

Private Water Supplies Management Plan
Arunlea Inspried Villages
Broadbridge Heath
Horsham, RH13 0QN
14th May 2026

Rev 04

Date	Person reviewing	Actions
05.12.25	Simon Parsons	Amendments following comments from council
25.02.26	Simon Parsons	Amendments to sampling regime page 7&8 and abstraction licence volume
22.04.26	Simon Parsons	Amendments to sampling regime
14.05.26	Simon Parsons	Amendments to cease of monitoring

To be reviewed annually
 All changes to be approved and submitted to Environmental health



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Water Supply & Responsibilities

This Private Water Supply Management Plan (PWSMP) describes the infrastructure in place to deliver a private water supply providing potable water for the Arunlea inspired village. The PWSMP identifies significant risks from source to tap and details preventative maintenance, monitoring, and emergency procedures to protect human health and ensure regulatory compliance. The PWSMP will be initiated by the Installer and reviewed and updated annually by the MSP.

Installer

Nicholls Boreholes ("Installer"), who have installed and commissioned the private water supply.

The Installer will carry out a group A & B UCAS post tank test (or as otherwise determined by the EHO) to enable the water supply to be signed off by the EHO prior to occupation ("EHO Sign-off").

Principle Management Company ("PMC")

Inspired Villages

Maintainer and Service Provider ("MSP")

Once commissioned, the PMC will contract with Nicholls Servicing and Maintenance division who will take on the role of MSP until otherwise agreed with the PMC.

Homeowners

Homeowners will be given a handover pack by the PMC when their purchase is completed. This will highlight that the water supply is from a private borehole, identify the location of the borehole and the plant room, and will provide primary and secondary contact details for the PMC and will include an incident reporting mechanism.

The homeowners key contact will be the PMC, (not the MSP).

Source Type:

2 No. Boreholes

Filtration in use:

Sediment filtration, Reverse Osmosis, remineralising, UV sterilising and chlorine dosing

Number of Properties serviced:

TBC

Types of Property:

flats, houses and communal areas

Abstraction Licence:

EA consent number SO/041/0025/019 for 50m³/day.

Drawings & Diagrams at Appendix 1

BH1422-2 Schematic – R3

BH1422-6 Model Overview R1

BH1422-7 Model Elevations R1



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Usage Tracking

The water produced by the borehole is metered. Both boreholes are individually metered. The filtered water used for filter backwash is metered and the total filtered water out to use is metered. The mains emergency backup to tank is also metered on the incoming feed as well and a second meter on the emergency tap. All metered are logged via the telemetry system.

Environmental Health

All private water supplies are regulated by the local Authority Environmental Department. Should the MSP make any adaptations or changes to the private water supply infrastructure they must ensure that the plant and equipment supplied is of no less quality than that used in the original installation. Contact details can be found on Appendix 4.

Management & Control

Training

The PMC will nominate primary and secondary contacts responsible for regular inspection, regulatory reporting and incident management and reporting, who will work with the MSP and the regulatory bodies to ensure the private water supply remains operative and meets regulatory standards.

Responsible persons only require basic training to understand how the system operates, the faults that may occur, how to determine the fault and what to do in the event of one. The PMC has had this basic training carried out by the Installer. The Installer has issued certificates of training which show that the PMC has achieved a satisfactory level of training. If the management team changes, the MSP will provide further basic training. Contact details can be found on Appendix 4.

The plant room is deemed to be a restricted area and so trained PMC and/or MSP representatives should be present whenever access to the plant room is required.

Responsibility for maintaining and operation

The MSP will receive and monitor the system telemetry and will utilise the management system to remotely carry out system maintenance and prevention where possible during normal working hours. The MSP will provide an technical engineer callout service as part of the PMP for incident resolution.

The PMC is responsible for monthly checks of the system including topping up of the chlorine and changing the particulate filter as required. The checklist can be found in Appendix 3

In the event of a failure or emergency reported by the Homeowner and/or the PMC but not recognised by the telemetry system the PMC will be responsible for incident reporting to the MSP which will be recorded and reported via the incident checklist attached at Appendix 6



Manufactures instructions

The following manufacturers instructions are attached at Appendix 2A and 2B

1. Borehole pump manuals
2. Turbidex filter manual
3. RO manual
4. Remin manual
5. System controller manual
6. UV manual
7. Chlorine dosing manual
8. Tank manual
9. Booster pump manual
10. Digital flow meter manual
11. Analogue meter manual
12. Transducer manuals
13. Sediment filter manual
14. Filter MAV manuals

Inspection/checking of the system

The system can be inspected from within the borehole plant room or remotely through the telemetry system. To carry out the checks inside the plant room you need to:

1. Unlock the plant room door
2. As you enter, turn on the lights. If the light fails you should ensure you have a torch or other means of illumination before proceeding.
3. When you are safely inside the plant room carry out the monthly check. Use the form at Appendix 3 to inspect and record the information stated in the form.
4. On completion ensure the plant room door is locked and key returned to its appropriate position.

The completed forms should be stored within the water safety plan in dry conditions. It would be sensible to make electronic copies of the forms for future reference or archiving.

The system has to be thoroughly tested every 5 years include a regulation 6 risk assessment. Therefore it would be prudent to keep the paper records for the same period and archive them thereafter. Copies of all engineer's reports will be stored with the inspection reports. The location of the WSP (Water Safety Plan) folder will be prominently and permanently displayed in the plant room.



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Maintenance and Repair

Water quality testing regime

Methodology

Both the Installer and the MSP will ensure that for the UKAS ISO Drinking Standard all water quality testing activities will be subject to the following:

- Water samples will be undertaken by an employee or agent DWI certified for sampling private water supplies
- Both the Installer and the MSP will ensure that all water samples are private water regulation group A & B, tested in a UKAS registered laboratory that is accredited to the ISO 17025 Drinking Water Testing Specification
- These samples will be collected twice per year at 6 monthly intervals.
- The samples will be collected from the potable water sample point within the plant room.
- In accordance with the established frequency and standards above, additional microbiological samples will need to be obtained. A minimum of five samples will be collected each round. Café, restaurant and spa will be fixed sampling points. Furthermore, at least two samples will be drawn from properties within the development, with priority given to locations furthest from the plant room.

Reducing Sampling Frequency

A local authority may reduce how often they test for a specific parameter if:

- **Historical Consistency:** Samples taken over the last **3 years** show levels are consistently below **60%** of the legal limit.
- **Risk Assessment:** The formal risk assessment confirms that no factors are expected to cause the water quality to deteriorate.
- **Minimum Requirement:** At least **one sample** must still be taken every year.

Ceasing Monitoring

Testing for a specific parameter may stop altogether in consultation with the local authority and if:

- **Proven Low Risk:** Samples over the last **3 years** show levels are consistently below **30%** of the legal limit.
- **Safety Assurance:** The risk assessment indicates that the water quality is stable and unlikely to change.

Note: *E. coli* monitoring is mandatory and cannot be reduced or ceased under these specific provisions.

Water quality issues

Should the results of a UKAS test reveal any failures, A second test will be required targeting just the failed items and be done by a UKAS registered lab. Any failures will need to be



notified to the Environmental health department. Any results that do not meet the UK Drinking Standard will require the MSP will raise a High Priority Incident and immediately inform the PMC. The PMC will follow the water flushing procedure.

The PMC will be solely responsible for the supply of potable water. The MSP will be responsible for supporting the PMC in identifying incidents and the corrective action required to remedy appropriately and will carry out those corrective actions where applicable.

Maintenance intervals

Monthly checks will be carried out by the PMC in accordance with Appendix 3 for the first 6 months of operation to prove that the system works as intended. After this period and only if deemed suitable by the PMC and MSP together, the checks then move to a period of every 6 months.

Annual planned maintenance will be performed by the MSP in accordance with the Preventative Maintenance Plan ("PMP") in operation between the MSP and the PMC.

Within the planned annual maintenance

- UV bulbs and quartz sleeves will be replaced.
- Top up of chemicals.
- Replacement of RO membranes
- General post filtration water analysis will be done to ensure conditions have not changed with UKAS ISO drinking standard water testing group A & B carried out every 6 months or as otherwise required by the EHO.
- Insulation and motor windings tests carried out on borehole pump
- Removal and cleaning/replacement of clack head (filter heads) seals to each filter vessel
- Inspection and adjustment of all controls
- Tank inspection and minor clean as a minimum to remove visible and easily accessible debris. If large build up witnessed, a full drain down and clean would be required.
- Replacing sacrificial media as required.
- Change or clean the sediment filter cartridge
- General check of all systems and operation.

Risk Management

Regulation 6 Risk Assessment

On completion of the installation a risk assessment will be undertaken and submitted to the council for approval. This will then need to be reviewed and revised by the MSP on behalf of the PMC at least once every 5 years thereafter unless otherwise advised by the appointed Environmental Health Officer ("EHO").



Emergency Call-out

The PMP will include the supply of an engineer call-out service which will respond to the reported incident in accordance with the priority level determined by the Risk Matrix.

Water Sources

Source protection

There is complete control of the land around the source.

The well head is completely sealed by means of a artesian well head, well head being above ground and grouted below ground as detailed in the BGS record along with a raised GRP cover.

The location of the boreholes are deemed to not be in areas where damage from vehicles or pedestrians are likely.

Water Storage

Tank

2No. 15,000l Potable above ground sectional storage tanks with the ability to individually isolate for cleaning and inspection. Tanks are WRAS compliant.

Tank turnover

The tank volume is calculated to turn over at least once every 48hours once full capacity is achieved. Number of tanks online or level of fill can be controlled to ensure this turnover rate is achieved and remotely checked.

Water Distribution

Pipework

All external pipework a mix of 40mm and 63mm MDPE. All internal pipework is Flamco multiskin 32mm with synthetic crimp fittings. This equipment is certified via KIWA for use with potable water.

Water Treatment

Treatment in place

Contact Media, RO, chlorine dosing, Sediment filter & UV

Photographs and description of the components will be provided once the installation is complete.



System design

To be read in conjunction with Appendix 1 Drawings.

Raw water is pumped via submersible pumps down hole from two boreholes on duty standby with rotation of usage to ensure even use. Through a Contact media to strip sediment particulate down to 5 micron before being delivered to the RO. The RO will remove the ammonium, chloride, fluoride and sodium as well as stripping other minerals from the water. Post RO we require a remineral filter to add lost mineral back to the water. Water then travels through a UV to kill bacteria and most importantly any cryptosporidium found in the water which is resistant to chlorine. The system then doses the water with chlorine via a mixing tube with monitoring probes post mix to check the dosage prior to filling the tank. The tanks are split in two and able to be individually isolated and operated for times of low occupancy or cleaning. The tank have level controls so fill level can also be controlled. Post tank booster pumps deliver water to the network via a final set of probes to check on quality and a set of two sediment filters to remove any particulate picked up from the tank.

System security

The plantroom is locked at all times and keys are held by the MSP and the PMC

The boreholes are protected by a GRP enclosure. This is locked to prevent unauthorised access. Padlock codes are known by the MSP and the PMC.

System Monitoring

The operation is monitored via regular visual checks and a full telemetry system.

The telemetry system is delivered through the internet so the platform can be monitored and controlled remotely when needed. The telemetry controls the full system and alerts the MSP via the online platform and email notification of any potential issues. Control of the equipment remotely via the platform enables the MSP to make necessary changes within the scope of the telemetry management system to resolve issues without the need to attend site or without any disruption to the supply.

Internet Maintenance and Outage

The PMC is responsible for the ongoing supply of an internet service for the which telemetry management system is dependent.

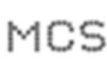
Appointed personnel who have access to the plant room will be able to inspect the system operation using the screen on the front of the panel. this will highlight any item in alarm.

Valve List

Including tagging list will be provided in this section once works are complete



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Emergency Plan

Emergency plans for failure of supply or insufficiency.

The system has a mains water back up system installed which automatically operates in the event of insufficiency or borehole malfunction. The water in the backup system is supplied via the break tank to comply with current regulations. The break tank is necessary because mains borehole water cannot be allowed to contaminate mains water. In the event of an issue, the telemetry system will note the low tank water level and low pressure from the borehole system and automatically trigger the mains to fill via motorised ball valve.

Booster set failure

The system has a booster set. If one of the boosters fail the second, third or fourth will take up the load but the residence may experience a lower flow rate and the alarm will indicate a problem through the telemetry system. The management company should contact Nicholls as an inspection should be carried out in accordance with Appendix 3 by one of the responsible people if it cannot be resolved remotely. The inspection report must be clearly annotated that the inspection was carried out as a result of a failure.

Chlorine dosing Failure

The chlorine level is monitored after the mixing tube to ensure correct dosage. Secondary probes are post tank on the boosted supply line. Should these record lower than required free chlorine levels, it will trigger an alarm on the telemetry system. The telemetry will deem this to be a major alarm and shut down the boosters from supplying water to the network. Action will need to be taken remotely to understand why and may require site attendance. The system will switch to mains backup once issue is known.

Filtration equipment Failure

The filtration is monitored via their own controllers which link back to the telemetry system for reporting. In the event of any issue with the filters, it will trigger an alarm on the telemetry system. The telemetry will deem this to be a minor or major alarm depending on what they automatically determine. Action will need to be taken remotely to understand why and may require site attendance.

Power cut

In the event of a power cut all water supply equipment will not function, including the mains backup. The management company will need to ensure a suitable generator is in place within 12 hours to provide power to this plant room. Contact details for the management company are shown at Appendix 4.

Action if the supply has been contaminated

If contamination is suspected (change in taste or odour) The PMC must be contacted immediately. The responsible people will enter the borehole plant room and carry out a check of the system. If deemed necessary they will then turn the borehole supply off and engage the flushing procedure highlighted below. The MSP must be alerted so relevant



changes and checks can be performed via the telemetry system. This will automatically run the mains back up until further testing can be carried out and the source of the contamination found and rectified. The PMC will contact all homeowners and inform them that they must carry out the flushing procedure.

Procedures

Procedure for checking and changing filter cartridge.

Checking and changing should be carried out by the responsible people as noted in appendix 4.

Pressure gauges are installed on the inlet and outlet side of this filter. During normal running the gauges will read the same or close to the same. As the filter begins to block over time the inlet gauge will start showing a higher pressure or the differential between the two gauges increases. When the inlet side gauge reaches the orange section, we advise this is when it is cleaned/replaced. The telemetry system will also highlight this.

To do this:

1. The water supply isolated on the taps pre and post filter.
2. Unscrew the small black screw on top of the filter to release any pressure.
3. The red handled valve on the bottom of the clear housing can then be unscrewed to drain down the bottle. Either a bucket or hose is advised to ensure water is not flooded into the plant room
4. Using the supplied spanner, the clear housing can then be unscrewed. Be aware that some water will exit the filter and pipework.
5. Remove filter, unscrew the end cap and slide off the paper cartridge. Replace/clean then reinstall paper cartridge.
6. Screw back into position the clear housing and close the red handled valve on the bottom of the clear housing.
7. Open the isolation valves
8. Turn on both booster pumps to allow the system to refill.
9. Use the small screw on top of the filter to bleed out any air but ensure it is left closed once finished.

Procedure for reactivation following any period of system down time

In the event of any system down time, The MSP will need to be consulted and engaged to restart the system and ensure all components are functioning correctly.

Flushing Procedure

Before flushing, the borehole pumps and mains water backup should be turned off.

The boosted supply has a sampling point before going out to the network. A hose can be connected to this outlet to go to drain. The sampling point valve can be opened and the pumps will drain the tanks and pipework.

If only one tank wants to be drained the Inlets valves can be shut to this tank only and the suction line valves to the boosters opened on the tank to be drained but closed on the tank not to be drained.



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The Management Company must document this occurrence and advise the current specialist maintenance contractor as shown at Appendix 4

Replacement of Turbidex & remin media

Filter medias are expected to last between 8-10 years

UV bulbs

Should be replaced on a yearly basis or sooner if required.

RO membranes

Membranes should be monitored via pressures differential and cleaned/replaced when required but at a minimum of once a year.

Record Keeping

Copies of site reports, water test results & works carried out must be recorded within this file.

Manufactures Instructions

Manufactures manuals are contained within Appendix 2A and 2B

Additional information Available on request from MSP

Drill log Sheet

Test pump record

Raw borehole water analysis



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