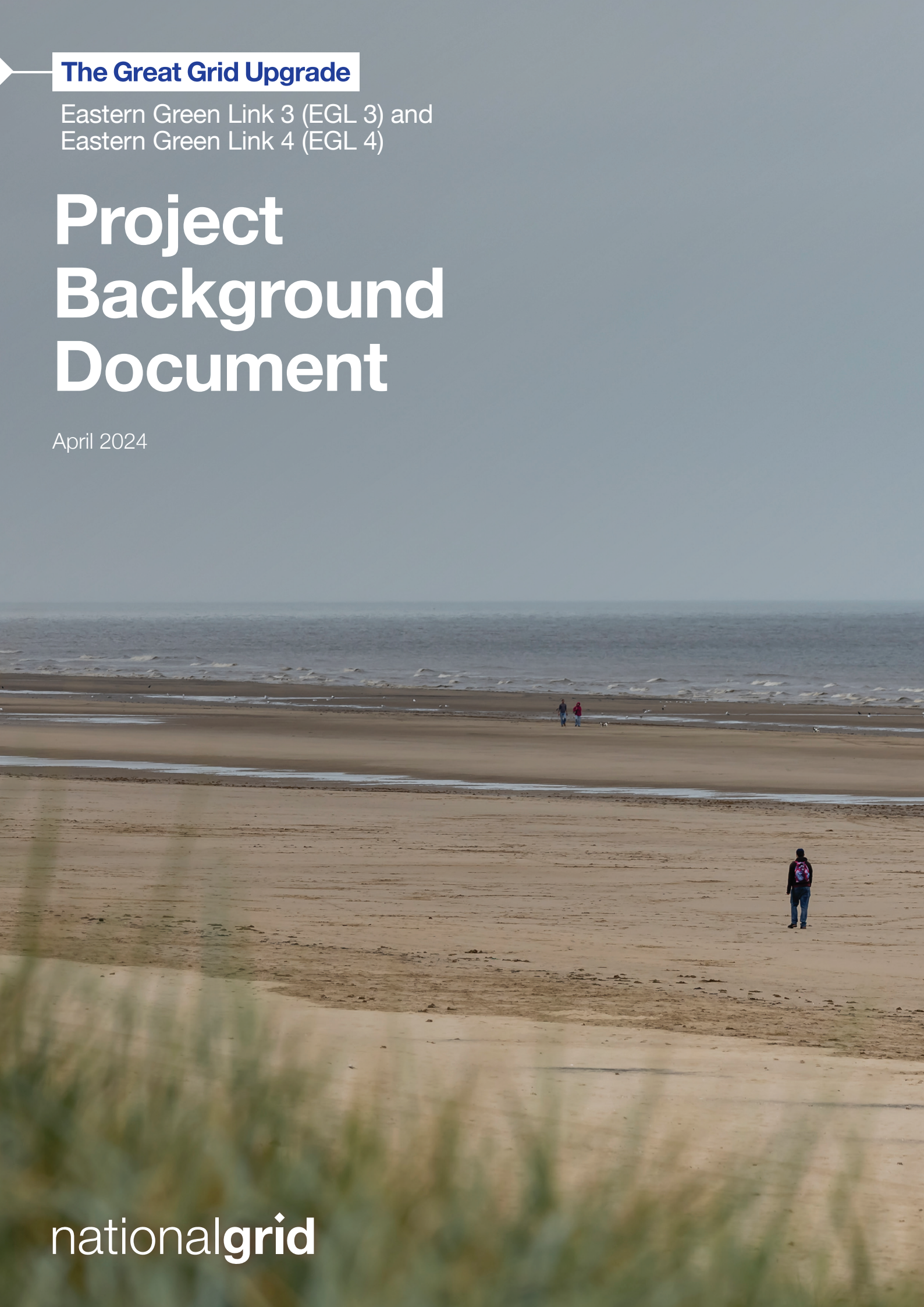
The Great Grid Upgrade

Eastern Green Link 3 (EGL 3) and
Eastern Green Link 4 (EGL 4)

Project Background Document

April 2024

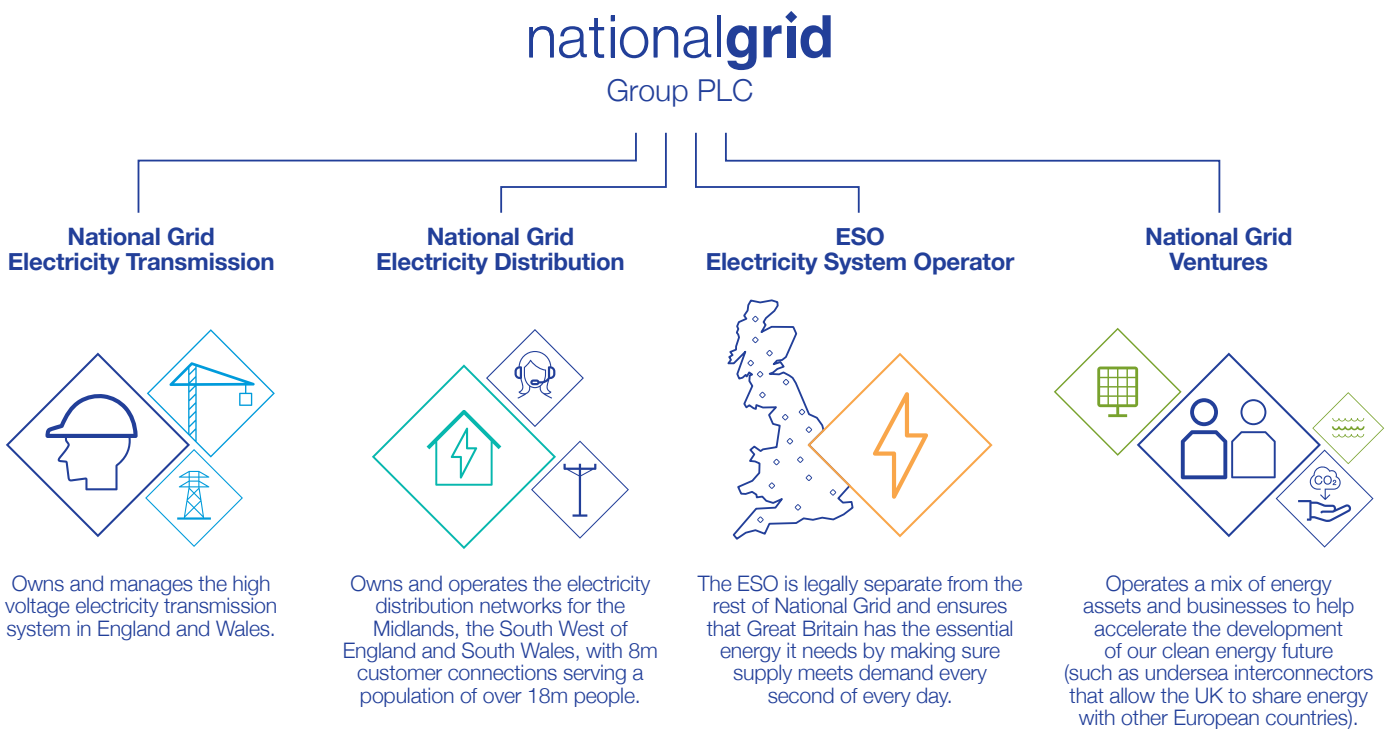


nationalgrid

About National Grid

National Grid delivers electricity safely, reliably and efficiently to the customers and communities we serve – all while working towards building a cleaner, fairer and more affordable energy system for the future.

The parts of National Grid involved in ensuring we all have the essential electricity supplies we need, are shown in the diagram below. Each is a separate legal entity with its own role and responsibilities across England and Wales.



National Grid Electricity Transmission (NGET) sits at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. Every time a phone is plugged in, or a switch is turned on, we've played a part, connecting you to the electricity you need.

NGET is developing the proposals set out in this document. It must, under the Electricity Act 1989, do so in an efficient, coordinated, and economical way which also considers people, places and the environment. We have published 10 commitments to how we go about doing this in our stakeholder, community and amenity policy[1].

To find out more about how we develop our proposals, please see our video[2] explaining how we work.

[1] National Grid's commitments when undertaking works in the UK: Our stakeholder, community and amenity policy (National Grid, December 2019) – Available at https://www.nationalgrid.com/electricity-transmission/document/81026/download

[2] National Grid Electricity Transmission, 'How we work' video players.brightcove.net/867903724001/default_default/index.html?videoId=6329276694112

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Foreword

Thank you for your interest in our proposals to upgrade parts of the electricity grid in your local area.

National Grid Electricity Transmission's (NGET) aim is to deliver the necessary infrastructure which will achieve energy security for Britain, more affordable bills and the UK Government's urgent policy to reduce carbon emissions. We invest around £1.3bn each year to adapt and develop our network of pylons, overhead lines, cables, and substations to connect new sources of low carbon energy to homes and businesses.

Our proposals for the Eastern Green Link 3 (EGL 3) and Eastern Green Link 4 (EGL 4) projects – two new primarily offshore high voltage electricity links and associated onshore infrastructure between Scotland and England – will work toward our aims and make sure the grid is ready. NGET is jointly developing EGL 3 with Scottish and Southern Electricity Networks Transmission (SSEN Transmission) and EGL 4 with Scottish Power Energy Networks (SPEN).

EGL 3 and EGL 4 are needed as the existing transmission network does not have enough capacity to securely and reliably transport the increasing amount of energy generated in Scotland and Scottish waters, particularly from offshore wind, to population centres in the Midlands and South of England. These proposals form part of 'The Great Grid Upgrade', which is the largest overhaul of the grid in generations.

The EGL 3 and EGL 4 projects will involve a mix of offshore and onshore development. We are pleased to share our early proposals for the onshore elements of EGL 3 and EGL 4 in England with you. Whilst these are two separate projects, we will be seeking consent under one Development Consent Order (DCO) for both EGL 3 and EGL 4. We are now seeking feedback on these proposals in our first stage of consultation, which runs from Tuesday 23 April to Monday 17 June 2024. We encourage you to share your views on where the new infrastructure could be built, and what you would like to see us consider as we further develop our proposals, which we will present and consult on in the future.

All documents published as part of this consultation, including this Project Background Document, can be found at **nationalgrid.com/egl3andegl4** and are available on request by contacting the project team at **contactegl3and4@nationalgrid.com** or **0800 298 0405**.

We encourage everyone to take time to review our proposals and respond by **11:59pm Monday 17 June 2024**.

Mark Brackley,
Project Director, Eastern Green Link 3 (EGL 3)

James Goode,
Project Director, Eastern Green Link 4 (EGL 4)

Consulting on our proposals

We are now consulting on our early proposals for the onshore elements of EGL 3 and EGL 4 in England. The deadline for providing feedback is 11:59pm Monday 17 June 2024.

NGET is planning to enhance the electricity network with proposals for EGL 3 and EGL 4 – two new primarily offshore high voltage electricity links and associated onshore infrastructure between Scotland and England (see Figure 1).

The links would transport enough clean energy from Scotland to power up to four million homes in the Midlands and South of England, playing an important role in building a more secure and resilient future energy system and the decarbonisation of the UK electricity system.

In England, the proposed onshore elements of EGL 3 and EGL 4 would be in the districts of East Lindsey, Boston and South Holland, in Lincolnshire; and the district of King's Lynn and West Norfolk, in Norfolk (see page 14 for more information).

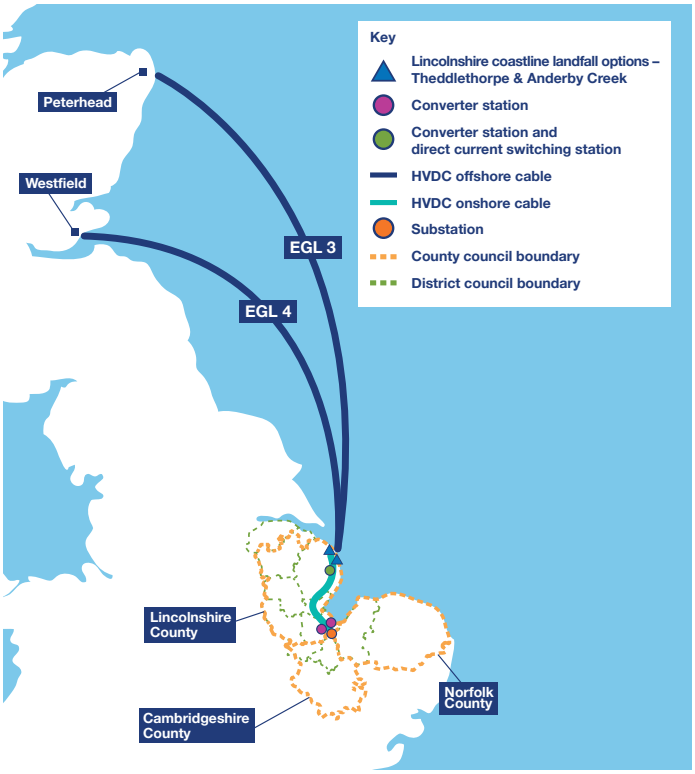


Figure 1 Overview of EGL 3 and EGL 4

NGET is jointly developing EGL 3 with Scottish and Southern Electricity Networks Transmission (SSEN Transmission) and EGL 4 with Scottish Power Energy Networks (SPEN). SSEN Transmission and SPEN are responsible for obtaining the relevant consents in Scotland and in Scottish waters.

Both EGL 3 and EGL 4 are in their early stages of development, and we will be seeking consent for the English onshore elements of both via one application to the Planning Inspectorate for a Development Consent Order (DCO). Although EGL 3 and EGL 4 are independent of one another, in effect separate projects, due to their ultimate common connection point in England (the proposed new Walpole substation), we decided to develop them in parallel. In addition to enabling one DCO application, this coordinated and co-located approach to their routeing and siting provides the opportunity to potentially reduce the extent of community and environmental impact and disturbance.

Consultation is an important part of the DCO process as it enables everyone to comment on our proposals, with feedback helping to inform the development of our proposals – along with technical assessments and environmental surveys – before we submit our DCO application to the Planning Inspectorate.

The Planning Inspectorate will review and examine our application, and encourage the submission of views from statutory stakeholders, communities and other interested parties, before making a recommendation to the Secretary of State for Energy Security and Net Zero, who will decide whether to grant consent. To find out more about the DCO process[3], please see the Planning Inspectorate website.

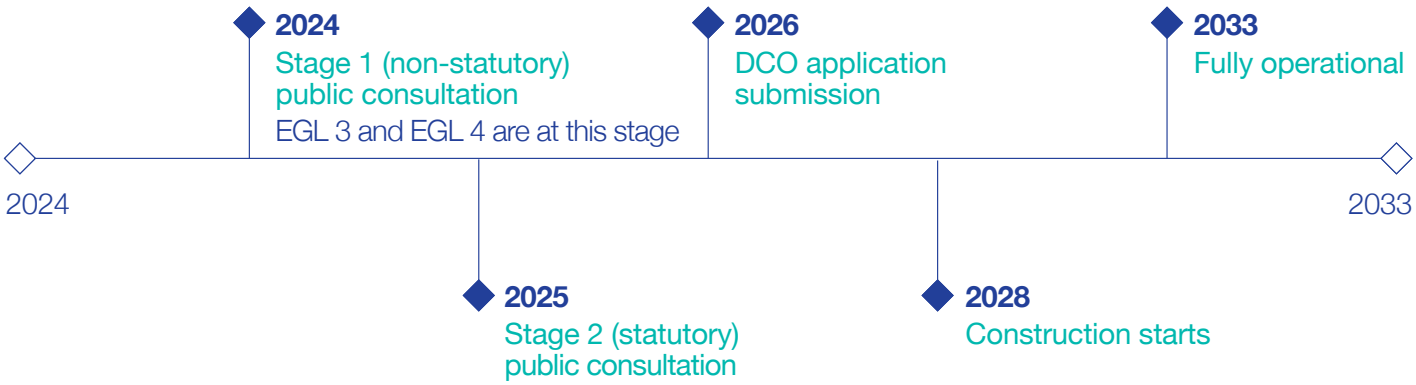
[3] National Infrastructure Planning - the process, Planning Inspectorate infrastructure.planninginspectorate.gov.uk/application-process/the-process/

Public consultation scope

Consultation on EGL 3 and EGL 4 is planned to take place over two stages.

This Stage 1 consultation – running for eight weeks from Tuesday 23 April to Monday 17 June 2024 – is designed to introduce our proposals and gain your early feedback. This stage is called a 'non-statutory' consultation, which comes before the Stage 2 statutory consultation that we will carry out later in the process before we seek to secure consent. This consultation process relates only to the English onshore elements of EGL 3 and EGL 4. The deadline to provide feedback is 11:59pm on Monday 17 June 2024.

Before Stage 2, we will work with local councils to develop and agree a 'Statement of Community Consultation' which will set out how we plan to consult with the community. The statutory consultation will show how we have taken into account the feedback we have received from this Stage 1 consultation, along with the outcome of technical assessments and environmental surveys as we have further developed our proposals. Stage 2 consultation offers a further opportunity to share your views.



During this Stage 1 consultation, we are seeking views on where the new onshore infrastructure in England could be built and what you would like to see us consider as we further develop our proposals.

The key elements of our proposals for consultation include:

- two co-located high voltage direct current (HVDC) underground cable routes, from one of two potential landfall locations on the Lincolnshire coastline
  - from landfall, one of the routes would branch-off to connect via a proposed converter station and direct current switching station site near Bilsby, within East Lindsey, and then run to one of two proposed new converter stations in the Walpole area, of Kings Lynn & West Norfolk; and the other underground cable route would run from landfall to connect directly into the other proposed converter station within the Walpole area
- one new converter station and direct current switching station near Bilsby, East Lindsey
- the route of high voltage alternating current (HVAC) underground cables to connect the converter station and direct current switching station to a new substation in the Walpole area (also proposed as part of NGET's Grimsby to Walpole project) and onto the electricity network
- two new converter stations in the Walpole area
- the route of two separate HVAC underground cables to connect the proposed converter stations to the proposed substation in the Walpole area, and into the electricity transmission network
- one new substation in the Walpole area (also proposed as part of NGET's Grimsby to Walpole project)
- potential converter station design approaches that we could consider during the later design stages.

See the 'Our proposals' chapter for more information on the above proposed infrastructure.

Our proposals are outlined in this Project Background Document, along with information about where to find out more and how to get involved in the consultation.

As part of this consultation, we have also published:

- **Strategic Options Report (SOR)**: explaining the strategic options considered, and the strategic option proposed, to deliver the necessary network upgrade in England
- **Corridor Preliminary Routeing and Siting Study Report (CPRSS)**: providing detailed information on the English onshore components of EGL 3 and EGL 4; including the need, the options considered, the routeing and siting options assessed, our proposed options and a summary
- **Overview and individual route section maps for onshore elements**: showing the proposed locations for the onshore elements of EGL 3 and EGL 4
- **Consultation newsletter**: summarising details of EGL 3 and EGL 4 and our public consultation
- **Feedback form**: to gather comments and feedback from the consultation.

All of these documents are available to download from our project website at **nationalgrid.com/egl3andegl4**.

Printed copies of most of our consultation documents are available free of charge on request. These can be requested via emailing **contactegl3and4@nationalgrid.com** or by calling **0800 298 0405**. Some detailed technical documents may be subject to a printing charge of up to £300.

Key consultation documents will be available to view at local information points (see page 11 for details), and printed copies of all consultation documents will be available to view at our consultation events (see page 10 for details).

Offshore elements of EGL 3 and EGL 4

Consent for the offshore elements of EGL 3 and EGL 4 will be sought via separate marine licence applications for development in English and Scottish waters respectively.

The Marine Management Organisation (MMO), who is the offshore consenting body for the works in English waters, has confirmed that the marine proposals for EGL 3 and EGL 4 are non-Environmental Impact Assessment (EIA) projects, however a Marine Environmental Appraisal will be submitted as part of the marine licence application.

This work is separate to the onshore proposals in this consultation, with a separate National Grid team already undertaking engagement with a number of statutory marine stakeholders, including Natural England, Historic England, fisheries groups, port authorities and the Environment Agency.

The Marine Directorate Licensing Operations Team (MD-LOT) will be handling the marine licence application for the offshore elements of EGL 3 and EGL 4 in Scottish waters.

How to find out more

The EGL 3 and EGL 4 Stage 1, non-statutory consultation will run for eight weeks, **from Tuesday 23 April to Monday 17 June 2024**, and is open to anyone with an interest in our proposals. The deadline to provide feedback is 11:59pm on Monday 17 June 2024. All consultation information is available on our website: **nationalgrid.com/egl3andegl4**.

Printed copies of the consultation newsletter, feedback form and Project Background Document are available free of charge on request or to collect at consultation events and local information points. Reference only copies of the Corridor Preliminary Routeing and Siting Study (CPRSS) and Strategic Option Report (SOR) are also available to view at local information points.

Throughout the consultation we are holding a series of face-to-face events (**see Table 1**). These consultation events will include information about our proposals, with copies of maps and technical documents available to view. Members of the project team will be available to answer questions about our proposals.

Our online webinar sessions will include a presentation of our proposals followed by an open question and answer session. You can attend the webinar most relevant to you by joining one of our location-themed webinars (**see Table 2**). Details on how to sign-up for a webinar are available on the website or by contacting us on **0800 298 0405** or by emailing **contactegl3and4@nationalgrid.com**.

You can also book an 'ask the expert' telephone or video appointment with the team by using the contact details above. These individual sessions will be available for the duration of the consultation period.

To learn about our proposals:

- read this Project Background Document
- visit our website at: **nationalgrid.com/egl3andegl4**
- come to a consultation event (**see Table 1**)
- join an online webinar session (**see Table 2**)
- visit a local information point (**see Table 3**)
- book an 'ask the expert session' by visiting our website or calling or emailing us (see below)
- sign up to receive project update emails (visit our website)
- call us on freephone **0800 298 0405** Lines are open Monday to Friday 9am–5pm, with an answerphone facility taking messages outside of these hours
- email us: **contactegl3and4@nationalgrid.com**

To respond to the EGL 3 and EGL 4 consultation:

Complete the online feedback form on our website

Email your comments to: **contactegl3and4@nationalgrid.com**

Call us on freephone **0800 298 0405**

Post your written responses (no stamp required) to: **Freepost EASTERN GREEN LINKS 3 & 4**

Complete a printed feedback form and return it using the freepost address

Your comments must be received by 11.59pm on Monday 17 June 2024.

Table 1 Consultation events

Location	Date	Time	Address
Mablethorpe	Tuesday 30 April 2024	2pm–7pm	Dunes Complex, Central Promenade, Mablethorpe, LN12 1RG
Anderby	Wednesday 1 May 2024	2pm–7pm	Anderby Village Hall, Sea Road, Anderby, Skegness, PE24 5YD
Alford	Thursday 9 May 2024	12:30pm–6pm	Alford Corn Exchange, 9 Market Place, Alford, LN13 9EB
Wisbech	Monday 13 May 2024	2pm–7pm	Leverington Village Hall, Gorefield Rd, Leverington, Wisbech, PE13 5AT
Eastville	Wednesday 15 May 2024	2pm–7pm	Eastville, Midville and New Leake Village Hall, Station Rd, Eastville, PE22 8LS
Kirton Holme	Thursday 16 May 2024	2pm–7pm	Poachers Country Hotel, Swineshead Road, Kirton Holme, PE20 1SQ
Walpole	Monday 20 May 2024	2pm–7pm	Walpole Community Centre, Summer Close, Walpole St Andrew, PE14 7JW
Holbeach	Wednesday 29 May 2024	2pm–7pm	The Holbeach Hub, Boston Rd South, Holbeach, PE12 7LR
Burgh le Marsh	Wednesday 5 June 2024	2pm–7pm	Burgh le Marsh Village Hall, Jacksons Lane, Burgh le Marsh, Skegness, PE24 5LA

Table 2 Webinars

	Locations covered	Date	Start time
Webinar 1	Section 1a – Theddlethorpe landfall to Bilsby Section 1b – Anderby Creek landfall to Bilsby	Monday 29 April 2024	12pm
Webinar 2	Section 2 – Bilsby to Welton le Marsh Section 3 – Welton le Marsh to Little Steeping Section 4 – Little Steeping to Sibsey Northlands	Tuesday 7 May 2024	7pm
Webinar 3	Section 5 – Sibsey Northlands to Hubbert's Bridge Section 6 – Hubbert's Bridge to River Welland Section 7 – River Welland to Foul Anchor	Wednesday 22 May 2024	12pm
Webinar 4	Section 8 – Foul Anchor to Walpole	Thursday 6 June 2024	7pm

Table 3 Local information points	
Mablethorpe Library	Stanley Avenue, Mablethorpe, LN12 1DP
Alford Library and Focal Point	6 Market Place, Alford, LN13 9AF
Sutton on Sea Library and Community Centre	Broadway, Sutton on Sea, Mablethorpe, Lincolnshire LN12 2JN
Burgh le Marsh Library	Tinkers Green, Jacksons Lane, Burgh le Marsh, Skegness, PE24 5LA
Skegness Library	23 Roman Bank, Skegness, PE25 2SA
Boston Library	County Hall, Bank Street, Boston, PE21 6DY
Holbeach Community Library	5 Fleet Street, Holbeach, Spalding, PE12 7AD
Long Sutton Library	Trafalgar Square, Long Sutton, Spalding, PE12 9HB
Spalding Library	Victoria Street, Spalding, PE11 1EA
Wisbech Library	Ely Place, Wisbech, PE13 1EU
King's Lynn Library	London Rd, King's Lynn PE30 5EZ

Local information point opening hours can be subject to change. **Please check with the relevant venue for the most up to date opening hours.**

The need

EGL 3 and EGL 4 are needed as the existing transmission network does not have enough capacity to securely and reliably transport the increasing amount of energy generated in Scotland and Scottish waters, particularly from offshore wind, to population centres in the Midlands and South of England.

Network capacity and demand

Demand for electricity is expected to rise as the way we power our homes, businesses and transport changes. As the nation moves towards net zero, the fossil fuels that once powered our economy will be replaced with sources of low-carbon electricity.

The UK already has 14.7 gigawatts (GW) of offshore wind and 15 GW of solar energy[4] in operation. The Government's British Energy Security Strategy[5] outlines its ambition to increase offshore wind capacity to 50 GW by 2030 as well as increasing solar energy capacity to 70 GW by 2035.

Meeting these targets will be a major step towards decarbonising our economy and providing customers with clean, secure, affordable energy. To deliver more clean power to homes and businesses and increase our energy security, we must also upgrade the electricity transmission system – 'the grid' – at an unprecedented scale and pace (see the Government's 'Powering up Britain'[6] report).

This is because our existing transmission system was originally designed to move energy from power stations near the coal fields of the North and Midlands or gas fired power stations, for example in the Humber area, to 'demand centres' such as the M62/M18 corridor, the Midlands, the M4 corridor and the South East. Low carbon energy generation is located away from these older fossil fuel power stations that the grid was originally designed to serve.

Upgrading the infrastructure needed to achieve this ambition will boost local economies, provide new jobs, opportunities for upskilling, and bring vital investment to communities right across the country. However, we must also manage the potential impacts of decarbonisation on energy bills, people, communities and the environment.

Why here?

By 2033, we expect that the network between Scotland and the Midlands will need to be able to transfer around 25.9 GW of electricity, compared to today's 11.6 GW due to the amount of power set to be predominantly generated by offshore wind in Scottish waters. For more information on how this need is identified, see Chapter 4, Strategic Options Report.

[4] https://www.gov.uk/government/statistics/solar-photovoltaics-deployment
[5] British energy security strategy, Department for Business, Energy & Industrial Strategy and Prime Minister's Office, April 2022 gov.uk/government/publications/british-energy-security-strategy
[6] Powering up Britain, Department for Energy Security and Net Zero, March 2023 assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147340/powering-up-britain-joint-overview.pdf

A shortage in transmission capability between the Scotland and Midlands will create a bottleneck in the transmission network, restricting our ability to move power to where it is needed and potentially requiring us to pay generators to reduce production in other parts of the network. While this can temporarily manage power flows, it can also increase the cost of generation and therefore the cost of electricity to the consumer.

By reinforcing the transmission system from Scotland down to the Southern East Midlands region with EGL 3 and EGL 4, we would avoid creating a bottleneck and enable the transfer of enough energy to power up to four million homes in the Midlands and South of England. By doing so, EGL 3 and EGL 4 would play a significant role in building a more secure and resilient future energy system and decarbonising the UK electricity system. An assessment of the options for the location(s) of EGL 3 and EGL 4 (see Chapter 5 of the Strategic Options Report and Chapter 5 of the Corridor and Preliminary Routeing and Siting Study for more information on our appraisal process) determined that the best location for EGL 3 and EGL 4 to make landfall would be on the Lincolnshire coastline, connecting into the transmission network in the Walpole area.

From landfall one of the projects could also connect to the transmission network near Bilsby, in East Lindsey, providing greater flexibility and resilience to the network as a 'three-ended' connection. As we are still in the early stages of the projects, it has not fully been confirmed that this connection is required. However, we're proposing a converter station, direct current switching station and underground cables that provide an option for this should it be required. We will be able share further information on this decision at our Stage 2 (statutory) consultation in 2025.

EGL 3 and EGL 4 are two of several network upgrades that are helping to connect more homegrown renewable energy to homes and businesses. These include EGL 1 and EGL 2, two other high voltage electricity links from Scotland to County Durham and North Yorkshire respectively. Both EGL 1 and EGL 2 are in the early stages of construction. All four Eastern Green Links form part of 'The Great Grid Upgrade', which is the largest overhaul of the grid in generations.

We have also considered the possible impacts of interaction between other local National Grid projects that are being developed, but consents have not yet been applied for – namely, Grimsby to Walpole and North Humber to High Marnham.

These impacts have been accounted for in our wider regional strategic approach, outlined in both the Grimsby to Walpole and North Humber to High Marnham projects' Strategic Options Reports. These conclude that the best suited location for EGL 3 and EGL 4 to connect into the electricity transmission network would be in the Walpole area.

NGET is also aware that other energy infrastructure projects within the same geography are in development, with some already making DCO applications to the Planning Inspectorate. We will look to coordinate with all projects, where possible, to minimise impacts on communities and the environment.

Our proposals

Infrastructure explainer	
High voltage direct current (HVDC) cables	HVDC cables can be used to transport large amounts of power over long distances, onshore and offshore. When used onshore, these are installed underground.
High voltage alternating current (HVAC) cables	Power is normally generated, transmitted and distributed as AC underground through high voltage alternating current cables. AC is efficient for distributing energy into homes and businesses as its voltage can be easily changed to suit need. These are installed underground.
Converter stations	Convert power from AC to DC and DC to AC. These are above ground and housed within buildings.
Substations	Connect the transmission network to the distribution networks that supply homes and businesses. They also provide a connection point for energy generators to input power to the network. These are above ground.
Three-ended connection	Enables a third connection point for a HVDC cable route (most have one connection point at each end) to provide greater flexibility and resilience in the network. The additional connection would join the existing network via a direct current switching station and a converter station. Typically, the converter station and direct current switching station would be located adjacent to each other. • Direct current switching stations: equipment used to tie together two or more electric circuits through switches, allowing electricity to be sent to two or more locations. It is a key piece of infrastructure to enable a three-ended link and is constructed above ground.
Transition joint bays	Located onshore, near to the coast to connect marine and onshore cables. These are located underground.
Link boxes	Predominantly located below ground, along the cable route, enabling the performance of the cables to be monitored.
Cable joint bays	Used to connect different sections of underground cables together along the route. These can be located underground or above ground depending on the type of cable.
Marker posts	Located above ground, to confirm the presence of a cable route, where it crosses roads, field margins or changes direction.

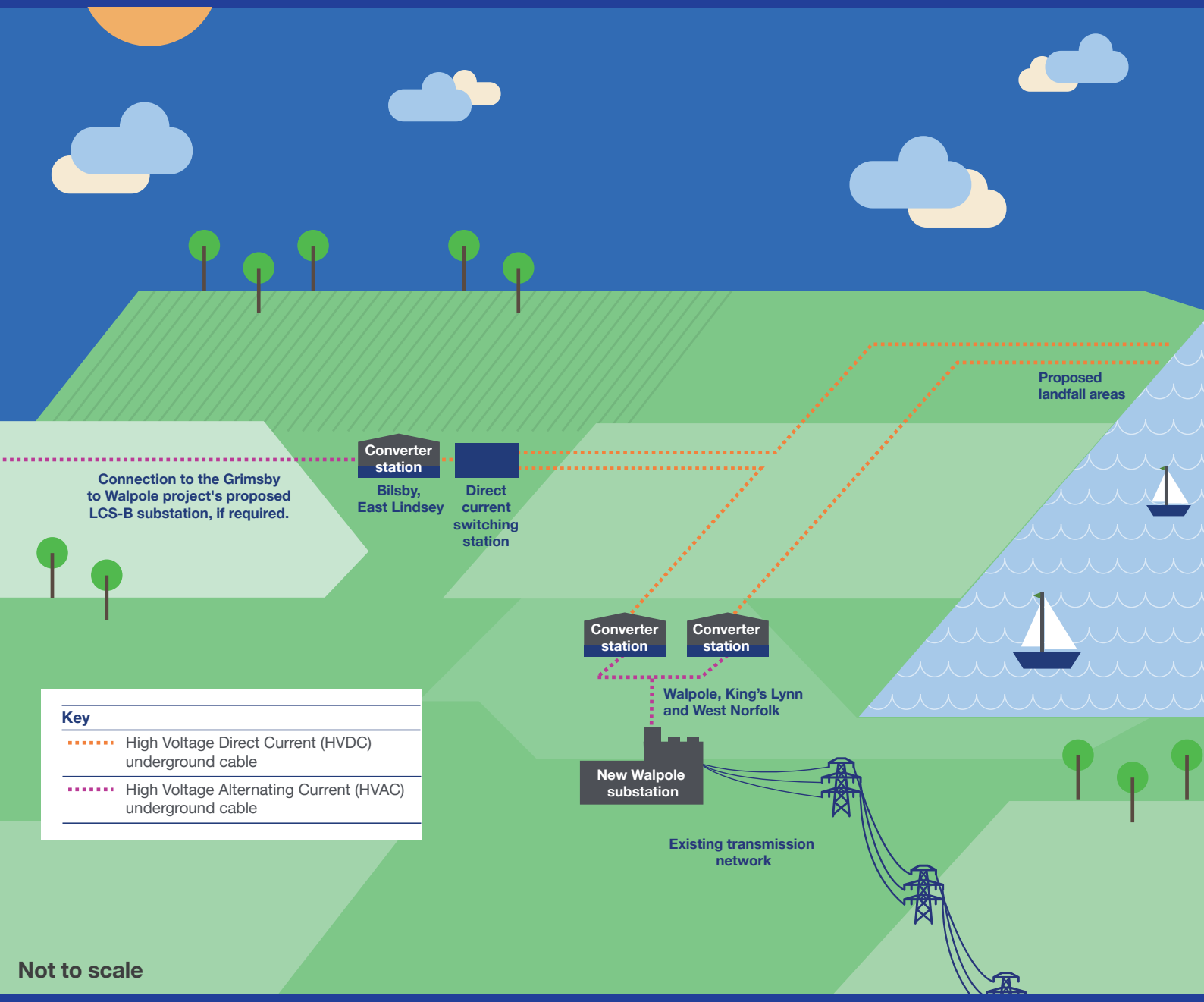


Figure 2 EGL 3 and EGL 4 onshore in England

We are proposing that both the EGL 3 and EGL 4 subsea cables would make landfall at the same place. There are two potential options for this – at Theddlethorpe or near Anderby Creek on the Lincolnshire coastline. Once onshore, the two sets of underground HVDC cables would run alongside each other for most of the proposed 100km route to converter stations, and if necessary, via a direct current switching station, as detailed below. From the converter stations, the HVAC underground cables for EGL 3 and EGL 4 would run to substations, including EGL 3 and EGL 4's proposed Walpole substation.

However, there are some variations between the EGL 3 and EGL 4 projects, in that additional onshore elements may be required for one of the projects, as set out below and in figure 2:

- a direct current switching station near Bilsby, East Lindsey that would allow power from one of the projects to be directed via separate underground HVDC cables to proposed converter stations near Bilsby and in the Walpole area
- a converter station located near Bilsby for one of the project's cables
- a converter station in the Walpole area for the EGL 3 cables
- a separate converter station in the Walpole area for the EGL 4 cables
- one new substation in the Walpole area, (connecting both EGL 3 and EGL 4 to the network), which also forms part of NGET's Grimsby to Walpole proposals (see page 22 for more information).

As our proposals progress further, it could be necessary to install a short length of new overhead line, or underground cable, to connect the proposed new substation in the Walpole area to the existing electricity network. We expect to have more information on this at our next stage of consultation.

Additional land will be required to build and also reduce the potential impacts of EGL 3 and EGL 4, including:

- temporary land for construction activities including working areas for construction equipment and machinery, site offices, welfare, storage, access and drainage
- land required for mitigation, compensation and enhancement of the environment as a result of the environmental assessment process, and for the purposes of delivering Biodiversity Net Gain, for example by landscaping and planting.

These proposals have been developed following initial engineering and environmental assessments for the cable routes and locations of supporting infrastructure. If you would like more information on this, please consult our Corridor Preliminary Routeing and Siting Study Report and Strategic Options Report documents.

The dimensions of our proposed converter stations, direct current switching station and substation.

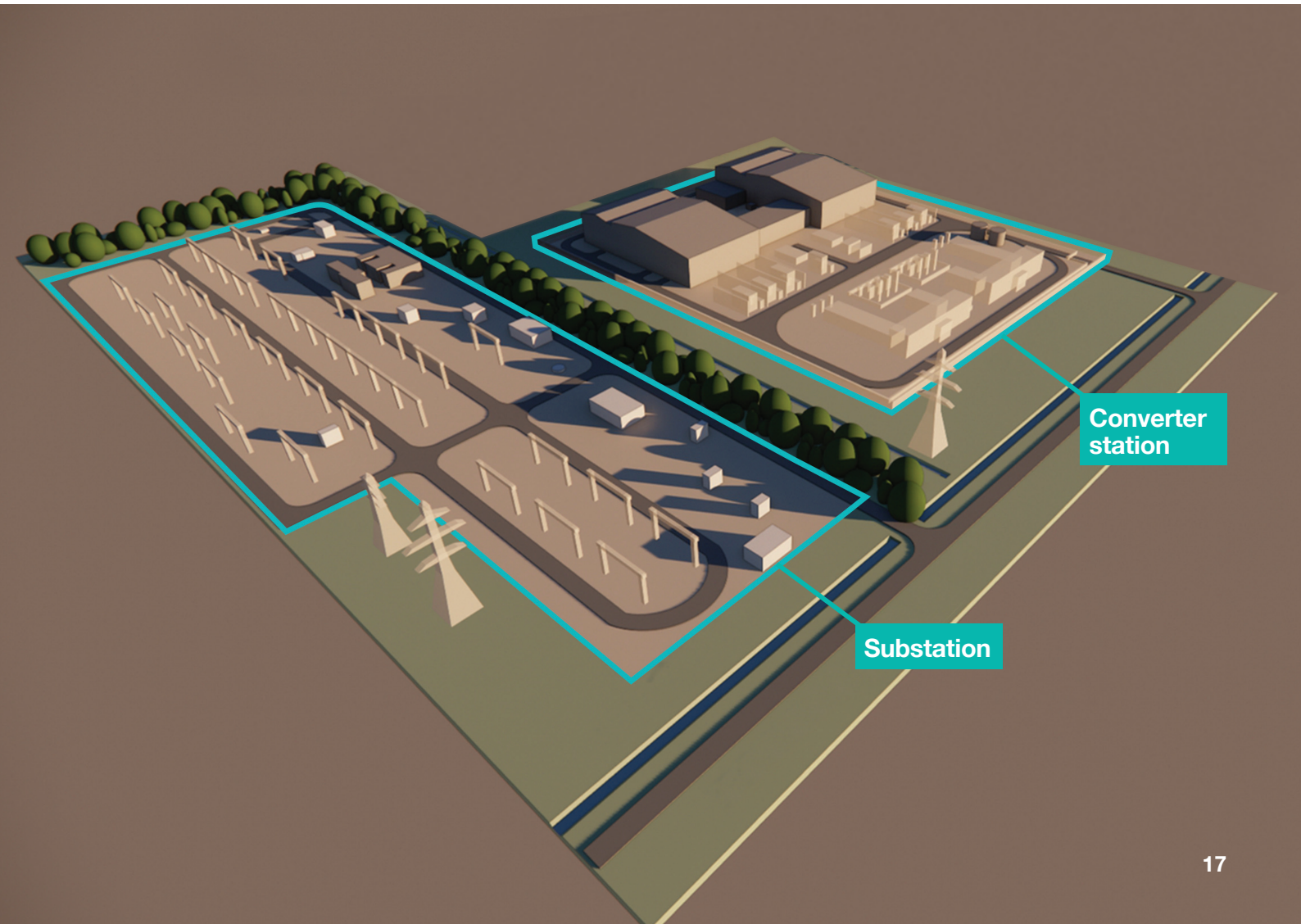
We're in the early stages of the design of our converter stations, direct current switching station and substation.

We expect each converter station to have a footprint of approximately 100,000 sq. m and a maximum height of up to 30m.

The direct current switching station would have a footprint of approximately 20,000 sq. m and a maximum height of up to 30m. We expect that it would be located adjacent to the converter station near Bilsby.

The substation would have an approximate footprint of 160,000 sq. m and height of up to 12m.

Figure 3 An example image of a converter station and substation



Identifying the locations for EGL 3 and EGL 4

When a need to upgrade the transmission system is established by the ESO, NGET studies and evaluates the potential options for addressing it. We are bound by Government policy, legislation, regulation and industry rules which inform the balance that needs to be struck between benefits and potential impacts when developing our proposals.

Having identified expected capacity shortages between Scotland and the Midlands (see page 12), we explored options for locating the recommended network upgrade - two new 2 GW high voltage direct current (HVDC) electricity links - in the South Humber area.

Key considerations for potential locations included whether existing (or planned) NGET substations could meet the need without additional upgrades, along with:

- technology options available and whether they could be delivered
- environmental and socio-economic constraints
- initial capital costs along with lifetime costs (calculated over a 40-year period)
- the potential system benefits of each option
- the ability to deliver EGL 3 and EGL 4 in the required timescale.

A further technical appraisal identified seven potential options across six possible locations. The appraisal established:

- all options would need additional reinforcement works to fully address the need
- overall route length – a key factor in determining the extent of environmental and socio-economic effects – ranged between 1,026km and 1,206km
- three of the options would have potential impacts on various designated environmental areas
- a preference for a subsea and underground HVDC link rather than AC overhead lines due to lower associated costs over its lifetime
- the lowest cost option for fully addressing the need.

The outcome of this appraisal concluded that connecting to the proposed new Walpole substation via the Lincolnshire coastline would be the best option economically, environmentally and technically.

This location also allows for flexibility and resilience in the system by allowing a potential connection to the transmission network near Bilsby, East Lindsey, should it be required.

For more information on the assessment of options, please see our Strategic Options Report.

Developing our proposals

With a connection location identified, we considered the potential route of the cables and the siting of the landfall, direct current switching station, converter stations and substation.

This work identified a series of route corridors and siting zones and is described in detail in our Corridor Preliminary Routeing and Siting Study report. Key activities in this process include:

- definition of a study area - based on the broad start and end points of EGL 3 and EGL 4 - and informed by the locations of built-up areas, natural features and protected sites, offshore activities, and existing transmission corridors
- mapping key features in the study area where contact should be avoided or limited
- using computer modelling to devise potential routes (for example on one side of a town or the other) as well as zones for the location of other onshore elements.

An emerging preferred corridor is identified by studying potential environmental and socio-economic effects, technical complexity, cost and programme for each element of EGL 3 and EGL 4. The main elements and key considerations for each include:

- **Landfalls.** Where offshore cables come ashore, the suitability of ground conditions is critical, along with consideration of traffic and access, interaction with existing infrastructure and protected species and habitats
- **Corridors.** We aim to avoid environmental designations and settlements where possible, while also considering traffic, access, ground conditions and other projects
- **Converter and direct current switching station siting zones.** We aim to make connections between the converter or switching stations and the electricity transmission system as short as possible. When identifying zones, considerations include proximity to communities (including residential properties and listed buildings), the locations of public rights of way and cycle routes, environmental disruption, the potential for screening of stations with existing woodland, the nature of adjacent roads and access
- **Substation siting zone.** Locating the substation close to converter stations and the existing transmission network reduces environmental impacts as well as the complexity of its construction and operation.

For all the above elements, we have looked to minimise the potential impact on residential properties, landowners, the environment and communities.

Our emerging preferred corridor and siting zones

Figure 5 shows our emerging preferred corridor for our underground cables, which is proposed to:

- make landfall of EGL 3 and EGL 4 cables together, near to either Anderby Creek or Theddlethorpe on the Lincolnshire Coast
- continue south via Alford, routing south and east of the Lincolnshire Wolds National Landscape, (formerly known as the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB)), partially routing within the National Landscape for a short distance north-west of Gunby Park. Continuing further south via Frisby, Frithville, Boston and Sutterton until reaching a point south of the River Welland
- move directly south-east from the River Welland towards the A17 at Holbeach. From Holbeach, the route would either cross the main road before continuing to route south-east towards Tydd St Mary or follow a route along the A17 before turning south at Sutton Bridge. Both options would then continue south towards an area north of West Walton
- end at the proposed new Walpole substation and converter station siting area near West Walton in King's Lynn and West Norfolk.

We have also identified potential locations within the corridor for our proposed converter stations, direct current switching station and substation – these are called siting zones.

Graduated swathe

Following the selection of the emerging preferred corridor, landfall areas and siting zones, we have produced a graduated swathe. The graduated swathe is a way of showing the areas within the emerging corridor, landfall areas, and siting zones that our engineering and environmental assessments undertaken to date indicate would be more, or less suitable for the proposed new infrastructure (HVAC & HVDC cables, landfall areas, converter stations, direct current switching station and substation).

The darker shading indicates the areas that are likely to be more suitable, while lighter shading indicates areas we believe to be less appropriate. It is important to note that the graduated swathe is both initial and indicative, and therefore subject to further detailed assessment work, and importantly, to stakeholder and community consultation.

The proposed siting zone for our proposed converter station and direct current switching station near Bilsby is fully shaded in dark blue. Whilst this zone has been identified as the most suitable siting zone overall, we are unable to refine this further until proposals for the substation proposed by the Grimsby to Walpole project are further developed following their recent non-statutory consultation. We will continue to work closely with the Grimsby to Walpole project and develop a proposed siting area (an area of land within which a converter station, switching station or other infrastructure could be located) within this siting zone, and present this at our next stage of consultation.

In some sections of the corridor, there are two or more distinct shaded paths which take account of local sites and features. Feedback from this consultation along with further information from surveys, assessments and wider stakeholder engagement will help us develop our proposals for the proposed location of infrastructure. These proposals will form part of our next stage of consultation.

Potential design approaches to proposed converter stations

We are seeking views on potential design approaches that we could consider for converter stations. These would be explored in the detailed design stages; however, the following illustrations show some possible design principles. Please provide your feedback on these in question 5a of the feedback form.

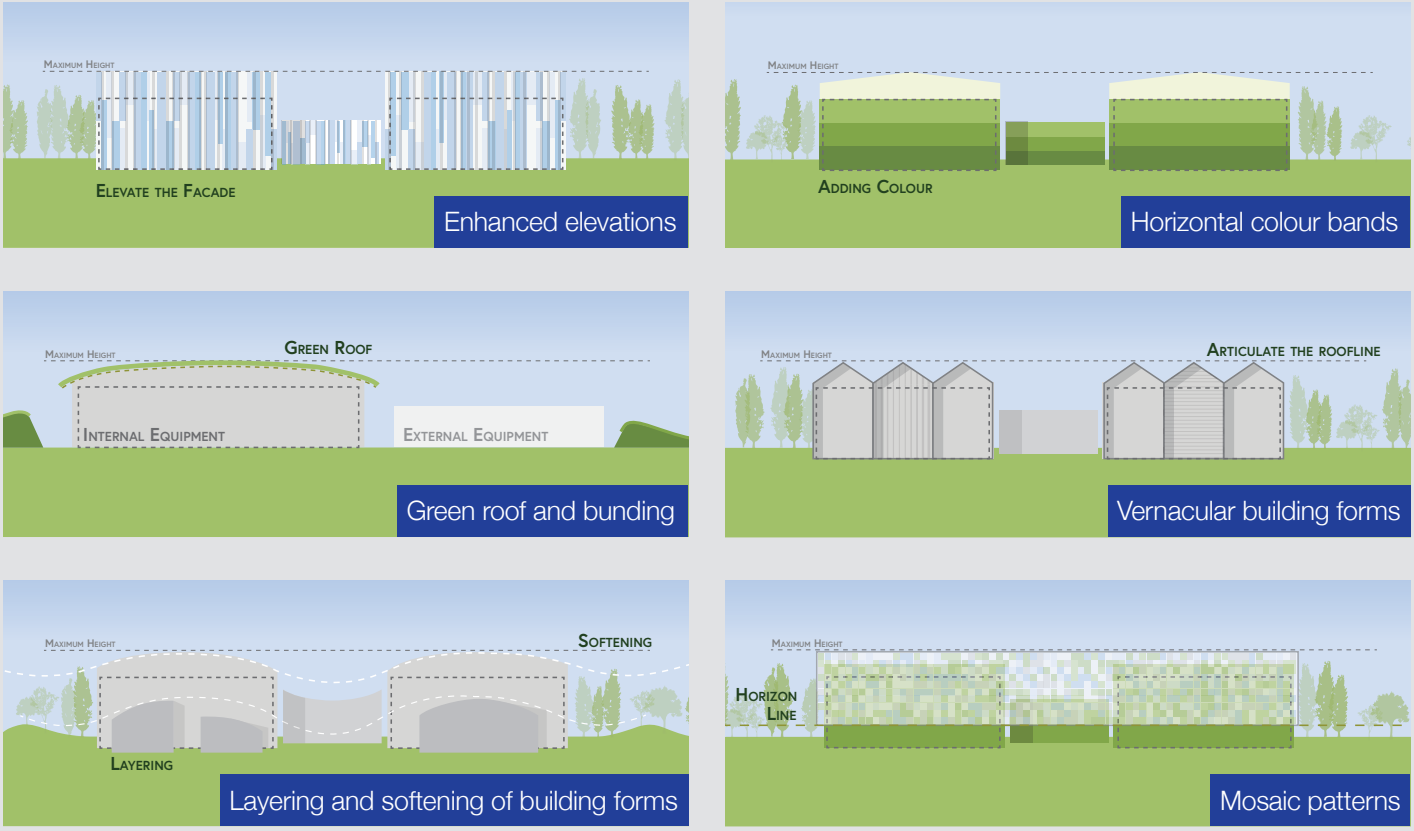


Figure 4 Potential design approaches to proposed converter stations

Grimsby to Walpole project

NGET is developing separate proposals to upgrade the electricity transmission network between Grimsby West and Walpole. The proposed upgrade would involve the construction and operation of an approximately 140 km of new 400,000 volt (400kV) overhead electricity transmission line. New pylons and conductors (electrical wires) would be located along the overhead line route.

Five new 400 kV substations are needed as part of the Grimsby to Walpole upgrade (one at Grimsby West, two Lincolnshire Connection Substations (identified as LCS-A and LCS-B), one at Weston Marsh and one at Walpole), to connect new customers and ensure the network meets the relevant technical standards.

Two of the substations proposed as part of the Grimsby to Walpole project would also have a role in enabling EGL 3 and EGL 4 to connect into the network. These are the proposed Walpole and LCS-B substations.

Alongside the Grimsby to Walpole project, we will also be seeking consent for the proposed new substation near Walpole as part of the EGL 3 and EGL 4 DCO. Although the new Walpole substation is currently included as part of the Grimsby to Walpole project, the need, and delivery of the proposed new substation could be met by either EGL 3 and EGL 4, or the Grimsby to Walpole project.

The Grimsby to Walpole project is solely developing the proposed LCS-B substation. We are still in the early development stages of EGL 3 and EGL 4, and it is yet to be confirmed that a connection to the proposed LCS-B substation for one of the projects is required. However, we're proposing and seeking feedback on the converter station, direct current switching station and underground cabling that would provide such a connection should additional network flexibility and resilience be required. We will be able share further information on this decision at our Stage 2 (statutory) consultation in 2025.

For more information about Grimsby to Walpole project, please visit its project website[7].

We are also working with the Grimsby to Walpole project team, as well as with other developers in the area, to identify ways we might be able to reduce effects on local communities and the environment by coordinating our activities. This work is at an early stage, however, we plan to have more detail on coordination in a later stage of consultation.

[7] www.nationalgrid.com/grimsby-to-walpole

Proposals by location

We have divided our emerging proposed corridor into the following sections to make it easier to review and provide feedback.

The siting zones of our proposed converter stations, direct current switching stations and substations are also contained within the following sections:

- **Section 1** – Landfalls to Bilsby
  - **Section 1a** – Theddlethorpe landfall to Bilsby
  - **Section 1b** – Anderby Creek landfall to Bilsby
- **Section 2** – Bilsby to Welton le Marsh
- **Section 3** – Welton le Marsh to Little Steeping
- **Section 4** – Little Steeping to Sibsey Northlands
- **Section 5** – Sibsey Northlands to Hubbert's Bridge
- **Section 6** – Hubbert's Bridge to River Welland
- **Section 7** – River Welland to Foul Anchor
- **Section 8** – Foul Anchor to Walpole

Summaries of the proposals for Sections 1a to 8, including maps, key issues and constraints, are included on the following pages.

An interactive map is also available on our website at **nationalgrid.com/egl3andegl4** and at our in-person consultation events.

Your feedback will be carefully considered as we refine our proposals. We welcome comments on all aspects of our proposals, particularly the areas most important and relevant to you.

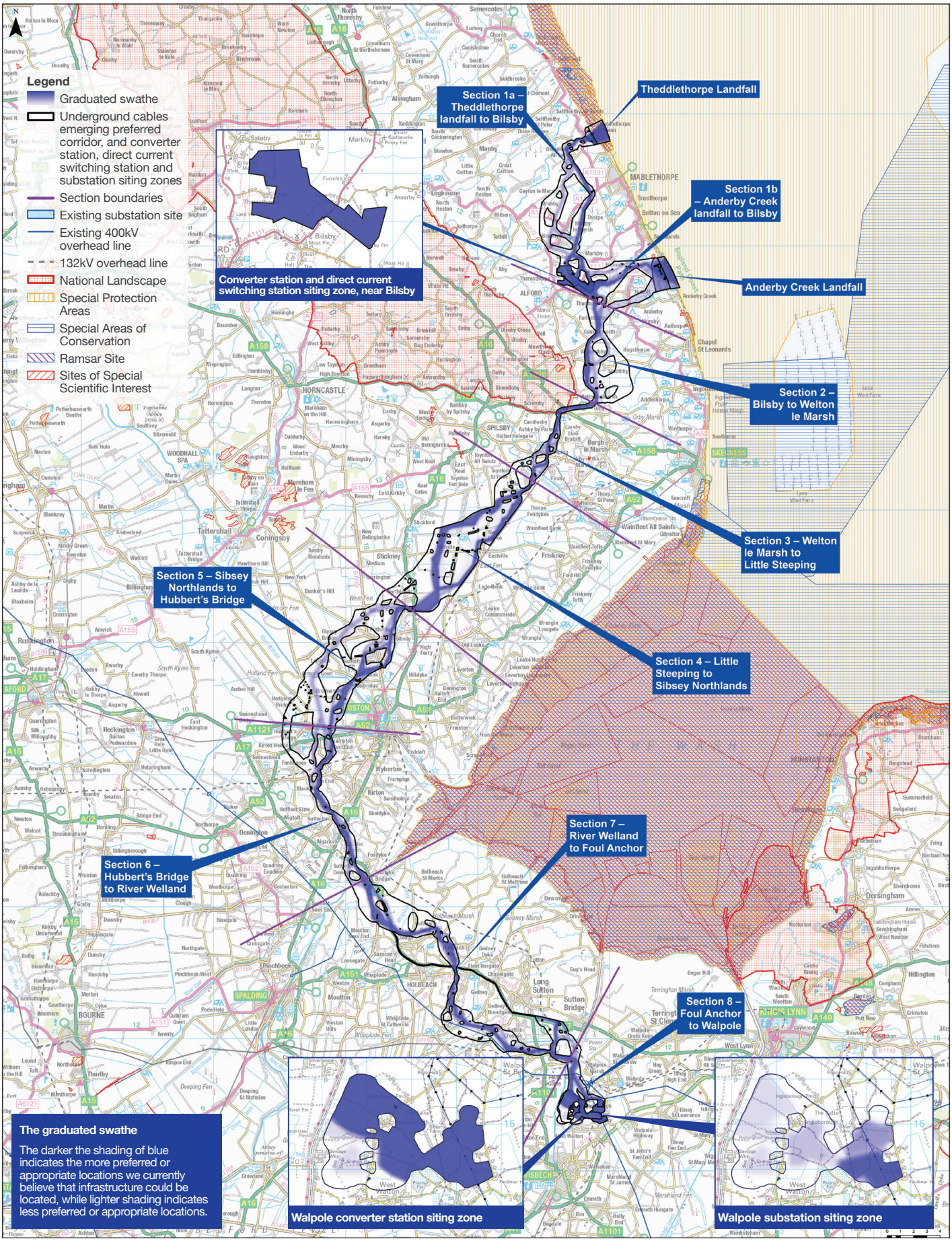


Figure 5 Overview of our emerging preferred corridor, siting zones and graduated swathe

Section 1
Landfalls to Bilsby

This section of the emerging preferred corridor runs from the proposed landfalls at Theddlethorpe and Anderby Creek to Bilsby.

Should there be a future requirement for a three-ended connection, one of the project's underground cables would connect from the landfalls to the siting zone of the proposed converter station and direct current switching station near Bilsby, before routeing south to the B1449. You can read more about this three-ended connection on page 13.

We have broken this section into two subsections to make viewing their respective maps easier.

Infrastructure in Section 1 includes:

- underground cables: both HVDC and HVAC
- one converter station, near Bilsby
- one direct current switching station, near Bilsby.

Section 1a – Theddlethorpe landfall to Bilsby

From the proposed Theddlethorpe landfall (**see Figure 7**), the underground cables would route westward, crossing the A1031 south of Theddlethorpe St Helen before turning south to take a direct route to the proposed converter station and direct current switching station siting zone, whilst avoiding properties.

From there, the swathe splits into two options circumventing the settlements of Maltby le Marsh, Beesby and properties east of Saleby. Of these options the eastern leg offers a more direct route and minimises crossings of major roads. The route would then cross the A1111 before connecting into the proposed converter station and direct current switching station (**see Figure 8**) siting zone from the north.

To provide feedback on this section of the emerging preferred corridor, landfall and siting zone, please see questions 3a, 3b and 3c on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

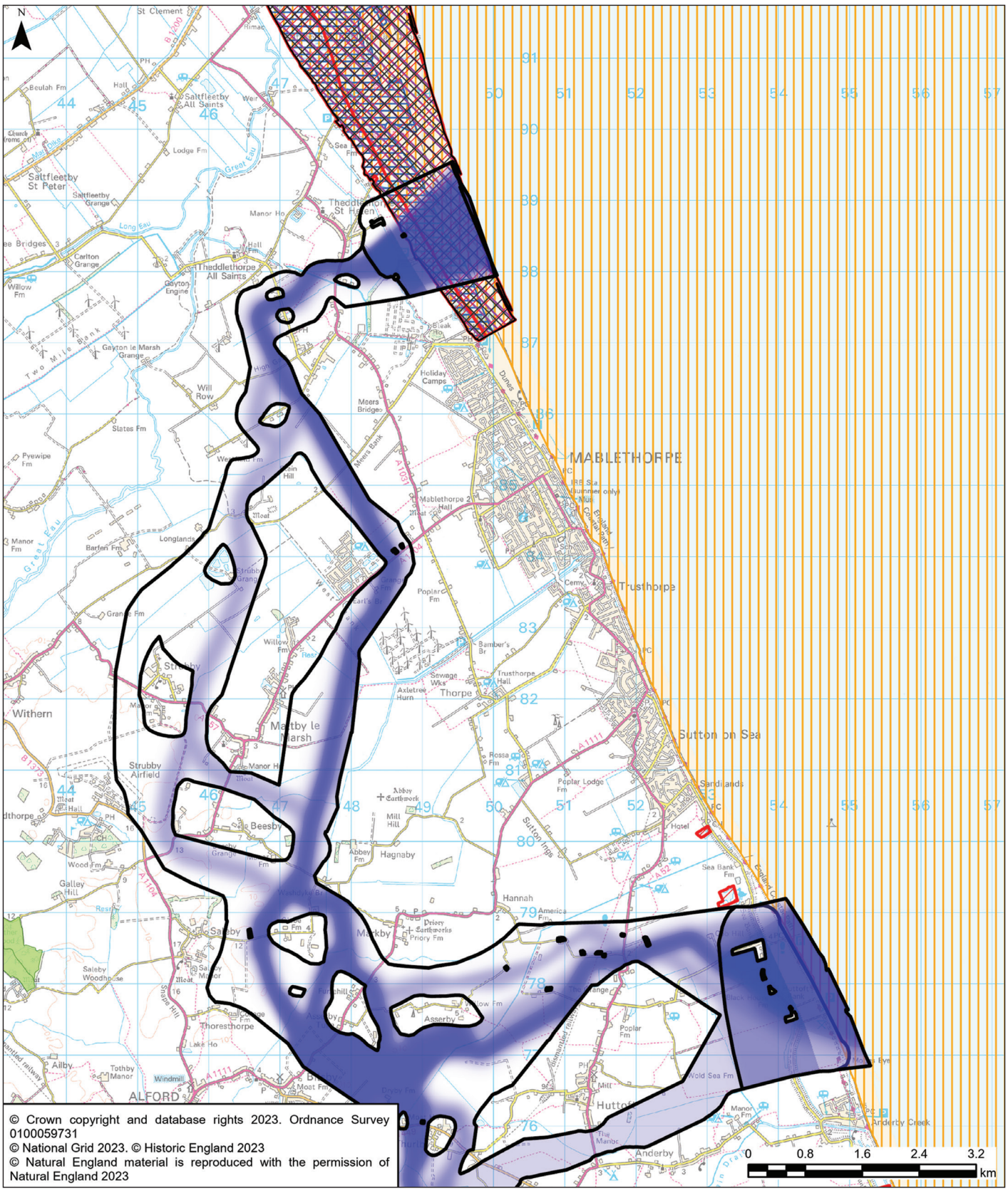


Figure 6 Map showing Section 1a of the underground cables emerging preferred corridor

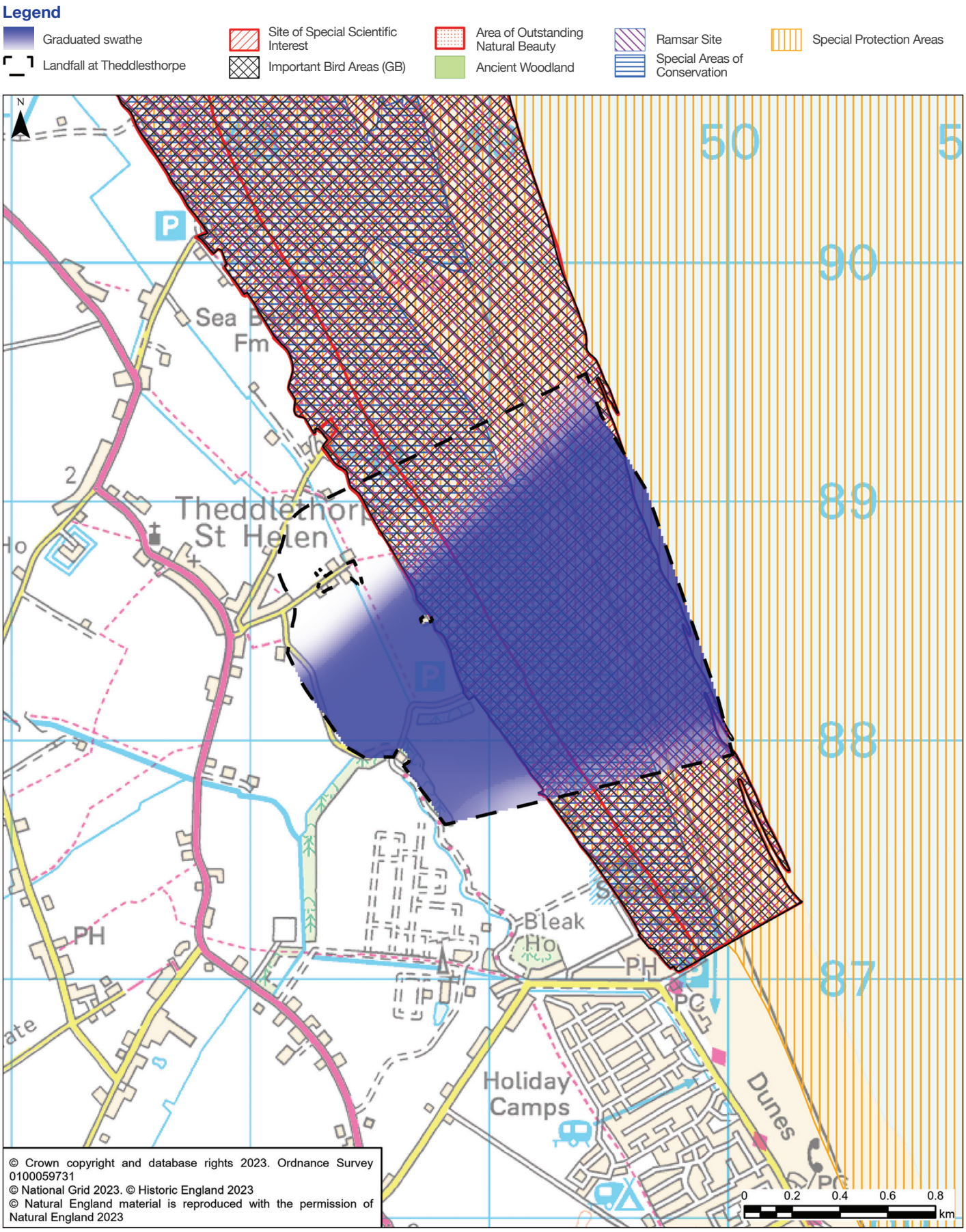


Figure 7 Map showing Theddlethorpe cable landfall

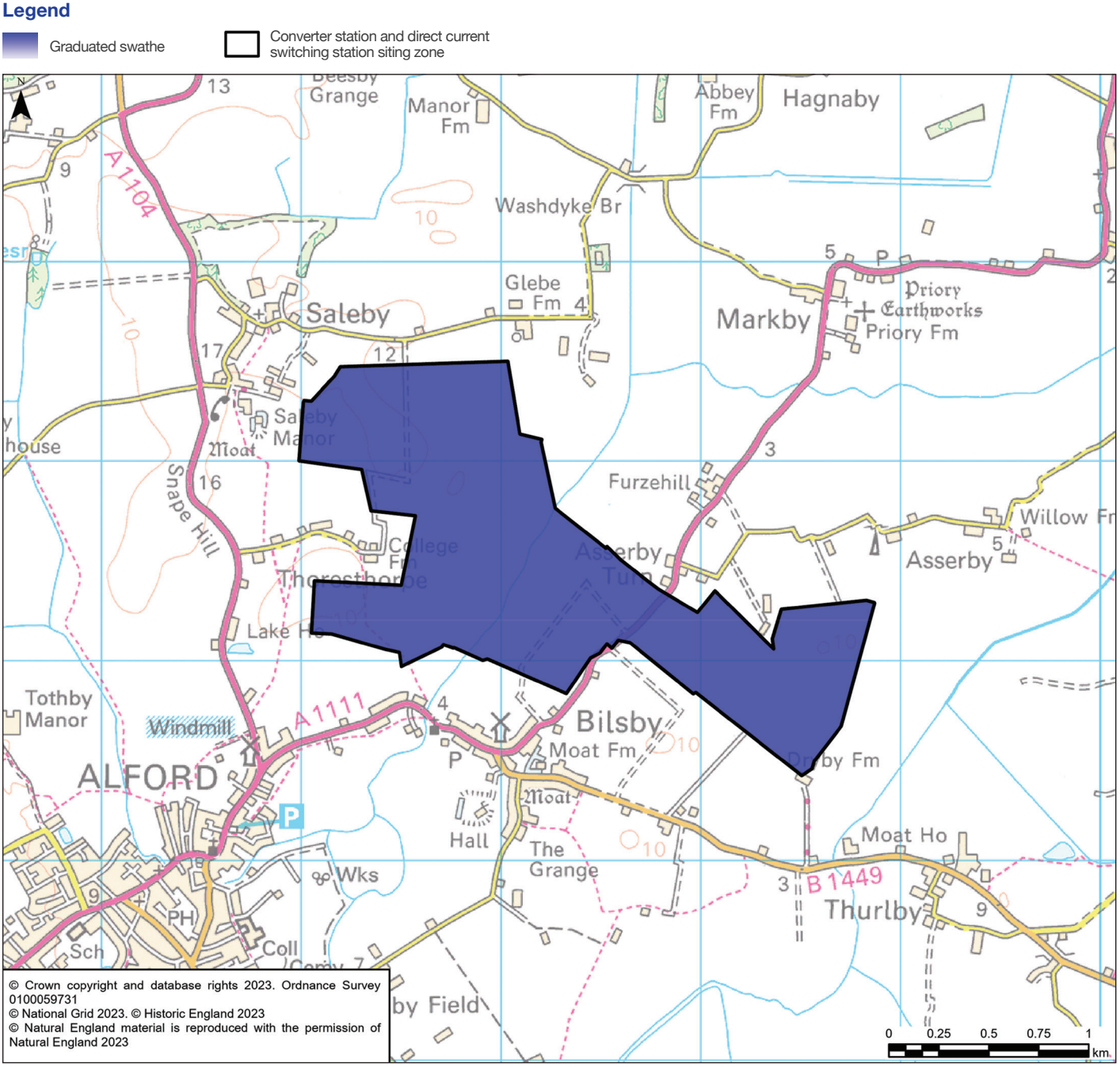


Figure 8 Map showing the proposed siting zone for the converter station and direct current switching station near Bilsby (in Sections 1a and 1b)

Section 1b – Anderby Creek landfall to Bilsby

From the Anderby Creek landfall (**see Figure 9**), the underground cables would route west and south-west toward Bilsby. Before reaching Bilsby the route would then begin to route south towards Welton le Marsh and crossing the B1449. Should there be a requirement for a three-ended connection (you can read more about this three-ended connection on page 13), where the proposed underground cable route nears Bilsby it would continue into the proposed converter station and direct current switching station siting zone (**see Figure 8**) crossing the A52 Huttoft Road south of Hannah.

Options are then introduced to avoid the cluster of properties at Asserby and interaction with the Viking Link Interconnector. The southern option allows for a more direct connection into the proposed converter station and direct current switching station siting zone and would avoid additional crossings of minor watercourses.

To provide feedback on this section of the emerging preferred corridor, landfall and siting zone, please see questions 3c, 3d and 3e on our feedback form.

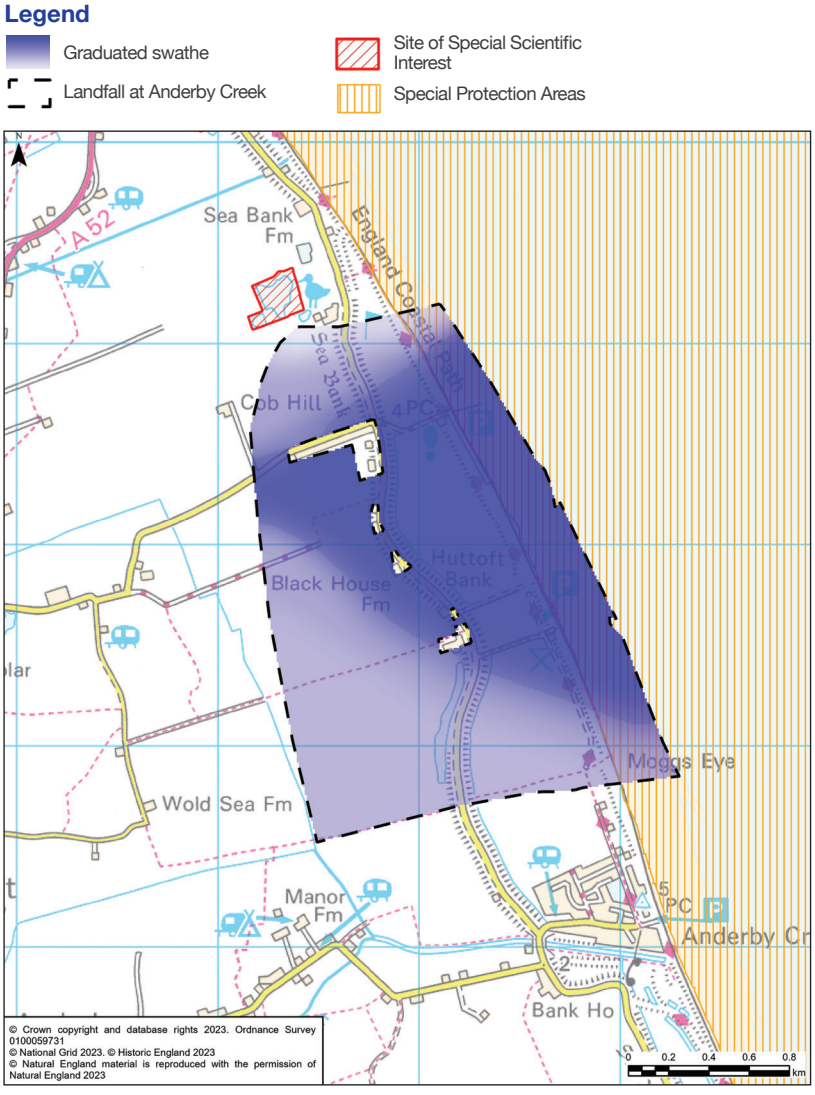


Figure 9 Map showing Anderby Creek cable landfall

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

Legend

Graduated swathe

Underground cables emerging preferred corridor

Site of Special Scientific Interest

Area of Outstanding Natural Beauty

Special Protection Areas

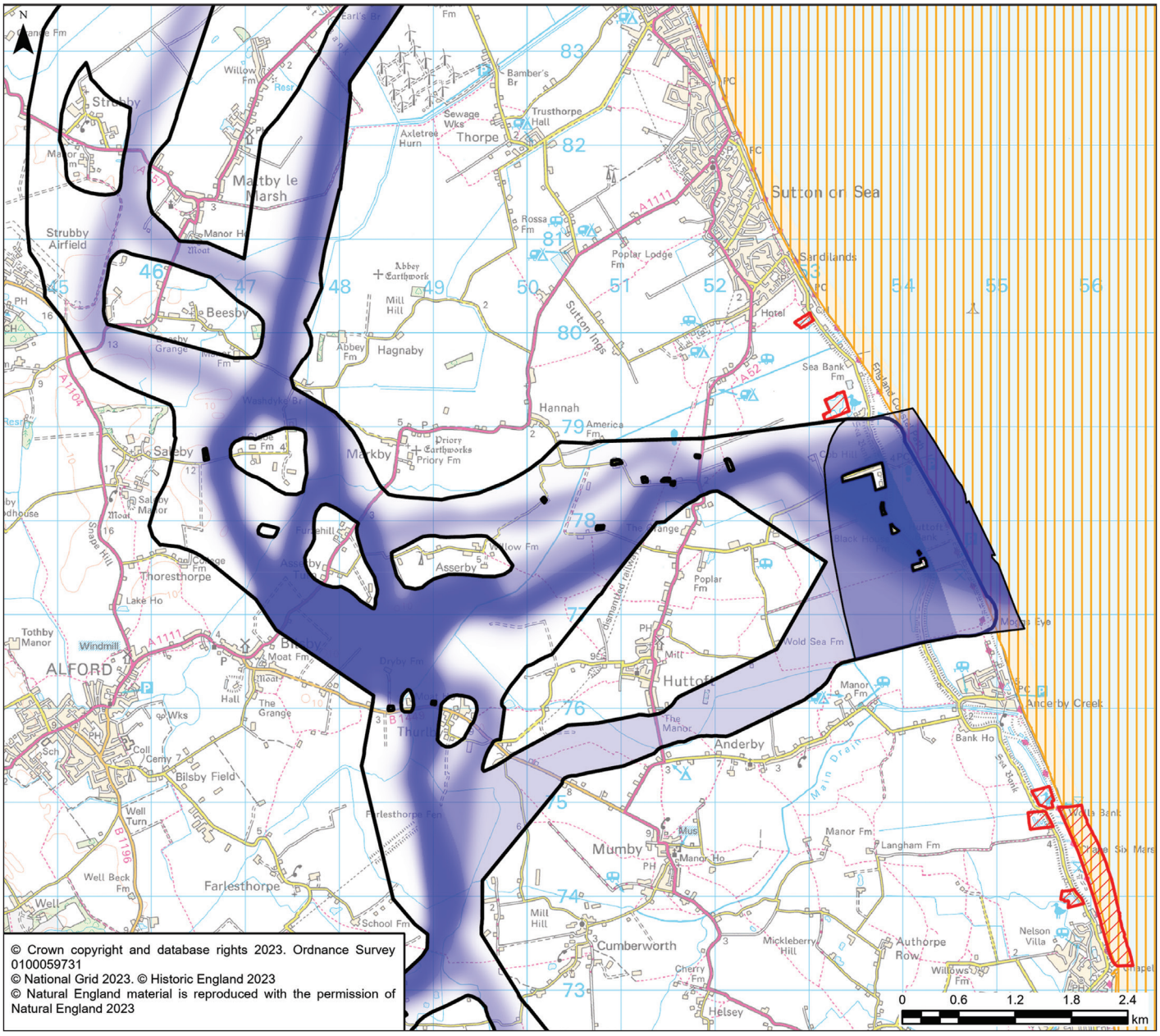


Figure 10 Map showing Section 1b of the underground cables emerging preferred corridor

Section 2
Bilsby to Welton le Marsh

Infrastructure in Section 2 includes:

- underground cables: HVDC.

This section of the emerging preferred corridor runs from Bilsby (from a proposed converter station and direct current switching station should there be a need for a three-ended connection to a point east of the village of Welton le Marsh – you can read more about this three-ended connection on page 13).

From Bilsby, the underground cable route would continue south, crossing the B1449 either east of, or west of, Thurlby where optionality has been introduced into the graduated swathe to seek to avoid impacts on Thurlby itself and non-designated heritage assets. This would also avoid numerous interactions with the Grimsby to Walpole project's proposed 400 kV overhead line. Crossing the B1149 west of Thurlby would offer marginally greater flexibility for cable routeing.

From Thurlby, the underground cables would continue to route south, avoiding constraints in proximity to Farlesthorpe and Cumberworth. North of Bonthorpe, western and eastern optionality has been introduced to avoid the Scheduled Monument Butterbump round barrow cemetery which was specifically excluded from the swathe. Routeing west of the scheduled monument would enable us to take advantage of more dense screening vegetation and provide a more direct route south.

From Sloothby, the route of the underground cables would continue south avoiding constraints at Hasthorpe and Boothby whilst also maintaining distance from the Scheduled Monument Castle Hill: a motte castle 250m east of Hanby Hall Farm located approximately 320m west of the swathe at Hanby.

To provide feedback on this section of the emerging preferred corridor, please see question 3f on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

Legend

- Graduated swathe
- Underground cables emerging preferred corridor
- Site of Special Scientific Interest
- Area of Outstanding Natural Beauty
- Ancient Woodland
- Special Protection Areas

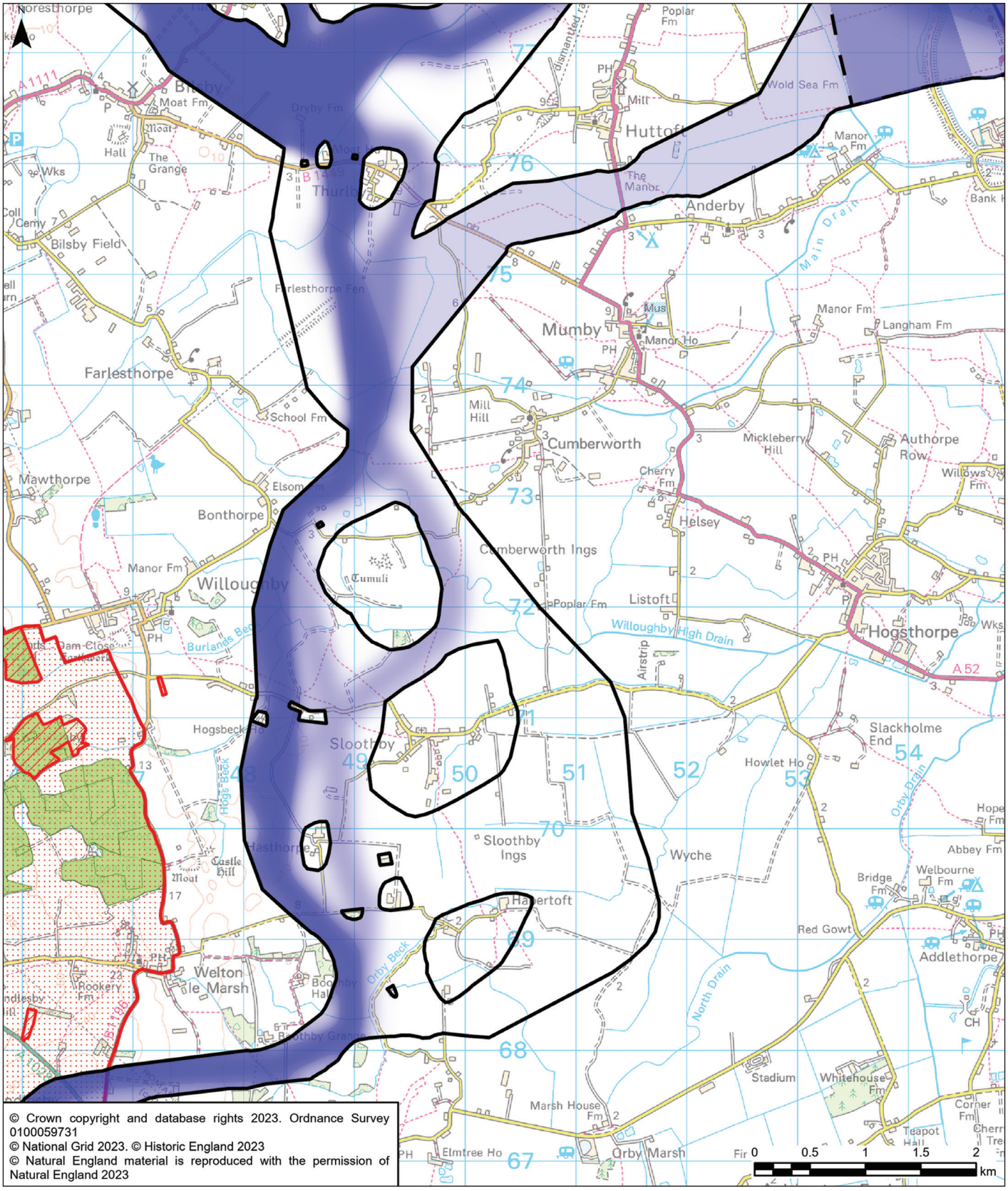


Figure 11 Map showing Section 2 of the underground cables emerging preferred corridor

Section 3
Welton le Marsh to Little Steeping

Infrastructure in Section 3 includes:

- underground cables: HVDC.

This section of the emerging preferred corridor runs from Welton le Marsh to a point immediately south of the village of Little Steeping.

From Welton le Marsh, the route of the underground cables would continue west, seeking to avoid the village of Orby and the Scheduled Monument Manor Farm moated site. The route would continue west before turning south at Gunby Hall. We would utilise construction methods that would reduce potential impacts on woodland, treelines, the Lincolnshire Wolds National Landscape, formerly known as an Area of Outstanding Natural Beauty (AONB), and its setting, and Gunby Hall Estate and Gardens.

From Gunby, the underground cable route would continue south, avoiding areas of ancient woodland and properties in the vicinity of Monksthorpe and Hunger Hill before crossing the B1195 east of Great Steeping.

From the B1195, options are introduced to cross the Steeping River and to avoid the village of Little Steeping. Crossing the River Steeping and routing east of Little Steeping would avoid potential impacts on the Scheduled Monument Churchyard cross, St Andrew's churchyard which would be within 100 m of any crossing of the River Steeping north of Little Steeping.

To provide feedback on this section of the emerging preferred corridor, please see question 3g on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

Legend

- Graduated swathe
- Underground cables emerging preferred corridor
- Site of Special Scientific Interest
- Area of Outstanding Natural Beauty
- Ancient Woodland
- 132kV overhead line

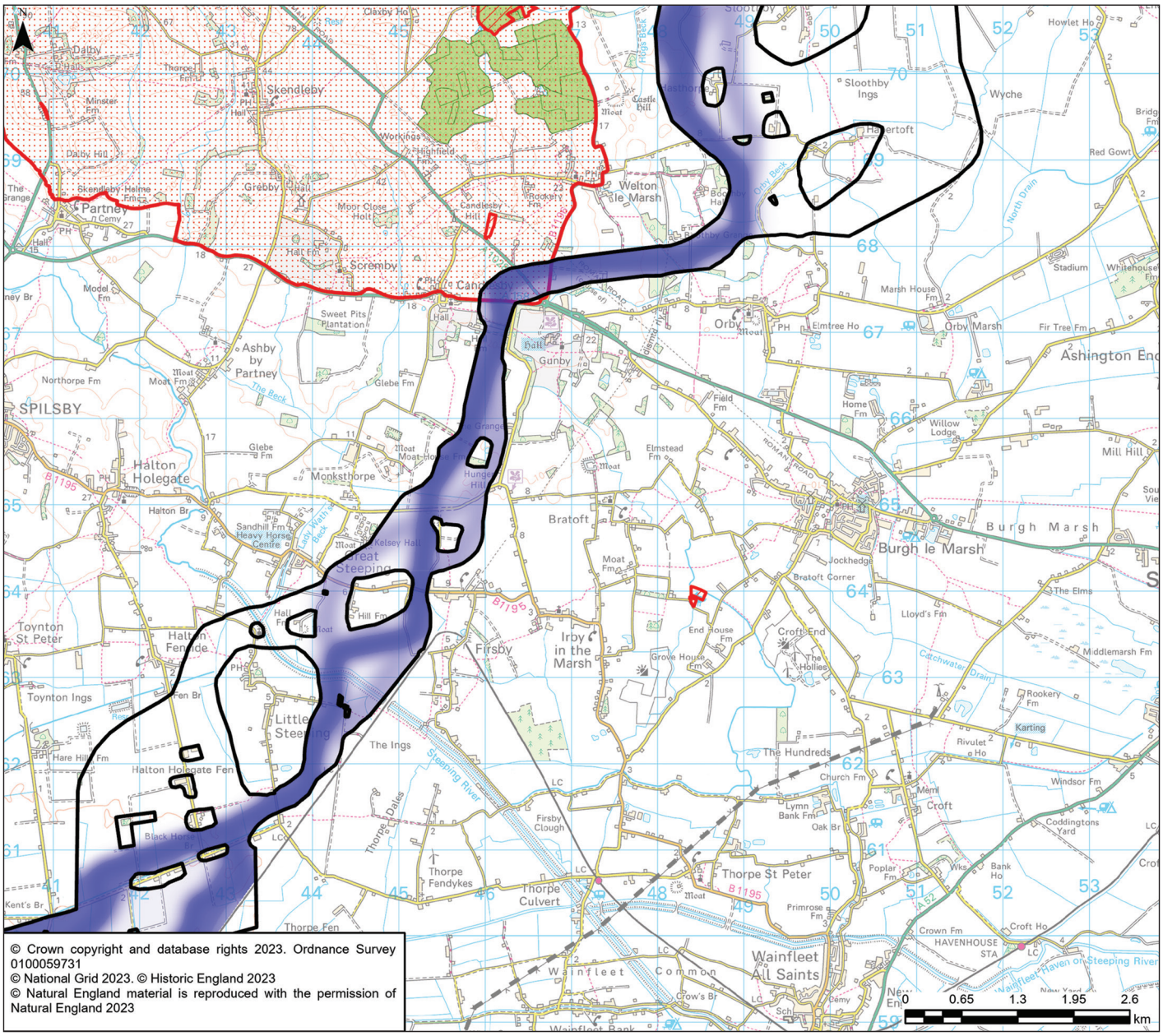


Figure 12 Map showing Section 3 of the underground cables emerging preferred corridor

Section 4
Little Steeping to Sibsey Northlands

Infrastructure in Section 4 includes:

- underground cables: HVDC.

This section of the emerging preferred corridor runs from a point at Little Steeping to a point immediately south of the village of Sibsey Northlands (south of Waltham Road).

From the south of Little Steeping, the cables would continue south-west, turning south at Scarborough Bank whilst avoiding residential properties, connecting back to the main route west of Leake Commonside. An alternative route has been developed to the east to avoid properties at Midville, Hobhole Drain and Bell Water Drain, and to introduce more optionality and a more direct solution to Sibsey Northlands.

The eastern option would continue routeing south, then south-west in parallel with the heritage railway line, crossing Bell Water Drain north of Eastville and routeing adjacent to the west of New Leake. The option would then continue routeing south-west before turning west to connect back into the main route, crossing Hobhole Drain north-west of Leake Commonside.

From Leake Commonside, the route would turn to route west seeking a perpendicular crossing of the A16 and East Fen Catchwater Drain south of Sibsey Northlands.

To provide feedback on this section of the emerging preferred corridor, please see question 3h on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

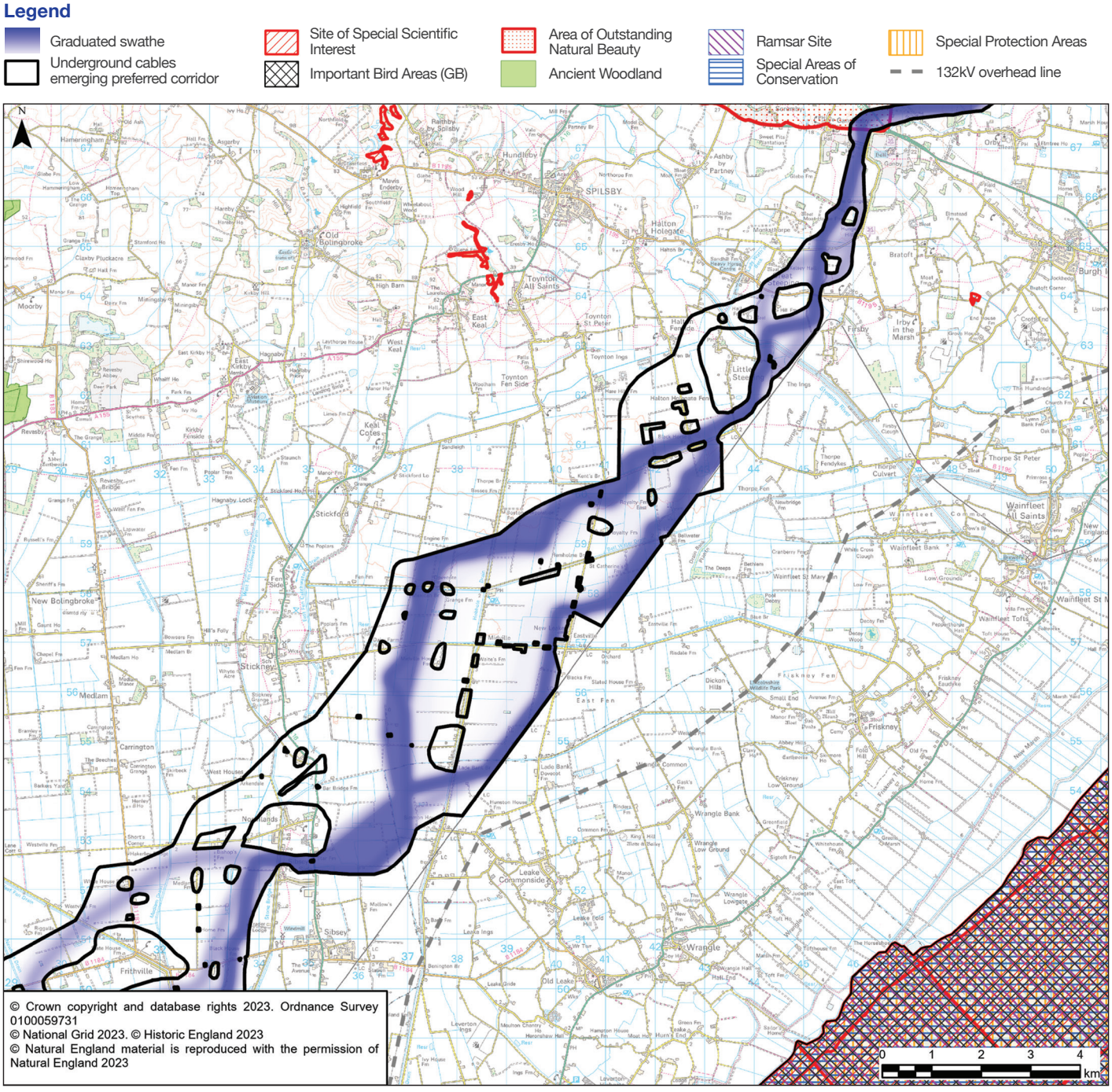


Figure 13 Map showing Section 4 of the underground cables emerging preferred corridor

Section 5
Sibsey Northlands to Hubbert's Bridge

Infrastructure in Section 5 includes:

- underground cables: HVDC.

This section of the emerging preferred corridor runs from the point at Sibsey Northlands to a point immediately east of Hubbert's Bridge (west of Boston).

From Sibsey Northlands, optionality is introduced to present options to avoid multiple clusters of residential properties and multiple crossings of major and minor watercourses, which include the River Witham, West Fen Drain, Frith Bank Drain and Newham Drain.

After the crossing of the A16, one option would continue routeing west, before turning south-west crossing the B1183, West Fen Drain, B1184 and Newham Drain east of Gipsey Bridge, this route would then continue south seeking a perpendicular crossing of the River Witham before crossing the A1121, North Forty Food Drain, South Forty Foot Drain and Poacher Railway Line east of Hubbert's Bridge.

Another option would turn south after crossing the A16, seeking to cross the B1184 between Frithville and Sibsey whilst avoiding residential properties. From Sibsey, further optionality is introduced to avoid a large cluster of properties at Fishtoft. Of these, the northern option would seek to cross West Fen Drain immediately south of Frithville before turning south-west of Fishtoft, whilst the southern option would seek to cross West Fen Drain south of Fishtoft at a narrow area north of Richardson's Bridge. At Fishtoft, these sub-options converge and route south-west avoiding residential and agricultural properties, crossing both Frith Bank Drain and the River Witham south-east of Anton's Gowt. The route would then turn directly south seeking to cross South Forty Foot Drain and the A1121 west of the Boston Aeroclub.

To provide feedback on this section of the emerging preferred corridor, please see question 3i on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

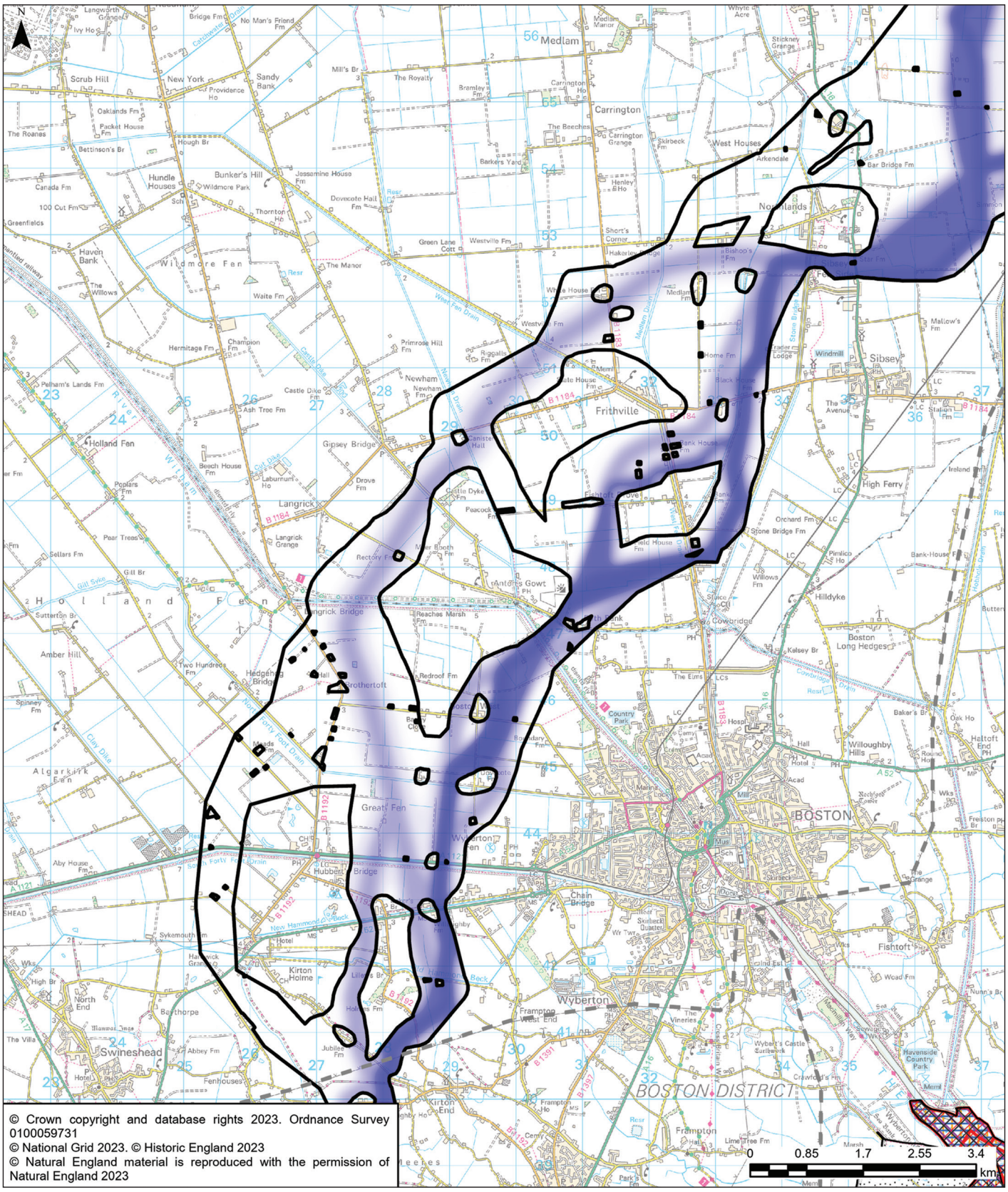


Figure 14 Map showing Section 5 of the underground cables emerging preferred corridor

Section 6
Hubbert's Bridge to River Welland

Infrastructure in Section 6 includes:

- underground cables: HVDC.

This section of the emerging preferred corridor runs from a point east of Hubbert's Bridge to the River Welland, north of the Moulton Seas End (west of the B1357).

From the east of Hubbert's Bridge, optionality is introduced to retain the option of a perpendicular crossing of New Hammond Beck and the A52 whilst seeking to avoid the areas of woodland and a cluster of residential and agricultural properties along the B1192 Holmes Lane. One option would cross to the west of the B1192 and the other would cross east of B1192. Both underground cable routes would require crossing of the Old Hammond Beck watercourse. The route options would then converge west of Kirton End, requiring crossing an existing 132 kV overhead line and the B1391 before continuing to route directly south.

The route of the cables would then turn south-east seeking a perpendicular crossing of the B1397 and A16 north-east of the villages of Sutterton and Algarkirk whilst also avoiding the Scheduled Monument Shrunken medieval village located within Algarkirk.

After crossing the A16, the cables would then continue south, crossing the A17 and Three Towns Drain west of Fosdyke. Optionality is then introduced to avoid the areas of woodland and a cluster of agricultural properties south-west of Fosdyke before the options converge seeking a perpendicular crossing of Outer Dowsing offshore windfarm and the River Welland west of Fosdyke Bridge to avoid direct impacts on The Wash designated sites located east of Fosdyke Bridge.

To provide feedback on this section of the emerging preferred corridor, please see question 3j on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

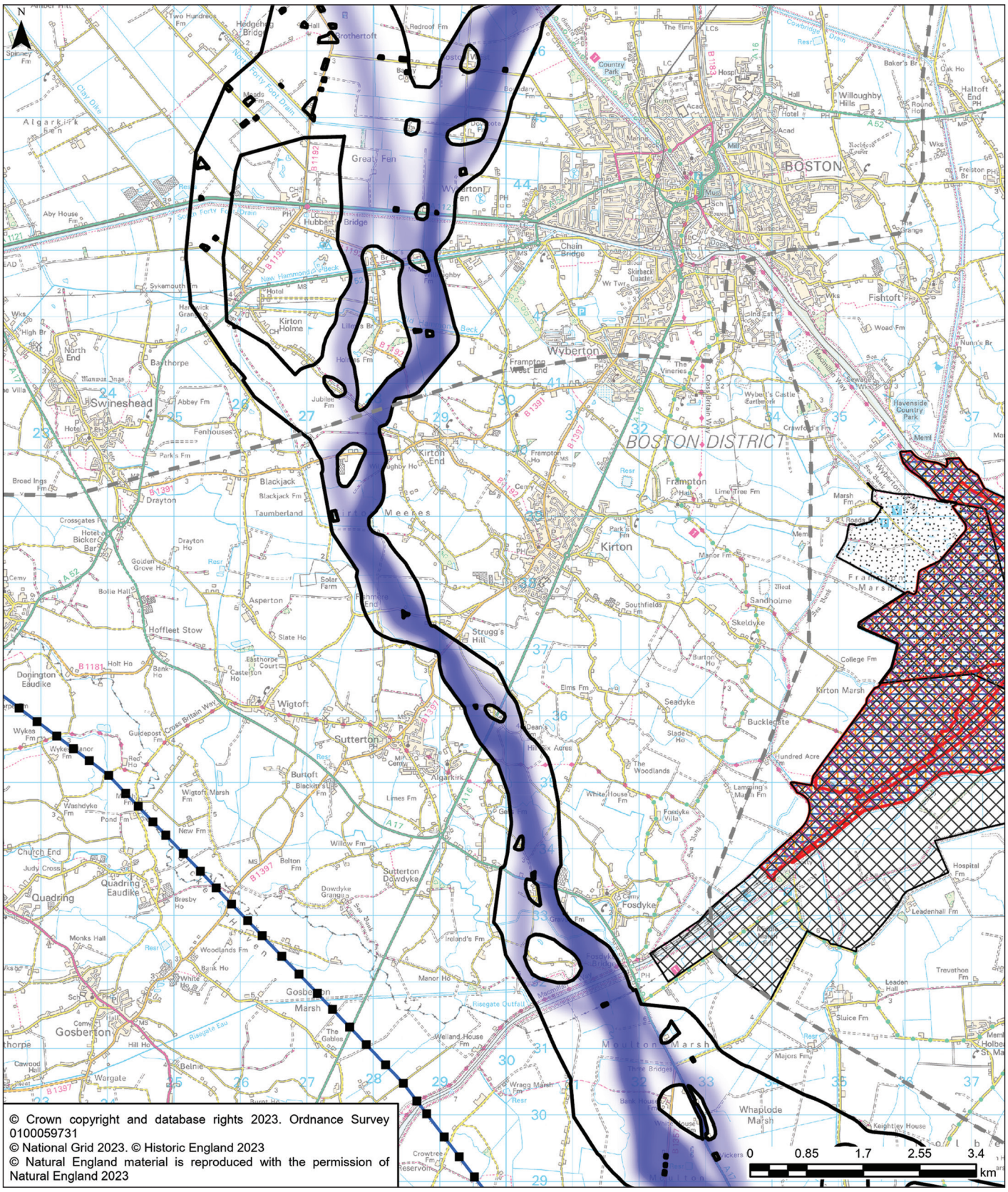


Figure 15 Map showing Section 6 of the underground cables emerging preferred corridor

Section 7
River Welland to Foul Anchor

Infrastructure in Section 7 includes:

- underground cables: HVDC.

This section of the emerging preferred corridor runs from a point north of Moulton Seas End to a point immediately east Foul Anchor (east of the A1101).

From Moulton Seas End, the cable route would continue eastward to avoid the village of Saracen's Head before turning to route south at Clays Garth (west of Holbeach Hurn) to seek a perpendicular crossing of the A17 and B1515 between Holbeach and Fleet Hargate. However, optionality is also introduced to route along approximately 6km of the A17 between a point north of Saracen's Head to a point between Holbeach and Fleet Hargate to utilise a more direct route south-east towards the connection point at Walpole.

From the east of Holbeach, the route option which does not follow the A17 would route directly south avoiding residential and agricultural properties before turning to route south-east to the north of the B1165 Raven's Gate to avoid interactions with the existing 4ZM 400 kV overhead line south of Gedney Broadgate. The underground cable route would then cross the B1390 and South Holland Main Drain north-east of Sutton St James before continuing to route directly east, avoiding the villages of Tydd St Mary and Tydd Gote before crossing the River Nene north of Foul Anchor. Crossing of a gas main would be required from either option north of Foul Anchor and at, or south of, the A17.

Additionally, optionality is also included to route along approximately 9.3 km of the A17 between Holbeach and a point between Long Sutton and Sutton Bridge. From Sutton Bridge, the route would turn directly south, with further optionality introduced to avoid interactions with a cluster of wind turbines north of Foul Anchor. Both route options in this location would require crossing South Holland Main Drain, the River Nene and at least one crossing of an existing 132 kV overhead line.

To provide feedback on this section of the emerging preferred corridor, please see question 3k on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

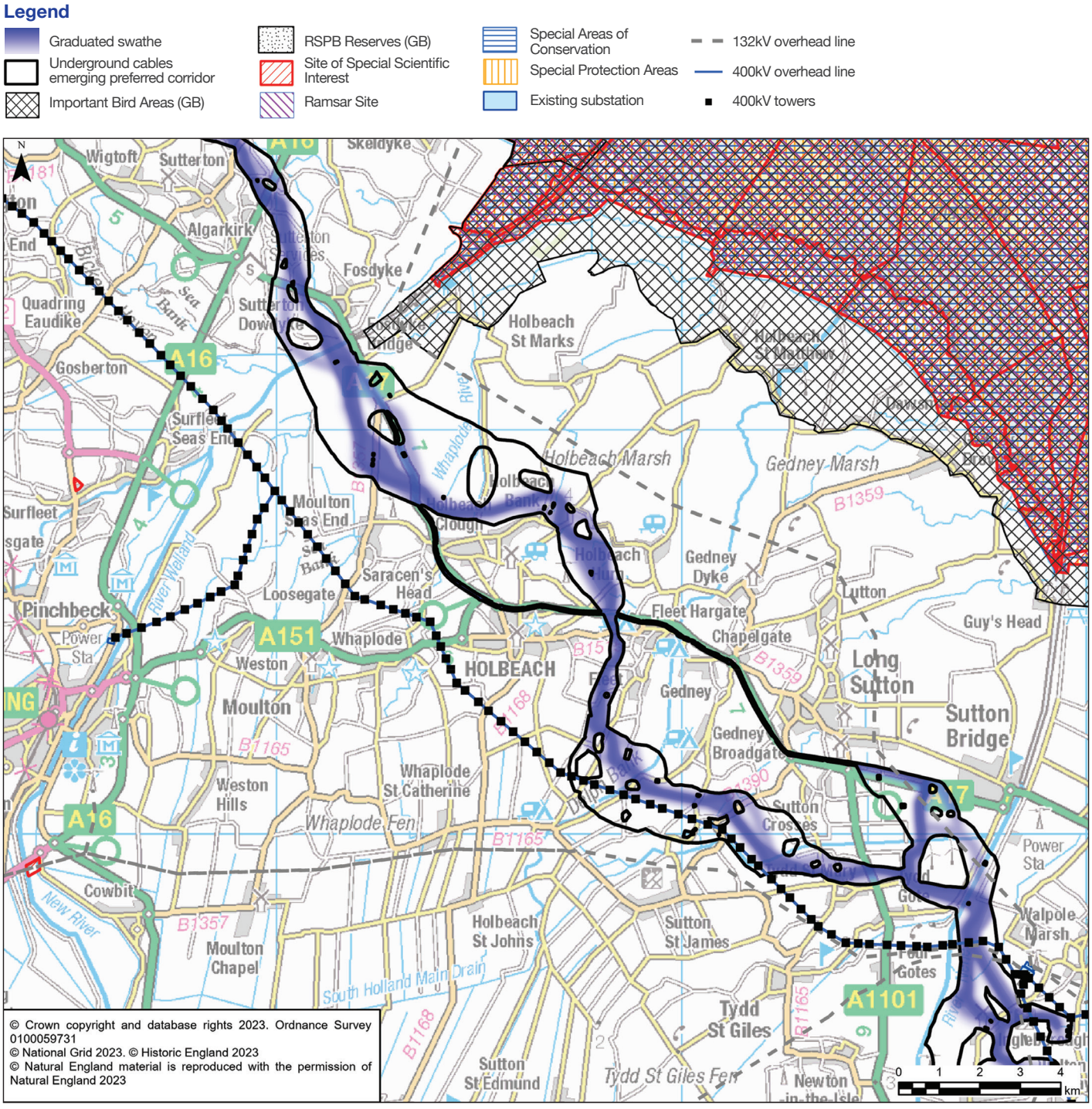


Figure 16 Map showing Section 7 of the underground cables emerging preferred corridor

Section 8
Foul Anchor to Walpole

Infrastructure in Section 8 includes:

- underground cables: both HVDC and HVAC
- two converter stations in the Walpole area
- one substation in the Walpole area.

This section of the emerging preferred corridor runs from a point east of Foul Anchor to the emerging proposed Walpole converter station siting zone and proposed Walpole substation siting zone.

From the east of Foul Anchor, the route would then turn south seeking a perpendicular crossing of the existing 4ZM 400 kV overhead lines and two 132 kV overhead lines which connect to the existing Walpole 400 kV substation. Following this crossing optionality is introduced to allow for multiple entry points into the proposed Walpole converter station siting zone (**see Figure 19**) whilst avoiding properties, West Walton Fire Station and the Rose and Crown solar farm.

The first option would continue south before turning east to follow the boundary of the converter station siting zone, before turning south again, seeking a perpendicular crossing of the Bacton to Wisbech Nene East high pressure gas pipeline immediately west of the Rose and Crown solar farm.

The underground cable route could also continue further east through a narrow area immediately south of the Rose and Crown solar farm associated with the Bacton to Wisbech West high pressure gas pipeline and an area of traditional orchard priority habitat. This route would allow for connection into a substation siting zone (**see Figure 18**) south-east of the Rose and Crown Solar Farm. There is also an option to route further east in parallel to the high-pressure gas main, crossing the existing 4ZM 400 kV overhead line allowing for a potential connection to a converter station siting zone (**see Figure 19**) north-east of the Rose and Crown solar farm.

To provide feedback on this section of the emerging preferred corridor and siting zones, please see questions 3l, 3m and 3n on our feedback form.

Scan this QR code to visit our project website, where you will be able to see more detailed section maps and an interactive map on our Consultation materials page.

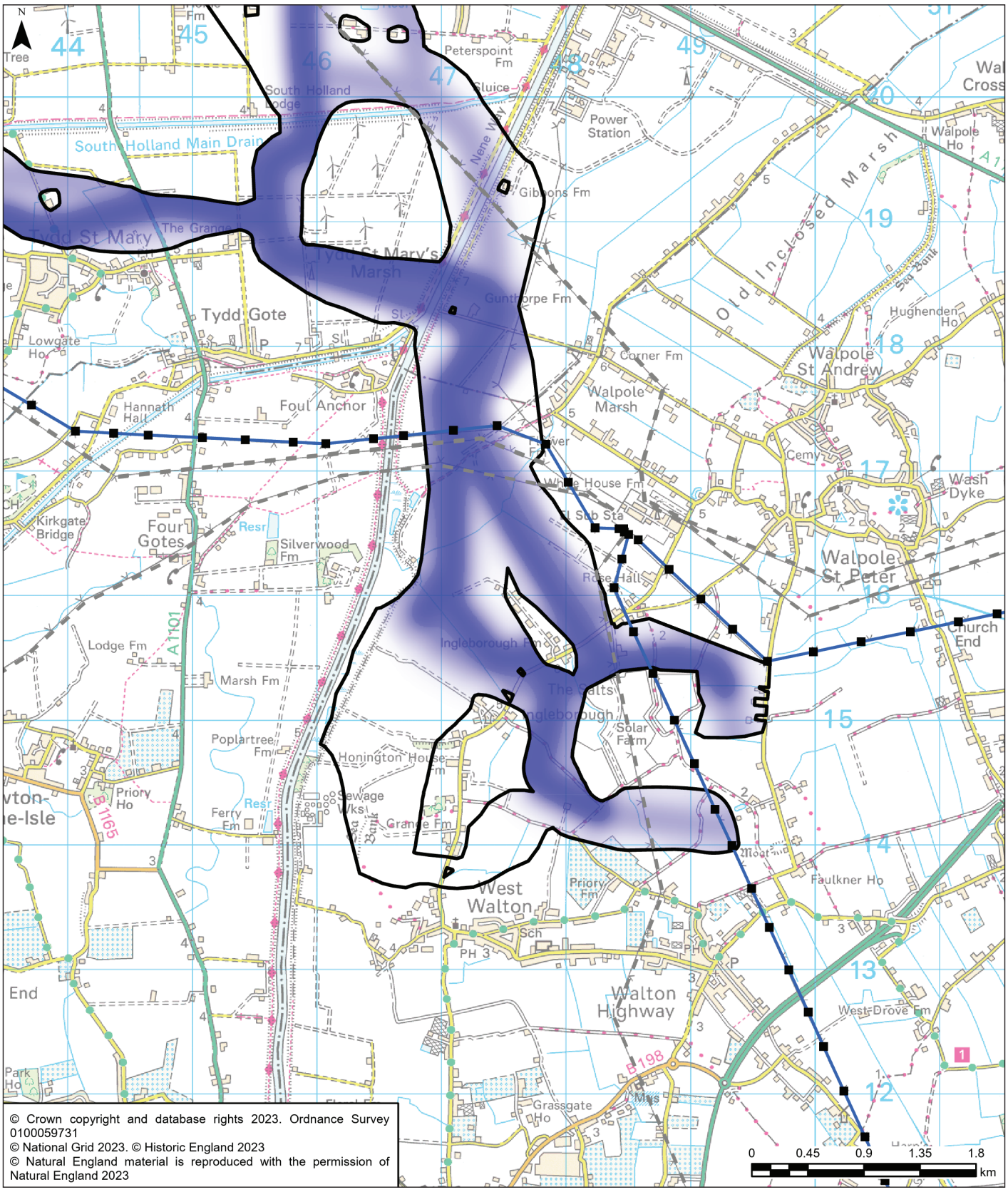


Figure 17 Map showing Section 8 of the underground cables emerging preferred corridor

Legend

Graduated swathe
Substation siting zone
Existing Substation
132kV Overhead Line
400kV Overhead Line
400kV Towers

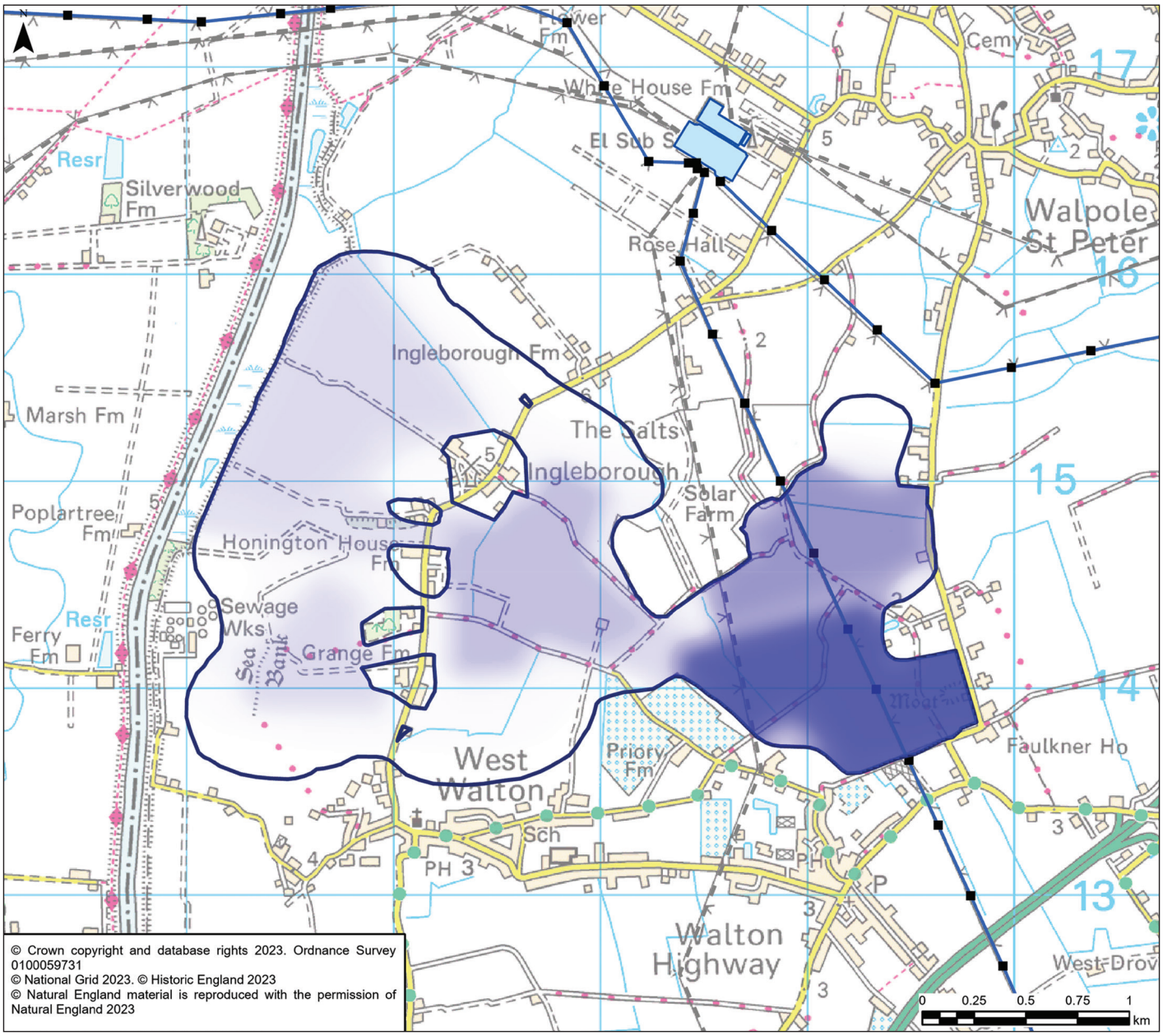


Figure 18 Map showing the proposed siting zone for the Walpole substation

Legend

Graduated swathe
Converter stations siting zone
Existing Substation
132kV Overhead Line
400kV Overhead Line
400kV Towers

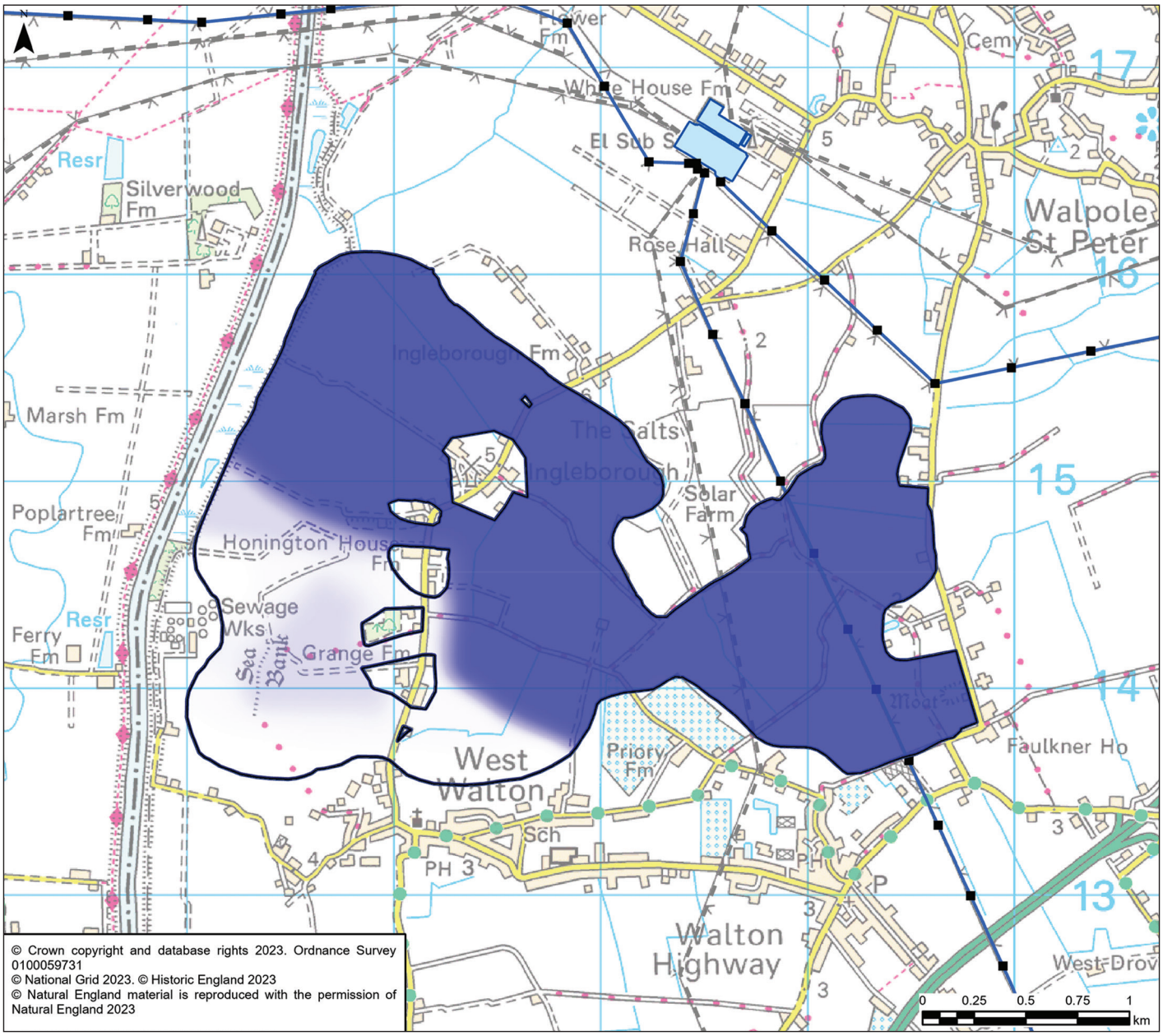


Figure 19 Map showing the proposed siting zone for the Walpole converter stations

Construction

Should consent be granted for EGL 3 and EGL 4, construction is expected start in 2028 and would take approximately five years.

As we are at an early stage in the development of proposals for EGL 3 and EGL 4, this section outlines our typical, and relevant, construction methods.

We will be able to share more detail on proposed construction methods, their likely impacts (both temporary and permanent) and impact mitigations at the next stage of consultation when we have refined our proposals in light of consultation feedback, technical assessments and environmental surveys.

How our cable will make landfall

Our preference is to use a trenchless construction method, such as Horizontal Directional Drilling (HDD) (**see Figure 20**), to reduce disruption and potential environmental impacts where cables come ashore. Consultation and ground investigation works are required to confirm whether this is possible.

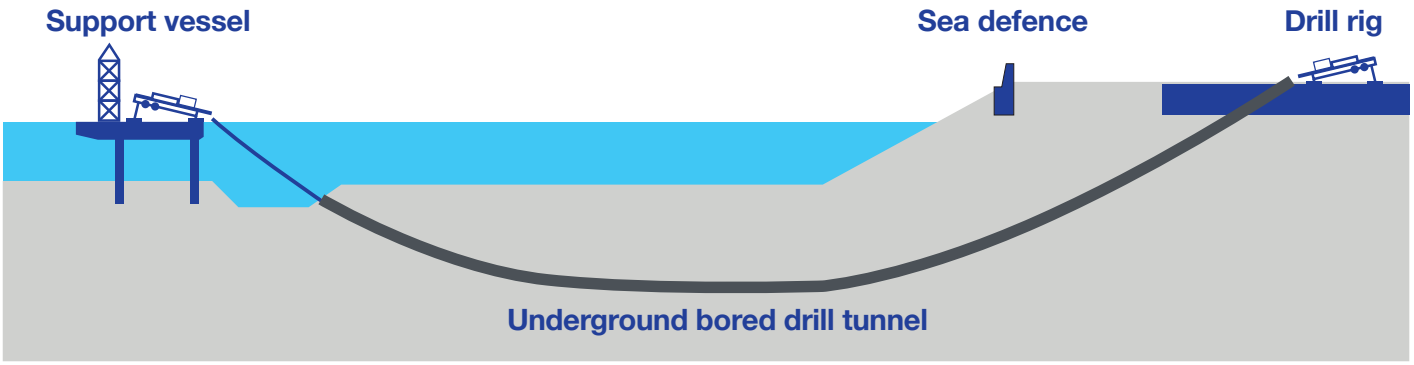


Figure 20 Diagram showing landfall HDD

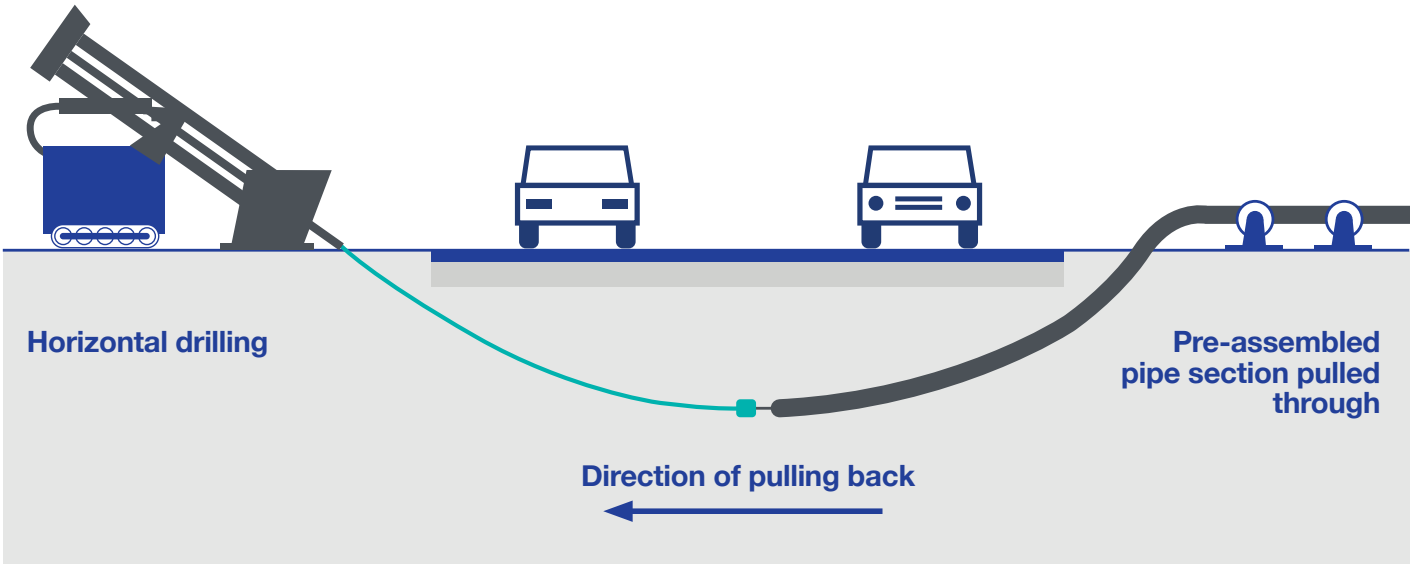


Figure 21 Diagram showing typical HDD method

How we install onshore underground cables

Before we install electricity cables on land, we undertake extensive technical studies and surveys, and work with landowners to carefully plan the most appropriate route, ensuring that the cables can be installed safely and with minimum disruption.

A variety of methods can be used to lay the high voltage direct current (HVDC) and high voltage alternating current (HVAC) underground cables, including ducted and trenchless methods.

In the ducted method (**see Figure 22**), we would first dig a trench (typically 2.5m wide and 0.9m deep) carefully removing the soil in layers. Then we would install the ducts within the trench, covering them by carefully replacing the soil. The cables would then be pulled through the ducts. This approach minimises the length of time soils are exposed.

Where necessary, trench depths may be deeper. This will be determined through feedback from consultation, information from surveys and ongoing design studies.

Trenchless methods, such as such as Horizontal Directional Drilling (HDD), allow us to install cables while minimising interaction with the land surface, which reduces the impact on wildlife, traffic, and local communities (**see Figure 21**). Use of HDD or other trenchless methods depends on local conditions and any obstacles we need to overcome.

A construction area is required for the installation of underground cables. This area – or construction corridor, also known as a 'swathe' – includes the cable trenches, soil storage and a temporary haul road. We expect that the construction corridor for the co-located HVDC cables for EGL 3 and EGL 4 would be approximately 80m wide, depending on location.

Additional working areas would be required beyond the construction corridor for related construction activities including, for example, site compounds and storage of construction materials. Once the underground cables have been installed, soil removed and stored nearby will then be carefully reinstated and the land returned to its former use.

Figure 22 The ducted method of cable laying

Managing and mitigating effects

Feedback from consultation, along with findings of our ongoing environmental assessments, will help shape the proposals for EGL 3 and EGL 4. We use best practice environmental impact assessment techniques to assess possible effects of our works and identify opportunities for mitigation measures and for delivering Biodiversity Net Gain.

Protecting the environment during construction

Our detailed environmental surveys and assessments will help us understand potential effects and how they can be avoided, reduced or mitigated during construction and operation.

Where avoidance and mitigation is not possible, we would offset – or compensate for – effects by planting or enhancing the environment near to the area of works. We will work closely with local authorities and relevant stakeholders to identify what kind of enhancement is most suitable and where to locate these.

Environmental Impact Assessment

We are required to follow a set procedure for all nationally significant infrastructure projects to assess the likely significant environmental effects of our proposals. We will carry out an Environmental Impact Assessment (EIA) and submit a full Environmental Statement (ES) and non-technical summary as part of our application for development consent.

Our statutory consultation, scheduled for 2025, will include early design detail and the preliminary environmental information that has been collected and assessed by the date of that consultation along with the measures that may need to be put in place to avoid, prevent, reduce and mitigate any significant environmental effects.

Biodiversity Net Gain

The decline of biodiversity in the UK is well documented and we are conscious that our activities can impact habitats and therefore species' ability to thrive. We have committed to achieving a 10% biodiversity net gain for new major projects to ensure we leave the site and local area in a measurably better state than before the development took place. This may be delivered on site or off site through habitat creation and/or enhancement.

Protecting soil and agricultural land

We appreciate the national significance of the agricultural land where EGL 3 and EGL 4 would be located and would put measures in place to reduce our impact, including:

- the careful removal of soil along the route of the cable to store it adjacent to the working area, meaning soil resources of the same texture, organic matter content and nutrient status can be reinstated in the same area it was removed and to match the existing soil profile as far as it is possible
- implementing a soil management plan to ensure there is no drop in soil quality as a result of construction works. As part of the plan, soil will be tested before and after construction
- protection of livestock by erecting suitable fencing
- soil handling works will be supervised by appropriately qualified and experienced individuals, and an appropriate aftercare period and plan will be set out.

Through the implementation of these mitigation measures the projects aim to reinstate land to its original condition and land grade.

Drainage

We also recognise the importance of effective drainage for local farmers and propose the following measures for land affected by EGL 3 and EGL 4:

- a specialist contractor will be employed to carry out a pre-works assessment of the existing drainage systems in consultation with relevant landowners and other stakeholders
- a pre-construction drainage management plan would then be prepared for review and approval by stakeholders. This plan will set out and record the condition of the existing drainage network
- a post-construction drainage management plan would also be prepared later as the cable route is installed.

Best practice guides

'Best Practice' guides showing how NGET constructs underground cables are available at: **www.nationalgrid.com/electricity-transmission/document/145316/download**

Information for landowners

When developing proposals for network upgrades, we need to understand who has a legal interest in the land in and around the areas being considered as part of the projects.

In the DCO process, anyone with a legal interest in land is known as a Person with an Interest in Land (PIL). If you are identified as a PIL, we will contact you directly.

Whilst much of the information we need to confirm a legal interest on is available on public registers, we have appointed land referencing firm Ardent to contact individual landowners to verify the publicly available information and ensure NGET has have made best efforts to identify any potentially impacted landowners. Ardent operates across multiple sectors, providing land and consenting advice to support the promotion and delivery of major projects in the UK and Ireland.

Ardent will also assist with contacting landowners and occupiers to arrange access for non-intrusive and intrusive surveys which we plan to carry out from summer 2024.

More detailed information for landowners, along with relevant contact information can be found on the landowner page of our project website.

If you are a landowner and believe your property may be affected by our proposals, and want to talk to our lands team, please email **egl3and4@ardent-management.com** or call **0203 693 2500** or write to: **EGL 3 and EGL 4, Ardent, 36 Park Row, Leeds, LS1 5JL**

Next steps

The feedback we receive at Stage 1 consultation, along with outputs from technical assessments and environmental surveys, will shape the development of our proposals for EGL 3 and EGL 4.

Following Stage 1 consultation, we will:

- consider all consultation feedback as we refine our proposals before the next stage of consultation, which will also include preliminary environmental information
- continue our discussions with landowners and people with an interest in land which interacts with the projects
- continue briefing local elected representatives
- continue working with local authorities and other stakeholders
- continue carrying out environmental impact assessment work and undertaking surveys along the proposed route
- provide updates to those who have asked to be kept updated on our proposals via email
- post updates on the EGL 3 and EGL 4 project website at **nationalgrid.com/egl3andegl4**. You can register for these updates on our website
- continue to refine our proposals in response to feedback and results from technical studies and surveys.

We will present updated proposals for EGL 3 and EGL 4 during our next stage of consultation, planned for 2025.

Following further development and finalisation of detailed proposals, we will submit our DCO application, including a Consultation Report showing how we have taken account of feedback, to the Planning Inspectorate.

The Planning Inspectorate will examine our proposals and make a recommendation on the application to the Secretary of State for the Department of Energy Security and Net Zero, who will make the final decision on whether to grant consent.

If consented, we expect construction work to start in 2028, with EGL 3 and EGL 4 operational by 2033.

How to find out more

The EGL 3 and EGL 4 Stage 1, non-statutory consultation will run for eight weeks, **from Tuesday 23 April to Monday 17 June 2024**, and is open to anyone with an interest in our proposals. The deadline to provide feedback is 11:59pm on Monday 17 June 2024. All consultation information is available on our website: **nationalgrid.com/egl3andegl4**.

Printed copies of the consultation newsletter, feedback form and Project Background Document are available free of charge on request or to collect at consultation events and local information points. Reference only copies of the Corridor Preliminary Routeing and Siting Study (CPRSS) and Strategic Option Report (SOR) are also available to view at local information points.

Throughout the consultation we are holding a series of face-to-face events (**see Table 1 on page 10**). These consultation events will include information about our proposals, with copies of maps and technical documents available to view. Members of the project team will be available to answer questions about our proposals.

Our online webinar sessions will include a presentation of our proposals followed by an open question and answer session. You can attend the webinar most relevant to you by joining one of our location-themed webinars (**see Table 2 on page 10**). Details on how to sign-up for a webinar are available on the website or by contacting us on **0800 298 0405** or by emailing **contactegl3and4@nationalgrid.com**.

You can also book an 'ask the expert' telephone or video appointment with the team by using the contact details above. These individual sessions will be available for the duration of the consultation period.

To learn about our proposals:

- read this Project Background Document
- visit our website at: **nationalgrid.com/egl3andegl4**
- come to a consultation event (**see Table 1**)
- join an online webinar session (**see Table 2**)
- visit a local information point (**see Table 3**)
- book an 'ask the expert session' by visiting our website or calling or emailing us (see below)
- sign up to receive project update emails (visit our website)
- call us on freephone **0800 298 0405** Lines are open Monday to Friday 9am–5pm, with an answerphone facility taking messages outside of these hours
- email us: **contactegl3and4@nationalgrid.com**

To respond to the EGL 3 and EGL 4 consultation:

Complete the online feedback form on our website

Email your comments to: **contactegl3and4@nationalgrid.com**

Call us on freephone **0800 298 0405**

Post your written responses (no stamp required) to: **Freepost EASTERN GREEN LINKS 3 & 4**

Complete a printed feedback form and return it using the freepost address

Your comments must be received by 11.59pm on Monday 17 June 2024.

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