

VITAL ENERGI UTILITIES LIMITED

Swansea Bay University Health Board

**Swn Yr Afon Air Source Heat Pump
Technical Specifications**

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Swn Yr Afon ASHP Technical Specifications

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1. Introduction

- 1.1 These Technical Specifications have been prepared on behalf of Swansea Bay University Health Board as part of its application for a planning application for an Air Source Heat Pump (ASHP) installation proposed at Swn Yr Afon Care Home.
- 1.2 The Care Home is located at

Brynteg,

Seven Sisters,

Neath,

SA10 9ET
- 1.3 The principal proposal is for the installation of 2No. ASHP's to the side of the existing Care Home, within an existing fence enclosure.
- 1.4 The proposed installation is in support of the Swansea Bay University Health Board targets of achieving nett zero carbon and assisting with the Welsh Government's decarbonising agenda.
- 1.5 The heat pump installation is anticipated to save over 15,750 kg CO2/yr.

2. Existing Installations

- 2.1 The proposed installations are intended to be installed to the side of the existing Care Home, utilising the existing fenced areas, previously used as an oil store.
- 2.2 The new ASHPs will produce heat. This heat will be piped to interface with the existing heating system located within the existing boiler room.
- 2.3 The Care Home is located in a mixed-use area with locality to residential, industrial and farming properties and adjacent to Nant-Y-Cafn.
- 2.4 The existing care home garden has a segregated fenced area previously used for oil stores. The oil stores are no longer required. Therefore, the fenced area will be re-purposed for the heat pump system.

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Figure 1 - Existing Fenced Enclosure

3. Proposed Installation

- 3.1 The new installation will consist of a new ASHP within the existing fenced area, adjacent to the existing boiler room within the Care Home.



Figure 2 - Aerial View – Proposed Swan Yr Afon Installations

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- 3.2 There will be 2No. ASHP modules.
- 3.3 The ASHP module will be mounted on a base with drainage to remove condensate.
- 3.4 2 Insulated pipes will extend from the ASHP to the Boiler Room.



Figure 3 - Typical PIB Pipework finish

4. Proposed ASHP Module

- 4.1 The proposed ASHP module will be 2No Mitsubishi CAHV-P500 units. Technical details are included within the appendix.



Figure 4- Typical Mitsubishi CAHV-P500 unit

- 4.2 Where found to require an acoustic attenuator, the condenser unit maybe retrofitted with a specialised attenuator to reduce noise emissions.



Figure 5 - Attenuated Heat Pump

5. Heat Pump Configuration

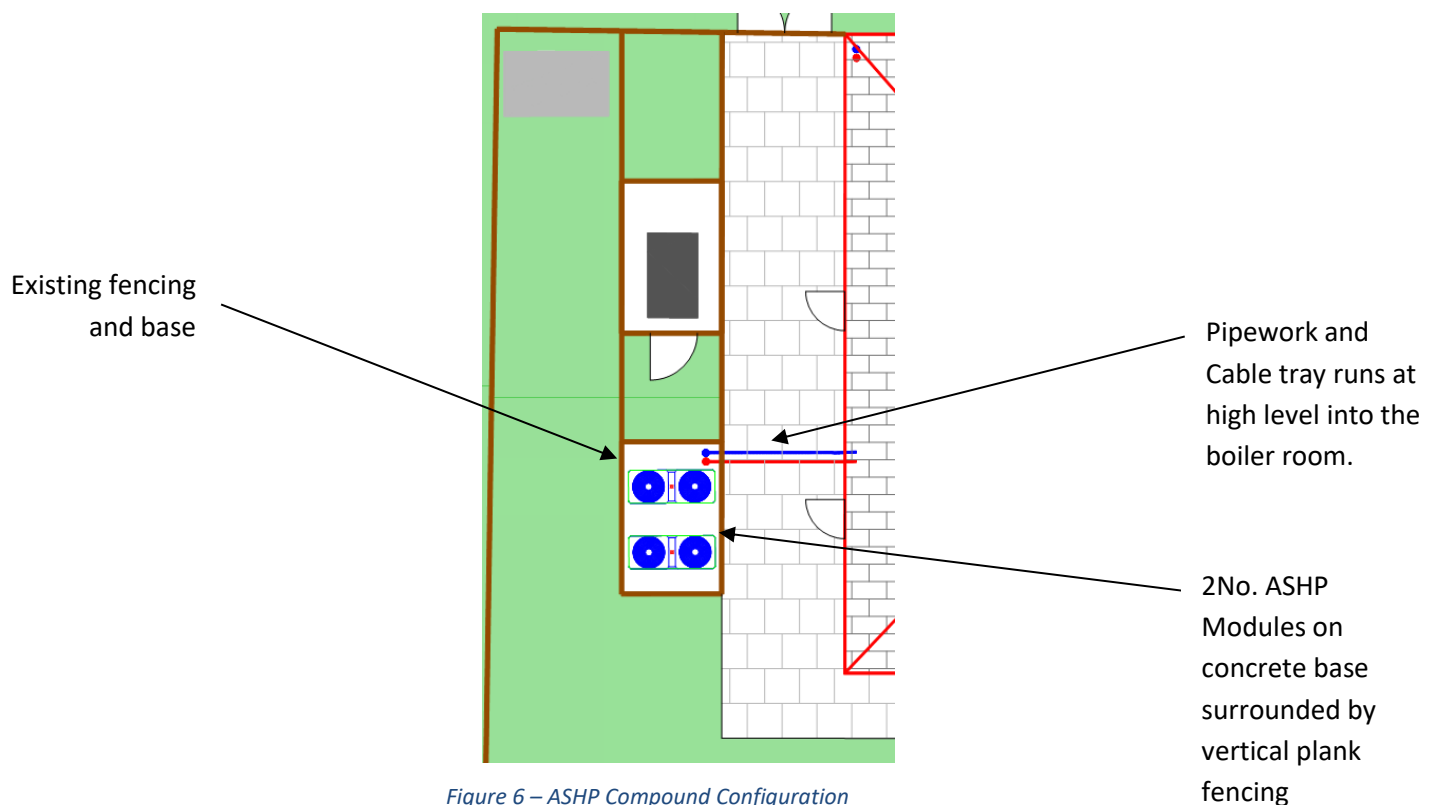


Figure 6 – ASHP Compound Configuration

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6. Noise Levels

- 6.1 The nearest occupied building 24m away on Brynteg, which is sheltered by wooden fencing.
- 6.2 Attenuation is anticipated to be required, therefore this planning application has assumed and included for attenuation to the heat pumps.

7. Reference Drawings

Drawing Number	Description
18565-VE-SA-00-DR-M-5601	SWN YR AFON EXISTING LAYOUT
18565-VE-SA-00-DR-M-5602	SWN YR AFON PROPOSED LAYOUT
18565-VE-SA-00-DR-M-5603	SWN YR AFON EXISTING ELEVATION
18565-VE-SA-00-DR-M-5604	SWN YR AFON PROPOSED ELEVATION

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8. Manufacturers Literature

Technical Sheet Title	Description
CAHV-P500YA-HPB_Databook	ASHP Module Datasheet