

DESIGN & ACCESS STATEMENT

Proposed Battery Storage System (BESS), Rossendale

March 2025

Turley



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01 Introduction

This Design and Access Statement (DAS) has been prepared by Turley Design on behalf of Cubico UK Developments Limited. It supports a full planning application for a battery storage facility (the 'Proposed Development') at Rochdale Road and Bamford Road, Turn Village ('the Site').

The description of development is as follows:

"Construction, management and operation of a Battery Energy Storage System (BESS) with associated infrastructure, including access, drainage, security measures and landscaping and provision of a connecting cable to Croston Close Road substation."

The proposed scheme comprises a series of battery containers and associated equipment including inverters, transformers, control room and storage container. The Site will also have its own on-site substation which will facilitate the connection onto the grid situated 0.5km to the south of the Site at Croston Close Road.

The batteries will be housed within secure containers which will be no more than 3 metres in height and all equipment will be enclosed by a boundary fence. The Proposed Development will have an installed capacity of up to 85MW and will supply electricity to the National Grid during times of peak energy demand, supporting other low-carbon and renewable projects, aimed to help ensure the UK meets its Net Zero targets.

Full planning permission is sought for the proposed development for a temporary period of 40 years, at which point the Site will be capable of being reinstated to its present-day condition.

The design approach for the battery storage facility has been informed by and has followed a full contextual appraisal of the Site; identification of constraints and opportunities; and pre-application consultation with representatives from the local planning authority.

Purpose of the Document

The role of this Design and Access Statement is to illustrate the processes, which has led to the proposed development and to justify the proposals in relation to their context in a transparent, legible and structured method. This approach is embedded and endorsed by the National Planning Policy Framework. This document will demonstrate that the proposed development is responsive to its surrounding context and in accordance with relevant design policies. This should be read in conjunction with the full set of documentation submitted as part of the overall application.

Structure of the Statement

This DAS has been structured to reflect the sequence of key stages that have evolved through the Assessment, Evaluation and Design processes, which have accounted the production of this application. This document is structured as follows:

- **Site Appraisal:** This chapter describes the context of the Site in terms of wider location and accessibility, and makes reference to the Planning Statement for relevant planning policies and design guidance. This chapter also discusses spatial constraints informing the layout of the proposed development.
- **Design Evolution:** This chapter determines previous layout iterations and their respective rationale, justifying our final layout proposal. This also describes the summary of discussions with key stakeholders.
- **Development Parameters:** Sets out the parameters for the design of the BESS and provides details of those elements for which design is fixed.
- **Illustrative Proposals:** This chapter sets out the illustrative proposals for the Site, demonstrating how the Site could be developed within the development parameters.
- **Summary and Conclusions:** A summary of the key findings established in this Design and Access Statement.

Cubico UK Developments Limited

This planning application has been submitted on behalf of Cubico UK Developments Limited ('Cubico'), a global leader in the renewable energy sector. With a portfolio spanning nine countries, Cubico has a proven track record in financing, developing, and managing renewable energy assets that support the global transition to a low-carbon economy. To date, the company has successfully contributed 2.9GW of installed renewable energy capacity and has a development pipeline of an additional 17GW. Cubico's ongoing commitment to sustainability and clean energy aligns with national and international climate objectives, reinforcing its role as a key player in the renewable energy industry.

Cubico Sustainable Investments vision for the development site is:

"This scheme will help ensure a sustainable energy supply, reduce reliance on fossil fuels, and improve grid stability. By storing electricity and releasing it when demand is higher, BESS provides a consistent and reliable energy flow, even when wind and solar production fluctuates. This technology enables more renewable energy on the grid, strengthens energy security, and supports net-zero goals."



Battery Storage Facilities

The UK Government has a legal obligation to achieve at least a 100% reduction in greenhouse gas emissions, compared to 1990 levels, by 2050 (“net zero”). The pathway to net zero includes an interim target of a 78% reduction in greenhouse gas emissions (compared to 1990 levels) by 2035.

The National Planning Policy Framework (NPPF) confirms that the provision of low carbon energy is central to the economic, social and environmental dimensions of sustainable development. It is also critical to the realisation of climate change objectives. The provision of greater levels of renewable and local carbon energy infrastructure is, however, required to be supported by facilities for energy storage.

The Government’s Energy White Paper (EWP), the Draft National Policy Statement EN1 and a range of other Governmental and industry-led publications articulate the need for and provide strong support for the development of battery storage facilities.

The Smart Systems and Flexibility Plan identifies that in order to achieve the deep power sector decarbonisation needed to achieve the Sixth Carbon Budget, significantly higher levels of system flexibility (such as BESS) will be needed as renewable power replaces fossil fuels and heat and transportation is electrified: around 30GW of low carbon flexible capacity may be needed by 2030 and 60GW by 2050 in order to maintain energy security and cost-effectively integrate high levels of renewable energy generation.

Consequently, storage capacity needs to increase to at least 30GW by 2030, in order to meet the Government’s stated objectives regarding “net-zero” and the associated legal obligations.

Battery storage facilities are thus an essential component in meeting climate change objectives, reducing the costs of electricity and in increasing levels of national energy security.

By absorbing extra energy, storing it, and releasing it onto the network when the grid needs it during periods of peak demand, the construction of battery storage facilities enables the local grid network to run more effectively. When there is insufficient power during periods of high demand, batteries are discharged to balance under frequency preventing black and brown outs.

To balance over frequency, the batteries are charged to prevent dangerous spikes across the electricity infrastructure. Battery storage facilities therefore provide a valuable service to both the National and Local Distribution Grid.

Battery storage facilities also play a fundamental role in decentralising the grid system, enabling power to be generated and stored in specific localised areas where it is required. Increasing the amount of operational storage developments reduces the over-dependence on centralised, fossil-fuel facilities, which in turn has a cumulative effect on reducing CO2 emissions and de-carbonising the grid. Decentralisation is key in increasing efficient energy generation, with less reliance on centralised facilities to overproduce in operation to account for transmission loss over greater distances.

Battery storage schemes also allow more renewable energy production to be integrated into the system. As renewables produce a variable supply of electricity production in peaks and troughs, battery storage facilities allow for this, being able to respond at short notice to requests from National Grid to generate electricity, when renewable sources are not generating.



Context and Need for Development

In September 2019, Rossendale Borough Council declared a 'Climate Emergency' and joined a number of local authorities who declared a motion on climate change. RBC has pledged to work towards ensuring that the Council and the Borough is carbon neutral by 2030.

The Borough's Climate Change Strategy acknowledges that a key contribution to helping climate change is through: *'Both a reduction in the overall consumption of energy and the adoption of more renewable energy sources to fulfil our local demand.'*

The Borough's Climate Change Strategy places an emphasis on 'actively' moving to more renewable sources of energy generation.

BESS has been classified as a form of energy generation and will assist the Government in meeting its legal obligation in relation to achieving a 100% reduction in greenhouse gas emissions compared to its 1990 levels, by 2050. It will also assist in ensuring enhanced levels of national energy security.

As of 2019, Rossendale Borough, has continued to exceed renewable energy forecasts with a renewable capacity of 121.9 GWh, representing 22% of Lancashire's total renewable capacity.

The proposed BESS will complement the Borough's existing renewable energy capacity, enhancing system resilience while supplying electricity to approximately 39,000 homes.

The proposed BESS will also save circa 53,481 tCO₂e each year. Based on the average UK car mileage in 2023 of 7,000 miles and the latest (2024) UK Government emissions factor for average car and fuel (0.2686 kgCO₂e/mile), this annual GHG saving is equivalent to taking 28,444 cars off the road.

These forecast GHG savings are also equivalent to 87% of the electricity-related GHG emissions of 61,476 tCO₂e which occurred from within Rossendale Borough in 2022.

Further information relating to reductions in GHG emissions is set out within the Sustainability, Energy and Climate Change Statement prepared by Turley and submitted in support of this application.



Economic Benefits

The following provides a summary of the estimated economic impacts generated during the construction and operation of an 85MW Battery Energy Storage System (BESS) at Higher Moss.

Construction Phase benefits:

- An estimated investment of £39.0 million in the construction of the development, directly supporting a total of 55 person-years of employment, equating to an average of 35 FTE gross direct jobs over the duration of the estimated construction period of 18 months
- Generating an average of 50 direct, indirect and induced net additional FTE employment opportunities for workers in the North West during construction
- Contributing £4.4 million GVA to the North West's economic output during the construction period.

Operation Phase benefits:

- Support a range of occupations: the BESS will deliver employment opportunities across various sectors including electrical maintenance, energy brokers, technical advisors and consultants which will support employment within the local economy
- Support renewable energy: contributing to fulfilling the significant economic need for reliable and renewable sustainable energy systems. Energy use is closely coupled to economic output, and in order to support sustainable economic growth, the UK's energy system must improve its efficiency whilst transitioning to renewable forms of energy to support national objectives of meeting net-zero commitments
- Have a low on-site environmental footprint: generating no emissions at the point of use, thus supporting the local and national transition to a net-zero economy

- Lower energy costs for consumers: the BESS will contribute to lowering energy costs for both domestic and commercial consumers through a decarbonised energy system that reduces the need for gas and through storing excess energy when costs of production are low, providing it back onto the network at times of peak demand. This is especially significant given the on-going cost-of-living crisis. The BESS will reduce curtailment, stabilising energy prices and thwart price spikes, thus reducing the cost for consumers and increasing price stability
- Increase efficiency in the energy system: the UK economy would be 25% smaller without the energy efficiencies that have been achieved since 1971. The Proposed Development as a BESS will deliver significant efficiencies in terms of costs, land, energy production and speed, out-performing alternative technologies
- Provide energy reliability: the BESS will contribute to fulfilling the significant economic need for reliable and renewable sustainable energy systems. The BESS will provide increases reliability for national and local grids, preventing blackouts during high demand periods by balancing demand and generation, thus preventing frequency loss and regulating voltage.

Construction Phase



**£39.0 million
Investment**

In the North West's green and renewable energy sector



35 gross jobs

Full time equivalent (FTE) jobs supported on average during construction (c. 18 months)

Generating 50 net direct, indirect and induced jobs

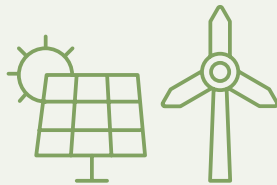
FTE jobs in the North West, including roles for Rochdale and Rossendale residents



**£4.4 million
Productivity boost**

GVA¹ contribution to the North West economy during construction

Operational Phase



**Supporting
renewable energy**

Such as solar and wind, contributing to the development of a low-carbon energy system and helping meet net zero commitments



**Supporting a range
of occupations in the
local economy**

Across various sectors including electrical maintenance, energy brokers, technical advisors and consultants



**Low on-site
environmental footprint**

Generating no emissions at the point of use, thus supporting the local and national transition to a net-zero economy



**Lowering energy costs
for consumers**

Reducing the cost of living, and generating increased demand in the wider economy by reducing curtailment, stabilising energy prices and thwarting price spikes



**Increasing efficiency
in the energy system**

In terms of costs, land, energy production and speed of deployment, out-performing alternative technologies



**Energy security
providing reliability**

For national and local grids, preventing blackouts during high-demand periods by balancing demand and generation, preventing frequency loss and regulating voltage

02 Site Appraisal

Site Context

The Site is located approximately 2.8km west of Ramsbottom, 3.5km south of Edenfield and 6km south of Bury. It is situated to the south west of the A680 (Rochdale Road), which runs from the A58 in central Rochdale, through Accrington, and terminates at the A671 (Burnley Road) to the east of Whalley. To the south of the site, Bamford Road provides a connection from the A680 to the hamlet of Shuttleworth.

The surrounding area is primarily characterised by open agricultural fields, with sporadic built development dispersed throughout. To the south and west of the Site, there are several residential properties and farms, with Rossendale School situated further west along Blacks Lane.

The Site can be accessed by foot via the footpath along the A680. Additionally, several public rights of way are located along Black Lane and along the northern boundary of the Site. Countryside Right of Way Section 15 also passes along Bamford Road.

The surrounding area comprises predominantly open agricultural land and moorland with scattered farmsteads and other small clusters of buildings. The Site lies within an area of undulating topography on the eastern side of a river valley which is traversed by a number of brooks and streams feeding the River Irwell. Fletcher Bank Quarry and the village of Ramsbottom are located in the lower valley to the west of the Site. To the north and east, the land rises steeply towards the ridges of Scout Moor and Knowl Moor which are lined with wind turbines.





SCOUT MOOR
WIND FARM

Rossendale
School

Close
Nook Farm

Black Lane

A680 Rochdale Road

Bamford Road

CHEESDEN

grid
connection

 Application boundary

Fig. 1: Site Location Plan

The Site

The Site covers an area of 6.2 hectares and is located within the designated Green Belt of Rossendale.

It is situated to the east and south of the A680, with Bamford Road forming the southern boundary and Black Lane running along the western edge. To the north, the Site shares a common boundary with an agricultural field that is associated with Close Nook Farm.

Access to the Site is currently provided via two agricultural entrances from Rochdale Road. A Public Right of Way (PRoW) runs along the northern boundary within the Site. A bridleway also runs along Bamford Road, bordering the Site.

The Site comprises Grade 5 agricultural land, which is currently used for animal grazing. It is bordered by stone walls and agricultural fencing with some areas of marginal vegetation to the boundaries. There is one tree located on the southern boundary.

The Site is located within the Green Belt.

Site Suitability

The site represents a highly suitable location for the development of a BESS. It is located just 4.3km from the centre of Scout Moor Wind Farm and in very close proximity to the confirmed point of connection to the electricity grid.

Planning Policy

Please refer to the Planning Statement for the relevant policy context and the decision making framework that applies in determining this application.

Site Constraints

A number of spatial constraints, opportunities and technical considerations have been identified which will need to be addressed in the proposed design for the site. The key issues and opportunities are summarised as follows:

Topography

The Site slopes downwards from the north west to the south east, with a steeper gradient to the north, which gradually becomes more gentle towards the centre of the Site. A small depression or hollow is located in the north-eastern corner, extending along the eastern boundary. The Site's elevation ranges from 280m to 300m.

Landscape and Visual Impact Assessment

The Site is not in any international, national or local landscape designations. It lies within National Character Area 36: Southern Pennines. This area forms part of the Pennine ridge of hills that stretch between the Peak District National Park and the Yorkshire Dales National Park.

The Site is open with limited vegetation on the Site or in the wider area to provide any screening. Despite being in an open moorland fringe landscape, the extent of visibility is limited to a relatively contained area due to local landform which limits views to within 1km to the north, east and south. Longer distance views are possible from higher ground to the west of Ramsbottom although these are more distant and viewed over the built form of Ramsbottom. There is no intervisibility with the nearest settlements of Ramsbottom and Edenfield.

Close and near distance views are possible from PRoWs adjacent to the Site including two long distance footpaths and roads immediately surrounding the site, however other visual receptors are relatively few due to there being sparse settlement in the area.



Representative Viewpoint 1: View from A680 Rochdale Road



Representative Viewpoint 2: View from Bamford Road



Representative Viewpoint 3: View from PRow adjacent to Site



Representative Viewpoint 5: View from PRow east of Chesden Brook

Access

Access to the Site is currently provided via two agricultural entrances from the A680 (Rochdale Road). The southern access point will be maintained for the proposed development.

Heritage

There are few designated heritage assets within proximity of the Site, the closes being Fecit Farmhouse and attached stable and shippon (Grade II) approximately 0.7km northeast of the Site.

There are no identified heritage assets within the Site boundary. However, there are a number of designated heritage assets located outside of the Site boundary with potential for their significance to be affected by the emerging proposals. These are:

- Holcombe Conservation Area
- Peel Monument (grade II listed building)
- Fecit Farmhouse with attached stable and shippon (grade II listed building)
- Owd Betts Public House (grade II listed building).

Archaeology

An archaeological assessment has concluded that there is Low potential for any previously unrecorded heritage assets of any period to be present within the Site due to the paucity of recorded archaeological remains in the 1km Study Area, with the exception of the post-medieval agricultural evidence in the form of an unidentified building, possibly a farm building, and former road, and former field boundaries noted on historic maps. There may also potentially be remains of the Tollhouse present around the A680 road along the proposed cable route. Any such remains would likely be considered to be of Low importance.

Ecology

The Site is not located within or immediately adjacent to any Site of Special Scientific Interest (SSSI), Ancient Woodlands or Areas of Natural Beauty.

The Site is situated within the SSSI Risk Zone for the Lower Red Lees Pasture SSSI, Hodge Clough SSSI and West Pennines Moors SSSI to the west of the site.

Flood Risk and Drainage

According to the Environment Agency's Flood Risk Map, the Site is located within Flood Zone 1 indicating a low risk of flooding. A small part of the Site's southeastern corner adjacent to Rochdale Road is susceptible to surface water flood risk.

Ground Conditions

The Site is not classified as Contaminated Land under Part 2A of the EPA 1990, but is located within the Lancashire Coal Mining Report Area.

Noise

A noise survey has been carried out in order to establish the existing noise environment and typical background sound levels representative of the nearest Existing Sensitive Receptors (ESRs), during the daytime and night-time periods, in accordance with current guidance.

Distant road traffic noise from the surrounding road traffic network was dominant throughout the survey. A low level continuous and steady hum from Scout Moor Wind Farm was audible during quiet periods.

Utilities

A single overhead telephone line runs across the southern edge of the Site, extending from east to west.

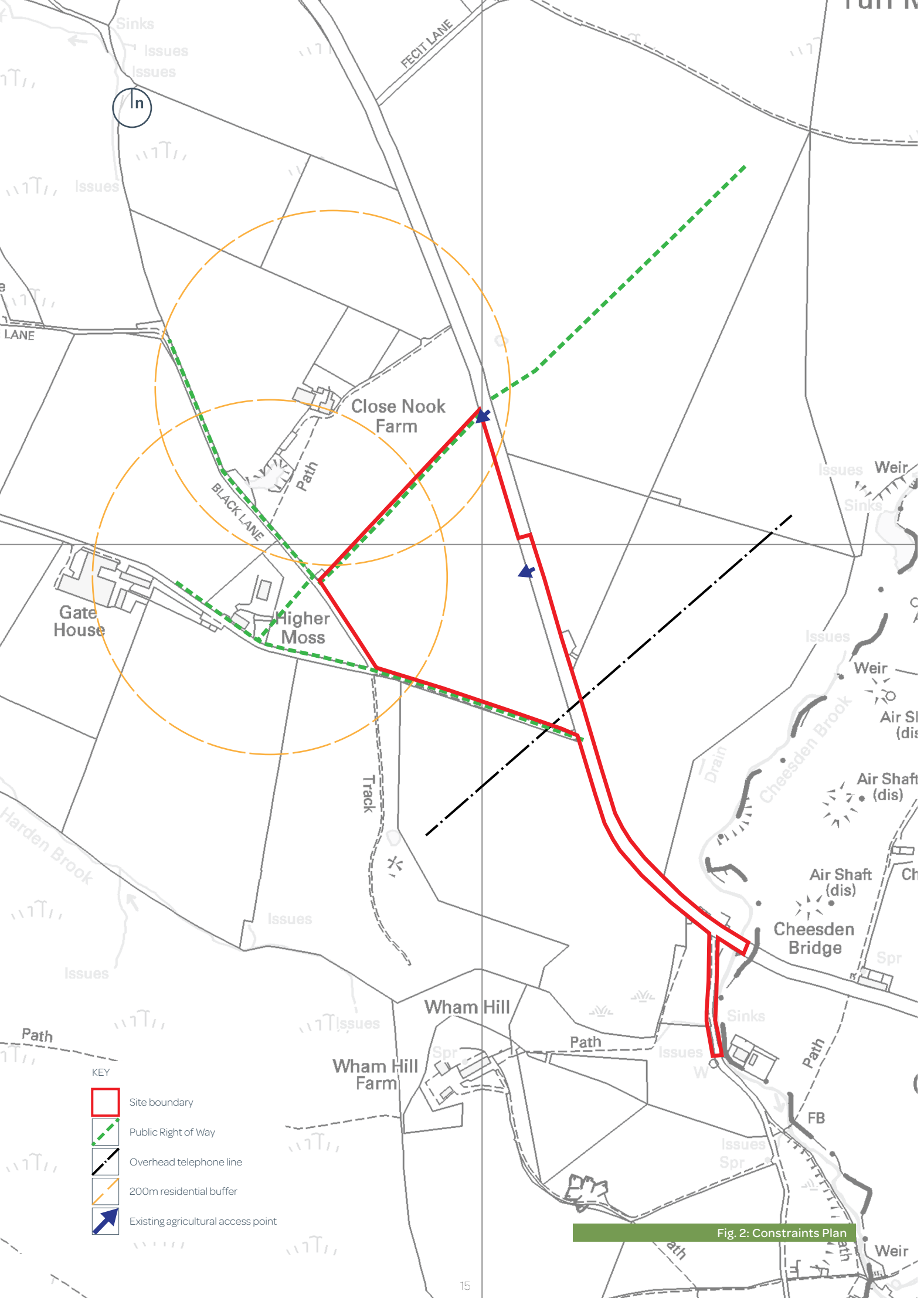


Fig. 2: Constraints Plan

03 Design Evolution

Design Approach

The project has been designed to address key factors such as landscape, ecology, drainage and flood risk, noise, traffic, and fire risk. The main principles include:

- Keeping safe distances from residential properties to reduce noise and visual impact and ensure noise impacts can be appropriately mitigated given the relative proximity of neighbouring farmhouses
- Implementing strong fire safety measures
- Using low-impact construction methods to protect the environment
- Achieving a biodiversity net gain over 10% to support local habitats.
- Minimise the footprint of the development in so far as is operationally possible.
- Minimise the visibility of the battery storage containers, inverters and ancillary unit through careful siting of infrastructure and manipulation of ground levels.
- Introduce new landscape planting in key locations in the form of hedgerows, trees and grassland to reinforce the rural lane characteristic of adjoining lanes, to screen the development from views outside the site and to deliver a net gain to biodiversity.

Battery units will be installed in an optimal location to boost efficiency and minimise landscape impact.

Landscaping features, including a pond and habitat management in an adjacent field, will help integrate the development into the surrounding environment, converting pastureland into species-rich grassland.

Existing stone walls will be preserved and repaired, and a discreet green mesh fence will be used to secure the site. Additionally, lighting will be kept to a minimum, with no floodlighting, to reduce visual impact and disturbance.

Masterplan Progression

To produce a technically sound, viable and deliverable proposal, the layout has to demonstrate compliance with a range of policies and technical considerations including national and local planning policy, landscape and visual, highways, utilities, ecology, drainage, heritage and arboriculture.

In order to achieve success, a collaborative and iterative design process was required. This involved working closely with the client and technical team whilst also engaging with the local community and external stakeholders including Rossendale Borough Council.

Stakeholder Engagement

A public consultation was held with the local community from 5-26 November 2024 in order to identify means by which the proposal could be shaped to respond to local needs. The consultation team engaged with residents, community groups and councillors through a public exhibition, webinar, newsletter, website, and email correspondence.

Though there was a level of support for the proposals, there were some concerns raised relating mainly to the visual and noise impacts on the rural character of the area, as well as fire safety. Responses to these concerns have been outlined in Section 5.0 of the Statement of Community Involvement (SCI) which accompanies this application, along with a commitment to minimising any impact associated with the development.

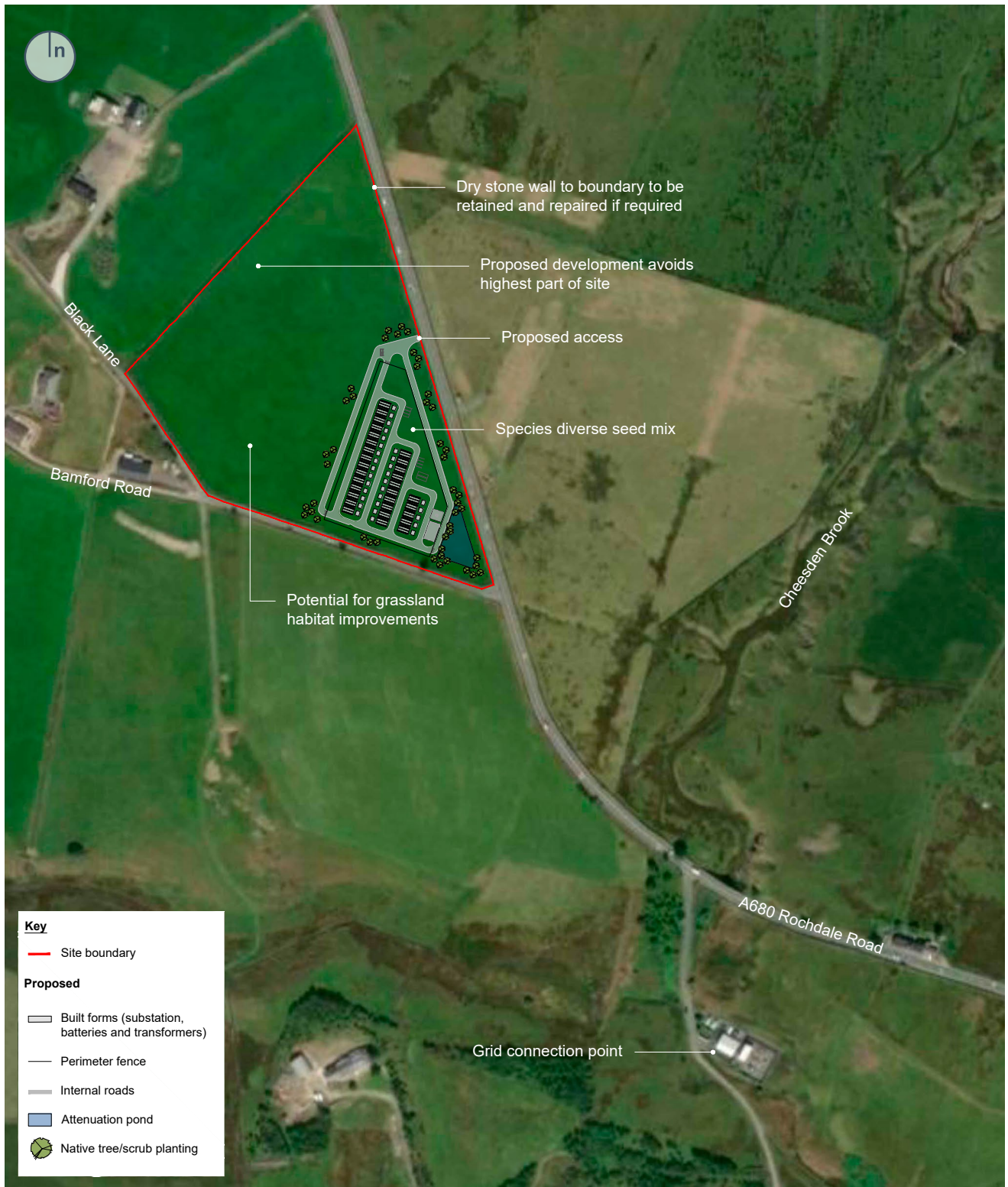


Fig. 3: Consultation Illustrative Masterplan

04 Development Parameters

Proposed Development

The application is for the following description of development:

“Construction, management and operation of a Battery Energy Storage System (BESS) with associated infrastructure, including access, drainage, security measures and landscaping and provision of a connecting cable to Croston Close Road substation.”

Proposed Development Parameters – The Rochdale Envelope

The nature of BESS is such that technology is rapidly evolving and applications for consent are commonly made by a developer some time before the procurement of equipment commences. For example, the type, number and size of energy storage modules and other external equipment can vary depending upon the technology provider and developer’s wish to retain the flexibility to select the most appropriate equipment package having regard to technical, commercial and market availability considerations closer to the point at which construction commences.

It is therefore accepted practice for applications to be presented using the ‘Rochdale Envelope’. The Rochdale Envelope approach is employed when some details of a project have not been confirmed and involves the developer defining a series of development parameters which together allow the assessment of a reasonable ‘worst case scenario’ within a suite of supporting technical documents. This in turn allows the relevant decision maker to understand the likely significance of any potential environmental effects. The Rochdale Envelope approach is commonly applied to applications considered under the Town and Country Planning Act 1990, the Planning Act 2008 and the Electricity Act 1989.

Having regard to the above, and to provide the Proposed Development with appropriate levels of flexibility through the detailed design phase a series of development parameters are proposed below:

Development & Landscape Parameters

The Parameter Plan adjacent establishes a framework for the detailed design of the BESS area, the substation area, and proposed areas of landscape planting / ecological enhancement whilst also allowing sufficient flexibility as not to constrain technology procurement activities.

Defined parameters relate to matters such as the maximum area of the BESS and substation development platforms, building and equipment heights, principles for the provision of new and protection of existing landscape planting / ecological enhancements and modification to existing site levels. The Parameter Plan is informed by robust technical assessments of the Site.

Refer to the Parameter Plan opposite for further detail.

Development Component	Development Parameter
Development Platform Area (BESS)	Maximum area: 0.85ha
	Maximum height of BESS units: 3m
	Maximum height of Transformer: 3m
	Maximum height of Water Tank: 3.1m
	Maximum height of Switch Gear/Spare Parts Storage: 2.6m
	Maximum height of AUX Transformer: 2.3m
	Maximum extent of change to existing levels: -1 to +1m
Development Platform Area (Sub Station)	Maximum area: 0.01ha
	Maximum height of buildings: 3.3m
	Maximum extent of change to existing site levels: -1 to +1m
Internal Access Roads	Maximum area: 0.16ha
Cable Route Beneath Existing Highway	Maximum area: 0.72ha
Landscaping and Biodiversity Net Gain Areas	Maximum area: 4.25ha
Attenuation Pond	Maximum area: 0.06ha
Security Fencing	Up to 2.4m
Security lighting and CCTV	Up to 4m

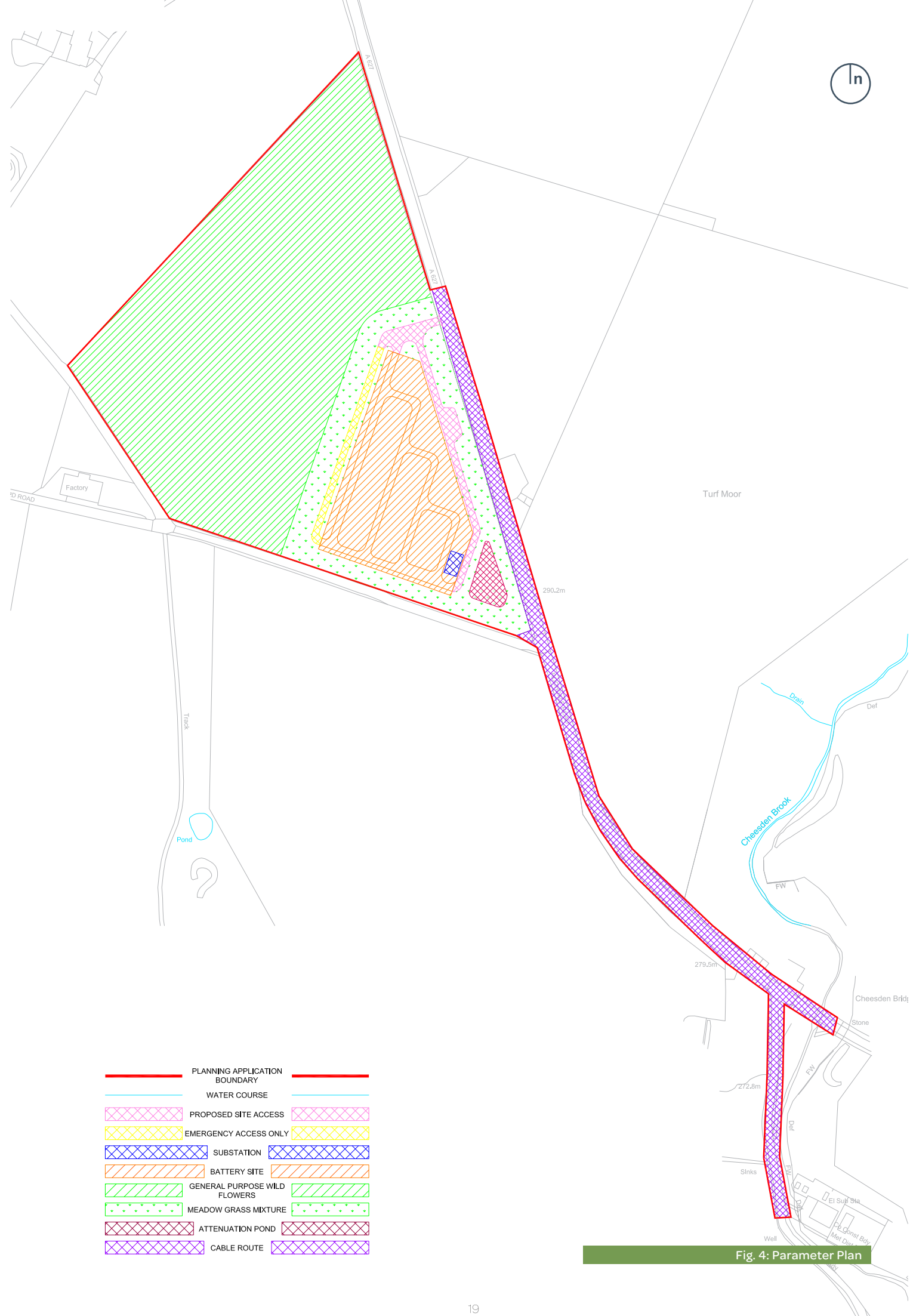


Fig. 4: Parameter Plan

04 Illustrative Proposals

An illustrative layout (shown opposite) has been prepared to offer an interpretation of how the Site could be developed in the future, working within the defined parameters. The layout presented is indicative in nature and demonstrates a possible solution showing how a battery storage facility could be delivered within the proposed parameters.

Access

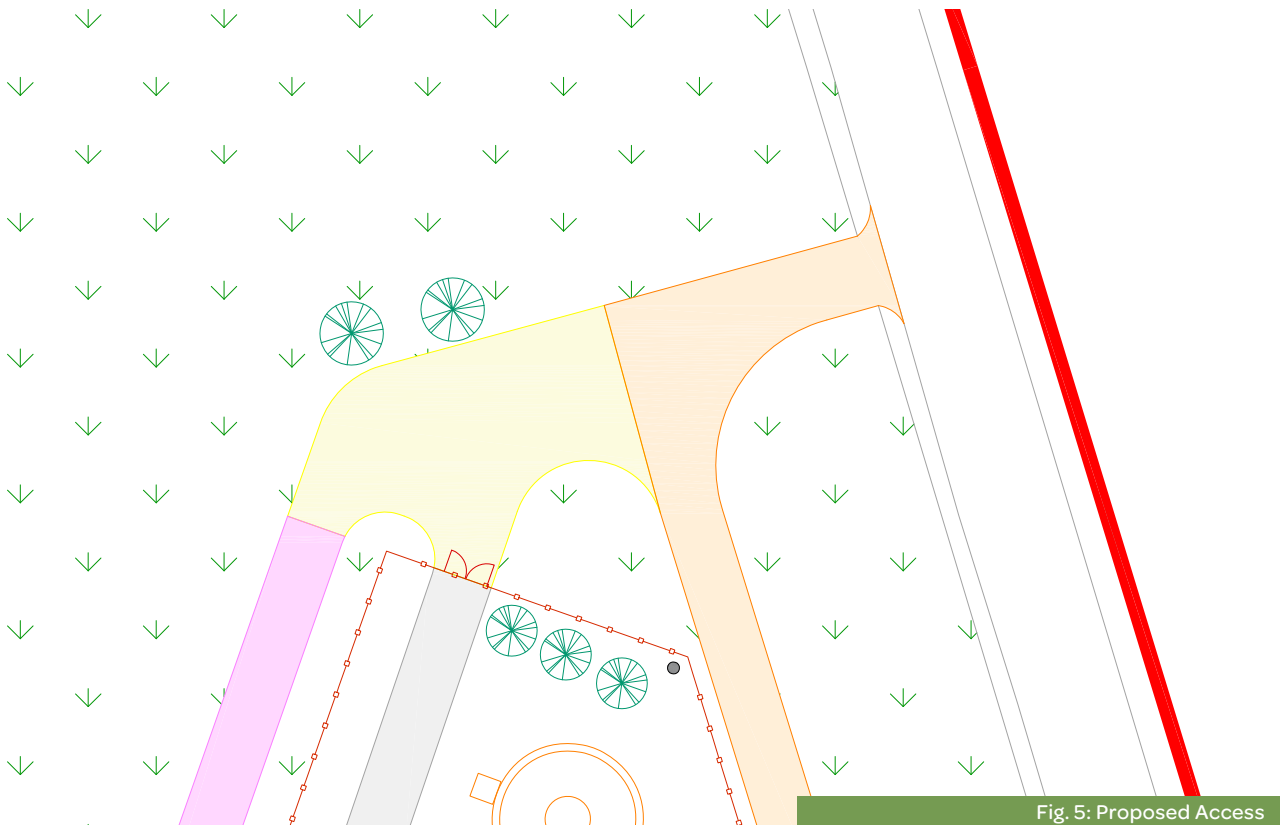
Primary access to the Site during operation will be from a single access point from Rochdale Road, which will accommodate HGV, fire tender and emergency vehicle access and egress. Permanent access gates will be provided at the entrance to restrict public access.

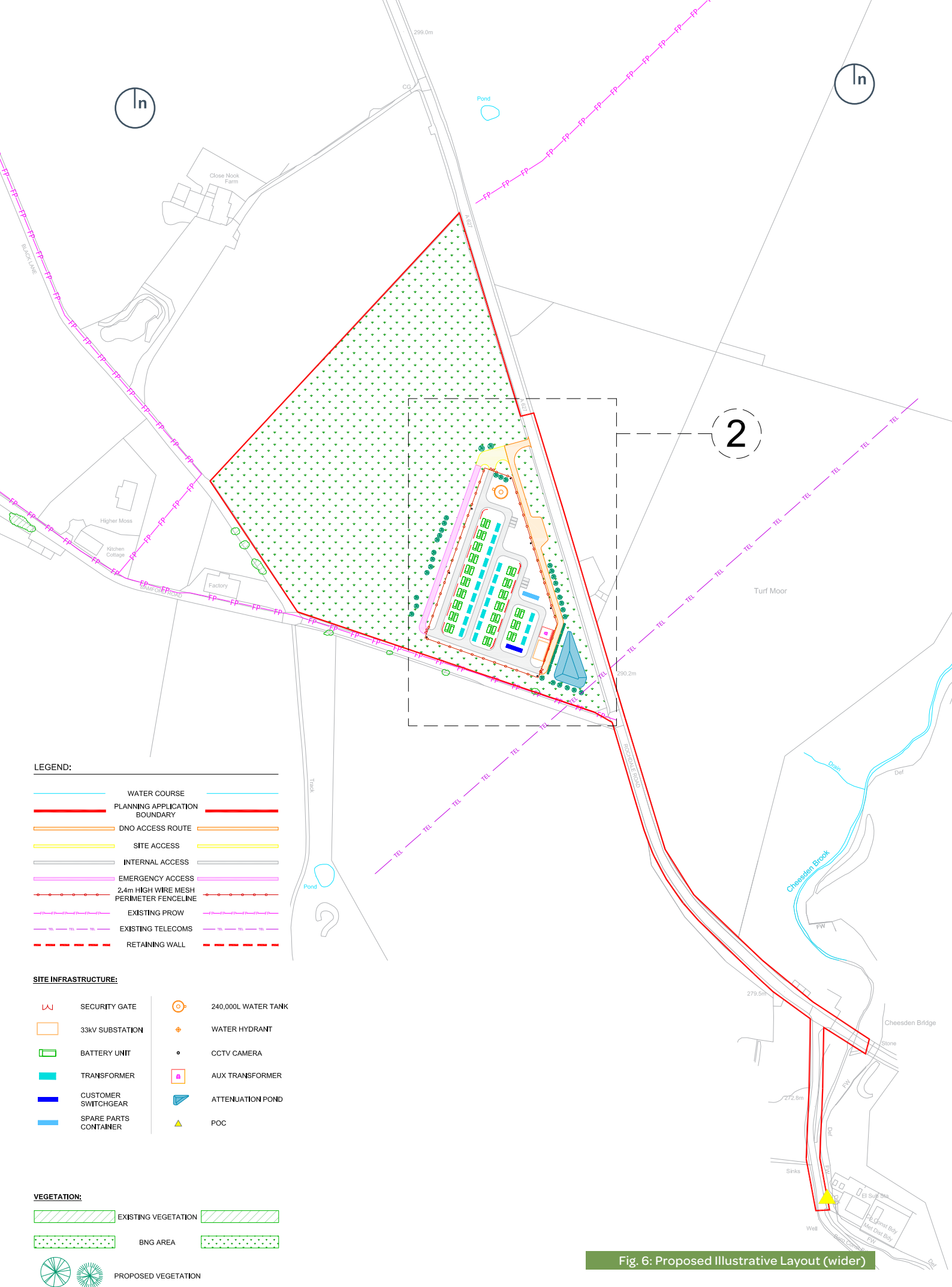
The existing footpath will be maintained with a dropped crossing to ensure continuous access throughout the Site. The development will not impact any Public Right of Way.

The carriageway width of the proposed Site access road will be circa 4.0m and widen to circa 6.6m. The access will be designed in accordance with local design standards and provide sufficient corner radii to allow vehicles to enter the Site in a safe manner.

Internal roads will be provided within the Site which will accommodate access for servicing and maintenance vehicles to the Site and emergency vehicles.

For maintenance of the facility there will be a short internal road which will allow space for a 3.5ft panel van to park and a turning area so vehicles can exit the same way they came. This will be accessed from Rochdale Road.





Use & Amount

The Proposed Development is for a 85MW Battery energy Storage System (BESS) facility, comprising battery containers, auxiliary transformers and inverters, and a 33KV substation, with ancillary works including the laying out of internal access roads, boundary fencing and landscaping.

The Proposed Scheme would be able to store electricity and would allow the local grid network to operate more efficiently by storing excess energy during periods of low usage and releasing it onto the network when it is required during periods of high demand. This in turn will ensure long-term sustainable local and regional power distribution in order to stop brownouts and blackouts.

The BESS facility will comprise the following components:

- BESS battery units
- MV twin skids
- Substation
- Customer switchgear
- Spare parts container
- AUX transformer
- Water tank
- CCTV cameras
- Security gates
- Perimeter security fencing
- Access track for maintenance vehicles
- Internal car parking spaces
- Areas of new landscaping planting and attenuation pond.

The Proposed Scheme will be operational 24/7 and 365 days a year. The operational stage is likely to employ one full time worker.

The proposed Battery Energy Storage System will be connected to the National Grid via the proposed underground cable connection route (see drawing reference. XX for further information).

The connecting cable will be laid in trenches approximately XX metres wide and XX metres deep both within the Site and beneath the A680 connecting to Croston Close Road substation to the south of the main BESS complex.

Layout

The above will be located within the central parts of the Site, with battery container units organised in three rows aligned north east to south west. The on-site substation will be located along the eastern edge of the Site. Access roads will be located along the south eastern and western boundaries of the Site.

The design of the Proposed Development focuses all infrastructure in the south of the Site and as such there would be no impact on the heritage assets recorded in the north of the Site as part of the Archaeological Assessment.

LEGEND:

	WATER COURSE	
	PLANNING APPLICATION BOUNDARY	
	DNO ACCESS ROUTE	
	SITE ACCESS	
	INTERNAL ACCESS	
	EMERGENCY ACCESS	
	PERIMETER FENCELINE	
	200M RESIDENTIAL BUFFER	
	EXISTING PROW	
	EXISTING TELECOMS	
	RETAINING WALL	

SITE INFRASTRUCTURE:

	SECURITY GATE		WELFARE OFFICE
	33KV SUBSTATION		240,000L WATER TANK
	BATTERY UNIT		WATER HYDRANT
	TRANSFORMER		CCTV CAMERA
	CUSTOMER SWITCHGEAR		AUX TRANSFORMER
	SPARE PARTS CONTAINER		ATTENUATION POND
			POC

VEGETATION:

	EXISTING VEGETATION	
	BNG AREA	
	PROPOSED VEGETATION	

Scale & Appearance

The following sets out the indicative dimensions for the proposed structures.

BESS Battery Unit

- 6058mm length x 2438mm width x 2896mm high (3046mm overall height)

Battery Transformer

- 6058mm length x 2438mm width x 2896mm high (3046mm overall height)

Auxiliary Transformer

- 2196mm length x 1744mm width x 2111mm high (2261mm overall height)

Substation

- 14250mm length x 8270mm width x 3260mm high (3410mm overall height)

Water Tank

- 10000mm diameter x 3040mm high (3190mm overall height)

Customer Switchgear

- 12200mm length x 2447mm width x 2600mm high (2750mm overall height)

Spare Parts Container

- 12200mm length x 2447mm width x 2600mm high (2750mm overall height)

RAL 6013 (Reed Green) is an indicative colour for the battery storage units to minimise the visual impact on the surroundings.



RAL 6013 (Reed Green)

Access Roads

Within the compound, all areas will be appropriately surfaced with hardcore stone, other than the new access road, which will be surfaced with permeable loose stone chippings.

Fencing

In order to provide the necessary security to the site a 2.4m high green weldmesh security fencing panels which would be constructed around the perimeter of the compound.

Secured gate entrances will be positioned at the Rochdale Road entrance, located to the west of the compound, to allow for emergency access, and to the south, providing access to the attenuation pond and will be similarly constructed and designed to the proposed perimeter fence.

CCTV facilities and security lighting are proposed with details of these to be controlled through planning condition.

Lighting

In collaboration with the CCTV system, motion sensing security lighting is proposed to provide a level of illumination to identify persons at the site, creating a psychological deterrent to criminal activity in the area being protected.



Battery storage units

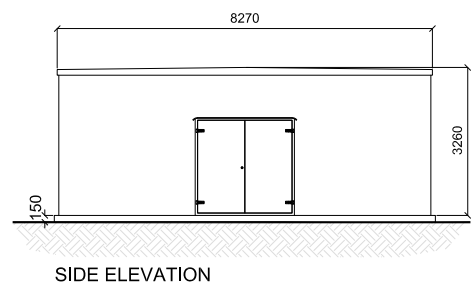
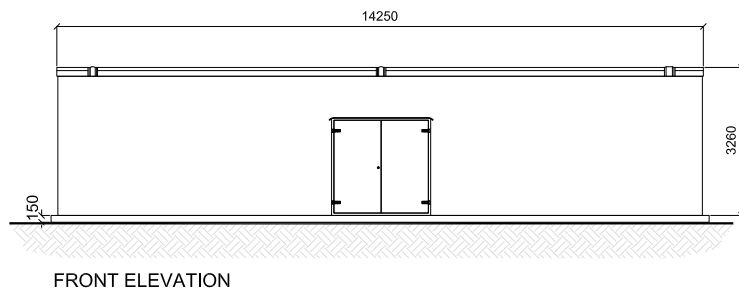


Fig. 8: Indicative Substation Elevations

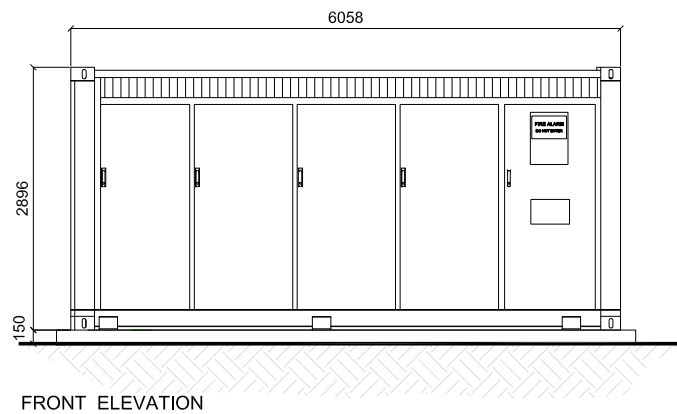
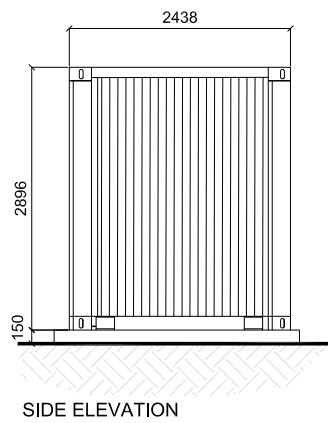
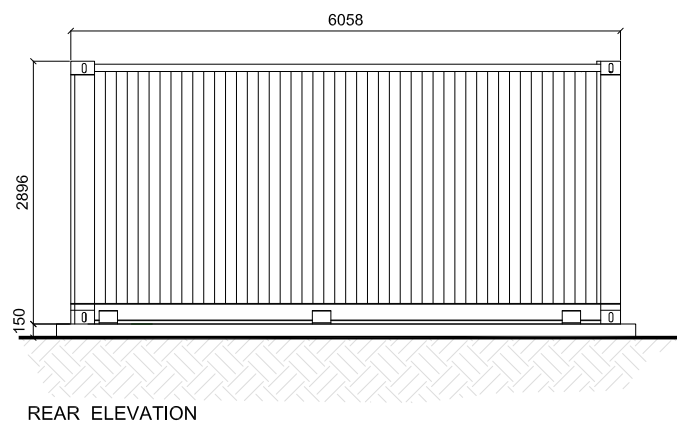
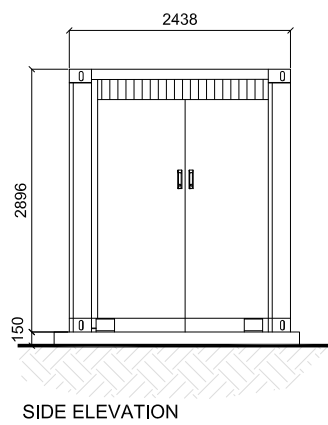
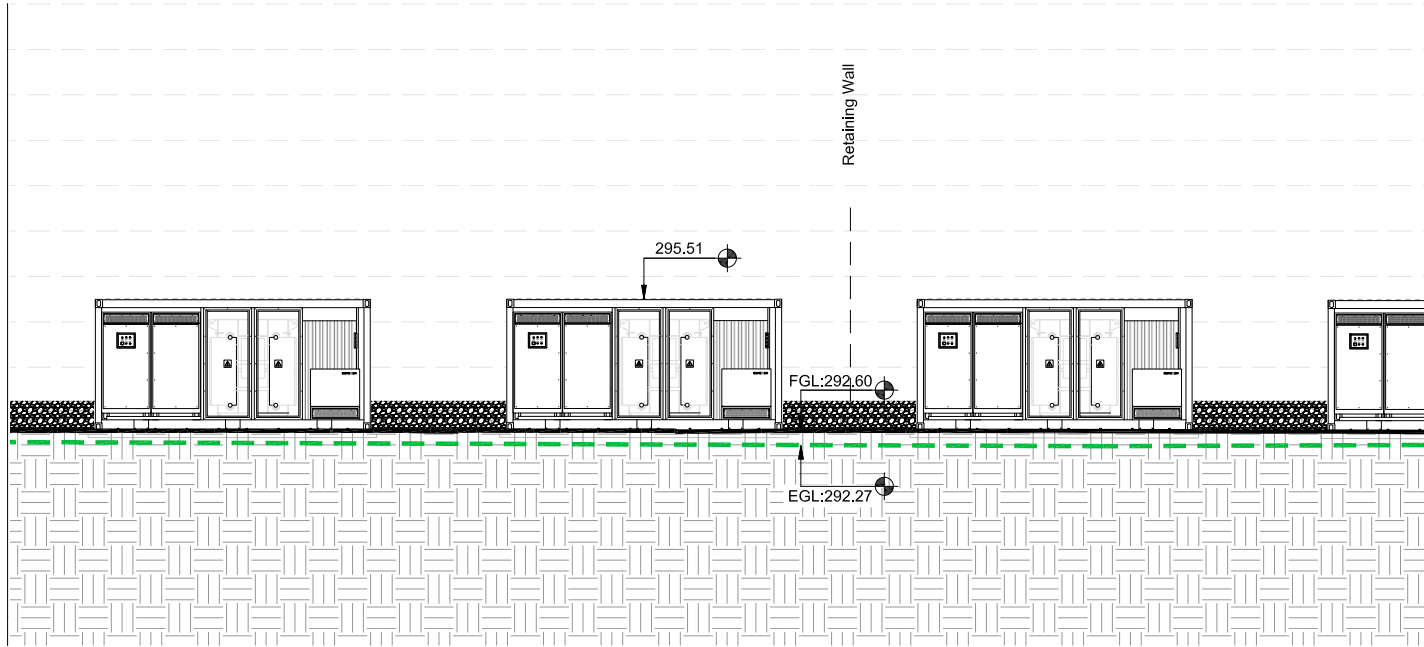


Fig. 9: Indicative Battery Unit Elevations



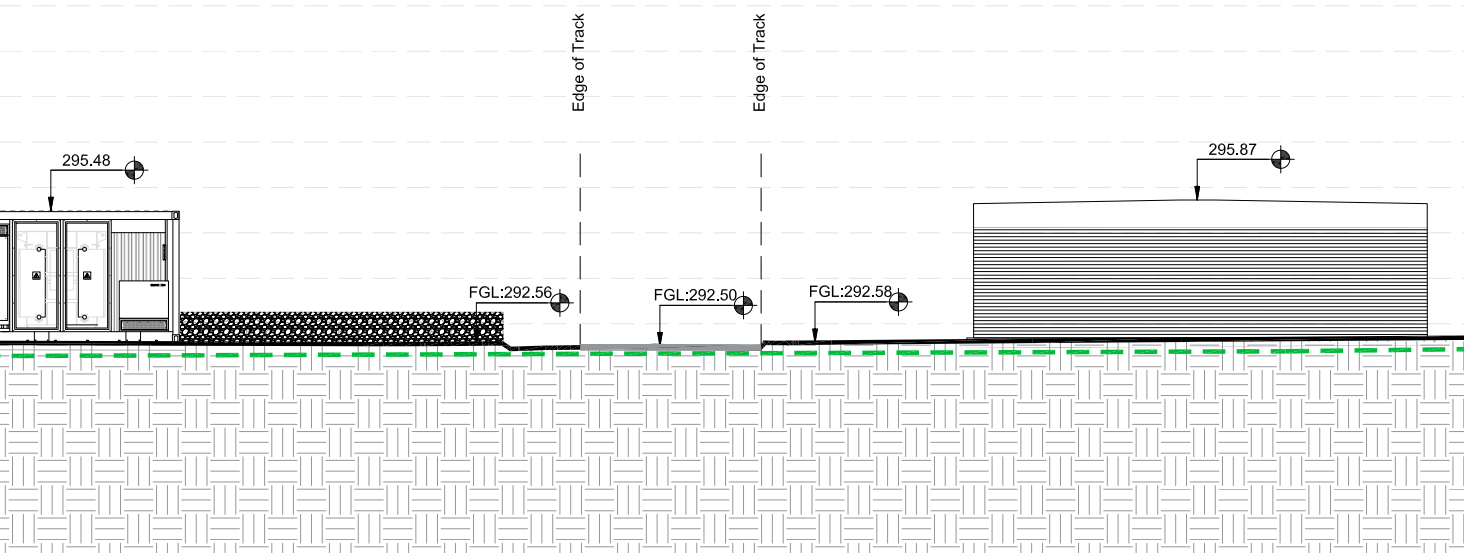


Fig. 10: Indicative Sections

Landscape Strategy

A Landscape and Planting Strategy (D10602.004), prepared by TEP, has been developed to outline the comprehensive and high-quality landscaping proposals for the site. A summary of the key components of the proposed landscaping is provided below:

- Enhanced vegetation is proposed along the following boundaries:
 - Northern boundary, adjacent to the emergency access route
 - North Eastern boundary adjacent to Rochdale Road compound entrance
 - Eastern boundary, adjacent to the DNO access route
 - Southern boundary of the compound, adjacent to the attenuation pond.
- Planting is proposed across the Site, most intensively surrounding the perimeter of the BESS platform:
 - Standard general purpose wild flowers across approximately half of the Site area which would remain undeveloped
 - General purpose meadow grass mixture surrounding the BESS platform up to Rochdale Lane and Black Lane
 - Meadow Mixture for Wetlands within the attenuation pond within the south-east corner of the Site
 - 55 no. 'feathered trees', distinguished from clear stem trees that will develop a scattered scrub appearance characteristic of the moorland setting. Species selected are native and hardy and include Birch, Mountain Ash/ Rowan and Goat Willow.

Alongside the landscape proposal the application seeks to deliver a net gain to biodiversity. The following features have been carefully embedded into the design to enhance the biodiversity of the site:

- A high proportion of native species to contribute to and improve the biodiversity value of the Site through the selection of wildlife friendly species which provide opportunities for foraging, nesting and shelter
- The attenuation pond will providing valuable aquatic and wetland habitats, improving water quality, supporting diverse plant species, and enhancing local ecosystem.

Ecology and BNG

The application is supported by a Biodiversity Net Gain Assessment (prepared by TEP) which calculates the Site's baseline habitat value as comprising 21.35 units of principally poor semi-improved grassland. Less than 0.8ha of this will be lost to built form. The extensive Landscape Strategy for the Proposed Development comprises the following:

- 3.48ha of modified grassland in moderate condition, enhanced to other neutral grassland in moderate condition
- 1.01ha of new modified grassland
- 0.06ha SUDs pond
- 55 small trees of moderate condition.

As a result, the Site's biodiversity value will increase to 26.54 habitat units, representing a substantial increase of 24.28%, or more than twice the statutory requirement of 10% biodiversity net gain.



Wildflowers



Meadow mixture for wetlands

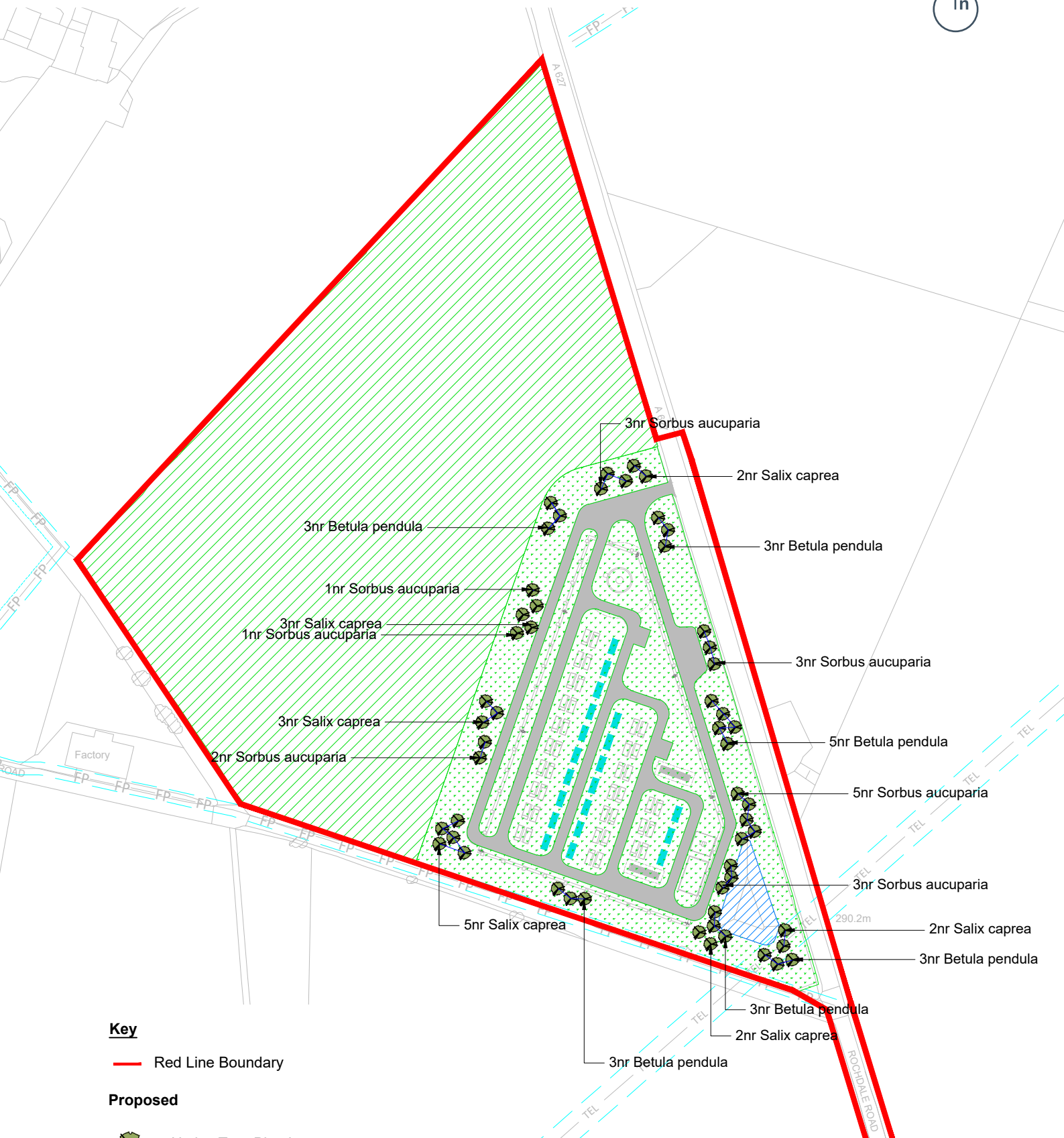


Fig. 15: Landscape Strategy Plan

Drainage Strategy

The surface water drainage strategy will be designed for the 1 in 100 year storm event including an allowance of 40% for the effects of climate change. The current design intent is that runoff from the battery container unit roofs would discharge into the gravel beds, which would be wrapped in a permeable geotextile, where it will percolate to the ground to mimic existing site conditions and introduce engineered soakaways / filter trenches to new access tracks. A new SuDS pond will be created in the south eastern corner of the Site.

The Site currently relies on natural drainage methods, and the proposed plan seeks to utilise this approach. There is no history of flooding issues on the Site. All new roadways and stone surfaces will be designed to be permeable.

Any rainwater that comes into contact with the top of the battery units, inverters, substation, or ancillary units will fall to the ground and permeate naturally through the permeable surfaces.

The proposed project will not generate any foul waste, thus negating the need for foul drainage connections on the Site.

Noise

BESS units are designed to generate minimal noise, with the majority of sound coming from cooling fans and transformers, which are engineered to meet low-noise standards. The units will be carefully located away from residential areas to further reduce any potential noise impact.

An assessment of potential noise and vibration impacts associated with the construction phase of the proposed development has been carried out. This assessment indicates that the significance of impacts is likely to be negligible. However, mitigation measures for the control of construction work noise and vibration should be implemented via a suitably worded Construction Environmental Management Plan (CEMP).

It is considered there will be no significant adverse effects associated with industrial type noise, therefore no specific mitigation measures are required.

Landscape and Visual Impact

A Landscape and Visual Appraisal Report ('LVA') (prepared by TEP) has been submitted alongside this application and assesses the effect of the Proposed Development on the landscape and visual receptors of the Site and its surroundings.

The LVA recognises that certain features of the Proposed Development, such as the introduction of new tree planting and hedgerows, will provide screening and mitigate potential visual effects. As the vegetation establishes and matures, views of the built form are expected to become more filtered, allowing the development to visually integrate with the surrounding landscape.

The report concludes that the Proposed Development would have no substantial effects on landscape character or visual amenity during its operational lifetime of 40 years. Following this period the Site will be returned to its existing condition thus eliminating any long term harmful impacts.



Construction & Operation

It is anticipated that construction of the Proposed Development would take c.12 months. The broad sequence of construction activity would be as follows:

- Site surveys
- Earthwork for foundations/access/cable runs
- Balance of plant and temporary site equipment
- Major equipment delivery
- Assembly of major equipment
- Installation of supporting equipment
- Testing and commissioning.

It is anticipated that a total of 25 HGVs will deliver the battery powerpacks, inverters, and ancillary equipment to the site. Vehicular movements will be carefully managed throughout the construction phase to minimise simultaneous arrivals and departures. Construction activities are expected to avoid sensitive time periods, such as weekends and peak hours. A comprehensive traffic management plan and risk assessment methodology will be developed in consultation with Lancashire Highways and agreed upon prior to construction, potentially as part of a planning condition.

As part of the construction works, a new underground 33kV cable will be laid between the site and the point of connection at Croston Close Road Substation (refer to drawing ref. XX). To minimise disruption to nearby residential properties, the phasing of works or the use of no-dig technology is being considered. The cable will be laid underground along the A680. The phasing details will be outlined in a Construction Management Plan, which can be secured via a planning condition.

Decommissioning & Site Restoration

Planning permission is sought for a temporary period of 40 years after which the batteries and associated infrastructure will be removed from the site and the land returned to agricultural use. A decommissioning method statement and site restoration strategy will be prepared and submitted to the local planning authority for approval prior to decommissioning activities commencing. This can be secured by planning condition.



06 Summary & Conclusion

This DAS supports a full planning application for the installation of a Battery Storage Facility at Black Lane, Rossendale

The design of the proposed development has been influenced by and enhances the site's unique setting in that:

- Whilst there will be initial adverse effects during and shortly after construction, the Site is able to accommodate the proposed development without significant adverse effects to the landscape character or visual amenity of the area.
- The initial landscape and visual impacts will be particularly reduced once the proposed landscaping is established as the proposed development will successfully mitigate the effects of the development, as well as providing increased value to the landscape character and visual amenity of the area.
- The proposals will secure a number of biodiversity net gains, including additional native hedgerow and tree planting, woodland planting, wildflower grassland creation, new roosting opportunities for bats, and nesting habitats for birds.

The accompanying documentation demonstrates that the Proposed Development has been sensitively designed to avoid harm wherever possible, and to minimise harm through appropriate design and mitigation measures. The technical assessments confirm that any harm arising from the development would be localised and limited, remaining within acceptable thresholds.



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