



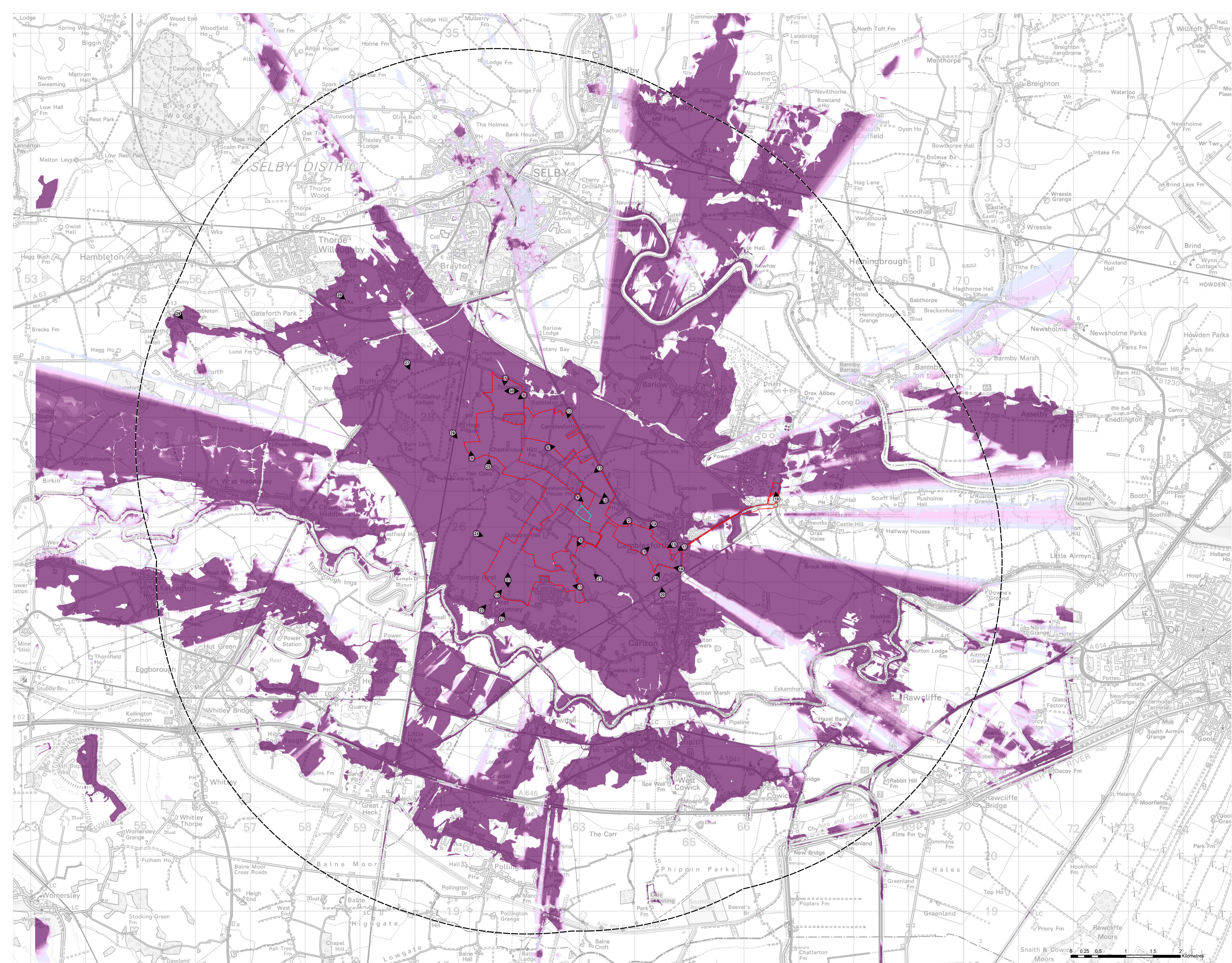
HELIOS RENEWABLE
ENERGY
PROJECT

PINS Document Number:
EN010140/APP/6.2.7.7

Pursuant to:
APFP Regulation 5(2)(a)

Environmental Statement Figure 7.7: Substation and BESS ZTV – Bare Earth

June 2024



Key

- Site Boundary
- Battery Energy Storage System (BESS) and Substation Area
- Solar Panel Area 6 km Buffer
- Viewpoint Location
- Theoretical Visibility Bare Earth

No. of Reference Points Visible within BESS and Substation Area

Highest Number Based off a 50m Grid - 17

Lowest Number Based off a 50m Grid - 1

Note

The Zone of Theoretical Visibility (ZTV) has been generated using ESRI ArcGIS Spatial Analyst extension. The digital terrain model (DTM) has been derived from OS Terrain 5 dataset with an accuracy of (+/-) 1.5 - 2.5 m Root Mean Square Error (RMSE). Earth curvature has been included in the ZTV calculation and refraction of light has been applied using ESRI default settings. The ZTV has been generated from a viewing height of 2m above ground level which falls within recommendations by 'Visual Representation of Wind Farms' prepared for NatureScot February 2017 - Version 2.2.

The use of ZTV mapping at this stage is limited and the following assumptions should be noted:

- The ZTV has been generated using a 50 m grid of the maximum developable area of the proposed Helios Solar Farm BESS and substation area. This grid generates 17 reference points distributed evenly across the BESS and substation area, providing the maximum number of points theoretically visible from any given location.
- A height of 6.48 m for BESS and substation has been used for generating the ZTV.

- The ZTV is generated from a bare earth terrain and does not account for the screening effect of features within the landscape such as settlements and woodland. It does not indicate potential visual effects or show the likely significance of effects. It shows potential theoretical visibility only. The ZTV has been produced for the purpose of informing on the ground visual assessment.
- The ZTV colour palette has been specifically developed to assist viewers with reduced sensitivity to red, green and blue light.
- The Helios ZTV has been run to an area extending just beyond the solar panel area 6 km Buffer.



Project Title
Helios Renewable Energy Project

Figure 7.7 – Substation and BESS – ZTV Bare Earth

DRWG No. 404.012006.00001.0012.1	Rev 1	Site No. -
Drawn by JK	Checked by JRS	
Scale 1:30,000 @ A1	Date 14/06/2024	