

Our Ref: Galbraith-AuchEstate-StaffAccommodation MA/

12th September 2023

Profound UK Holdings Ltd
21/F Citicorp Centre
18 Whitfield Road
Tin Hau
Hong Kong

Dear Sirs,

Proposal and Quotation for Installation of Private Water Supply, Staff Accommodation, Auch Estate (Rev 1)

Further to my site meeting on the 2nd August with Scott Cameron please find below our proposal and quotation for the installation of the 2 boreholes that will be used to serve the Staff Accommodation and farm welfare facilities at Auch Estate.

This proposal should be read in conjunction with my email to you of 4th August.

Project Requirements

It is understood from previous correspondence with Harley Haddow that the various facilities at Auch Estate will require around 8,000litres of water/day. The 2 boreholes are capable of providing a combined sustainable flow of approximately 850litres/hour (20,000litres/day). On this basis it is proposed that treatment systems for iron/manganese/arsenic reduction capable of treating flow rates of up to 850litres/hour are installed.

Overview of Proposed System Configuration

It is proposed that borehole pumps are installed in each borehole and configured to deliver a pressurised supply of water to an 8,000 litre capacity potable water storage tank via treatment systems for iron, manganese and arsenic reduction. 600mm diameter borehole headworks chambers will be installed over each borehole. The storage tank, borehole pump control equipment and water treatment equipment will be installed in the Plant Room. It is understood that an appropriately rated booster pump and UV disinfection unit will be installed on the outlet of the storage tank to provide the pressurised supply of water to the properties.

It should be noted that the concentration of iron in the untreated water is extremely high (12,791ug/l vs permitted limit of 200ug/l) and whilst we are confident that the proposed filters will be capable of treating the water as required for compliance with regulatory requirements it may be necessary to install additional filters at additional cost.

Project Sequencing

It is understood that the first stage of works will be the installation and commissioning of BH2 in order to provide a potable supply of water to the tanks (and onward to Algo's site facilities).

Once this has been completed HighWater can progress with removing the equipment from the current borehole shed for BH1.

This will then enable the shed to be removed and the installation of the permanent borehole headworks chamber to be completed.

Works to be Undertaken by HighWater

- 1) Install Grundfos borehole pump with sealed well cap assembly and stainless steel wire for pump suspension in BH2.
- 2) Install 600mm diameter borehole headworks chamber for BH2, including poured concrete base and thermostatic frost protection.
- 3) Make water pipe and electrical connections at BH2 headworks chamber.
- 4) Install borehole pump control equipment for BH2 in Plant Room, to include 60 litre pressure vessel, pressure switch and pressure gauge.
- 5) Install the following water treatment equipment for the supply from BH2:
 - Shakesby Ltd SVET1665CWW back-washing iron reduction filter.
 - Shakesby Ltd MG1354CWW back-washing iron reduction filter.
 - Shakesby Ltd 1054 non-backwashing arsenic reduction filter.
- 6) Remove equipment from BH1 borehole shed.
- 7) Install 600mm diameter borehole headworks chamber for BH1, including poured concrete base and thermostatic frost protection (relocated from current borehole shed)
- 8) Make water pipe and electrical connections at BH1 headworks chamber.
- 9) Install borehole pump control equipment for BH1 in Plant Room, to include 60 litre pressure vessel, pressure switch and pressure gauge.
- 10) Install the following water treatment equipment for the supply from BH1:



- Shakesby Ltd EB1354CWW back-washing iron reduction filter (relocated from current borehole shed).
- Shakesby Ltd 1022 Bonechar filter for fluoride reduction (relocated from current borehole shed).

- 11) Sample taps to be installed before and after each chemical filter.
- 12) Install totalising flow meter for BH1 supply.
- 13) Install totalising flow meter for BH2 supply.
- 14) All equipment above to be installed using 25mm HDPE with appropriate isolation valves to enable facilitate servicing works.
- 15) Install single isolation valve on 25mm supply pipe to tank for others to connect to ball float valve in tank.
- 16) System commissioning, including chlorination of pipework through to storage tank, collection of water samples for chemical analysis to confirm efficacy of water treatment systems and preparation of user manual for filtration equipment.

Firm cost for above scope of works - £28,376 (Exc VAT)

Works to be Undertaken by Others

- 1) Supply and install buried water and power services between the plant room and BH1 and the Plant Room and BH2 as per email Mike Ayres to Scott Cameron of 4th August 2023.
- 2) Construct Plant Room with appropriate ducts for incoming/outgoing water/power services to each borehole. Erect frame and 18mm backing board against backwall for HighWater to mount equipment/pipework.
- 3) Provide 32mm MDPE backwash discharge pipe from Plant Room and construct soakaway for discharge of backwash water from chemical filters.
- 4) Install tank, booster set, filters and UVs. Connect pipework from 25mm isolation valve installed by HighWater to deliver supply via ball float valve into tank. Also to provide HighWater with 32mm MDPE pressurised supply from outlet of booster set for backwashing chemical filters.
- 5) 240V electrical outlets as follows:
RCD protected fused spurs for:
 - 2 x borehole pumps



- 2 x frost protection in each borehole headworks chamber
- RCD protected double outlets for
- 3 x back-washing filters
 - 2 x warning output systems (TBC)
 - 2 x spare
- 6) Installation of pipe lagging if required.
- 7) Installation of frost protection heater in Plant Room.

Important Notes

- 1) Quotation is valid for 30 days.
- 2) Quotation includes all travel and subsistence expenses.
- 3) Quotation includes for an anticipated MCD of 5%. Quotation assumes that there will not be a Retention on our works and that Liquidated Damaged will not apply.
- 4) Payment Terms: Stage 1 Payment of £10,000 due upon acceptance of quotation. Final payment due within 28 days after satisfactory completion of commissioning works.
- 5) Based on current workload commitments, the lead time for commencing works would be 8 weeks from receiving your written acceptance of this quotation.
- 6) Quotation includes first year warranty for all on-site labour and materials provided by HighWater.
- 7) Notwithstanding the warranty provided above it should be noted that water quality can change and it may become necessary to install additional water filtration equipment (at additional cost) in order to ensure compliance with the requirements of The Regulationst.

We hope and trust that this quotation is an accurate reflection of your requirements. We are happy to discuss any aspect with you and look forward to hearing from you at your convenience.

Yours sincerely

Michael Ayres BSc(Hons) PhD CGeol FGS

Managing Director

For **HighWater**

† The Regulations:

For commercial supplies in Scotland, The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.

For non-commercial supplies in Scotland, The Private Water Supplies (Scotland) Regulations 2006.