



Sussex Partnership
NHS Foundation Trust

Sussex Partnership NHS Foundation Trust Water Safety Plan

Written and Owned by: Trust Water Safety Group

Review Date: 19th June 2025

Contents

	Purpose and Scope	4
Section 1	COMMUNICATION, ROLES AND RESPONSIBILITIES	5
1.1	Employer's Duties	5
1.2	Employees Duties	5
1.3	Sussex Partnership NHS Foundation Trust (Duty Holder)	6
1.4	Chief Executive	6
1.5	Director Estates & Facilities	6
1.6	Deputy Director Estates & Facilities Operational Services (Overall Responsible Person)	6
1.7	Head of Estates and Deputy Head of Estates (Water Responsible Persons)	7
1.8	Deputy Director of Capital Projects, Assurance and Environmental Services	7
1.9	Capital Projects Managers	8
1.10	Deputy Director Property Management	8
1.11	External Authorising Engineer (Water)	8
1.12	Water Safety Group	8
1.13	Estates Trades and Compliance Staff	9
1.14	Specialist Water Treatment and Monitoring Contractor	9
1.15	Infection Prevention and Control Team	9
Section 2	SITES DETAILS	10
Section 3	PATIENT RISK CATEGORISATION	10
3.1	Legionella	10
3.2	Pseudomonas aeruginosa	10
Section 4	MICROBIOLOGICAL CONTROL METHODS	11
4.1	Temperature	11
4.2	Supplementary control measures	12
4.2.1	Periodic remedial / mitigating action	12
4.2.2	Continuous biocide dosing	12
4.2.3	Point of use applications	13
4.3	Ad hoc risk management actions	13
4.4	Medical Equipment	13
4.5	Hand washing	14
4.6	Cleaning	14
4.7	Temporary installations	14
4.8	Routine sampling /contamination surveillance	15
4.8.1	Legionella sampling	15
4.8.2	TVC sampling	15
4.8.3	Coliform and Ecoli Sampling	15
4.9	Maximising the efficacy of control measures	15
Section 5	MANAGEMENT OF SCALD RISKS	17
Section 6	RISK ASSESSMENT	18
Section 7	CONTROL PROGRAMS	19
7.1	Control Program	19
Section 8	WATER SAFETY PROJECT MANAGEMENT	22
8.1	Design and Specification	22
8.2	Installation	23
8.3	Commissioning	24
8.4	Hand over	24
Section 9	COMPETENCY MANAGEMENT	26

Section 10	MICROBIOLOGICAL RESULTS ACTIONS	28
10.1	Legionella	28
10.2	Legionellosis outbreak	28
10.3	Total Viable Count (TVC)	29
10.4	E.Coli and Coliforms	30
10.5	Loss of system control	30
Section 11	PHYSICAL CHANGES	31
11.1	Loss of incoming mains	31
11.2	Change of building use/occupancy	31
11.3	Loss of building management system/remote monitoring	31
11.4	Decommissioning and Recommissioning of water services	33
11.4.1	Decommissioning of Water Systems	33
11.4.2	Recommissioning of water systems	33
Section 12	WATER SAFETY GROUP	34
Section 13	Record Keeping	34
Appendices		35

It is a requirement under The Control of Legionella bacteria in water systems – L8 Approved Code of Practice (ACoP) and Guidance HSG 274 Part 2: The control of legionella bacteria in hot and cold water systems, and, the healthcare specific Healthcare Technical Memorandum (HTM) 04-01 Safe Water in Healthcare premises, to manage the safety of the water services, and the risks associated with the various uses of water, by carrying out risk assessments to determine any control measures required for ensuring safety, monitoring of the water systems and services that are under the control of the Duty Holder, and, keeping records to demonstrate the system is under control.

Sussex Partnership NHS Foundation Trust ensures the systems and services are under control by employing a 'Water Safety Plan' which clearly identifies those measures required to control the risks from exposure to legionella and other water borne pathogens / risks, and how those measures are implemented and managed so control over water systems is achieved, is demonstrable and remains effective.

Purpose and Scope

In keeping with the requirements for controlling a premises, the objective of this document is to provide a consistent and reproducible approach for the demonstrable management of water quality compliance.

This is achieved by providing a framework for defining the Control Measures put in place by Sussex Partnership NHS Foundation Trust for managing the operation, maintenance and reactive measures of water related uses and services, so to minimise the risk from legionella and other water borne pathogens / risks and to comply with legal responsibilities and to identify general processes for the management of risk including the Water safety group.

The Trust Property Department maintain a current list of properties this Plan applies to.

The Control Measures shall take into account any recommendations from the Water Safety Risk Assessment and other specialist risk assessments from clinical professionals for clinical services and the uses of water connected with these services.

The structure and information contained within this document has been written in accordance with the applicable components of ACoP L8:2013, HSG 274 part 2:2014 and Healthcare guidance HTM04-01:2016 Parts A, B and C with D08, BS8680:2020 Water Safety Plans Code of Practice.

Note: This Water Safety Plan includes detail from other Health technical memoranda as applicable that is outside of the general scope of HTM -04 01 this is due to the fact that 'water safety' is a vast subject and is spread across many professions and disciplines.

Section 1: COMMUNICATION, ROLES AND RESPONSIBILITIES

To ensure the reduction of risk from water borne pathogens as low as reasonably practicable, the Trust has employed suitable arrangements for swift communication and escalation of matters of urgency.

The current Roles and Responsibilities is detailed below.

General Responsibilities

1.1 Employer's Duties

The Trust as employers have a general duty under The Health and Safety at Work Act etc. 1974 to ensure so far as is reasonably practicable, the health, safety and welfare of all their employees.

HSWA 2(1) requires employers to:

- i. provide and maintain plant and systems of work that are safe and free from health risks
- ii. make arrangements for ensuring safety and the avoidance of health risks in connection with the use, handling, storage and transportation of articles and substances (HSWA 2(2)b)
- iii. provide such information, instruction, training and supervision to ensure the health and safety at work of their employees [HSWA 2(2)c]
- iv. provide a safe working environment [HSWA 2(2)e]
- v. those in control of premises must ensure that they are safe and that any plan or substance do not endanger health of all persons at work and the general public (HSWA 4)

1.2 Employees Duties

- i. Employees have a duty under Section 7 of the Health and Safety at Work etc Act. 1974 to take reasonable care for their own health and safety and of that of others who may be affected by their acts or omissions at work.
- ii. Towards this end, employees should use correctly all work items provided by their employers, in accordance with their training and their instructions they receive to enable them to use the items safely.
- iii. Employees' duties under Section 7 also include co-operating with their employer to enable the employer to comply with statutory duties for health and safety.
- iv. Employers or those they appoint (e.g. under Control of Substances Hazardous to Health Regulations 2002, Regulation 6) to assist them with health and safety matters therefore need to be informed without delay of any work situation which might present a serious and imminent danger. The danger could be to the employee concerned or, if it results from the employee's work, to others.
- v. Employees should also notify any shortcomings in the health and safety arrangements, even when no immediate danger exists, so that employers in pursuit of their duties under the HSWA Act and other statutory provisions can take such remedial action as may be needed.

Delegated Responsibilities

The following information sets out the Duties and Management arrangements for the Water Safety Management for the Trust.

1.3 Sussex Partnership NHS Foundation Trust (Duty Holder)

The Trust, as the employer, has the ultimate responsibility for health and safety and is a Duty Holder.

1.4 Chief Executive

The Chief Executive has the overall responsibility for health, safety and the welfare of staff and others affected by the work activities of the Trust and for the effective implementation of Water Safety management policies and procedures.

1.5 Director Estates & Facilities

The Chief Executive is to nominate the Director of Estates & Facilities to carry specific responsibility for the effective implementation of the Water Safety Policy and procedures, the operational responsibility will be delegated to and managed by the Deputy Director Estates & Facilities Operational Services.

1.6 Deputy Director Estates & Facilities Operational Services (Overall Responsible Person)

The Deputy Director Estates & Facilities Operational Services will be the Overall Responsible Person. The responsibilities include but not limited to the following:

- Implement this Policy and Water Safety Plan.
- Supervise the Responsible and Deputy Responsible Person(s).
- Ensure that the delegated Responsible and Deputy Responsible Person(s) have received the necessary training as it affects their duties.
- Ensure that all new or significantly altered water systems are properly Risk Assessed
- Advise the Deputy Responsible Persons on all matters relating to the Management of Water Quality
- Chair the Quarterly Water safety group Meetings.
- Liaise closely with the Trust's Authorising Engineer for Water.
- Responsible for the operation and upkeep of the CAFM system, to ensure the registering of all water related Assets and reactive works and providing issue of work schedules and tickets

1.7 Head of Estates and Deputy Head of Estates (Water Responsible Persons)

The Chief Executive is to appoint various Responsible and Deputy Responsible Persons to enable the day to day management of the Water Safety Policy. As defined, "Responsible Person" is identified in the UK's Health & Safety Executives Approved Code of Practice ACOP L8.

The responsibilities include but not limited to the following:

:

- Implement this Policy and Water Safety Plan.
- Report to and advise the Trusts Overall Water Responsible Person of any related issues that may affect water quality in any of the properties
- Ensure that all new or significantly altered water systems are properly Risk Assessed
- Ensure the Trusts Handover Checklist is used for all new or modified water systems
- Ensure all relevant staff have received the necessary water and Legionella Awareness Training
- Attend the Quarterly Water safety group Meetings.
- Liaise closely with the Trust's Authorising Engineer for Water.

1.8 Deputy Director of Capital Projects, Assurance and Environmental Services

The Deputy Director of Capital Projects, Assurance and Environmental Services is responsible for all refurbishment works or capital scale development projects. The responsibilities below cover the projects they are responsible for:

- Responsible for the Implementation of the Trusts Water Safety Policy and Water Safety Plan, relating to water related capital projects.
- Report to and advise the Trusts Water Responsible Person of any related issues that may affect water quality in any of the properties
- Ensure that all new or significantly altered water systems are properly Risk Assessed
- Ensure the Trusts Handover Checklist is used for all new or modified water systems
- Ensure all relevant members of the Capital Projects Department staff have received the necessary water and Legionella Awareness Training
- Attend the Quarterly Water Safety Group Meetings.
- Liaise closely with the Trust's Authorising Engineer for Water.

1.9 Capital Project Managers

The Capital Project Managers are responsible for all refurbishment works or capital scale development projects. The responsibilities below cover the projects they are responsible for where changes to the water systems are involved:

- Responsibility for the Implementation of the Trusts Water Safety Policy and Water Safety Plan.
- Report to and advise the Trusts Water Responsible Person of any related issues that may affect water quality in any of the properties
- Ensure that all new or significantly altered water systems are properly Risk Assessed
- Ensure the Trusts Handover Checklist is used for all new or modified water systems
- Attend the Quarterly Water Safety Group Meetings.
- Liaise closely with the Trust's Authorising Engineer for Water.

1.10 Deputy Director Property Management

The Deputy Director Property Management is responsible for ensuring for all new acquisitions, including fully purchased, leased, rented and shared properties are accompanied by clearly defined Service Level Agreement and relative legislative and compliance documentation and to obtain any other relevant information for registration and retention, prior to occupation.

1.11 External Authorising Engineer (Water)

The Chief Executive is to appoint in writing and external Authorising Engineer. The responsibilities include but not limited to the following:

- Carry out an annual Audits challenging and recording the key areas of compliance in line with L8 and HTM04-01 across the Trust.
- Ensure the Trusts Water Safety Policy and Plan are current and upto date, with an annual review.
- Ensure all processes and procedures in place meet current Legislation and Guidance
- Audit, on a monthly basis, all Scheme of Control monitoring results on the Water Services and report to the Responsible Persons.

- Audit the Trusts Legionella Risk Assessment Programme
- Audit the Trusts Flushing Regime
- Provide Legionella Training
- Give advice on positive Legionella results and assist with solutions
- Attend and take a key role in the Trusts Water safety group
- Be available to provide any consultancy and advice relating to the Trusts water services

1.12 Water Safety Group

This is a committee comprising of:

Deputy Director Estates & Operational Facilities Services (Chair)
 Deputy Director Capital Projects, Assurance & Environmental Services
 Deputy Director Property Management
 External Authorising Engineer (Water)
 Responsible Persons (Water)
 Capital Project Managers
 Infection Prevention and Control Representatives
 Head of Estates
 Deputy Head of Estates
 Head of Facilities
 Deputy Head of Facilities
 E&F Area Property Manager
 Health and Safety Representatives
 CAFM / Help Desk Manager
 Water Monitoring and Treatment Specialists

The primary role of the Water safety group is to oversee Trust compliance with statutory legislation and relevant national and local policies and guidance and ensure the water services are safe for all users.

This includes overseeing the implementation plan for Water Quality by following current guidance (i.e. L8 (4th Edition, HSG274, HTM 04-01 and relevant Water Quality protocol documents), agreeing appropriate actions in the event of adverse water quality issues being identified and promoting safe practice for use of water systems.

1.13 Estates Trades and Compliance Staff

The Trust Trades and Compliance staff are responsible for the following but not limited to:

- Undertake the remedial works raised as part of Legionella Risk Assessments and ongoing monitoring
- Attend Legionella Training as required
- Feedback any concerns relating to the water systems to the local Responsible Person

1.14 Specialist Water Treatment and Monitoring Contractor

The specialist contractor is responsible for the following:

- Completing the water monitoring scheme of control detailed in section 7: Section 7: Control Programs
- A Monthly pre-planned visit to all the properties that the Trust are responsible for

- All noted problems to be reported to the Trusts Helpdesk within 24 Hours to the agreed Trusts Priority ratings
- Provide monitoring results on the Trusts preferred electronic data collection system
- All temperatures to be referenced against current relevant guidelines

1.15 Infection Prevention and Control Team

The Infection Prevention and Control Team is responsible for the following:

- Advising the Trust and Water Safety Group, on all issues relating to water hygiene and patient safety, where infection risk exists.

Section 2: SITES DETAILS

The Trusts water services vary in size and complexity across the various sites and properties.

Temperature is the Trust primary method of Legionella control. No properties has ongoing water treatment or dosing.

Section 3: PATIENT RISK CATEGORISATION

In order to routinely examine the population susceptibility to water borne pathogens, an agenda item at the Water safety groups meetings is to communicate the perceived level of risk in connection with patient susceptibility, this shall be reported by members of the IPC team based on assessment.

3.1 Legionella

In order to ensure that the appropriate legionella control measures are employed correctly, the infection Control Team shall undertake a routine assessment of the susceptibility of the patient population in the clinical areas, on an as required basis with the findings of the assessment are to be confirmed to the Water safety group.

The assessed risk categorisation shall be considered when managing patients in any areas where Legionella contamination has been identified and reported by the Estates department. This categorisation shall be the driving force behind development of specific risk management strategies for each clinical area.

Surveillance for infections related to water is the responsibility of the Infection Prevention and Control teams in conjunction with the nursing teams for each clinical area, any issues shall be raised to the Infection Prevention and Control Committee (IPCC) and Water safety group (WSG) where clinical and engineering professionals work together to address water safety issues.

3.2 Pseudomonas aeruginosa

The Trust does not have any active Augmented Care areas so there is no requirement to work to the Pseudomonas aeruginosa management guidance in HTM04-01 Part C.

Section 4: MICROBIOLOGICAL CONTROL METHODS

The suitable and sufficient management of domestic water systems is vital to patient safety. The management of the water systems holistically including all plant, associated fittings, medical equipment, clinical process for using water, and general hygiene practices is absolutely critical for the safety of patients staff and visitors.

In general the considerations for controlling microbiological contamination follows these principles:

- Careful and considered design of systems to reduce risk as far as reasonably practicable including the material of construction, foreseeable usage patterns, system balance, and ease of maintenance.
- Undertaking suitable and sufficient risk assessments for the management of water safety and defining written control schemes for routine tasks and out of specification results alongside sufficient clinical processes to reduce exposure as far as reasonably practicable
- Suitable and sufficient maintenance to keep the systems in a clean and sound condition and to reduce the introduction of microbial contamination through routine maintenance as far as reasonably practicable
- Careful monitoring of precautions and control measures
- Record all routine tasks and the results obtained
- Conduct audits and reviews of the processes and procedures and act on findings to improve risk management processes.

Suitable engineering control measures will be determined through periodically undertaking water safety risk assessments in line with the requirements of BS8580-1 2019 : Legionella Risk Assessments code of practice.

Suitable clinical control measures will be determined by clinical risk assessment undertaken by members of the IPC team, all the findings shall be reviewed by the WSG and suitable action taken taking into account both the engineering and clinical control measures.

4.1 Temperature

The Trust employs temperature control as its main control methodology and this shall be achieved by maintaining temperatures of the following:

Water system/appliance	Temperature requirement
Mains water incomer	Below 20°C
Boosted Cold Water Mains	Below 20°C
Cold water storage tanks inlet	Below 20°C
Cold water storage tank stored water	Below 20°C
Cold water outlet	Below 20°C
Calorifier / Plate Heat Exchanger flow	Above 60°C
Calorifier / Plate Heat Exchanger return	Above 55°C
Hot water outlet	Above 55°C
Point Of Use heaters and Combination Heaters	Above 55°C
Instantaneous Water Heaters (no stored water)	Usage is the Control Measure
Thermostatic Mixing Valves	Ranges defined using +0°C /-2°C tolerances
Assisted Baths	Between 44 & 46°C
Disabled WC	Between 40 & 43°C
General Area Basin	Between 40 & 43°C
General Baths	Between 43 & 45°C
Office and Staff only Basins	Between 40 & 43°C
Paediatric Baths	Between 38 & 40°C

Ward Basin	Between 40 & 43°C
Showers	Between 40 & 43°C
Maximum recommended Hot Water temperature from outlet before Scalding controls are implemented / recommended	62°C

The cold-water temperatures are reported as anomalies as below

- Any Cold-Water Tanks or cold outlets above 25°C are to be reported as an out of range result and fault with the Trust
- Any Cold-Water Tank or outlet above 20°C, and greater than 3°C increase compared to the incoming mains, are also be reported as an out of range result and fault with the Trust
- Any Cold-Water Tank or outlet above 20°C, and within a 3°C increase compared to the incoming mains, are to be recorded on ZetaSafe but not reported to the Trust as a fault.

4.2 Supplementary control measures

The Trust does not currently employ any supplementary dosing at any of the properties they are responsible for.

The Trust however recognises that for sufficient control of water borne pathogens, particularly where contamination issues have been identified, further supplementary control measures may need to be employed to assist with the control of microbiological contamination, this can take the following forms:

- Further periodic remedial action such as frequent thermal disinfections or enhanced flushing regimes
- Continuous dosing of an appropriately assessed biocide
- Point of use applications to reduce the risk of aerolisation of pathogenic bacteria

4.2.1 Periodic remedial / mitigating action

Regular, periodic remedial or mitigating actions can be undertaken when there is an identified issue or risk that, using a defined method can be reduced as far as reasonably practicable. These actions are considered to be temporary and are to be used in an interim time period before the root cause is eliminated.

Any mitigating action is to be discussed at the Water safety groups Meetings and approved before it is implemented, the results of any action taken is to be recorded and reviewed by the Water safety groups Meetings at each meeting until the root cause has been eliminated, at such a time it will be discussed how the temporary measure may be reduced and eventually removed ensuring at all times that the original issue does not reoccur.

4.2.2 Continuous biocide dosing

Where there is a known issue, but the root cause has not been identified, or it is not reasonably practicable to eliminate the root cause, continual biocide dosing may be considered as a supplementary control measure.

Biocide dosing is generally considered to be a permanent solution to a problem which requires good quality design, continual sufficient maintenance and ongoing monitoring to ensure its ongoing efficacy.

Any biocide dosing system must be properly evaluated against the system, taking into account its efficacy vs cost and any associated risks that may develop from its installation. Evaluation of any dosing installation is to be completed by the Water safety groups Meetings and associated specialists if required.

4.2.3 Point of use applications

Where there is an immediate need to protect patients from an identified contamination issue, point of use filters may be used as a temporary measure to eliminate the immediate risk of exposure to patients whilst other mitigating or remedial measures are identified and discussed at the Water safety group Meetings.

There are many different point of use filters available each with their own lifespan, where a point of use filter is installed, its location and the date of its installation must be recorded so that it can be replaced if necessary or removed if the issue ceases to exist.

The installation of point of use filters do not need to be discussed at the Water safety group Meetings but they must be discussed with IPC and the clinical areas nursing teams locally to agree this method of control, installation of any point of use filters will be confirmed at the Water safety group Meetings by Estates.

4.3 Ad hoc risk management actions

Certain ad hoc risk management tasks may need to be carried out based on changing circumstances such as the condition of the water systems, whether the control measures are effective, microbiological contamination etc.

Ad hoc risk management actions include but is not limited to:

- Risk assessment (local and holistic)
- System disinfections (thermal and chemical)
- Audit
- Inspection
- Review

All ad hoc risk management actions will be recorded in an appropriate format and shall be available for reference as applicable from the relevant department.

4.4 Medical Equipment

The safe and effective management of medical equipment is of paramount importance to the safety of patients and staff, the trust recognises this critical issue and in relation to water safety and the reduction of cross contamination specifically from the water system, the following is to be observed:

- All patient equipment shall be stored clean, dry and away from potential splashing with water.
- All preparation areas for aseptic procedures and drug preparation and any associated sterile equipment shall not be located where they are at risk of splashing/contamination from water outlets.
- Nebulisers and respiratory equipment:
 - Nebuliser machine ancillary items that come with (tubing/mask/chamber etc.) are single patient use.
 - if nebulisers are locally processed, for use with the same patient, they are to be decontaminated in line with the manufacturer's instructions or Clinical Nursing procedures.

4.5 Hand washing

Effective hand washing is potentially one of the most important factors in reducing the cross contamination of pathogens from one surface to another, or one substance to a surface.

Staff should practice good infection control at all times and the principles should be embedded into everyday tasks. Contamination of the water system can be caused by cross contamination from outside the water system, effective hand washing can reduce the cross contamination and help to keep the system safe from bacterial colonisation.

Equally, where the system may already have a bacterial colonisation issue, effective hand washing can reduce the same cross contamination effect from the system to the patient.



TPCL12-IPC8 - Hand Hygiene Policy and /

4.6 Cleaning

The frequent cleaning of wash hand basins and other clinical surfaces is key to ensuring patient safety from healthcare acquired infections, it is also a noted risk that inappropriate cleaning techniques can cause cross contamination from the water system to a surface or vice versa.

The cleaning of clinical wash hand basins and other surfaces must be completed in a way that does not introduce contamination to the tap.

Cleaning teams and IPC members should have open dialogue and should conduct frequent reviews and audits of the cleaning processes.



TPCL12-IPC5 - Environmental Clear

4.7 Temporary installations

For all temporary installations that require a water supply, the local Water safety groups Meetings shall be informed of its intended purpose and review its water supply requirements.

All temporary installations shall:

- Have a suitable water supply point, provided from a suitably located Cold water system water source. This supply point shall not be a dead-leg and must be fitted with the appropriate back-flow prevention devices to allow for compliance with the relevant Water Regulations.
- Be subject to regular (at least 2 x weekly) flushing when not in use and the flushing process suitably recorded.
- Be sampled prior to connection and then periodically analysed for pathogenic bacteria contamination.
- Not be put into use and the supply must not be used if any biological analysis sample results indicate bacterial levels outside the acceptable parameter limits

4.8 Routine sampling /contamination surveillance

The Trust does not undertake any routine water sampling in view of the lower than average susceptibility of the patients groups from waterborne bacteria. Sampling may be deemed necessary under certain circumstances and always discussed and agreed at the Water safety group meetings.

4.8.1 Legionella sampling

If deemed necessary, sampling for Legionella shall be undertaken in line with the practices set out in BS 7592:2008 legionella sampling code of practice, using an appropriate aseptic technique to minimise as far as reasonably practicable the risk of false results and cross contamination to other outlets.

Routine sampling shall be undertaken so as to determine the the immediate risk to a potential user and Post-Flush to determine system conditions

Details on further remedial actions if positive counts are identified can be found in section 9

4.8.2 TVC sampling

Total Viable Count samples are not considered by the Trust to be an appropriate method of determining pathogenic bacterial contamination as there is very little analytical value to these types of samples in relation to the management of water borne pathogens.

TVC sampling should not be used as a means of determining whether a water system has pathogenic bacterial contamination.

The Trust shall only consider the use of TVC samples where an unusual odour, taste or discoloration of the water has been identified and data on the general bacterial levels in the water are relevant to identify the cause, or, following system disinfection to be used as a measure of efficacy of the disinfection.

4.8.3 Coliform and Ecoli Sampling

Under normal circumstances, sampling for Ecoli and Coliforms will not be routine, however, where a risk of potential contamination has been identified through routine maintenance and inspection or through risk assessment, Ecoli and Coliform sampling shall be undertaken to identify any actual contamination, and to inform required remedial actions.

Locations, scope and frequency of Ecoli and Coliform samples shall be discussed with the relevant members of the Water safety group based on the identified location of contamination in each instance.

4.9 Maximising the efficacy of control measures

To ensure as far as reasonably practicable, the efficacy of the implemented control measures, the following principles will be employed by the Trust and the frequency of these principles shall be agreed by the Trust Water safety group.

- Regular review – the process of regular review shall be undertaken at high level by all relevant departments and individuals with responsibility for water safety, a review is considered to be a desktop exercise to ensure that a particular control measure is being undertaken at the correct frequency, is being undertaken by competent persons and to ensure that any outstanding non conformances are actioned.

Reviews shall be shall include, but not be limited to the following elements of water safety:

- Microbiological control methods including tasks for which Estates, IPC, Facilities and the Water safety group as a whole have responsibility
- Project management processes and tasks
- Competency of contractors and staff

- Internal Audit – audits shall be undertaken regularly and shall be recorded and reported to the Water safety group, audits will vary in depth and complexity but all are equally important, audits shall include but not be limited to:
 - flushing audits
 - hand hygiene audits
 - cleaning process audits
 - technical compliance audits
- Assessment – recorded assessments shall be undertaken where necessary, this may be to ascertain the competency of an individual that has particular responsibilities in relation to water safety, an assessment could also be for the assessment of risk, either local, or trust wide. In either case, the assessment will produce findings and those findings shall be taken into account and appropriate action taken.

The Trust's management will continue to consider new developments and improvements in the field of Water Hygiene Management & Control, in order to ensure that the best, and most reasonably practicable solutions are always considered to protect patients, staff and visitors to the trust.

Where practicable, the Trust shall ensure that accurate records and drawings are available, which cover all relevant water systems. Wherever practicable, such drawings shall be accurately maintained and updated following any modification.

Section 5: MANAGEMENT OF SCALD RISKS

The management of the risk of scalding is of paramount importance within the trust, particularly for its more vulnerable patients.

The principles for managing the risk of scalding is as follows:

- Undertake a suitable and sufficient risk assessment specifically for the risks of scalding
- Take note of, and as appropriate, implement the identified control measures and remedial actions whilst balancing the risk posed from reduced temperatures in relation to bacterial contamination.
- Regularly review the risk assessment at an appropriate frequency and also under the following circumstances:
 - When the use of an area changes
 - When the population demographic changes
 - When there is a scalding incident
 - When new technology or methods are available
 - When there is a significant change to building water systems through refurbishment or redevelopment

Section 6: RISK ASSESSMENT

It is a legal requirement that there shall be an up to date, suitable and sufficient Water Risk Assessment for Hot and Cold Water systems which shall include the relevant detail of the premises, its occupancy, installation and operation to enable the production and management of a suitable written scheme of control.

The Legionella Risk Assessment programme will be reviewed at each Water Safety Group meeting. All new or refurbished properties will have a new full Risk Assessment undertaken. An independent 2 yearly Desktop and records review of each property will then be undertaken. When there are significant water system changes or concerns a new full Risk Assessment will be undertaken.

The recommendations are uploaded onto the Trust Causeway portal for management, completion and signing off.

A risk assessment is a live document, not a one-off exercise, and needs to be reviewed regularly in keeping up with the recommendations of the Risk Assessor and the Water safety group, and in anticipation of, rather than in response to, changes.

Section 7: CONTROL PROGRAMS

7.1 Control Program

Cold Water Tanks

Task	Frequency Required	Parameters
Temperature monitoring	6 Monthly	Below 20°C or within 2°C from the mains if above 20°C
General visual inspection	12 Monthly	Clean and Sediment Free
Microbiological sampling for TVC's, E.Coli and Coliforms (If the Tank supplies Drinking Outlets)	6 Monthly	No significant increase in TVC's from expected E.Coli and Coliforms 0 cfu/100ml
Clean /Disinfection	As Required	In line with BS8558:2015
Flush expansion vessels	Monthly	Until clear water
Drop Test	Annual	Ensure a12 hour turnover

Plate Heat Exchangers and Storage Calorifiers

Task	Frequency Required	Parameters
Flow / return temperatures	Monthly (Physical) and Continuous on BMS if available	Flow above above 60°C and Return above 55°C
General internal visual inspection (If access)	Annual	Clean and scale free internal surfaces
Flush expansion vessels (If present)	Monthly	Until clear water
Drain Flushing (If present)	6 Monthly	Until clear water
Drain Flush and Legionella Sampling (If present)	Annual	Clear of detectable Legionella

Cold and Hot Water Outlets

Task	Frequency Required	Parameters
Cold Temperature monitoring (Sentinel Points)	Monthly	Below 20°C or within 2°C from the mains if above 20°C (After a 2 minute flush)
Hot Temperature monitoring (Sentinel Points)	Monthly	Above 55°C (After a 1 minute flush)
Return Temperatures of principal loops Return Temperatures of Subordinate loops	Monthly	Above 55°C
Temperature monitoring (representative)	Annual (10% per month)	Cold - Below 20°C or within 2°C from the mains if above 20°C (After a 2 minute flush) Above 55°C (After a 1 minute flush)
Point of use Water Heaters Temperature Monitoring	3 Monthly	Avoid a scalding risk of over 62°C. Low temperatures are not to be raised as a job.
Outlets with spray heads – Cleaning and Descaling	3 Monthly	Clean and scale free
Outlets Flushing	Daily (as part of the cleaning regime)	Full 2 minute flush

See Appendix 2 for an example Flushing Form which is managed and kept onsite by the Domestic Staff.

If Trust properties are empty, use the flow chart in Appendix 1: Procedure for Water Systems in Empty Properties.

Thermostatic Mixing Valves (Hand Wash Basins)

Task	Minimum Frequency Required	Parameters
Temperature monitoring	6 Monthly	See section 4.1 for full details
General visual inspection	6 Monthly	Clean, good condition
Clean / disinfection	12 Monthly	Clean strainers
Fail-safe testing	12 Monthly	Outlet stops when cold supply is turned off

Showers

Task	Minimum Frequency Required	Parameters
Fail-safe testing	6 Monthly	Outlet stops when cold supply is turned off
Temperature monitoring	6 Monthly	Between 39 & 41°C
General visual inspection	3 Monthly (Contractor)	Good clean condition
Head descale and disinfection	3 Monthly (Contractor)	Clean and scale free

Water Softeners (Domestic Water)

Task	Minimum Frequency Required	Parameters
Salt Level Check	Weekly	Good level
Hardness Level Checks	Weekly	Hardness levels in parameter
Clean / disinfection	12 Monthly	System Clean

Section 8: WATER SAFETY PROJECT MANAGEMENT

The below section includes processes to ensure, as far as reasonably practicable that when project work is undertaken that there is appropriate communication and agreement with all stakeholders to ensure the design reflects the needs of the trust and avoids the introduction of inherent water safety risks. New projects will come under the brief of the Capital Projects Team and Managers.

8.1 Design and Specification

The design and specification stage of project work is of high importance to the Trust, at this stage, clear communication and collaboration between designer, contractor, and the trust is key.

During this process the external Water Authorising Engineer and Water safety group, should be consulted and given sufficient time to review plans and other information, ask questions, and be given sufficient authority to identify any required changes to the design or specification and ensure they are implemented.

- **The brief** – the designer shall work closely with the Trust to develop a brief for the water system design, that shall inform the detailed specification. Time should be allotted for review by those responsible for water safety and their input should be taken into account. Following any required amendments, the brief shall be submitted to the external Water Authorising Engineer and Water safety group for review and acceptance. The brief should include:
 - Clear overview of the system design incorporating all plant, fittings and configurations, materials of construction including jointing compounds, and the intended quality of the water.
 - Operating requirements of the system and any known maintenance obligations for systems / plant to be installed
 - The intended use of the water system
 - Strategy for risk assessments to be prepared for the trust at each stage of the project process
 - The governance arrangements for the project and the responsibilities of each party are clearly laid out
 - The standards, regulations and legislation the project is to be completed in conjunction with to provide assurance to the trust that the project will comply with all relevant requirements
 - The process of commissioning shall be included and detail given on the strategy for leak testing, commissioning of operation, and overall system adequacy before handover, it should also include the intended timeframes and validation techniques for these to be completed.

The external Water Authorising Engineer and Water safety group shall appraise the brief and take account of how all the elements may affect each other, i.e. the perceived susceptibility of those who may use the intended area and how the system design, materials of construction and uses of water may increase risk.

- **Risk assessment** – an initial risk assessment should be prepared that identifies potential risks during all stages of the project including but not limited to:
 - Stagnation of water services
 - Microbial contamination
 - Service disruption
 - Aerosol production
 - Other routes of transmission of water borne pathogens
 - Design implications
 - Commissioning risks

Following the production of these two documents, the external Water Authorising Engineer and Water safety group should review and as appropriate, accept them. The production of a fully detailed specification should then be completed, the Water safety group should be given sufficient time to review the specification document and, as appropriate, accept it.

8.2 Installation

The process of installation shall be considered by the external Water Authorising Engineer and Water safety group, contractors involved in the installation of water systems shall liaise with the Trust to provide the following:

- Evidence of competency of management of water systems by those who are managing the project and that they are competent to react to the identification of new hazards / risks
- Evidence of competence for the task they are completing and the environment in which they are completing it, this will include anything from basic plumbing to the construction of cold water storage tanks and installation of biocide dosing units
- The exact process of where, how and when systems, fittings and associated equipment will be disinfected to protect the integrity of the installations
- Details of the chain of supply to ensure that fittings and pipework are supplied transported and stored, installed and commissioned in such a way that they are protected from contamination before the system is handed over

During the process of construction, depending on the size and complexity of the project, records for all required monitoring identified in the design stage risk assessment shall be held by the contractor, periodically the WSG shall review the design stage risk assessment taking into account the status of the project and any newly identified hazards / risks.

The external Water Authorising Engineer and Water safety group shall also review the records held by the contractor for all water safety related tasks during the construction process.

8.3 Commissioning

The commissioning process for any water system is extremely significant for the avoidance of potential implications later in its lifecycle, the design brief should identify the governance arrangements for the project, in particular the demarcation of responsibility for the adequate commissioning, verification and validation of the water system.

It is extremely important that the external Water Authorising Engineer and Water safety group are consulted, where commissioning is concerned, for the following:

- The process for how, when and who will fill the system
- The agreed sampling and monitoring program for the parameters set by the Water safety group
- The competence of the individuals undertaking the specific tasks
- The standards that are being adhered to, to ensure best practice is being achieved
- Assurance that any equipment used in the process of commissioning shall not inadvertently introduce contamination to the system
- The process for ensuring water quality standards throughout the commissioning process right up until hand over
- For any identified plan for phased occupation, commissioning is planned in accordance with this

The design stage risk assessment shall be reviewed by the external Water Authorising Engineer and Water safety group when parts of the new/ altered system have been wetted. It should be updated to reflect any changes throughout the installation and commissioning phases.

8.4 Hand over

Hand over of a newly constructed / modified system shall be undertaken in an agreed time frame to ensure that all snags have been completed, and that all the required information, documentation, records, validation, certificates, monitoring results, as-fitted drawings and updated risk assessments are available for review and signed off as satisfactory prior to acceptance, should there be any omissions or anomalies, the project shall not be accepted until all required parameters are satisfied.

Only independent evidence of water quality sampling will be accepted by the external Water Authorising Engineer and Water safety group, the process of which shall be reviewed before it is undertaken.

The time frame for hand over before occupation shall be considered for each project based on complexity and shall be included in the contract specification.

Consultation with the external Water Authorising Engineer and Water safety group should be undertaken on the use of a 'soft landings approach' to facilitate handover and allow for a longer term of site presence of the contractor to react to any required snagging and to ensure that the project meets the trusts specifications.

The Handover Checklist below is to be used for all projects involving changes to the water services.

HAND-OVER PROTOCOL FOR NEW BUILD AND REFURBISHMENTS

Sussex Partnership 				
NHS Foundation Trust				
Legionellosis Management And Control				
Task:		HAND-OVER PROTOCOL FOR NEW BUILD AND REFURBISHMENTS		
AT HAND-OVER				
No.	Description	Yes	No	N/A
1.	Is the building / area complete?			
2.	Has the installation been Risk Assessed?			
3.	If Yes, have any faults/short-falls been identified?			
4.	If Yes, have all these faults been rectified?			
5.	Has the system been flushed and disinfected in accordance with BS8558:2015 and PD 855468:2015?			
6.	If Yes, include Disinfection Certificate			
7.	Has the system been subject to a flushing regime if disinfection was carried out more than 3 days prior to occupation?			
8.	Have bacteriological samples been taken following disinfection? The system should be allowed to settle for at least 2 days prior to sampling.			
9.	If Yes, include sample results.			
10.	Do the bacteriological results indicate a "safe to use" system?			
NOTES:				
<ul style="list-style-type: none"> • Cold water temperature recorded shall be <20°C • Failure to achieve 60°C for the HWS Flow and 50°C for HWS Return temperature shall be reported to the Nominated Responsible Person. (55°C is required from all unmixed hot water outlets within a 1 minute flush) • Chlorination certificates will be received from the relevant contractors as soon as possible as opening. • The chlorination will include cleaning of any Thermostatic Mixing Valves • If Chlorination is carried out 3 days or more before normal occupation then at least twice weekly flushing of all outlets is required with records kept • Water Sampling to be discussed and agreed with the Trusts Water AE in advance 				

Section 9: COMPETENCY MANAGEMENT

The Trust recognises that competency of all individuals who have responsibilities relating to water safety should be sufficiently competent to undertake those tasks.

Competency is established as a combination of Skill, Training, Attitude, Experience and the recognition of ones limitations. The level of competency required for each role varies and as such a basic matrix to identify the competency level required for each role is provided below.

As detailed in the Policy the training refresher frequency is 3 yearly.

Role	Training required	Experience required	Assessment required
Duty Holder	Yes, high level responsibilities	limited	No, this role is inherent based on the position of the individual
Responsible Person	Yes, in depth management responsibilities and technical engineering concepts	Yes, healthcare environment experience particularly in estates water management	Yes, devolved responsibility from duty holder, requires AE assessment
Deputy Responsible Persons	Yes, in depth management responsibilities and technical engineering concepts	Yes, healthcare environment experience particularly in estates water management	Yes, devolved responsibility from Responsible Person, requires AE assessment
Competent Person	Yes, basic management responsibilities and technical engineering concepts	Basic healthcare experience required, water management experience is desirable but not mandatory	Yes, devolved responsibility, requires assessment by RP
IPC team	Yes in depth clinical concepts and basic engineering concepts	Yes, clinical healthcare experience required, water management experience is desirable but not mandatory	No assessment required
Domestic cleaning manager	Yes, basic legionella and pseudomonas /IPC training	Yes, healthcare experience required, water management experience is desirable but not mandatory	No assessment required
Domestic cleaning team	Yes, basic legionella and pseudomonas /IPC training	limited	No assessment required

Authorising Engineer	Yes, in depth management responsibilities and engineering concepts	Yes, in depth experience in water management and healthcare water systems required	Assessment of experience undertaken by the Trust
Project Manager	Yes, in depth management responsibilities and engineering concepts	Yes, healthcare environment experience particularly in estates water management	No assessment required

The Trust will ensure by process of continual evaluation, through audit and review that the individuals who hold responsibilities for water safety are competent to undertake their responsibilities as far as reasonably practicable, where issues or gaps are identified, appropriate action to retrain, up skill or re-assess that individual will be taken.

Section 10: MICROBIOLOGICAL RESULTS ACTIONS

10.1 Legionella

Legionella sampling will be undertaken, as required and requested, by the Trust Water Management Group using the approved Water Hygiene contractors.

The results will be reviewed by the Responsible Persons and external Authorising Engineer with corrective actions and resampled agreed on a case by case situation.

Note: Any positive counts of Legionella bacteria shall be reported by the Estates department to the IPC team locally to see if further control measures are advised.

10.2 Legionellosis outbreak

An outbreak of Legionellosis (i.e. diseases caused by legionella) is defined by the Public Health Laboratory Services (PHLS) as two or more confirmed cases of Legionellosis occurring in the same locality within a six-month period.

It is the responsibility of the 'Enforcing Officer' usually the Consultant in Communicable Disease Control (CCDC) (and only him/her) to declare if there is an outbreak.

Therefore, in the event of a case of Legionellosis occurring:

- The Director of Infection Prevention and Control will immediately inform the Duty Holder, the Responsible Person and the Local Public Health England (PHE).

If an outbreak is declared by the enforcing Officer:

- The Trust will give the Public Health England the enforcing Officer and any other officers from other agencies such as the HSE every possible Co-operation;
- An emergency programme of sampling on all systems that relate to the movements of the individual should be carried out to sample for legionella. Public Health England may request further sampling to be done and may also do their own sampling;
- Water hygiene records, schematic plans etc. will be made available to the above as required;
- If requested the Trust must shut down any and all processes which are capable of generating and disseminating airborne water droplets, and keep them shut down until sampling procedures and any remedial cleaning or other work has been done. Final clearance from PHE to restart the system may be required
- Once a water system has been implicated in an outbreak of Legionnaires' disease, emergency treatment of that system should be carried out as soon as possible by a competent contractor following submission of site specific method statements and risk assessments.

10.3 Total viable count (TVC)

The total viable count is the amount of viable aerobic bacteria in your water system, this includes all bacteria and as such this test should be used as an indicative guide to the cleanliness of the system only.

A high TVC result is not evidence to the presence of pathogens specifically, however, can be an indication of favourable conditions for the proliferation of bacteria including dangerous pathogens like legionella.

It can also be used for determining the efficacy of system disinfection, through testing a representative amount of outlets at least 48 hours after the disinfection has taken place.

If a high TVC is reported it is recommended that additional testing for specific risk pathogens is considered in conjunction with the Water safety group.

Note: There are no defined limits to TVC levels for water once it has entered a building domestic water system, however, industry best practice would indicate the following upper limits:

TVC @ 22°C – 1000 CFU/ml

TVC @ 37°C – 500 CFU/ml

10.4 E.Coli and Coliforms

Where sampling for E.coli and Coliforms is determined as necessary, the following action levels should be followed:

Ecoli / coliform count (MPN)	Action	Follow up action
Not detected	No further action required	No action required
1 or more	If outlet is potable, disinfect outlet, flush extensively, resample. (remove from service until proven clear), notify WSG.	If contamination persists, WSG to consider further action that may include more extensive disinfection / remedial works

10.5 Loss of system control

“Loss of system control” is a term that describes a situation when the control measures have failed to maintain the required level of assurance to the management of water borne risks.

Examples of a loss of control can be systemic or local to an area, and can include;

- excessively high or low temperatures at multiple outlets
- an insufficient residual of biocide at multiple outlets
- large scale contamination

In the event of loss of system control, an immediate mitigation process should be put into action to assess the level of risk to the affected users, to apply suitable and applicable reactive measures, and to re-establish and affirm control.

Once a loss of system control has been established, the local Water safety groups Meetings shall be informed and corrective action determined.

Section 11: PHYSICAL CHANGES

11.1 Loss of incoming mains

Loss of incoming mains is not considered to be a regular or routine occurrence, however, due to this fact most organisations are unprepared for the potential effects it will have on its associated water systems.

The Trust recognises its potentially disastrous impact to a healthcare organisation, as such, a business continuity plan has been produced.



Critical
Infrastructure Failur

11.2 Change of building use/occupancy

When a building's use or general occupancy changes, either for short periods, or for longer periods, i.e. a building is being mothballed, the impact on a water system and its management can be severe.

To avoid a loss in control, any change in building use or occupancy should be communicated as soon as possible to the Water safety group to allow for alternative or enhanced arrangements to be made for the potential change in monitoring, control measures, management arrangements and written scheme/Risk assessment review.

The local Water safety group shall review the following when a change of use / occupancy is announced:

- The full extent of the change
- Risk assessments for water safety, clinical practice and scalding
- The potential change to written schemes of control
- The requirement for enhanced control measures to maintain water quality
- The process for decommissioning and recommissioning if necessary

11.3 Loss of building management system/remote monitoring

In the event of a BMS failure, consideration to the interaction it has with water system operation needs to be made so to avoid loss of supplies, low storage temperatures, stagnation of water, introduction of non-treated water (Hardness and Biocide), etc. through the lack of operation or automation of pumps and other equipment.

The Responsible and Deputy Responsible persons shall identify the potential negative impacts on the system and implement mitigation measures, these measures shall be reported to the local Water safety group.

In the event of a loss of remote monitoring, trends of temperature or biocide will need to be built up manually. To do this, follow this guidance:

- Implement an enhanced manual monitoring regime on plant or equipment that was monitored remotely
- The frequency of the monitoring is dependent on plant or equipment type
- Using this extra data, input it to an excel document and produce a line graph based on a calendar week
- Record all graphs appropriately until the remote monitoring capability is restored

11.4 Decommissioning and Recommissioning of water services

11.4.1 Decommissioning of Water Systems

In all cases where a water system has been identified for decommissioning, whether for a short term or long term period of time, the local Water safety group shall consider:

- The extent of the decommissioning including:
 - The size and complexity of the system
 - The length of time it will be out of use
 - Any connection to other systems and the potential impact
 - Any impact on patients through the lack of water / service
- The actual process of decommissioning to limit the potential for bacterial contamination
- The need for on going control measures to maintain water quality
- The full requirements of BS 8558 addendum PD 855468 – 2015 Guide to the flushing and disinfection of services supplying water for domestic use within buildings and their curtilages

The WSG shall approve plans for decommissioning and ongoing monitoring of decommissioned water systems and review the status of these systems periodically.

11.4.2 Recommissioning of water systems

For water systems to be recommissioned, appropriate time needs to be allocated for the WSG to review and approve the process and plans, as with the first commissioning of a water system, the recommissioning process is critical in that water systems lifecycle.

Any recommissioning plan shall include a brief that is in proportion to the size and complexity of the system and the recommissioning plan, the brief will be issued to the local Water safety group for comment and acceptance as appropriate, it shall contain all of the detail required for the commissioning of a new system as set out in section 8.3.

Section 12: WATER SAFETY GROUP

The Water safety group is a critical element of water safety and the Trust recognises this. The Water safety group is a collection of professionals from differing fields that collaborate to ensure as far as reasonably practicable, patients, staff and visitors are not exposed to undue risk from water borne pathogens.

The Trust has a quarterly Water safety group Meeting.

The minuted meetings considers all water safety issues within the Trust and identify appropriate action when required.

The Terms of Reference for the groups provide structure for the meetings and a process of raising queries / issues / concerns.



Terms of Reference
Water Management

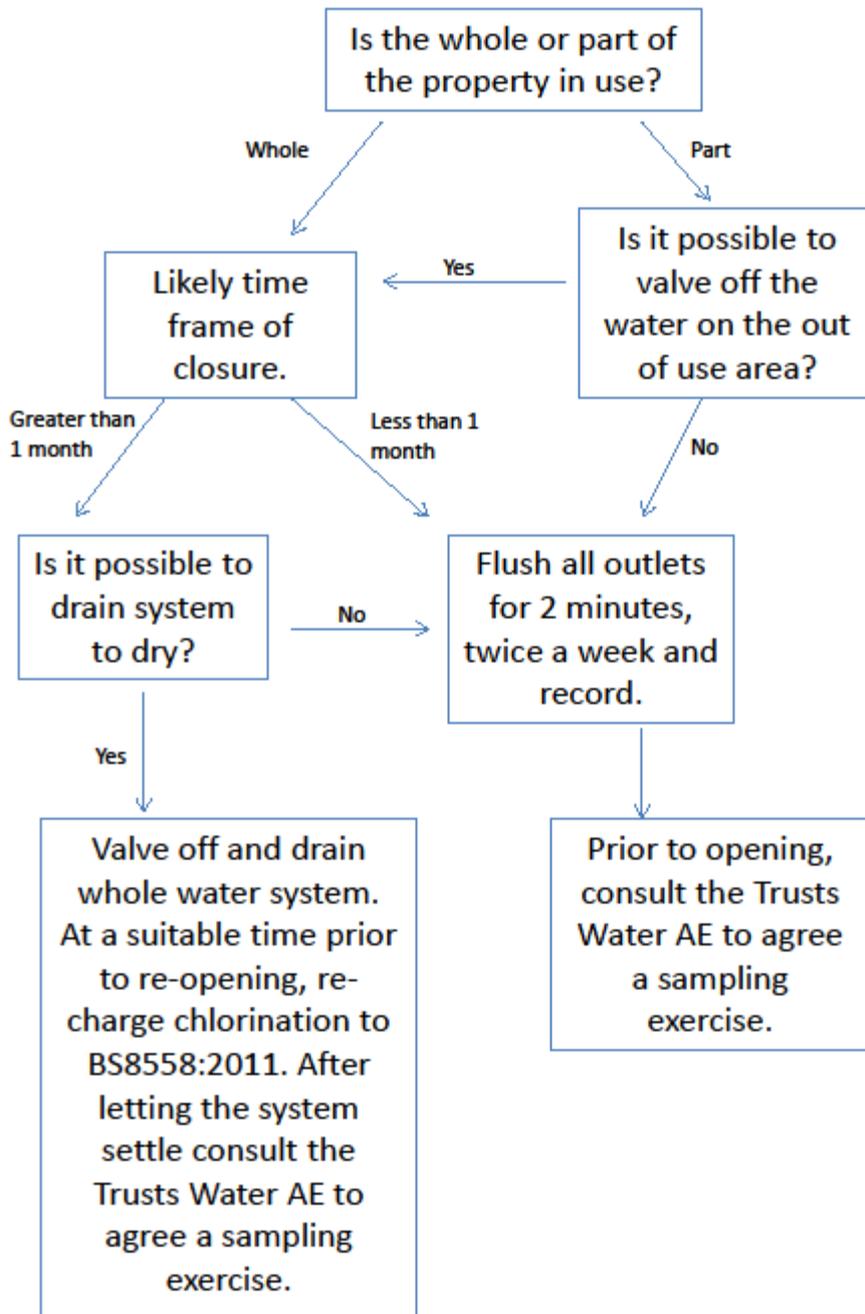
Section 13: Record Keeping

The Trust expects their Specialist Water Treatment and Monitoring Contractor to use the ZetaSafe online portal to manage and record all data from the Control Programme detailed in section 7.1.

Appendices

Appendix 1: Procedure for Water Systems in Empty Properties

Procedure for water systems in empty properties



Appendix 2: Example Flushing Form

Appendix 3



Shower & Tap Flushing Record

Site -

De-scale all taps and shower heads with Viakal.

Harmful bacteria including that which can cause the disease known as Legionnaires' disease, can contaminate and subsequently multiply in stagnant water supplies to infrequently used showers.

The risk of such contamination can be minimised by regular use of such outlets, or alternatively by flushing for three minutes at optimum temperature twice per week as detailed below.

The flushing procedure must be carried out with minimum production of aerosols, on a regular basis and the action logged.

Week Commencing

Fitting	Test Day	Staff Member	Signature
	Monday		
	Friday		
	Monday		
	Friday		
	Monday		
	Friday		
	Monday		
	Friday		

Each Friday please return to Facilities Office, Woodside Annexe.