support the growth of organisms. Therefore, when selecting new taps, where possible flow straighteners should be avoided/not included. Due to the risk of Pseudomonas Aeruginosa growth, where practical, consider removal of flow straighteners. However, the removal of flow straighteners may result in splashing and therefore additional remedial action may need to be taken. If they are seen to be needed, periodically remove them and either clean/disinfect or replace them. Replacement frequency should be verified by sampling/swabbing. Health Building Note 00-09 also advises against using aerators in outlets.	3.31
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 34 Recommended Action	Photo Ref.
Medium	The air conditioning units were found to be in a good overall condition. Units of this type, under normal operating conditions, do not represent a significant risk of Legionellosis, particularly when they are maintained Under manufacturers' instructions. However, it is important to ensure that the drip-trays are allowed to drain easily and freely and the drain pipe is protected from back siphonage and the ingress of rodents And/or insects. All units must be maintained under manufacturer's instructions which must include the cleaning and disinfection of the Drip-trays when necessary. It is recommended that the U-Bend traps are cleaned and disinfected and fitted with a disinfectant solution, through the drip-tray on a six monthly basis.	3.32
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 35 Recommended Action	Photo Ref.
Medium	It is recommended that the Y type strainers fitted on the feed to TMV taps throughout the site should be cleaned on a quarterly basis and recorded within the site log book.	3.33
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 36 Recommended Action	Photo Ref.
Medium	Ice should not be allowed to stagnate in an ice making machine's storage bin, but should be changed frequently. Maintenance for ice-making machines should be carried out in accordance with the manufacturer's recommendations. Care should be taken to ensure that the water supply to the ice-making machine is not subjected to heat gain.	3.34
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 37 Recommended Action	Photo Ref.
Medium	It is recommended that the Autoclave Units are cleaned and serviced as per the manufacturer's instructions. The header tanks should be inspected and cleaned when required.	3.35
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 38 Recommended Action	Photo Ref.
Medium	It is recommended that all water fed equipment (e.g. Vernacare & kitchen equipment) is cleaned and serviced as per the manufacturer's instructions.	3.36
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 39 Recommended Action	Photo Ref.
Medium	It is recommended that checks are made to ensure that an EB backflow prevention device is fitted within the supply from the Main Corridor to the Chillers and HUBTs on Roof Top. The device should be installed as close as possible to the main branch connection.	3.37
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 40 Recommended Action	Photo Ref.
Medium	The pipe work on the Chillers on the Roof Top appeared to be labelled incorrectly as MCW (Possibly should be labelled as BTCW). Ensure all pipe work is correctly labelled so that it can be readily identified.	3.38
Rectified By	**Comments**	**Date**
Name: Signature:		

Risk Rating	Item 41 Recommended Action	Photo Ref.
Medium	It is recommended that the Dishwashers and Washing Machines are cleaned and serviced as per the manufacturer's instructions. Ensure the machines are used weekly to avoid them becoming a dead leg in the system. Checks should be made to see if there are dead legs behind the machines, as Eco machines now use a cold fill only and the previous hot fill pipe work becomes a dead leg in the system.	
Rectified By	**Comments**	**Date**
Name: Signature:		

2.5 Photographic Evidence

Photo Ref.	Location	Photo Ref.	Location
3.1	Roof Plant Room - Example of drain valve on all CWSTS's	3.2	Roof Plant Room – Glass Trap on CWST overflow
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	These are acting as a dead leg & should be placed on the twice weekly flushing regime.	Name: Signature: Date:	Clean trap quarterly & top up added biocide when required, or install a screen on overflow pipe

Photo Ref.	Location	Photo Ref.	Location
3.3	Roof Plant Room – CWST07 & CWSST08	3.4	Roof Top
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature:	As the tanks are already fitted with an overflow screen the glass trap is not required & should be	Name: Signature:	When test / Flushing Fire Sprinkler Tank minimal exposure to aerosol should be created & exposure to

Date:	removed to avoid stagnated water	Date:	minimal staff

Photo Ref.	Location	Photo Ref.	Location
3.5	Plant Room 016	3.6	Roof Plant Room – CWST03 & CWST04
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Inspect Rain Water collection tank 6 monthly, consider water sampling from tank	Name: Signature: Date:	Maintain filters in filtration plant as per manufacturers instructions, record all action in site log book

Photo Ref.	Location	Photo Ref.	Location
3.7	Typical shower throughout site	3.8	B-51-001 Kitchen
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Shower heads should be de-scaled & disinfected quarterly, flush twice weekly if not used	Name: Signature: Date:	Spray wash heads should be de-scaled & disinfected quarterly, flush twice weekly it not used

Photo Ref.	Location	Photo Ref.	Location
3.9	I2-006	3.10	B-51-001 Kitchen
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Remove identified dead ends	Name: Signature: Date:	Dead legs created where appliance outlets do not have appliances attached - flush twice weekly

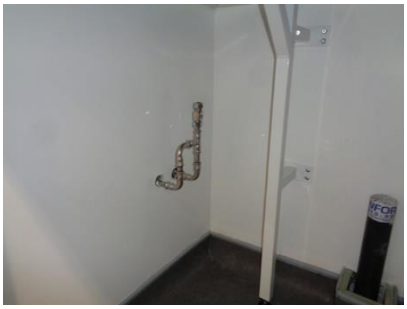
Photo Ref.	Location	Photo Ref.	Location
3.11	GF1-054	3.12	G-A1-010
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Dead legs created where outlets do not have fittings attached - flush twice weekly	Name: Signature: Date:	Dead legs created where outlets do not have fittings attached - flush twice weekly

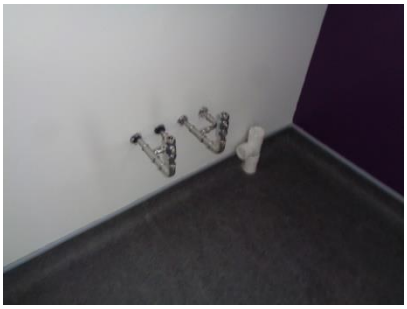
Photo Ref.	Location	Photo Ref.	Location
3.13	G-I1-006	3.14	3.C1.4.013
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Dead legs created where outlets do not have fittings attached - flush twice weekly	Name: Signature: Date:	Dead legs created where outlets do not have fittings attached - flush twice weekly

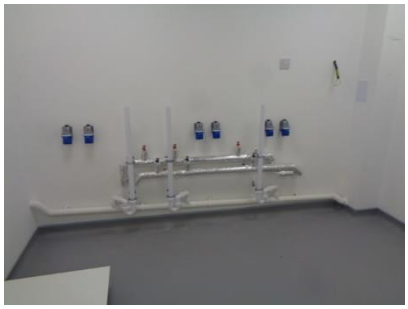
Photo Ref.	Location	Photo Ref.	Location
3.15	4.K2.068	3.16	Bin Wash Area
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Dead legs created where outlets do not have fittings attached - flush twice weekly	Name: Signature: Date:	Remove identified dead ends

Photo Ref.	Location	Photo Ref.	Location
3.17	IP1-016 under sink	3.18	HWR CAL01 &CAL02
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Dead legs created where outlets do not have fittings attached - flush twice weekly	Name: Signature: Date:	Remove identified dead ends - Valved off pipework should be flushed through

Photo Ref.	Location	Photo Ref.	Location
3.19	Typical Drain Valve on Calorifiers	3.20	Typical Drain Valve on Cold Water Storage Tanks
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Remove identified dead ends	Name: Signature: Date:	Remove identified dead ends

Photo Ref.	Location	Photo Ref.	Location
3.21	2-M2-009	3.22	Energy Centre
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Ensure hoses used are not EPDM lined & are WRAS approved & do not allow pipe to become kinked	Name: Signature: Date:	A tight-fitting lid should be fitted to Pressurisation Tank. Further checks should be made to ensure a Biocide is being added to the unit

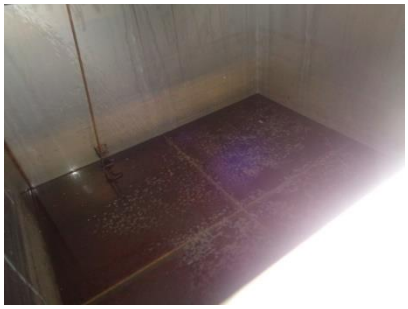
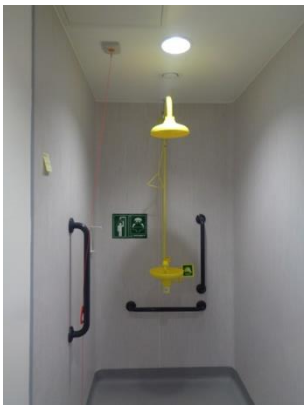
Photo Ref.	Location	Photo Ref.	Location
3.23	Energy Centre	3.24	QI-033
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	A tight-fitting lid should be fitted to Pressurisation Tank. Further checks should be made to ensure a Biocide is being added to the unit	Name: Signature: Date:	Flush Emergency Shower / Eyewash twice weekly

Photo Ref.	Location	Photo Ref.	Location
3.25	Typical outside tap (concealed)	3.26	Bin Wash Area
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Flush tap outlets weekly, ensure backflow prevention is in place & they are in log book to ensure they are on the twice weekly flushing regime	Name: Signature: Date:	Dismantle spray hose & clean quarterly, flush weekly if not used. Train staff on avoiding aerosols Take water samples.

Photo Ref.	Location	Photo Ref.	Location
3.27	Typical TMV fitted throughout site	3.28	Typical TMV tap fitted throughout site
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	TMVs should be condition & temperature checked regularly	Name: Signature: Date:	TMV taps should be condition & temperature checked regularly

Photo Ref.	Location	Photo Ref.	Location
3.29	Energy Centre	3.30	Typical Dental Chair
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	RPZ should be serviced annually by an approved tester	Name: Signature: Date:	Flush equipment at start & end of each day & between patients

Photo Ref.	Location	Photo Ref.	Location
3.31	Typical Markwik tap fitted throughout site	3.32	Example of AHU's in Plant Room
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Remove flow straightener if possible or clean & disinfect quarterly	Name: Signature: Date:	Service & maintain AHU's as per manufacturer's instructions. Clean U bend trap when required

Photo Ref.	Location	Photo Ref.	Location
3.33	Typical Y Type Strainers	3.34	Typical Ice Machine

Rectified By	Recommendations	Rectified By	Recommendations
Name: Signature: Date:	Clean Y Type Strainers quarterly & record in site log book	Name: Signature: Date:	Service & maintain Ice making machine as per manufacturer's instructions, do not allow ice to stagnate in storage bin

Photo Ref.	Location	Photo Ref.	Location
3.35	4th Floor Lab	3.36	B-51-001 Kitchen

Rectified By	Recommendations	Rectified By	Recommendations
Name: Signature: Date:	Service & maintain Autoclave Unit as per manufacturer's instructions, inspect header tank & clean when required	Name: Signature: Date:	Service & maintain water fed equipment as per manufacturer's instructions Clean & descale sprayhead quarterly

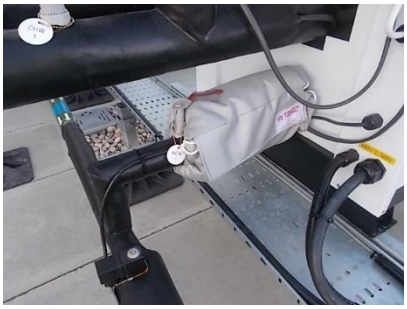
Photo Ref.	Location	Photo Ref.	Location
3.37	Pipe from Main Corridor to Chillers	3.38	Roof Top Chillers
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Ensure backflow prevention is in place at main branch connection	Name: Signature: Date:	Ensure all pipe work is labelled correctly (labelled MCW thought to be BCW)

Photo Ref.	Location	Photo Ref.	Location
3.39	Typical Cooled Water Outlet	3.40	Plant Room 016 – Incoming Mains Supply
			
Rectified By	**Recommendations**	**Rectified By**	**Recommendations**
Name: Signature: Date:	Service & maintain CWO's as per manufacturer's instructions	Name: Signature: Date:	

3.0 Site Survey Findings

3.1 Site Details

Client Information		
Client Name	Bouygues E & S UK	
Client Address		
Contact Name		
Telephone		
Email		
Site Details		**Effect on Risk?**
Site Name	The Royal Hospital & Young People	
Site Address	Little France Crescent, Edinburgh, EH16 4TJ	
Site Description	Modern new build not yet occupied	Yes
Number of Floors	4	
Number of Separate Buildings		
Number of Users (Approx)	Currently Construction	
Number of Staff	None	
Does the population include smokers?	Possibly	Yes
Periods of Non Use	N/A	
Building Use (e.g. hospital, care home, office)	Hospital	Yes
Population Density (High/Med/Low)	Currently Medium	
Age range of population	Varies	Yes
Does the population include those with immunodeficiency, chronic respiratory or kidney disease, Diabetes, lung disease, heart disease?	Yes	Yes
Contact person(s) During Site Survey		
Name		
Position		
Survey Conditions		**Effect on Risk?**
Date of Survey	18th – 21st February 2019	
Outside temperature at time of Survey		
Weather Conditions at time of survey		

3.2 Site Management Structure

Duty Holder:*(The Duty Holder is ultimately responsible for the water system and the financial control on site i.e. the employer or the person in control of the premises or systems concerned)*	
Name:	Not Yet Appointed
Title:	
Telephone:	
Email:	
Responsible Person: *(The Responsible Person is appointed by the Duty Holder to take day-to-day responsibility for controlling any identified risk from Legionella bacteria and to provide supervision for the implementation of control schemes and remedial actions for the control of Legionella. They should be a manager, director or have similar status and have sufficient authority, competence and knowledge of the installation to ensure the timely and efficient implementation of precautions. It is important they have a clear understanding of their role and of the overall health and safety structure and policy within the organisation)*	
Name:	Not Yet Appointed
Title:	
Telephone:	
Email:	
Deputy Responsible Person: *(The Deputy Responsible Person supports and takes on the responsibilities of the Responsible Person in the absence of the Responsible Person and as and when required)*	
Name:	Not Yet Appointed
Title:	
Telephone:	
Email:	
Water Monitoring / Control Scheme Responsibility / Service Provider(s): (Company responsible for the installation and maintenance of the chemical dosing / ionisation / UV System	
Name:	
Title:	
Telephone:	
Email:	
Water Authority Responsible for Supply:	
Name:	Scottish Water
Telephone:	
System(s) Engineer:	
Name:	
Telephone:	

3.3 Review of Written Scheme, Training & Record Keeping (LOG BOOK)

Check No.	Check	Yes/ No	Further Action Required?
1	Is there a written Legionella control scheme/management system?	No	Yes
2	Is there a procedure to Review Risk assessments?	No	Yes
3	Is there a procedure to ensure recommendations are acted upon?	No	Yes
4	Is there adequate emergency procedures/Incident plan in place in case of Legionella positive/Outbreak/Case of Legionellosis associated with the site?	No	Yes
5	Are procedures in place to deal with failure to achieve the control limits of the Control Scheme?	No	Yes
6	Are procedures in place to ensure that Reviews of the performance of the Control Scheme are undertaken regularly?	No	Yes
7	Is there adequate training of personnel/contractors with responsibilities?	No	Yes
8	Is the Duty Holder identified in writing?	No	Yes
9	Has the Responsible Person been identified in writing?	No	Yes
10	Has a Deputy Responsible Person been identified in writing?	No	Yes
11	Have subcontractors been appointed in writing?	No	Yes
12	Has a Chain of Command been confirmed in writing?	No	Yes
13	Does the Chain of Command include any subcontractors?	No	Yes
14	Does the Chain of Command included contact details for all parties?	No	Yes
15	Are the roles and responsibilities of all parties defined in writing?	No	Yes
16	Is there a current ACOPL8 Risk Assessment or Review available?	Yes	This Report
17	Have the recommendations of the current ACOPL8 Risk Assessment or Review been recorded as completed in writing?	No	Yes
18	Are training records available for all personnel involved in the Control Scheme?	No	Yes
19	Are refresher training records available for all personnel involved in the Control Scheme?	No	Yes
20	Is there a Log Book available?	No	Yes
21	Is there a copy of the Legionellosis Policy in the logbook?	No	Yes
22	Are method statements for maintenance and inspection tasks available?	No	Yes
23	Are MSDs and COSHH assessments available for any procedures/PPM actions?	No	Yes
24	Is there an asset register available?	Yes	This report
25	Is there a schematic drawing of the water systems available?	No	Yes
26	Has a schedule of maintenance and inspection activities (the Control Scheme) been drawn up?	No	Yes
27	Are the control limits defined?	No	Yes
28	Does the Control Scheme comply with the requirements of the risk assessment and ACoPL8?	No	Yes
29	Has the Control Scheme been implemented and recorded?	No	Yes
30	Are non-conformances identified recorded as being rectified?	No	Yes

Additional Comments relating to the Written scheme, Training & Record Keeping

Comments

3.4 Water System Survey Sheets

Mains Water Supply Details		
Location of entry point & Stop cock	0016	
Pipe work size	108mm	
Check valve installed	Yes	
Strainers	No	
Stab in point location		
Domestic Systems Supplied	Garden & Kitchen	
Other Systems Supplied	CWST's	
Temperature at nearest draw off (◦C)		
Bore Hole Water Supply Details		
Location		
Pre Treatment		
Holding tank location		
Supplies		
Rain Water Harvesting Details		
Collection tank location		
Filtration		
Treatment Type		
Supplies		
Water Treatment Plant Details		
Location		
Pre treatment		
Water Softening		
Water Conditioning		
Primary Disinfection system		
Secondary Disinfection system		
Sprinkler System Supply Details		
Tank Location		
Treatment Type		
Servicing Engineers		
Additional Comments		

Cold water Storage Survey Section

Check	Result	Further action?
Safe working access?	Yes	
Asset Reference Number	CWST01	
Barcode/Tag number		
Location	Plant Room 004	
Dimensions (L x W x H) (mm)	2000 X 5000 X 2000	
Volume (Litres)	20,000	
Inlet Size (mm)	76mm	
Outlet Size (mm)	108mm	
Drain Size (mm)	54mm	
Accessed via		
Systems Supplied (inc CAL's)	CWST03 & CWST04	
Supplied By	MCW	
Boosted Cold Water Supply from tank?	Yes	
Early warning pipe installed? (over 1000L only)	Yes	
Size of warning pipe (mm)	22mm	
Warning pipe screened?	Yes	
Size of overflow (mm)	6"	
Overflow screened?	Yes	
BCWS Auto or Manually operated?	Auto	
Water Supply Temperature (◦C)	No Access	
Water Storage Temperature(◦C)	7.6 ˚C	
Ambient Temperature (◦C)		
Adequate Turnover Occurring?	Yes	
Suitable Lighting	Yes	
Tight fitting Lid?	Yes	
Screened Lid Vent?	Yes	
Suitable Insulation to CWST?	Yes	
Suitable Insulation to Pipe Work?	Yes	
Vent terminating within CWST?	N/A	
Internal condition?	Clear	
Does it need cleaning?	No	
Tank material construction	GRP	
Lid material construction	GRP	
Is the cistern linked to approved standards?	Yes	
Inlet/outlet on opposite side?	Yes	
Drop Test Required?	No	
Ball cock present & operational?	Yes	
Is there conspicuous discharge from overflow or warning pipe?	No	
Clearance above cistern adequate?	N/A	
Any signs of corrosion?	N/A	
Length of ladder required for access	1.5m	

External Image

Internal Image

Additional Photo

Boosted Pump Set

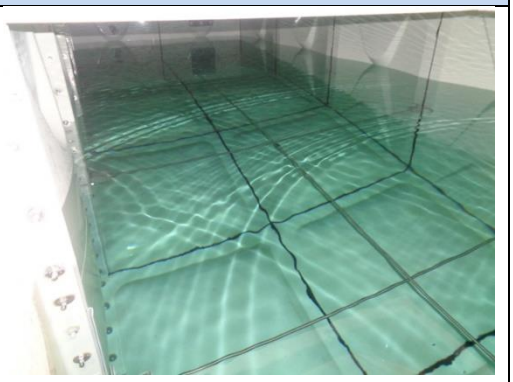
Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Cold water Storage Survey Section

Check	Result	Further action?
Safe working access?	Yes	
Asset Reference Number	CWST02	
Barcode/Tag number		
Location	Plant Room 004	
Dimensions (L x W x H) (mm)	2000 X 5000 X 2000	
Volume (Litres)	20,000	
Inlet Size (mm)	76mm	
Outlet Size (mm)	108mm	
Drain Size (mm)	54mm	
Accessed via		
Systems Supplied (inc CAL's)	CWST03 & CWST04	
Supplied By	MCW	
Boosted Cold Water Supply from tank?	Yes	
Early warning pipe installed? (over 1000L only)	Yes	
Size of warning pipe (mm)	22mm	
Warning pipe screened?	Yes	
Size of overflow (mm)	6"	
Overflow screened?	Yes	
BCWS Auto or Manually operated?	Auto	
Water Supply Temperature (◦C)	No Access	
Water Storage Temperature(◦C)	7.6 ˚C	
Ambient Temperature (◦C)		
Adequate Turnover Occurring?	Yes	
Suitable Lighting	Yes	
Tight fitting Lid?	Yes	
Screened Lid Vent?	Yes	
Suitable Insulation to CWST?	Yes	
Suitable Insulation to Pipe Work?	Yes	
Vent terminating within CWST?	N/A	
Internal condition?	Clear	
Does it need cleaning?	No	
Tank material construction	GRP	
Lid material construction	GRP	
Is the cistern linked to approved standards?	Yes	
Inlet/outlet on opposite side?	Yes	
Drop Test Required?	No	
Ball cock present & operational?	Yes	
Is there conspicuous discharge from overflow or warning pipe?	No	
Clearance above cistern adequate?	N/A	
Any signs of corrosion?	N/A	
Length of ladder required for access	1.5m	

External Image

Internal Image



Additional Photo

Boosted Pump Set

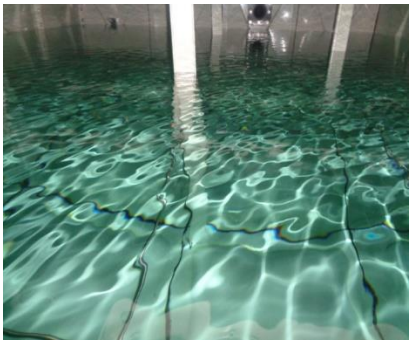
Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Cold water Storage Survey Section

Check	Result	Further action?
Safe working access?	Yes	
Asset Reference Number	CWST03 (Raw water)	
Barcode/Tag number		
Location	Roof Plant Room	
Dimensions (L x W x H) (mm)	5000 x 4000x 2000	
Volume (Litres)	40,000Litres	
Inlet Size (mm)	No Access insulation	
Outlet Size (mm)	No Access insulation	
Drain Size (mm)		
Accessed via	Plant room	
Systems Supplied (inc CAL's)		
Supplied By	CWST01 & CWST02	
Boosted Cold Water Supply from tank?	Yes	
Early warning pipe installed? (over 1000L only)	Yes	
Size of warning pipe (mm)	22mm	
Warning pipe screened?	Yes	
Size of overflow (mm)	6"	
Overflow screened?	Not seen	
BCWS Auto or Manually operated?	Auto	
Water Supply Temperature (◦C)	No Access	
Water Storage Temperature(◦C)	5.1	
Ambient Temperature (◦C)	17.5	
Adequate Turnover Occurring?	Yes	
Suitable Lighting	Yes	
Tight fitting Lid?	Yes	
Screened Lid Vent?	Yes	
Suitable Insulation to CWST?	Yes	
Suitable Insulation to Pipe Work?	Yes	
Vent terminating within CWST?	No	
Internal condition?	Clean	
Does it need cleaning?	No	
Tank material construction	GRP	
Lid material construction	GRP	
Is the cistern linked to approved standards?	Yes	
Inlet/outlet on opposite side?	Yes	
Drop Test Required?	No	
Ball cock present & operational?	Yes	
Is there conspicuous discharge from overflow or warning pipe?	No	
Clearance above cistern adequate?	Yes	
Any signs of corrosion?	No	
Length of ladder required for access	4m	

External Image

Internal Image



Additional Photo

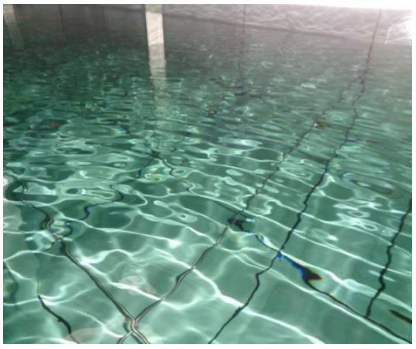
Filtration Plant off CWST03 & CWST04

Risk Parameter (from score card)						
1	2	3	4	5	6	Total
30	15	10	15	30	30	130

Risk Rating

High

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	YES		
Asset Reference Number	CWST04 (Raw water)		
Barcode/Tag number			
Location	Roof Plant Room		
Dimensions (L x W x H) (mm)	5000 x 4000 x 2000		
Volume (Litres)	40,000Litres		
Inlet Size (mm)	No Access insulation		
Outlet Size (mm)	No Access insulation		
Drain Size (mm)			
Accessed via	Plant room		
Systems Supplied (inc CAL's)			
Supplied By	CWST01 & CWST02		
Boosted Cold Water Supply from tank?	Yes		
Early warning pipe installed? (over 1000L only)	Yes		**Internal Image**
Size of warning pipe (mm)	22mm		
Warning pipe screened?	Yes		
Size of overflow (mm)	6"		
Overflow screened?	Not seen		
BCWS Auto or Manually operated?	Auto		
Water Supply Temperature (◦C)			
Water Storage Temperature(◦C)	5.1		
Ambient Temperature (◦C)	17.5		
Adequate Turnover Occurring?	Yes		
Suitable Lighting	Yes		
Tight fitting Lid?	Yes		
Screened Lid Vent?	Yes		
Suitable Insulation to CWST?	Yes		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		
Internal condition?	Clean		
Does it need cleaning?	No		
Tank material construction	GRP		
Lid material construction	GRP		
Is the cistern linked to approved standards?	Yes		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	Yes		
Is there conspicuous discharge from overflow or warning pipe?	No		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No		
Length of ladder required for access	4m		



Filtration Plant off CWST03 & CWST04

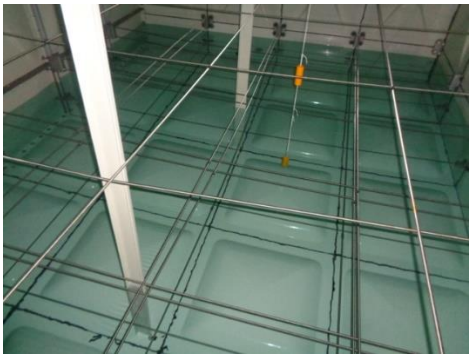
Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**High**
30	15	10	15	30	30	130	

Cold water Storage Survey Section

Check	Result	Further action?
Safe working access?	Yes	
Asset Reference Number	CWST05 Filtered	
Barcode/Tag number		
Location	Roof Plant Room	
Dimensions (L x W x H) (mm)	4000 x 5000 x 1500	
Volume (Litres)	30,000Litres	
Inlet Size (mm)	108mm	
Outlet Size (mm)	No Access insulation	
Drain Size (mm)	No Access insulation	
Accessed via	Plant room	
Systems Supplied (inc CAL's)	Filtered water to site & Cals	
Supplied By	CWST03 & CWST04	
Boosted Cold Water Supply from tank?	Yes	
Early warning pipe installed? (over 1000L only)	Yes	
Size of warning pipe (mm)	~	
Warning pipe screened?	~	
Size of overflow (mm)	~	
Overflow screened?	Glass traps	
BCWS Auto or Manually operated?	Auto	
Water Supply Temperature (◦C)	~	
Water Storage Temperature(◦C)	9.8	
Ambient Temperature (◦C)	17.5	
Adequate Turnover Occurring?	Yes	
Suitable Lighting	Yes	
Tight fitting Lid?	Yes	
Screened Lid Vent?	Yes	
Suitable Insulation to CWST?	Yes	
Suitable Insulation to Pipe Work?	Yes	
Vent terminating within CWST?	No	
Internal condition?	Clean	
Does it need cleaning?	No	
Tank material construction	GRP	
Lid material construction	GRP	
Is the cistern linked to approved standards?	Yes	
Inlet/outlet on opposite side?	Yes	
Drop Test Required?	No	
Ball cock present & operational?	Yes	
Is there conspicuous discharge from overflow or warning pipe?	No	
Clearance above cistern adequate?	Yes	
Any signs of corrosion?	No	
Length of ladder required for access	2m	

External Image

Internal Image



Additional Photo

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	Yes		
Asset Reference Number	CWST06 Filtered		
Barcode/Tag number			
Location	Roof Plant Room		
Dimensions (L x W x H) (mm)	4000 x 5000 x 1500		
Volume (Litres)	30,000Litres		
Inlet Size (mm)	108mm		
Outlet Size (mm)	No Access insulation		
Drain Size (mm)	No Access insulation		
Accessed via	Plant room		
Systems Supplied (inc CAL's)	Filtered water to site & Cals		
Supplied By	CWST03 CWST04		
Boosted Cold Water Supply from tank?	Yes		
Early warning pipe installed? (over 1000L only)	Yes		**Internal Image**
Size of warning pipe (mm)	~		
Warning pipe screened?	~		
Size of overflow (mm)	~		
Overflow screened?	Glass traps		
BCWS Auto or Manually operated?	Auto		
Water Supply Temperature (◦C)	~		
Water Storage Temperature(◦C)	9.5		
Ambient Temperature (◦C)	17.5		
Adequate Turnover Occurring?	Yes		
Suitable Lighting	Yes		
Tight fitting Lid?	Yes		
Screened Lid Vent?	Yes		
Suitable Insulation to CWST?	Yes		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		
Internal condition?	Clean		
Does it need cleaning?	No		
Tank material construction	GRP		
Lid material construction	GRP		
Is the cistern linked to approved standards?	Yes		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	Yes		
Is there conspicuous discharge from overflow or warning pipe?	No		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No		
Length of ladder required for access	2m		

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**High**
30	15	10	15	30	30	130	

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	Yes		
Asset Reference Number	CWST07 Cat 5		
Barcode/Tag number			
Location	Roof Plant Room		
Dimensions (L x W x H) (mm)	1000 x 1000 x 1000		
Volume (Litres)	1,000Litres		
Inlet Size (mm)	No Access insulation		
Outlet Size (mm)	No Access insulation		
Drain Size (mm)	No Access insulation		
Accessed via	Plant room		
Systems Supplied (inc CAL's)	Cat 5 supply		
Supplied By	CWST05 & CWST06		
Boosted Cold Water Supply from tank?	Yes		
Early warning pipe installed? (over 1000L only)	Yes		**Internal Image**
Size of warning pipe (mm)	~		
Warning pipe screened?	~		
Size of overflow (mm)	~		
Overflow screened?	Glass traps		
BCWS Auto or Manually operated?	Auto		
Water Supply Temperature (◦C)	~		
Water Storage Temperature(◦C)	10.3		
Ambient Temperature (◦C)	17.5		
Adequate Turnover Occurring?	Not at the time of this survey		
Suitable Lighting	Yes		
Tight fitting Lid?	Yes		
Screened Lid Vent?	Yes		
Suitable Insulation to CWST?	Yes		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		Boosted Pump Set
Internal condition?	Clean		
Does it need cleaning?	No		
Tank material construction	GRP		
Lid material construction	GRP		
Is the cistern linked to approved standards?	Yes		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	Yes		
Is there conspicuous discharge from overflow or warning pipe?	No		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No		
Length of ladder required for access	2m		

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	Yes		
Asset Reference Number	CWST8 Cat 5		
Barcode/Tag number			
Location	Roof Plant Room		
Dimensions (L x W x H) (mm)	1000 x 1000 x 1000		
Volume (Litres)	1,000Litres		
Inlet Size (mm)	No Access insulation		
Outlet Size (mm)	No Access insulation		
Drain Size (mm)	No Access insulation		
Accessed via	Plant room		
Systems Supplied (inc CAL's)	Cat 5 supply		
Supplied By	CWST05 & CWST06		
Boosted Cold Water Supply from tank?	Yes		
Early warning pipe installed? (over 1000L only)	Yes		**Internal Image**
Size of warning pipe (mm)	~		
Warning pipe screened?	~		
Size of overflow (mm)	~		
Overflow screened?	Glass traps		
BCWS Auto or Manually operated?	Auto		
Water Supply Temperature (◦C)	~		
Water Storage Temperature(◦C)	9.3		
Ambient Temperature (◦C)	17.5		
Adequate Turnover Occurring?	Not at the time of this survey		
Suitable Lighting	Yes		
Tight fitting Lid?	Yes		
Screened Lid Vent?	Yes		
Suitable Insulation to CWST?	Yes		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		
Internal condition?	Clean		
Does it need cleaning?	No		
Tank material construction	GRP		
Lid material construction	GRP		
Is the cistern linked to approved standards?	Yes		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	Yes		
Is there conspicuous discharge from overflow or warning pipe?	No		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No		
Length of ladder required for access	2m		

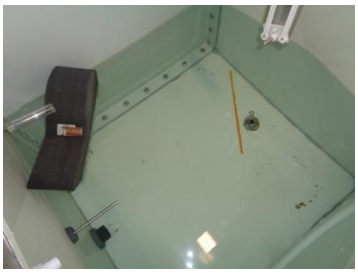
Boosted Pump Set

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	Yes		
Asset Reference Number	CWT0S9		
Barcode/Tag number			
Location	Plant Room 004		
Dimensions (L x W x H) (mm)	1000 x 1000 x 1000		
Volume (Litres)	1,000Litres		
Inlet Size (mm)	28m		
Outlet Size (mm)	54mm		
Drain Size (mm)	28mm		
Accessed via	Plant room		
Systems Supplied (inc CAL's)	Garden taps		
Supplied By	MCW		
Boosted Cold Water Supply from tank?	Yes		
Early warning pipe installed? (over 1000L only)	Yes		**Internal Image**
Size of warning pipe (mm)	~		
Warning pipe screened?	~		
Size of overflow (mm)	~		
Overflow screened?	yes		
BCWS Auto or Manually operated?	Auto		
Water Supply Temperature (◦C)	7.8		
Water Storage Temperature(◦C)	7.9		
Ambient Temperature (◦C)			
Adequate Turnover Occurring?	Not at the time of this survey		
Suitable Lighting	Yes		
Tight fitting Lid?	Yes		
Screened Lid Vent?	Yes		
Suitable Insulation to CWST?	Yes		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		
Internal condition?	Clean		
Does it need cleaning?	No		
Tank material construction	GRP		
Lid material construction	GRP		
Is the cistern linked to approved standards?	Yes		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	Yes		
Is there conspicuous discharge from overflow or warning pipe?	No		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No		
Length of ladder required for access	1m		

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**Medium**
20	15	10	15	30	30	120	

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	Yes		
Asset Reference Number	CWST10		
Barcode/Tag number			
Location	Plant Room 004		
Dimensions (L x W x H) (mm)	1000 x 1000 x 1000		
Volume (Litres)	1,000Litres		
Inlet Size (mm)	28m		
Outlet Size (mm)	54mm		
Drain Size (mm)	28mm		
Accessed via	Plant room		
Systems Supplied (inc CAL's)	Garden taps		
Supplied By	MCW		
Boosted Cold Water Supply from tank?	Yes		
Early warning pipe installed? (over 1000L only)	Yes		**Internal Image**
Size of warning pipe (mm)	~		
Warning pipe screened?	~		
Size of overflow (mm)	~		
Overflow screened?	yes		
BCWS Auto or Manually operated?	Auto		
Water Supply Temperature (◦C)	7.8		
Water Storage Temperature(◦C)	7.9		
Ambient Temperature (◦C)			
Adequate Turnover Occurring?	Not at the time of this survey		
Suitable Lighting	Yes		
Tight fitting Lid?	Yes		
Screened Lid Vent?	Yes		
Suitable Insulation to CWST?	Yes		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		
Internal condition?	Clean- Debris on base	Yes	
Does it need cleaning?	No		
Tank material construction	Grp		
Lid material construction	Grp		
Is the cistern linked to approved standards?	Yes		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	Yes		
Is there conspicuous discharge from overflow or warning pipe?	No		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No		
Length of ladder required for access	1m		



Broken Keraflo valve

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**Medium**
20	15	10	15	30	30	120	

Cold water Storage Survey Section			
Check	**Result**	**Further action?**	**External Image**
Safe working access?	No		
Asset Reference Number	CWST11		
Barcode/Tag number			
Location	G-Y1-004		
Dimensions (L x W x H) (mm)			
Volume (Litres)			
Inlet Size (mm)			
Outlet Size (mm)			
Drain Size (mm)			
Accessed via			
Systems Supplied (inc CAL's)	1 x HUBT (below)		
Supplied By			
Boosted Cold Water Supply from tank?			
Early warning pipe installed? (over 1000L only)			**Internal Image**
Size of warning pipe (mm)	No Access		
Warning pipe screened?	No Access		
Size of overflow (mm)	No Access		
Overflow screened?	No Access		
BCWS Auto or Manually operated?	No Access		
Water Supply Temperature (◦C)	No Access		
Water Storage Temperature(◦C)	No Access		
Ambient Temperature (◦C)	No Access		
Adequate Turnover Occurring?	No Access		
Suitable Lighting	No Access		
Tight fitting Lid?	No Access		
Screened Lid Vent?	No Access		
Suitable Insulation to CWST?	None		**Additional Photo**
Suitable Insulation to Pipe Work?	Yes		
Vent terminating within CWST?	No		
Internal condition?	No Access		
Does it need cleaning?	No Access		
Tank material construction	Poly		
Lid material construction	Poly		
Is the cistern linked to approved standards?	-		
Inlet/outlet on opposite side?	Yes		
Drop Test Required?	No		
Ball cock present & operational?	No Access		
Is there conspicuous discharge from overflow or warning pipe?	No Access		
Clearance above cistern adequate?	Yes		
Any signs of corrosion?	No Access		
Length of ladder required for access	3m		

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	**High – No Access**

Hot Water Survey Section (CAL's, Combination heaters)

Check	Result	Further action?
Asset Reference Number	CAL01	
Barcode/Tag number		
Location	B plant room 002	
Dimensions (L x W x H) (mm)	1800 x 1200dia	
Volume (Litres)	2000 litres	
Material of construction	~	
Orientation	Vertical	
Vent size (mm)	N/A	
Vent discharge point	~	
Primary heat source	Plate exchanger	
Secondary heat source	N/A	
Temperature gauges present?	Yes BMS	
Temperature gauge accurate?	Not known	
Expansion vessel has drain fitted?	Flow Through Type	
Supplied By	CWST05 CWST06	
Systems Supplied	Zone 4	
Water flow temperature(◦C)	No Access	
Water return temperature (◦C)	57.9	
Temperature top/middle/bottom(◦C)	No Access	
Cold Feed Temperature (◦C)	50.2	
Accessed via	Plant room	
Safe working access?	Yes	
Suitable Lighting	Yes	
Orientation of expansion vessel	Vertical	
Drain valve at lowest point?	Yes	
Drain valve operational?	Not Tested	
Condition of drain water?	Not Tested	
Inspection hatch?	Yes	
Suitable Insulation to HWSV?	Yes Pre Insulated	
Pipe work suitably insulated?	Yes	
Are there any means of disinfection?	No	
Hot Water Re-circulated?	Yes	
Standby pumps run continuously or Manually rotated?	Single	
Type of heater (CAL/PHE/CWH)	Calorifier	
Size of hot flow pipe work (mm)	76mm	
Size of cold feed pipe work (mm)	54 mm	
Size of return feed pipe work (mm)	54mm	
Is a de-stratification pump fitted?	No	
Set temperature of thermostat (◦C)	Not known	

External Image

Additional Photo

Expansion Vessel

Additional Photo

Plate Heat Exchanger

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)

Check	Result	Further action?
Asset Reference Number	CAL02	
Barcode/Tag number		
Location	B plant room 002	
Dimensions (L x W x H) (mm)	1800 x 1200dia	
Volume (Litres)	2000 litres	
Material of construction	~	
Orientation	Vertical	
Vent size (mm)	N/A	
Vent discharge point	~	
Primary heat source	Plate exchanger	
Secondary heat source	N/A	
Temperature gauges present?	Yes BMS	
Temperature gauge accurate?	Not known	
Expansion vessel has drain fitted?	Flow Through Type	
Supplied By	CWST05 & CWST06	
Systems Supplied	Zone 4	
Water flow temperature(◦C)	No Access	
Water return temperature (◦C)	58.2	
Temperature top/middle/bottom(◦C)	No Access	
Cold Feed Temperature (◦C)	50.9	
Accessed via	Plant room	
Safe working access?	Yes	
Suitable Lighting	Yes	
Orientation of expansion vessel	Vertical	
Drain valve at lowest point?	Yes	
Drain valve operational?	Not Tested	
Condition of drain water?	Not Tested	
Inspection hatch?	Yes	
Suitable Insulation to HWSV?	Yes Pre Insulated	
Pipe work suitably insulated?	Yes	
Are there any means of disinfection?	No	
Hot Water Re-circulated?	Yes	
Standby pumps run continuously or Manually rotated?	Single	
Type of heater (CAL/PHE/CWH)	Calorifier	
Size of hot flow pipe work (mm)	76mm	
Size of cold feed pipe work (mm)	54 mm	
Size of return feed pipe work (mm)	54mm	
Is a de-stratification pump fitted?	No	
Set temperature of thermostat (◦C)	Not known	

External Image

Additional Photo

Expansion Vessels

Additional Photo

Plate Heat Exchanger

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)			
Check	**Result**	**Further action?**	**External Image**
Asset Reference Number	CAL03		
Barcode/Tag number			
Location	B plant room 003		
Dimensions (L x W x H) (mm)	1800 x 1200dia		
Volume (Litres)	2000 litres		
Material of construction	~		
Orientation	Vertical		
Vent size (mm)	N/A		
Vent discharge point	~		
Primary heat source	Plate exchanger		
Secondary heat source	N/A		
Temperature gauges present?	Yes BMS		
Temperature gauge accurate?	Not known		
Expansion vessel has drain fitted?	Flow Through Type		**Additional Photo**
Supplied By	CWST05 CWST06		
Systems Supplied	Zone 1		
Water flow temperature(◦C)	No Access		
Water return temperature (◦C)	58.1		
Temperature top/middle/bottom(◦C)	No Access		
Cold Feed Temperature (◦C)	50.2		
Accessed via	Plant room		
Safe working access?	Yes		
Suitable Lighting	Yes		
Orientation of expansion vessel	Vertical		
Drain valve at lowest point?	Yes		
Drain valve operational?	Not Tested		
Condition of drain water?	Not Tested		
Inspection hatch?	Yes		**Additional Photo**
Suitable Insulation to HWSV?	Yes Pre Insulated		
Pipe work suitably insulated?	Yes		
Are there any means of disinfection?	No		
Hot Water Re-circulated?	Yes		
Standby pumps run continuously or Manually rotated?	Single		
Type of heater (CAL/PHE/CWH)	Calorifier		
Size of hot flow pipe work (mm)	76mm		
Size of cold feed pipe work (mm)	54 mm		
Size of return feed pipe work (mm)	54mm		
Is a de-stratification pump fitted?	No		
Set temperature of thermostat (◦C)	Not known		

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**High**
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)			
Check	**Result**	**Further action?**	**External Image**
Asset Reference Number	CAL04		
Barcode/Tag number			
Location	B plant room 003		
Dimensions (L x W x H) (mm)	1800x 1200dia		
Volume (Litres)	2000 litres		
Material of construction	~		
Orientation	Vertical		
Vent size (mm)	N/A		
Vent discharge point	~		
Primary heat source	Plate exchanger		
Secondary heat source	N/A		
Temperature gauges present?	Yes BMS		
Temperature gauge accurate?	Not known		
Expansion vessel has drain fitted?	Flow Through Type		**Additional Photo**
Supplied By	CWST05 & CWST06		
Systems Supplied	Zone 1		
Water flow temperature(◦C)	No Access		
Water return temperature (◦C)	58.7		
Temperature top/middle/bottom(◦C)	No Access		
Cold Feed Temperature (◦C)	~		
Accessed via	Plant room		
Safe working access?	Yes		
Suitable Lighting	Yes		
Orientation of expansion vessel	Vertical		
Drain valve at lowest point?	Yes		
Drain valve operational?	Not Tested		
Condition of drain water?	Not Tested		
Inspection hatch?	Yes		**Additional Photo**
Suitable Insulation to HWSV?	Yes Pre Insulated		
Pipe work suitably insulated?	Yes		
Are there any means of disinfection?	No		
Hot Water Re-circulated?	Yes		
Standby pumps run continuously or Manually rotated?	Single		
Type of heater (CAL/PHE/CWH)	Calorifier		
Size of hot flow pipe work (mm)	76mm		
Size of cold feed pipe work (mm)	54 mm		
Size of return feed pipe work (mm)	54mm		
Is a de-stratification pump fitted?	No		
Set temperature of thermostat (◦C)	Not known		

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**High**
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)			
Check	**Result**	**Further action?**	**External Image**
Asset Reference Number	CAL05		
Barcode/Tag number			
Location	B plant room 006		
Dimensions (L x W x H) (mm)	1800x 1200dia		
Volume (Litres)	2000 litres		
Material of construction	~		
Orientation	Vertical		
Vent size (mm)	N/A		
Vent discharge point	~		
Primary heat source	Plate exchanger		
Secondary heat source	N/A		
Temperature gauges present?	Yes BMS		
Temperature gauge accurate?	Not known		
Expansion vessel has drain fitted?	Flow Through Type		**Additional Photo**
Supplied By	CWST5 & CWST06		
Systems Supplied	Zone 3		
Water flow temperature(◦C)	No Access		
Water return temperature (◦C)	58.5		
Temperature top/middle/bottom(◦C)	No Access		
Cold Feed Temperature (◦C)	~		
Accessed via	Plant room		
Safe working access?	Yes		
Suitable Lighting	Yes		
Orientation of expansion vessel	Vertical		
Drain valve at lowest point?	Yes		
Drain valve operational?	Not Tested		
Condition of drain water?	Not Tested		
Inspection hatch?	Yes		**Additional Photo**
Suitable Insulation to HWSV?	Yes Pre Insulated		
Pipe work suitably insulated?	Yes		
Are there any means of disinfection?	No		
Hot Water Re-circulated?	Yes		
Standby pumps run continuously or Manually rotated?	Single		
Type of heater (CAL/PHE/CWH)	Calorifier		
Size of hot flow pipe work (mm)	76mm		
Size of cold feed pipe work (mm)	54 mm		
Size of return feed pipe work (mm)	54mm		
Is a de-stratification pump fitted?	No		
Set temperature of thermostat (◦C)	Not known		

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**High**
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)

Check	Result	Further action?
Asset Reference Number	CAL06	
Barcode/Tag number		
Location	B plant room 006	
Dimensions (L x W x H) (mm)	1800x 1200dia	
Volume (Litres)	2000 litres	
Material of construction	~	
Orientation	Vertical	
Vent size (mm)	N/A	
Vent discharge point	~	
Primary heat source	Plate exchanger	
Secondary heat source	N/A	
Temperature gauges present?	Yes BMS	
Temperature gauge accurate?	Not known	
Expansion vessel has drain fitted?	Flow Through Type	
Supplied By	CWST05 & CWST06	
Systems Supplied	Zone 3	
Water flow temperature(◦C)	No Access	
Water return temperature (◦C)	57.4	
Temperature top/middle/bottom(◦C)	No Access	
Cold Feed Temperature (◦C)	~	
Accessed via	Plant room	
Safe working access?	Yes	
Suitable Lighting	Yes	
Orientation of expansion vessel	Vertical	
Drain valve at lowest point?	Yes	
Drain valve operational?	Not Tested	
Condition of drain water?	Not Tested	
Inspection hatch?	Yes	
Suitable Insulation to HWSV?	Yes Pre Insulated	
Pipe work suitably insulated?	Yes	
Are there any means of disinfection?	No	
Hot Water Re-circulated?	Yes	
Standby pumps run continuously or Manually rotated?	Single	
Type of heater (CAL/PHE/CWH)	Calorifier	
Size of hot flow pipe work (mm)	76mm	
Size of cold feed pipe work (mm)	54mm	
Size of return feed pipe work (mm)	54mm	
Is a de-stratification pump fitted?	No	
Set temperature of thermostat (◦C)	Not known	

External Image

Internal Image

Additional Photo

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)

Check	Result	Further action?
Asset Reference Number	CAL07	
Barcode/Tag number		
Location	B plant room 006	
Dimensions (L x W x H) (mm)	1800x 1200dia	
Volume (Litres)	2000 litres	
Material of construction	~	
Orientation	Vertical	
Vent size (mm)	N/A	
Vent discharge point	~	
Primary heat source	Plate exchanger	
Secondary heat source	N/A	
Temperature gauges present?	Yes BMS	
Temperature gauge accurate?	N/K	
Expansion vessel has drain fitted?	Flow Through Type	
Supplied By	CWS5 CWS6	
Systems Supplied	Zone 2	
Water flow temperature(◦C)	No Access	
Water return temperature (◦C)	59.7	
Temperature top/middle/bottom(◦C)	No Access	
Cold Feed Temperature (◦C)	~	
Accessed via	Plant room	
Safe working access?	Yes	
Suitable Lighting	Yes	
Orientation of expansion vessel	Vertical	
Drain valve at lowest point?	Yes	
Drain valve operational?	Not Tested	
Condition of drain water?	Not Tested	
Inspection hatch?	Yes	
Suitable Insulation to HWSV?	Yes Pre Insulated	
Pipe work suitably insulated?	Yes	
Are there any means of disinfection?	No	
Hot Water Re-circulated?	Yes	
Standby pumps run continuously or Manually rotated?	Single	
Type of heater(CAL/PHE/CWH)	Calorifier	
Size of hot flow pipe work (mm)	76mm	
Size of cold feed pipe work (mm)	54 mm	
Size of return feed pipe work (mm)	54mm	
Is a de-stratification pump fitted?	No	
Set temperature of thermostat (◦C)	Not known	

External Image

Internal Image

Additional Photo

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	High
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)			
Check	**Result**	**Further action?**	**External Image**
Asset Reference Number	CAL08		
Barcode/Tag number			
Location	B plant room 006		
Dimensions (L x W x H) (mm)	1800x 1200dia		
Volume (Litres)	2000 litres		
Material of construction	~		
Orientation	Vertical		
Vent size (mm)	N/A		
Vent discharge point	~		
Primary heat source	Plate exchanger		
Secondary heat source	N/A		
Temperature gauges present?	Yes BMS		
Temperature gauge accurate?	Not known		
Expansion vessel has drain fitted?	Flow Through Type		**Internal Image**
Supplied By	CWST05 & CWST06		
Systems Supplied	Zone 2		
Water flow temperature(◦C)	No Access		
Water return temperature (◦C)	57.6		
Temperature top/middle/bottom(◦C)	No Access		
Cold Feed Temperature (◦C)	~		
Accessed via	Plant room		
Safe working access?	Yes		
Suitable Lighting	Yes		
Orientation of expansion vessel	Vertical		
Drain valve at lowest point?	Yes		
Drain valve operational?	Not Tested		
Condition of drain water?	Not Tested		
Inspection hatch?	Yes		**Additional Photo**
Suitable Insulation to HWSV?	Yes Pre Insulated		
Pipe work suitably insulated?	Yes		
Are there any means of disinfection?	No		
Hot Water Re-circulated?	Yes		
Standby pumps run continuously or Manually rotated?	Single		
Type of heater (CAL/PHE/CWH)	Calorifier		
Size of hot flow pipe work (mm)	76mm		
Size of cold feed pipe work (mm)	54 mm		
Size of return feed pipe work (mm)	54mm		
Is a de-stratification pump fitted?	No		
Set temperature of thermostat (◦C)	Not known		

Risk Parameter (from score card)							Risk Rating
1	**2**	**3**	**4**	**5**	**6**	**Total**	**High**
30	15	10	15	30	30	130	

Hot Water Survey Section (CAL's, Combination heaters)

Check	Result	Further action?
Asset Reference Number	CAL09	
Barcode/Tag number		
Location	0015B	
Dimensions (L x W x H) (mm)	1500 x .700 Dia	
Volume (Litres)	577 Litres	
Material of construction	Stainless Steel	
Orientation	Vertical	
Vent size (mm)	~	
Vent discharge point	N/A	
Primary heat source	Plate heat	
Secondary heat source	No	
Temperature gauges present?	Yes	
Temperature gauge accurate?	Not known	
Expansion vessel has drain fitted?	Flow Through	
Supplied By	CWST07 & CWST08	
Systems Supplied	Cat 5	
Water flow temperature(◦C)	60.8	
Water return temperature (◦C)	53.9	
Temperature top/middle/bottom(◦C)	No access	
Cold Feed Temperature (◦C)	-	
Accessed via	Plant room	
Safe working access?	Yes	
Suitable Lighting	Yes	
Orientation of expansion vessel	Vertical	
Drain valve at lowest point?	Yes	
Drain valve operational?	Not Tested	
Condition of drain water?	Not Tested	
Inspection hatch?	-	
Suitable Insulation to HWSV?	Yes Pre	
Pipe work suitably insulated?	Yes	
Are there any means of disinfection?	No	
Hot Water Re-circulated?	Yes	
Standby pumps run continuously or Manually rotated?	N/A	
Type of heater (CAL/PHE/CWH)	Calorifier	
Size of hot flow pipe work (mm)	-	
Size of cold feed pipe work (mm)	-	
Size of return feed pipe work (mm)	-	
Is a de-stratification pump fitted?	No	
Set temperature of thermostat (◦C)	Not known	

External Image

Internal Image

Additional Photo

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	Medium
20	15	10	15	30	30	120	

Hot Water Survey Section (CAL's, Combination heaters)

Check	Result	Further action?
Asset Reference Number	CAL10	
Barcode/Tag number		
Location	0015B	
Dimensions (L x W x H) (mm)	1500 x .700 Dia	
Volume (Litres)	577 Litres	
Material of construction	Stainless Steel	
Orientation	Vertical	
Vent size (mm)	-	
Vent discharge point	N/A	
Primary heat source	Plate heat	
Secondary heat source	No	
Temperature gauges present?	Yes	
Temperature gauge accurate?	N/K	
Expansion vessel has drain fitted?	Flow Through	
Supplied By	CWST07 & CWST08	
Systems Supplied	Cat 5	
Water flow temperature(◦C)	63.9	
Water return temperature (◦C)	53.8	
Temperature top/middle/bottom(◦C)	No access	
Cold Feed Temperature (◦C)	-	
Accessed via	Plant room	
Safe working access?	Yes	
Suitable Lighting	Yes	
Orientation of expansion vessel	Vertical	
Drain valve at lowest point?	Yes	
Drain valve operational?	Not Tested	
Condition of drain water?	Not Tested	
Inspection hatch?	-	
Suitable Insulation to HWSV?	Yes Pre	
Pipe work suitably insulated?	Yes	
Are there any means of disinfection?	No	
Hot Water Re-circulated?	Yes	
Standby pumps run continuously or Manually rotated?	N/A	
Type of heater (CAL/PHE/CWH)	Calorifier	
Size of hot flow pipe work (mm)	-	
Size of cold feed pipe work (mm)	-	
Size of return feed pipe work (mm)	-	
Is a de-stratification pump fitted?	No	
Set temperature of thermostat (◦C)	Not known	

External Image

Internal Image

Additional Photo

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	Medium
20	15	10	15	30	30	120	

Hot Water Survey Section (CAL's, Combination heaters)			
Check	**Result**	**Further action?**	**External Image**
Asset Reference Number	CAL11		
Barcode/Tag number			
Location	G-Y1-006		
Dimensions (L x W x H) (mm)			
Volume (Litres)	300 Litres		
Material of construction	Stainless Steel		
Orientation	Vertical		
Vent size (mm)	-		
Vent discharge point	-		
Primary heat source	-		
Secondary heat source	3 x Immersion		
Temperature gauges present?	No		
Temperature gauge accurate?	-		
Expansion vessel has drain fitted?	No		**Additional Photo**
Supplied By	-		
Systems Supplied	Bin wash		
Water flow temperature(◦C)			
Water return temperature (◦C)			
Temperature top/middle/bottom(◦C)			
Cold Feed Temperature (◦C)			
Accessed via			
Safe working access?	Yes		
Suitable Lighting	Yes		
Orientation of expansion vessel	Vertical		
Drain valve at lowest point?	No		
Drain valve operational?	-		
Condition of drain water?	-		
Inspection hatch?	Not seen		**Additional Photo**
Suitable Insulation to HWSV?	Yes		
Pipe work suitably insulated?	None	Yes	
Are there any means of disinfection?	-		
Hot Water Re-circulated?	-		
Standby pumps run continuously or Manually rotated?	-		
Type of heater (CAL/PHE/CWH)	Calorifier		
Size of hot flow pipe work (mm)	28mm		
Size of cold feed pipe work (mm)	28mm		
Size of return feed pipe work (mm)	-		
Is a de-stratification pump fitted?	-		
Set temperature of thermostat (◦C)	-		

Expansion Vessel

No Insulation fitted to pipe work

Risk Parameter (from score card)							Risk Rating
1	2	3	4	5	6	Total	**Not Yet Connected**

3.5 Asset Register, Temperature Profile of Water System & Sentinel Points

Temperatures out of Specification (Key)			Abbreviation Key				
Colour Code	System	Specification	DW = Dishwasher	CO = Combi Oven	HUBT= Hose Union Bib Tap		
	Mains/Cold	<20°C after 2minutes	CWO = Cooled water outlet	MAS = Macerator	WL + Water Logic		
	Hot	>50°C after 1 minute (55°C healthcare)	WM = washing Machine	CM = Coffee machine			
	Mixed	38-43°C (regulated)	DWF = Drink water fountain	ICE = Ice Machine			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
G	**Energy Centre**																					
	G-56-023	1									19.3		25.7						2	1		
				1							.											
	G-Y1-004								1 x HUBT		.				CWST11							
	G-Y1-006								1 x Bin Washer		.					CAL11					1	Not yet connected
	Outside Yard								2 x HUBT		.										2	
	Main Hospital																					
B	B-I12-002	1									11.4		43.4					1				
			1								12.2	63.4										
			1								12.2	63.4										
	BS1-013	1											50.9					1				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	BS1-013 cont		2														2					with spray wash
									2 x DW													
									1 x Bratt Pan													
									1 x Boiler Kettle													
									3 x Steam Ovens								1					One has spray gun
		2									11.9	65.1										
			2																			
	BS1-005	1																				
			1																			
	BS1-015	1																				
									1 x Waste Station													Isolated Dead Leg
	BS1-024	1											33.1									
	BS1-010	1									19.6		43.2						2	1		
				1																		
							1															
	BS1-009	1																	2	1		
				1																		
							1															
	BS1-007	1									19.5		41.1					1				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	BS1-007 cont		1																			
									1 x Hydrotap													
	BS1-016		1																			
			1																			
	BS1-023	1									19.3		43.4									
	BS1-004	1									15.2		41.1									
			1								14.4	65.1										
									2 x WM		-	-										
	BS3-009		1																			
			1																			
	BS3-009		1																			
			1																			
	BS3-007						1															
	BS3-008						1															
	BS3-021	1									11.9		39.1	62.3					2	1		
				1																		
	BS6-010	1									-		-						2	1		
				1																		
	BS6-009	1									-		-						2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	BS6-050	1																	2	1		
			1																			
									1x Hydroboil													
	BS6-019	1									17.1		45.7	58.8					2	1		
			1																			
	BS6-004		1								15.9	60.9										
G	GF1-058	1									17.5		40.2						2	1		
				1																		
	GF1-059	1									-		-						2	1		
			1								12.6	62.4										
	GF1-057	1									16.2		41.2						2	1		
			1								16.2	62.9										
									1 x DW													
									1 x Hydrotap													
	GF1-085	1																1				Isolated - dead leg
				1																		
							1															
	GF1-071	1									15.9		43.2					1				
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GF1-073	1																1				
				1																		
							1															
	GF1-070	1																1				
				1																		
							1															
	GF1-069	1																1				
				1																		
							1															
	GF1-090	1									17.2		41.4					1				
				1																		
							1															
	GF1-087	1									17.4		41.6					1				
				1																		
							1															
	GF1-083	1																1				
				1																		
							1															
	GF1-081	1																1				
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GF1-081 cont						1															
	GF1-079	1									15.5		41.5					1				
				1																		
							1															
	GF1-077	1																1				
				1																		
							1															
	GF1-067	1																1				
				1																		
							1															
	GF1-054	1																1				
									1 x WM													dead leg
	GF1-051	1																		1		
	GF1-052	1									12.8		41.3							1		
	GF1-050	1																		1		
	GF1-036	1																		1		
	Garden Area								1 x HUBT													
	GF1-039	1									13.8		41.2						2	1		
			1																			
									1 x Hydrotap													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GF1-039 cont								1 x DW													
	GF1-034	1									12.2		41.2						2	1		
			1								12		41					1				
	GF1-033	1																		1		
			1															1				
	GF1-019	1									11.9		42.2							1		
			1								11.9		38.4					1				
	GF1-017	1									.		.					1				
							1															
	GF1-040	1									13.3		44.3						2	1		
				1																		
	GF1-043	1																	2	1		
				1																		
	GF1-018	1																	2	1		
				1																		
	GF1-038	1																	2	1		
				1																		
	GF1-041								1 x WL													
	GF1-037	1																				
			1																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GF1-037 cont		1																			
			1																			
									1 x DW													Dead Leg
	GA2-080	1									17.3		38.4					1				
			2								17.5	60.1										
	GA2-084	1																1				
			2																			
			2																			
								2														
	GA2-076	1																		1		
				1																		
						1												1				
	GA2-085	1									16.3		38.2							1		
	GA2-065	1																		1		
	GA2-066	1																		1		
				1																		
							1															
	GA2-070	1																		1		
	GA2-071	1																		1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-071 cont						1															
	GA2-067	1																		1		
	GA2-068	1																		1		
				1																		
							1															
	GA2-060	1																		1		
	GA2-061	1																		1		
				1																		
							1															
	GA2-074	1									13.7		39.3							1		
	GA2-072	1									11.2		41.9							1		
	GA2-073	1																		1		
				1																		
							1															
	GA2-058	1																		1		
	GA2-059	1																		1		
				1																		
							1															
	GA2-052	1																		1		
	GA2-053	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-053 cont			1																		
							1															
	GA2-050	1																		1		
	GA2-051	1																	2	1		
				1																		
							1															
	GA2-054	1									12.2		38.1							1		
	GA2-055	1									13.7		41.7						2	1		
				1																		
							1															
	GA2-056	1																	2	1		
				1																		
	GA2-046	1																		1		
	GA2-047	1																	2	1		
				1																		
	GA2-048	1																	2	1		
				1																		
							1															
	GA2-044	1																1				
	GA2-045	1																1				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-045 cont			1																		
							1															
	GA2-057	1									10.1		38.1							1		
	GA2-042	1																		1		
	GA2-043	1																	2	1		
				1																		
							1															
	GA2-040	1									13.7		39.5							1		
			1								10.0		38.2					1				
		1																		1		
			1																			
								1														
	GA2-039	1																		1		
	GA2-021	1																		1		
	GA2-006	1																		1		
	GA2-007	1																		1		
			1																			
								1														
	CIRC SPACE	1									11.6		39.6							1		
	GA2-002	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-003	1																		1		
			1																			
							1															
	GA2-024	1																	2	1		
			1																			
	GA2-023	1																	2	1		
			1																			
	GA2-004	1																		1		
	GA2-005	1																	2	1		
				1																		
							1															
	GA2-009	1																		1		
	GA2-010	1																	2	1		
				1																		
							1															
	GA2-041	1																		1		Isolated - Dead Leg
			1																			
									1 x DW													
									1 x Hydrotap													
	GA2-017	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-018	1																	2	1		
				1																		
							1															
	GA2-014	1																		1		
	GA2-015	1																	2	1		
				1																		
							1															
	GA2-012	1																		1		
	GA2-013	1																	2	1		
				1																		
							1															
	GA2-062	1																	2	1		
				1																		
	GA2-019	1																		1		
	GA2-020	1																	2	1		
				1																		
							1															
	GA2-028	1									14.6		38.8							1		
	GA2-029	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-029 cont						1															
	GA2-030	1									18.8		41.8							1		
				1																		
	GA2-037	1											38.8							1		
	GA2-038	1																	2	1		
				1																		
							1															
	GA2-035	1																		1		
	GA2-036	1																	2	1		
				1																		
							1															
	CIRC SPACE	1																		1		
	GA2-033	1																		1		
	GA2-034	1																	2	1		
				1																		
							1															
	GA2-031	1																		1		
	GA2-032	1																	2	1		
				1																		
							1													1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA2-048	1																		1		
	GA2-049						1															
	GA2-056	1									17.6		40.8					1				
			2								16.8	61.7										
	GA2-043	1																				
	GA2-044						1															
	GA1-054		1								14.0	64.0										
									1 x Hydrotap													
	GA1-058	1																	2	1		
				1																		
	GA1-055	1																	2	1		
				1																		
	GA3-001	1									13.8		39.3						2	1		
			1								12.7	63.5										
			1								12.7	63.5										
									2 x Hydrotap													
	GA1-047	1									16.8		42.6						2	1		
	GA1-046	1																	2	1		
	GA1-041	1																	2	1		
			1																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA1-045								1 x CWO											1		
		1																				
	GA1-042	1																	2	1		
				1																		
	GA1-069								1 x HUBT						9 & 10						1	
	GA1-035	1																		1		
	GA1-067	1																	2	1		
				1																		
	GA1-066	1																		1		
			1								14.0	61.7										
	GA1-064	1																		1		
	GA1-060	1																		1		
	GA1-062	1																		1		
	GA1-060	1																		1		
	GA1-063	1											38.1						2	1		
			1								10.0	63.1										
									1 x DW													Dead Leg, Not yet installed
									1 x Hydrotap													
	GA1/004/006	1																		1		
	GA1-031	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA1-031 cont		1																			
	GA1-032		1																			
									1 x Hydrotap													
	GA1-033	1																	2	1		
				1																		
	GA1-029	1									19.4		40.9							1		
		1																		1		
	OUTSIDE								1 x HUBT						9&10							
	GA1-028	1																		1		
		1																		1		
	GA1-010	1																		1		
			1																			
	GA1-013	1																		1		
	GA1-019	1																		1		
	GA1-021	1																		1		
	GA1-025	1																		1		
	GA1-022	1																		1		
	GA1-020	1																		1		
	GA1-018	1									16.0		41.2							1		
	GA1-017	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GA1-014	1																		1		
	GA1-012	1																		1		
	GA1-008	1																				
				1																		
						1	1										1					
	GA1-009	1																	2	1		
				1																		
	GA1-007	1									13.2	61.7										
			1																			
	G-CT-008 - COURTYARD								1 x HUBT						9&10						1	
	GM1-025	1									12.9		40.9							1		
	GM1-024	1																		1		
	GM1-023	1																		1		
	GM1-022	1																		1		
	GM1-021	1																		1		
	GM1-027	1									14.2		38.5							1		
	GM1-020	1																		1		
	GM1-028	1									14.6		39.2							1		
			1								13.5	62.5										
	GM1-032								1 x CWO													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GM1-045	1																	2	1		
				1																		
	GM1-019	1																		1		
	GM1-018	1																		1		
	GM1-016	1																		1		
	GM1-017	1									16.2		39.6							1		
	GM1-014	1																		1		
	GM1-015	1																		1		
	GM1-012	1																		1		
	GM1-013	1																		1		
	GM1-011	1																		1		
	GM1-009	1																		1		
	GM1-007	1																		1		
	GM1-003	1																		1		
	GM1-002	1									18.2		42.0							1		
	GM1-051								1 x CWO											1		
	GM1-005	1																	2	1		
				1																		
	GM1-050	1																		1		
			2								15.4	63.9										

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GM1-042	1																		1		
	GM1-039	1																	2	1		
				1																		
	GM1-035	1																	2	1		
				1																		
	GM1-034	1																	2	1		
				1																		
	MRI																					
	GQ1-130	1									13.7		38.9							1		
			1								13.8	61.4										
	GQ1-125	1																		1		
	GQ1-121	1																	2	1		
				1																		
	GQ1-131	1																	2	1		
				1																		
	GQ1-132	1																	2	1		
				1																		
	GQ1-126	1																	2	1		
				1																		
	GQ1-113	1									11.6		39.3							1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GQ1-113 cont		1								11.0	62.1										
								1														
	GQ1-112	1																		1		
	GQ1-109	1																	2	1		
				1																		
	GQ1-098	1																		1		
	GQ1-108	1																		1		
	GQ1-102	1									11.3		39.3							1		
			1								11.7	60.9										
			1								11.7	60.1										
	GQ1-094								1 x CWO													
	GQ1-097	1																	2	1		
			1																			
	GQ1-061	1									16.4		42.2						2	1		
				1																		
	GQ1-062	1																	2	1		
				1																		
	GQ1-081	1																		1		
	GQ1-080								1 x CWO													
	GQ1-066	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GQ10066 cont		1																			
	GQ1-059	1																		1		No Access
	GQ1-067	1																	2	1		
				1																		
	GQ1-053	1																		1		
			2								19.8	61.7										
	GQ1-052	1																		1		
			1																			
	GQ1-049	1																	2	1		
				1																		
	GQ1-045	1																		1		
	GQ1-048	1																	2	1		
				1																		
	GQ1-046	1									22.2		40.4							1		
	GQ1-040								1 x CWO													
	GQ1-044	1									17.9		41.8							1		
	GQ1-028	1									14.1									2		
			1																			
	GQ1-039	1																		1		
	GQ1-036	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GQ1-035	1																		1		
	GQ1-033								Emergency Shower & Eyewash								2				1	
	GQ1-034								1 x CWO										2	1		
	GQ1-029	1																				
				1																		
	GQ1-024	1																				
			1								11.6	63.5										
								1														
	GQ1-022	1																	2	1		
				1																		
	GQ1-021	1																	2	1		
	GQ1-019	1									21.3		41.3						2	1		
				1																		
	GQ1-017	1																		1		No Access
	GQ1-016	1																		1		No Access
	GQ1-012	1																		1		No Access
	GQ1-014	1																		1		
	GQ1-010	1																		1		
	GQ1-012	1																		1		No Access

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GQ1-008	1																		1		No Access
	GQ1-018								1 x CWO													
	GQ1-004	1																		1		No Access
	GQ1-003	1																	2	1		
	GQ1-078								1 x CWO													
	GQ1-144	4									13.7		39.8						8	4		
				4																		
							4															
	GQ1-150	2																	4	2		
				2																		
							2															
	GQ1-143	1																	2	1		
				1																		
	GQ1-146	1																	2	1		
				1																		
	GQ1-141																					No Access
	GI1-013	1																		1		
			2								15.8	61.1										
	GI1-011	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GI1-011 cont			1																		
	GI1-010	1																	2	1		
				1																		
	GI1-012	1																	2	1		
				1																		
	GI1-008								1 x CWO													
	GN1-006								1 x CWO													Dead Leg, Not yet connected
	GN1-004	1									58.9		58.9						2	1		Broken TMV
				1																		
	GN1-003	1									18.8		42.2						2	1		
				1																		
	GN1-007 CORRIDOR								1 x CWO													
	GD1-021	1																		1		No Access
				1																		
							1															
	D1-016	1																		1		
	E1-004	1																	2	1		
				1																		
	E1-003								1 x CWO													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D1-029	1									15.6		41.9						2	1		
	D1-032																					No Access
	D1-008	1																		1		No Access
			1																			
	D1-034																					No Access
	D1-035																					No Access
	D1-036																					No Access
	D1-038																					No Access
	D1-023																					No Access
	D1-026	1									16.6		41.7						2	1		
				1																		
	D1-039																					No Access
	D1-031	1									18.2		40.7							1		
	D1-040																					No Access
	D1-033																					No Access
	D1-014																					No Access
	D1-004	1																	2	1		
				1																		
	D1-020																					No Access
	D1-013																					No Access

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D1-007	1																		1		
			2																			
	D1-017B	1									16.7		42.9							1		
	D1-002	1																	2	1		
	D1-001	1																	2	1		
	D1-003	1									19.1		42.5						2	1		
				1																		
	D1-012																					No Access
	D1-024 - BEV BAY								1 x CWO													
	D1-011																					No Access
	D1-032																					No Access
	D1-009																					No Access
	D1-006																					No Access
	D2-004	1									17.8		41.8						2	1		
				1																		
	D2-007	1																				No Access
			2																			
	D2-012																					No Access
	D2-013	1									17.7		41.4							1		
			1								17.3	61.3										

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D2-014	1																		1		No Access
	D2-005	1																		1		No Access
	E1-005										19.3		41.7							1		
	K1-026	1																		1		No Access
			2																			
	K1-017	1									18.4		40.2						2	1		
			1																			
									1 x Hydrotap													
	K1-016	1																				Kemper Valve here
	K1-025	1																	2	1		
				1																		
	K1-021																					No Access
	K1-019		1																			
									1 x Hydrotap													
	K1-018	1									17.5		38.8						2	1		
				1																		
	K1-015																					No Access
	K1-010																					No Access
	K1-007	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	K1-008	1																	2	1		
				1																		
	K1-006								1 x CWO													
	E1-010	1																	2	1		
				1																		
	E1-009	1																	2	1		
				1																		
	E1-008	1																		1		
			2								13.2	65.3										
	E1-011								1 x CWO													
	DENTAL SUITES																					
	GD5-004	1									11.6		34.8							1		
		1									13.2		39.9							1		
									1 x Dental Chair						Bottle Fed							
									1 x Dental Spittoon													
	GD5-007	1									13.7		38.7							1		
	GD5-005	1									11.7		39.2							1		
			1								11.7	63.3										
	GD5-010	1																				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	GD5-010 cont	1																				
									1 X Dental Chair						Bottle Fed							
									1 x Dental Spittoon													
	D5-002	1									29.2		39.5							1		
			1								11.3	60.1										
	D5-009	1																		1		
		1																		1		
									1 x Dental Chair						Bottle Fed							
									1 x Dental Sttoon													
	D5-008	1																		1		
		1																		1		
									1 x Dental Chair						Bottle Fed							
									1x Dental Spittoon													
	D5-003	1																		1		
	G-I1-006																					Dead Legs, No equipment installed yet
	G-I1-007	1																				
			1																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D1-001	1									12.9		38.1							1		
			1								12.9	65.6										
									1 x Hydrotap													
	E1-006	1									16.1		40.9						2	1		
				1																		
1	H2-012	1									18.1		40.2						2	1		
			1								18.4	60.2										
									1 x Hydrotap													
									1 x DW													
	H2-020	1																		1		
	H2-021	1																		1		
	H2-018	1																	2	1		
				1																		
							1															
	H2-023	1																		1		
	H2-024	1																		1		
	H2-022	1																	2	1		
				1																		
							1															
	H2-011	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	H2-011 cont			1																		
	H2-014	1																		1		
	H2-015	1																	2	1		
				1																		
							1															
	H2-016	1									16.1		41.3							1		
			1								16.9	63.2										
									1 x Ice Machine													Dead Leg, Not yet connected
	H2-010	1																		1		
	H2-017	1																		1		
			1																			
								1														
	H2-009	1																		1		
	H2-006	1																		1		
			1																			
			1																			
	H2-005	1																	2	1		
				1																		
	H2-002	1																		1		
	1-B1-079	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	1-B1-079 cont			1																		
							1															
	B1-080	1																	2	1		
				1																		
	B1-084								1 x CWO													
	B1-083	1																	2	1		
				1																		
							1															
	B1-077	1																		1		
			1																			
			1																			
	B1-068	1																	2	1		
				1																		
	B1-022	1									14.3		39.9							1		
		1																		1		
		1																		1		
			1								14.9	63.6										
	B1-075	1																		1		
	B1-074	1																		1		
			1																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	B1-074 cont						1															
	B1-066	1																		1		
	B1-073	1									11.8		41.2						2	1		
			1								11.6	61.0										
									1 x DW													
	B1-072	1																		1		
			1																			
	B1-064	1																		1		
			1																			
								1														
	B1-082	1																	2	1		
			1																			
	B1-041																					
	B1-070	1																				
	B1-032	1																	2	1		
				1																		
							1															
	B1-063	1									23.2		41.2							1		
		1									22.8		40.3							1		
		1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	B1-063 cont	1																		1		
	B1-037	1																		1		
	B1-033	1																		1		
	B1-036	1																		1		
	B1-031	1																		1		
		1																		1		
		1																		1		
		1																		1		
	B1-052	1																		1		
	B1-026	1																		1		
	B1-021	1									23.5		40.5							1		
	B1-027	1																		1		
	B1-020	1																		1		
	B1-017	1																		1		
	B1-019	1									19.4		40.7							1		
	B1-018	1																		1		
	B1-016	1																		1		
	B1-015	1																		1		
	B1-040	1																		1		
			1								19.8		41.3									

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	B1-009	1																		1		
		1																		1		
		1																		1		
		1																		1		
	B1-029	1																		1		
			1								14.4	64.4										
								1												1		
	B1-056	1																	2	1		
				1																		
	B1-088								1 x CWO													
	B1-005	1																	2	1		
				1																		
	B1-006	1																	2	1		
				1																		
	B1-003	1																		1		
			1								15.5	63.6										
									1 x Hydrotap													
	B1-043	1									19.7		38.6							1		
			1								19.4	58.2										
									1 x Ice Machine													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	B1-001	1																		1		
	1J1-003	1																		1		
	J1-004		1								18.3		41.6					1				TMV Below sink
	J1-002	1																	2	1		
				1																		
	1-B1-007		1								15.6	60.4										
			1								15.6	61.5										
	1L1-105	1									14.2		41.1							1		
	L1-077	1																	2	1		
				1																		
							1															
	L1-072	1																	2	1		
				1																		
							1															
	L1-080	1																	2	1		
				1																		
	L1-054	1									12.5		41.2							1		
			1								12.5	59.7										
									1 x DW													
	L1-093	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L1-094	1																	2	1		
				1																		
							1															
	L1-100	1																		1		
		1																		1		
	L1-101	1																	2	1		
				1																		
							1															
	L1-091	1																		1		
	L1-092	1																	2	1		
				1																		
							1															
	L1-103	1									18.3		39.3							1		
	L1-088	1																		1		
	L1-087	1																	2	1		
				1																		
							1															
	L1-097	1									20.5		41.3							1		
		1									20.4		41.5							1		
	L1-099	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L1-099 cont			1																		
							1															
	L1-083	1																		1		
	L1-084	1																	2	1		
				1																		
							1															
	L1-047	1																		1		
	L1-068	1																		1		
	L1-069	1																	2	1		
				1																		
							1															
	L1-104	1									19.7		41.4									
	L1-061	1																		1		
			1								20.5	60.5										
								1														
	L1-095	1																		1		
			1																			
			1																			
	L1-066	1																		1		
	L1-067	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L1-067 cont			1																		
							1															
	L1-021	1																		1		
	L1-022	1																	2	1		
				1																		
							1															
	L1-024	1																		1		
	L1-025	1																	2	1		
				1																		
							1															
	L1-017	1																		1		
	L1-018	1																	2	1		
				1																		
							1															
	L1-034	1																		1		
	L1-035	1																	2	1		
				1																		
							1															
	L1-038	1																		1		
	L1-039	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
				1																		
							1															
	L1-015	1											45.7					1				Antiligature
		1									27.1		41.5					1				Antiligature
	L1-016			1																		
							1															
	L1-010	1																		1		
		1																	2	1		
	L1-011			1																		
							1															
	L1-044	1																		1		
		1																	2	1		
	L1-040			1																		
							1															
	L1-006	1									26.5		42.4							1		
		1									27.3		41.2						2	1		
	L1-007			1																		
							1															
	L1-002	1																		1		
	L1-003	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L1-003 cont			1																		
							1															
	L1-005	1																		1		No Access
	L1-073	1									25.1		42.2						2	1		
				1																		
	L1-032	1																		1		
	L1-031	1																		1		
	L1-030	1																		1		
	L1-029	1									25.1		40.6							1		
	L1-001	1									25.2		41.5							1		
		1									14.7		40.2							1		
	L1-012								1 x CWO													
	L1-079	1																	2	1		
				1																		
	L1-014	1																	2	1		
				1																		
	L1-026	1									15.7		41.4						2	1		
				1																		
	L1-033	1									15.8		.							1		
			1								15.6	61.4										

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L1-033 cont							1														
	1P1-109	1									19.8		41.4							1		
		1									19.7		41.4							1		
		1																		1		
		1																		1		
		1									19.8		41.4							1		
		1																		1		
		1																		1		
		1																		1		
	P1-106	1																		1		
	P1-090	1																		1		
			1								19.7	60.6										
								1														
	P1-103	1																		1		
		1																		1		
		1																		1		
	P1-102	1																		1		
		1																		1		
		1																		1		
				3																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	P1-102 cont						3															
	P1-103								1 x DW													
	P1-100	1																		1		
		1																		1		
		1																		1		
		1																		1		
				4																		
							4															
	P1-053	1									19.4		40.1							1		
			1								19.5	60.7										
									1 x Hydrotap													
			1								19.1	60.8										
			1																			
									1 x Hydrotap													
		1																		1		
	P1-048																					
	TH38-184	1									15.4		41.4							1		
	TH38-078		1						Scrub sink 3 x taps											3		
	TH38-077	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	TH38-079	1									17.1		41.4							1		
	TH38-071	1																		1		
	TH37-071		1						Scrub sink 3 x taps											3		
	AM37-069	1																		1		
	AM39-074	1																				
	TH39-075		1						Scrub sink 3 x taps											3		
	TH39-072	1																		1		
	TH39-092	1																		1		
			1								18.2	62.5										
	TH39-059	1																		1		
	TH39-066	1																		1		
	TH39-153	1									17.1		40.1							1		
	TH36-185		1						Scrub sink 3 x taps											3		
	TH36-187	1																		1		
			1																			
	AM36-185	1																		1		
	AM36-055	1																		1		
	AM36-052	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	AM36-098	1																	2	1		
				1																		
	AM36-049	1									17.3		41.5							1		
	AM36-122	1																	2	1		
				1																		
	AM36-125	1									15.5		47.1						2	1		
				1																		
	AM36-126	1																		1		
	-120	1									15.5		41.7							1		
	-116	1																		1		
	-118	1									13.3		41.9							1		
	-128	1																		1		
	ANI-TH31-047	1																		1		
	TH31-046		1						Scrub sink 3 x taps											3		
	TH31-045	1																		1		
	TH31-041	1																		1		
			1																			
	TH30-034		1						Scrub sink 3 x taps)											3		
	ANITH3-30-033	1																		1		
	TH30-029	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	TH30-029 cont	1																		1		
		1																		1		
		1																		1		
		1																		1		
		1																		1		
	TH30-028	1																		1		
	TH30-031	1									15.2		41.4							1		
	TH30-030	1																		1		
	TH30-025	1																		1		
			1								15.7	61.2										
								1														
	TH30-022	1																		1		
	199	1									15.1		40.2							1		
		1																		1		
		1									16.7		41.8							1		
	TH30-026	1																		1		
	TH30-025	1																		1		
	TH30-019	1									19.9		40.3							1		
	TH30-020	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	TH30-016	1																				Dead Leg
			1								19.3	60.8										
									1 x Hydrotap													
	TH30-015	1																		1		
	TH30-012	1									19.3		41.2									
				1							20.2	60.3										
	TH30-013	1																	2	1		
				1																		
	TH30-010	1																		1		
	TH30-011	1																	2	1		
				1																		
	TH30-008	1																		1		
	TH30-005	1																		1		
	TH30-006	1																	2	1		
				1																		
							1															
	TH30-007	1																		1		
	TH30-003	1									19.4		41.7							1		
	TH30-004	1									19.3		40.2						2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	TH30-004 cont						1															
	1COR-0023	1																		1		
	178	1																		1		
	180	1																	2	1		
				1																		
	179	1																	2	1		
				1																		
	185		1								16.8	62.6										
	176	1																		1		
	177	1																		1		
	170	1																		1		
		1																		1		
	168	1																	2	1		
				1																		
	169	1																	2	1		
				1																		
	163																					No Access
	171	1									15.4		53.8						2	1		
				1																		
	158	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	TH35-156	1																		1		
	TH35-154		1						Scrub sink 3 x taps											3		
	152	1																		1		
			1								16.2	61.3										
	149	1																		1		
	TH34-141																					
	TH34-148		1						Scrub sink 3 x taps											3		
	136	1																		1		
	TH33-138	1																		1		
	TH33-137		1						Scrub sink 3 x taps											3		
	130	1																		1		
			1								17.2	61.3										
			1								17.2	61.3										
	134	1																				
	TH32-132	1																		1		
	133		1						Scrub sink 3 x taps											3		
	1D1-30	1									16.1		41.4						2	1		
	1D1-31	1																		1		
	1D1-32	1									16.3		42.1						2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	1D1-32 cont			1																		
	D1-026	1																		1		
	D1-002	1																		1		
	D1-011	1																	2	1		
				1																		
	D1-005																					No Access
	D1-018																					No Access
	D1-019																					No Access
	D1-022																					No Access
	D1-010																					No Access
	D1-003	1																		1		
	D1-008	1																		1		
	D1-012	1									16.5		42.8						2	1		
				1																		
							1															
	D1-013	1																		1		
	D1-023	1																		1		
	D1-001	1																		1		No Access

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D1-001 cont		1																			
			1																			
	D1-021	1																		1		
	D1-020	1																		1		
	D1-017	1																		1		
	D1-016	1																		1		
	D1-015	1																		1		
	1D6-046	1																		1		
	D6-039	1									17.3		41.4							1		
	D6-048	1																		1		
	D6-054	1																		1		
	D6-053	1																		1		
	D6-040	1																		1		
	D6-036	1																		1		
	D6-044	1									18.3		42.8						2	1		
				1																		
	D6-032	1									18.9		40.1							1		
	D6-042	1																		1		
			1								17.2	63.3										
									1 x AGUA tap													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D6-030	1																		1		
	D6-029	1																		1		
	D6-028	1																		1		
	D6-018	1																		1		
	D6-027	1																		1		
	D6-025	1																		1		
	D6-021	1																		1		
	D6-020	1																		1		
	D6-019	1																		1		
			1								19.6	61.9										
			1																			
								1														
	1D4-007	1																	2	1		
				1																		
	1D4-006	1									19.3		41.6						2	1		
				1																		
	1D1-048	1									19.4		40.3							1		
	1D1-047	1																		1		
	1D1-046	1																		1		
	1D1-045	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	1D4-010	1									17.3		38.3							1		
			1								17.3	64.1										
	1D3-002	1									17.8		40.3							1		
	1D1-042	1																		1		
			1																			
	D1-043																					No Access
	1D6-057	1																	2	1		
				1																		
	1D1-038	1									17.3		41.8						2	1		
				1																		
2	2M4-018	1									18.8		41.2									
	M4-017	1																		1		
	M4-008	1																		1		
	M4-011	1																		1		
	M4-006	1									18.3		41.1						2	1		
				1																		
	M4-014	1																	2	1		
				1																		
	M4-019	1									18		40.3							1		
	M4-009	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	G2-002								1 x CWO													
	M2-016	1																	2	1		
				1																		
	M2-015	1																	2	1		
				1																		
	M2-023	1									15.5		40.2							1		
									1 x CWO													
	M2-022	1									15.8		41.7						2	1		
				1																		
	M2-014	1																	2	1		
				1																		
	M2-012	1																		1		
									1 x CWO													
	M2-006								1 x CWO													
	M2-011	1																		1		
									1 x CWO													
	M2-008	1									15.6		41.8									
			1								15.6	64.5										
	M2-010	1																		1		
	M2-009	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	M2-009 cont		1																			
			1																			
	M2-007	1																		1		
				1																		
						1	1				18.2	61.4										Bath with shower / No TMV on Bath
							1															
	2L2-145	1									18.1		41.4							1		
	L2-021	1																		1		
	L2-022	1																	2	1		
				1																		
							1															
	L2-015	1																		1		
	L2-016	1																	2	1		
				1																		
							1															
	L2-061	1																	2	2		
				1																		
	L2-013	1																		1		
	L2-014	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L2-014 cont						1															
	L2-031	1									18.2		40.2							1		
			1								18.2	63.8										
			1								18.2	63.8										
	L2-026	1																		1		
	L2-027	1																	2	1		
				1																		
							1															
	L2-010	1											40.6					1				Anti-ligature
	L2-011	1									18.3		41.5					1				Anti-ligature
				1																		
							1															
	L2-006	1																		1		
	L2-007	1																	2	1		
				1																		
							1															
	L2-032	1									18.7		41.9							1		
	L2-033	1									18.9		40.1						2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L2-072	1																	2			
				1																1		
	L2-004	1									15.2		41.3							1		
	L2-005	1									16.3		38.6						2	1		
				1																		
							1															
	L2-018	1																		1		
	L2-019	1																	2	1		
				1																		
							1															
	L2-030	1									16.3		39.5							1		
			1								15.8	62.6										
								1														
	L2-034	1																		1		
	L2-035	1																	2	1		
				1																		
							1															
	L2-023	1																		1		
	L2-024	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L2-024 cont						1															
	L2-036	1																		1		
	L2-037	1																	2	1		
				1																		
							1															
	L2-028	1									14.4		42.8							1		
	L2-029	1									13.5		37.6						2	1		
				1																		
							1															
	L2-050	1																		1		
	L2-051	1																	2	1		
				1																		
							1															
	L2-046	1																		1		
	L2-047	1																	2	1		
				1																		
							1															
	L2-048	1									15.9		40.4							1		
	L2-049	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L2-049 cont						1															
	L2-041	1																		1		
	L2-042	1																	2	1		
				1																		
							1															
	L2-052	1																		1		
	L2-043	1									14.3		44.0							1		
	L2-044	1									14.7		41.8						2	1		
				1																		
							1															
	L2-038	1																		1		
	L2-039	1																		1		
	L2-040	1																	2	1		
				1																		
							1															
	L2-146	1									12.3		39.6							1		
	L2-060	1																	2	1		
				1																		
	L2-054	1									22.0	63.8										
			1					1														

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	L2-071	1																	2	1		
				1																		
	L2-068	1																	2	1		
				1																		
	2M3-004		1																			
			1								9.7	63.7										
									1 x Hydrotap													
	M3-002	1																		1		
	M3-004	1									17.5		38.8							1		
	M3-003	1																		1		
	M3-062	1									24.8									1		
			1								25.4	62.3										
									1 x Hydrotap													
									1 x DW													
	M3-080	1																		1		
				1																		
						1																ARJO Bath
	M3-134	1																		1		
	M3-135	1									21.1		41.8							1		
	M3-136	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	M3-136 cont			1																		
						1																
	M3-079	1																		1		
	133	1									22.2		40.7							1		
	132	1																	2	1		
				1																		
							1															
	130	1																		1		
	131	1																	2	1		
				1																		
							1															
	M3-090	1									25.8		41.9							1		
	M3-091	1									22.4		40.2						2	1		
				1																		
							1															
	M3-097	1																		1		
	M3-096	1																	2	1		
				1																		
							1															
	M3-125	1									24.2		42.3							1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	126	1									28.7		42.1						2	1		
				1																		
							1															
	123	1																		1		
	124	1																	2	1		
				1																		
							1															
	102	1																		1		
	103	1																	2	1		
				1																		
							1															
	104	1																		1		
	105	1																	2	1		
				1																		
							1															
	111	1									25.2		42.7							1		
	110	1									25.8		41.4						2	1		
				1																		
							1															
	119	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
		1																	2	1		
	120			1																		
							1															
	117	1																		1		
		1																	2	1		
	118			1																		
							1															
	113	1																		1		
		1																	2	1		
	114			1																		
							1															
	121	1									24.5		43.8							1		
		1																	2	1		
	122			1																		
							1															
		1																	2	1		
	122			1																		
							1															
		1									21.4		.							1		
	127		1								21.4	63.8										

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	127 cont							1														
	108	1									22.2		38.4							1		
	109	1									20.8		41.6						2	1		
				1																		
							1															
	106	1																		1		
	107	1																	2	1		
				1																		
							1															
	142	1																		1		
	143	1																	2	1		
				1																		
							1															
	139	1									27.1		42.7							1		
	138	1									26.4		40.9						2	1		
				1																		
							1															
	128	1																		1		No Access
			1																			
			1																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	M3-094	1																		1		
	M3-095	1																	2	1		
				1																		
							1															
	140	1									23.9		41.1							1		
	141	1									23.8		41.1						2	1		
				1																		
							1															
	M3-082	1																		1		
	M3-083	1																	2	1		
				1																		
							1															
	M3-078	1									24.1		55.0									TMV not set
			1								24.2	60.1										
									1 x DW													
									1 x Hydrotap													
	M3-084	1																		1		
	M3-085	1																	2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	M3-066	1																	2	1		
				1																		
	M3-092	1									23.5		43.5							1		
	M3-093	1									26.8		41.9						2	1		
				1																		
							1															
	M3-086	1									24.2		41.5							1		
	M3-065	1									24.4		38.6						2	1		
				1																		
	2N2-003																					Dead Leg on CWO
	N2-005	1																		1		No Access
			1																			
			1																			
	N2-002	1									15.2		44.2							1		
			1								16.3	59.8										
									1 x Hydrotap													
	2S5-003	1																	2	1		
	S5-005	1									13.3		41.3						2	1		
		1																	2	1		
		1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	S5-005 cont	1																	2	1		
		1																	2	1		
		1																	2	1		
				6																		
							6															
	S5-004	4									14.5		42.1						8	1		
				4																		
							4															
	PLANT ROOM 001	1																				
	1B	1																				
	1A	1																				
	OUTSIDE PLANT ROOM 1A								1 x HUBT						BCW							
	2G2-004	1									13.8		41.4									
			1								13.8	63.7										
	2R1-038	1									14.2		42.1							1		
		1									14.3		41.4							1		
		1									14.3		40.5							1		
		1									14.1		41.5							1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	2R1-038 cont		4																			
	R1-026		1								15.6	62.7										
									1 x Hydrotap													
	R1-034	1																		1		
			1																			
			1																			
	R1-014	1																	2	1		
		1																	2	1		
		1																	2	1		
		1																	2	1		
				4																		
	R1-032	1																	2	1		
				1																		
	R1-021		1								18.9	58.9										
									1 x Hydrotap													
	R1-013	1									19.2		41.1						2	1		
		1									19.1		42.7						2	1		
		1									19.1								2	1		
		1									19.1		40.8						2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	R1-013 cont			4																		
	R1-016	1																		1		
			1																			
	R1-033	1									18.5		42.1						2	1		
		1									18.5		41.5						2	1		
		1									18.5		41.7						2	1		
				3																		
	R1-007	1																		1		
			1																			
			1																			
	R1-005		1								14.5	65.7										
									1 x Hydrotap													
	R1-001		1								11.5	63.8										
									1 x Hydrotap													
		1									11.5		41.2						2	1		
3	3C1.8-011	1																		1		
	3C1.8-010	1									15.4		41.1									
			1								14.8	62.9										
									1 x DW													Isolated, Dead Leg
									1 x Hydrotap													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	3C1.8-010 Cont																					
	C1.8-014	1																		1		
	C1.8-015	1																		1		
	C1.8-016	1																		1		
	C1.8-017	1																	2	1		
				1																		
							1															
	C1.8-018	1																	2	1		
				1																		
	C1.8-027	1									18.8		40.2							1		
	C1.8-028	1																	2	1		
				1																		
	C1.8-029	1																	2	1		
				1																		
							1															
	CORRIDOR - C1.8-040	1																	2	1		
	C1.8-005	1																		1		
	C1.8-006	1																	2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.8-021	1																		1		
	C1.8-033	1																	2	1		
				1																		
							1															
	C1.8-032	1																		1		
	C1.8-022	1																	2	1		
				1																		
							1															
	C1.8-030	1																		1		
	C1.8-031	1																	2	1		
				1																		
							1															
	C1.8-025	1									18.8		40.9							1		
	C1.8-026	1									18.9		39.6						2	1		
				1																		
							1															
	C1.8-023	1																		1		
	C1.8-024	1																	2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.8-008	1																	2	1		
				1																		
	C1.8-035	1																	2	1		
				1																		
						1	1															Bath with shower
	C1.8-007	1																	2	1		
				1																		
	C1.8-003	1									16.3		42.1									
			1								14.2	61.4										
							1															
	C1.8-009	1																		1		
			1																			
	C1.8-012	1																		1		
			2																			
	C1.2-044	1																	2	1		
				1																		
	C1.2-034	1																		1		
			1								15.3	62.2										
									1 x Hydrotap													
									1 x DW													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.2-036	1																		1		
	3-CT-019								1 x HUBT						9&10							
	CT1.2-021	1																	2	1		
				1																		
	CT1.2-040	1																	2	1		
				1																		
	CT1.2-033	1																		1		
			1																			
	CT1.2-032	1																		1		
	CT1.2-031	1																		1		
	CT1.2-026	1									16.3		40.8							1		
	CT1-027	1																	2	1		
				1																		
	CT1.2-025	1									15.9		39.4						2	1		
				1																		
							2															
	CT1.2-020	1																		1		
	CT1.2-019	1																	2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	CT1.2-018	1																		1		
	CT1.2-021	1																	2	1		
				1																		
							1															
	CT1.2-023	1																		1		
	CT1.2-024	1																	2	1		
				1																		
							1															
	CT1.2-014	1																		1		
	CT1.2-015	1																	2	1		
				1																		
							1															
	CT1.2-012	1									17.5		43.0									
			1								17.6	62.4										
								1														
	CT1.2-007	1																				
	CT1.2-008	1																				
				1																		
							1															
	C1.2-013	1																		1		No Access

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.2-013 cont		2																			
	CORRIDOR - C1.2-001	1																		1		
	C1.2-005	1																		1		
	C1.2-006	1																	2	1		
				1																		
							1															
	C1.2-010	1																		1		
	C1.2-003	1																	2	1		
				1																		
							1															
	C1.2-017	1																	2	1		
				1																		
						1	1															Bath with shower
	C1.2-002	1									19.8		38.7							1		
	C1.2-011	1																	2	1		
				1																		
							1															
	C1.6-001	1																				
			1								19.4	60.6										
	C1.1-068	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.1-068 cont			1																		
							1															
	C1.1-065	1																		1		
	C1.1-066	1																	2	1		
				1																		
							1															
	C1.1-063	1																		1		
	C1.1-064	1																	2	1		
				1																		
							1															
	C1.1-032	1																		1		
	C1.1-033	1																		1		
	C1.1-034	1																	2	1		
				1																		
							1															
	C1.1-035	1																		1		
	C1.1-036	1																		1		
	C1.1-037	1																	2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.1-044	1									16.8		42.4							1		
			1								16.6	62.0										
								1														
	C1.1-043	1																		1		
	C1.1-042	1																		1		
	C1.1-039	1																		1		
	C1.1-040	1																		1		
	C1.1-041	1																	2	1		
				1																		
							1															
	C1.1-027	1																	2	1		
				1																		
	C1.1-021	1																		1		
			1																			
	C1.1-001	1																		1		
	C1.1-070	1																	2	1		
				1																		
	C1.1-026	1																	2	1		
				1																		
	C1.1-023	1									11.9		11.9							1		No hot water

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.1-023 cont		1								12	61.2										
									1 x DW													
									1 x Hydrotap													
	C4-005	1																		1		
	C4-003	1																	2	1		
				1																		
							1															
	C4-008	1																		1		
	C4-010	1																	2	1		
				1																		
							1															
	C1.1-018	1																		1		
	C1.1-019	1																	2	1		
				1																		
							1															
	C1.1-020	1																	2	1		
				1																		
	C1.1-058	1											39.4					1				Anti-ligature
	C1.1-059	1																1				Anti-ligature
				1																		Anti-ligature

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.1-059 cont						1															
	C1.1-060	1																		1		
	C1.1-061	1																	2	1		
				1																		
							1															
	C1.1-046	1																		1		
	C1.1-047	1																	2	1		
				1																		
	C1.1-048	1																	2	1		
				1																		
							1															
	C1.1-056	1									18.2		43.0							1		
	C1.1-057	1																	2	1		
				1																		
							1															
	C1.1-049	1																	2	1		
				1																		
						1	1															Bath with shower
	C1.1-017	1																		1		
			2																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.1-052	1																		1		
	C1.1-053	1																	2	1		
				1																		
							1															
	C1.1-011 - CORRIDOR	1																		1		
	C1.1-054	1																				
	C1.1-055	1																	2	1		
				1																		
							1															
	C1.1-006	1																		1		
	C1.1-004	1																		1		
	C1.1-005	1																	2	1		
				1																		
							2															
	C1.1-015	1									20.1		38.4							1		
	C1.1-016	1																	2	1		
				1																		
							2															
	C1.1-009	1																		1		
	C1.1-010	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.1-010 cont			1																		
							2															
	C1.1-013	1																		1		
	C1.1-014	1																	2	1		
				1																		
							2															
	C1.1-008								1 X CWO													
	D9-024	1																		1		
	D9-025	1																	2	1		
				1																		
						1																
	D9-018	1																		1		
	D9-019	1																		1		
	D9-020	1									22.1		38.8						2	1		
				1																		
							1															
	D9-022	1																		1		
	D9-023	1																	2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	D9-017	1									17.3		40.8							1		
			1								16.4	62.3										
							1															
	D9-030	1																		1		No Access
			2																			
	D9-016	1																		1		
	D9-014	1																	2	1		
			1																			
									1 x DW													Dead Leg, Not yet installed
									1 x Hydrotap													
	D9-012	1																		1		
	D9-013	1																		1		
	D9-011	1																		1		
	D9-010	1									11.2		42.1									
			1								11.2		41.8					1				
	D9-001(CORRIDOR)	1																		1		
	D9-004	1																	2	1		
				1																		
	LOCHRANZA WARD																					

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.4-082(CORRIDOR)	1																		1		
	C1.4-067	1																	2	1		
				1																		
	C1.4-065	1									11.6		43.4							1		
	C1.4-066	1																		1		
	C1.4-083	1																		1		
			1																			
								1														
	C1.4-087	1																		1		
	C1.4-061	2																		2		
	C1.4-062	1																	2	1		
				1																		
							1															
	C1.4-084	1																		1		
	C1.4-085	1																	2	1		
				1																		
							1															
	C1.4--088		1								10.9	64.9										
									1 x Hydrotap													
	C1.4-008	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.4-005	1																		2		No Access
			2																			
	C1.4-003(CORRIDOR)	1																		1		
	C1.4-010	1																				
	C1.4-009	1																	2	1		
				1																		
							1															
	C1.4-011	1																	2	1		
				1																		
						1	1															Bath with shower
	C1.4-013	1																		1		
	C1.4-014	1																	2	1		
				1																		
							1															
	C1.4-015	1									16.2		41.7							1		
	C1.4-016	1																		1		
	C1.4-017	1																	2	1		
				1																		
							1															
	C1.4-018	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.4-019	1																	2	1		
				1																		
							1															
	C1.4-036	1																	2	1		
				1																		
	C1.4-037	1																	2	1		
				1																		
	C1.4-022	1									18.1		40.9							1		
			1								16.5	63.2										
								1														
	C1.4-032	1																		1		
	C1.4-033	1																	2	1		
				1																		
							1															
	C1.4-039	1																		1		
	C1.4-040	1																		1		
	C1.4-041	1																	2	1		
				1																		
							1															
	C1.4-038	1									16.9		41.3							1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.4-044	1																		1		
	C1.4-043	1																		1		
	C1.4-042	1																	2	1		
				1																		
							1															
	C1.4-048	1																		1		
	C1.4-049	1																		1		
	C1.4-050	1																	2	1		
				1																		
							1															
	C1.4-046	1																		1		
	C1.4-047	1																	2	1		
				1																		
							1															
	C1.4-055	1																		1		
	C1.4-056	1									17.2		39.8						2	1		
				1							16.3		40.9									
							1															
	C1.4-053	1																		1		
	C1.4-052	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.4-051	1																	2	1		
				1																		
							1															
	C1.4-071	1																		1		
	C1.4-072	1																		1		
	C1.4-073	1																	2	1		
				1																		
							1															
	C1.4-057	1																		1		
	C1.4-058	1																	2	1		
				1																		
							1															
	C1.4-074	1																		1		
	C1.4-075	1																	2	1		
				1																		
							1															
	C1.4-059	1									16.9		40.4							1		
	C1.4-060	1									17.1		38.7						2	1		
				1																		
							1															

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.4-076	1																		1		
	C1.4-077	1																	2	1		
				1																		
							1															
	C1.4-078	1																		1		
	C1.4-079	1																	2	1		
				1																		
							1															
	C1.4-063	1																		1		
			1								16.3		40.6					1				
	C1.4-020(CORRIDOR)	1																		1		
	C1.4-064	1																				
			1																			
									1 x DW													
									1 x Hydrotap													
	C3-002	1																		1		
			1								17.8	61.6										
	C3-003	1																		1		
			2																			
									1 x DW													

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C3-004	1																		1		
	C1.5-007	1																	2	1		
				1																		
	C1.5-008	1																	2	1		
				1																		
	C1.5-006	1																		1		
	C1.5-004	1																	2	1		
	C1.5-005	1																	2	1		
	C1.3-024	1																		1		No Access
	C1.3-025	1																	2	1		
			1																			
	C1.3-023	1																	2	1		
				1																		
	C1.3-022	1																	2	1		
				1																		
	C1.3-021	1																	2	1		
				1																		
	C1.3-001(CORRIDOR)	1									19.2		42.6							1		
	C1.3-013	1																		1		
	C1.3-014	1																	2	1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.3-014 cont			1																		
	C1.3-012	1																	2	1		
				1																		
							2															
	C1.3-028	1																		1		
	C1.3-029	1																	2	1		
				1																		
							1															
	C1.3-030	1																		1		
	C1.3-031	1																	2	1		
				1																		
							1															
	C1.3-032	1																		1		
	C1.3-033	1																	2	1		
				1																		
							1															
	C1.3-011	1									18.2		40.3							1		
	C1.3-010	1																	2	1		
				1																		
	C1.3-034	1																		1		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
			1																			
	C1.3-034 cont								1 x DW													
									1 x Hydrotap													
	C1.3-007	1																		1		
	C1.3-008	1																		1		
	C1.3-009	1																	2	1		
				1																		
							1															
	C1.3-035	1																	2	1		
				1																		
						1	1															Bath with shower
	C1.3-036	1									17.8		42.4									
			1								15.9	62.1										
							1															
	C1.3-037	1																		1		
	C1.3-038	1																		1		
	C1.3-004	1																	2	1		
				1																		
	C1.3-039	1																				
			1															1				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	C1.3-001(CORRIDOR)	1																		1		
	C1.3-040	1																				
			2								17.6	60.9										
	C1.7-005	1									12		42.3							1		
	C1.7-003	1																		1		
	C1.7-004	1																		1		
	SPHERE																					
3	3H3-011	1																	2	1		
			1								14.2	63.3										
									1 x DW													Dead Leg, Not yet connected
									1 x Hydrotap													
	H3-008	1																	2	1		
				1																		
	H3-006	1																	2	1		
				1																		
	H3-007	1																	2	1		
				1																		
	H3-004	1																		1		No Access
	H3-010	1																		1		No Access

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	H3-005	1																		1		No Access
	H3-012	1																				No Access
			2																			No Access
	H3-001	1																		1		No Access
	FAMILY ROOMS																					
	K2-067	1									19.2		39.6					1				
				1																		
						1	1											1				Bath with shower
	K2-063	1																1				
				1																		
						1	1											1				Bath with shower
	K2-074	1																1				
				1																		
						1	1											1				Bath with shower
	K2-064	1																1				
				1																		
						1	1											1				Bath with shower
	K2-058	1																1				
				1																		
						1	1											1				Bath with shower

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	K2-071	1																1				
				1																		
						1	1											1				Bath with shower
	K2-068	1									17.7		40.8					1				
				1																		
						1	1											1				Bath with shower
	K2-078	1																1	2			
			1								15.9	60.2										
									1 x WM													Dead Leg, not connected yet
	K2-016	1																1				
				1																		
						1	1											1				Bath with shower
	K2-050	2																	2	1		
			4															4				
									2 x DW													Dead Legs, not connected yet
	K2-076	1																1				
				1																		
						1	1											1				Bath with shower
	K2-026	1																1				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	K2-026 cont			1																		
						1	1											1				Bath with shower
	K2-048	1																	2	1		
				1																		
	K2-046	1																1				
				1																		
						1	1											1				Bath with shower
	K2-043	1																1				
				1																		
						1	1											1				Bath with shower
	K2-047	1																		1		
			2																			
	K2-041	1																1				
				1																		
						1												1				Bath with shower
	K2-038	1									13.4		41.1					1				
				1																		
						1	1											1				Bath with shower
	K2-036	1																1				
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	K2-036 cont					1	1											1				Bath with shower
	K2-042	1																	2	1		
			1																			
									2 x WM													DEAD LEGS NOT YET CONNECTED
	K2-033	1																1				
				1																		
						1	1											1				Bath with shower
	K2-030	1																1				
				1																		
						1	1											1				Bath with shower
	K2-028	1																1				
				1																		
						1												1				Bath with shower
	K2-061	1									13.2		40.8									ACCESS ROOM
				1																		
							1															
	K2-017	1																1				
				1																		
						1	1											1				Bath with shower
	K2-024	1																1				

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	K2-024 cont			1																		
						1	1											1				Bath with shower
	K2-022	1																1				
				1																		
						1	1											1				Bath with shower
	K2-020	1																1				
				1																		
							1															
	K2-011	1									16.4		40.9					1				
				1																		
						1	1											1				Bath with shower
	K2-015	1																1				
				1																		
						1	1											1				Bath with shower
	K2-009	1																1				
				1																		
						1	1											1				Bath with shower
	K2-004	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	K2-005	1																	2	1		
				1																		
	K2-007	1									19.5		40.2						2	1		
				1																		
	K2-006		1								14.6		40.8					1				
																						Dead Leg, Not connected yet
4	**HEALTH RECORDS**																					
	4-R2-010	1									19.7		42.6						2	1		
				1																		
	R2-005	1																	2	1		
				1																		
	CHILD LIFE & HEALTH																					
	4-CT-024 - OUTSIDE								1 x HUBT						9&10						1	
	H1-007								1 x CWO													
	H1-009	1																	2	1		
				1																		
	H1-010	1																	2	1		
				1																		

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	H1-005	1																	2	1		
				1																		
	H1-014	1									24.2	64.5							2	1		
			1																			
									1 x Hydrotap													
	H1-011	1																		1		No Access
			2																			
	H1-033	1																	2	1		
				1																		
	H1-019	1																	2	1		
				1																		
	H1-020	1																	2	1		
				1																		
	H1-018(LAB)	1																		1		
			2								24.3	59.5				CAT5						
									1 x Autoclave							CAT5						
									1 x Ice Machine							CAT 5						Dead Leg, Not connected
									1 x Fume Cupboard							CAT 5						
	H1-016		1																			

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	H1-027	1									25.1		40.6									
			2								17.3	60.9				CAT5						
									1 x Fume Cupboard							CAT 5						
	LITTLE FRANCE SCHOOL																					
	4-C5-009	1																	2	1		
				1																		
	C5-004	1									14.4		42.3						2	1		
			1								14.4		40.6					1				
	C5-005	1																		1		
			1															1				
	C5-006	1																		1		
			1															1				
	CT-023								1 x HUBT						9&10						1	
	C5-002	1									18.6		40.4						2	1		
				1																		
	CLININCAL MANAGEMENT OFFICE																					
	R1-017	1									15.7		42.3							1		
			2								16.2	61.1										

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	R1-004		1								13	62.8										
									1 x Hydrotap													
	R1-005	2																	4	2		
				2																		
	R1-006	1																	2	1		
				1																		
	R1-008	3									15.6		42.4						6	3		
				3																		
	R1-009	1																		1		
			1																			
									1 x Hydrotap													
	S7-009	1																		1		No Access
			2																			
	S7-008	1											.									Mixed only
			1								19.8	61.4										
		1											.									Mixed only
			1														1					Double sink, With Spray Wash
									1 x DW		.											
									2 x Combi Oven		.											

Floor	Location	Asset Type								Outlet Temperature °C					Mains/Tanked Source	Hot Water Source	Other Risk Factors					Other/Comments
		Wash Basin	Sink	WC	Urinal	Bath	Shower	Vernacare	Other	Mains Water	Tanked Water	Hot Water	Mixed	TMV Hot Inlet			Spray Outlet	Number of TMV's	Strainers	TMV tap	Little Used Outlet	
	S7-002	1																	2	1		
				1																		
	S7-011	1																	2	1		
				1																		
	S7-003	1																	2	1		
				1																		
	S7-004	1																	2	1		
				1																		
	CT-021(OUTSIDE)								1 x HUBT						9&10							
	S7-010	1											40.6					1				Mixed only
	S7-010	1											.					1				Mixed only
	S9-006																					No Access
	S9-002A	1									12.5		41.2						2	1		
											14.9	62.7										
	S9-002						2														2	Heli-pilot shower
	S9-001	1																	2	1		
				1																		
	4-PLANT EXTERNAL COMPUND								1 x HUBT													

3.6 Identified Sentinel Points – *Note: These must be checked & Confirmed by the site.*

Not Identified – awaiting as fitted drawings

Location	Asset Type	System	Sentinel Near or Far

4.0 Assessment of the Risks

Risk Score Card Mechanism

To enable the clear categorization of the degree of risk associated with specific water systems within a building, a score card mechanism has been used for those systems that are deemed to present a reasonably foreseeable risk of exposure to Legionella bacteria. The score card used for each system is show in section 4.1.
This risk score card is based on a number of specific weighted contributing factors in respect of the characteristics and operating conditions of the water systems, which combined form the Legionella Causation Chain.
This risk score card does not take into account the assessment of the Written Scheme, including any Management Procedures, Management Arrangements or the performance of the Control Scheme.
The overall risk rating of the building/site will be determined from all factors in this report and stated in section 1.0.

Risk Score Ratings

Systems assessed during the survey using this score card mechanism may be categorized as High, Medium, Low risk.
Some water systems may be deemed to represent a negligible level of risk of exposure to Legionella bacteria. Such systems will be common in their design, makeup and operational use and therefore may be attributed a pre-assessed risk rating of Very Low. Therefore these systems may not require the completion of a site specific risk score card.

The highest risk scoring system identified determines the overall risk rating for the site.

Risk Category	Risk Score	Timescale for Remedial Action to be completed
Low	≤95	To be included in planned maintenance program
Medium	96 to 120	3 months
High	>120	Within 1 month

Reducing the Risk

A series of remedial actions for the water systems and the Written Scheme have been recommended in Section 2.0 of this report. These remedial actions are recommended to aid the Responsible person in achieving compliance with UK Health and Safety statutory requirements and to reduce the risk of exposure to Legionella bacteria.

4.1 Risk Score Card

The below table score card has been used to assess each system individually.

Assessment of the Risk of Exposure to Legionella Bacteria			
Risk Parameter	**Risk Rating**	**Numerical Value**	**Numerical Score**
1. Formation of Water Droplets			
Still Water	Low	10	-
Droplets	Medium	20	-
Aerosol	High	30	-
2. Water Condition			
Chemical Regime	Low	10	-
Clean	Low/Medium	15	-
Contaminated	Medium/High	25	-
Heavily Contaminated	High	30	-
3. Water Temperature			
Below 20˚C	Low	10	-
21˚C-25˚C	Medium	20	-
26˚C-45˚C	High	30	-
46˚C-50˚C	Medium	20	-
Above 50˚C	Low	10	-
4. Water Turnover			
Stagnant	High	30	-
Low Turnover	Medium	20	-
Moderate Turnover	Medium/Low	15	-
High Turnover	Low	10	-
5. Susceptibility of Exposed Population			
Average Population	Medium	20	-
Susceptible Populations	High	30	-
6. Population Density of Exposed Population			
Low Density	Low	10	-
Medium Density	Medium	20	-
High Density	High	30	-
		Total Numerical Value	
7. Legionella Positive Rating Factor (if samples are positive multiply by a factor of 2)			
Risk Rating			-

4.2 Disclaimer

This site specific Legionella Risk Assessment is based upon information and records provided at the time of survey and the Risk Assessors' findings and opinions. The Risk Assessor will aim to ensure all areas of the site's water system are accessed (if safe access is provided) and the full extent of the water system is detailed within this report. Although, every care is taken to detect all relevant parts of the hot and cold water system on site, it is possible that some parts may be hidden from inspection. No warranty as to the completeness of the information is given as the Risk Assessment is part-based on information provided by the site such as monitoring records, maintenance schedules and other records of actions and management procedures.

CLIRA Ltd ('CLIRA') disclaims all liability and responsibility for the direct or indirect loss or damage that may be suffered through reliance upon the completeness of the information over which CLIRA has no control.

Whilst the components of the hot and cold water system on site have been inspected for their suitability, it is often not possible to identify the source of individual parts/fittings. The use of the Water Regulations Advisory Scheme (WRAS) Water Fittings and Materials Directory available on-line www.wras.co.uk/directory will help to ensure that any fittings acquired in future comply with relevant Regulations.

CLIRA has provided key recommendations wherever relevant to reduce the risk of Legionella bacteria being present in the water system. However, adherence to CLIRA's guidance and recommendations do not guarantee the absence of Legionella bacteria in the water system. Regular and ongoing maintenance and management of the water system is critical to the operation and safety of the systems for the control of Legionella.

Since the supply water, weather conditions and other factors may vary with time, the findings of this assessment should be taken in context of the conditions at the time of the assessment. Future conditions may lead to the establishment of different risk levels.

CONFIDENTIALITY

This report is confidential and should not be copied. Should further copies be required they will be made available upon request.

Please ensure this report is carefully reviewed and the key recommendations and areas of risk are noted and addressed. Should you require any further clarification or advice regarding this Risk Assessment and the interpretation of this report please contact CLIRA Ltd on 01743 247942 or via email customerservices@clira.co.uk

5.0 Introduction

The purpose of this risk assessment is to assess compliance of the water system management procedures operated at the time of the inspection.

The Health and Safety Executive has issued an approved code of practice (ACOPL8) on this subject, which is enforceable under the Health and Safety at Work Act 1974, and also, COSHH(Control of Substances Hazardous to Health Regulations 2002).The Secretary of State, Department of Environment, Food and Rural Affairs under the terms of the Water Industry Act 1991 has made Regulations in respect to water installations within premises in England and Wales to prevent the waste, misuse, undue consumption and contamination of water supplied by a water undertaker. The documents are as follows: -

- Legionnaires Disease The control of Legionella bacteria in water systems Approved Code of Practice and Guidance L8 (fourth edition).
- HSG274 Part 1: The control of legionella bacteria in evaporative cooling systems.
- HSG274 Part 2: The control of legionella bacteria in hot and cold water systems.
- HSG274 Part 3: The control of legionella bacteria in other risk systems.
- The Water Supply (Water Fittings) Regulations 1999.

In assessing the compliance rating of the site we have also considered the requirements of the Health and Safety at Work etc Act, Control of Substances Hazardous to Health Regulations, and Workplace (Health Safety and Welfare) Regulations.

The approved code of practice places a “reasonably practicable” duty on the duty holder to achieve compliance. This duty enables the duty holder to consider the measure the degree of risk against the cost and difficulty to implement controls.

In order to comply with these duties it is necessary for the duty holder to:

- Carry out a risk assessment of water systems and review that risk assessment at a frequency not exceeding two years. This risk assessment primarily concentrates on identifying what conditions are present which will allow bacteria to multiply. The key factors to be considered are whether: water temperatures are within the range of 20 – 45 ˚C; there is a means of creating breathable droplets; and whether there are any susceptible people that are likely to be exposed.
- Prepare a scheme for preventing and controlling the risk;
- Implement, manage and monitor precautions;
- Maintain records of precautions taken;
- Appoint a person to take managerial responsibility for managing water systems, precautions and records.

5.1 Legionnaires disease

Legionella is the bacterium, which causes Legionnaires disease. Of this genus, *Legionella pneumophila* is one species and is the species most commonly associated with disease outbreaks. Legionnaire's disease is identified as a pneumonia type of infection of the lower respiratory tract. The infection is most commonly acquired by the inhalation of airborne droplets or particles containing viable Legionella. Exposure to Legionella can also cause a short feverish illness without pneumonia known as Pontiac Fever.

Research and investigations indicate that the occurrence of Legionella contamination is greatest in water cooling towers, evaporative condensers, hot and cold water services, water spray humidifiers, air washers, spa baths and pools etc where water is agitated and recirculated. The contamination from a cooling water tower will cover a far larger area than any other likely source.

Sediment, scale, and organic materials present in water systems, can provide nutrients and give protection for Legionella. Legionella have been shown to colonise certain types of water fittings, pipe work and materials used in the construction of water systems.

The presence of these materials may provide nutrients for Legionella and make eradication difficult. Other organisms in water systems such as bacteria, amoeba and algae can provide a suitable nutrient and habitat in which Legionella can survive and multiply.

The formation of biofilms within a water system is undesirable and will provide an environment and favourable conditions for Legionella growth. Incorporation of Legionella in biofilms and in enclosures within protozoa can protect the organisms freely suspended in water.

Legionella is most likely to proliferate in water systems which have a temperature between 20˚C and 45˚C. Human blood temperature of approximately 37˚C is the most ideal temperature for proliferation. Stagnant water within the above temperature range appears to provide the most ideal conditions to promote colonisation by Legionella.

Legionella will survive at temperatures below 20˚C but is considered to be in a dormant state with no growth activity. The bacterium does not survive temperatures maintained consistently at 60˚C or above.

For water samples collected and returned to the laboratory, *Legionella pneumophila* is recovered by propagation of the organism on a specially supplemented nutrient growth medium. Such samples are normally then incubated at 37˚C. It may take up to 7 days for colonies of Legionella to appear. Legionella can be recognised by visual examination of the colonies followed by a number of laboratory techniques to identify species and serogroup.

5.2 Rationale

Legionnaire's disease is caused by the inhalation of water droplets contaminated with the Legionella bacteria. It is therefore important that systems susceptible to colonisation by Legionella and which incorporate a potential means for creating and disseminating water droplets should be identified and the risk they present should be assessed. This identification and assessment is required under the Approved Code of Practice (HSG 274 PART 2) The assessment must be completed for routine system operation and use and also for circumstances such as breakdown, abnormal operation, commissioning or other unusual circumstances.
Once the assessment has been completed a strategy can be prepared for preventing of controlling the risk. The strategy will be based on a sound knowledge of the varying levels of attention required by the differing risk sources within the building.
The assessment takes account of:

A) The potential for formation of droplets.
B) The condition of the water.
C) Hot water temperature.
D) Cold water temperature.
E) The water turnover rate.
F) The susceptibility of persons exposed to droplets.
G) The population density exposed to droplets.

Water droplets are created in various ways such as by spraying, bubbling and following impact onto hard surfaces. Large drops may be reduced to respirable size by further impact or evaporation. The smaller aerosols can persist for long periods and will be carried on air currents.
In undertaking the risk assessment and drawing up precautions particular attention must be paid to situations where:
The population exposed contains a relatively high number of people susceptible to Legionella, for example in Hospitals and Nursing Homes.
The density of population is high, and therefore the number of people at potential risk is high.

The risk assessment should be reviewed whenever there is reason to believe that the original assessment may no longer be valid and ideally an annual review of all sources should be undertaken. The original assessment may be compromised if:
Changes are made to plant or water systems or its use.
Changes are made to building use in which the water system is installed.
New information about risks or control measures becomes available.
Results of checks indicate that control measures are no longer effective.

Once a risk has been identified and assessed, a scheme should be prepared for preventing or controlling it. The risk is heightened when conditions are not monitored and controlled and Legionella is allowed to proliferate. The scheme should be implemented together with planned preventative maintenance in line with that contained within the general recommendations section of this report. This will meet the requirements of (HSG 274 PART 2), and 'prepare a scheme for preventing or controlling the risk'.

5.4 Scope of the Risk Assessment & Services Register

The tables below summarize the water systems identified as well as the assets and type. The client must make Clira Ltd aware of all known systems to include in the risk assessment, If not then the risk assessor will include all systems found at the time of the survey. Any omissions will be the responsibility of the client.

System	Number identified	Included in Scope (Y/N)
Domestic Cold Water Services		
Mains Cold Water Supply (MCWS)	1	Yes
Cold Water Storage Tanks (CWST's)	11	Yes
Domestic Cold Water Distribution	12	Yes
Expansion Vessel		
Boosted Cold Water Set	10	Yes
Other		
Domestic Hot Water Services		
Calorifier/ HWSV	11	Yes
Water Heater	-	-
Combination Water Heater	-	-
Plate Heat Exchanger	-	-
Combi Boiler	-	-
Biomass Boiler	-	-
Buffer Vessel	-	-
Limited Storage Water Heater (≤15L)	-	-
Domestic Hot Water Distribution	11	Yes
Expansion Vessel	11	Yes
Boosted Hot Water Set		
Maintainable Domestic Assets		
Showerheads	245	Yes
Spray Taps		
Pot Wash – Spray Nozzle Attachment	3	Yes
Thermostatic Mixing Valves	86	Yes
Mixer Taps	948	Yes
Inline Strainers	732	Yes
Filtration Devices		
Water Softener		

System	Number identified	Included in Scope (Y/N)
Appliances & Fittings		
Commercial Washing Machine	-	
Commercial Dish Washer	-	
Industrial Washing Machine	6	Yes
Industrial Dish Washer	20	Yes
Convection Ovens	2	Yes
Kitchen - Waste Disposal Unit	1	Yes
Ice Making Machine	3	Yes
Sluice room - Bedpan Macerator		
Chilled Drinking Water Dispenser	26	Yes
Drinking Water Fountain	-	
Hot Drinks Dispenser	-	
Hydro Boil (Boiled water only)	38	Yes
ZIP Hydro Tap (Boiled & Chilled water)		
Fume Cupboards	2	Yes
Flexible Hose Fittings		
Hose Union Bib Taps	13	Yes
Dead End /Leg Pipe work		
Domestic Glass Washer		
Drinks Machine (No ingredients of Carbon D.)		
Pressurisation Unit & QF Loop (Commercial)		
Miscellaneous Appliances & Fittings		
Steam Oven	3	Yes
Bratt Pan	1	Yes
Boiler Kettle	1	Yes
Vernacare	21	Yes
Autoclave	1	Yes
Emergency Shower / Eye wash	1	Yes
Bin Wash	1	Yes
Dental Chair	4	Yes
Dental Spittoon	4	Yes

6.5 Clira Contact Information

Company	
Head Office	Shrewsbury
Address	CLIRA Ltd, Unit 10 Darwin Court, Oxon Business park, Shrewsbury, SY3 5AL
Telephone	01743 247942
Email	customerservices@clira.co.uk
Director	
Name	[redacted] SMWMSoc. MIHEEM. A E Water
Telephone	[redacted]
Email	[redacted]
Account Manager	
Name	[redacted]SMWMSoc. MIHEEM. A E Water
Telephone	[redacted]
Email	[redacted]
Surveyor	
Name	[redacted] SMWMSoc. MIHEEM. A E Water
Telephone	[redacted]
Email	[redacted]
Accounts	
Name	[redacted]
Telephone	[redacted]
Email	[redacted]

7.0 Appendices

Extract taken from HSG 274 Part 2 – Table 2.1

Service	Action to take	Frequency
Calorifiers	Inspect calorifier internally by removing the inspection hatch or using a boroscope and clean by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded	Annually, or as indicated by the rate of fouling
	Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature	Annually, but may be increased as indicated by the risk assessment or result of inspection findings
	Check calorifier flow temperatures (thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C) Check calorifier return temperatures (not below 50 °C, in healthcare premises not below 55 °C)	Monthly
Hot water services	For non-circulating systems: take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 50 °C within one minute (55 °C in healthcare premises)	Monthly
	For circulating systems: take temperatures at return legs of principal loops (sentinel points) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises). Temperature measurements may be taken on the surface of metallic pipe work	Monthly
	For circulating systems: take temperatures at return legs of subordinate loops, temperature measurements can be taken on the surface of pipes, but where this is not practicable, the temperature of water from the last outlet on each loop may be measured and this should be greater than 50 °C within one minute of running (55 °C in healthcare premises). If the temperature rise is slow, it should be confirmed that the outlet is on a long leg and not that the flow and return has failed in that local area	Quarterly (ideally on a rolling monthly rota)
	All HWS systems: take temperatures at a representative selection of other points (intermediate outlets of single pipe systems and tertiary loops in circulating systems) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises) to create a temperature profile of the whole system over a defined time period	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control
POU water heaters (no greater than 15 litres)	Check water temperatures to confirm the heater operates at 50–60 °C (55 °C in healthcare	Monthly–six monthly, or as indicated by the risk

Service	Action to take	Frequency
	premises) or check the installation has a high turnover	assessment
Combination water heaters	Inspect the integral cold water header tanks as part of the cold water storage tank inspection regime, clean and disinfect as necessary. If evidence shows that the unit regularly overflows hot water into the integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime	Annually
	Check water temperatures at an outlet to confirm the heater operates at 55–60 °C	Monthly
Cold water tanks	Inspect cold water storage tanks and carry out remedial work where necessary	Annually
	Check the tank water temperature remote from the ball valve and the incoming mains temperature. Record the maximum temperatures of the stored and supply water recorded by fixed maximum/minimum thermometers where fitted	Annually (Summer) or as indicated by the temperature profiling
Cold water services	Check temperatures at sentinel taps (typically those nearest to and furthest from the cold tank, but may also include other key locations on long branches to zones or floor levels). These outlets should be below 20 °C within two minutes of running the cold tap. To identify any local heat gain, which might not be apparent after one minute, observe the thermometer reading during flushing	Monthly
	Take temperatures at a representative selection of other points to confirm they are below 20 °C to create a temperature profile of the whole system over a defined time period. Peak temperatures or any temperatures that are slow to fall should be an indicator of a localised problem	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control
	Check thermal insulation to ensure it is intact and consider weatherproofing where components are exposed to the outdoor environment	Annually
Showers and spray taps	Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted	Quarterly or as indicated by the rate of fouling or other risk factors, e.g. areas with high risk patients
POU filters	Record the service start date and lifespan or end date and replace filters as recommended by the manufacturer (0.2 µm membrane POU filters should be used primarily as a temporary control measure while a permanent safe engineering solution is developed, although long-term use of such filters may be needed in some healthcare situations)	According to manufacturer's guidelines

Service	Action to take	Frequency
Base exchange softeners	Visually check the salt levels and top up salt, if required. Undertake a hardness check to confirm operation of the softener	Weekly, but depends on the size of the vessel and the rate of salt consumption
	Service and disinfect	Annually, or according to manufacturer's guidelines
Multiple use filters	Backwash and regenerate as specified by the manufacturer	According to manufacturer's guidelines
Infrequently used outlets	Consideration should be given to removing infrequently used showers, taps and any associated equipment that uses water. If removed, any redundant supply pipe work should be cut back as far as possible to a common supply (e.g. to the recirculating pipe work or the pipe work supplying a more frequently used upstream fitting) but preferably by removing the feeding 'T' Infrequently used equipment within a water system (i.e. not used for a period equal to or greater than seven days) should be included on the flushing regime Flush the outlets until the temperature at the outlet stabilises and is comparable to supply water and purge to drain Regularly use the outlets to minimise the risk from microbial growth in the peripheral parts of the water system, sustain and log this procedure once started For high risk populations, e.g. healthcare and care homes, more frequent flushing may be required as indicated by the risk assessment	Weekly, or as indicated by the risk assessment
TMVs	Risk assess whether the TMV fitting is required, and if not, remove Where needed, inspect, clean, descale and disinfect any strainers or filters associated with TMVs To maintain protection against scald risk, TMVs require regular routine maintenance carried out by competent persons in accordance with the manufacturer's instructions. There is further information in paragraphs 2.152– 2.168	Annually or on a frequency defined by the risk assessment, taking account of any manufacturer's recommendations
Expansion vessels	Where practical, flush through and purge to drain	Monthly–six monthly, as indicated by the

Extract from HSG 274 Part 2 -Table 2.2

Legionella bacteria (cfu/l)	Recommended actions
>100 cfu/l and up to 1000	Either: If the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or If the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals afterwards until a satisfactory level of control is achieved.

Appendix 2.2 Legionella written control scheme (Extract from HSG274: Part 2)

1 The risk from exposure will normally be controlled by measures which do not allow the proliferation of legionella bacteria in the system. Once the risk is identified and assessed, a written control scheme should be prepared, implemented and properly managed for preventing or controlling legionella.

2 The scheme should specify the various control measures, how to use and carry out those measures, describe the water treatment regimes and the correct operation of the water system. The scheme should be specific and tailored to the system covered by the risk assessment. Along with the guidance in this document, this appendix summarises the information to include in a legionella written control scheme, ie:

- purpose;
- scope;
- risk assessment;
    - management structure: dutyholder;
    - responsible person(s) and communication pathways;
    - training;
    - allocation of responsibilities, ie to the dutyholder, responsible person(s) and water treatment service provider;
    -
    - up-to-date schematic plan showing the layout of the system(s) and its location within and around the premises – this should identify piping routes, storage and header tanks, calorifiers and relevant items of plant, especially water softeners, filters, strainers, pumps and all water outlets;
    - the correct and safe operation of the system;
    - precautions in place to prevent or minimise risk associated with the system;
    - analytical tests, including microbiological testing, other operational checks, inspections and calibrations to be carried out, their frequency and any resulting corrective actions;
    - remedial action to be taken in the event that the scheme is shown not to be effective, including control scheme reviews and any modifications made;
    - health and safety information, including details on storage, handling, use and disposal of any chemical used in both the treatment of the system and testing of the system water;
    - incident plan, which covers the following situations:
      -major plant failure, eg chemical system failure;
      -very high levels or repeat positive water analyses for legionella;
      -an outbreak of legionellosis, suspected or confirmed as being centred at the site;
      -an outbreak of legionellosis, the exact source of which has yet to be confirmed, but which is believed to be centred in an area which includes the site.

Record keeping – Extract from HSG274 Part 2

24. Where there are five or more employees, the significant findings of the risk assessment must be recorded. If there less than five employees, there is no requirement to record anything although it is useful to keep a written record.

25. Records must be retained for the period they remain current and for at least two years afterwards, with the exception of records kept for monitoring and inspection, which should be kept for at least five years. It may be helpful to keep training records of employees; records of the work of external service providers, such as water treatment specialists; and information on other hazards, eg chemical safety data sheets.

26. Records, either written or electronic, should contain accurate information about who did the work and when it was carried out. All records should be signed, verified or authenticated by a signature or other appropriate means. Records should include details of the:

- person or people responsible for conducting the risk assessment, managing, and implementing the written scheme;
- significant findings of the risk assessment;
- written control scheme and details of its implementation;
- details of the state of operation of the system, ie in use/not in use;

results of any monitoring, inspection, test or check carried out, the dates and any resulting corrective actions, as defined in the written scheme of precautions, such as:
-results of chemical and microbial analysis of the water;
-water treatment chemical usage;
-inspections and checks on the water treatment equipment to confirm correct operation;
-inspections and checks on the cooling system components and equipment to confirm correct and safe operation;
-records of maintenance to the cooling system components, equipment and water treatment system;
-the cleaning and disinfection procedures and the associated reports and certificates.

Glossary

AEROSOL a suspension in a gaseous medium of solid particles, liquid particles or solid and liquid particles having a negligible falling velocity. In the context of this document, it is a suspension of particles which may contain legionella with a typical droplet size of <5 µm that can be inhaled deep into the lungs.
ALGAE a small, usually aquatic, plant that requires light to grow.
BACTERIA (singular bacterium) a microscopic, unicellular (or more rarely multicellular) organism.
BIOCIDE a substance which kills microorganisms.
BIOFILM a community of bacteria and other microorganisms 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, the source of heat being contained within a pipe or coil immersed in the water.
CHLORINE an element used as a biocide and for disinfection.
CHLORINE DIOXIDE a compound used as a biocide.
CWST – cold water storage tank
COLD WATER SERVICE installation of plant, pipes and fitting in which cold water is stored, distributed and subsequently discharged.
CONTACT TIME the time a chemical is retained in the system.
CORROSION INHIBITORS chemicals which protect metals by: passivating the metal by the promotion of a thin metal oxide film (anodic inhibitors); or physically forming a thin barrier film by controlled deposition (cathodic inhibitors).
DEAD END/BLIND END a length of pipe closed at one end through which no water passes.
DEAD LEG a length of water system pipe work leading to a fitting through which water only passes infrequently when there is draw off from the fitting, providing the potential for stagnation.
DISINFECTION the reduction of the number of microorganisms to safe levels by either chemical or non-chemical means (e.g. biocides, heat or radiation).
DISTRIBUTION CIRCUIT pipe work which distributes water from hot or cold water plant to one or more fittings/appliances.
DOMESTIC WATER hot and cold water intended for drinking, washing, cooking, food preparation or other domestic purposes.
FOULING organic growth or other deposits on heat transfer surfaces causing loss in efficiency.
HOT WATER SERVICE installation of plant, pipes and fittings in which water is heated, distributed and subsequently discharged (not including cold water feed tank or cistern).
LEGIONNAIRES' DISEASE a form of pneumonia caused by bacteria of the genus legionella.
LEGIONELLA (PLURAL LEGIONELLAE) a bacterium (or bacteria) of the genus legionella.
LEGIONELLOSIS any illness caused by exposure to legionella.
MG/L (milligrams per litre) a measure of dissolved substances given as the number of parts there are in a million parts of solvent. It is numerically equivalent to ppm (parts per million) with respect to water.
MICROORGANISM an organism of microscopic size, including bacteria, fungi and viruses.
NEONATES newborn children.
NUTRIENT a food source for microorganisms.
PASTEURISATION heat treatment to destroy microorganisms, usually at high temperature.
PH the logarithm of the reciprocal of the hydrogen ion concentration in water, expressed as a number between 0 and 14 to indicate how acidic or alkaline the water is. Values below 7 are increasingly acidic, 7
is neutral, and values higher than 7 are progressively alkaline. However, acidity and alkalinity are not proportional to pH.
PLANKTONIC free-floating microorganisms in an aquatic system.
POINT OF USE (POU) FILTERS a filter with a maximal pore size of 0.2 µm applied at the outlet, which removes bacteria from the water flow.
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.
RISK ASSESSMENT identifying and assessing the risk from legionellosis from work activities and water sources on premises and determining any necessary precautionary measures.
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 hot water services – the first and last taps on a recirculating system. For cold water systems (or non-recirculating HWS), the nearest and furthest taps from the storage tank. The choice of sentinel taps may also include other taps which represent parts of the recirculating system where monitoring can aid control.
SERO-GROUP a sub-group of the main species.
SESSILE aquatic microorganisms 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.
SLIME a mucus-like exudate
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 storage tanks.
STAGNATION the condition where water ceases to flow and is therefore liable to microbiological growth.
STRAINERS coarse filters 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.
(TMV) THERMOSTATIC MIXING VALVE a mixing valve in which the temperature at the outlet is pre-selected and controlled automatically by the valve.
TOTAL VIABLE COUNTS (TVC) the total number of culturable bacteria (per volume or area) in a given sample (does not include legionella).
WHOLESOME WATER water supplied for such domestic purposes as cooking, drinking, food preparation or washing; or supplied to premises in which food is produced
CWH – Combination water heater with a cold water header tank

7.1 Accreditations

Legionella Control Association

Legionella Control Association

A Code of Conduct for Service Providers

Certificate of Registration

This is to certify that the following company has submitted a registration under the Conditions of Compliance as laid out in the LCA's Code of Conduct for Service Providers

Name of Company: **CLIRA Ltd**

Registration Number: **2008/1775** Certificate valid until: **31st August 2019**

Registration under the following services categories:

(1) Legionella Risk Assessment Services
- 1.1 Hot and Cold Water Services
- 1.4 Healthcare Risk Assessment

(3) Hot and Cold Water Monitoring and Inspection Services

(4) Cleaning and Disinfection Services

(6) Training Services

(7) Legionella Analytical Services
- 7.1 Sampling
- 7.2 Laboratory Analysis
- 7.3 Interpretation of Analysis

(8) Plant and Equipment Services
- 8.1 Installation
- 8.2 Refurbishment
- 8.3 Servicing

This Certificate is only valid if the Company named is listed on the LCA website www.legionellacontrol.org.uk/directory.php

THE WATER MANAGEMENT SOCIETY

Signed: [redacted] *Chairman, Executive Committee*

BACS

[redacted] *Certificate Secretary*

Legionella Control Association Limited. www.legionellacontrol.org.uk

Registered in England and Wales No. 6502723

The legal duty to comply with relevant health and safety legislation (including avoidance or control of risk to exposure to Legionella bacteria) rests solely with the statutory dutyholder, being either the employer or the person in control of the premises or systems where any relevant risk is present, and this cannot be delegated. Specific functions (e.g. carrying out risk assessment) can be delegated and the Legionella Control Association (LCA) Code of Conduct is designed to help service providers, who also have duties under health and safety legislation, to establish appropriate management systems for the prevention or control of risk from Legionella bacteria. The LCA assesses the management systems of LCA members upon initial registration, reviews annually upon re-registration, and re-assesses by annual company audits. The LCA cannot and does not carry out other regular supervision of its members' commitments to the Code of Conduct nor their compliance with other LCA guidelines. A valid LCA certificate of registration (which is only valid if the Company named is listed on the LCA website www.legionellacontrol.org.uk/directory.php) confirms only that a service provider has satisfied LCA requirements at registration, re-registration and its most recent company audit. It does not confirm the service provider's status for continuing compliance with their commitments to the LCA Code of Conduct and/or other LCA guidelines. The LCA does not approve specific products or services as being effective in controlling Legionella or verify the competence of service providers' staff and sub-contractors, which is the duty of the service provider and the statutory dutyholder. The LCA accepts no liability for any omission or any act carried out in reliance on the LCA Code of Conduct or other LCA guidelines, or any loss or damage resulting from non-compliance with such documents.

QMS INTERNATIONAL
A CITATION COMPANY

ISO 9001 REGISTERED

This document certifies that the quality management systems of

CLIRA LTD
Unit 10 Darwin Court, Oxon Business Park, Shrewsbury, Shropshire SY3 5AL

have been assessed and approved by QMS International Ltd to the following quality management systems, standards and guidelines:-

ISO 9001 : 2008

The approved quality management systems apply to the following:-
PROVISION OF LEGIONELLA RISK ASSESSMENTS AND LEGIONELLA CONTROL

Original Approval: 03 June 2011

Current Certificate: 31 August 2016

Certificate Expiry: 02 June 2021

Certificate Number: 14129804

[redacted]

On behalf of Q

This Certificate remains valid while the holder maintains their management system in accordance with the published standard. To check the validity and status of this certificate please email certificates@qmsuk.com

This Certificate is the property of QMS International Ltd and must be returned in the event of cancellation.

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QMS INTERNATIONAL
A CITATION COMPANY

ISO 14001 REGISTERED

This document certifies that the environmental management systems of

CLIRA LTD
Unit 10 Darwin Court, Oxon Business Park, Shrewsbury, Shropshire SY3 5AL

have been assessed and approved by QMS International Ltd to the following environmental management systems, standards and guidelines -

ISO 14001 : 2004

The approved environmental management systems apply to the following:
THE PROVISION OF LEGIONELLA RISK ASSESSMENTS AND LEGIONELLA CONTROL.

Original Approval: 21 May 2014

Current Certificate: 31 August 2016

Certificate Expiry: 20 May 2024

Certificate Number: 14129805

[redacted]

On behalf of

This Certificate remains valid while the holder maintains their management system in accordance with the published standard. To check the validity and scope of this certificate please email certificates@qmsuk.com

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7.2 Emergency Procedure in the Event of an Outbreak

The nominated person (Head of Facilities Management) will be informed of a suspected case of Legionnaires' disease. If a case is suspected then the Health and Safety Advisor and Property Services Manager will normally work in association with the Public Health Laboratory Service and the local CCDC to search for the source of the causative organism. It is essential that systems are not drained or disinfected before samples have been taken. The Facilities Management Departments role is an important one – identifying the various water systems within the building and, in particular, to the points from which samples can be taken. Easy access to these sampling points is essential.

An investigating team will be established under the guidance of the Duty Holder, this will normally comprise of the staff listed in Appendix .

The investigation will concentrate upon all potential sources of Legionella infection, including:

- the domestic hot and cold water distribution system
- showers or spray washing equipment
- drainage system and traps
- humidifiers in ventilation systems
- cooling coils in air-conditioning systems
- any other water based system

To assist in such investigations, the Building Manager must be able to provide details of all associated equipment, including all documentation. He must assist by advising the investigating team on the extent of servicing on the site, and by locating taps and sample points.

Information will also be required, such as whether there have been any local excavation or earthmoving works, alterations to water supply systems or drainage systems or any other factors which may have a bearing on the site.

The team is responsible for identifying the cause of infection, and will advise on cleaning, disinfection, any modifications, and long-term control measures.

7.3 Course of Action in the Event of an Outbreak

In England and Wales, legionnaires' disease is notifiable under the Health Protection (Notification) Regulations 201036 and in Scotland under the Public Health (Notification of Infectious Diseases) (Scotland) Regulations 1988.37 Under these Regulations, human diagnostic laboratories must notify Public Health England (PHE), Public Health Wales (PHW) or Health Protection Scotland (HPS) (see 'Further sources of advice') of microbiologically confirmed cases of legionnaires' disease.

An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection, with or without microbiological evidence. An incident/outbreak control team should always be convened to investigate outbreaks. It is the responsibility of the Proper Officer to declare an outbreak. The Proper Officer, appointed by the Local Authority, is usually a Consultant in Communicable Diseases Control (CCDC) in England and Wales, or the Consultant in Public Health Medicine (CPHM) in Scotland. If there are suspected cases of the disease, medical practitioners must notify the Proper Officer in the relevant local authority.

Local Authorities will have jointly established incident plans to investigate major outbreaks of infectious diseases, including legionellosis, and it is the Proper Officer who activates these and invokes an Outbreak Committee, whose primary purpose is to protect public health and prevent further infection.

HSE or local Environmental Health Officers may be involved in the investigation of outbreaks, their aim being to pursue compliance with health and safety legislation. The local authority, Proper Officer or EHO acting on their behalf will make a visit for public health reasons, often with the relevant officer from the enforcing authorities (ie HSE or the local authority) for health and safety reasons. Any infringements of relevant legislation may be subject to a formal investigation by the appropriate enforcing authority.

There are published guidelines (by PHE, PHW and HPS) for the investigation and management of incidents, clusters, and outbreaks of Legionnaires' disease in the community. These are, for England and Wales, *Guidance on the Control and Prevention of Legionnaires' Disease* in England38 and for Scotland, *Guidelines on Management of Legionella Incidents, Outbreaks and Clusters in the Community*.39
If a water system is implicated in an outbreak of Legionnaires ' disease, emergency treatment of that system should be carried out as soon as possible. This will usually involve the processes detailed in paragraphs 2.124–2.135 within the HSE document HSG274: Part 2 (Hot & Cold Water Systems).

7.4 Risk Assessors Qualifications

Qualification	Arthur Norbury	Steve Griffiths	Peter Lyttle
Legionella Awareness Training	✓	✓	✓
City & Guilds – Practical Risk Assessment	✓	✓	✓
City & Guilds -Cleaning & disinfection	✓	✓	
City & Guilds -Cooling Towers (ACOPL8 & HTM 04)	✓	✓	✓
City & Guilds -Temperature Monitoring Sampling & Inspection of Water Systems	✓	✓	✓
Asbestos Awareness	✓	✓	✓
Working at Heights	✓	✓	✓
Manual Handling	✓	✓	✓
Emergency First Aid at work	✓	✓	✓
Authorising Engineer	✓		
Pseudomonas Awareness	✓		

- **All Certificates available on request**