

Stenson Lane Energy Storage System

Welcome to the Stenson Lane Energy Storage System Community Consultation Event

Innova are proposing an Energy Storage System (ESS) located on land to the east of Stenson Lane, near Stenson. Once connected, the project will store enough energy to power 971,980 homes in South Derbyshire over a 2-hour period.

An important part of the development process is to engage with the local community. This event seeks to provide an opportunity for residents to meet our team, ask questions, and provide feedback on the proposals.

Key project elements:

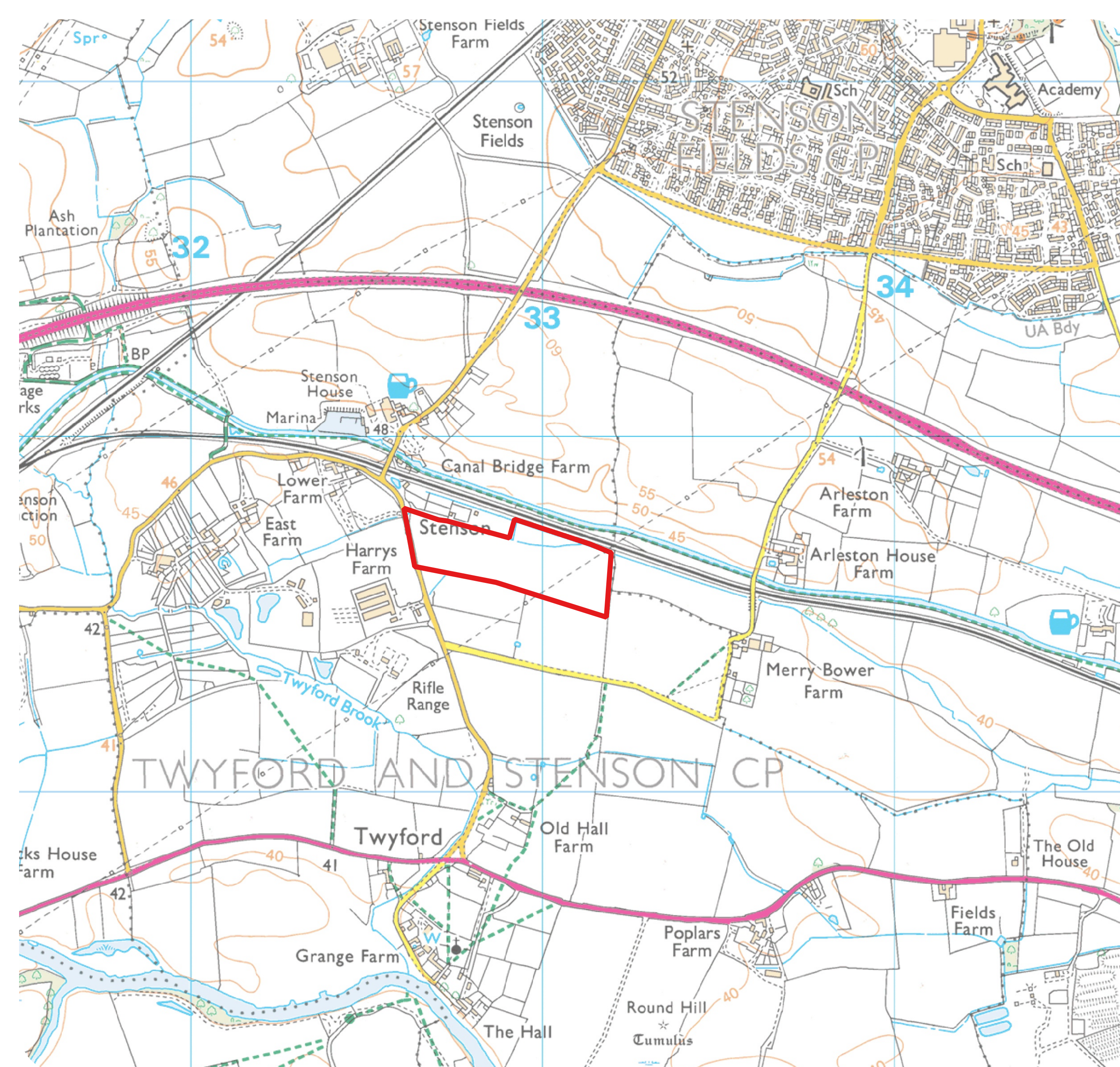
- On-site infrastructure including housed energy storage containers and other electrical equipment, such as transformers and a substation.
- Electricity would be imported from, and exported to, the National Grid substation located in Willington close to the site, via an underground cable.
- Delivery of Biodiversity Net Gain through an increase in habitats for local wildlife and additional vegetation planting.
- Potential direct and indirect employment opportunities in the local area during the construction phase.

We look forward to discussing the proposal with you.

About Innova

Innova is a leading independent renewable energy consultancy who have been active in the development of renewable energy projects since 2014. Our mission is to support the delivery of utility-scale renewable energy projects using multi-technologies fit for the transition to Net Zero.

Our in-house team of renewable energy industry experts and trusted consultants have extensive experience delivering and operating renewable energy projects across the United Kingdom. We plan to build, own, and ultimately operate the Stenson Lane Energy Storage System, should planning permission be forthcoming.



Site Location Plan

400MW



Energy capacity

971,980



Homes continuously powered in South Derbyshire area for two hours

Need for renewable energy developments

The UK has a legally binding target to achieve Net Zero by 2050 and has committed to fully decarbonising the electricity network by 2035. As a result, many low carbon and renewable energy generation is needed across the UK. Renewable energy generation is however intermittent, and Energy Storage Systems are therefore required to provide a balancing service to the National Grid, facilitating the transition to renewable energy sources. These projects are therefore a crucial component of achieving Net Zero.

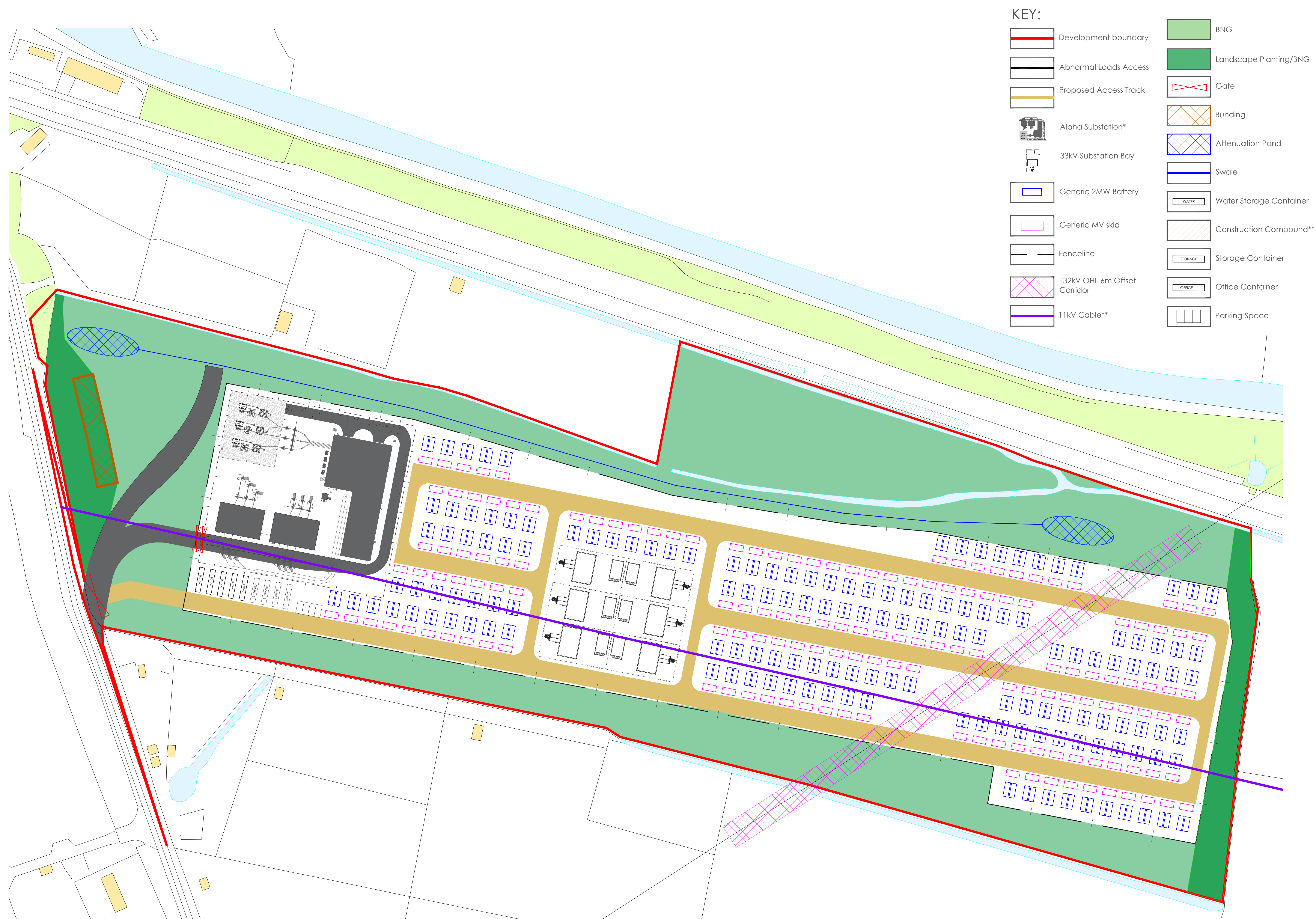
The Future Energy Scenarios 2022 report (written by National Grid ESO) indicates that the UK will need more than 250GW of energy storage by 2050, and this proposal would add a significant amount of energy storage to this pipeline. In April 2022, Renewable UK reported that, nationwide, there was around 1.5GW of energy storage in operation, 1.5GW under construction, and 10GW that had consent, but had not yet been built. A significant increase is therefore required to meet the projected requirements.

Projects like Stenson Lane ESS provide a grid balancing service, allowing electricity that has been produced by renewables to be stored during periods of high supply and released during periods of low supply or high demand, whilst also allowing us to make better use of our existing electricity supplies from conventional generation methods.

The proposal

We are proposing an Energy Storage System on approximately 23 acres of land to the east of Stenson Lane, near Stenson.

The site has been selected following a thorough site selection process, which reviewed land within a 3km radius of Willington National Grid substation and the design informed by a detailed and ongoing assessment process.



Indicative Site Design

This site we have selected has the following benefits:

- Capacity to house the required equipment, including substation, energy storage container and transformers.
- Proximity to Willington National Grid substation which has sufficient capacity to import and export the electricity stored by the development.
- Existing mature trees and hedgerows surround the site which will be retained to provide screening.
- Set away from settlements and in proximity to existing infrastructure, including a railway and overhead power lines.
- Located outside of any statutory ecological or landscape designations and the proposals are not expected to significantly impact any built or buried heritage assets.
- No Public Rights of Way cross the site.
- Suitable access for construction vehicles and abnormal loads has been identified.
- The proposal presents an opportunity to deliver Biodiversity Net Gains onsite.

Proposed equipment



Energy storage units

The development will primarily consist of liquid cooled batteries, the size of a storage container.



Medium Voltage (MV) Skid

The MV Skid is required to convert the Direct Current (DC) to Alternating Current (AC).



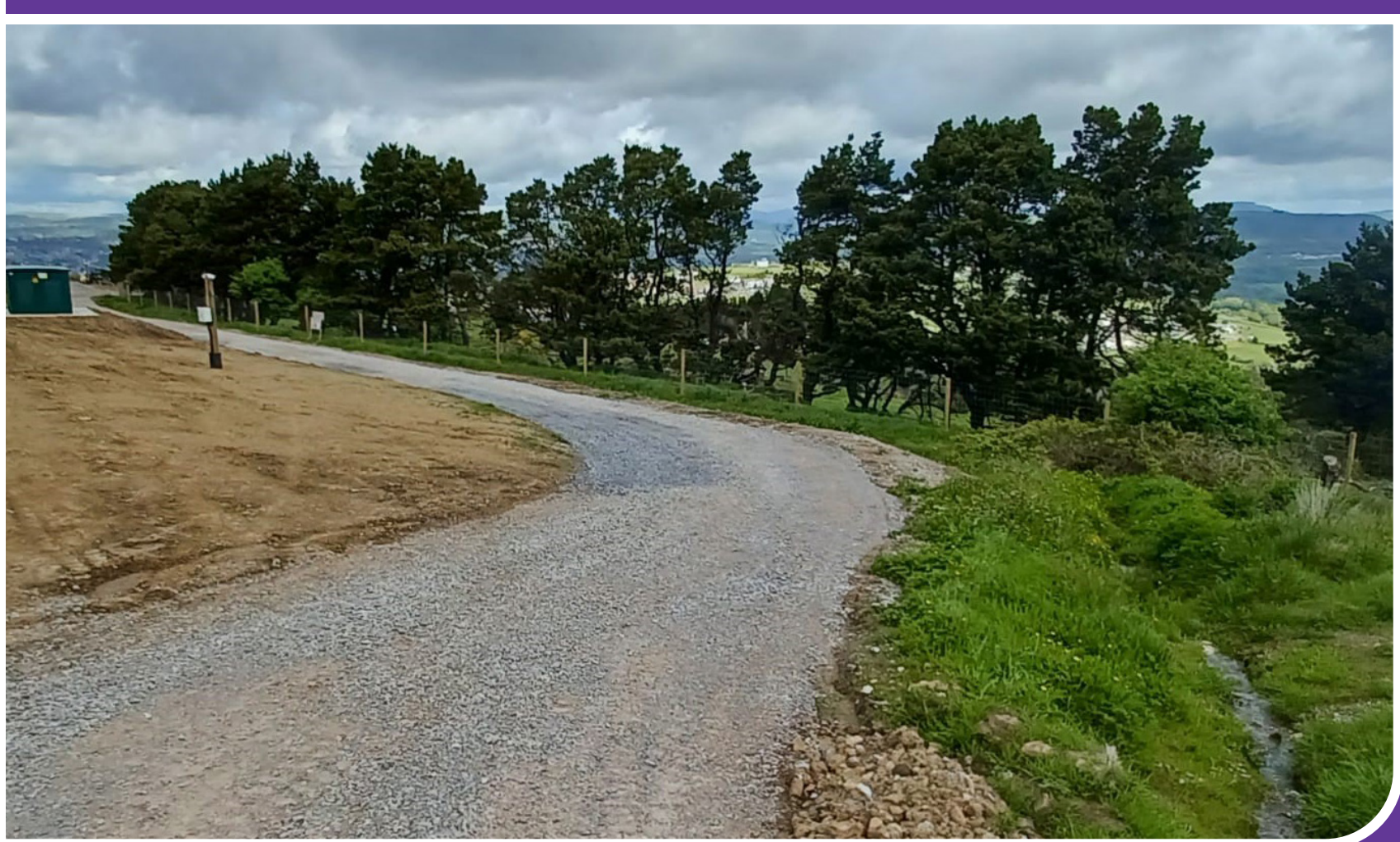
132/33kV compounds

These compounds comprise a 33kV substation and transformers, which are required to increase and decrease the voltage between 33kV and 132kV.



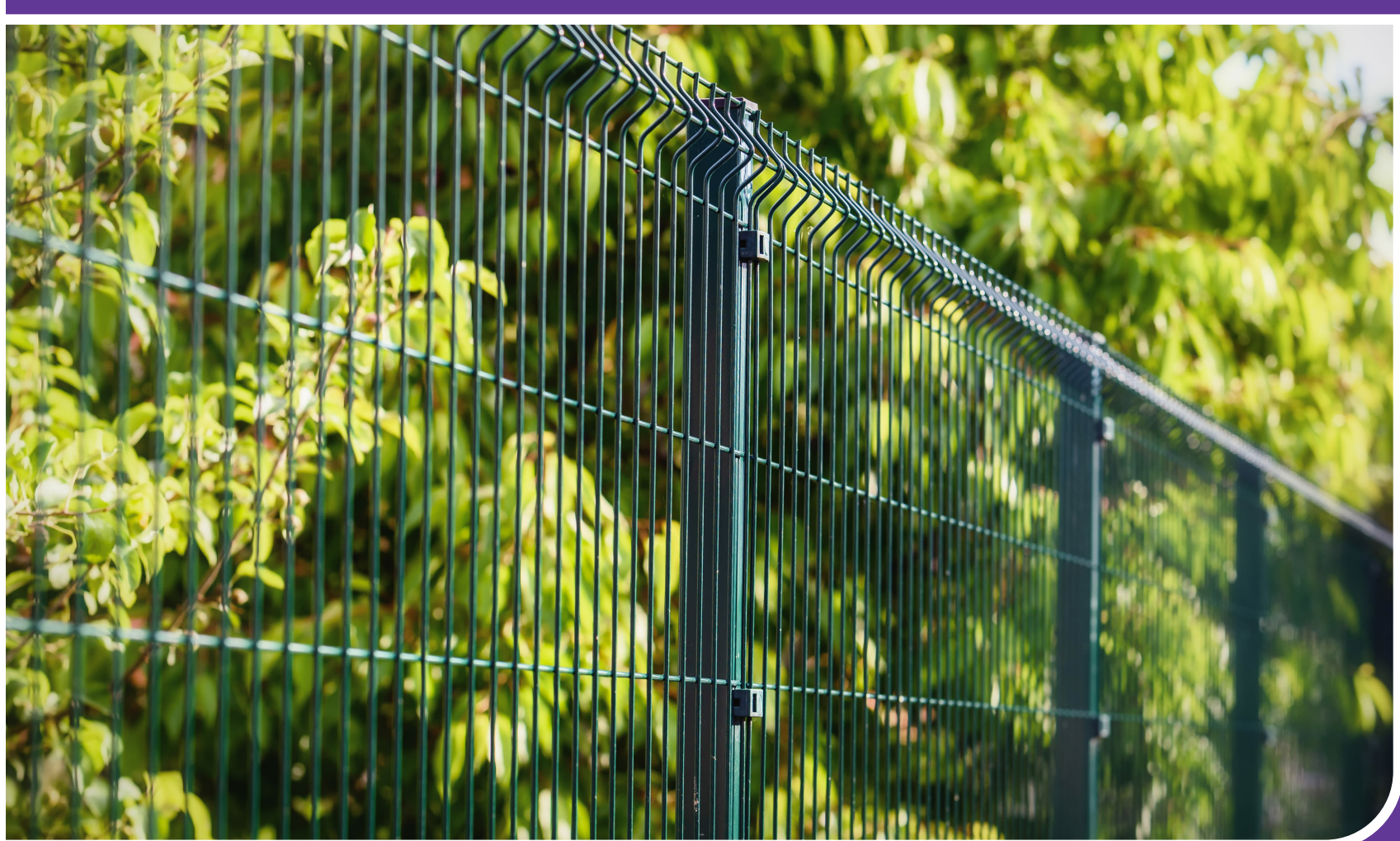
Substation buildings

The main substation contains the largest items of plant, consisting of a Gas Insulated Switchgear (GIS) hall, filters and 132/400kV transformers. It will have a footprint of approximately two acres.



Access tracks

Access tracks would be established across the site, primarily consisting of crushed stone. During the construction phase a construction compound would be established for storage of materials, plant, parking and welfare units.

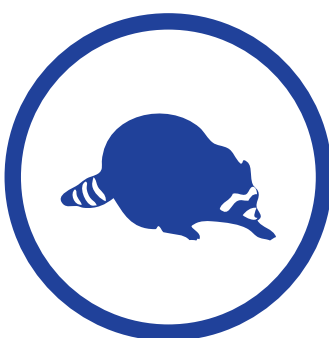


Security

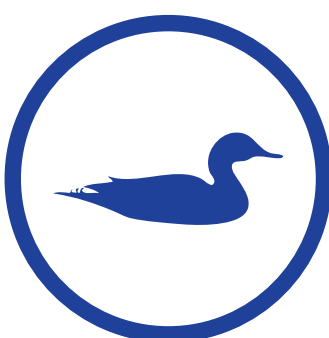
A fence would be installed around the perimeter of the development at a height of approximately two metres and the site monitored by inward facing CCTV cameras.

Ecology

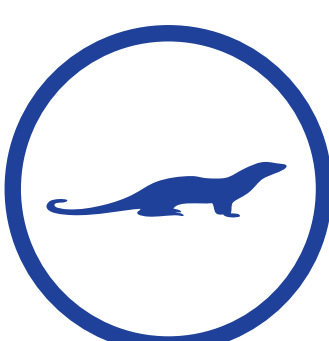
A Preliminary Ecology Appraisal (PEA) has been completed, which confirmed the site comprises a large arable field with small field margins and a smaller triangular field comprising neutral grassland. The site is bounded by wet ditches and hedgerows. The PEA confirmed that the proposals are unlikely to impact designated sites which are sufficiently distanced from the site and recommended the following surveys, of which the majority have now been completed:

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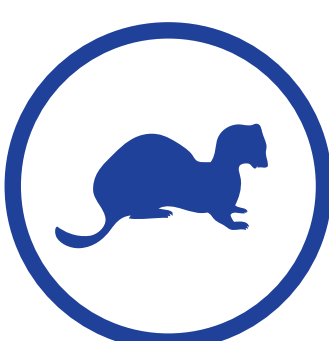
Badger Surveys

Historical outlier setts were identified on the field boundaries which are now disused.
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Breeding Birds Surveys

An assemblage of birds typical of arable and wetland habitats were present, with the majority of these were making use of the site boundaries and/or the smaller triangular field.
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Great Crested Newt surveys

Great crested newts are absent from the boundary ditches but may be present within the wider landscape. We will apply to enter South Derbyshire's District Level Licensing (DLL) scheme, which establishes high value, secure ponds for newts which are managed and monitored for the long term.
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Otter and Water Vole Surveys

The ditches surrounding the site are suitable for foraging and commuting otter and to a lesser extent, water vole, however, no evidence of either species has been recorded.
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Bats Surveys

A low number of common species were recorded, which forage and commute along the site boundaries in low numbers. There is no evidence of roosting within the site.



A 10m buffer from the development fence line to hedgerows has been incorporated into the design to ensure their interest is maintained and to maintain connectivity for foraging and commuting wildlife currently making use of the site.

Habitats of high biodiversity value including species-rich grassland will be incorporated within the buffers and small field and managed for 30 years to deliver biodiversity net gain in the short and long-term.

Our ecology consultant is currently undertaking wintering birds' surveys and preparing a Biodiversity Net Gain (BNG) strategy; the proposals will secure at least 10% BNG. All survey results and mitigation strategies will be included within an Ecological Impact Assessment submitted as part of the planning application.

Transport

Construction traffic route

It is proposed that construction vehicles will exit the Derby Southern Bypass at Junction 3 and travel west on the A514 Swarkestone Road, continuing along the A5132 before turning north onto Stenson Lane which leads to the site.

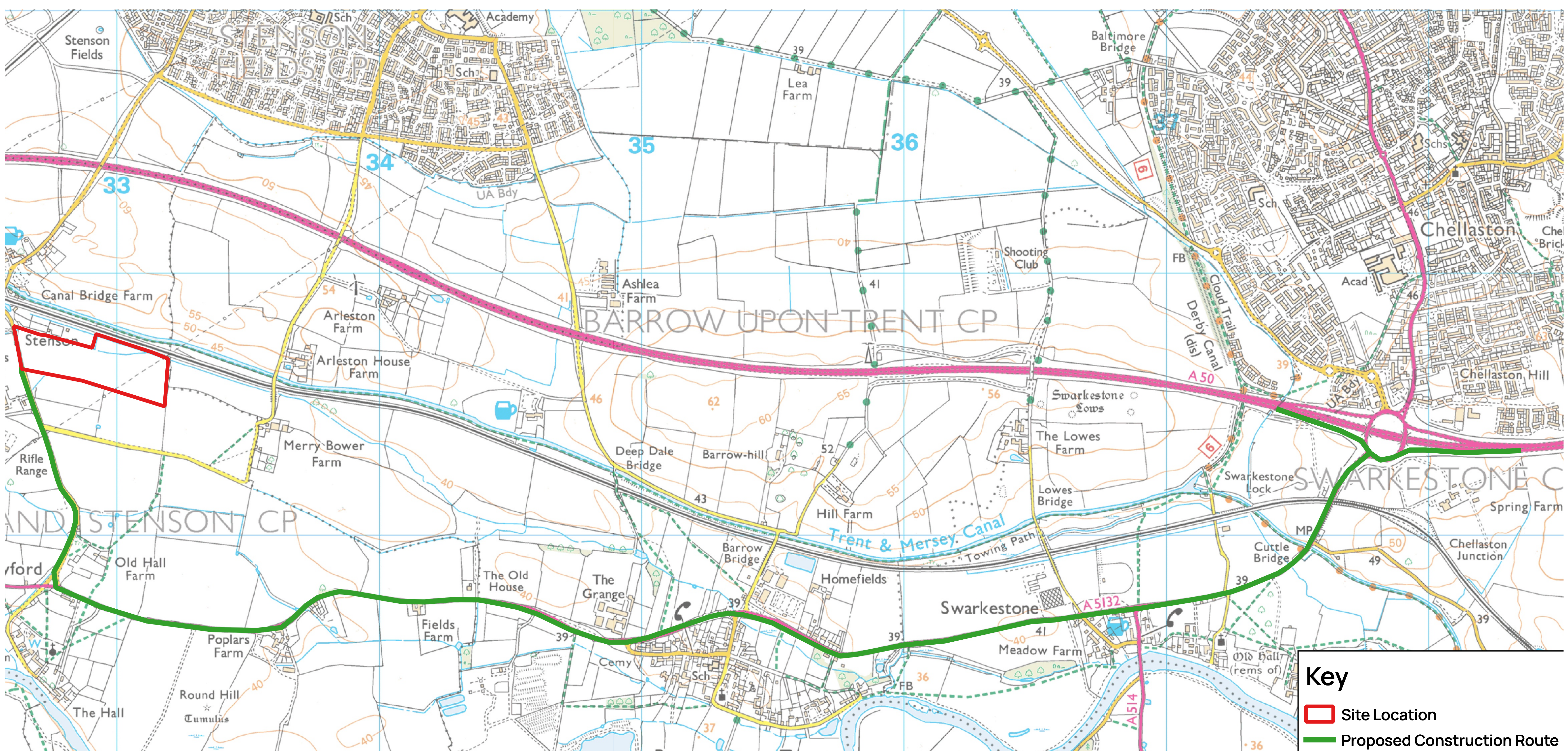
The figure on this board illustrates the proposed construction vehicle route.

We are currently assessing the number of construction vehicles that will be required, and this will be detailed within the Construction Traffic Management Plan (CTMP) which will be submitted as part of the planning application, to be agreed by the Council and adhered to by

the appointed contractor. The CTMP will also include a suite of mitigation measures to reduce the effect of construction vehicles on the local highway network.

Operational traffic

Once operational, the site will be visited approximately once a month for routine maintenance. Regular visits will also be made by landscape contractors and ecologists to monitor and manage completed landscape works.



Proposed Construction Traffic Route Plan

Technical details



Agricultural land

An agricultural land classification survey has been completed which confirms that the site comprises 37% Grade 3a and 63% Grade 3b land. Most of the development site is therefore not Best and Most Versatile land.

The site is in Flood Zone 1, meaning it has a low probability of flooding from rivers and the sea. However, because the proposed development is greater than one hectare, the application must be supported by a Flood Risk Assessment to demonstrate that it will not present an increase in flood risk both on and off site. Planning guidance also requires major developments to include Sustainable Drainage Systems.

We have conducted percolation testing to determine the most suitable drainage solution for the site. An attenuation drainage method has been deemed to be most appropriate. Indicative attenuation basin locations are shown on the site layout; these will connect to the drainage ditch on the northern boundary which then feeds into a stream.

Hydrology



Archaeology and heritage

A Historic Environmental Desk-Based Assessment has been completed, which considered the potential impact on archaeological assets and built heritage.

The assessment has not identified any designated archaeology which will be negatively impacted by the proposed development. Following advice from the County Archaeologist, we are currently completing a geophysical survey of the site to support this conclusion.

There are three Listed Buildings in the vicinity of the site, however the assessment concluded that the significance of these assets will not be impacted by the proposed development.

The Trent and Mersey Canal Conservation Area is c. 50m to the north and Twyford Conservation Area c. 540m to the south-west. The assessment concluded that the Canal Conservation Area does not derive significance from the proposed development site as part of its setting. Twyford Conservation Area will also be preserved from any impacts; there is no intervisibility with the site due to the distance and interstitial screening from hedges and trees. In both case, the proposed development site does not contribute to the significance of the Conservation Area.



Noise

We are preparing a Noise Impact Assessment of the site, which has identified the closest noise receptors and been informed by noise monitoring. We are currently liaising with our noise consultants to determine the requirement for any noise mitigation measures.

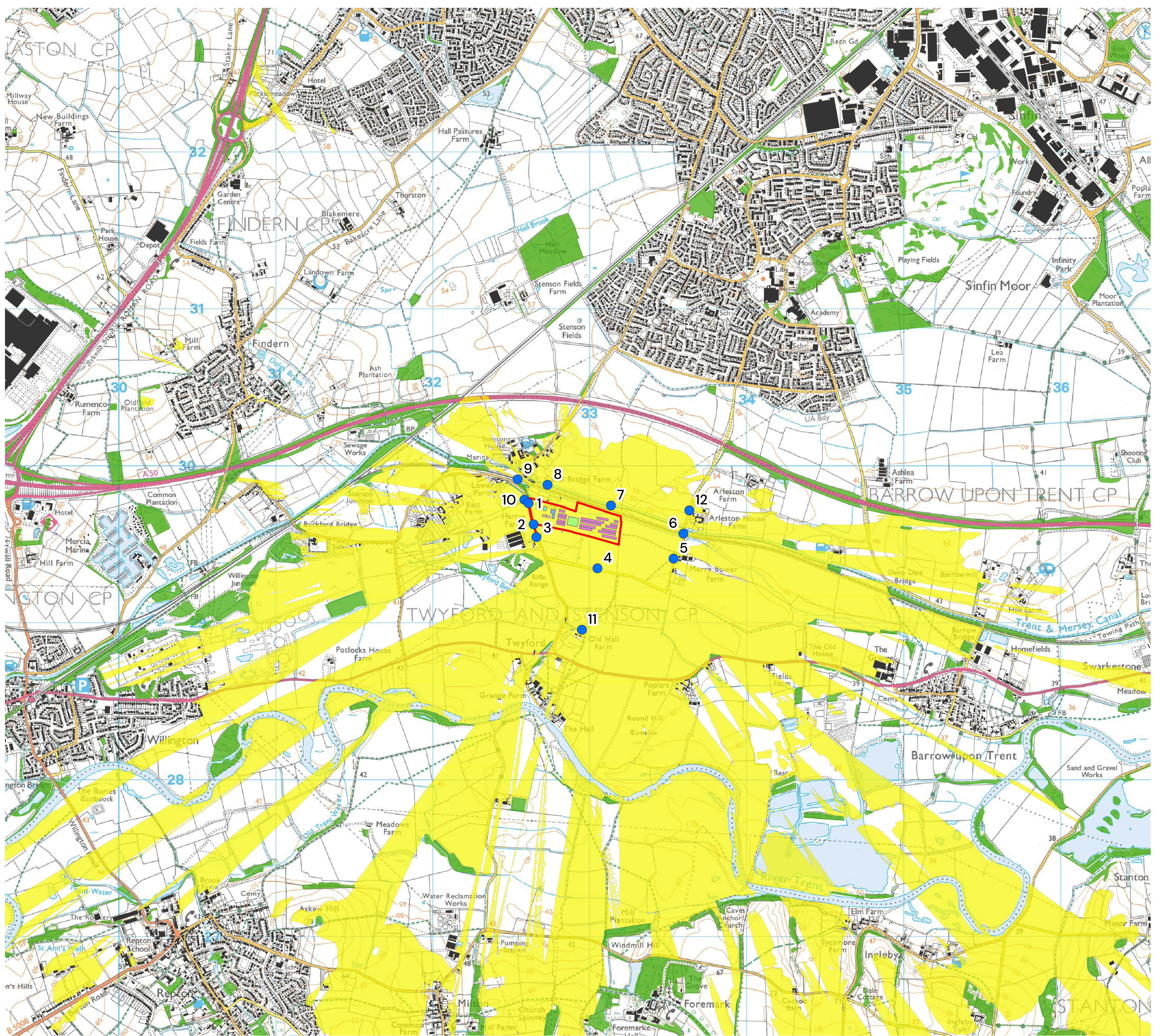


Landscape and visual

We have completed a Landscape Appraisal and are currently undertaking a full Landscape and Visual Impact Assessment (LVIA) which will accompany the planning application. Key viewpoints from the surrounding area will be assessed within the LVIA, these locations are shown on the below plan.

The site benefits from existing mature trees and hedgerows and is set away from sensitive receptors. There are two existing overhead electrical lines that run east-west and north-south across the proposed development area.

The illustration on this board indicates where, theoretically, the project will be visible from, at a viewer height of 1.7m, prior to any landscape enhancements.



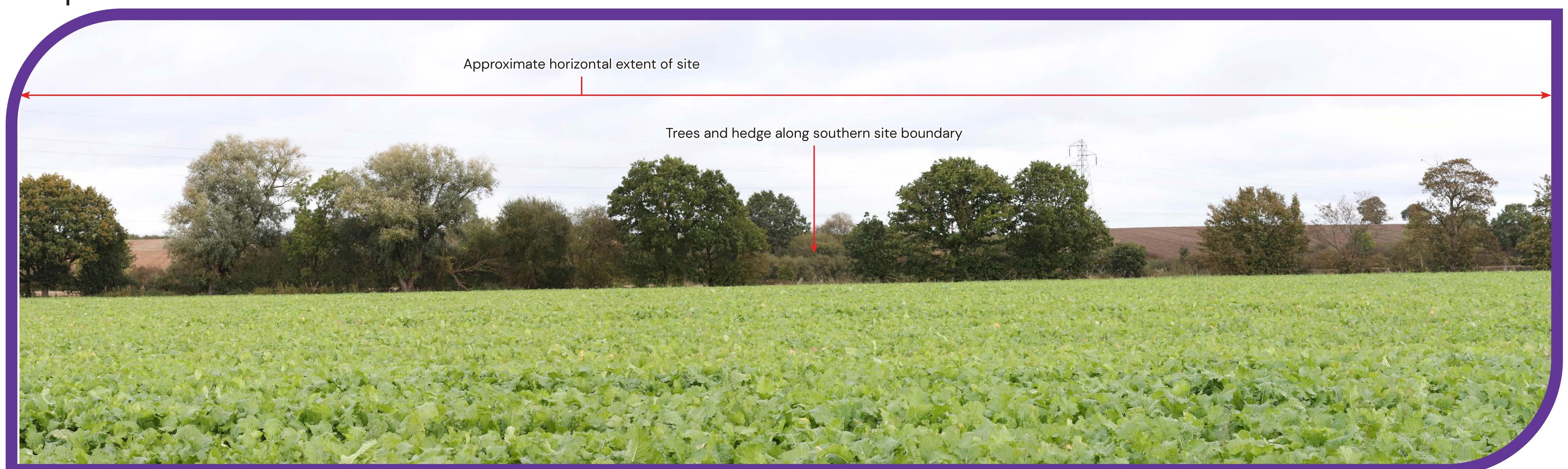
Viewpoint Locations

Viewpoints

The following photo sheets have been prepared from Viewpoints 4 and 5, and demonstrate the proposed development extents.



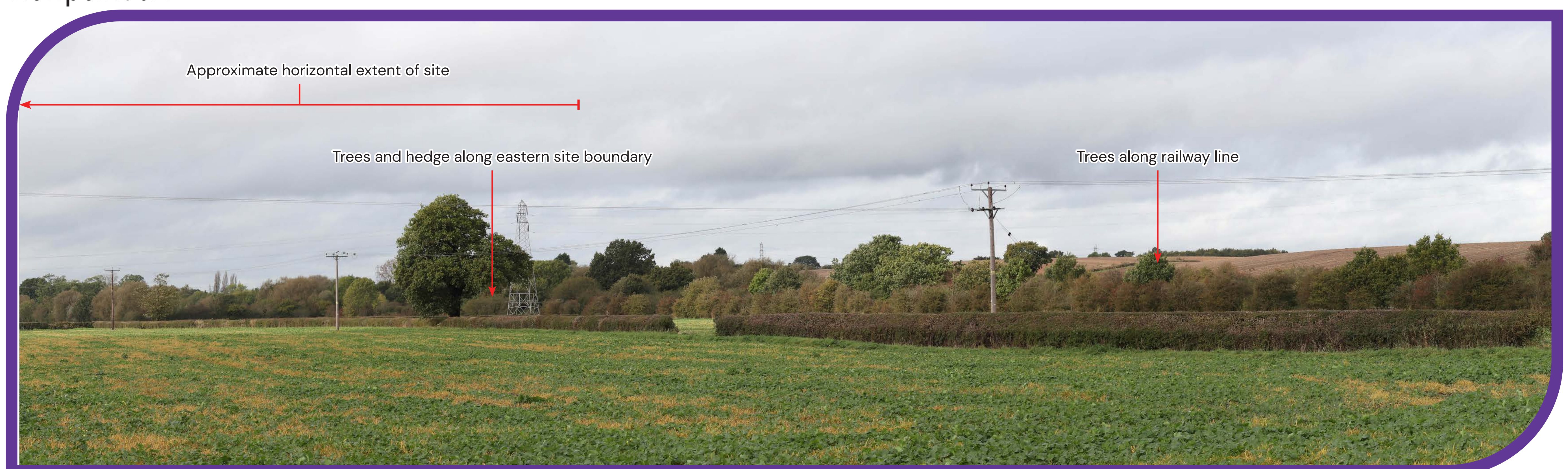
Viewpoint 4A



Viewpoint 4B



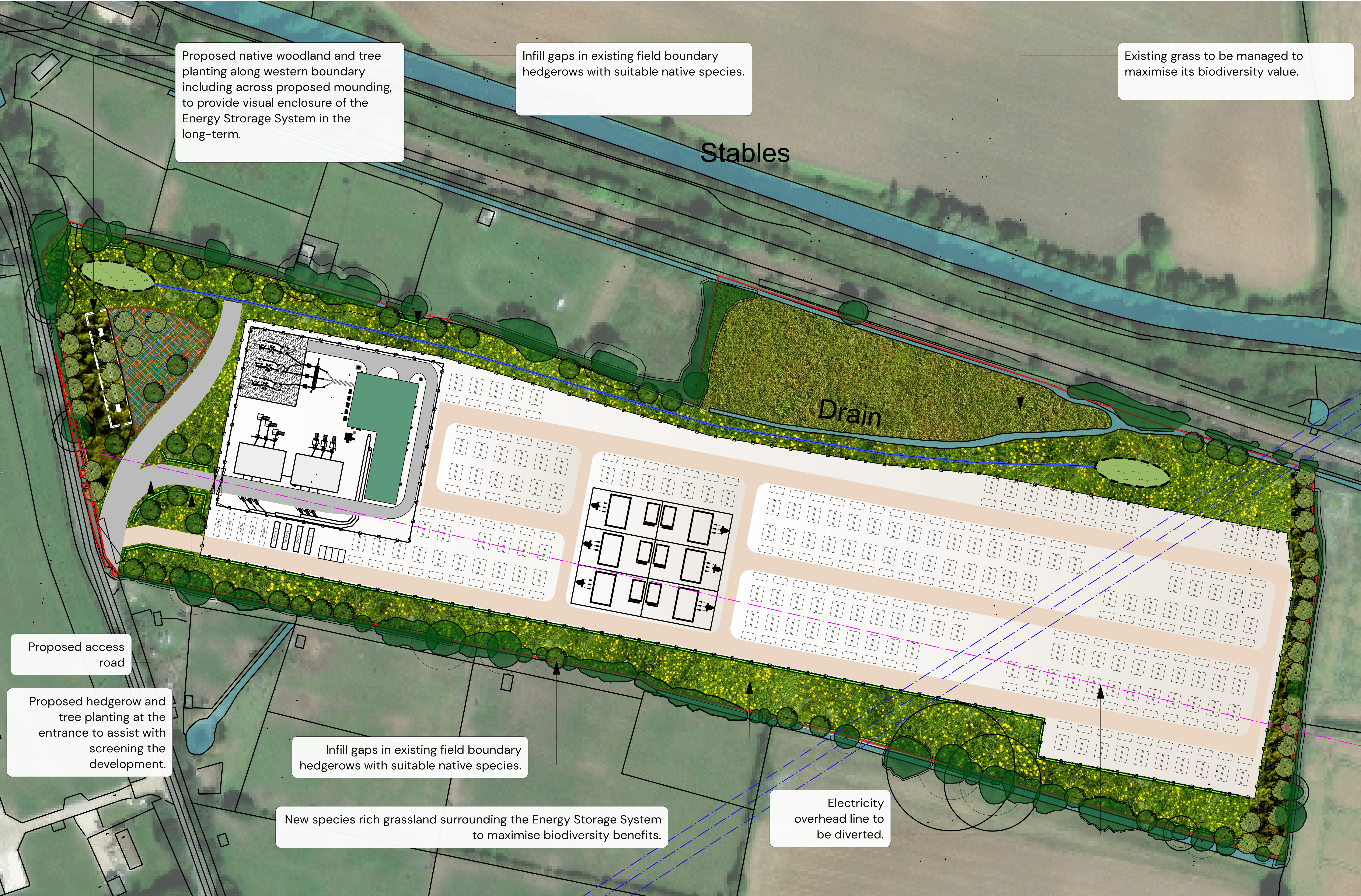
Viewpoint 5A



Viewpoint 5B

Landscape strategy

The indicative landscape strategy is shown on the below plan. This will be formalised into a Landscape Masterplan and submitted as part of the planning application.



KEY	
EXISTING	
	Site boundary
	Trees & vegetation
	Vegetation to be removed or cut back
	Drain
	Electricity Overhead Line and 6m offset either side
	Electricity Overhead Line to be diverted, route to be confirmed
PROPOSED	
	Wildflower meadow to ecologist specification
	Existing grassland to be retained, enhanced and managed
	Woodland planting
	Wetland meadow to be EM 8 by Emorsgate or similar and approved
	Scrub planting mix
	Native hedgerow
	Individual tree planting
	Approximate location of earth bund; no steeper than 1:3
	Indicative areas comprising energy storage system and substation
	Internal access track to be gravel surface, specified by engineers.
	Access road to be asphalt. To be specified by engineers.
	Indicative areas of attenuation ponds
	Indicative route of swale
	2.4m high green palisade fence

Operation

Energy Storage Systems are a safe technology and there are many sites across the UK operating today. The development will incorporate a number of embedded safety mitigation measures to ensure that it operates safely and in accordance with regulatory requirements and the requirements of the local Fire Service.



Who deals with planting?

We would instruct an Engineering Procurement Construction (EPC) company to oversee construction. This company will carry out the planting which will be set out on the Landscape Masterplan. Following construction, Innova would operate the site and will be responsible for its upkeep and maintenance.

Will there be a site contact during construction?

A site manager will be located on site during the construction phase and suitable contact details will be provided on boards outside of the construction area.

How much operational traffic will there be?

Once operational, it is likely that a member of staff will visit the site twice a month in a light goods vehicle to undertake general maintenance of the site, e.g., checking on planting, cleaning pieces of equipment, removal of any debris around equipment blown into the site and any equipment maintenance.

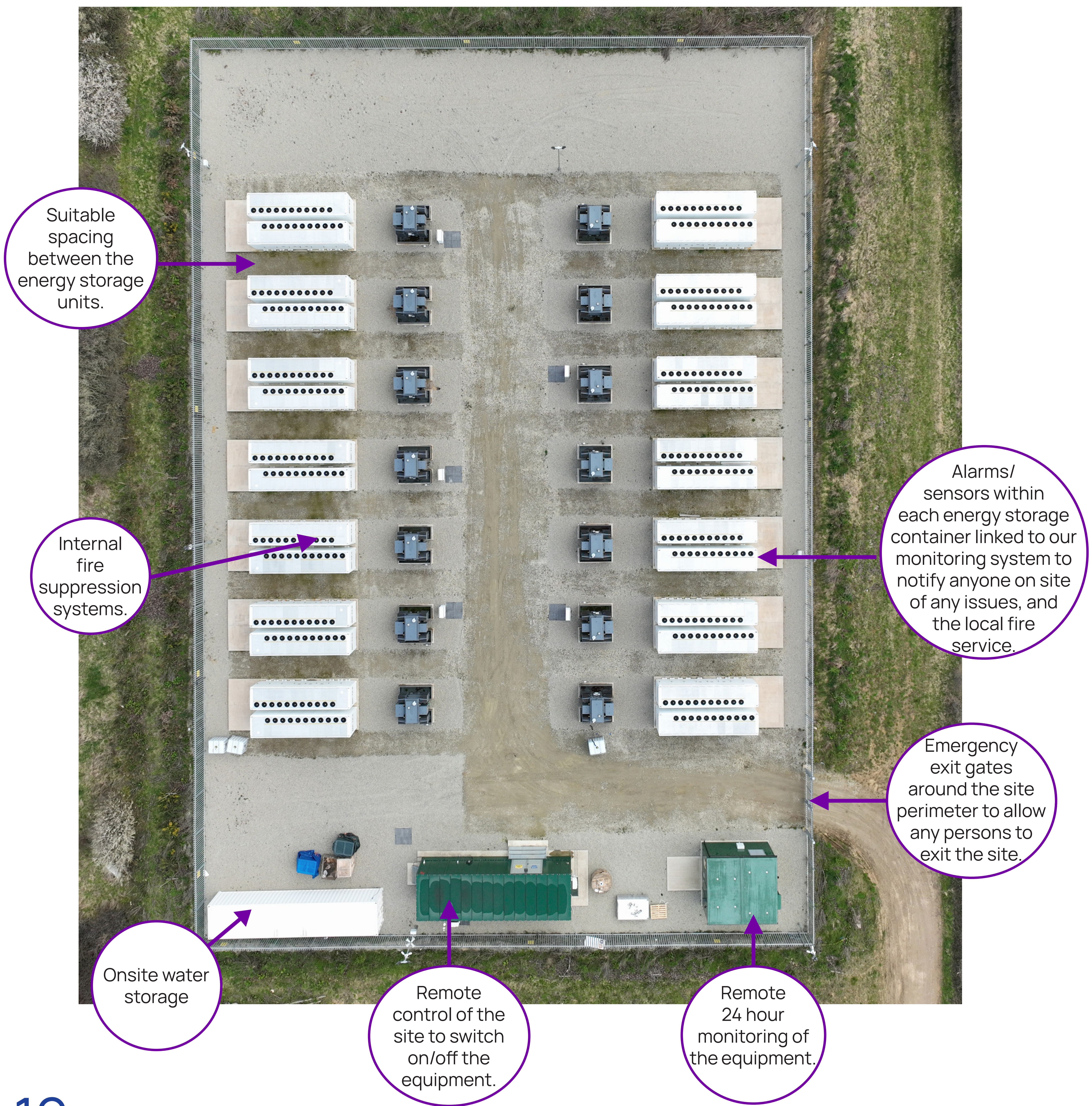
How many jobs will be created?

The proposal will create potential opportunities for the local area during the construction phase. As part of our procurement process, we will hold local supplier information events to raise awareness of these opportunities and encourage local businesses to tender for work.



Safety

The safety of our sites is of key importance to Innova, who will both own and operate the development. Energy Storage Systems are a safe technology and there are many sites across the UK operating today. The development will incorporate numerous embedded safety mitigation measures to ensure that it operates safely and in accordance with regulatory requirements and the requirements of the local Fire Service, who we have had open discussions with. It is anticipated that safety measures will include:



Enhancements and benefits

Our community promise

We believe it is important that local communities share in the benefit our project brings. For all our projects, we offer a community benefit fund, which can be used to support local projects and priorities. We will work with our host communities to agree the best way to provide and administer that fund.

Every year, the Stenson Lane ESS will contribute £50 per MW of energy storage to the community benefit fund. A further £20 per MW of energy storage installed for a charitable donation annually for the entire 40-year lifetime. The total annual payment which would be generated for this project is set out below.

OUR COMMUNITY PROMISE

From early in the process of developing all our sites, we like to reach out to the community which will host the development and set out the local benefits can bring. This includes setting up a Community Benefit Fund and a Charitable Fund, which would be funded by the project with an annual sum, based on the installed MW capacity of the site, paid into each fund for the entire 50 year of the project.

£20,000

To Community Benefit Fund



per year

£8,000

To Charitable Fund

The above figures are based on the contributions which will be made every year for the 400MW project of £50 to the local community and £20 charitable donation per MW installed

Community involvement

- Work with the host Parish Council and local stakeholders to place funds.
- Interested to hear initial community suggestions on where funds could be allocated.

Next steps

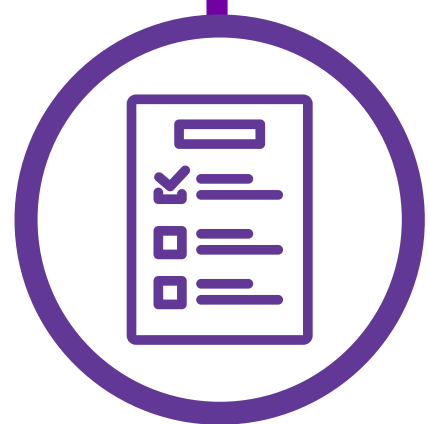


Pre-application and community consultation - current

We will be submitting a pre-application advice request to South Derbyshire District Council.

We will consolidate the feedback from this consultation event and from the Council to help us finalise the planning application and ensure we have taken everything into account.

We would appreciate any feedback you would like to share with us. This can be done at our event today, either in person or by using the feedback forms provided. If you would like a little more time to consider the proposals once you have met with us, you can contact us through the project website and submit feedback there.



Environmental surveys - ongoing

We are finalising our site-specific assessments and design of the proposal. The ongoing surveys include;

- Landscape and Visual Impact Assessment
- Wintering Birds Surveys
- Noise Impact Assessment
- Flood Risk Assessment
- Sustainable Drainage Systems Report
- Ecological Impact Assessment
- Biodiversity Net Gain Assessment
- Transport Statement
- Construction Traffic Management Plan
- Minerals Resource Assessment
- Arboriculture Impact Assessment



Planning application submission - Late 2023 to early 2024

The planning application is expected to be submitted to South Derbyshire District Council in either late 2023 or early 2024.

As part of the planning process, the Council will invite comments from the public and from a range of statutory consultees. The application documents will be available to view on the Council's website once it has been validated.



Construction and operation

If we are successful in securing planning permission, our construction period would be up to 24 months. Planting would be implemented in the first planting season following the construction activities.

Contact us

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