



Portland  
energy recovery  
facility

Grid connection paper  
August 2021





# **Powerfuel Energy Recovery Facility (ERF)**

## **Grid Connection Paper**

**Response to request for additional detail in respect of grid connection (Q14) received from Dorset Council on 30 April 2021**

**August 2021**

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## 1. Introduction

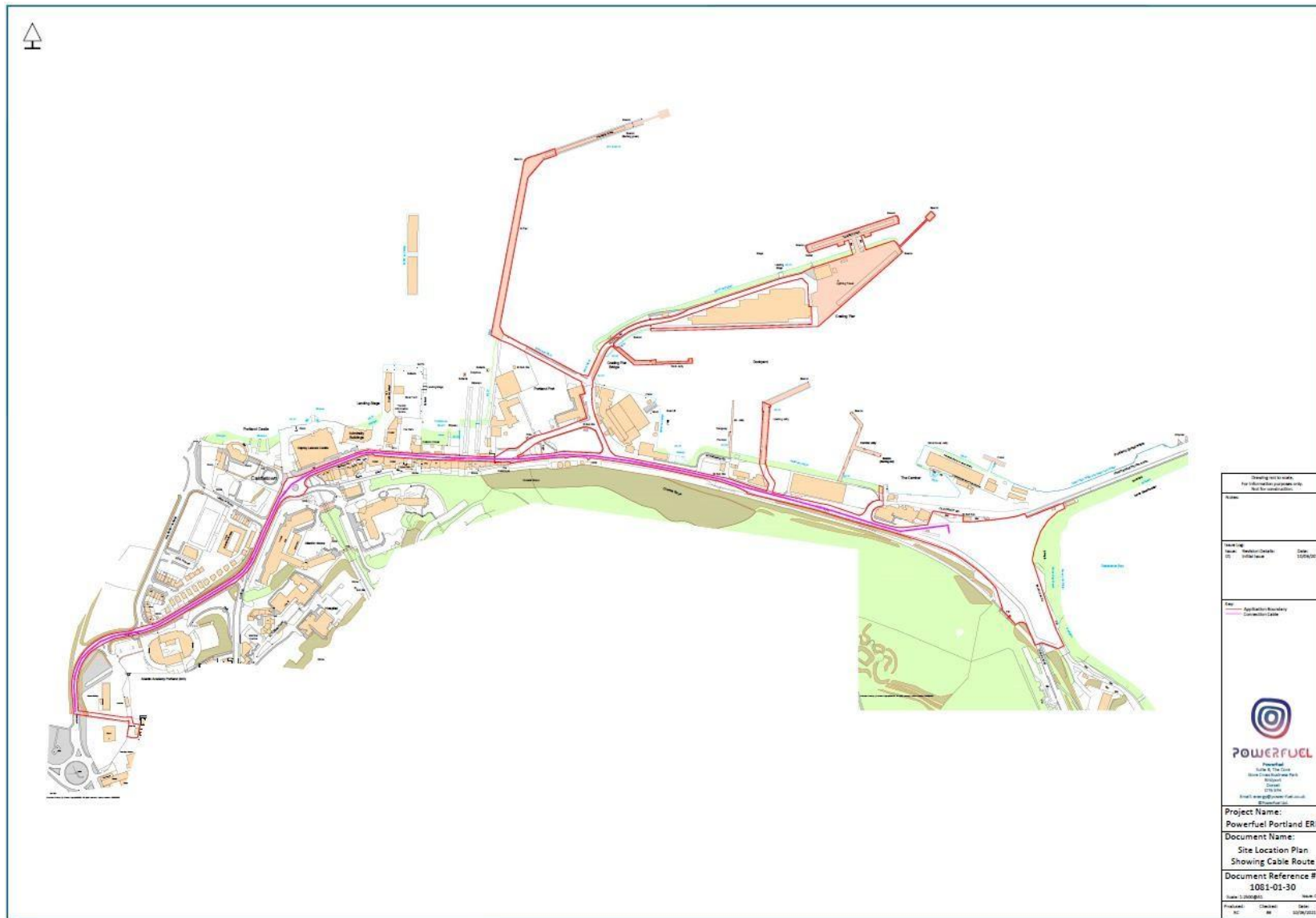
- 1.1. The purpose of this report is to provide responses to questions raised in the letter dated 30 April 2021 issued by Adrian Lynham on behalf of Dorset Council (the **Request**).
- 1.2. The points addressed in this paper are in relation to the Electricity Generation section of the Request (point 14), included below for convenience:
  - 1.2.1. **Request point 14:** Further clarification on how the development will be connected to the grid, and secure benefits in relation to the generation of electricity. This should include detail of how the grid connection will be constructed and the proposed cabling.

## 2. Grid Connection Overview

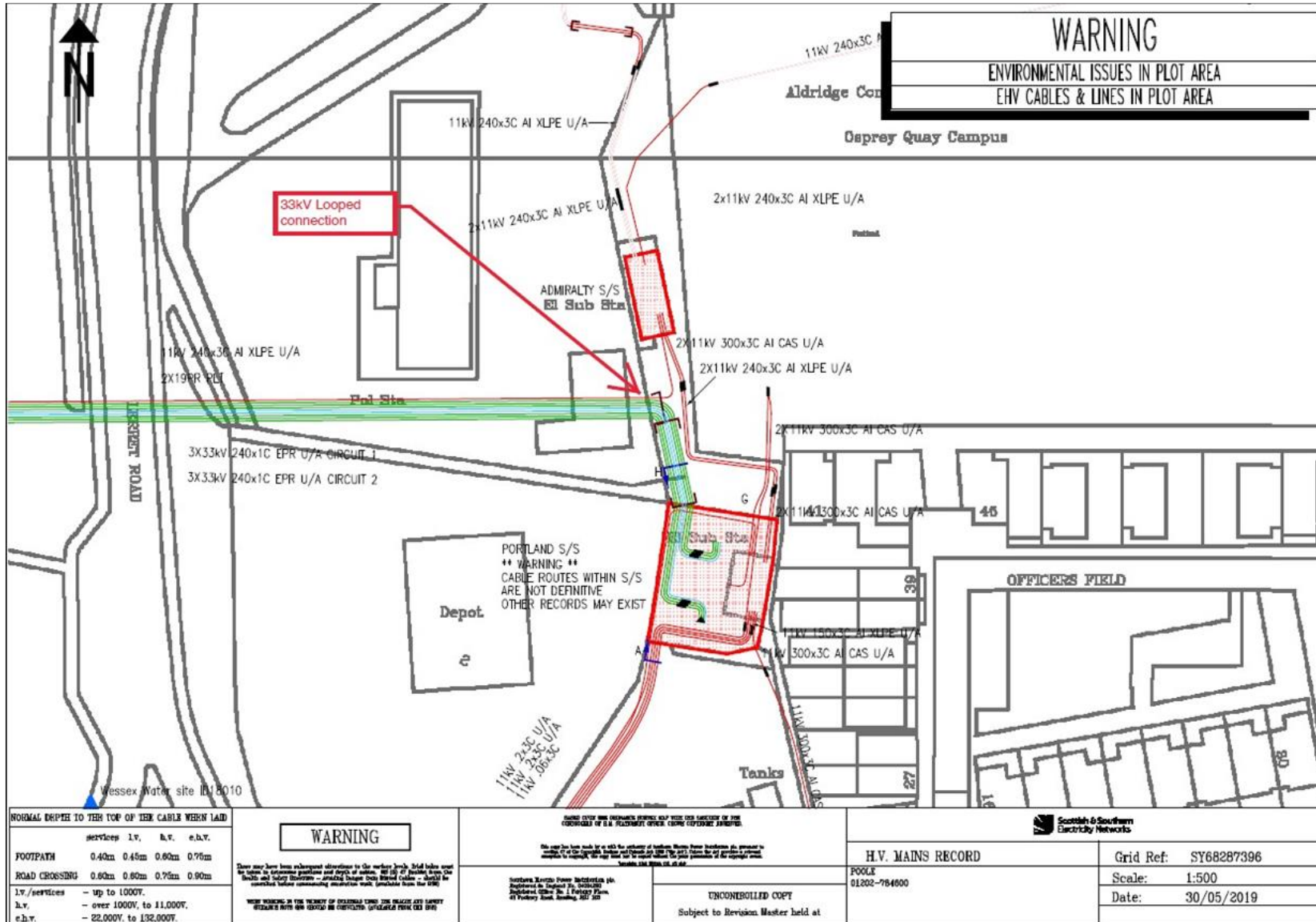
- 2.1. A new 33kV substation will be built on the north western portion of the site area which will serve as the connection point for the Portland ERF to the Scottish and Southern Electricity (**SSE**) distribution network.
- 2.2. A 1.75km 33kV cable will be installed connecting the Portland ERF substation to the SSE supply point (the Victoria Square Substation) near Lerret Road. This new cable will be buried following the route of Incline Road onto Main Road to the main port gate. From there it will follow Castletown, Castle Road and Lerret Road to the substation.
- 2.3. The route of this connection cable is included within the site area shown in Appendix 1 and 2. The details for the cable trenching are shown in Appendix 3.
- 2.4. Subject to the grant of planning permission, SSE together with an accredited ICP will undertake the connection works including the installation of this connection cable from the Portland ERF substation to the Victoria Square Substation.
- 2.5. Adjacent to the existing SSE substation on the northern side of Canteen Road a new series of containerised switchgear, converters and transformers alongside a further containerised substation will be installed in order to provide shore power from the Portland ERF facility substation directly to ships berthed at the port; this new installation will form Shore Power Substation 1. The Shore Power Substation 1 will be connected to the Portland ERF substation via a new approx. 40m buried 33kV cable underneath Canteen Road.
- 2.6. The converters and transformers will be connected to Shore Power Substation 2 on the Coaling Pier and Shore Power Substation 3 on Queens Pier by additional buried 11kV cables running along Main Road and Dock Road, with a total combined length of approx. 2.2km. Details of the layout of the Shore Power Substations can be seen in Appendix 4.
- 2.7. Site specific proposals for the onsite mains laying, including High, Medium and Low voltage cabling, will be confirmed following planning approval and the completion of the full internal electrical design layouts.
- 2.8. It is envisaged that a new substation will be required within the Portland ERF development itself. A suitable area for a standard brick-built substation, with louvres fixed back to the brick enclosure (as per the elevations drawing) has been included within the design, measuring 16.8m x 14.8m.
- 2.9. Given the location of the proposed facility, existing apparatus, grid status and the existing connection agreement between SSE and Powerfuel Portland there are no technical reasons why a connection to the existing local electricity network cannot be made.



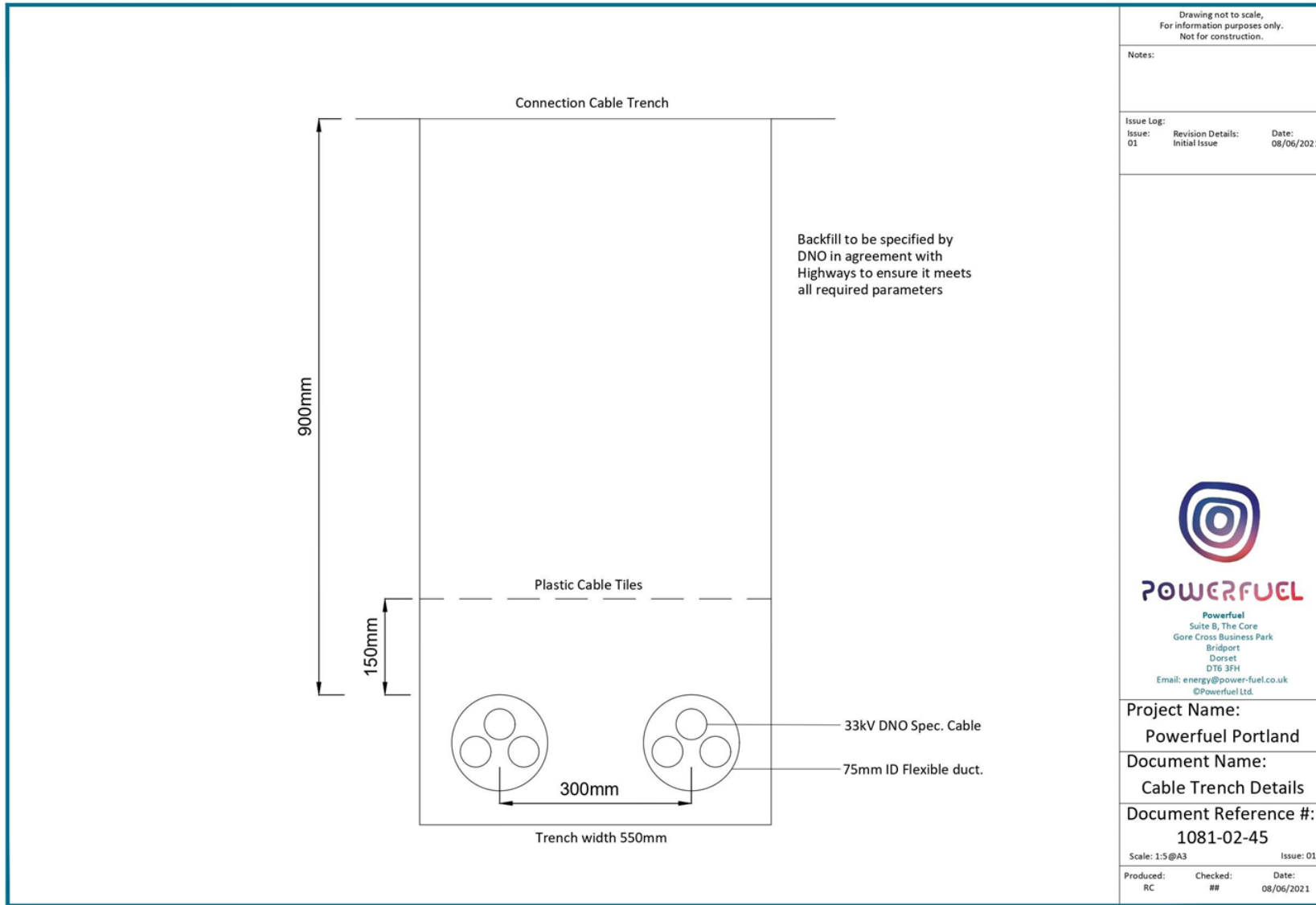
### 3. Appendix 1 – Connection Route



#### 4. Appendix 2 – Point of Connection Map (provided by SSE)



## 5. Appendix 3 – Cable Trenching Details





## 6. Appendix 4 – Shore Power Layout

