



# CORY DECARBONISATION PROJECT

DECARBONISATION

## ENVIRONMENTAL STATEMENT NON-TECHNICAL SUMMARY: 6.4

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# 1. OVERVIEW

## MEETING THE NET ZERO CHALLENGE

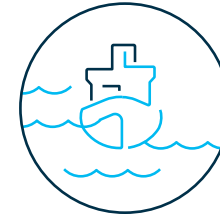
The role of energy from waste facilities in treating residual waste (non-hazardous waste material that cannot be reused or recycled), to divert it from landfill and recover partially renewable energy, is a key element of the UK's waste management infrastructure. Installing carbon capture technology is the most effective way to reduce carbon dioxide (CO<sub>2</sub>) emissions from energy from waste facilities. The process captures the post-combustion CO<sub>2</sub> emissions at source, after which it is safely stored underground, rather than being released into the atmosphere.

To achieve the UK's net zero target by 2050, 100 million tonnes of CO<sub>2</sub> will need to be removed from the atmosphere each year. This will be needed to balance emissions from industries which do not yet have a clear path for decarbonisation, such as power stations without access to carbon storage, and aviation. By capturing around 1.3 million tonnes of CO<sub>2</sub> a year (of which approximately 50% per cent will be fossil carbon (from plastics), and 50 per cent biogenic (from wood, paper, cardboard and food) due to the composition of mixed residual waste) Cory Environmental Holding Ltd's (hereafter referred to as the Applicant) Decarbonisation Project has the potential to significantly contribute to achieving the UK's net zero goal, as well as reaching their own target of being net zero by 2040.



**c.1.3M  
TONNES**

OUR PLANNED CCS PROJECT  
WILL BE ABLE TO CAPTURE  
C.1.3 MILLION TONNES  
OF CARBON DIOXIDE  
PER YEAR BY 2030



**OFFSHORE  
STORAGE**

CO<sub>2</sub> WILL BE SAFELY  
TRANSPORTED FOR  
STORAGE OFFSHORE



**SAFELY  
STORED**

CO<sub>2</sub> WILL BE SAFELY  
STORED >1KM  
BELOW THE SEABED



**2040**

CORY'S NET  
ZERO TARGET



**2050**

THE UK  
GOVERNMENT'S  
NET ZERO TARGET



**70%**

OF LOCAL AUTHORITIES  
ARE AIMING FOR NET ZERO  
BY 2040 OR EARLIER

## RIVERSIDE 1 AND RIVERSIDE 2

The Applicant's existing operations include two energy from waste facilities, Riverside 1 and Riverside 2, which are located on the southern bank of the River Thames. Riverside 1 has been operational since 2011 and is one of the largest energy from waste facilities in the UK, as well as being the only one with river infrastructure for transporting waste. Today, Riverside 1 processes up to 850,000 tonnes of residual waste a year. Riverside 2 is under construction and due to become operational by 2026. It will be one of the largest and most efficient energy from waste facilities in the UK, processing up to 805,920 tonnes of residual waste per year. It too will use the river based transport infrastructure already in place.

## THE PROPOSED SCHEME

Together, the below key components of the Cory Decarbonisation Project are referred to as the 'Proposed Scheme':

- The Carbon Capture Facility;
- The Proposed Jetty;
- The Mitigation and Enhancement Area;
- Temporary Construction Compounds; and
- Utilities Connections and Site Access Works.

The land that the Proposed Scheme will be built on is referred to as the 'Site' and the edge of this land is referred to as the 'Site Boundary'.

Further information about each component is described in **Chapter 3**.



Artist impression of the proposed carbon capture scheme

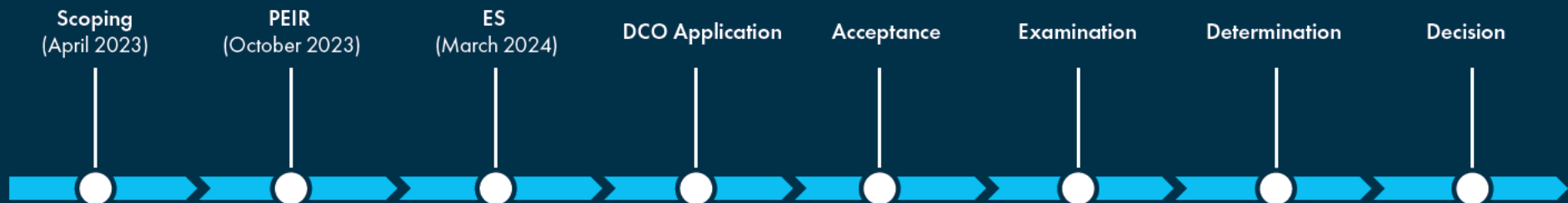
## THE CONSENTING PROCESS

The Secretary of State has determined that the Proposed Scheme should be treated as development for which development consent under the Planning Act 2008 (as amended) is required and is considered a Project of National Significance.

Due to the nature of the Proposed Scheme, the Applicant has had to carry out an Environmental Impact Assessment (EIA) in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, (the 'EIA Regulations'). The purpose of the EIA is to assess the impacts of the Proposed Scheme on the surrounding environment.

The flowchart below shows the consenting process for any Project of National Significance and when the pre-application stages were achieved by the Proposed Scheme.

- **Scoping** – Scoping identifies which environmental topics require assessment as part of the EIA as well as methods for assessment. The Applicant prepared a report to provide the information required under EIA Regulations to request a Scoping Opinion from the Secretary of State. This was issued by the Applicant for the Proposed Scheme on 18th April 2023 and a Scoping Opinion was received on 26th May 2023.
- **Preliminary Environmental Information Report (PEIR)** – Information on the existing environment and the initial findings of the environmental assessment was published in a report that formed part of the statutory consultation for the Proposed Scheme. This allowed consultation comments to be considered in the ongoing EIA process and the development of the Proposed Scheme. The PEIR was made available for consultation during October and November 2023.
- **Environmental Statement (ES)** – The ES is submitted as part of the Development Consent Order (DCO) application to the Planning Inspectorate (acting on behalf of the Secretary of State for the Department of Energy Security and Net Zero).
- **Acceptance** – The Planning Inspectorate has 28 days to decide whether the submitted application meets the standards required to proceed to examination.
- **Examination** – The Planning Inspectorate appoints an independent Examining Authority to consider the DCO application. Individuals, businesses or organisations can register to take part in the examination and can become an Interested Party by making a relevant representation, after which they will be engaged in the examination process including hearings and written questions. Examination takes a maximum of six months.
- **Determination** – At the end of the examination period the Examining Authority has three months to consider the DCO application and issue a recommendation to the Secretary of State.
- **Decision** – The Secretary of State then has a further three months to issue a decision whether or not to grant consent for the Proposed Scheme. Where the decision is made to grant the DCO, the Applicant can implement the Proposed Scheme in accordance with the DCO including the requirements for mitigation.





## 2. THE EXISTING ENVIRONMENT

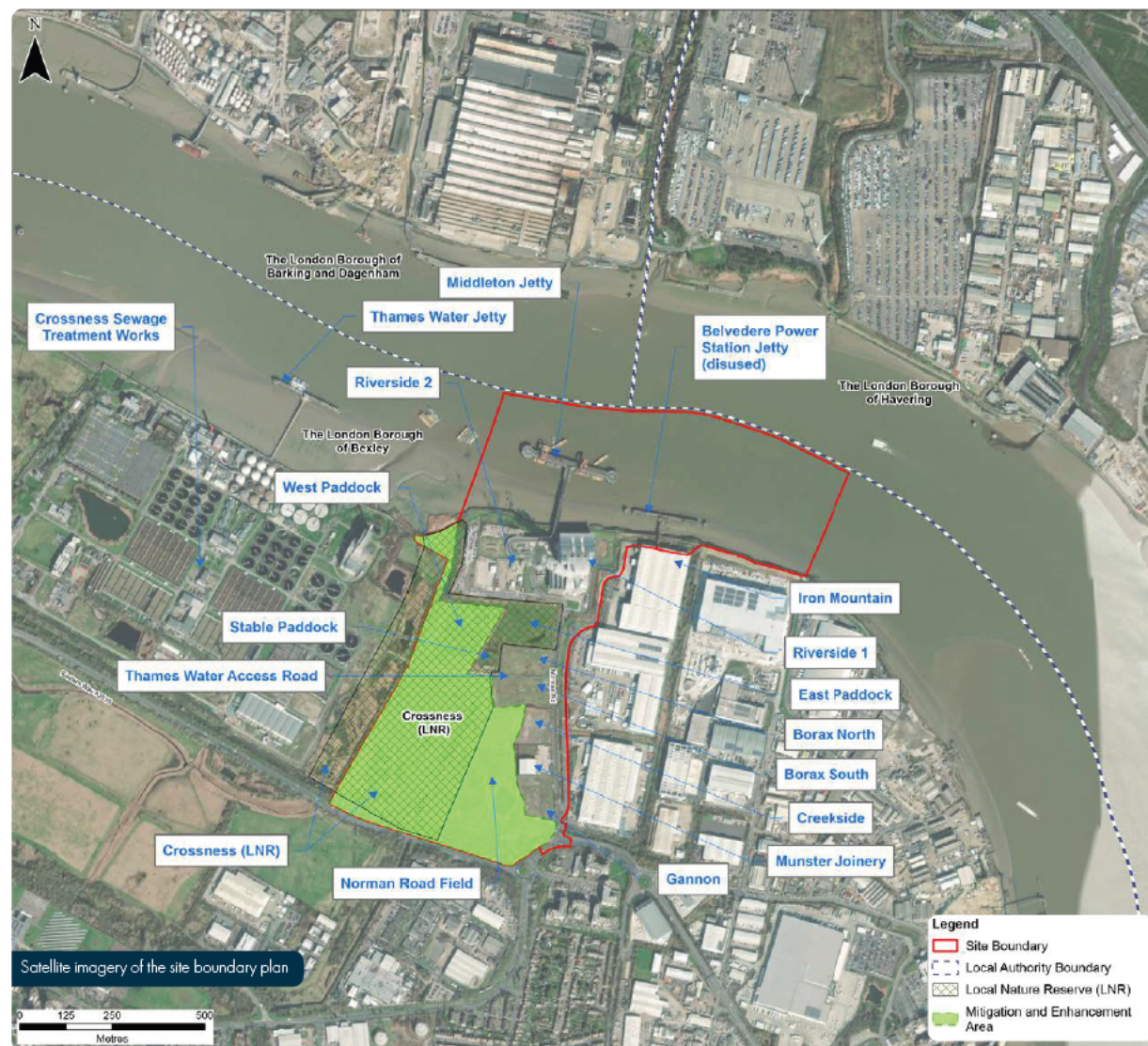
### SITE AND SURROUNDINGS

The Proposed Scheme will be located at the Riverside Campus, adjacent to the River Thames at Belvedere in the London Borough of Bexley. The Site is approximately 77ha and consists of Riverside 1 and Riverside 2, the River Thames, Middleton Jetty and the Belvedere Power Station Jetty (disused), a portion of the Crossness Local Nature Reserve, a network of fields and ditches and a range of third party landholdings.

Multiple businesses operate within and in the vicinity of the Site. Munster Joinery UK Limited is a window and door manufacturing company, their premises on Norman Road are part of its distribution operations dealing with products manufactured at their facility in Warwickshire. The Norman Road premises will require demolition to allow for the construction of the Proposed Scheme. In addition, Iron Mountain Record Storage Facility is located just outside of the northern section of the Site, the Morgan Pub is approximately 20m south of the Site, and Travelodge Belvedere is approximately 30m south of the Site. The closest residential properties are located approximately 50m southeast of the Site Boundary at Clydesdale Way.

The Erith Marshes Site of Importance for Nature Conservation and Crossness Local Nature Reserve are located within the Site alongside a network of fields and surface water ditches. These areas are also designated Metropolitan Open Land. Key environmental characteristics of the Site are described further overleaf.

The Site is accessed by Norman Road, which connects with the A2016 Picardy Manorway to the south and east. Belvedere Railway Station is located approximately 580m south of the Site Boundary and there are numerous bus stops in the surrounding area. Public Right of Way Footpath 1 (FP1), FP2, the England Coast Path (FP3/National Cycle Network (NCN1)), FP4 and FP242 pass through the Site. A portion of the Southeast London Green Chain, a green infrastructure designation, also falls within the Site.



## KEY ENVIRONMENTAL CHARACTERISTICS OF THE SITE

ENVIRONMENTAL CHARACTERISTIC	SUMMARY
<b>Air quality and noise</b>	<p>The London Borough of Bexley is covered by a borough-wide Air Quality Management Area, which encompasses the Site. Local roadside monitoring data, as well as real world monitoring, has been applied finding that since 2018, all monitoring sites throughout the borough have recorded annual mean concentrations of nitrous oxide under the objective value of 40µg/m³. Ambient noise levels at the Site are influenced by road traffic noise from Eastern Way and the industrial nature of the area surrounding the Site.</p>
<b>Biodiversity</b>	<p>Habitats present within the Site include woodland, marshland and mudflats, which are considered habitats of principal importance. River and freshwater aquatic habitats are also present. Protected/notable species that are present within the Site include bats, breeding birds, reptiles, water voles, terrestrial invertebrates and wintering birds. The northern part of the Site is located within the River Thames and Tidal Tributaries Site of Importance for Nature Conservation. Marine habitats located within the Site and surrounding area include intertidal and subtidal habitats consisting of shingle, reedbeds, mudflats, seagrass and saltmarsh. Intertidal and subtidal benthic communities (referring to ecological features present at low levels in a body of water) have also been recorded in the Site. These consist of marine plants, fish and mammals including marine worms, snails, sea slug, and crustaceans.</p> <p>Ecological surveys conducted between November 2022 and October 2023 reported records of at least six bat species, 54 bird species, two instances of common lizard, and a presence of water voles onsite.</p> <p>A portion of Crossness Local Nature Reserve, a designated ecological site, is also present within the terrestrial part of Site. This consists of a network of ditches, open water, scrub and rough grassland providing a water vole stronghold and over 200 difference species of bird. 18 Sites of Importance for Nature Conservation can be found within 2km of the Site. The Erith Marshes Site of Importance for Nature Conservation, which includes grazing marshes, and Belvedere Dykes Site of Importance for Nature Conservation are made up of reedbed, wet woodland and grassland habitat are also partially located within the Site.</p>
<b>Cultural Heritage</b>	<p>Only one above ground heritage asset (the Belvedere Power Station Jetty (disused)) has been identified within the Site. The Site does not contain any statutorily designated (protected) heritage assets, such as scheduled monuments, listed buildings or registered parks and gardens. The nearest non-designated above ground heritage asset is an early 20th century concrete structure, similar in style to a police box, approximately 450m to the west of the Site Boundary, which is a locally listed building. Crossness Conservation Area is located approximately 680m to the west of the Site Boundary, this area includes three listed buildings which are all located approximately 760m west of the Site Boundary. There is a known potential for paleoenvironmental remains to survive within the Site based on previous investigations within the Site Boundary and surrounding area.</p>
<b>Townscape and Visual Impacts</b>	<p>The landform within and surrounding the Proposed Scheme is generally flat and open alongside the River Thames corridor. The townscape within and surrounding the Site presents a mix of industrial use amidst the marshland riverside environment. Numerous businesses operate in close proximity to the Proposed Scheme, neighbouring the network of fields and Crossness Local Nature Reserve within the Site. The industrial/commercial built form within the area surrounding the Site is typical of these land uses, including functional building design that is large in scale, with extensive floor areas and tall heights. The wider area includes the residential area of Belvedere.</p>

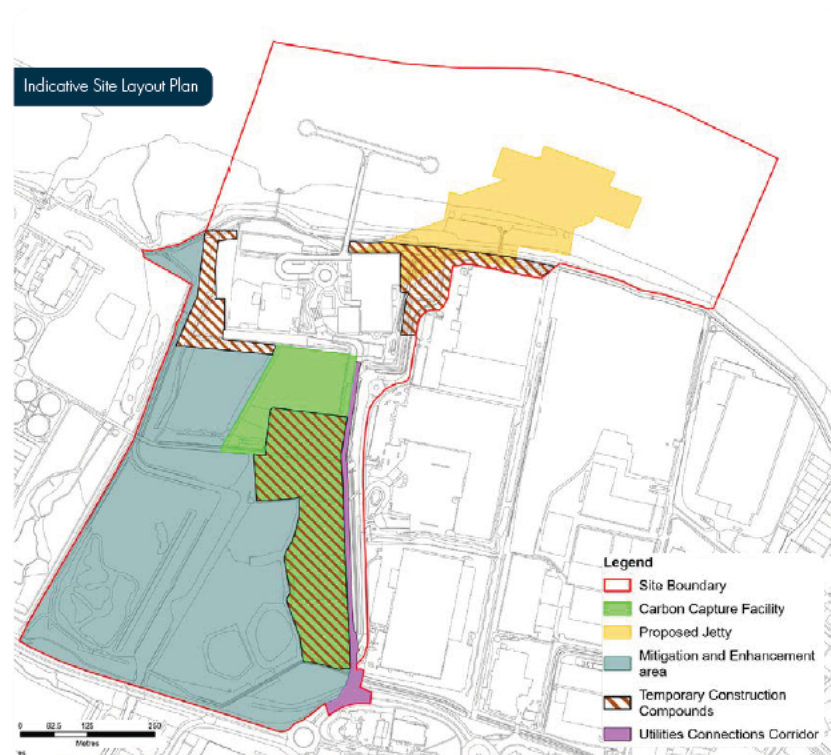
ENVIRONMENTAL CHARACTERISTIC	SUMMARY
<b>Water and Flood Risk</b>	The Site sits within Flood Zone 3, indicating high levels of risk of flooding. However, there is protection through the flood defences located along the River Thames, with some adjacent to and partly within the Site. There is a network of surface watercourses/drains within the Site, comprising rivers, ditches and ponds, for example the River Thames, West Paddock Ditch, and Great Breach Lagoon.
<b>Climate Change</b>	Greenhouse gas emissions occur constantly and widely as a result of natural and human activity. The inherent purpose of the Proposed Scheme is to capture CO <sub>2</sub> , and so is expected to reduce emissions (from the treatment of waste from Riverside 1 and Riverside 2), beneficially influencing the global atmosphere.
<b>People and communities</b>	The Site is currently a mixed-use of urban industrial development and grassland fields with several Public Rights of Way crossing through, as described above in Section 2.1. Fields in the southern section of the Site including East Paddock, Stable Paddock and Norman Road Field are used by graziers, with horses occupying the land year-round. Businesses in close proximity to the Site include Iron Mountain Record Storage Facility, Munster Joinery, and Lidl Warehouse and Distribution Centre. The closest residential properties are located approximately 50m southeast of the Site Boundary at Clydesdale Way. Crossness Local Nature Reserve comprises accessible, members only, and restricted access areas of land. The land within East Paddock and Stable Paddock is not currently accessible to the public. The Site falls within an area designated as Metropolitan Green Belt and the Southeast London Green Chain.
<b>Geology and Soils and Materials and Waste</b>	<p>The geology of the area largely consists of made ground, alluvium, London Clay Formation and Lambeth Group.</p> <p>None of the existing facilities located within the Site use large quantities of consumables for their operation or maintenance. Items are typically limited to lighting, paint and fencing, together with the intermittent use of some bulk materials for routine maintenance.</p> <p>In the surrounding area commercial and industrial waste is generated by business and industrial activity. There are 1,356 permitted waste recovery sites in London and the South East, although total landfill capacity in London and the South East is forecast to reduce over the coming years</p>
<b>Land and Marine Transport</b>	<p>The surrounding road network experiences a high volume of vehicular and pedestrian users, with most of the main roads experiencing traffic volumes (in both directions) of over 20,000 vehicles per day.</p> <p>Vessel traffic along the River Thames is dominated by commercial and recreational vessels. The Site contains two existing jetties that extend into the River Thames: Middleton Jetty (approximately 280m length), located adjacent (north) of Riverside 1; and the Belvedere Power Station Jetty (disused), which is located north of Iron Mountain Records Storage Facility. Middleton Jetty is designated as a Safeguarded Wharf whereas the Belvedere Power Station Jetty (disused) is not. Approximately 75% of the waste processed at Riverside 1 is delivered to Middleton Jetty by tug pulled barges; removing the equivalent of 100,000 heavy goods vehicles (HGV) journeys per annum from the road. Currently, there are approximately five tug and barge arrivals and five departures a day. River-based transport will be used in the same way for Riverside 2 when operational.</p>
<b>Major Accidents and Disasters</b>	Due to the industrial nature of the Site, the Proposed Scheme is at risk of specific major accidents and/or disasters during construction and operation.



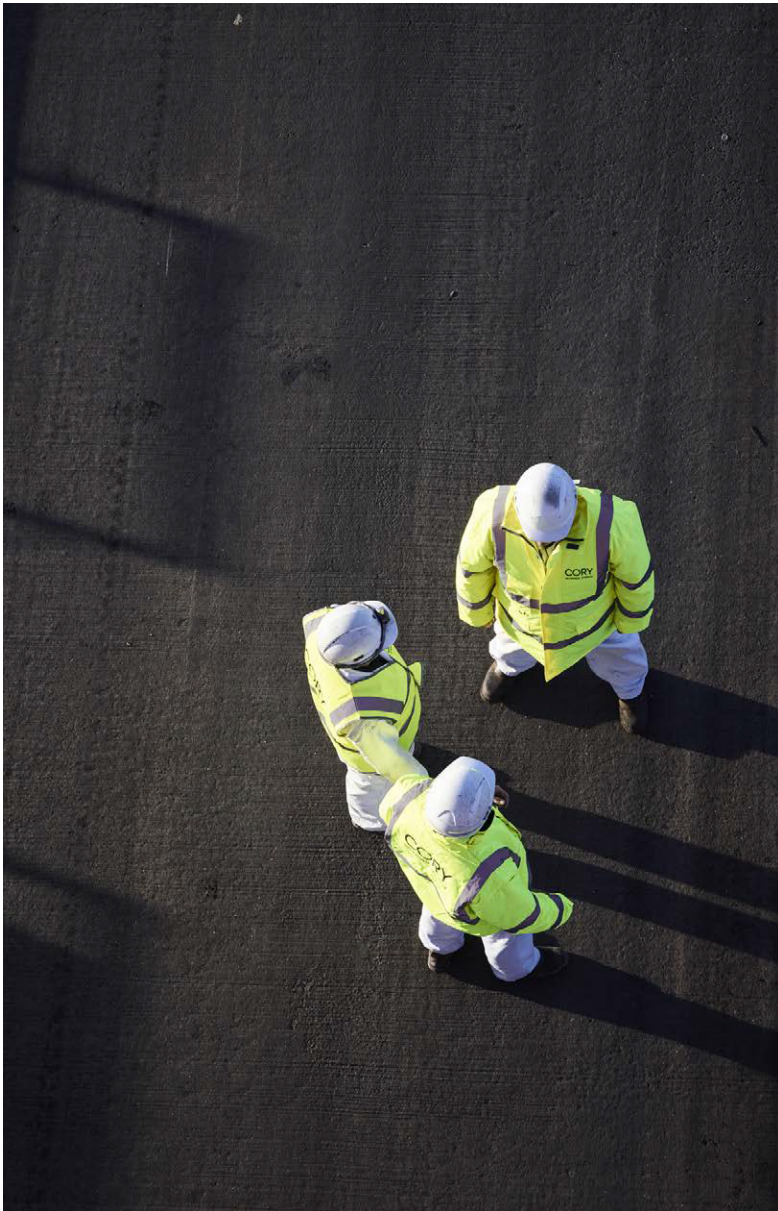
### 3. DESCRIPTION OF THE PROPOSED SCHEME

#### KEY COMPONENTS

There are multiple components that collectively form the Proposed Scheme, as described in the table.



COMPONENT	DESCRIPTION
<b>Carbon Capture Facility</b>	<p>This component includes the land intended for the construction of up to two Carbon Capture Plant(s), to be located in the centre of the Site, to the south of Riverside 1 and Riverside 2.</p> <p>The Carbon Capture Facility is likely to contain the following elements:</p> <ul style="list-style-type: none"> <li>Carbon Capture Plant(s) each comprising: <ul style="list-style-type: none"> <li>Flue Gas Pre-Treatment;</li> <li>Absorber Column(s) and Stack(s);</li> <li>Back Pressure Turbine and Generator;</li> <li>Solvent Regeneration System;</li> <li>Rich Solvent/Lean Solvent Heat Exchanger; and</li> <li>Solvent Storage.</li> </ul> </li> <li>CO<sub>2</sub> Processing Plant(s), each comprising: <ul style="list-style-type: none"> <li>Compression;</li> <li>Dehydration;</li> <li>Liquefaction; and</li> <li>CO<sub>2</sub> Vents.</li> </ul> </li> <li>Liquified CO<sub>2</sub> Buffer Storage Area: <ul style="list-style-type: none"> <li>Onshore Temporary Storage; and</li> <li>Boil Off Gas Processing.</li> </ul> </li> <li>Supporting Plant, comprising: <ul style="list-style-type: none"> <li>Cooling System;</li> <li>Chemical Storage and Distribution Handling Facilities;</li> <li>Water Treatment Plant (Process Water Supply);</li> <li>Wastewater Treatment Plant; and</li> <li>Gatehouse and car park, Control Room, Welfare facilities, Stores and Workshop.</li> </ul> </li> </ul> <p>The Carbon Capture Facility component can be accessed via Norman Road.</p> <p>The Carbon Capture Facility component will include Ancillary Infrastructure such as a heat recovery and heat transfer system, access roads and site boundary fencing, main electrical infrastructure, surface water drainage, lighting and CCTV and an operational contractor maintenance laydown area.</p>



COMPONENT	DESCRIPTION
<b>Proposed Jetty</b>	The Proposed Jetty is the northernmost area of the Site, predominantly located within the River Thames. The purpose of this structure is to export the liquified CO <sub>2</sub> offsite.
<b>Mitigation and Enhancement Area</b>	The Mitigation and Enhancement Area is located in the central, south and west of the Site and comprises land within Crossness Local Nature Reserve and Norman Road Field. The land within this component has been identified to provide improved access to open land, habitat mitigation, compensation and enhancement (including forming part of the drainage system and Biodiversity Net Gain delivery proposed for the Proposed Scheme) and planting. The Mitigation and Enhancement Area provides the opportunity to improve access to outdoor space and to extend the area managed as the Crossness Local Nature Reserve.
<b>Temporary Construction Compounds</b>	<p>During the construction phase of the Proposed Scheme, there will be phased use of land for laydown purposes. The laydown areas consist of three sections: two temporary construction compounds designated for terrestrial construction purposes and one designated as the Proposed Jetty Temporary Construction Compound.</p> <p>The core Temporary Construction Compound will be located centrally within the Site, within the Carbon Capture Facility component and can be accessed via Norman Road. The western Temporary Construction Compound will be located along the western and southern boundary of Riverside 2 and can be accessed via the Riverside 2 internal access roads (which are currently under construction) and by a new ditch crossing. The Proposed Jetty Temporary Construction Compound is located to the northeast of Riverside 1 and will be accessible via the Iron Mountain Records Storage Facility and Asda Access Road.</p> <p>Munster Joinery is proposed as part of the core Temporary Construction Compound and Carbon Capture Facility. The demolition of Munster Joinery is therefore required. The Applicant is seeking to reach an agreement with Munster Joinery UK Limited on a relocation of its premises.</p>
<b>Utilities Connections and Site Access Works</b>	The undergrounding of utilities required for the Proposed Scheme in Norman Road including water supply (including water storage tanks) and wastewater discharge connections which will be operated by Thames Water. The creation of new, or the improvement of existing, access points to the Carbon Capture Facility from Norman Road.



## BUILDING THE PROPOSED SCHEME

The way that the Proposed Scheme will be constructed has been developed in sufficient detail to allow the environmental assessment (described in **Chapter 5**) to determine any significant effects that are likely to result from land take, construction activities, and potential emissions into air and water. The assessment has considered general working practices, including use of construction worksites and access to and from the works.

The assessment also considers access requirements on the wider road network for bringing staff and materials to and from the Proposed Scheme. The Proposed Scheme will require vehicle movements both landside and marine. These are outlined below:

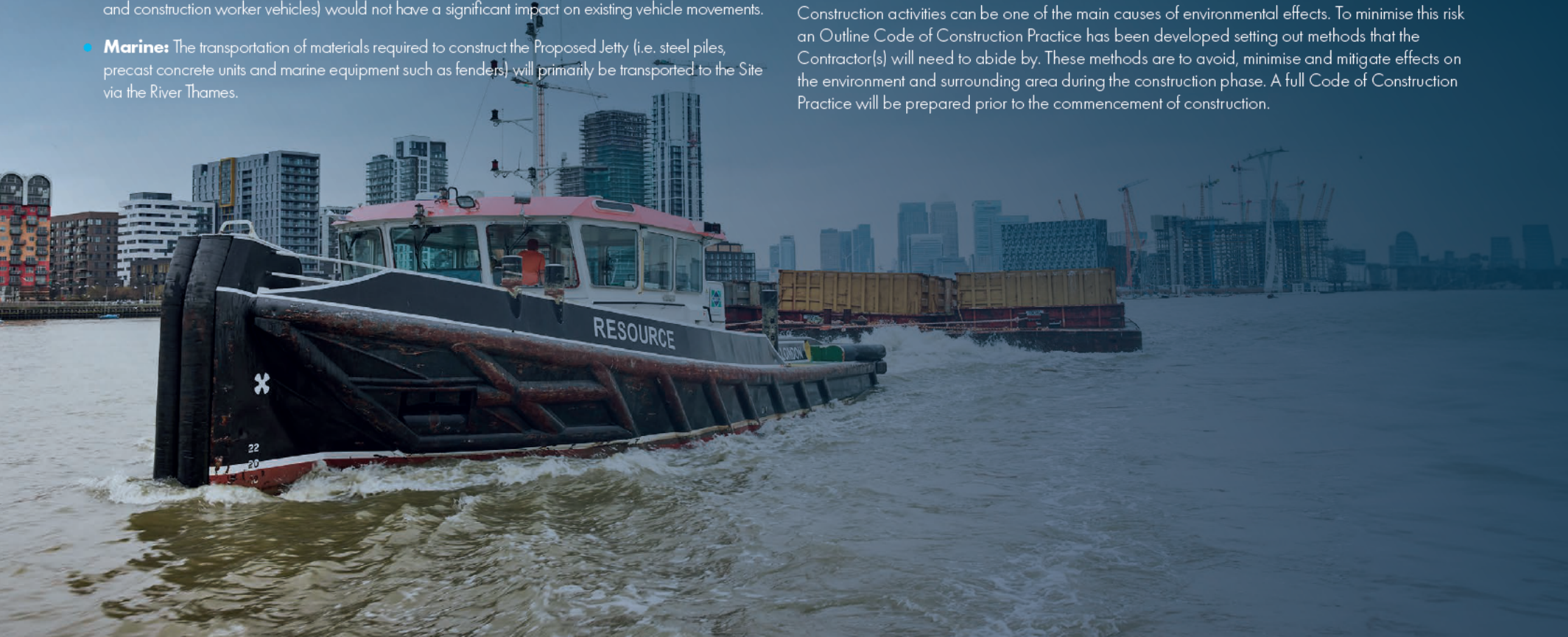
- **Landside:** Heavy Goods Vehicle (HGV) movements associated with the construction of the Proposed Scheme are expected to peak at 25 movements per day (resulting 50 two-way movements). A Transport Assessment was undertaken and concluded that construction traffic (HGV and construction worker vehicles) would not have a significant impact on existing vehicle movements.
- **Marine:** The transportation of materials required to construct the Proposed Jetty (i.e. steel piles, precast concrete units and marine equipment such as fenders) will primarily be transported to the Site via the River Thames.

During construction, standard working hours for the landside activities (save for internal works, or where otherwise agreed with London Borough of Bexley) are: Monday to Friday 07:00 to 19:00; 07:00 to 13:00 on Saturday; and no construction work on Sundays or Bank Holidays. However, marine construction activities will be within a tidal environment and therefore are expected to be 24 hours and 7 days a week.

Lighting will be needed in order for construction to continue during hours of darkness in winter months. The below measures will be implemented to minimise the effect on the surrounding area and wildlife:

- only the immediate area of works shall be illuminated, to avoid light being directed at, or close to adjacent vegetation; and
- shields or hoods shall be used to control or restrict the area to be lit, to minimise light spill and sky glow.

Construction activities can be one of the main causes of environmental effects. To minimise this risk an Outline Code of Construction Practice has been developed setting out methods that the Contractor(s) will need to abide by. These methods are to avoid, minimise and mitigate effects on the environment and surrounding area during the construction phase. A full Code of Construction Practice will be prepared prior to the commencement of construction.





## 4. REASONABLE ALTERNATIVES CONSIDERED FOR LOCATION OF THE PROPOSED SCHEME

### INTRODUCTION

This chapter sets out a summary of the assessment of location and site layout alternatives that have not been progressed for further consideration.

### ALTERNATIVE SITES

Development zones were identified and considered for the Carbon Capture Facility, some of which were deemed unfeasible due to their location over existing businesses, the River Thames (i.e. requiring land reclamation) and being Thames Water operational land. A southern zone was preferred due to its ability to form one single area with sufficient space for the Carbon Capture Facility whilst being close to Riverside 1 and Riverside 2. This zone is located to the south of these facilities and comprises largely brownfield land; about 1/3 being areas of Crossness Local Nature Reserve and Metropolitan Open Land, and 2/3 being Creekside, Borax, Munster Joinery and Gannon land parcels. The Applicant weighed up different configurations within this zone, whilst accounting for operational requirements, policy constraints and the mitigation hierarchy, and the need to connect to the chosen jetty location as described below. The Site put forward as part of the DCO application, is considered to appropriately balance these factors.







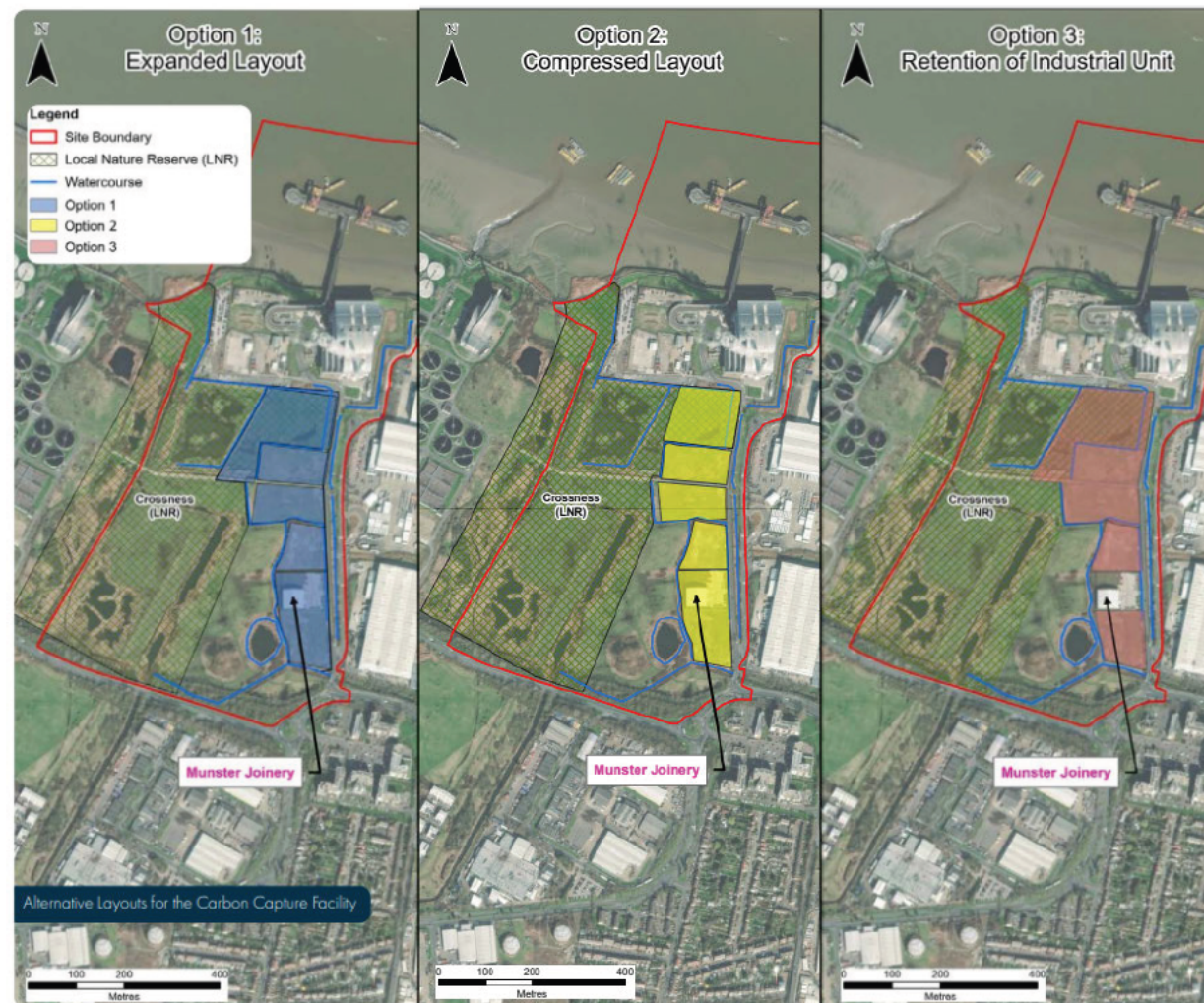
Four alternative site locations for the Proposed Jetty were explored: development of a new jetty over the Belvedere Power Station Jetty (disused); alteration of Middleton Jetty, which is actively used as part of Cory's existing operations on the River Thames; construction of a new jetty structure immediately upstream and in-line with the existing Middleton Jetty; and demolition and reconstruction of the Thames Water Jetty located to the west of Riverside 1. The first option was chosen as this would minimise intrusion into the River Thames and impact on operational jetties, as well as cause minimal interaction with marine navigation and existing vessel movements.



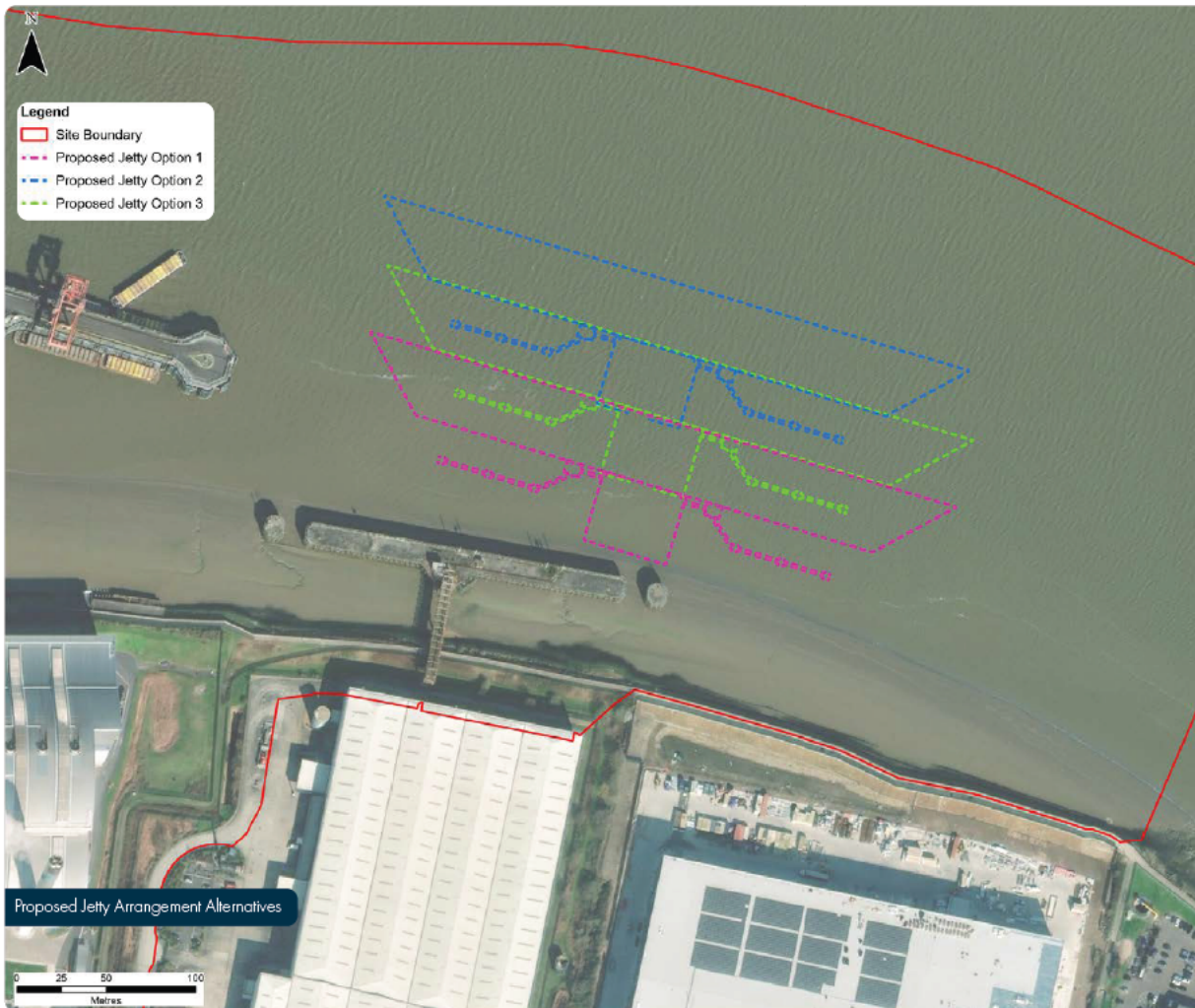
## ALTERNATIVE LAYOUTS

Three different options were considered for the layout of the plant required for the Carbon Capture Facility; a diffuse layout and two approaches to a compressed layout. The diffuse layout involved the spreading out of plant to allow existing ditches and habitat corridors to be retained. A compressed layout involved a smaller land take resulting in the potential for spare land to be available, enabling buffer planting to help minimise visual effects of the Proposed Scheme. An alternative compressed scenario involved the retention of Munster Joinery in-situ, which would have led to fractured development whereby much of the Supporting Plant is separated from the rest of the Carbon Capture Facility. Severance would compromise operational efficiency, site security and safety and reduce the potential for enhancement and planting within/at the edges of the Carbon Capture Facility. For example, lack of visibility from the Control Room to the Carbon Capture Facility and also a lack of safe and secure access from the Gatehouse to the Carbon Capture Facility.

The initial compressed layout has been selected for progression as this requires the least land take and presents the maximum opportunity to provide planting and environmental mitigation.







Three different arrangement options for the Proposed Jetty were considered. The first being aligned with Middleton Jetty and closest to the southern bank of the River Thames, the second, furthest into the channel of the River Thames, and the third, halfway between the first and the second.

The first option was disregarded due to the high dredging volumes required in the intertidal zone due to being close to the bank of the River Thames. The second option, being the furthest into the channel, was discounted on the basis of navigational safety. The third option, has been progressed as it achieves an appropriate balance across operational, environmental and navigational safety priorities.

## 5. APPROACH TO EIA

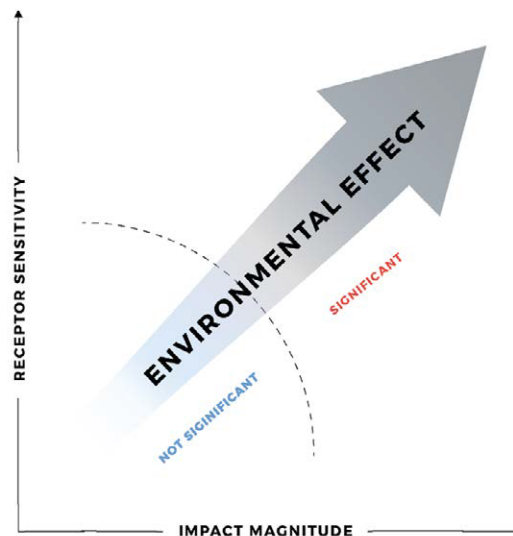
### OVERVIEW

The assessment of the likely environmental effects of the Proposed Scheme (as part of a process called Environmental Impact Assessment or EIA) has been undertaken. Consultation with various organisations and the public has helped shape proposals that avoid or minimise negative effects, where practicable, and that deliver environmental improvements.

The approach to the environmental assessment has followed the EIA Regulations. The overarching objective of the EIA is to assess the effects of the Proposed Scheme on the environment, categorise those effects, and identify mitigation measures to avoid or reduce them where possible. To date, the EIA has been progressed by the Applicant through the below key stages:

- **Scoping:** An EIA Scoping Report was completed as an early part of the EIA. The Scoping Report considered the characteristics of the Proposed Scheme and the likely environmental effects it could cause. Through an appreciation of the existing environment, scoping identified which environmental topics required to be assessed within the EIA and the relative importance of different aspects within each environmental topic. The Scoping Report was submitted to the Planning Inspectorate on 18th April 2023. A Scoping Opinion was obtained on the 26th of May 2023 from the Secretary of State.

- **Preliminary Environmental Information Report (PEIR):** The PEIR provided preliminary environmental information which enabled members of the public and local communities, local authorities, statutory bodies, and people whose land or interests would potentially be affected to understand the likely environmental effects of the Proposed Scheme at a preliminary stage of development. The PEIR was published as part of the statutory consultation. Statutory consultation was held between October 16th and November 29th, 2023. This consultation allowed comments received to be considered in the onward stages of the EIA and development of the Proposed Scheme.
- **Environmental Statement (ES) and associated documents:** Detailed assessment of the likely significant effects and mitigation measures are reported in the ES. The ES has been submitted as part of the Application for development consent in March 2024.



### APPROACH TO THE ASSESSMENT

Environmental effects have been assessed using appropriate national standards or limits and guidance. In the absence of relevant standards, professional judgement by experienced technical specialists has been used. The sensitivity of each receptor is assessed, as well as the magnitude of impact on the receptor as a result of the Proposed Scheme.

The assessment of the construction stage considers temporary activities required for building the Proposed Scheme and their effects on the environment and local community. The assessment of the operational stage looks at the permanent presence of the Proposed Scheme on the environment and local community.

The environmental assessment has been instrumental in shaping aspects of the design of the Proposed Scheme, as well as proposals for its construction and operation. Different strands of the assessment, each addressing specific environmental issues, have sought to identify and assess potential impacts and to evaluate their effects. As these have been determined, the environmental practitioners have proposed measures to mitigate adverse effects and, working with the design team, to embed them into the design of the Proposed Scheme. After the implementation these measures, any remaining substantial effects are referred to as residual 'likely significant effects'. It is these residual effects that are reported in the following sections.

## 6. AIR QUALITY AND NOISE

### OVERVIEW

The assessment of effects on air quality and noise evaluates the likely significant effects that the Proposed Scheme may have on local and regional air quality and noise during construction and operation.

The air quality at the Site and its surrounding vicinity has been showing a gradual improvement over time. Being situated adjacent to the River Thames, the Site is exposed to emissions from marine vessels, contributing to the overall air quality. Moreover, the area is densely populated with industrial activities, including controlled emissions from Riverside 1, serving as another source of emissions. Onsite, the annual mean concentrations of nitrogen dioxide currently meet the stipulated Air Quality Standards, ensuring compliance with relevant regulations. Ambient noise levels at the Site are influenced by road traffic noise from Eastern Way and the industrial nature of the area surrounding the Site.

### RECEPTORS

The following sensitive receptors have been included in the assessment of air quality and noise:

- Human Receptors:
  - residential properties;
  - hospitality facilities;
  - places of work;
  - schools; and
  - hospitals.

- Ecological Receptors:
  - locally designated ecological sites, for example Crossness Local Nature Reserve;
  - nationally designated ecological sites, for example the Inner Thames Marshes Site of Special Scientific Interest; and
  - international designated ecological sites, for example the Epping Forest Special Area of Conservation.

### CONSTRUCTION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the construction phase in relation to air quality and noise on human and ecological receptors.

To ensure there are no significant effects, measures that adhere to Best Practicable Means will be implemented during the construction phase, examples of these measures are described below:

- Mitigation measures for construction dust impacts include:
  - plan the Site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;
  - active monitoring of the Site to ensure the control of dust and emissions. Dry and windy conditions increase the likelihood of dust and emissions being produced and dispersed, so extra Site monitoring will take place during these times;
  - ensure an adequate water supply onsite for effective dust suppression;
  - ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London Non-Road Mobile Machinery standards;

- only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction;
- have no bonfires or burning of waste materials on Site; and
- implement a Dust Management Plan that is approved by the London Borough of Bexley.
- Mitigation measures for construction noise impacts include:
  - the selection of quiet and low noise/vibration equipment and methodologies where practicable; and
  - the provision of acoustic enclosure around static plant and equipment, where necessary.

### OPERATION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated resulting from the operation phase in relation to air quality and noise on human and ecological receptors. It has been recommended that the new backup power generator be positioned as far away from public spaces as is practicable. In practice this means locating the generator away from the Site and/or onsite public right of ways as is practicable. Although there are no modelled air quality effects to human health, by locating the backup power generator as far away from the Site and/or onsite public right of ways as is practicable this will limit any effects to the general population as far as practicable. The Applicant will implement mitigation measures to control the noise levels of the Proposed Scheme through measures including selecting quieter fans, locating plant further away from sensitive receptors, building an acoustic barrier around the fans to help reduce noise. A Noise Mitigation Plan will be prepared prior to the operation of the Proposed Scheme which will set out the final details of the mitigation measures.



## 7. BIODIVERSITY

### OVERVIEW

The assessment of effects on biodiversity evaluates the likely significant effects that the Proposed Scheme may have on terrestrial and marine biodiversity receptors during construction and operation.

### RECEPTORS

The following sensitive receptors have been included in the assessment of effects on terrestrial and marine biodiversity:

- designated sites, for example the Crossness Local Nature Reserve, Erith Marshes Site of Importance for Nature Conservation and Medway Estuary Marine Conservation Zone;
- terrestrial habitats, including grazing marsh, intertidal mudflats, reedbed and grassland;
- marine and freshwater habitats;
- protected/notable species; and
- habitats and species associated with the Thames Middle Transitional Water Framework Directive Water Body, which alongside the main Thames channel also includes the tidal sections of several Thames tributaries.



### CONSTRUCTION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the construction phase in relation to both terrestrial and marine biodiversity. The design of the Proposed Scheme aims to consolidate structures within the Carbon Capture Facility in order to reduce/avoid potential habitat loss wherever practicable as well as create space within the Mitigation and Enhancement Area for the retention of existing habitats or creation of new habitats. Additionally, work will be timed to avoid sensitive periods of the year for specific species, such as avoidance of bird nesting season.

Water voles present in the Site will be subject to a programme of relocation, being moved to newly created compensatory habitats within the Mitigation and Enhancement Area.

Capital dredging must be undertaken to ensure vessels can berth at the Proposed Jetty once constructed. Capital dredging will be undertaken using a backhoe dredging technique (involving the use of an excavator scooping bed material from its position mounted on a floating barge) as this will reduce the amount of disturbance to marine habitats including in the intertidal zone of the River Thames. Capital dredging should also occur outside of migratory periods for sensitive fish species.



### OPERATION PHASE IMPACTS AND MITIGATION

Changes in air quality as a result of operation of the Proposed Scheme may lead to significant effects on terrestrial biodiversity receptors. Air quality changes are unavoidable, with localised effects only. All other effects are unlikely to be significant in relation to biodiversity, both terrestrial and marine. Measures to control operational emissions will be set out in an Environmental Permit and be adhered to during the operation phase of the Proposed Scheme. An Outline Drainage Strategy has also been developed, presenting measures to prevent surface water drainage from having adverse effects on terrestrial marine biodiversity habitats and species.

Additionally, habitat creation both on and offsite is proposed to provide replacement habitats for species that will be lost due to the construction of the Carbon Capture Facility to provide both mitigation and enhancement. These are located within the Mitigation and Enhancement Area (onsite), the Biodiversity Net Gain Opportunity Area (offsite) and by fitting new structures within the River Thames with ecological enhancements, for example rope to mimic algae and marine plants.



## 8. CULTURAL HERITAGE

### OVERVIEW

The assessment of effects on cultural heritage evaluates the likely significant effects that the Proposed Scheme may have on above ground heritage assets, as well as below-ground heritage assets during construction and operation.

### RECEPTORS

The following sensitive receptors have been included in the assessment of effects on cultural heritage:

- designated (protected) above ground heritage assets, for example listed buildings;
- locally listed above ground heritage assets;
- non-designated above ground heritage assets, for example the Belvedere Power Station Jetty (disused); and
- previously unrecorded non-designated below-ground heritage assets (archaeological remains).

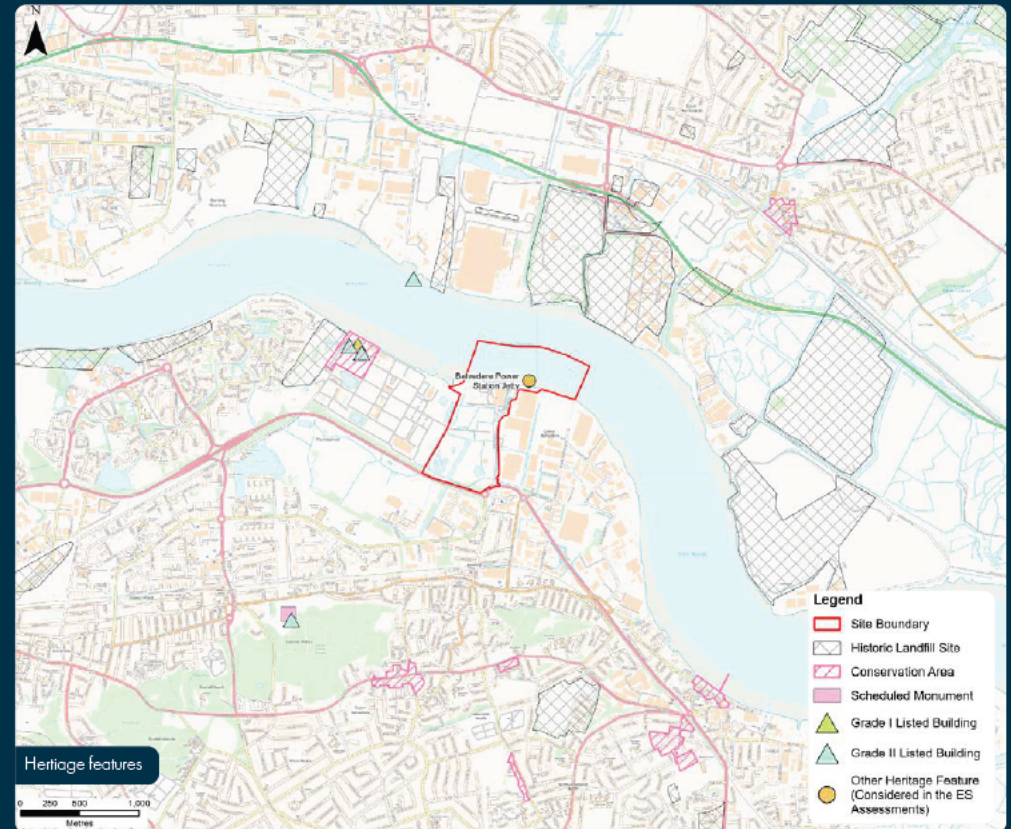
### CONSTRUCTION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the construction phase.

Should the Belvedere Power Station Jetty (disused) be demolished, an Historic England Level 2 Historic Building Recording will be undertaken prior to demolition. Level 2 recording comprises a descriptive record where the structure will be seen, described, and photographed. It will include a drawn record, photography and a written record. This will ensure that an accurate record of the Belvedere Power Station Jetty (disused) is archived with the Greater London Historic Environment Record and Archaeology Data Service for future research and understanding of heritage significance (value).

### OPERATION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the operation phase. It is considered that effects to potential submerged remains are uncertain at this time. However, any adverse effects would be mitigated by design adjustments to preserve in-situ, where feasible and warranted, or targeted excavation/watching brief to achieve preservation by record. No additional design, mitigation or enhancement measures are proposed as these will be delivered through the construction phase measures set out above.



## 9. TOWNSCAPE AND VISUAL IMPACT

### OVERVIEW

The assessment of effects on the townscape and visual receptors considers the likely significant effects that the Proposed Scheme may have on the local character, views experienced by sensitive receptors and vegetation cover during construction and operation.

### RECEPTORS

The following sensitive receptors have been included in the assessment of effects on townscape and visual:

- change of character and vegetation cover;
- change in local townscape character;
- change in character and views experienced from Accessible Open Land, for example the users of the Crossness Local Nature Reserve;
- change in views experienced from the local Public Rights of Way network, such as from footpaths and cycleways;
- change in views experienced from the local road network;
- change in views experienced from residential areas with views towards the Proposed Scheme; and
- trees, including groups of trees.

### CONSTRUCTION PHASE IMPACTS AND MITIGATION

The construction activities (including plant, cranes, machinery, and earthworks) associated with the Proposed Scheme may generate significant adverse effects for the townscape character, vegetation cover within the Site, and views from Accessible Open Land and the local Public Rights of Way network in the surrounding area. The effects on other sensitive receptors are not anticipated to be significant. Mitigation measures to minimise the effects on sensitive receptors include:

- the core Temporary Construction Compound will be located centrally within the Site to minimise their townscape and visual effects;
- lighting levels would be kept to a minimum necessary for security and safety; and
- construction area(s) would be kept tidy (e.g. free of litter and debris); and
- Construction Exclusion Zones will be established around trees with appropriate levels of arboricultural supervision where works are near trees, to avoid any effects to existing trees.

### OPERATION PHASE IMPACTS AND MITIGATION

Once the Proposed Scheme is operational, it is likely to be a dominant feature in views for users of Accessible Open Land and the local Public Rights of Way network in close proximity to the Site. Therefore, significant adverse effects are anticipated for changes in character, vegetation cover within the Site and visual amenity from Accessible Open Land, open spaces and the local Public Rights of Way network in proximity to the Site. The effects on other receptors are not anticipated to be significant adverse. Mitigation measures to limit the effects on sensitive receptors will be implemented. Examples of such measures are:

- the creation of a landscape buffer along the boundaries of the Site to minimise any potential visual effects;
- offsite access improvements as stated through a Landscape, Biodiversity, Accessibility and Recreation Delivery Strategy;
- a permanent diversion of Footpath 2 within the landscape buffer to minimise the view of the Site for users of this footpath; and
- incorporating additional tree planting to provide screening to







# 10. WATER AND FLOOD RISK

## OVERVIEW

The assessment evaluates the likely significant effects that the Proposed Scheme may have on the existing water environment and flood risk during the construction and operation phases.

## RECEPTORS

The following sensitive receptors have been included in the assessment of effects on the existing water environment and flood risk:

- main rivers, including the River Thames;
- ordinary watercourses, for example the Marsh Dykes;
- ponds;
- aquifers;
- groundwater abstractions;
- floodplain;
- people (site visitors, staff, local residents and users of adjacent third party land); and
- potable water (drinking water).

## CONSTRUCTION PHASE IMPACTS AND MITIGATION

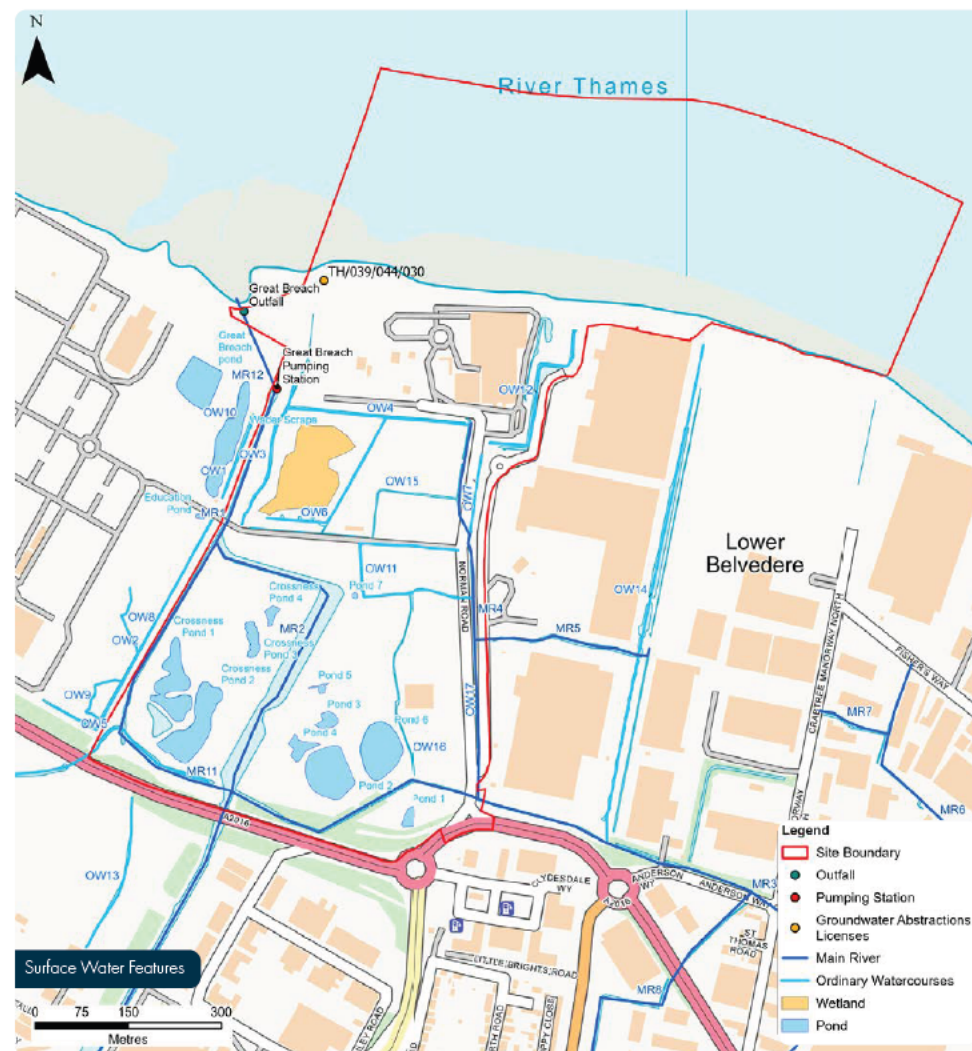
No significant effects are anticipated as a result of the construction phase in relation to the water

environment and flood risk. An Outline Code of Construction Practice has been prepared and will be implemented during the construction phase of the Proposed Scheme in order to mitigate effects. Measures set out in that document include:

- stockpiling of materials would be carried out away from surface water features;
- construction staff will be equipped with the necessary equipment, Personal Protective Equipment and substances to implement biosecurity control measures, including effective hygiene and sanitation practices;
- all the existing drains and sewers within the Site would be identified and labelled and measures implemented to prevent polluting substances from entering them; and
- a pollution prevention plan will be prepared to enable Site workers to rapidly manage and mitigate a pollution event should one occur during construction of the Proposed Scheme.

## OPERATION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the operation phase in relation to the water environment and flood risk. An Outline Drainage Strategy has been prepared and includes measures that will inform activities during the operation phase to aid in mitigating the risk of potential pollution and contamination to the



sensitive receptors. In addition, the detailed design of the Proposed Scheme will consider additional measures to ensure that the Proposed Scheme is safe from flooding – these are set out in the Flood Risk Assessment. This may include flood resistance measures for periods when high water levels are forecast in the River Thames and the construction

of attenuation ponds for managing surface water within the Site. Additionally, the ground level of land for the Carbon Capture Facility will need to be raised slightly above current ground level. This is to prevent inundation in the event of a breach of the river wall of the River Thames.



# 11. CLIMATE CHANGE

## OVERVIEW

The assessment of effects on climate change evaluates the likely significant effects that the Proposed Scheme may have on greenhouse gases during construction and operation as well as the likely significant effects of climate change on the Proposed Scheme.

Greenhouse gas emissions occur constantly and widely as a result of natural and human activity, including land use and land use change, energy consumption (e.g. fossil fuels, purchased energy from the grid and/or other sources) and industrial processes. The purpose of the Proposed Scheme is to capture CO<sub>2</sub> generated by Riverside 1 and Riverside 2, which will reduce greenhouse gas emissions being released to the atmosphere.

Climate resilience considers the likely significant effects of climate change on the Proposed Scheme to climate change during construction and operation, in particular from extreme weather events and long term climate change.

## RECEPTORS

The following sensitive receptors have been included in the assessment of effects on climate resilience and greenhouse gases:

- construction areas, including the Temporary Construction Compounds;
- staff, during construction and once operational;
- construction materials, plant and equipment;
- the Proposed Scheme; and
- the global atmosphere.

## CONSTRUCTION PHASE IMPACTS AND MITIGATION

During the construction phase, there are not anticipated to be any significant effects from extreme weather events and long term climate change on the Proposed Scheme. No additional mitigation measures are proposed for climate resilience during the construction phase. Whilst not significant, the construction phase will result in an increase in greenhouse gas emissions compared to existing greenhouse gas emissions at the Site and as such a series of mitigations measures will be considered:

- ensuring optimal performance of plant and equipment through correct and efficient operation, maintenance, and servicing of vehicle fleet to minimise emissions. Options will be considered for using efficient low emission plant, equipment and vehicles where possible (i.e. those using electricity or lower carbon fuels);
- transportation of materials will be optimised to minimise greenhouse gas emissions, including sourcing construction materials from local suppliers, making use of local waste management facilities where practicable and ensuring the construction programme considers requirements for onsite storage of materials and waste; and
- the specification of materials and products with a reduced carbon footprint.

## OPERATION PHASE IMPACTS AND MITIGATION

There are not anticipated to be any significant effects during the operation phase of the Proposed Scheme from extreme weather events and long term climate change. Mitigation measures such as the monitoring of power generation units and new electrical equipment to ensure the overheating risk and potential fire risk are managed will be implemented to reduce the potential for adverse effects. A maintenance programme will also be developed and implemented (to be included in the Operational Environmental Management Plan) which includes inspection of access routes particularly after storm or heavy rainfall events, and ensuring there is adequate ventilation and heating for staff.

The outcome of the greenhouse gas assessment for the operational phase is there will be a substantial decrease in greenhouse gas emissions on the Riverside Campus, having a significant beneficial effect. The selection of best available techniques for equipment and technology specifications will optimise carbon capture rates, aiding the Proposed Scheme to capture as much CO<sub>2</sub> as practicable and maintain, as a minimum, the expected 95% carbon capture rate.

# 12. EFFECTS ON PEOPLE AND COMMUNITIES

## OVERVIEW

The assessment of effects on people and communities evaluates the likely significant effects that the Proposed Scheme may have on local and regional socio-economics, population, health and land use during construction and operation.

The Proposed Scheme is located within the Belvedere Industrial Area and contains both Accessible Open Land and Non-Accessible Open Land. Consequently, the existing environment for people and communities is largely industrial broken up by an open area of field and ditch networks, all located adjacent the River Thames.

## RECEPTORS

The following sensitive receptors have been included in the assessment of effects on people and communities:

- terrestrial businesses;
- businesses that rely upon access to the River Thames;
- walkers and cyclists;
- terrestrial recreation;
- recreational users of the River Thames;
- human health, mental health and wellbeing; and
- economic receptors, including working age individuals and local businesses.







## CONSTRUCTION PHASE IMPACTS AND MITIGATION

After implementation of mitigation, significant adverse effects during the construction phase remain on the following sensitive receptors:

- Terrestrial business, namely Munster Joinery:
  - Walkers and cyclists;
  - England Coast Path;
  - National Cycle Network 1 (NCN1);
  - Footpath 2 (FP2);
  - Footpath 3 (FP3); and
  - Footpath 4 (FP4).
- Terrestrial recreation, including the:
  - Accessible Open Land.

Munster Joinery, a local business located within the Site Boundary is proposed to be demolished, and the land where it is currently situated is to be used as a core Temporary Construction Compound for the Proposed Scheme and then as part of the Carbon Capture

Facility. The Applicant has sought to reach an agreement with Munster Joinery UK Limited about identifying a suitable relocation site to mitigate potential job losses associated with the demolition of Munster Joinery.

Walkers and cyclists using routes through the Accessible Open Land within the Site and surrounding area have the potential to be affected by construction of the Proposed Scheme through temporary or permanent diversions. Users will be made aware of the diversions through clear signage on planned disruption and signage of any alternative routes. Appropriate alternative diversions would be provided. Ongoing engagement will also be undertaken with the local community throughout construction and information provided which may help to reduce uncertainty and stress relating to the potential effects of the Proposed Scheme.

During construction, there is potential for disruption to access, loss of amenity and permanent change to Accessible Open Land. Where practicable, those areas of the Accessible Open Land that fall within, or close to, the Site that are currently accessible to the public will remain so during construction.

Both the East Paddock and Stable Paddock would be permanently lost to the Proposed Scheme, meaning this resource would no longer be available for use as grazing; the Applicant will continue to engage with graziers to agree appropriate alternative arrangements during this period. Once operational, it is envisaged that the graziers will be able to utilise the Mitigation and Enhancement Area, to include reprovisioning of the stable block. Norman Road Field is included within the Site Boundary as part of the Mitigation and Enhancement Area. It would not be built upon and consequently would not be permanently lost; it would remain available for use the grazier when the Proposed Scheme is operational.

The residual effects on other sensitive receptors assessed are not anticipated to be significant adverse. Beneficial effects are anticipated for employment generation and economic contribution as a result of the Proposed Scheme.

## OPERATION PHASE IMPACTS AND MITIGATION

No significant effects (beneficial or adverse) are anticipated as a result of the operation phase. Whilst not significant, the Proposed Scheme will generate long term jobs once it is complete and operational, having a minor beneficial effect on the local economy. It is anticipated that once operational, the majority of the footpaths and cycle routes within the surround area will remain largely unaffected by the Proposed Scheme. Enhancements to footpaths as part of the Mitigation and Enhancement Area will, however, create opportunities to improve the overall experience of recreational users of the Accessible Open Land.

# 13. GEOLOGY, SOILS, MATERIALS AND WASTE

## OVERVIEW

The assessments of effects on geology, soils, materials and waste evaluates the likely significant effects that the Proposed Scheme may have on the below sensitive receptors during construction and operation.

The geology of the area largely consists of made ground, alluvium, London Clay Formation and Lambeth Group.

The operation and maintenance of all the existing facilities located within the Site does not use large quantities of consumables. These are typically limited to minor lighting, paint, fencing, together with the intermittent use of some bulk materials for routine maintenance. In the surrounding area commercial and industrial waste is generated by business and industrial activity. There are 1,356 permitted waste recovery sites in London and the South East, although total landfill capacity in London and the South East is forecast to reduce over the coming years.

## RECEPTORS

The following sensitive receptors have been included in the assessments of effects on geology, soils, materials and waste:

- human health;
- groundwater and surface water features within the Site, such as the River Thames, Norman Road Stream, and Great Breach Lagoon;
- below ground services (such as building foundations and existing pipelines and other services);
- ecological receptors including the Crossness Local Nature Reserve, ditches within the Site and the Inner Thames Marshes Site of Special Scientific Interest;
- natural and non-renewable material availability (i.e. materials that come from a finite source and cannot be easily replenished); and
- landfill capacity.

## CONSTRUCTION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the construction phase in relation to geology, soils, materials and waste. Ground investigations will be undertaken prior to the construction phase and will include sampling of terrestrial soils and surface water. Data obtained from the ground investigations will inform the detailed design for the Proposed Scheme. The Applicant has developed an Outline Site Waste Management Plan which sets out how the Proposed Scheme will maximise recovery, reuse, and recycling during construction. Importantly, Riverside 1 and/or Riverside 2 would be used for the treatment of residual wastes; subject to waste composition and acceptance criteria and operational availability.

## OPERATION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the operation phase in relation to geology, soils, materials and waste. Existing onsite waste prevention methods, minimisation and management processes and procedures that are in place for Riverside 1 and Riverside 2 (once operational) will be implemented to drive good practice behaviour as set out by the Waste Hierarchy. The Waste Hierarchy puts top priority to waste prevention, followed by reuse, recycling, recovery and finally disposal. As above, Riverside 1 and/or Riverside 2 would be used for the treatment of residual wastes; subject to waste composition and acceptance criteria and operational availability.



# 14. LAND AND MARINE TRANSPORT

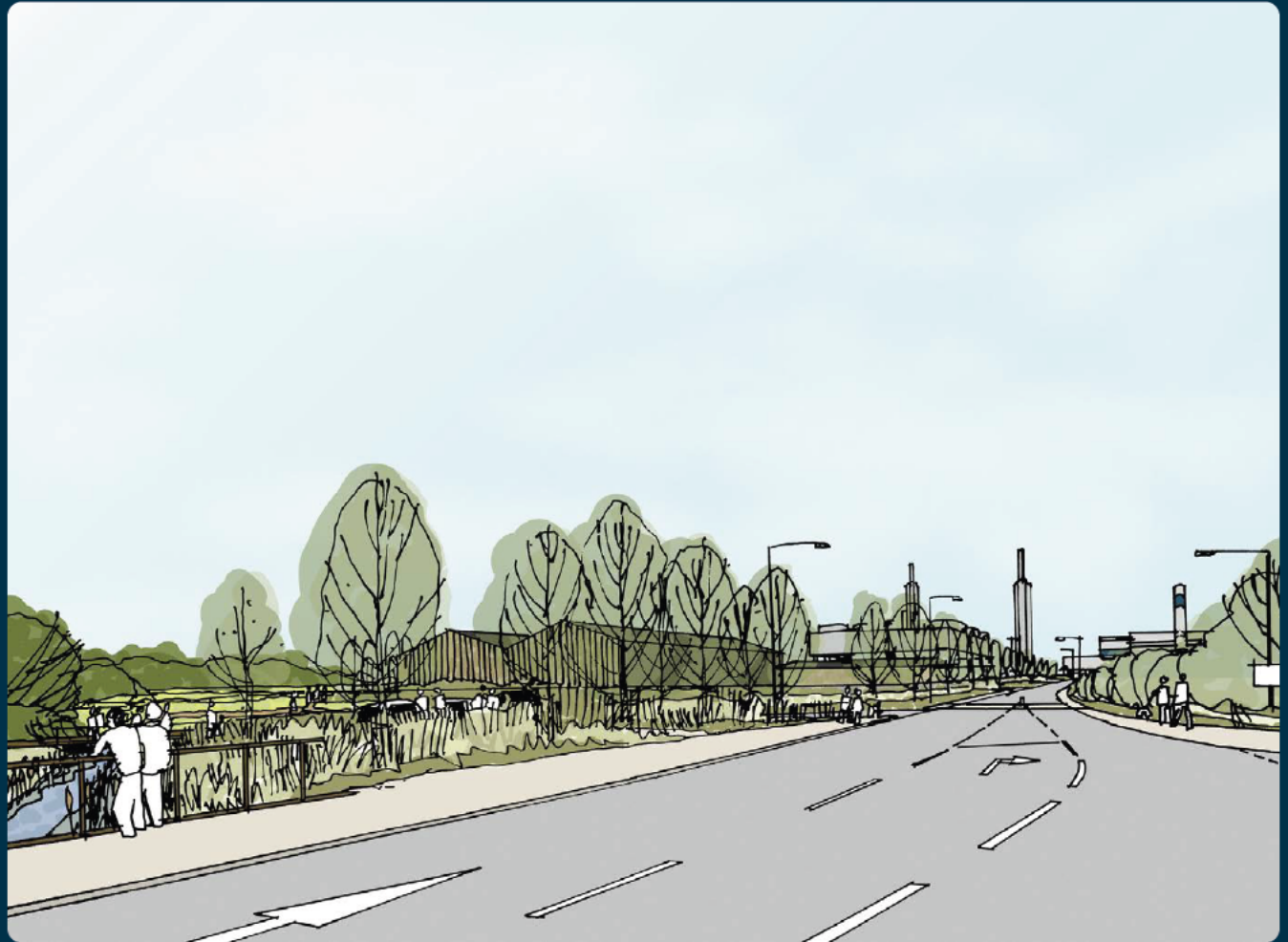
## OVERVIEW

The assessment of effects on land and marine transport considers likely effects that the Proposed Scheme may have on both motorised and non-motorised users of the highway network and on the vessels using the River Thames during construction and operation.

## RECEPTORS

The following sensitive receptors have been included in the assessment of effects on landside transport and marine navigation:

- non-motorised users (pedestrians and cyclists);
- motorised users;
- construction and operation phase vehicles associated with the Proposed Scheme;
- construction and operation phase vessels associated with the Proposed Scheme;
- marine vessels not associated with the Proposed Scheme, including cargo vessels, tankers, passenger vessels, and recreational vessels;
- Cory tugs and barges associated with Riverside 1 (and future Riverside 2);
- existing infrastructure (e.g. the Middleton Jetty and Thames Water Jetty); and
- the Proposed Jetty.





## CONSTRUCTION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the construction phase for land or marine transport. A Framework Construction Traffic Management Plan has been prepared by the Applicant and sets out measures to mitigate construction effects on the local road network and other sensitive receptors. Additional risk control measures have been identified for the construction phase in relation to marine transport, including the use of radio frequencies to provide a source of live updates and information for users of the River Thames, and to provide a means for vessel crew to communicate with other vessels and shore stations. A minimum passing distance of 50m from Marine Works will also be enforced to all passing vessels in addition to a requested speed reduction to six knots or less.

## OPERATION PHASE IMPACTS AND MITIGATION

No significant effects are anticipated as a result of the operation phase for landside or marine transport. The Applicant intends to update the existing travel management strategy which is in place for Riverside 1 (and which will be put in place for Riverside 2). The travel management strategy includes specific measures designed to encourage staff and visitors to travel by more sustainable and active transport options and will expand to cover Riverside 2 and the Proposed Scheme. Design and operational control measures have been included for the Proposed Jetty, including defining operational limits of uncontrollable factors (wind, visibility, height of tide) to ensure safe and efficient travel.

# 15. MAJOR ACCIDENTS AND DISASTERS

## OVERVIEW

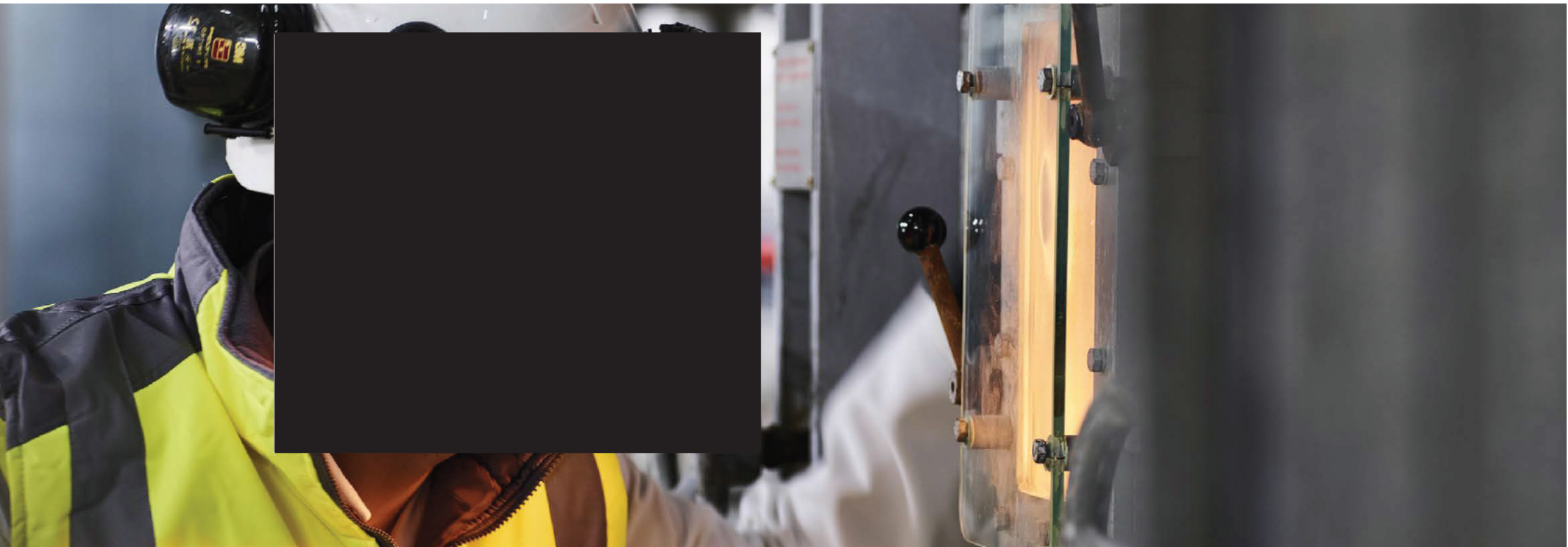
The assessment of effects on major accidents and disasters evaluates the likely significant effects that the Proposed Scheme may have on the sensitive receptors identified below, during construction and operation.

A major accident is an event that threatens serious damage to human health and/or the environment, and a disaster is a naturally occurring phenomenon such as an extreme weather event.

## RECEPTORS

The following sensitive receptors have been included in the assessment of effects on major accidents and disasters:

- members of the public and local communities;
- infrastructure and the built environment;
- the natural environment including ecosystems;
- the historic environment; and
- the interaction between the factors above.





## POTENTIAL MAJOR ACCIDENTS AND DISASTERS EFFECTS IN THE CONSTRUCTION PHASE AND ASSOCIATED MITIGATION

Through consideration of environmental consequence, likelihood of occurrence and planned design and mitigation, three accidents and disaster events were identified as being of a risk of occurring during the construction phase. These are: marine transport accidents, workers striking underground utilities or equipment being dropped from height. Mitigation measures will include:

- constructing the Proposed Scheme in accordance with all relevant standards and systems;
- communication of construction information to other river/road users as well as proposed speed reductions;
- construction areas are to be swept with a cable avoidance tool prior to breaking ground to reduce the risk of striking underground services/utilities; and
- the England Coast Path (FP3/NCN1) to be temporarily closed when plant, equipment and materials are being moved towards the Proposed Jetty.

In addition, likely marine navigation hazards and associated mitigation measures are set out in a Preliminary Navigation Risk Assessment. The document recommends further analysis on large passing vessels to better understand the detailed design requirements for the Proposed Jetty. This will be developed further prior to construction of the Proposed Scheme.

Based on the assumptions and mitigation measures put forward by other relevant topics, it is considered that the identified major accidents and disaster events would all be managed to be As Low As Reasonably Practicable.

## POTENTIAL MAJOR ACCIDENTS AND DISASTERS EFFECTS IN THE OPERATION PHASE AND ASSOCIATED MITIGATION

Through consideration of environmental consequence, likelihood of occurrence and planned design and mitigation, 16 potential major accidents and disasters events have been identified for the operation phase relating to pollution, including loss of contaminated materials into the soil/groundwater, transport, including a loss of containment event resulting in large scale release of liquefied CO<sub>2</sub>, and industrial and urban accidents, including a fire event at Riverside 1 or Riverside 2. Mitigation measures implemented to target these events include:

- pollution: materials are to be stored in appropriate containers with correct secondary containment on the Site;
- transport: risk will be alleviated through the use of speed reductions on access roads; and
- industrial and urban: the current firewater system in place for Riverside 1 and once operational Riverside 2 will extend to contain and mitigate fires associated with the Proposed Scheme, reducing the risk of industrial and urban accidents.

In addition to the above, an Outline Emergency Response and Preparedness Plan has been developed and will be further details for use by Site workers. This document sets out comprehensive measures necessary to prevent major accidents and limit their consequence on human health and the environment. Once operational, this document will be regularly reviewed to account for any changes in operations processes associated with the Proposed Scheme.

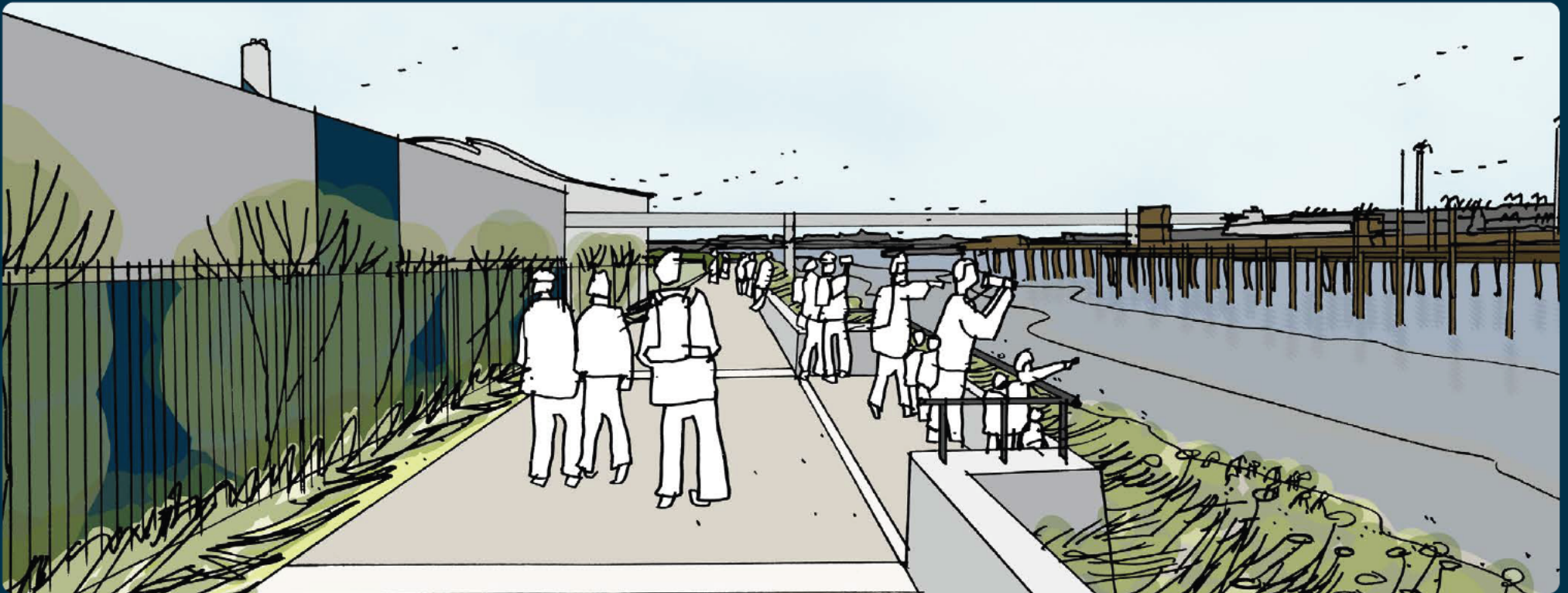
Safety considerations have also informed the design of the Proposed Scheme. Specifically, the buffer storage for the liquefied CO<sub>2</sub> is proposed to be located within the centre of the Carbon Capture Facility, in order to keep risk As Low As Reasonably Practicable.

Based on the assumptions and mitigation measures put forward in other relevant chapters, it is considered that the identified major accidents and disaster events would all be managed to be As Low As Reasonably Practicable.

## 16. CUMULATIVE EFFECTS

The environmental assessment has also considered how different effects from the Proposed Scheme might be experienced in combination with each other (these effects are called intra-project effects), along with those of other related developments nearby (within 10km) (these effects are called inter-project effects). The latter assessment considered potential developments whose impacts might intensify, broaden or prolong those of the Proposed Scheme, based on available information, and whether significant cumulative effects would be likely.

Significant effects anticipated on the users of Accessible Open Land during construction and operation, the mitigation measures described in **Section 9** and **Section 12** will help to minimise these effects. Once operational, the enhancement generated through the Mitigation and Enhancement Area outlined above in Section 3 will positively contribute to reducing cumulative effects and enhancing the recreational experience for users. There are no other significant effects on sensitive receptors during both the construction and operational phase



## 17. BIODIVERSITY NET GAIN

Biodiversity Net Gain is increasingly being incorporated into planning and development policies to promote environmental sustainability and conservation efforts. Biodiversity Net Gain is an environmental approach aimed at ensuring that a proposed development contributes positively to biodiversity. The idea is to offset negative effects on biodiversity caused by construction or land use changes by delivering a net gain in biodiversity elsewhere whilst also creating a measurable and lasting improvement in the habitat for wildlife compared to the pre-development state.

Two Biodiversity Net Gain areas are proposed to be brought forward, one onsite (Mitigation and Enhancement Area) and one offsite (Biodiversity Net Gain Opportunity Area). The creation of both of these areas will result in at least a 10% increase in biodiversity features, as compared to before their implementation, achieving Biodiversity Net Gain. The performance of the measures implemented both on and offsite will be monitored and maintained in accordance with the Landscape, Biodiversity, Access and Recreation Delivery Strategy.

The Mitigation and Enhancement Area is located in the southern area of the Site, comprising a substantial portion of the Crossness Local Nature Reserve and Norman Road Field. Here it is proposed that new floodplain grazing marsh be created as well as enhancing the existing grazing marsh within the Reserve. Seeding, and long term management, will enhance existing and create new grassland. A woodland management regime will also aid in enhancing the existing woodland barrier along the A2016 Eastern Way/Picardy Manorway.

The Biodiversity Net Gain Opportunity Area is located within land at the former Thamesmead Golf Course. Landscaping plans for this area are yet to be finalised, however it has been proposed that the disused gravel car park be converted into open mosaic habitat (an area of patchwork vegetation containing sparsely covered and densely vegetated earth) and reedbed habitat in order to boost the ecological value of the area. This would be delivered working closely with Peabody, the landowner of the Thamesmead Golf Course.





## 18. WHAT HAPPENS NEXT?

An application for a DCO has been submitted to the Planning Inspectorate, who will manage the Application on behalf of the Secretary of State for the Department of Energy Security and Net Zero.

As described in **Chapter 1**, once the Planning Inspectorate confirms that the Application has been accepted for examination, the pre-examination phase will begin. During this phase interested parties can register their interest and make comments on the Proposed Scheme to the Planning Inspectorate. The pre-examination phase ends following the Preliminary Meeting (which deals with procedural issues), which interested parties will be invited to attend. The Planning Inspectorate will appoint an Inspector(s) (the Examining Authority) on behalf of the Secretary of State.

The examination period is held over a period of up to six months, during which time a series of hearings are held to help address the key issues. Interested parties are able to make written submissions, may attend the hearings and ask questions. Following the conclusion of the examination the Examining Authority has three months to provide a recommendation to the Secretary of State on whether the DCO should be granted. The Secretary of State then has a further three months to come to a decision.

**2011**

Riverside 1  
EFW facility  
opened

**2023**

Construction of  
Riverside 2 EFW starts

**2023**

Q4 Statutory  
consultation launches on  
decarbonisation project

**2025**

Target date for  
DCO approval

**2026**

Target date for  
construction on the  
Carbon Capture Facility

**2030**

Phase 2 of Carbon  
Capture Facility is  
operational  
(if brought forward  
separately from  
Phase 1)

**2020**

Riverside 2 granted a  
Development Consent  
Order (DCO)

**2023**

Q2 Non-statutory  
consultation launches on  
decarbonisation project

**2024**

Q1 DCO submission  
for decarbonisation  
project

**2026**

Riverside 2 EFW facility  
construction target  
completion

**2028**

Phase 1 of Carbon  
Capture Facility is  
operational





## CONTACT US

If you'd like any more information or have any questions about the project, you can contact us:



**Find out more on our website:**

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