



OAKWOOD PRIMARY ACADEMY

WATER SAFETY PLAN

Approved and signed by the Board of Trustees

29.09.22

DUE FOR RENEWAL: SEPT 24

SEPTEMBER 2022

ISSUE RECORD SHEET		
Issue	Amendment Date	Comments
V1.3	July 2022	First Draft

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DOCUMENT APPROVAL (TO BE SIGNED BY THE RESPONSIBLE PERSON)			
Name	Position	Signature	Date

Contents

Purpose of this Document	Page: 1
Management Structure (Who's Responsible)	Page: 2
The Role of the Responsible Person	Page: 3
The Role of the Deputy Responsible Person Page: 3	
The Role of the Appointed Person Page: 3	
The Role of the Water Safety Group	Page: 3
The Appointment & Management of Contractors	Page: 3
Risk Assessment & Frequency	Page: 3
What Types of Water System does this school operate?	Page: 4
Designing out Water Hygiene Risk Page: 4	
Designated Drinking Water Outlets	Page: 4
List of Control Measures to be implemented (Legionella Control)	Page: 5
Additional Control Measures to be implemented (General Water Quality)	Page: 5
Record Keeping	Page: 5
Water Schematic Drawings	Page: 5
Procedures & Guidance	
Drinking Water Bottle Hygiene	Page: 6
Children's Play Tray Hygiene	Page: 7
Drinking Water Fountain Hygiene Page: 8	
The Use of Garden Hose Pipes	Page: 9
The Use of Power Washers	Page: 10
Using Compost	Page: 11
Flushing of Little Used Outlets	Page: 12
Monthly Water Temperature Checks – The Right Equipment Page: 13	
Monthly Water Temperature Checks – Taking Cold Water Temperatures Correctly Page: 14	
Monthly Water Temperature Checks – Hot Water Calorifiers – Flow temperature	Page: 15
Taking Hot Water Temperatures Correctly – At Basins & Sinks	Page: 16
Procedures for Water Systems in Standby (Before Reuse) Page: 17	

Purpose of this Document

Harmful pathogens can thrive in man-made water systems, and without intervention, can become a threat to human health. Where risk assessment indicates there is a risk, Legionella bacteria (Legionnaires Disease) will need to be controlled, but schools will also need to ensure that other pathogens that can cause harm to users of the learning environment, are also controlled appropriately (where there is a foreseeable risk)

This document has been created to ensure the school has a suitable & sufficient plan in place to implement all necessary control measures that are in proportion to the actual risk that is present.

The school's current water hygiene risk assessment is the main resource for the creation of this document.

Legal Information

Discovery Multi Academy Trust acknowledges and accepts its responsibilities under the Health & Safety at Work etc. Act 1974, COSHH 2002 (as amended), MHSWR 1999 and the HSE Approved Code of Practice L8 'The control of legionella bacteria in water systems' 2013. The Trust will comply with relevant guidance (HSG 274) issued by the Health and Safety Executive in this respect. The Trust will take all reasonable precautions to prevent risk to health from exposure to legionella bacteria by implementing the appropriate control measures within this site.

This document replaces any previous legionella "written scheme of control" and instead encompasses all previous information into this document.

Water Safety Plan Review

This water safety plan will be subject to review every 2 years or as necessary, or in line with any risk assessment findings.

Management structure for Water Hygiene within the School

Lines of accountability and day to day responsibility

MAIN DUTY HOLDER		RESPONSIBLE PERSON
Discovery Multi Academy Trust	Name:	Katie Hammond
N/A	Position:	Acting HOS
01752 706361	Contact Number:	01752 775478
DEPUTY RESPONSIBLE PERSON		APPOINTED PERSON
Colin Randall	Name:	TBC
Asst HOS	Position:	Site Supervisor
01752 775478	Contact Number:	01752 775478

Competency of school staff

It is accepted that most staff within a school environment will not be “experts” in water hygiene. Whilst suitable training is provided, staff will require support from those who are competent to provide it.

This support is provided by Discovery Facilities & IT Manager, who will also engage with their own Water Hygiene Consultant where appropriate.

The Role of the Responsible Person

The Responsible person (appointed by Discovery MAT) is managerially responsible for the day-to-day implementation of this water safety plan. They must satisfy themselves that all necessary controls (as highlighted in this document) are being carried out as specified, and identified issues are resolved by their priority status.

The responsible person is responsible for ensuring that training is provided for all relevant staff and is refreshed either every 3 years or a training need is identified. There are also responsible for ensuring their own training needs are met.

The Role of the Deputy Responsible Person

In the absence of the Responsible Person, The Deputy Responsible Person will take managerial responsibility for the day-to-day implementation of this water safety plan.

The Role of the Appointed Person

The Appointed Person is responsible for ensuring that all control measures that have been assigned to them, are carried out in line with this document. It is the Appointed Person's responsibility to ensure that any issues they have identified, are reported to the Responsible Person in a timely manner.

The role of Water Safety Group (WSG)

The purpose of the WSG is to bring together expertise, local knowledge, promote discussion and agree a plan of action in the following scenarios:

- In the event of a water hygiene related infection (legionnaires disease or other)
- Where there are persistent failures of water hygiene control, and where there is a significant risk
- At the design stage of a new building or major refurbishment works (to ensure compliance / design out risk where practical)

The WSG will communicate and meet (where circumstances require it) in the event of any of the above.

The Appointment & Management of Contractors

It is the Responsible Person's responsibility to satisfy themselves that contractors have the necessary competence to carry out their assigned tasks. In the case of contractors, competence is a blend of Knowledge and Experience. Contractors should be able to demonstrate this through accreditations, references, and a CV of the company's services. The necessary insurance documents should also be obtained, along with risk assessment / method statements (RAMS)

Risk Assessment & Frequency

Risk Assessment is a key component of risk management and should be carried out routinely. It is recognised that risk assessment is a live process (not a one-off exercise) The risk assessment should be reviewed at 2 yearly intervals or when there is a significant change to the water systems (or their use and operation) and in the event of a positive microbiological water sample failure or a water hygiene related infection (e.g., legionnaires disease)

The findings of the risk assessment should be reviewed, and action taken to resolve any identified issues by their priority status.

What type of water systems does this school operate?

Cold Water

All domestic cold-water outlets are supplied directly from the mains water supply. WC cisterns are supplied by a rainwater harvesting tank, incorporating a UV light and filtration system.

Hot Water

Hot water outlets within the building are supplied by a single direct storage water heater (industrial design). The hot water design does not have a secondary recirculation loop incorporated but, instead electronic trace heating is fitted, designed to ensure hot water within the pipework is maintained at 50°C in all areas.

General Facilities

The school has several facilities which include toilets, basins, and showers. Thermostatic mixing valves are fitted at the majority of sinks and basins.

There is also a fire suppression system (sprinklers) that are supplied by a separate cold-water tank, which only supplies the fire suppression system.

Designing out Water Hygiene Risk

During any new building design or refurbishment, consideration should be given to designing out risk, which should include assessing or reducing the need for water storage and ensuring that any new or modified water systems have components (such as TMVs, Cold tanks & Water Heaters) that are easily accessible for servicing and suitable access to hot & cold pipework to aid in routine water temperature monitoring.

Any new installation or modifications made should comply with the water supply (and fittings) regulations 1999 and apply best practice guidelines such as HSE HSG 274 & British Standard 8558:2015.

Any Designer & Installer should be fully aware of these requirements, and such should be highlighted at the design stage of the project.

Designated Drinking Water Outlets

Water outlets that are suitable for drinking should be clearly marked as such. These outlets must be kept clean and any fitted tap aerators either removed or checked and cleaned / disinfected routinely, where it has been shown to be needed.

Drinking water outlets MUST be in a separate area from toilet facilities.

List of Control Measures to be implemented at this school (Legionella Control)

- Weekly flushing of little used water outlets
- Monthly Water Temperature Checks
- Quarterly shower head (and hose where fitted) cleaning / disinfection
- Annual hot water calorifier drain valve sampling.
- Annual inspection of the internal rainwater harvesting tank (plantroom)
- Rainwater Harvesting system - UV Light Inspection / Replacement & Filter Change (Contractor Specified Frequency)

Additional Control Measures (General Water Quality)

- Routine Servicing of Drinking Water Coolers (to manufacturers specification)
- Ensuring that pupil drinking water bottles are NOT left at school overnight, and instead sent back home to be cleaned by parents or carers. Simple guidance given to parents or carers on the importance of water bottle hygiene
- Children's play trays (that contain water) are emptied at the end of the day and cleaned when necessary. Trays should have covers or left on their sides to prevent rainwater collecting and vermin etc. accessing the tray.

Record Keeping

Written (or electronic) records of all Control Measures are to be kept for a period of at least 5 years and should be easily accessible to authorised staff members. No one staff member should only have access.

All records should be accessible to auditors or enforcement inspectors

Water Schematic Drawings

Water Schematics are an essential component to water hygiene control, as they show how the water systems work, and show how water outlets connect to each other.

A copy has been placed at the end of this document, but higher quality electronic / printed copies can be obtained for easier viewing. Copies can be obtained from either directly from the school, or from the Contractor who created them (with permission from the school).

Drinking Water Bottle Hygiene – Procedures & Guidance

Whilst it is certainly important that pupils have good access to drinking water throughout the school day, there is a significant risk that pupil water bottles will become contaminated with germs, if steps are not taken to prevent this from happening.

Many pupils will bring their own bottles into school, and these are often stored within the classroom. The risk to health is when bottles are not clean and are left overnight in classrooms where germs left on bottles can thrive in warm environments.

It is important that school staff endeavour to ensure that pupils take their bottles home daily with them, to be cleaned by their parents or carers. The school should not take responsibility for cleaning of bottles.



The school should:

- A) Encourage pupils take their bottles home
- B) Provide simple cleaning advice to parents & carers
- C) Where bottles have been left at school, they should be drained and left in a designated area, for the pupil to take home the following day.

Tips for correct cleaning of Water Bottles

1. Unscrew / remove all parts of the bottle (including straws)
2. Use warm water with washing up liquid
3. Physically clean all parts, and take care to clean the nozzle and cap, and rinse through the inside of straws
4. Once cleaning is completed, leave the bottle upside down in a clean area, so that any remaining water drains away.



Additional Advice

- The use of dishwashers is acceptable providing the bottles are dishwasher cleanable
- Do not routinely use disinfectant, due to the risk of poisoning
- When purchasing bottles, try to avoid complicated designs that can be difficult to clean
- Overtime, dirt can build up inside bottles within difficult to reach parts. If this happens, then replacement is needed
- DO NOT reuse spring water bottles. These plastic bottles are not designed to be reused, and the plastic can break down overtime, resulting in chemicals leaching into the water

Children's Play Tray Hygiene – Procedures & Guidance

Play trays form an important part of children's learning & development, but left in an unhygienic condition, will allow harmful germs to thrive and will potentially cause infection.

Leaving water to stand too long, allowing dirt to build up or rodents & birds to enter, will contribute to an environment which can be dangerous to children.

The school should:

- A) Empty water out at the end of the school day (make sure all of the water is emptied)
- B) Keep surfaces reasonably clean
- C) Keep lids on the trays when not in use. Where there is no lid, bring trays inside or tip them on their sides to prevent access for animals.
- D) Use only fresh water from a tap



The school should NOT:

- A) Use water from a water butt (as this water will be heavily contaminated)
- B) Leave any hose pipes permanently connected to taps (contamination can back siphon into the mains water supply)
- C) Leave hose pipes outside in the sun when not in use (the sun warms up the remaining water within, providing conditions for harmful germs to grow).

The Importance of Drinking Water Fountain Hygiene – Procedures & Guidance

Communal drinking water fountains can be a good way to ensure that children have easy access to drinking water. However, if not routinely cleaned, they can be a breeding ground for germs, where pathogens easily spread to multiple users of the fountain

Schools should avoid operating water fountains outside of school buildings (e.g., playground) where it is very difficult to ensure a good level of hygiene. This is because rodents or birds can freely move across the resulting in contamination.



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level of
fountain

Cleaning Procedure:

Clean & disinfect drinking water fountains on a weekly basis, by following the procedure listed below:

1. Spray a disinfectant onto the entire surface of the fountain, ensuring that disinfectant is sprayed directly into the spout. Allow the disinfectant to sit for 10 minutes.
2. Spray disinfectant onto a clean grout brush before commencing to thoroughly scrub the inside of the spout and its immediate surrounding area
3. Reapply disinfectant to the grout brush, then scrub the rest of the fountain and make sure to clean the grate (where the water goes into the drain hole)
4. Operate the fountain to clear any remaining disinfectant from the spout, and then wipe down (with paper towels) the rest of the fountain until no disinfectant remains

Additional Advice

Where the spout jets water upwards or sideways, it is important to check that the water jet is at least 2 inches higher than the spout. This is to help prevent children placing their mouths too close to the spout, resulting in saliva transfer onto the spout.

Check this weekly, alongside cleaning & disinfection.

The Use of Garden Hose Pipes – Guidance & Procedures

Hose pipes can be a legionella infection risk because they can be left unused for long periods of time (water stagnation) and are sometimes left out in the sun (warm water) and are often dirty (food for legionella)

They can then be used to create water spray, which provides a route for water aerosol to enter the lungs, potentially causing legionella infection.



Before use, you should:

- Connect up the hose to a tap
- Turn on the hose and let it run out slowly without creating spray
- Then use the hose as you would normally



Things NOT to do

- Do not leave hose pipes out in the sun when not in use (where possible)
- Do not leave hose pipes permanently attached to taps (as contamination can get back into the tap cold supply)
- Never drink water that has come from a hose pipe



The Use of Power Washers – Guidance & Procedures

Power washers can be a legionella infection risk because they are used infrequently, with small amounts of water left standing within unit (water stagnation) and the large amount of water spray they when in use.



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the
create

Before use, you should:

- Flush through the garden hose supplying the power washer (without creating spray)
- Turn on power washer, and if possible, position the jet nozzle into a nearby drain, and operate the power washer for 5 seconds. This will clear any stagnant water out of the unit
- If the above, is not possible, then initially operate the power washer on its lowest setting (and low to the ground) in the opposite wind direction (away from you) and away from others

Things NOT to do

- Never connect a power washer to a water butt, as they contain dirty stagnant water that can contain a high number of germs
- Never leave a power washer in the sun when you have finished using the power washer for the day, to prevent any remaining water inside the unit warming up



Legionnaires Disease & Using Compost – Guidance & Procedures

Compost contains all the things that legionella bacteria need to thrive, such as soil, water and warmth.

Infection occurs when compost dust is inhaled, which usually occurs when opening compost bags or potting plants in enclosed spaces



Other Compost Infection Risks

- Tetanus – Bacteria that enters through cuts or wounds



- Weil's Disease – Bacteria that is transmitted by urine from rats and other animals



- Bioaerosols - - Airborne micro-organisms (spores & fungi) that are found in compost, and are inhaled when creating dust



Procedures to follow

- Open compost bags carefully outside, by cutting (not ripping the bag)
- Keep compost bags out of warm areas
- If potting with compost, moisten the compost before use (reduces dust)
- Wash hands thoroughly straight after use or consider using latex (or similar) glove

Flushing Little Used Outlets – Guidance & Procedures

Avoiding water stagnation is VERY important when it comes to maintaining good water hygiene. Bacteria such as Legionella, can thrive in stagnant water. In addition, water stagnation will also lower water quality.

Little used outlets

A little used water outlet is any water outlet (taps, showers & toilets etc.) that either hasn't been used within 7 days or has had very little use during that time.

Where this is the case, water outlets should be flushed through on a weekly basis



How



to flush



a little used water outlet (Procedures)

- Open the hot tap and flush until the hot water becomes hot and the temperature stabilises
- Open the cold tap and flush until the cold-water temperature reduces to a cool temperature
- Mixer taps should be turned on so that hot water flows through as well
- Turn showers on and adjust the temperature control to halfway, so that hot & cold-water flows through
- Toilets should be flushed once by pressing down the flush handle
- Avoid creating water spray where possible
- Make sure you keep written or electronic records of this action, and report any defects to your line manager

Additional Advice

- When flushing multiple outlets in separate rooms, then turn and leave on the outlets, and move on to the next room. The time you have circled back to your starting point, will likely be enough time for water stagnation to have been removed
- Flushing “push” taps can be time consuming. If possible, flush through other water outlets in the building first, to reduce the time needed for hot & cold water to flow through push taps
- Remember that during school holidays, most water outlets will become little used and will require weekly flushing
- If you come across a water outlet that has NOT been used for that at least two weeks, then seek advice from the responsible person before flushing. You could expose yourself and others to legionella bacteria

Monthly Water Temperature Checks – The Right Equipment

What's the point of doing this?

Legionella bacteria thrive in water temperatures between 20°C - 45°C, so the aim is to operate hot & cold-water

systems at temperatures that avoid this range.

What equipment do I need?

A Water Temperature Base Unit with penetration & surface attachment probes. It is important to make sure that your unit is in good working order and has been calibrated from new.

Base Unit in carry case



The

Penetration Probe



Surface Probe



Penetration probe attachment is used to “read” the water temperature of running water under a tap, by placing the tip of the probe under running water.

The **Surface** probe attachment is used to “read” the water temperature inside pipework, by pushing the surface end against pipework. The “heat” from the pipe then transfers to the surface probe, which results in a temperature reading on the unit display. You will need to add 3°C to the final measurement, to “compensate” for heat loss between water and pipe

A **timer device** will also be needed, which will be used to time how long it takes to reach the required water temperatures. A dedicated timer or a watch would be sufficient.

Additional Guidance

- The Penetration probe is SHARP, so please DO NOT put it your pocket
- DO NOT lose the protective cover for the Surface probe, as they are delicate
- Always use a timer device, and never count seconds in your head (it’s not accurate)
- If your base unit or probes are damaged, DO NOT use, and instead replace.

Monthly Water Temperature Checks – Taking Cold Water Temperatures Correctly

Why is this important?

To check that cold water temperatures are not within a range that encourages germs to grow

What's the procedure?

The target temperature is below 20°C - within 2 minutes if running the cold outlet

1. Set your timer device to count down (or up) to 2 minutes
2. Run the cold tap and place the penetration probe under the running water
3. At the 2-minute mark, record the temperature as stated on the base unit display. If the cold-water temperature is well below 20°C and stabilises before the 2 minutes are up, then write down this temperature reading instead
4. Write down the recorded temperature in the appropriate box on the form. If the temperature is above 20°C, note this on the paperwork, and report the issue to the appropriate manager. Advice from a specialist may be needed

What if the cold-water temperature is not below 20°C after 2 minutes?

There are a number of reasons why this may happen:

- Hot weather (increase in cold water supply temperature)
- Little use of water outlets (standing water heats up to building temperature over time)
- Heat transfer from hot to cold pipes (unlagged or pipes too close together)
- Thermostatic mixing valve failure (hot water flowing into the cold pipes)

To get a better understanding of why this is occurring, check the cold-water temperature at the basin / sink that is nearest to the mains water stopcock for the site (You will need to run this tap for at least 2 minutes) This will help establish if it is the incoming mains water temperature that is high.

If the mains water temperature is much lower than 20°C, but cold-water outlets within the building are higher than this, then this will indicate an issue within the building itself

Additional Guidance

If cold water temperature above 20°C is due to a higher incoming mains water temperature, then it is IMPORTANT that the affected water outlets are used frequently or flushed through weekly during these periods. This is help prevent water stagnation building up, which when combined with warm water, will significantly increase the risk of pathogens (bacteria / germs) growing.

PLEASE REMEMBER – You are not expected to carry out advanced investigations into any issues found, but YOU MUST report these issues to the appropriate manager.

Monthly Water Temperature Checks – Hot Water Calorifier (Flow Temperature)

Why is this important?

In the lower part of the calorifier, stored water will be at a cooler temperature, due to hot water mixing with cold water, as it fills the calorifier as hot water is drained. Also, the lower part of the calorifier is often below the heating coil, resulting in a lower temperature.

Legionella can thrive in this cooler temperature range, so it is important that the stored hot water is maintained a temperature of no less than 60°C, so that legionella bacteria is thermally destroyed, before reaching the hot water outlets.

What's the procedure?

The target temperature is a hot water flow temperature of no less than 60°C

- Check that the electronic display on the front of the calorifier is showing a temperature of no less than 60°C (shown in **RED** digits)
- The accuracy of the temperature readout can be confirmed by going to the nearest basin (year 6 classroom in storeroom) and running the hot tap and taking a reading using the water temperature probe, until the temperature reading stabilises (this should take around 1 minute)
- Write down the recorded temperature in the appropriate box on the form. If the temperature is below 60°C, note this on the paperwork, and if after checking for basic issues (see below) report the issue to the appropriate manager.



What if the Hot Water Flow temperature is less than 60°C?

Check the following:

- Is the hot water calorifier switched on? Check the timer system
- Has the thermostat temperature setting been turned down? You can check this by pushing the UP button on the panel, which will increase the temperature shown on the display
- Is the school kitchen using lots of hot water at the time of the check? If so, recheck once the kitchen is not in use
- Have any hot water taps been mistakenly left on in the building?

If the hot water flow temperature is still too low after checking the above, then the issue should be reported to your line manager, and a priority investigation carried out, with a view to resolving as soon as possible.

Taking **Hot Water** Temperatures Correctly – At Basins & Sinks

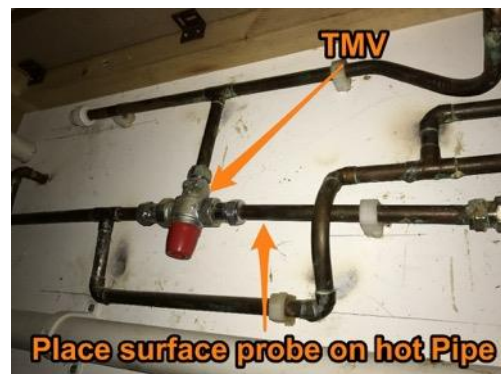
Why is this important?

To check that hot water temperatures are not within a range that encourages germs to grow

What's the procedure?

The target temperature is at least 50°C - within 1 minute of running the cold outlet

1. Set your timer device to count down (or up) to 1 minute
2. Run the hot tap and place the penetration probe under the running water
3. At the 1-minute mark, record the temperature as stated on the base unit display. If the hot water temperature is well above 50°C and stabilises before the 1 minute is up, then write down this temperature reading instead
4. Write down the recorded temperature in the appropriate box on the form. If the temperature is below 50°C, note this on the paperwork, and report the issue to the appropriate manager. Advice from a specialist may be needed
5. If the basin has a thermostatic mixing valve (TMV) fitted, then instead of taking the temperature at the tap, you will instead need to use your surface probe, and push firmly against the hot pipe that supplies the TMV. This will give you the temperature of the hot water within the pipe.
NOTE: When using the surface probe, you will need to add 3°C to the reading shown on your temperature probe display. This is because heat is lost through the copper pipe.



Procedures for Water Systems in Standby (before reuse)

Why is this important?

During periods of water system shutdown, there is an increased risk of pathogen growth within the water systems, due to water stagnation and the potential for warm water conditions. Water system shutdown can arise from refurbishment works to COVID lockdowns.

Steps MUST be taken to avoid water systems being brought back into service without the necessary precautions being taken. The type of precautions necessary will depend on the length of the shutdown, but the following below will be the general rule.

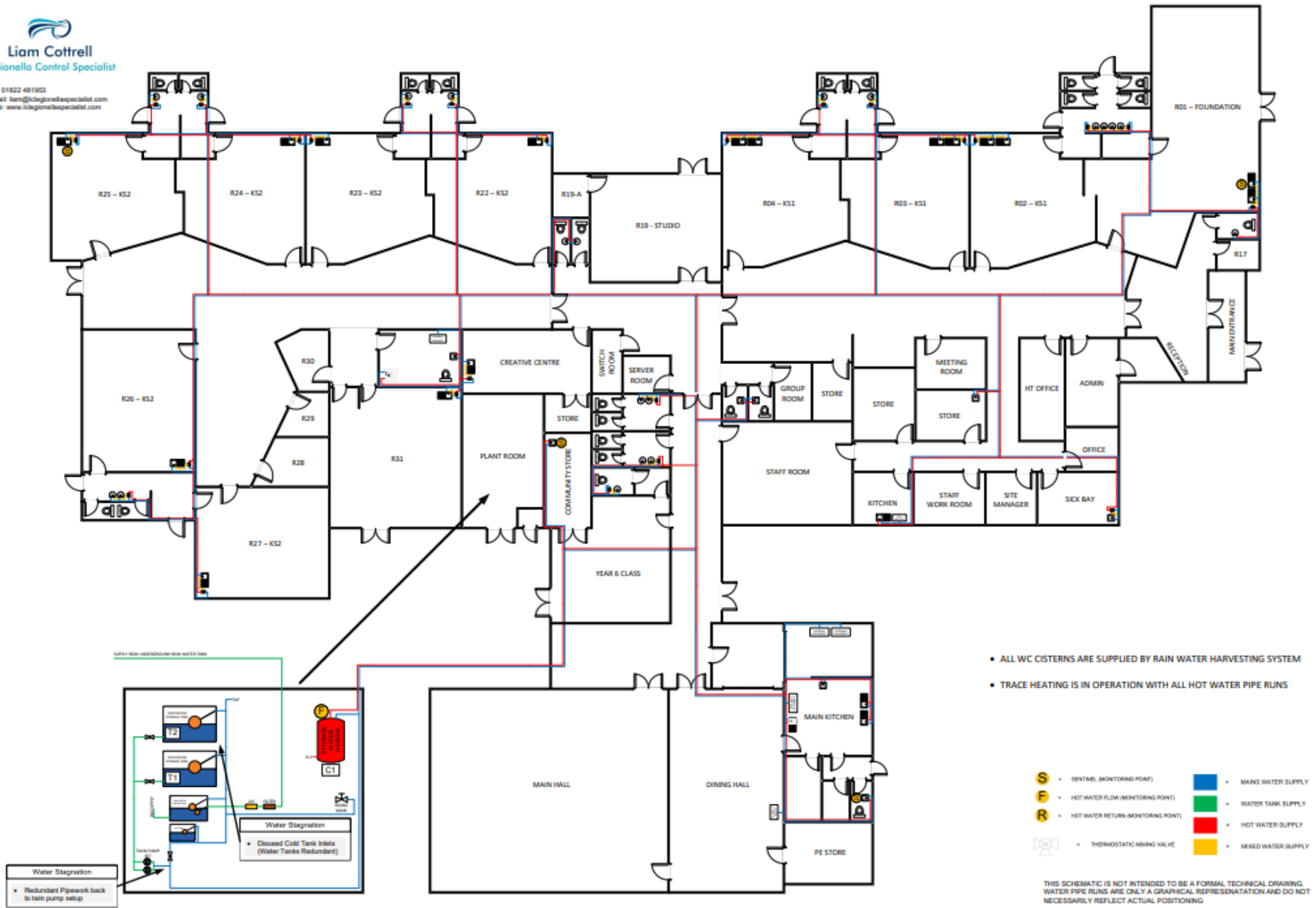
What's the procedure?

Hot Water Systems

- Calorifiers must be heated up to at least 60°C for one hour, and then associated outlets flushed through until the hot water reaches at least 50°C
- Point of Use Water Heaters must be heated up to at least 50°C for one hour prior to use

Cold Water Systems

- Mains supplied taps should be opened and flushed thoroughly, and associated outlets such as WC cisterns, should be flushed at least once
- Cold water tanks may require cleaning and disinfecting before they can put back into use. A water hygiene specialist should be consulted for specific advice, before any plans are put in place to reuse the water tanks after a lengthy period of shutdown
- Where drinking fountains and water coolers have been taken out of service for a period of more than 2 weeks, they should be cleaned, disinfected, and serviced (water coolers) before being put back into use.



- ALL WC CISTERNS ARE SUPPLIED BY RAIN WATER HARVESTING SYSTEM
- TRACE HEATING IS IN OPERATION WITH ALL HOT WATER PIPE RUNS

- S = SENTINEL (MONITORING POINT)
- F = HOT WATER FLOW (MONITORING POINT)
- R = HOT WATER RETURN (MONITORING POINT)
- T = THERMOSTATIC MIXING VALVE
- M = MAINS WATER SUPPLY
- W = WATER TANK SUPPLY
- H = HOT WATER SUPPLY
- N = MIXED WATER SUPPLY

THIS SCHEMATIC IS NOT INTENDED TO BE A FORMAL TECHNICAL DRAWING. WATER PIPE RUNS ARE ONLY A GRAPHICAL REPRESENTATION AND DO NOT NECESSARILY REFLECT ACTUAL POSITIONING

