Aquastat
water treatment specialists

LEGIONELLA RISK ASSESSMENT

THE PREVENTION AND CONTROL OF LEGIONNAIRES' DISEASE

Client:	Wessex RF & CA
Site:	HMS Flying Fox
Address:	Winterstoke Road, Ashton Gate, Bristol, BS2 2NS
Risk Rating:	Medium
Report Ref:	AQST/LRA/352
Surveyed By:	Alan Rodgerson
Survey Date:	18/03/2024
Report Date:	30/04/2024
Written By:	Alan Rodgerson
Checked By:	J. Rooney
Recommended Review Date:	18/03/2026

Contents

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

1. EXECUTIVE SUMMARY

This document is intended to identify the risk of developing legionnaire's disease from the building water system. The Health and Safety Executive Approved Code of Practice recommends Risk Assessments should be reviewed on a regular basis and in accordance with the current ACOP recommendations.

The Health and Safety commission issued an Approved Code of Practice for "Prevention of Legionellosis (including legionnaires' disease)" which came into effect on 15th January 1992, requiring a risk assessment to be undertaken. Guidance notes were issued by the Health and Safety Executive in the form of HS(G)70 and on the 8th January 2001 the Approved Code of Practice L8 came into force and BS8580:2019. This risk assessment is structured around the requirements of these documents, ACOPL8 revised and HSG274 Parts 1, 2 and 3 and The Water Regulations Guide.

Legionellosis is the term used for infections caused by legionella pneumphila and other bacteria from the family Legionellaceae. Legionnaire's Disease is a pneumonia that principally effects those who are susceptible due to age, illness, immunosuppression, smoking etc. and may be fatal. Legionellae can also cause less serious illnesses that are not fatal or permanently debilitating but which can affect all people. Infection is attributed to inhaling legionellae, either those water droplets which are small enough to penetrate deeply into the lung, or in droplet nuclei (particles left when water has evaporated). Legionellae are widespread in natural sources of water. They may enter man-made systems or water services, where they can multiply under certain conditions, and if there is a means of creating the transmitting water droplets, people in the vicinity may be at risk. Between 200-400 cases of legionellosis are reported in England and Wales every year.

For a risk to be present a chain of events has to occur:

* System infection
* Legionellae proliferation enhanced by system conditions
* Aerosol formation
* Inhalation of aerosol by susceptible individual

Since aerosol formation and inhalation is difficult to avoid the onus falls on the operator to prevent system infection and to eliminate conditions in which legionellae thrive. The aim is to reduce the risk to an acceptable level by controlling the conditions necessary for proliferation of the bacterium. As a general rule, in practice this means: Keeping the hot water storage temperature at greater than 60^0C, maintaining cold water temperatures at less than 20^0C, keeping water systems clean and in good condition and controlling contamination of the water systems. It is, however, understood that some small systems, particularly when instantaneous water heaters are being used as a hot water source, may not be able to achieve these parameters and further recommendations will be given as required.

In order to achieve this aim, a detailed legionellosis risk assessment has been carried out, the results of which are used to produce recommendations for the control of the bacterium.

Full details of the required actions are enclosed.

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

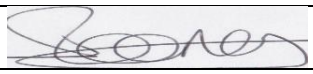
1.1 STATEMENT OF INTENT

Aquastat has completed this Legionella Risk Assessment based on a defined programme of work and terms and conditions agreed with Sovereign Housing**.** Aquastat accepts no responsibility to any parties whatsoever, following the issue of the Statement of Risk, for any matters arising outside the agreed scope of the work.

Competency of Assessors

The Legionella Risk Assessment survey and subsequent report were undertaken and completed by an authorised representative of Aquastat. We can confirm they have achieved a third-party accreditation and have sufficient experience to demonstrate competency in the ability to assess risk in terms of legionella risk within domestic water systems.

This report was checked by an authorised senior representative of Aquastat. Written evidence of appropriate competency can be provided where necessary.

Checked by	Jason Rooney
Signed	
Position	Account Manager
Date Checked	1st May 2024

Any questions or matters arising from this risk assessment should be addressed in the first instance to:

Address:	Unit N, The Old Parlour Purn House Farm, Bleadon, Weston-Super-Mare North Somerset, BS24 0QE
Telephone Number:	01934 811264
E-Mail:	enquiries@aquastat.co.uk
Account Manager	Jason Rooney
	Contact Telephone No: 01934 811564
	Mobile Phone: 07979 278370
	Email : jason.rooney@aquastat.co.uk

This risk assessment does not involve the preparation of the written scheme of control, but rather provides information that is critical to its preparation, improvement, and review.

Ensuring that there is a written scheme of control is a legal requirement of the duty holder, though they might instruct the risk assessor to advise or prepare the scheme of control on their behalf as a separate commission. It is important that operation and maintenance individuals are consulted.

The survey and assessment were conducted by Alan Rodgerson of Aquastat on 18/03/2024 on behalf of Wessex RF & CA**.**

This risk assessment only covers those water systems identified and made accessible to the assessor at the time of the survey.

Location: The site is to be found in a large commercial area close to a major sports stadium in Bristol.

Site Description: The site consists of a three storey detached building, a single storey Tech Block, a single storey ACF block and a two storey detached NRC House, all adapted for military training.

Site Layout: On the ground floor can be found male and female shower room, male and female toilets, kitchens and bars. There are further male and female toilets and changing facilities along with accommodation on the first floor. The second floor has only one room with water; that is known as the Agincourt Division.

Mains Cold Water Services (MCWS): The mains enters the site via a boundary box near the entrance gate. It serves all cold outlets and two cold water storage tanks in the tank room.

Cold Water Storage Tank(s) (CWST) and Cold-Water Down Services (CWDS): There are two CWSTs in the top floor tank room in the main block feeding the Calorifier in the basement boiler room.

Hot Water Storage Vessel(s) and Hot Water Systems (HWS): The vented gas fired calorifier in the main block basement boiler room provides hot water for the first floor and the female changing room and female heads room. Two gas fired unvented calorifiers, in the main block ground floor boiler room, linked in parallel provide hot water for the main shower rooms on the ground floor.

Thermostatic Mixer Valves (TMV) and Thermostatic Mixer Taps (TMT): There is one TMV providing a mixed feed to the mixer showers in the ground floor male and female shower rooms of the main block.

Showers and Spray Outlets: There are six mixer showers in male and female shower rooms on the ground floor of the mains block, four more in the male and female shower rooms and the accommodation on the first floor. Electric showers can be found in the tech block and the NRC House.

Water Heaters: Other hot water requirements are supplied by a combination hot water heater and a series of nine point of use water heaters.

Expansion Vessels: There are two in the main block ground floor boiler room..

Water Softeners: None on site.

2. SUMMARY OF RECOMMENDATIONS and RISK RATING

This Risk Assessment has been carried out in order to ascertain the possible risk of contracting Legionellosis, including Legionnaires' disease, from water systems and to identify the maintenance activities required to control or prevent the risk from Legionella, including any remedial works that may be required to improve upon the findings of this assessment.

The water systems throughout this building, unless otherwise stated, have been surveyed utilising the specific asset survey forms within section six of this assessment. Each question is answered and, depending upon the survey findings, a risk score is allocated utilising the matrix below.

This matrix is designed to indicate possible risk or problematic areas within the assets or water systems.

Multiple questions will be asked for all aspects of the water asset or services present on the site.

The results from these questions will then be scored upon the risk of Legionella. The key to this scoring is:

KEY

	Risk Level	Action
N/A	The risk from Legionella is not applicable under normal operating conditions.	No action required for the control of Legionella. Other remedial actions may be applicable.
LOW	There is a low risk under normal operating conditions.	No additional actions required above ensuring compliance with ACoP L8
MEDIUM	There is a medium risk under normal operating conditions.	Implement risk reduction measures in compliance with ACoP L8 e.g.: Remedial Works or Control Scheme.
HIGH	There is a high risk under normal operating conditions.	Implement Immediate or more radical risk reduction measures e.g. Emergency disinfection. / System changes or prohibition of use.

Where Legionella management and training is insufficient or lines of communication are not established, which are quantifiable on the surveyor's experience and knowledge.

The assessor will use the knowledge of others as well as his own technical knowledge in the judgement of the water systems assessed within this document.

We cannot guarantee that all pipe work passing underground or through floors, walls and ceilings has been traced, and it is possible that certain system dead-ends or dead-legs may not have been identified. As a result, the schematic diagram(s) contained within this report only details the visible or assumed pipe work.

Whilst every effort has been made to ensure the accuracy of the content of this document, Aquastat will accept no responsibility for any omissions that are not included.

OVERALL SYSTEM RISK STATUS

The susceptibility of personnel upon this site to the cause and effects of Legionnaires' disease have been assessed within the known range for specific Legionella susceptibility. Understandably, not every person has been interviewed to their susceptibility. Therefore, assumptions have been made as appropriate, based upon visual observations and communication during this assessment.

Population Profile	
Health of Users	No vulnerable persons on site
Property Occupancy	120 persons maximum

Risk Assessment		LOW 1-2	MEDIUM 3	HIGH 4-5
Are conditions suitable for multiplication of bacteria including Legionella Pneumophila? *E.g. where optimum temperatures for microbial growth and stagnation occur, e.g. dead legs and infrequently used outlets*.				**4**
Are nutrients present within the system? *E.g. sludge, scale, rust, algae and other organic matter.*		2		
Is there a means of creating and disseminating breathable droplets? *E.g. aerosol generated by a shower.*				5
Are high risk groups using the water services? *E.g. persons over the age of 45, those with impaired or underlying health issues and compromised immune systems.*		2		
Are control systems in place and checks currently being carried out? *E.g. Is monitoring being carried out at correct intervals? is it effective? Have there been positive legionella cases identified?*		2		
Risk Factor	**15**	**MEDIUM**		
Low 5-11; Medium 11-19; High 19+				
Important Note: Low risk does not mean no risk and all recommendations highlighted within this document should be addressed. It remains the responsibility of the Duty Holder to ensure that the risk assessment remains valid at all times, any significant changes to the systems/type of occupancy/management structure may warrant a new assessment to be undertaken. Contact Aquastat if further advise is required.				

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

RECOMMENDATIONS & REMEDIAL ACTIONS REQUIRED

	SYSTEM TYPES		RISK RATING
	COLD WATER MAINS:		
	No action required		Low
	Actioned date:	Company/initials:	
	COLD WATER STORAGE TANKS:		
	Fit sparge pipes to the outlets of the CWSTs to improve crossflow		High
	Actioned date:	Company/initials:	
	HOT WATER CALORIFIERS:		
	No action required.		Low
	Actioned date:	Company/initials:	
	HOT AND COLD WATER SYSTEMS:		
	Descale all outlets on a regular basis		Medium
	Actioned date:	Company/initials:	
	Fit non-return valves to all bib taps.		Medium
	Actioned date:	Company/initials:	
	Flush the hot outlet in the Agincourt division until it reaches compliance weekly.		High
	Actioned date:	Company/initials:	
	Investigate the causes of the thermal gain in the ground floor female changing and take all necessary action to ensure cold outlets achieve a temperature < 20°C.		High
	Actioned date:	Company/initials:	
	DEAD LEGS AND BLIND ENDS:		
	See schedule 6.6 for remedial actions.		High
	Actioned date:	Company/initials:	
	POINT OF USE WATER HEATERS:		
	Restore POUWH2 to full working order ensuring a minimum delivery of 50°C		Low
	Actioned date:	Company/initials:	
	TMVs AND TMTs:		
	Continue to service the TMV annually		Low
	Actioned date:	Company/initials:	
	SHOWERS AND SPRAY OUTLETS:		
	Continue to descale and disinfect the showers quarterly		Low
	Actioned date:	Company/initials:	
	GENERAL: Control Schemes		
	All in place		Low
	Actioned date:	Company/initials:	

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

LOG BOOK DOCUMENTATION/RECORD KEEPING

PREMISES : HMS Flying Fox

Is there a water hygiene log book on site		NO
If yes - please confirm the following:		
Where is the log book located?		
Name and position of person responsible for log book?		
Has this person received the appropriate training in Legionella Control & is there evidence	YES	
Does the log book contain a copy of the existing Legionella Risk Assessment?	YES	
Does the log book contain written scheme for Legionella control?	YES	
Are there any non-conformances outstanding from previous Risk Assessments	YES	
Are monthly temperature checks being taken and regularly recorded?	YES	
Is there an attendance log sheet in the book?	YES	
If applicable are showers being dismantled, cleaned and disinfected on a regular basis and regularly recorded?	YES	
Are CWST's and Hot Water Storage Vessels being monitored on a 6 monthly or Annual basis?	YES	
If applicable are little used outlets being flushed weekly and regularly recorded?	YES	
If applicable are mixer valves being serviced on an annual basis and regularly recorded?	YES	
If no log book on site, please advise the following:		
Is the log book held at a different location?		
If yes - please give name of responsible person and full address and telephone number		
Is there an asset register on site?	YES, issued with this assessment	
Are Safety Data Sheets held for chemicals associated with Legionella control?	YES	

If there is no log book on site, or held at a different location this represents a non-compliance with the Approved Code of Practice

All records and inspection reports should be kept in the site legionella control logbook for a period of 5 years

If the log book is held at a different premises, it is the duty of the responsible person to ensure the above checks are carried out and fully recorded.

Control Scheme	Is it Actioned	Carried out by whom	Frequency	Is it logged	Comments
Infrequently used outlet flushing	Yes	Site	Weekly	Yes	Required Weekly
Hot and cold sentinel outlets temperature monitoring	Yes	Aquastat	Monthly	Yes	Required Monthly
Hot and cold representative outlet monitoring	Yes	Aquastat	Monthly	Yes	Required Monthly
Shower, rinse hose, spray outlet descales	Yes	Aquastat	Quarterly	Yes	Required Quarterly
Hot Water Storage Vessel flow and return temperature monitoring	N/A	N/A	N/A	N/A	Required Monthly
Hot Water Storage Vessel internal inspections	N/A	N/A	N/A	N/A	Required Annually
CWST inspections	Yes	Aquastat	Annually	Yes	Required Annually
CWST temperature monitoring	Yes	Aquastat	Annually	Yes	Required Annually
CWST clean and disinfection	Yes	Aquastat	Annually	Yes	When required
TMV servicing	Yes	Aquastat	Annually	Yes	Required Annually
Strainer cleaning	N/A	N/A	N/A	N/A	N/A
Expansion vessel Purging	N/A	N/A	N/A	N/A	N/A
Water Softener servicing	N/A	N/A	N/A	N/A	N/A
Electronic Water conditioner servicing	N/A	N/A	N/A	N/A	N/A
RPZ Valve Servicing	N/A	N/A	N/A	N/A	N/A
Arjo Bath Servicing	N/A	N/A	N/A	N/A	N/A
Risk Assessment	Yes	Aquastat	Every 2 years	Yes	This assessment replaces out of date LRA
Log Book Audit	No	N/A	N/A	N/A	Log book required for implementation of control schemes
Regular reviews of Control schemes, Training and competency.	No	N/A	N/A	N/A	Required
Sampling (Legionella or TVC)	No	N/A	N/A	N/A	As Required

3. GENERAL PRECAUTIONS AND ACTIONS

The list below indicates the essential practical maintenance/management actions for which the head of site is responsible for ensuring.

1. Operate hot water systems at or above the approved minimum temperature. Storage should be above 60°C. Outlet (tap) temperatures should be above 50°C (unless fitted with a thermostatic mixing valve (TMV). Terminal fittings or communal showers in buildings used by young children/the very old and those with sensory loss should be supplied with water through thermostatic mixing valves so that the temperature of the water discharged at the outlets does not exceed 43 degrees C.

2. Maintain cold systems at or below the approved maximum water temperature. It is acceptable for the temperature to be 2°C greater than the incoming mains water temperature. However, this should not exceed 25°C.

3. Infrequently used outlets should be removed and any dead legs capped off at the main circulation or added to a flushing regime. Where showers are required and retained, they are to be run at least once per week or if possible, daily. Shower heads should be cleaned and disinfected in accordance with HSG274 at least on a quarterly basis.

4. Avoid the creation of unnecessary aerosols of water.

5. Ensure that the system is cleaned and disinfected if you become aware of any activity or occurrence, which you believe, may jeopardise water hygiene. Should a disinfection be required an Aquastat representative could advise?

6. Maintain records of temperature checks – regular temperature checks should be taken from selected tap outlets after one running minute. A standard UKAS calibrated thermometer held under the water flow is all that is needed. The temperature should be recorded in the legionella log book. The results recorded on a simple temperature record table. When temperatures consistently fail to comply with the approved ranges your water hygiene company should be contacted for further guidance and advice.

7. When the site is unused for more than 72 hours it is advisable to run hot and cold tap outlets on entry to the building to ensure stagnant water is removed from the pipework before use. **

8. After plumbing (i.e. new water heater or pipework alterations etc.) have been carried out, the site should be chlorinated to BS8558 standard - it may be necessary to fit an injection point to enable this process.

9. All outside bib taps should be fitted with a double check valve to prevent back flow.

10. Buildings with mixtures of lead, copper and iron pipework should be considered for refit in the long-term budget.

11. Dedicated drinking water tap should be clearly labelled.

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

12. Intermittently Used Buildings:

** On entry to a building after period of closure one senior nominated person should ensure the following before any personnel are allowed to use the water systems.

a. The furthest tap from the mains entry point should be turned on and flushed – this will ensure that any water lying dormant within the building or trapped in the feed pipe from the mains supply is thoroughly flushed and allowing the cold water to attain towns water temperatures at outlets. Approximately 2-3 minutes constant running of a mains tap if the building is close to the towns water stop tap, or 10 minutes if over 100yds should be sufficient.

b. Instantaneous water heaters are not designed to store hot water at 60 degrees as the guidelines suggest but we would recommend that the heaters are turned on and allowed at least 5 minutes for the temperature to rise to over 45 degrees C before use.

13. Positive Legionella Results

13.1 Positive Legionella results from a water system are reported to the client's responsible person by the fastest means available. This is usually a telephone call or email which will be confirmed by emailing the laboratory's analysis report and setting down in writing the initial corrective measures that we and/or our client should be undertaking.

13.2 The corrective measures advised will depend on individual circumstances and will be based on the guidance notes form HSE's ACOP HSG274 Parts 1,2,3 and will be instigated as quickly as possible after receiving an order from client.

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

4. GENERAL SITE INFORMATION

Building Description and type of use	The site consists of a three storey detached building, a single storey Tech Block, a single storey ACF block and a two storey detached NRC House, all adapted for military training.
Approx. number of occupants and overall age group	120 persons maximum
Normal operational hours of this building	24 hrs weekends mostly
On site contact name at date of LRA	

SCOPE OF RISK ASSESSMENT

- Non-intrusive Site inspection visit of the agreed survey site to determine the current condition and usage of plant associated with domestic water systems on site.
- Non-intrusive Site inspection visit of the agreed survey site to determine the current condition of the management control of plant associated with domestic water systems on site.
- Produce a written report to relay the results generated from the site visit.
  Produce a site-specific asset register.
  Produce a site-specific and up to date schematic of the water systems of the survey site.

The temperatures have been taken and recorded from all areas that were accessible to the assessor during the survey; however, in larger complex buildings a representative number of temperatures may only be taken and recorded.

The following areas of the site have not been assessed:

Location:	Assets:	Reason:
Ground floor boiler room	TMV	Not located

These listed water systems will only be assessed for risk of Legionellosis and not for any other factor.
The extent of the Risk Assessment is reliant on information supplied from site at time of survey and on observable conditions.

Whilst every effort has been made to ensure the accuracy of the content of this document, Aquastat will accept no responsibility for any omissions.

5. LINES OF COMMUNICATION AND RESPONSIBILITY

At this site the following key contacts have been identified.

	NAME	ADDRESS	TEL NOS
Duty holder: *Individual with the legal responsibility to ensure that health and safety is managed effectively*			
	Mark Armstrong	Wessex RF & CA Mount House Mount Street Taunton TA1 3QE	01823 217940 wx-estatesn@rfca.mod.uk
Nominated on site responsible person: *Individual appointed with and who has accepted responsibility under the authority of the duty holder for ensuring that for the control of Legionella all those assigned to carry out tasks are competent to do so.*			
	Kelvin Walker	Wessex RF & CA Mount House Mount Street Taunton TA1 3QE	01823 217942 wx-estatess@rfca.mod.uk
Deputy on site responsible person: *In a large undertaking there may be more than one responsible person*			
Deputy on site responsible person			
Water Supply Company	Bristol Water	Bridgwater Road Bedminster Bristol BS13 7AT	0345 702 3797
Mechanical contractor or Maintenance company	Wessex RF & CA	Mount House Mount Street Taunton TA1 3QE	01823 217940
Electrical contractor or maintenance company	Wessex RF & CA	Mount House Mount Street Taunton TA1 3QE	01823 217940
Water Treatment Company for this assessment	Aquastat	Unit N – The Old Parlour Purn House Farm, Bleadon Weston-Super-Mare North Somerset BS24 0QE	Tel: 01934 811264 Email - enquiries@aquastat.co.uk
	1st Company contact	Gary Ford General Manager	As above or email gary.ford@aquastat.co.uk
	2nd Company contact	Louise Blakemore	As above or email louise.blakemore@aquastat.co.uk
Water Treatment company for Compliance tasks as per HSG274	Aquastat	Unit N – The Old Parlour Purn House Farm, Bleadon Weston-Super-Mare North Somerset BS24 0QE	Tel: 01934 811264 Email - enquiries@aquastat.co.uk

NB: If any of the above are not available at the time of inspection it may represent a gap in management procedures which could lead to a risk of infection through miscommunication.

NNB: Any changes in the above structure must be recorded as soon as they take effect, and all parties must be notified.

6 SURVEY DETAILS:

6. 1 MAINS WATER SUPPLY REPORT

Source of supply	Bristol Water
Number of mains cold water supply?	1
Location of main isolation valve?	Via boundary box at the front entrance
Is there a water meter installed?	No
Is the pipework labelled?	Yes
Materials of construction	Unknown
Are there any materials or fittings visibly present on the mains water system, that do not conform to the Water Regulations Advisory Scheme (WRAS) directory?	No
Mains water temperature ˚C (sentinel outlets)	Nearest Tap to Incoming Main 12.3 Furthest Tap from Incoming Main 11.7
Are all other distribution temperatures that were tested within the correct temperature range? i.e. Below 20 ˚C?	Yes
Are there any none flow through expansion vessels to any services on this system?	None
Is the pipework suitably insulated?	Yes
Does the cold-water supply have any inline filters including scale inhibitors/softeners?	No
COMMENTS	
Mains Water Supply Risk Score	**Low**

6. 1 MAINS WATER SUPPLY REPORT (continued)

Photos

Incoming Mains

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

6. 2 OTHER ASSETS REPORT

Are dead legs / infrequently used outlets present within system pipework?	Yes
Are thermostatic mixer valves present on individual outlets?	Yes
Are there single mixer valves serving a number of outlets?	Yes, I x TMV feeding 6 x mixer showers
Is the mixed temperature of the pipework >1m?	Yes, I x TMV feeding 6 x temperature showers
Are flexible hoses fitted to any services on the mains water system?	Yes
Is there any unused equipment connected?	No
Is any scale/debris present on any of the tap outlets?	Yes
Do any tap outlets have any spray or other inserts fitted?	No
Are strainers fitted?	No

	
Flexible hoses	Scale on taps

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

6. 3 COLD WATER STORAGE TANK REPORT

Tank Ref : CWST 1

Location	Exact location of tank	Top floor tank room	
Structure	Accurate dimensions lxwxh or dia	1300 x 68 x 500	
	Materials of tank and any jointing's	GRP	
	Insulation type and thickness	Preinsulated	
Lid Details	Is there a close-fitting lid	Yes	
	Is it securely fixed in place	Yes	
	Accurate dimensions for new lid	1460 x 825 mm	
	Separate ball valve hatch	No	
	Vent size has it good rodent screen	42 mm Yes	
Overflow	Size and materials of main overflow	42 mm plastic	
	Is there a rodent filter	Yes	
	Size and materials of warning pipe	N/A	
	Is there a rodent filter	N/A	
Supply	Size and materials of pipework	28 mm copper	
	Fed from mains, softener or tank	Mains	
	Insulation type and thickness	25 mm foam	
	Any other return or vent pipes	No	
Outlets	Size and Materials	Insulation type and thickness	
Outlet 1	35 mm copper	Foil backed fibre glass	
Outlet 2			Are they valved
Drain valve	Is there a drain valve – size if applicable	No drain off	Yes
Water in Tank	Temperature C	15.7	
	Degree of sediment	moderate	
	Biological slime severe/medium/light	None	
	Extent of corrosion	None	
	Is there adequate crossflow within the tank? i.e. inlet opposed from outlet?	None	
	Is the stored water over capacity??	No	
Labels	Is the tank labelled	No	
	Supply pipe labelled or coded	Yes	
	Outlets labelled or coded	No	
Operation	How far to adequate drain	100 mtr	
	Power supply – volts/distance	50 Mtr	
	Is lighting adequate	No	
	Access limit ht x w	400 x 900	
CWST Risk Score		Low	

Tank Ref : CWST 2

Location	Exact location of tank	Top floor tank room	
Structure	Accurate dimensions lxwxh or dia	1300 x 68 x 500	
	Materials of tank and any jointing's	GRP	
	Insulation type and thickness	Preinsulated	
Lid Details	Is there a close-fitting lid	Yes	
	Is it securely fixed in place	Yes	
	Accurate dimensions for new lid	1460 x 825 mm	
	Separate ball valve hatch	No	
	Vent size has it good rodent screen	42 mm Yes	
Overflow	Size and materials of main overflow	42 mm plastic	
	Is there a rodent filter	Yes	
	Size and materials of warning pipe	N/A	
	Is there a rodent filter	N/A	
Supply	Size and materials of pipework	28 mm copper	
	Fed from mains, softener or tank	Mains	
	Insulation type and thickness	25 mm foam	
	Any other return or vent pipes	No	
Outlets	Size and Materials	Insulation type and thickness	
Outlet 1	35 mm copper	Foil backed fibre glass	
Outlet 2			Are they valved
Drain valve	Is there a drain valve – size if applicable	No drain off	Yes
Water in Tank	Temperature C	16.6	
	Degree of sediment	Moderate	
	Biological slime severe/medium/light	None	
	Extent of corrosion	None	
	Is there adequate crossflow within the tank? i.e. inlet opposed from outlet?	No	
	Is the stored water over capacity??	No	
Labels	Is the tank labelled	No	
	Supply pipe labelled or coded	Yes	
	Outlets labelled or coded	No	
Operation	How far to adequate drain	100 mtr	
	Power supply – volts/distance	50 Mtr	
	Is lighting adequate	No	
	Access limit ht x w	400 x 900	
CWST Risk Score		Low	

6. 3 COLD WATER STORAGE TANK REPORT (continued)

Photos

	
CWST 1	CWST 1 interior

	
CWST 2	CWST 2 interior

6. 4 HOT WATER STORAGE REPORT

HWSV Ref : CAL1

Location of hot water storage vessel	Basement Boiler Room
Construction	Stainless Steel
Size of hot water storage vessel	1150 x 450 = 182 dm^3
Horizontal/vertical	Vertical
Storage/non-storage	Storage
Main heat source	Gas fired
Supplementary heating	None
Insulation type	Preinsulated
Is there an open vent	Yes
Is there an Expansion Vessel	No
Size of Expansion Vessel	N/A
IS there a flow through Valve fitted?	N/A
Is there a drain fitted & what size?	No
What size is access hatch	No hatch
Is there a drain valve – if yes give size	Yes, 22 mm
Does drain valve work	Yes
Condition of water from drain valve	Clear
Size and materials cold feed pipe	22 mm copper
Is cold feed valved	Yes
Fed from mains, tank or softened	Tank
Pressure gauge reading	None
Temp from main gauge on hot water flow °C	60.2
Temp from gauge on sec return flow °C	53.1
Safety valve size	28 mm
Is system circulated by sec return (yes/no)	Yes
Is calorifier circulated	No
Anti-stratification Pump (yes/no)	N/A
Has pump got a time clock	N/A
If yes – how many hours is it set in any 24	N/A
Isolating valves on flow/return	Yes
Is calorifier labelled	Yes
Is pipe work coded/labelled	Yes
Power supply voltage/distance	240 V 50 mtr
How far to adequate drain	100 mtr
Periods of availability for working	By appointment
Access limit Height x width	650 x 1500 mm
Temperature from nearest hot outlet °C	57.1
Hot Water Storage Vessel Risk Score	Low

Comments/Recommendations:

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

HWSV Ref : CAL2

Location of hot water storage vessel	Main Block Boiler Room
Construction	Stainless Steel
Size of hot water storage vessel	1750 x 600 = 495 dm^3
Horizontal/vertical	Vertical
Storage/non-storage	Storage
Main heat source	Immersion
Supplementary heating	None
Insulation type	Preinsulated
Is there an open vent	No
Is there an Expansion Vessel	Yes
Size of Expansion Vessel	100 dm^3
IS there a flow through Valve fitted?	No
Is there a drain fitted & what size?	Yes, 15 mm
What size is access hatch	12"
Is there a drain valve – if yes give size	Yes, 15 mm
Does drain valve work	Yes
Condition of water from drain valve	Clear
Size and materials cold feed pipe	54 mm copper
Is cold feed valved	Yes
Fed from mains, tank or softened	Mains
Pressure gauge reading	3.5 bar
Temp from main gauge on hot water flow °C	67.0
Temp from gauge on sec return flow °C	61.0
Safety valve size	22 mm
Is system circulated by sec return (yes/no)	Yes
Is calorifier circulated	Yes
Anti-stratification Pump (yes/no)	Yes
Has pump got a time clock	No
If yes – how many hours is it set in any 24	N/A
Isolating valves on flow/return	Yes
Is calorifier labelled	Yes
Is pipe work coded/labelled	Yes
Power supply voltage/distance	240 V 10 mtr
How far to adequate drain	30 mtr
Periods of availability for working	By appointment
Access limit Height x width	200 x 1500 mm
Temperature from nearest hot outlet °C	Feeds showers only
Hot Water Storage Vessel Risk Score	Low

Comments/Recommendations:

HWSV Ref : CAL3

Location of hot water storage vessel	Main Block Boiler Room
Construction	Stainless Steel
Size of hot water storage vessel	1750 x 600 = 495 dm^3
Horizontal/vertical	Vertical
Storage/non-storage	Storage
Main heat source	Immersion
Supplementary heating	None
Insulation type	Preinsulated
Is there an open vent	No
Is there an Expansion Vessel	Yes
Size of Expansion Vessel	100 dm^3
IS there a flow through Valve fitted?	No
Is there a drain fitted & what size?	Yes, 15 mm
What size is access hatch	12"
Is there a drain valve – if yes give size	Yes, 15 mm
Does drain valve work	Yes
Condition of water from drain valve	Clear
Size and materials cold feed pipe	54 mm copper
Is cold feed valved	Yes
Fed from mains, tank or softened	Mains
Pressure gauge reading	3.5 bar
Temp from main gauge on hot water flow °C	69.0
Temp from gauge on sec return flow °C	61.0
Safety valve size	22 mm
Is system circulated by sec return (yes/no)	Yes
Is calorifier circulated	Yes
Anti-stratification Pump (yes/no)	Yes
Has pump got a time clock	No
If yes – how many hours is it set in any 24	N/A
Isolating valves on flow/return	Yes
Is calorifier labelled	Yes
Is pipe work coded/labelled	Yes
Power supply voltage/distance	240 V 10 mtr
How far to adequate drain	30 mtr
Periods of availability for working	By appointment
Access limit Height x width	200 x 1500 mm
Temperature from nearest hot outlet °C	Feeds showers only
Hot Water Storage Vessel Risk Score	Low

Comments/Recommendations:

6. 4 HOT WATER STORAGE REPORT (continued)

Photos

CAL1

CAL2

CAL3

6.5 SHOWERS & SPRAY OUTLETS

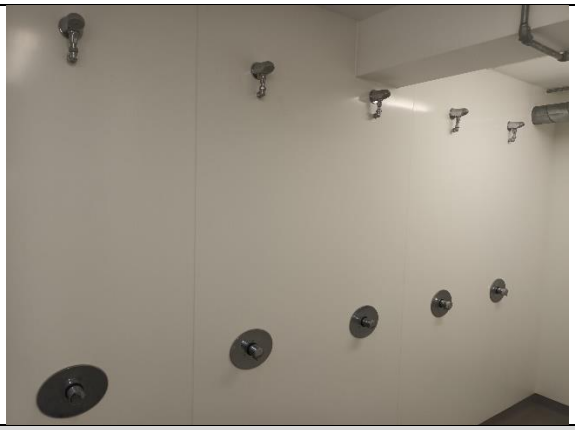
Site : HMS Flying Fox

SHOWERS/SPRAY HEADS

Location	Nos of showers	Dismantled/ cleaned and disinfected YES/NO	Overall condition	Any repairs replacements	Regularity of Use
Grd flr male toilet	3	Yes	Good	None	Frequent
Male Shower Room	5	Yes	Good	None	Frequent
Female Shower Room	1	Yes	Good	None	Frequent
Female Changing	3	Yes	Good	None	Frequent
1st flr Male Shower Rm	2	Yes	Good	None	Frequent
1st flr Male Shower Rm	1	Yes	Good	None	Frequent
Accommodation	1	Yes	Good	None	Frequent
Tech Block Male toilet	2	Yes	Good	None	Frequent
Tech Block Female toilet	1	Yes	Good	None	Frequent
NRC female shower room	2	Yes	Good	None	Frequent
COMMENTS:					

6.5 SHOWERS & SPRAY OUTLETS (continued)

Photos

	
Mixer showers in the Male Shower room	Typical electric shower

6.6 SCHEDULE OF DEAD LEGS/BLIND ENDS

Site : HMS Flying Fox

LOCATIONS	SYSTEM	ACTION
Grd flr Male Toilet	CWDS	Remove completely
Grd flr Male Toilet	CWDS	Remove completely
Grd flr Male Toilet	CWDS	Remove completely

PHOTOS:

Dead end 1

Dead end 2

Dead end 3

6.7 POINT OF USE WATER HEATERS

EXPANSION VESSEL INFO

Water Heater Type	ID Number	Location	Make/model of each heater	Capacity dm^3	Mains or tank fed	Full clean possible	Is there a pressure vessel – Yes/No	If yes – make model and size and whether fitted horizontally or vertically
CHWH	1	Grd flr Male Toilet	Santon	25	Mains	Yes	No	N/A
POUWH	1	W/R Officer Mess	Ariston	10	Mains	No	< 8 litres	N/A
POUWH	2	Junior ratings Bar	Ariston	10	Mains	No	< 8 litres	N/A
POUWH	3	S/R Bar	Kingspan Ultra flow	14	Mains	No	None	N/A
POUWH	4	Tech block female toilet	Santon	7	Mains	No	None	N/A
POUWH	5	Tech block male toilet	Heatrae Sadia	7	Mains	No	None	N/A
POUWH	6	ACF Kitchen	Elson	7	Mains	No	None	N/A
POUWH	7	NRC House kitchen	Santon	10	Mains	No	None	N/A
POUWH	8	NRC House Female toilet	Ariston	15	Mains	No	< 8 litres	N/A
POUWH	9	NRC House Mmale toilet	Zip Aquapoint	10	Mains	No	< 8 litres	N/A

	
Santon CHWH	Heatrae Sadia POUWH
	
Ariston POUWH	Kingspan Ultra flow

For information purposes:

A. All cold water should be stored at less than 20 degrees C.
B. All hot water should be set to produce at least 45 degrees C at outlets after one running minute.
C. Temperatures between 20 degrees C at 45 degrees C produce ideal breeding ground for bacteria and should be avoided at all times.

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

6.8 FIRE HOSES

Fire hoses were not located on this site.

6.9 WATER SOFTENER

Water Softeners were not located on site.

7. WATER OUTLETS: SITE: HMS Flying Fox

Block	Floor	Room	Asset	No. Assets	Sentinels	Hot temp °C	Cold temp °C	Mixed temp °C	Expansion Vessels	No. Flexible Tails	TMVs	Heat source
Main Block	Ground	Male Toilet	ESHR	3								
Main Block	Ground	Male Toilet	SNK	1	NS MCWS	61.0	12.3					CHWH1
Main Block	Ground	Male Toilet	WHB	3		61.6	12.0					CHWH1
Main Block	Ground	Male Toilet	WC	3								
Main Block	Ground	Male Toilet	Bib tap	2								
Main Block	Ground	W/R Officer Mess	SNK	1		72.0	11.6					POUWH1
Main Block	Ground	W/R Officer Mess	DSW	1								
Main Block	Ground	Junior Ratings Mess	SNK	1		25.0	19.3			2		POUWH2
Main Block	Ground	Junior Ratings Mess	WAB	1								
Main Block	Ground	Junior Ratings Bar	SNK	1		24.4	19.1			2		POUWH2
Main Block	Ground	Junior Ratings Bar	DSW	1								
Main Block	Ground	Female Shower Room	MSHR	1								CAL2 & 3
Main Block	Ground	Male Shower Room	MSHR	5							1	CAL2 & 3
Main Block	Ground	Rear exterior	Bib tap	1								
Main Block	Ground	Rear corridor	Bib tap	1								
Main Block	Ground	S/R Bar	SNK	1		63.2	14.7			2		POUWH3
Main Block	Ground	S/R Bar	DSW	1								
Main Block	Ground	Galley	SNK	2		61.1	19.3					
Main Block	Ground	Galley	WHB	1		61.2	16.8					
Main Block	Ground	Galley	WAB	1								
Main Block	Ground	Female Changing	ESHR	3								
Main Block	Ground	Female Changing	WHB	2	NS HWS	57.1	23.0			4		CAL 1
Main Block	Ground	Female Changing	Bib tap	1								

Main Block	Ground	Female Heads Toilet	Bib tap	1								
Main Block	Ground	Female Heads Toilet	WHB	2		56.1	19.9			2		CAL 1
Main Block	Ground	Female Heads Toilet	WC	2								
Main Block	Ground	Laundry	WMC	2								
Main Block	First	Male Shower Room	SNK	1								
Main Block	First	Male Shower Room	WHB	3		56.7	19.8			6		CAL 1
Main Block	First	Male Shower Room	WC	2								
Main Block	First	Male Shower Room	URN	3								
Main Block	First	Male Shower Room	MSHR	2								CAL 1
Main Block	First	Male Shower Room	Bib tap	1								
Main Block	First	Female Shower room	MSHR	1								CAL 1
Main Block	First	Female Shower room	WHB	1		57.6	17.7			2		CAL 1
Main Block	First	Female Shower room	WC	1								
Main Block	First	Accomodation	WHB	1	FS HWS	56.7	17.7					CAL 1
Main Block	First	Accomodation	WC	1								
Main Block	First	Accomodation	MSHR	1								
Main Block	Second	Agincourt Division	SNK	1		43.5	19.7					Hydro tap
Tech Block	Ground	Entrance	Bib tap	1								Integral NRV
Tech Block	Ground	Kitchenette	SNK	1			16.9			1		Cold only
Tech Block	Ground	Female Toilet	WHB	1		57.2	14.1					POUWH4
Tech Block	Ground	Female Toilet	WC	2								
Tech Block	Ground	Female Toilet	ESHR	1								
Tech Block	Ground	Male Toilet	ESHR	2								
Tech Block	Ground	Male Toilet	WHB	1		58.3	14.5					POUWH5
Tech Block	Ground	Male Toilet	WC	2								
Tech Block	Ground	Male Toilet	WMC	1								
Tech Block	Ground	Boiler Room	PRU	1								
ACF Block	Ground	kitchen	SNK	1		58.2	11.9					POUWH6
ACF Block	Ground	Male Toilet	WHB	1			11.8					Cold only
ACF Block	Ground	Male Toilet	URN	2								

ACF Block	Ground	Male Toilet	WC	1								
ACF Block	Ground	Female Toilet	WHB	1			11.6					Cold only
ACF Block	Ground	Female Toilet	WC	1								
NRC House	Ground	Outside	Bib tap	1								
NRC House	Ground	Kitchen	SNK	1		53.7	10.9					POUWH7
NRC House	Ground	Kitchen	WAB	1								
NRC House	Ground	Female shower room	WHB	1		58.7	11.1					POUWH8
NRC House	Ground	Female shower room	WC	1								
NRC House	Ground	Female shower room	ESHR	2								
NRC House	First	Male Toilet	WHB	1		58.5	11.9			2		POUWH9
NRC House	First	Male Toilet	WC	1								
NRC House	First	Male Toilet 2	WHB	1	FS MCWS	67.5	11.7			2		POUWH9
NRC House	First	Male Toilet 2	WC	1								

Water Outlet Legend:

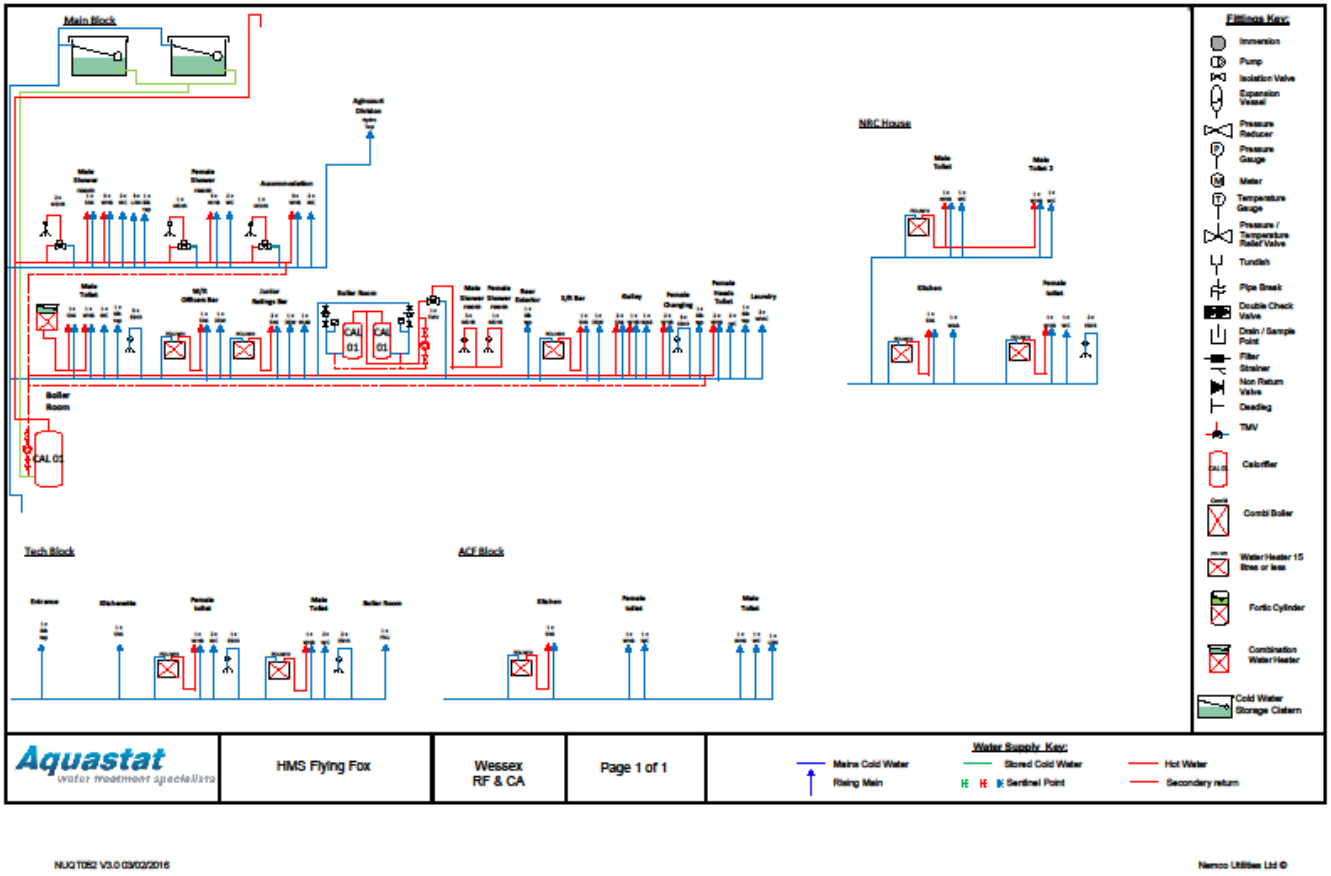
SNK = Sink
UR = Urinal
DWF = Drinking Water Fountain
HBT = Hose Bib Tap
TMV = Thermostatic Mixing Valve
ESH = Electric Shower
QFL = Quick Fill Link
EXP = Expansion Vessel
CM = Coffee machine
RH = Rinse Hose
SPB = Spray Booth
SO = Steam Oven
BIB = Bib tap

WHB = Wash Hand Basin
TSH = Thermostatic Shower
CWD = Chilled Water Dispenser
WSM = Washing Machine
HWB = Hot Water Boiler
CAL = Calorifier
BE = Blind Ends
STR = Strainer
MSH = Mixer shower
CO = Combi Oven
INF = Infrequently
BID = Bidet
TB = Tea Boiler

WC = Water Closet
WH = Water Heater
VM = Vending Machine
DSW = Dish Washer
CMB = Combi Boiler
PRU = Pressurisation Unit
DL = Dead Leg
EWC = Electronic Water Conditioner
DWT = Drinking Water Tap
FC = Fume Cupboard
CDU = Chemical Dispensing Unit
HWSV = Hot Water Storage Vessel

8. LINE DRAWINGS OF WATER SYSTEMS SITE: HMS Flying Fox March 2024

NB: Due to the complexity of the pipe work at this site it is not possible to ensure the total accuracy of these line drawings. They may require revision.



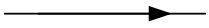
SCHEMATICS KEY

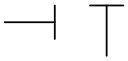

Hot water


Mains Cold Water Supply

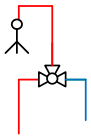

Borehole Cold Water Supply


Tank Fed Water


Recycled Water


Dead legs/Ends

Water Meter


Mixed shower


Electric shower

Temperature gauge

Pressure Gauge/Switch


Plate Heat Exchanger


Incoming main


Expansion vessel

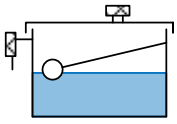

Filter

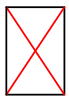
Hydro

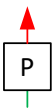
Combined Chiller/Boiler Unit

Chilled Drinking Water Unit

Drink Fountain


Cold Water Storage Tank


Small/Medium Volume Water Heater



Instantaneous Water Heater

Vending Machine

Dishwasher

Ultra Violet

Strainer


Isolation Valve


Non-return Valve


Double check Valve


Pressure reducing Valve

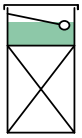

RPZ Valve

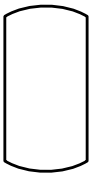

Three Way Valve


Thermostatic mixer Valve


Pressurised Pump


Fire Hose Reel


Combination Cylinder


Calorifier/Hot Water Cylinder

Tea Boiler

Humidifier

Washing Machine

Mains fed sentinel

Tank fed sentinel

Hot fed sentinel

Small Softener/ Purifier

Bib tap


Thermostatic mixer tap


Pump set

9. OTHER PHOTOGRAPHS

Bib tap

Glasswasher

Hydro tap

10. ASSET REGISTER SUMMARY

Asset:	Asset Number of:
Outlets	75
Sentinel outlets	4
Infrequently used outlets	0
Cold Water Storage Tanks	2
Hot Water Storage Vessel	3
Plate Heat Exchangers	0
Combi Boilers	0
Point of Use Water Heaters - >15 Litres	9
Point of Use Water Heaters - <15 Litres	0
Instantaneous Water Heaters	0
Combination Water Heaters (Fortic style)	0
Combination Water Heaters with Storage (FBM style)	1
Water Softeners	0
Showers	21
Rinse Hoses	0
Spray Outlets	0
TMVs	1
TMTs	0
Strainers	0
Flexible Hoses	25
Expansion Vessels	0
Pumps	4
RPZ Valve	0

11. Water Treatment & Hygiene Experience and Training Details

All personnel undertaking water treatment and hygiene works must only be carrying out their duties if they are suitably qualified, trained and competent to do so. Details of the assessor for this risk assessment are recorded below:

Person's name:	Alan Rodgerson
Job description:	Engineer/assessor
Company:	Aquastat
Experience:	10 years within the water treatment service industry.
Training/Competence:	City and Guilds Management of L8 Risk Assessment and Control Scheme. City and Guilds The Roles and Responsibilities of the Appointed Responsible Person. NVQ2 and Level 2 City and Guilds in Plumbing.

Certification for all the above are held at Aquastat offices.

12. Legislation and Codes of Practice

References

1 *Health and Safety at Work etc Act 1974 (c.37)* The Stationery Office 1974 ISBN 978 0 10 543774 1

2 *Control of substances hazardous to health (COSHH). The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved Code of Practice and guidance* L5 (Sixth edition) HSE Books 2013 ISBN 978 0 7176 6582 2 www.hse.gov.uk/pubns/books/l5.htm

3 *The Management of Health and Safety at Work Regulations 1999* SI 3242/1999 The Stationery Office

4 *Reporting accidents and incidents at work: A brief guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)* Leaflet INDG453(rev1) HSE Books 2013 www.hse.gov.uk/pubns/indg453.htm

5 *The Notification of Cooling Towers and Evaporative Condensers Regulations 1992* SI 1992/2225 The Stationery Office

6 *Consulting employees on health and safety: A brief guide to the law* Leaflet INDG232(rev2) HSE Books 2013 www.hse.gov.uk/pubns/indg232.htm

7 *Legionnaires' disease: A guide for duty holders* Leaflet INDG458 HSE Books 2012 www.hse.gov.uk/pubns/indg458.htm

8 *Managing for health and safety* HSG65 (Third edition) HSE Books 2013 ISBN 978 0 7176 6456 6 www.hse.gov.uk/pubns/books/hsg65.htm

9 *The control of legionella: A recommended Code of Conduct for service providers* The Legionella Control Association 2013 www.legionellacontrol.org.uk

10 *Water fittings and materials directory* Water Regulations Advisory Scheme www.wras.co.uk/Directory

11 *Water Supply (Water Fitting) Regulations 1999* SI 1148/1999 The Stationery Office

Further reading

BS 8580-1 2019 *Water quality. Risk assessments for Legionella control. Code of practice* British Standards Institution

BS 8558:2015 *Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages* British Standards Institution

BS EN 806 (Parts 1-5) *Specifications for installations inside buildings conveying water for human consumption* British Standards Institution

Water systems: Health Technical Memorandum 04-01: Safe water in healthcare premises.

Code of Practice: *Cooling water treatment* Water Management Society 2007 www.wmsoc.org.uk

Getting specialist help with health and safety Leaflet INDG420(rev1) HSE Books 2011 www.hse.gov.uk/pubns/indg420.htm

Minimising the risk of Legionnaires' disease TM13 The Chartered Institution of Building Services Engineers 2013

Doc: AWRA1 -Appendice A

SUMMARY OF THE APPROVED CODE OF PRACTICE L8 (revised) and HSG274 Parts 1, 2 and 3 FOR THE PREVENTION OR CONTROL OF LEGIONELLOSIS

Any water system operating with temperatures of greater than 20C and which may release a spray or aerosol presents a reasonably foreseeable risk of Legionellosis. Experience shows that the following are the key systems, which required attention.

- **Systems incorporating cooling towers or evaporative condenser.**
- **Hot water services**
- **Humidifiers and air washers.**
- **Spa baths and pools.**
- **Hot and cold water services in premises where the occupants are particularly susceptible.**

For premises covered by the Health and Safety at Work Act 1974, the HSC's Approved Code of Practice requires the following:

- **A risk assessment undertaken by a competent person to identify the risk of Legionellosis and any necessary and reasonably practicable precautionary measures required.**

- **A management plan identifying steps to be taken to minimise the risk. The plan should also identify the responsible persons, the lines of communication and the training and competence requirements for employees and sub-contractors.**

- **Implementation of the plan including training.**

- **Record keeping to track remedial activities and to monitor performance.**

- **The owner should ensure that the management system performance is audited and subject to management review to keep it relevant.**

The following list provides an indication of the requirement of the ACOP, which is enforced by the Health and Safety Executive or the Environmental Health Department of the local authority, depending on your premises type. Failure to comply is not in itself an offence, but failure to comply may be taken by a court as proof that the person has contravened the legal requirements.

* **Risk Assessments**
* **Management plan and procedure development**
* **Training of personnel**
* **Remedial action such as**
  - cleaning and disinfection
  - Tank refurbishment
  - Regular water treatment (chemical/plant)
* **Provision of log books**
* **Regular monitoring and system maintenance including sampling analysis, chemical cleaning and disinfection.**

Doc: AWRA2 -Appendice B

Artius Property Protection Limited T/A Aquastat
Registered Office: SBC House, Restmor Way, Wallington, Surrey SM6 7AH
Registered in England No. 09632816

THE CONTROL OF LEGIONELLOSIS L8 SUMMARY FOR HOT & COLD-WATER SERVICES

L8 (Revised) and HSG274 Parts 1, 2 and 3 applies to all premises covered by the Health and Safety at Work Act 1974, where foreseeable risk of Legionellosis is present i.e. most commercial premises with a hot and cold water system

The prime focus of this document is to avoid conditions that permit Legionellae to proliferate and to avoid the creation of sprays or aerosols or where this is impracticable to minimise the release of droplets.

The conditions that promote legionellae proliferation are:

- **Temperatures in the range of 20 - 45 C**
- **Presence of sediment, sludge, scale or organic matter which act as nutrients.**
- **Some unapproved water fittings may harbour legionella and act as a nutrient.**
- **High microbial levels may act as nutrients and as a host for legionellae.**
- **Biofilms and slimes may harbour and protect Legionellae from biocides. These are often caused by stagnant or low flow conditions.**

The main areas of concern for hot and cold water services are shown in Table (1) along with some possible precautionary measures. A risk assessment should be carried out on each site and a management plan developed to minimise the risk. The management plan and its execution should be completely documented as detailed in Table (2).

TABLE 1 - TYPICAL RISKS IN HOT AND COLD WATER SERVICES

ITEM	POSSIBLE PROBLEM	OPTIONS & PRECAUTIONARY MEASURES
Storage Tank	Stagnation Temperature>20C Sludge and Scale build up Corrosion deposits build up Ingress of nutrients	Location of inlet and outlet Ensure tanks not too large or numerous Insulation, or low level chlorination Clean and disinfect on regular basis Refurbishment/Butyl lining Tight fitting covers and insect mesh on overflow
Softeners & Filters	Deposit builds up Microbiological build up Fitting harbouring legionella	Backwash regularly Disinfect 6 monthly or as monitoring requires Use approved fittings only
Calorifiers	Stratification (temp<60C) Intermittent use Scale builds up	Pumped circulation or regular thermal Disinfection Thermal disinfection Pre-treat water or descale as required
Dead legs (e.g., taps, showers and other appliances)	Fittings harbouring legionella Stagnation	Use approved fittings only Chlorination and flush through Thermal disinfection and flush through Keep pipe runs short
All pipework and systems	Sludge, Scale, Debris build up	Clean and disinfect on a regular basis Regular microbiological monitoring (e.g. Dip-slide 4 - 6 per annum Legionella sampling annually

RECORDS FOR HOT AND COLD-WATER SERVICE

A log book with the following contents is recommended: -

- **Identification of those responsible and lines of communication.**
- **Description and plan of the system.**
- **Risk Assessment.**
- **Operation of the system.**
- **Procedures for inspection and checking of the system.**
- **Management plan of remedial activities and records of progress.**
- **Records of:**
  - **Water temperatures**
  - **Record of operation, maintenance and checking**
  - **Inspection record and subsequent action.**
  - **Cleaning and disinfection record**