SHAWHOUSE, WHALLEY

Prepared by Pegasus Group | September 2018 | P17-2766_14

Design and Access Statement

On behalf of Suncredit Energy

CONTENTS

01 INTRODUCTION

This Design and Access Statement supports a planning application submitted to Ribble Valley District Council [as the "Local Planning Authority"] by Pegasus Group on behalf of Suncredit Ltd ["the applicant"]. Planning permission is sought for the installation of a standby electricity generation hub comprising 12 No. gas utilisation engines on land at Shawhouse Farm, Whalley, Clitheroe, BB7 9AD.

Background to development

The National Grid operates a Balancing Service in order to balance demand and supply and to ensure the security and quality of the electricity supply across its transmission system. It is responsible for managing and making critical adjustments to the supply and demand of electricity at each moment of the day by either implementing agreed stoppages to some electricity users supply and/or calling upon back-up generation. Without such back-up capacity, such as the plant put forward by this application proposal, the national grid is at a real risk of achieving blackouts.

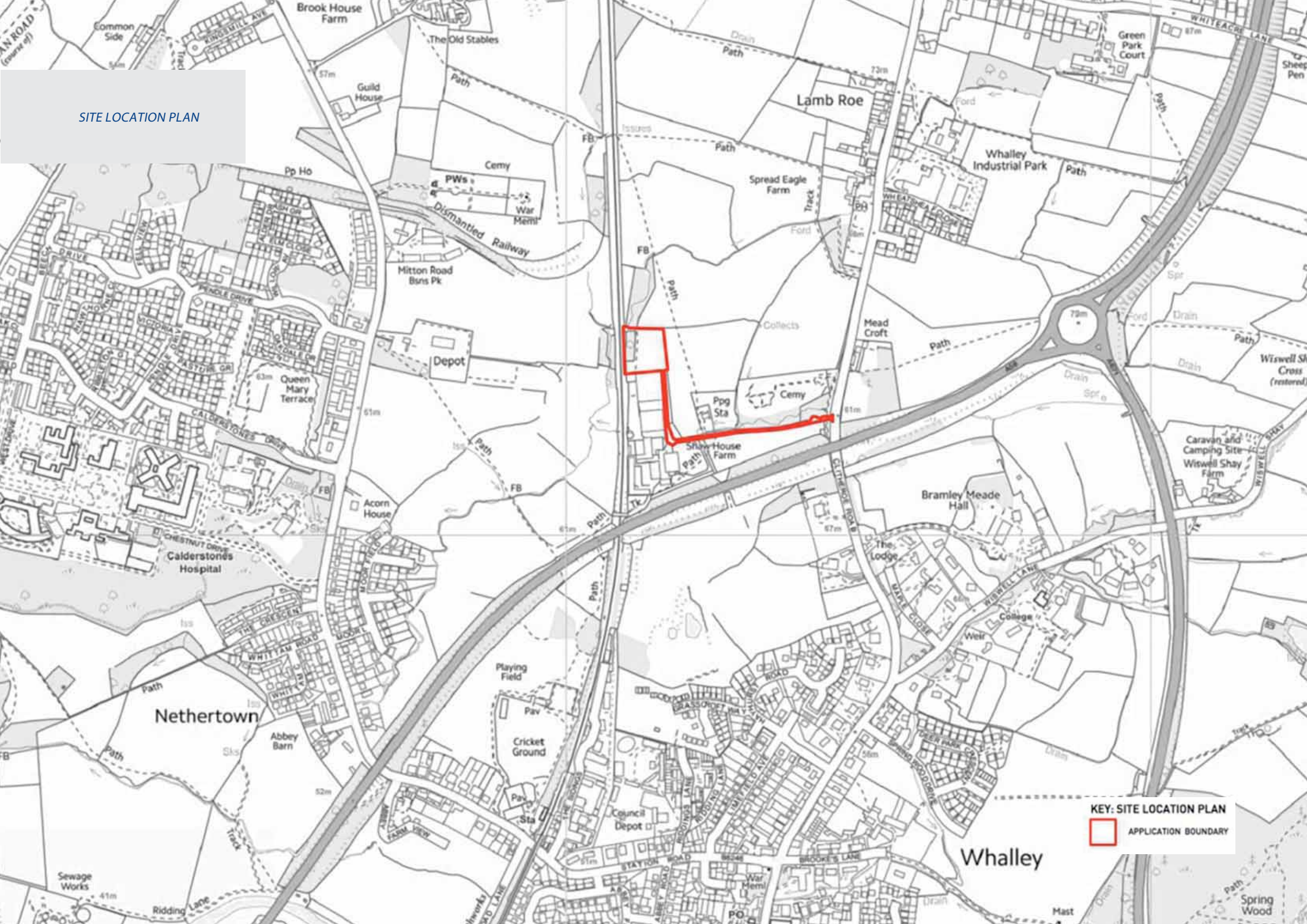
The proposed standby electricity generation scheme at Shawhouse Farm will assist towards controlling the balancing service by providing the National Grid with access to extra power in the form of readily available generation to be able to manage unforeseen demand increase and/or fluctuations to mainstream generation.

With the increasing penetration of intermittent renewables in the system, coupled with the ongoing retirement of large thermal plant, there is an increasing need for reserve power to balance the national grid.

Development of the energy generation facility therefore: (i) uses existing grid infrastructure in an efficient manner; (ii) provides a valuable local and national service; and (iii) allows more renewables to be integrated into the system.

This document has been prepared in line with Section 4(3) of the Town and Country Planning (Development Management Procedure) (England) (Amendments) Order 2013, which sets out the requirements regarding the contents of a Design and Access Statement.

SITE LOCATION PLAN



02 SITE DESCRIPTION

The application site is located within the farmyard of Shawhouse Farm on the northern edge of Whalley. The application site is centred on grid reference SD 73141 37323, within the administrative area of Ribble Valley Borough Council. The main part of the application site occupies an area of approximately 0.54ha excluding the access road.

The main broadly square part of the application site occupies the northern part of the farmyard of Shawhouse Farm, adjacent to the main large-scale farm buildings. A small copse lies to the north/north-west of the application site, and a bund (approximately 2m high) lies on the western boundary between the application site and the adjacent Ribble Valley railway line.

The application site is partially hard-surfaced and contains areas of ruderal/pioneer vegetation, and is currently used as a yard for the storage of farm machinery, vehicles and rubble.

Shawhouse Farm is located on the northern edge of Whalley, to the north of the A59 main road and to the east of the Ribble Valley railway line. Land surrounding the farm is generally in pastoral uses, with strong hedgerow field boundaries with frequent hedgerow trees. There are also numerous tree belts, including alongside the A59, and small copses.

FIGURE 1: PHOTOGRAPH OF PART SOUTHERN SECTION OF APPLICANT SITE (EXCLUDING ACCESS TRACK)

Vehicular Access

In terms of access, the application site is served by the existing farmyard track which connects Shawhouse Farm to Clitheroe Road.

Built Infrastructure

As well as the large farm buildings of Shawhouse Farm itself, built infrastructure is visible across the local landscape, including the A59 main road to the south of Shawhouse Farm (with the major roundabout junction with the A671 to the east), the Ribble Valley railway to the west of the application site, the Calderstones Hospital to the west, and industrial/ commercial developments such as at Lamb Roe and Barrow to the north-east.

A 33kV powerline mounted in single timber T-poles passes immediately to the east of the main development area of the application site. An 11KV powerline cable runs down the access track to Shawhouse Farm.

FIGURE 2: PHOTOGRAPH OF THE SHAWHOUSE FARM ACCESS TRACK WHEN VIEWED FROM CLITHEROE ROAD

Topography

The application site is broadly level, lying at an elevation of approximately 58m Above Ordnance Datum (AOD). The immediately surrounding topography is very gently undulating, generally sloping towards the various nearby rivers (the Ribble, the Hodder and the Calder) and their tributaries. Further to the south-west and north-east the land rises, to over 500m AOD in the case of Pendleton Hill to the north-east.

Woodlands, Hedgerows and Trees

A small copse lies immediately to the north/north-west of the application site. There are further small woodlands and treebelts across the local area, with notable tree belts alongside much of the A59 main road to the south of the application site.

Field boundary hedgerows are generally dense and strong, typically being clipped to a height of 1.5-1.8m annually. Hedgerow trees are very common, sometimes continuous.

Public Highways and Railways

The nearest public highways to the application site is Clitheroe Road, a minor road which lies approximately 300m to the east of the main part of the application site and the farm, and the A59 main road which lies approximately 225m to the south of the main part of the Site. Clitheroe Road passes under the A59, linking Whalley and Barrow on a broadly north-south alignment, and the farm access road (which also forms the access to the application site) links to Clitheroe Road.

Settlements and Residential Properties

The nearest residential properties to the application site are:

- The farmhouse and bungalow at Shawhouse Farm itself, approximately 185m south of the main part of the Site but separated from the Site by the farm outbuildings;
- Properties at Lamb Roe Gardens on southern edge of Lamb Roe, approximately 400m from the main part of the Site;
- Mead Croft, approximately 315m to the east;
- Property on west side of Clitheroe Road immediately to south of the A59 underpass, 350m to the south-east of the main part of the Site;
- Properties on Grasscroft Way on northern edge of Whalley, approximately 525m to the south of the main part of the Site;
- Properties on eastern side of Moor Field on north-east edge of Nethertown, approximately 450m to the south-west of the main part of the Site;
- Properties on west side of B6246 Mitton Road, approximately 450m to the west of the main part of the Site;
- Properties on north-west side of Mitton Road Business Park, approximately 400m north-west of the main part of the Site;
- Guild House on B6246 Mitton Road, approximately 585m north-west of the main part of the Site; and
- Various residential properties at Brook House Farm, approximately 585m to north-north-west of the main part of the Site.

Environmental and Cultural Designations

There are no conservation areas within or adjacent to the application site.

The nearest to the site is the Whalley Conservation Area (extended in 2006). This is located approximately 600m away from the application site and separated by various uses land uses including the A59 which sits at a higher level than the application site.

There are no listed heritage assets near the site. The nearest listed buildings are clustered in the Whalley Conservation Area, as shown on Figure 3.

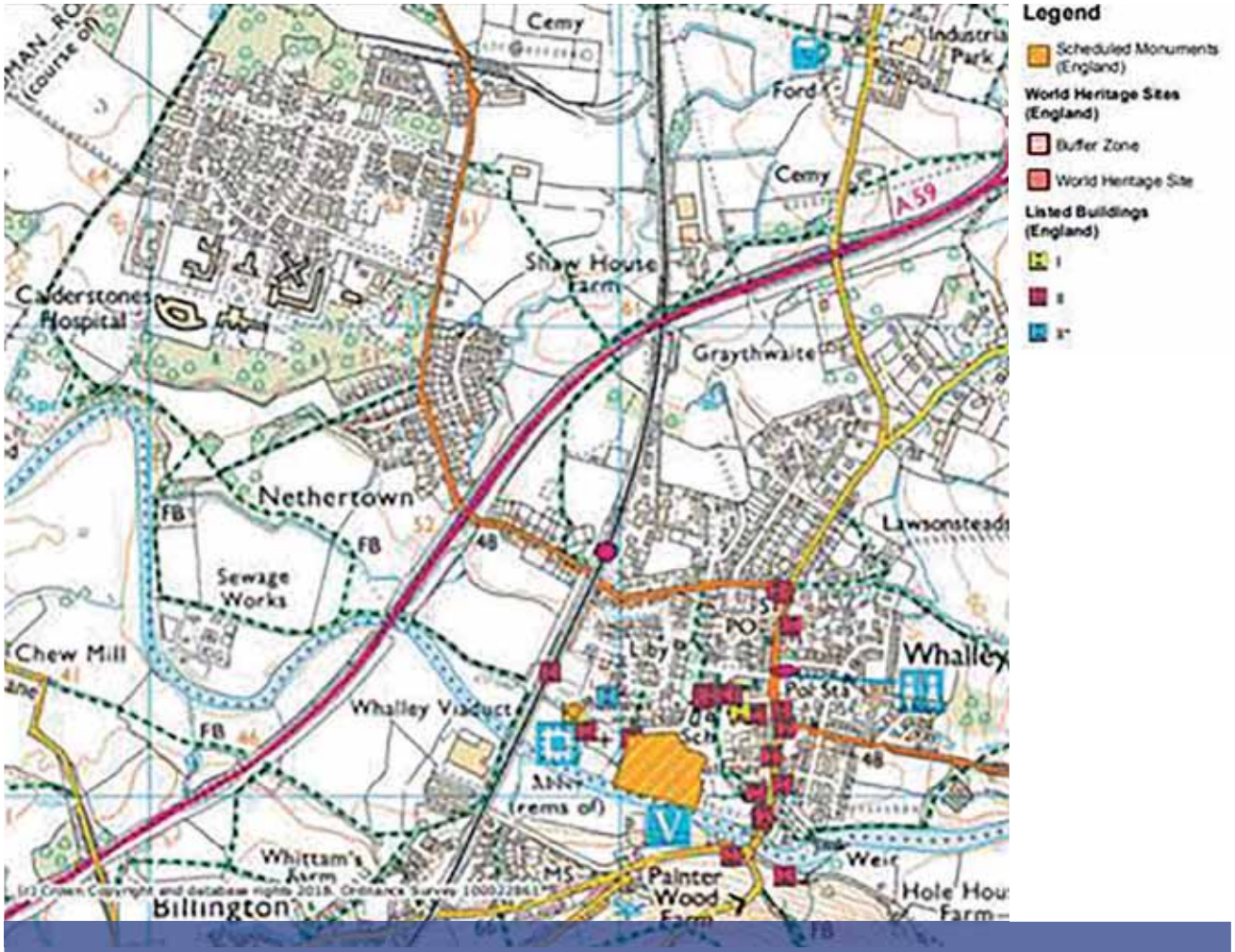


FIGURE 3: EXTRACT FROM MAGIC SHOWING NEAREST HERITAGE ASSETS

[1] https://flood-map-for-planning.service.gov.uk

Turning to environmental designations, there are no designated sites located wthin or adjoining the site. The nearest is Light Clough SSSI which is designated on the basis of earth heritage (geological) and located 2km to the north east of the application site.

There are twelve non-statutory Biological Heritage Sites (BHS) within the locality, these are:

- Calderstones Hospital Woodland /Railway Line (73NW09), 260 m to the north-west. This is a site supporting alder – willow carr woodland, swamp and grassland habitats.
- Hard Hill Common (73NW18, 700 m to the north). Formely common land which has been drained for agricultural improvement but still supporting lcoalised areas of purple moor grass/rush pasture.
- Barrow Brook Field (73NW17), 700 m to the north. A site supporting damp semi-natural neutral grassland (MG4 NVC classification).
- Spring Wood (73NW14), 1.3 km to the south-east. A woodland and scrub site.
- Mitton Wood (73NW05), 1.4 km to the west. A large semi-natural woodland site listed on Lancashire Inventory of Ancient Woodland (Provisional) (English Nature 1994).
- Sir John's Wood and Lords Park Wood (73NW12), 1.5 km to the south-east. A woodland and scrub site.
- Calder Bank, Broken Bough (73NW1), 1.5 km to the south-east. A steep bank along the northern side of the River Calder, and a continuation of St John's Wood. It supports a population of rough horsetail (Equisetum hyemale) which is listed on the Lancashire Red Data List of Vadcular Plants.
- Small Field (73NW16), 1.8 km to the north-west. A site supporting semi-natural neutral grassland adjoining the eastern bank of the River Ribble.
- Mitton Hall Wood (73NW0), 1.8km to the north-west. Designated on the basis of woodland and scrub habitats.
- River Ribble from London Road Bridge Preston, in West, to County Boundary, in East (LSRRI), 1.8 km to the north-west. Important for sea trout, salmon, otter, water vole, sand martin and kingfisher. The habitats associated with the river comprise woodland, grassland and, locally, swamp and tall-herb communities.

Hydrology

The Government's flood risk advice map locates the site in flood zone 1, and therefore at the lowest risk of flooding. A review of the Environment Agency data set confirms there are no water abstract points within the application site. The relevant extract of the Government's flood risk map is provided on Figure 4.

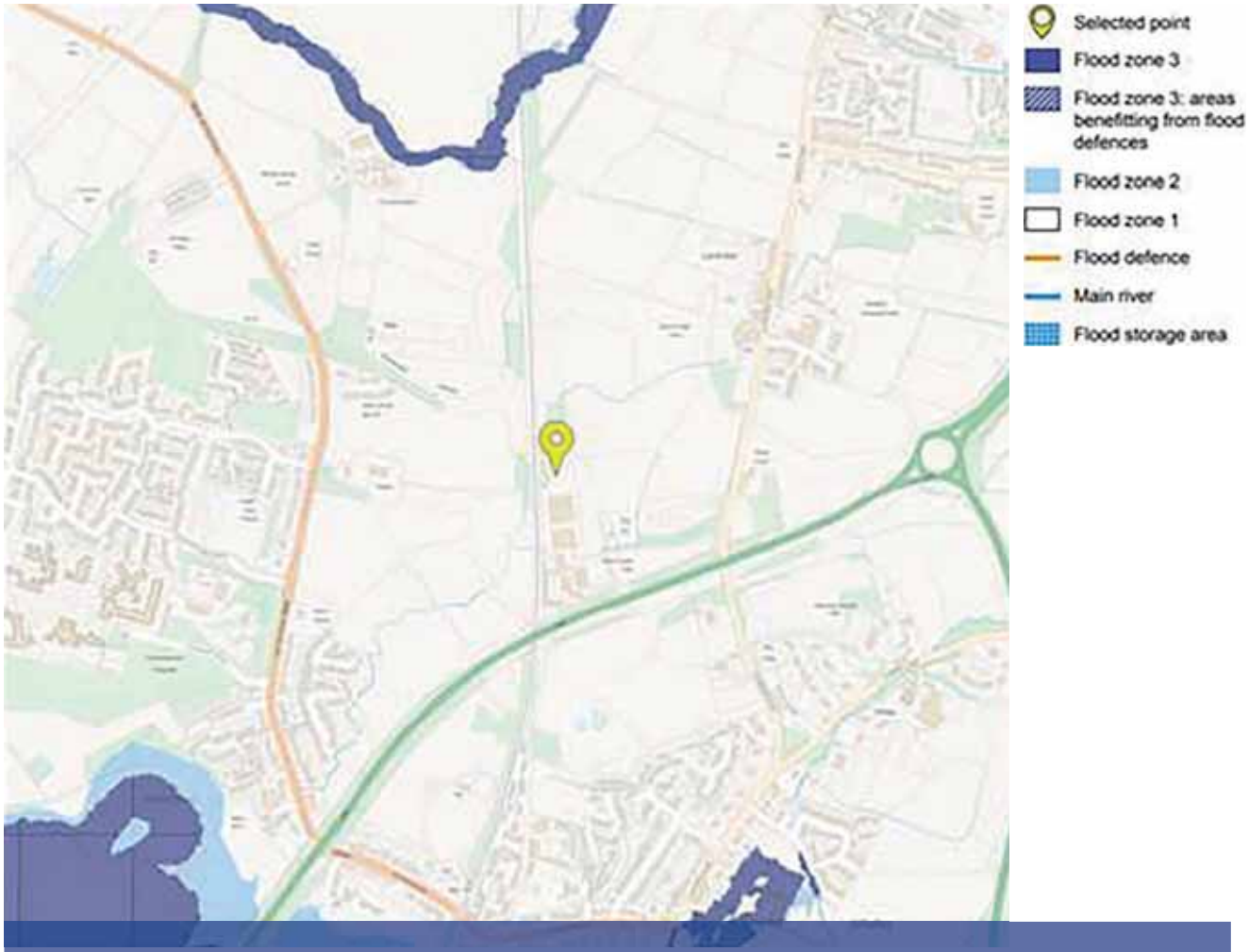


FIGURE 4: EXTRACT OF GOVERNMENT FLOOD MAP FOR PLANNING

[1] https://flood-map-for-planning.service.gov.uk

03 DESIGN PARAMETERS & DESIGN SOLUTION

Use

The intention of the development is to primarily participate in the National Grid balancing service with regards to the security and quality of electricity supply across the transmission system (National Grid).

The proposed Development and Design Principles

The design of the application proposal has been developed primarily from five sources; the physical opportunities and constraints the site provides; the physical needs of the development itself; the policy context which surrounds the development; and the technical design comments and advice put forward by the applicant and wider consultant team.

Design Constraint and Opportunities

The key constraints and opportunities are outlined below:

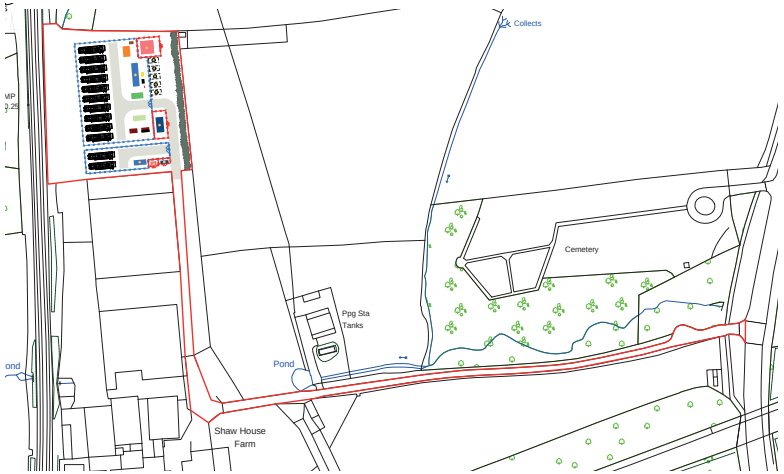
DEVELOPMENT CONSTRAINTS

- Appropriate design and siting required to take account of established built form and other physical constraints within the farmstead and adjoining features (these include the railway line and existing utilities, gas and electricity, infrastructure which traverse through Shawhouse Farm);
- Appropriate design and positioning required to respect and respond to the physical shape of the site; and
- Need to ensure visual amenity is not detrimentally affected from any nearby visual receptors.

DEVELOPMENT OPPORTUNITIES

- Proximity to point of grid connection;
- Land take requirement – the site is an appropriate size for the development proposal;
- Application site is served by appropriate vehicular access;
- The application site itself is not subject to any environmental designations;
- The application site predominantly comprises hardstanding and is not therefore green agricultural land;and
- Contribute to the provision of energy generation at the site.

SITE LAYOUT



KEY: SITE LAYOUT

- APPLICATION BOUNDARY
- GAS KIOSK
- PRIVATE SUBSTATION
- WELFARE
- WORKSHOP
- NER
- 33/11KW TX
- OIL STORAGE
- WASTE OIL
- DNO SUBSTATION
- 11/0.4KW TX
- BT
- STBY GENERATOR

SURFACE MATERIALS:

- TARMACADUM

ENCLOSURE DETAILS:

- 3M ACOUSTIC FENCE/2.4M SECURITY FENCE (COUPLED)
- 2.4M SECURITY FENCING
- V VISITOR PARKING
- ACOUSTIC ACCESS GATE
- SECURITY GATE
- PROPOSED SHRUB PLANTING

SITE PLAN

KEY: SITE LOCATION PLAN

APPLICATION BOUNDARY

Design Solution

The remainder of this section explains the design solution and considers the topics of use, connection, access and landscape.

Use

The application proposal will comprise the introduction of 12 No. containerised natural gas fired engines providing a total generation capacity of 24MW (2MW per engine).

The facility is subdivided into two compounds whereby 10 No x 2MW engines will serve the existing local 33kv powerline and 2 No x 2MW engines will serve the existing local 11kv power line. Both compounds can run interdependently, and the containerised gas utilisation engines would be in operation for approximately 2000 hours per year, although generating hours are expected to be clustered between the months of November to February (times of peak demand for balancing service to the local grid network). The plant are intended to primarily be contracted to the National Grid procedures under its Balancing Services.

The main components of the application proposal are set out below:

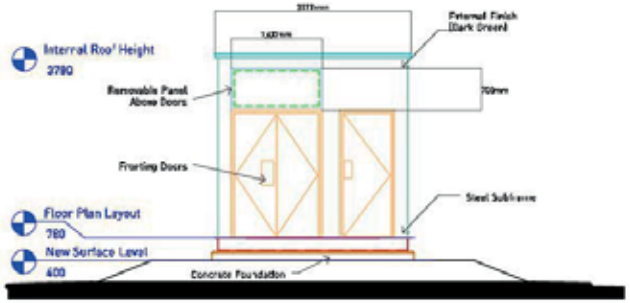
- 12No x 2MW rated gas utilisation engines measuring 12m in length, 3m in width and 3.5m high with a flue stack height of 8m arranged into two gated compounds;
- Landscaping along the eastern edge of the facility;
- Transformers;
- Switchgear cabinet;
- Welfare cabinet;
- 2 No Gas Kiosk;
- 2 No. Customer Substations;
- 2 No. Gated compound with a 2.4m high security fence;
- 2 No. DNO Substation;
- 3m high solid acoustic fence enclosing the containerised engines; and
- Access track.

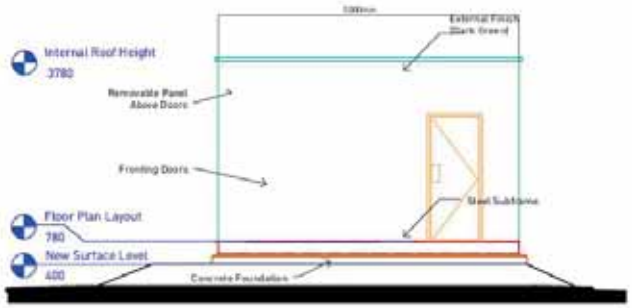
Connection to the Local Electrical and Gas Grid Network

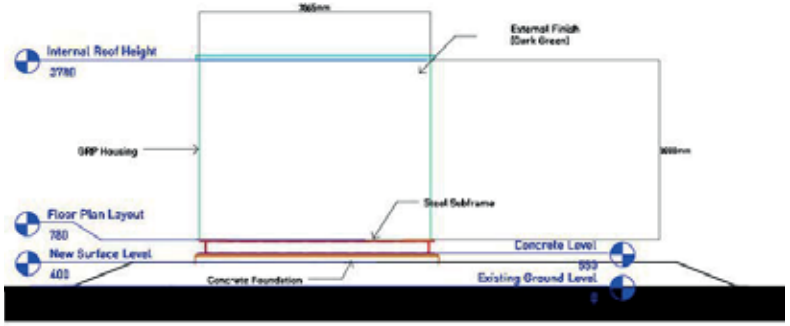
The existing local electricity grid infrastructure has sufficient export and import capacity headroom to accommodate the application proposal. The points of connections for both gas (underground gas pipe) and electricity (two connections) are all located within Shawhouse Farm which accommodates the application proposal. The proposed DNO substation that will accompany the 10x2MW compound would directly connect to the adjacent 33kv powerline (located to the immediate east of the main compound) and the proposed DNO substation for the 2x2MW compound would directly connect to the 11kv powerline which runs parallel alongside the Shawhouse Farm access track from Clitheroe Road. The cable runs / gas pipes linking the proposed compound to the point of connections on the national gas/electricity grid would be located underground.

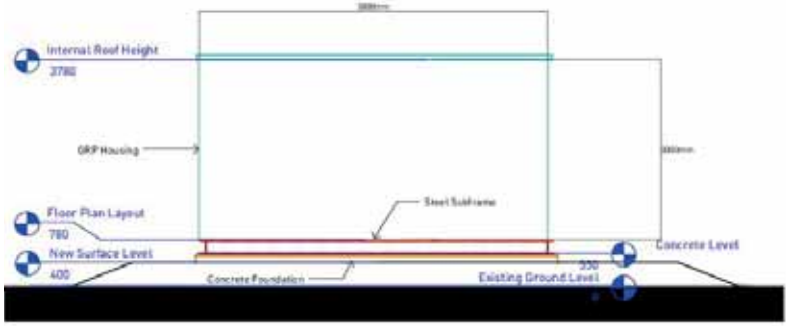
Public Access

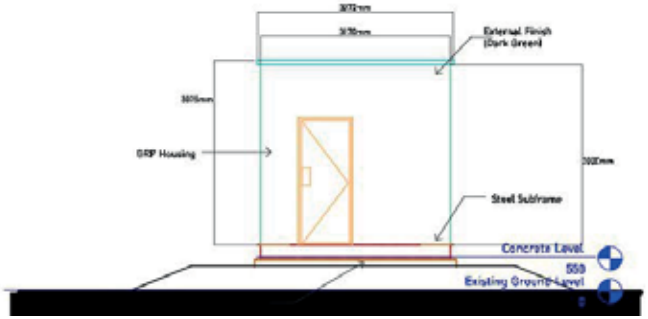
The proposed development will not be accessible to the public and security measures provided will act as a deterrent to prevent unlawful access.

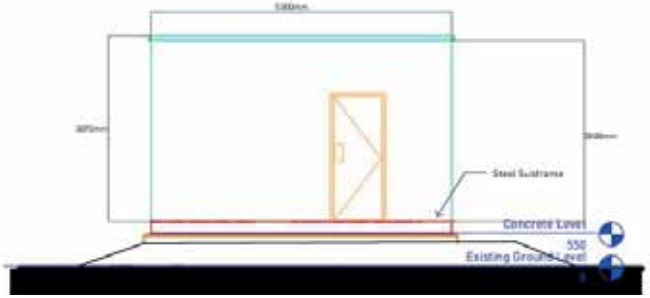






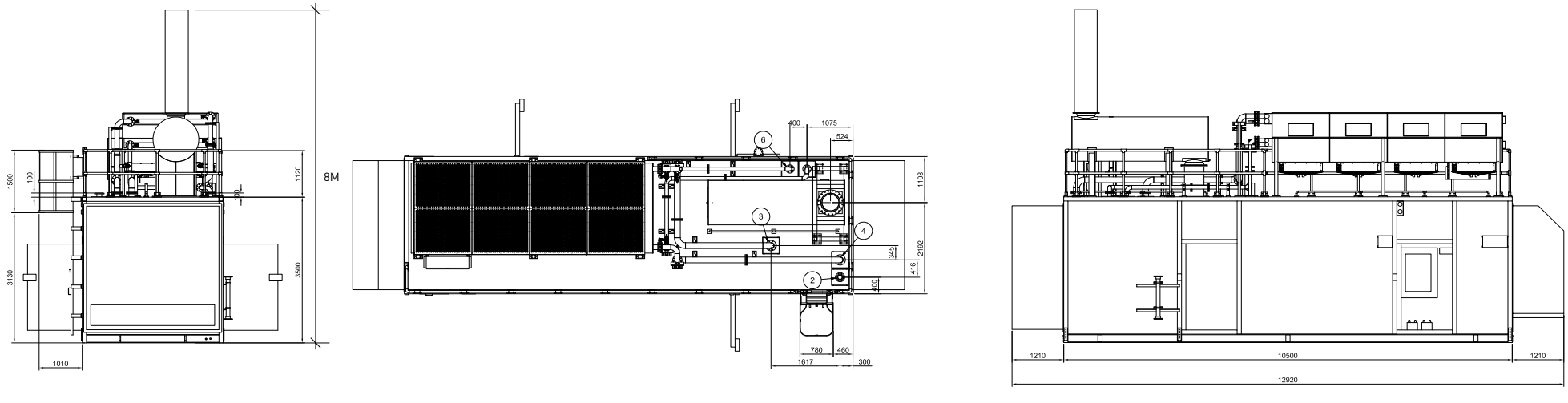




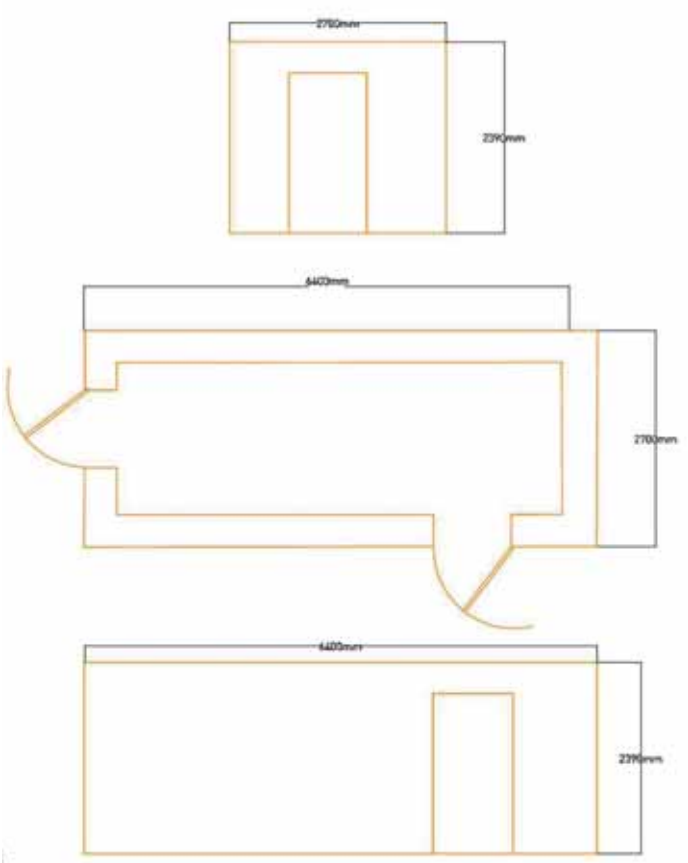


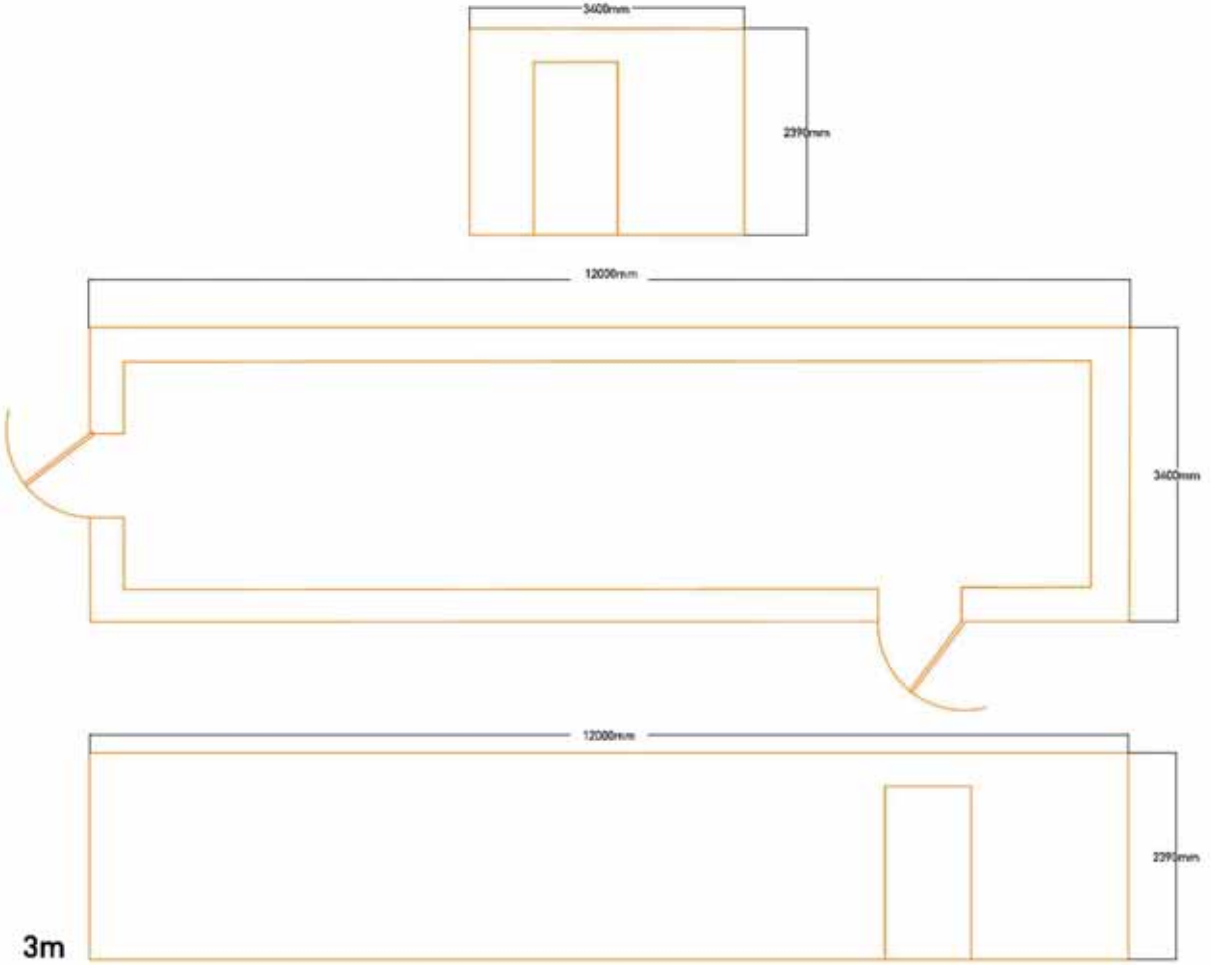
DNO SUBSTATION ELEVATIONS

DNO SUBSTATION 'B' ELEVATIONS



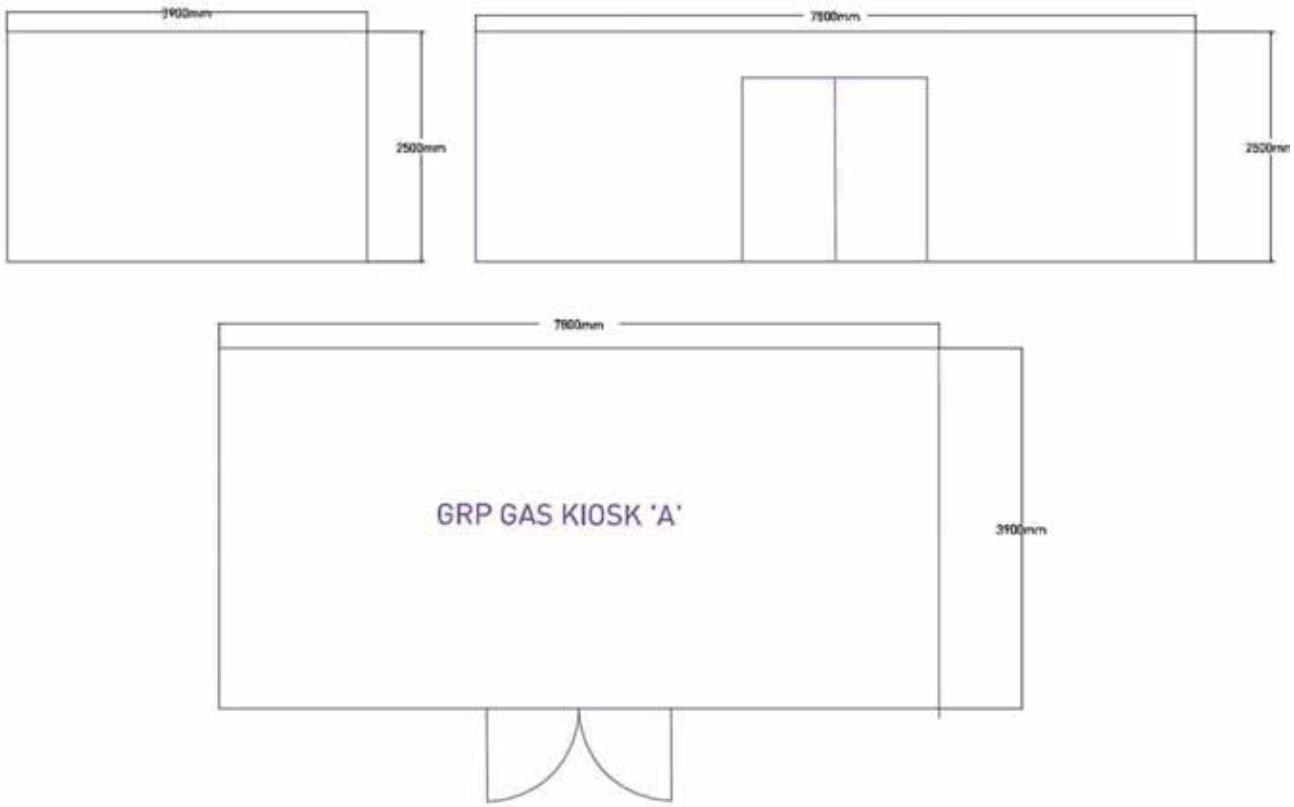
GENERATOR ELEVATIONS



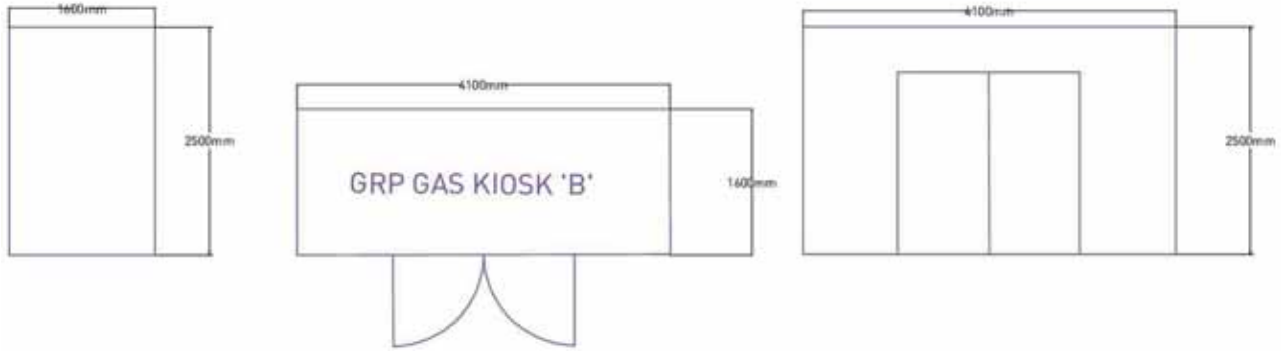


PRIVATE SUBSTATION 'A' ELEVATIONS

PRIVATE SUBSTATION 'B' ELEVATIONS



GAS KIOSK 'A' ELEVATIONS



GAS KIOSK 'B' ELEVATIONS

Lighting

The facility will be unmanned with infrequent visits made for maintenance purposes. Continuous lighting is therefore unnecessary at the site. The only permanent lighting on site will be timer controlled and motion sensor activated security lighting, enabling the security company to have a visual at night. At other times, task lighting (low in luminance) will only be necessary when an engineer is in attendance. Notwithstanding this, the design and location of the compound is such that light spill out from the site would be negligible.

Decommissioning and Removal

The applicant accepts the imposition of a planning condition which requires the decommissioning of the site if the site becomes inoperative for a period of 6 months or longer.

Landscape

There would be a new native hedgerow planting introduced along the eastern edge of the application site.

04 CONSTRUCTION AND CONSTRUCTION TRAFFIC

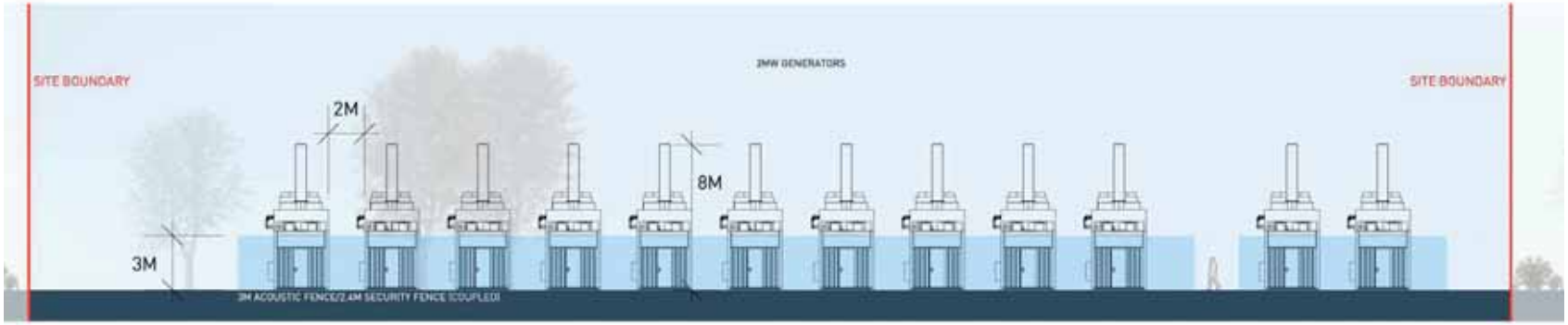
The estimated on-site construction period for the application proposal would be split into two phases. The first phase would be the procurement and installation of the DNO substations and this is expected to take around 3 months. Then, the installation of the gas engines themselves will only take up to three months. Normal hours of operation for construction purposes will be between 0.700 to 19.00 hrs. Monday to Friday and 8.00 to 18.00 hrs. on Saturdays. The construction programme will consist of the following principal operations:

- Site preparation;
- Installation of DNO substations;
- Construction of bases for gas engine containers and associated infrastructure;
- Excavation of cable trench;
- Installation of gas engines and associated infrastructure;
- Connection of electrical power;
- Testing and commissioning; and
- Provision of landscaping.

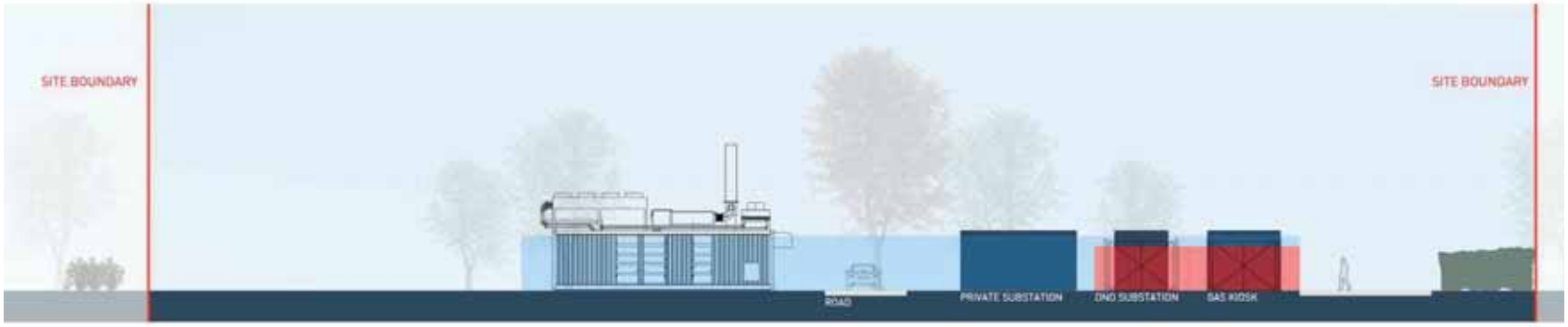
A maximum of 20 construction workers are anticipated to be on site at any one time. The construction period will include the use of Heavy Goods Vehicles (HGVs) to bring the equipment onto the site and this will be strictly managed to ensure that vehicle movement is controlled and kept to a minimum. It should be noted that unlike other renewable energy development, such as wind farms, the construction of the scheme does not require equipment to be delivered by abnormal loads (i.e. vehicles over 16.5m in length). HGV will be used to transport the 12 No gas engines to site and each would be hoisted into position by crane (two HGV per genset, one for base unit and one for the radiators and ancillaries which sit on the roof). Typically, up to 60 HGV deliveries would be required to facilitate the development proposal. Considering the historical / existing heavy goods traffic generated at the farmstead, this additional traffic generated by the application proposal is not considered to be material.

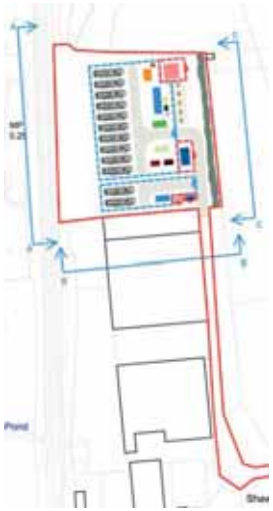
SITE SECTIONS

SECTION A

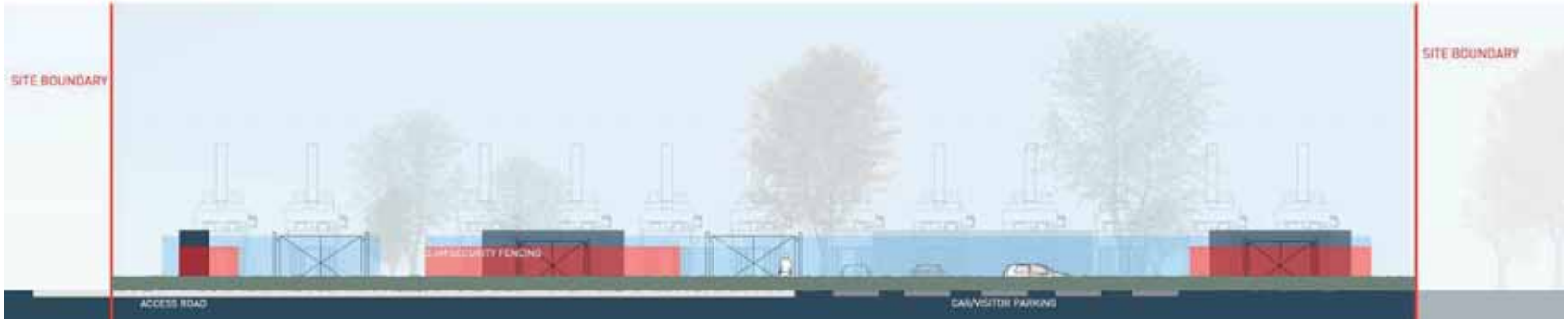


SECTION B





SECTION C



05 CONCLUSIONS

The application proposal comes forward against the background of a clear recognition at both a national and international level that there is a pressing requirement to take steps to tackle climate change and reduce carbon emissions. The development will directly support the Grid and contribute to managing the supply and demand for electricity across the network. There are no technical reasons why the development should not be permitted.

The reserve generating hub will operate for a maximum of 2000 hours per year. It is envisaged that the facility will primarily become operational for very short periods in the evenings, especially in the winter months, when the national grid calls upon reserve electricity to balance out the real time gap between the increased in demand and the shortage of electricity and thus avoid localised blackouts. A report published by Ofgem in July 2015 sets out how it anticipates that the scenario where the loss of load is expected to increase to a range of between 2 to 15 hours in the next three years. The application proposal will contribute towards bridging the known energy gap. For the majority of time the facility will not be operational.

Taken overall, the balance of planning consideration weighs heavily in favour of the benefits which would arise from this renewable energy scheme. It is therefore submitted that the application proposal constitutes a scheme which should gain the weight of national energy and planning policy support for such developments.

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PLANNING DESIGN ENVIRONMENT ECONOMICS