

Preliminary Quotation - GROUND SOURCE HEAT PUMP SYSTEM

Daniel McCallum - Awel Aman Tawe

Ysgol Cwmgors, Cwmgors, SA18 1RF

Project Reference: 20-05-01

PROJECT SUMMARY			
Client	Daniel McCallum - Awel Aman Tawe	Project Reference	20-05-01
Site Address	Ysgol Cwmgors, Cwmgors, SA18 1RF		
Property Type	Renovation / Extension - Domestic	Electric Supply	single phase
Quote Type	preliminary quotation - Supply, install, commission		
Design based upon	property plans (assumed u-values)		

U vals W/m ² K	Ext. Wall	Window	Door	Roof	Floor
Fabric 1	1.64	2.80	2.80	0.18	0.30

PROPERTY DETAIL			
Heated Area	544.2m ²	Total Heat Demand	51.75kW
Specific Heat Demand	95.1W/m ²	Design Conditions	heat pump at B0/W45°C at - 2.2°C external
System Application	Heating & DHW	Heating System	UFH & Radiators
GROUND SOURCE HEAT PUMP SYSTEM			
Total System Output	56.12kW at design conditions		
Heat Pump(s)	NIBE F1345 60kW	Dimensions	W600 x H1800 (1950) x D620
Heat Pump Location	in an appropriate location inside the property or purpose built plant room (TBC)		
Hot Water Cylinder	Joule 500L cylinder	Dimensions	H1900 x D710mm
Hot Water Cylinder Location	in an appropriate location near to heat pump (TBC)		
Buffer Tank	NIBE 750L buffer	Dimensions	H1199 x D1042mm
Buffer Location	in an appropriate location near to heat pump (TBC)		
Heat Meter(s)	No	Electric Meter(s)	Yes
GROUND COLLECTORS			
Collector Type	Boreholes	Total Collector Pipe	1960m
Quantity	8	Borehole Depth	123m
Collector Location	in the adjacent field/land	Primary Trench Length	25m
INSTALLATION			
Plant Room Installation	WDS	Ground Collector Installation	WDS
Civil Works	Customer	Ground Works	Customer
Electric Supplies	Customer	Control Works	WDS
Heating Connections	Isolated tails by WDS	Hot Water Connections	Isolated tails by WDS
EXISTING SYSTEM & CONNECTIONS			
Existing System Removal	Customer	Existing System Disposal	Customer

Daniel McCallum - Awel Aman Tawe
Ysgol Cwmgors, Cwmgors, SA18 1RF

7 May 2020
Ref: 20-05-01

Dear Daniel,

RE: GROUND SOURCE HEAT PUMP SYSTEM - Ysgol Cwmgors, Cwmgors, SA18 1RF

Following on from your recent enquiry please find attached a preliminary quotation for the supply & installation of a ground source heat pump system for Ysgol Cwmgors, Cwmgors, SA18 1RF.

The system has been specified to provide Heating & DHW. The design has been carried out based upon property plans (assumed u-values). At the design conditions (heat pump at B0/W45°C at -2.2°C external) the heating demand is calculated at 51.75kW and as such the below system has been specified.

Main Heat Pump system components:

- 1no. NIBE F1345 60kW 1ph ground source heat pump
- 1no. NIBE heat pump controller
- 1no. Joule 500L cylinder
- 1no. NIBE 750L buffer

Heat Pump system and ancillaries:

- 1no. expansion vessel kit for heating side
- 1no. expansion vessel kit for hot water side
- 1no. Brine circulation kit including strainer, valves, deaerator, filling loop, etc.
- 1no. Primary circulation pump
- 1no. Secondary circulation pump
- 1no. Auto-pressurisation kit
- All necessary pipework, expansion vessels, isolators & valves
- Insulation to all pipework associated with the above works in accordance with specification

Ground collector system – Boreholes:

- 1960m of 40mm SDR11 closed loop collector pipework to be configured in 8no. 123m boreholes at minimum 6m spacing from structures and each other
- 1no. 8-way pre-fabricated collector manifold with light traffic rated cover
- 25m of 63mm SDR11 primary pipework from manifold back to plant room
- Approx. 496L R500C ground source thermal fluid
- Electrofusion joints and fixings
- Appropriate R700 GSHP sanitizer & biocide