



# FRAMEWORK CONSTRUCTION TRAFFIC MANAGEMENT PLAN: 7.7

DECARBONISATION

## Cory Decarbonisation Project

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## QUALITY CONTROL

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## 1. INTRODUCTION

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### 1.1. OVERVIEW

1.1.1. This **Framework Construction Traffic Management Plan (Framework CTMP) (Document Reference 7.7)** has been prepared for the Cory Decarbonisation Project, to be located at Norman Road, Belvedere in the London Borough of Bexley (LBB; National Grid Reference/NGR 549572, 180512). The following figures which show the location of the Cory Decarbonisation Project are also available in **Volume 2** of the **Environmental Statement (ES) (Document Reference 6.1)**:

- **Figure 1-1: Site Boundary Location Plan (Volume 2)**; and
- **Figure 1-2: Satellite Imagery of the Site Boundary Plan (Volume 2)**.

1.1.2. The Applicant intends to construct and operate the Proposed Scheme to be linked with the River Thames. It comprises of the following key components, which are described below, and further detail is provided within **Chapter 2: Site and Proposed Scheme Description (Volume 1)**:

- The Carbon Capture Facility (including its associated Supporting Plant and Ancillary Infrastructure): the construction of infrastructure to capture a minimum of 95% of carbon dioxide (CO<sub>2</sub>) emissions from Riverside 1 and 95% of CO<sub>2</sub> emissions from Riverside 2 once operational, which is equivalent to approximately 1.3Mt CO<sub>2</sub> per year. The Carbon Capture Facility will be one of the largest carbon capture projects in the UK.
- The Proposed Jetty: a new and dedicated export structure within the River Thames as required to export the CO<sub>2</sub> captured as part of the Carbon Capture Facility.
- The Mitigation and Enhancement Area: land identified as part of the **Outline Landscape, Biodiversity, Access and Recreation Delivery Strategy (Document Reference 7.9)** 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 (LNR).
- Temporary Construction Compounds: areas to be used during the construction phases for activities including but not limited to: office space, warehouses, workshops, open air storage and car parking, as shown on the **Works Plans (Document Reference 2.3)**. These include the core Temporary Construction Compound, the western Temporary Construction Compound and the Proposed Jetty Temporary Construction Compound.
- Utilities Connections and Site Access Works: the undergrounding of utilities required for the Proposed Scheme in Norman Road and the creation of new, or the improvement of existing, access points to the Carbon Capture Facility from Norman Road.

1.1.3. Together, the Carbon Capture Facility (including its associated Supporting Plant and Ancillary Infrastructure), the Proposed Jetty, the Mitigation and Enhancement Area, the Temporary Construction Compounds and the Utilities Connections and Site Access Works are referred to as the 'Proposed Scheme'. The land upon which the Proposed Scheme is to be located is referred to as the 'Site' and the edge of this land referred to as the 'Site Boundary'. The Site Boundary represents the Order Limits for the Proposed Scheme as shown on the **Works Plans (Document Reference 2.3)**.

## 1.2. REPORT PURPOSE & OBJECTIVES

1.2.1. The purpose of this document is to identify potential measures to be implemented to control the routing and minimise, where practicable, the effects of Heavy Goods Vehicles (HGV) on the surrounding road network, local communities, and the environment during construction of the Proposed Scheme. The effects are assessed in **Chapter 18: Landside Transport (Volume 1) (Document Reference 6.1)** and **Appendix 18-1: Transport Assessment (Volume 3) (Document Reference 6.3)** of the **ES**.

1.2.2. This document also contains a framework for the implementation of travel planning measures for the movement of construction staff to and from the Site over the duration of the construction works. These effects are also assessed in **Chapter 18: Landside Transport (Volume 1) (Document Reference 6.1)** and **Appendix 18-1: Transport Assessment (Volume 3) (Document Reference 6.3)** of the **ES**.

1.2.3. The objectives of this Framework CTMP are to:

- outline the indicative construction programme for the Proposed Scheme;
- minimise the impact of the movement of construction-related vehicles on the local community and road network;
- encourage construction staff to use active modes, public transport or car/van sharing to travel to and from the Site;
- encourage construction staff that would potentially drive across the Dartford Crossing and through the M25/A282 Junction 1a to travel outside the peak travel periods;
- minimise emissions from construction vehicle movements;
- manage car parking on site to ensure demand does not exceed supply; and
- provide safe and suitable Site access during the construction phase.

1.2.4. This document will be developed into a full CTMP upon the appointment of the Contractor(s), to be in substantial accordance with this framework, as secured by a DCO requirement. The full CTMP will draw from the range of potential measures set out in this framework.

- 1.2.5. It is important to recognise that at this planning stage information is not available on the origin of the construction staff. The number of construction staff travelling to the Site will vary substantially along with their travel patterns, depending on the skillsets required during each construction phase. General construction skills can typically be sourced more locally, whilst more specialist skills could result in a larger travel to work catchment as well as some construction staff temporarily staying in local accommodation.
- 1.2.6. Therefore, the full CTMP will be a 'live' document that will be regularly reviewed and updated to respond to changes in the number, distribution and travel patterns of the construction staff over the duration of the construction programme.
- 1.2.7. All the numbers presented in this document are estimates based on preliminary design and construction proposals. As the appointed Contractor(s) develops detailed delivery plans, these estimates will be refined and used in the preparations of the full CTMP.

### **1.3. REPORT STRUCTURE**

- 1.3.1. The remainder of this document is structured as follows:
- **Section 2** – describes the local setting and considerations, including location context, local access and key assumptions applied to date; and
  - **Section 3** – describes the potential measures that may be implemented to minimise traffic (HGV and workforce) impacts during construction.

## 2. LOCAL CONTEXT & CONSIDERATIONS

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### 2.1. INTRODUCTION

- 2.1.1. This section provides an overview of the site location, the construction compounds and access to the Site. It then outlines the key construction considerations and assumptions, contained within **Chapter 18: Landside Transport (Volume 1) (Document Reference 6.1)** and **Appendix 18-1: Transport Assessment (Volume 3) (Document Reference 6.3)** of the **ES**, upon which the potential measures (covered in **Section 3**) are based .

### 2.2. SITE LOCATION

- 2.2.1. The Site is located immediately south of the River Thames, on Norman Road and within the Belvedere Industrial Area, which is land designated as a Strategic Industrial Location<sup>1</sup>. The Belvedere Industrial Area comprises of a number of industrial estates. The key highway links that are likely to be subject to daily traffic flow changes resulting from the construction period, which form the Study Area, are shown in **Figure 18-1: Landside Transport Study Area (Volume 2)** of the **ES (Document Reference 6.2)**.

### 2.3. PROPOSED WORKS

#### TEMPORARY CONSTRUCTION COMPOUNDS

- 2.3.1. Construction works will take place across the Site as required. However, there are three areas of focus proposed for construction related activities: two temporary construction compounds designated for terrestrial works, and one specifically for the construction activities related to the Proposed Jetty and Belvedere Power Station Jetty (disused), shown on the **Works Plans (Document Reference 2.3)**.

#### THE CORE TEMPORARY CONSTRUCTION COMPOUND

- 2.3.2. The core Temporary Construction Compound will be located centrally within the Site, within the Carbon Capture Facility component.
- 2.3.3. The core Temporary Construction Compound will be used during construction for uses including but not limited to, construction activities, site offices, welfare, warehouses, workshops, open air storage and car parking. The core Temporary Construction Compound will be located across Borax North, Borax South, Creekside, Munster Joinery and Gannon land parcels. These land parcels, other than Munster Joinery, are currently in use as part of the construction of Riverside 2. This is beneficial in that these sites are already set up, surfaced and have utilities connections (drainage, water and power). Additionally, there are appropriately made, existing accesses from Norman Road.



- 2.3.4. Site clearance, levelling and ground preparation works for the Munster Joinery land parcel may be undertaken to provide a suitable working compound if the existing ground and surface is found to be inadequate.
- 2.3.5. Following completion of the construction works, the land in the core Temporary Construction Compound will be utilised as part of the Caborn Capture Facility.
- 2.3.6. Designated Contractor(s) car parking will be focussed on the core Temporary Construction Compound.

### **THE WESTERN TEMPORARY CONSTRUCTION COMPOUND**

- 2.3.7. The western Temporary Construction Compound will be utilised to support the construction of flue gas ducting from Riverside 2, which borders the southern, western and partial northern perimeters of Riverside 2. The western Temporary Construction Compound can be accessed utilising the Riverside 2 internal access roads (which are currently under construction) and by a new ditch crossing.
- 2.3.8. Following completion of construction works most of the western Temporary Construction Compound will be reinstated to its prior use. A small section along the eastern border of the compound, will be utilised for the Flue Gas Supply Ductwork.

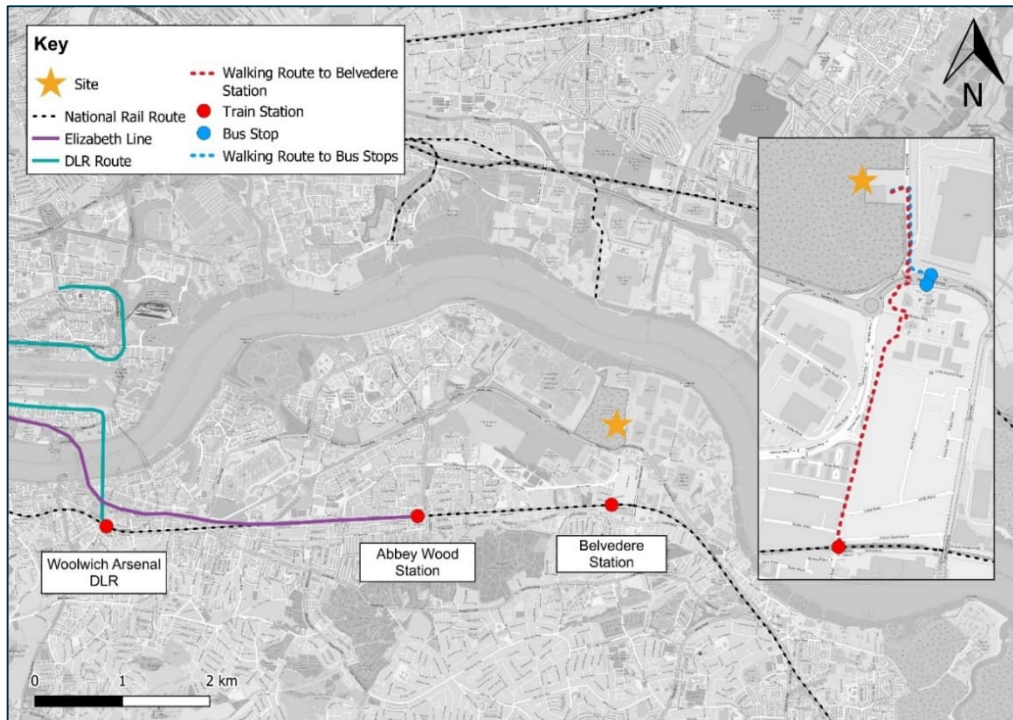
### **PROPOSED JETTY TEMPORARY CONSTRUCTION COMPOUND**

- 2.3.9. The Proposed Jetty Temporary Construction Compound will be used to facilitate construction activities related to the Proposed Jetty and Belvedere Power Station Jetty (disused), specifically to support construction of the Access Trestle for the Proposed Jetty.
- 2.3.10. The Proposed Jetty Temporary Construction Compound will be accessed via the Iron Mountain Records Storage and Asda Access Road, which will remain accessible to existing businesses throughout the construction period.
- 2.3.11. Following completion of the construction works of the Proposed Scheme, the Proposed Jetty Temporary Construction compound will be reinstated to its prior use but will be available for maintenance access during the operation phase. However, the Applicant is seeking permanent rights to utilise part of this land in the future for any required maintenance works to the Proposed Jetty, as shown on the **Land Plans (Document Reference 2.2)**.

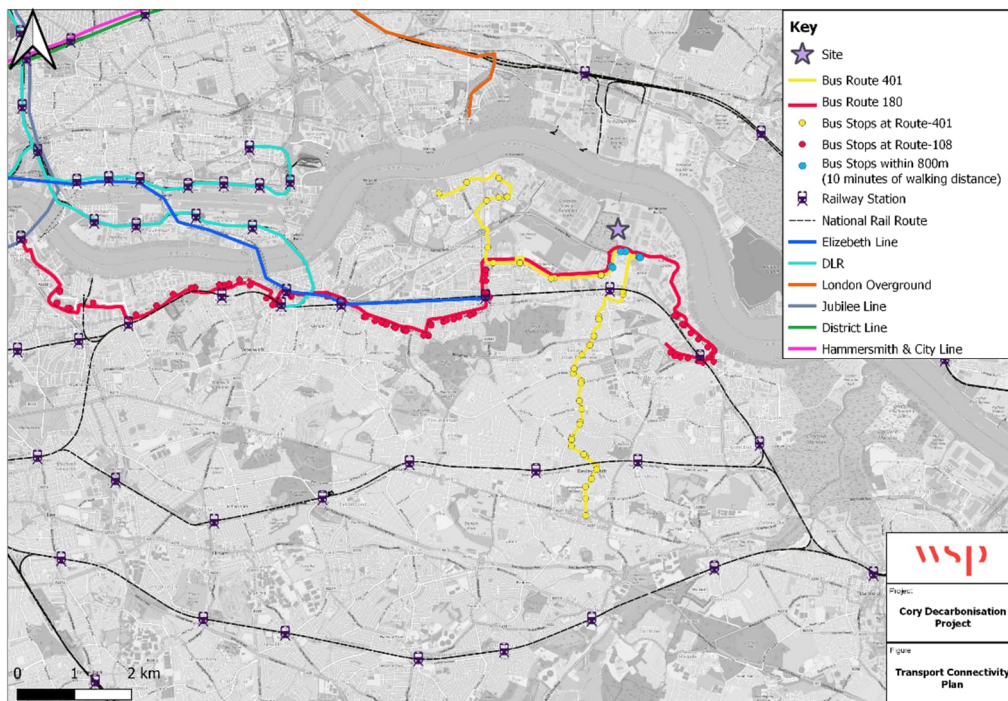
## **2.4. CONSTRUCTION SITE ACCESSIBILITY**

- 2.4.1. The purpose of this section is to set out the accessibility of the construction compounds by HGV construction vehicles and construction staff. The Site location, its proximity to existing transport networks and the standard of the transport networks has the biggest influence on travel patterns. This section demonstrates that the Site is accessible by appropriate standard of roads for construction HGV access and is well-located for construction staff to be able to access and egress the Site by non-car modes.

2.4.2. An immediate site accessibility plan is provided in **Figure 1**, with a wider context connectivity plan provided in **Figure 2**. A description of the Site accessibility by mode is provided in the following sections.



**Figure 1 - Site Accessibility Plan**



**Figure 2 - Wider Site Accessibility Plan**

## ACTIVE TRAVEL

- 2.4.3. The Site will be accessible on-foot and by bicycle for construction staff living or temporarily staying locally within the surrounding area and as part of a longer linked trip (by public transport).
- 2.4.4. Norman Road has a footway that extends along its eastern side from the A2016 Picardy Manorway/Norman Road signalised junction up to the Riverside 1 and Riverside 2 (under construction) entrance. At the southern end of Norman Road, there is a signalised Toucan crossing which provides onward active travel connectivity to the east (towards the eastbound bus stop on the A2016 Picardy Manorway), to the south (towards Belvedere Park, the westbound bus stop on the A2016 Picardy Manorway and Belvedere Railway Station via Norman Road/Yarnton Road) and to the east (facilitating access to the Crossness LNR via Footpath 2 (FP2)).
- 2.4.5. The surrounding network is typified by good, wide, lit footways adjacent to the major carriageways (A2016 Picardy Manorway, A2016 Eastern Way, Yarnton Way, B253 Picardy Manorway, A2016 Bronze Age Way, Anderson Way) which fosters an environment that is conducive to active travel.
- 2.4.6. Suitable crossing facilities (signalised crossings across multi-lane carriageways and uncontrolled crossings of single carriageways), with dropped kerbs and tactile paving, are provided at key locations and on desire lines to support movements to and from the local facilities and residential areas surrounding the Site, thereby providing opportunities for journeys to be undertaken to and from the Site on-foot.
- 2.4.7. On-carriageway cycle lanes (delineated by white lining) are present along both the eastern and western sides of Norman Road. The northbound on-road cycle lane starts approximately 100m north of the A2016 Picardy Manorway/Norman Road signalised junction and extends for approximately 400 metres. After this, cyclists are taken off carriageway and cross (uncontrolled priority with dropped kerbs) to the adjacent side of Norman Road towards the shared-use path.
- 2.4.8. The England Coast Path (FP3/NCN1) routes through the Site, following the southern edge of the River Thames. This offers a traffic-free cycle route providing connectivity to Thamesmead to the west and Erith to the east and other destinations further afield along the River Thames corridor.
- 2.4.9. A wide range of areas south of the River Thames can be accessed from the Site within a 25-minute cycle, including Long Reach, Old Bexley, East Wickam, Plumstead and Royal Arsenal West. Importantly, both Belvedere Station and Abbey Wood Station – both of which offer a number of regular services – can be accessed from the Site within a 10–15-minute cycle.

## Accessibility

- 2.4.10. **Figure 18-3: Walking Accessibility (Volume 2)** illustrates an accessibility plot showing a 25 minute (2.0km; based upon a typical walking speed of 4.8kph) walking catchment from the Site, whilst **Figure 18-4: Cycling Accessibility (Volume 2)** illustrates an accessibility plot showing a 25 minute (8.0km; based upon a cruising cycling speed of 19.2kph) cycling catchment from the Site.

## **PUBLIC TRANSPORT**

### Bus Routes

- 2.4.11. The closest bus stops to the Site are located on the A2016 Picardy Manorway, approximately 350 metres from the main construction site, which translates to a 5 minute walk. Both bus stops are serviced by the 180, 401 and school service 601, all operated by Transport for London (TfL), which provide connectivity to Greenwich, Woolwich, Plumstead, Abbey Wood, Erith Thamesmead, Belvedere and Bexleyheath as well as Belvedere Station and Abbey Wood Station which connect the Site to the London Underground Network as well as to National Rail services.
- 2.4.12. **Table 1** provides a summary of the available bus services. As the 601 service is a school bus service, this has been excluded from the analysis as it would not be available to future construction staff.



**Table 1 - Bus Timetable Information**

Direction	Frequency	Day of the Week		
		Weekday	Saturday	Sunday
180 Towards North Greenwich Station (Westbound)	First Bus	04:30	04:30	06:15
	Daytime Frequency	Every 8-12- minutes	Every 8-12- minutes	Every 15- minutes
	Last Bus	23:46	23:46	23:46
180 Towards Erith Quarry / Fraser Road (Eastbound)	First Bus	05:06	05:06	07:25
	Daytime Frequency	Every 8-12- minutes	Every 8 to 11- minutes	Every 15- minutes
	Last Bus	01:01	01:01	01:01
401 Towards Thamesmead Town Centre (Northbound)	First Bus	06:08	06:08	07:30
	Daytime Frequency	Every 15- minutes	Every 15- minutes	Every 30- minutes
	Last Bus	00:25	00:25	00:25
401 Towards Bexleyheath Clock Tower (Southbound)	First Bus	05:40	05:40	06:58
	Daytime Frequency	Every 15- minutes	Every 15- minutes	Every 30- minutes
	Last Bus	23:55	23:55	23:55

- 2.4.13. The frequent 180 and 401 bus services arrive early in the morning and continue late into the evening, covering times before and after the assumed construction hours (covered in **Section 2.5**) and therefore both services provide a viable and attractive mode of travel for construction staff, particularly during winter months when active travel options may be less favourable.
- 2.4.14. Onward connectivity to wider locations, such as Dartford, are achievable via interchange (180 service to Erith followed by 428 service to Bluewater); however, there are direct rail links offering frequent services with more competitive journey times, as described in the following section.

### Railway/Underground/DLR

- 2.4.15. The Site is well located to be accessed by National Rail, London Underground and Docklands Light Rail (DLR) services. Belvedere Station is an approximate 17 minute walk from the Site on Norman Road and provides frequent services to London Cannon Street and Dartford. Stations along the route provide excellent interchange connectivity to a wide range of destination across London and beyond, making public transport a viable and attractive option for construction staff.
- 2.4.16. From Abbey Wood Station (one stop and a 3-minute journey time west of Belvedere Station) construction staff can access the Elizabeth Line, which provides frequent services to key destinations across central and west London and terminating at Reading.
- 2.4.17. From Woolwich Arsenal (a 9-minute train journey from Belvedere Station) the DLR is accessible providing an additional frequent public transport option.
- 2.4.18. The access provided by Belvedere Station to a wide number of transport interchanges across London and beyond means the site is highly accessible by frequent and attractive public transport. **Table 2** presents the information associated with the local railway stations including train services to key destinations and their typical frequency.

**Table 2 - Train Service Information**

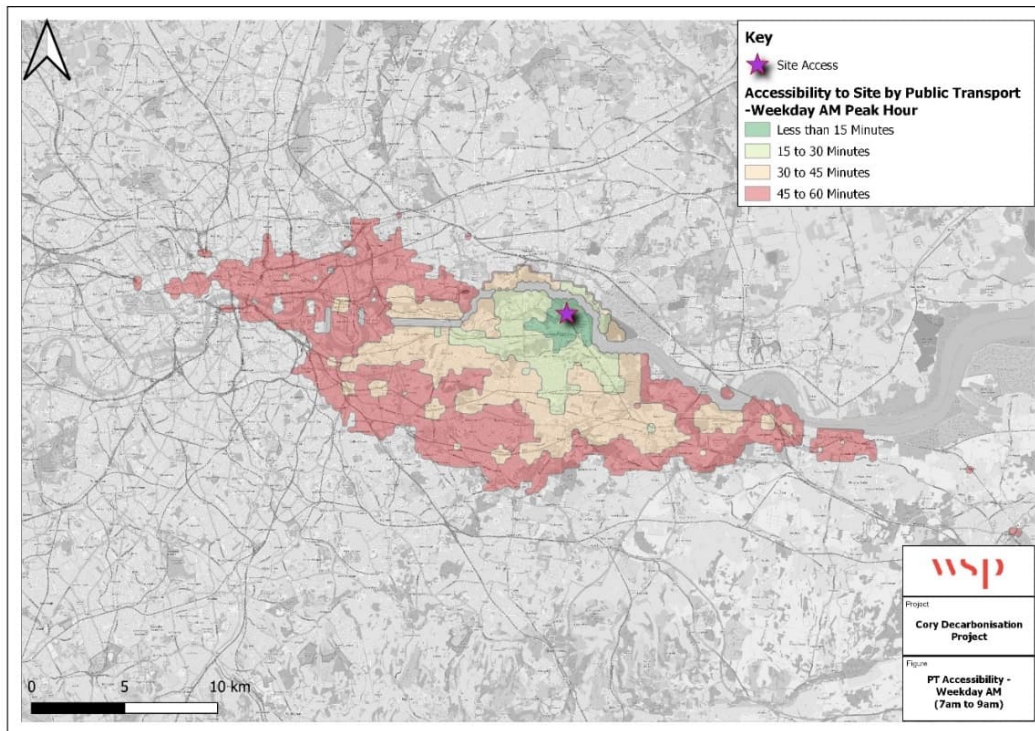
	<b>Belvedere Railway Station</b>	<b>Abbey Wood Railway Station</b>
<b>Managed By</b>	Southeastern	TfL
<b>Fare Zone</b>	5	4
<b>Passenger Service Operators</b>	Thameslink (National Rail) Southeastern (National Rail)	Elizabeth Line (TfL) Thameslink (National Rail) Southeastern (National Rail)
<b>Service Information for Direct Trains</b>  <b>[Key Destination]</b> <b>[Approximate Journey Time]</b> <b>[Trains per Hour]</b>	<p><b>London Cannon Street</b> 40-minute journey 4 trains per hour</p> <p><b>Dartford</b> 11-minute journey 2 trains per hour</p> <p><b>Eltham</b> 27-minute journey 2 per hour</p> <p><b>Gravesend</b> 29-minute journey 2 per hour</p>	<p><b>London Cannon Street</b> 35-minute journey 4 trains per hour</p> <p><b>Luton</b> 1 hour and 33-minute journey 2 trains per hour</p> <p><b>Gravesend</b> 31-minute journey 2 trains per hour</p> <p><b>Maidenhead</b> 1 hour and 10-minute journey 4-5 trains per hour</p> <p><b>Reading</b> 1 hour and 23-minute journey 2-3 trains per hour</p> <p><b>Heathrow Terminal 4</b> 1 hour and 1-minute journey 4 trains per hour</p>

2.4.19. Importantly, rail services from both stations start early in the morning and continue late into the evening, covering times before and after the assumed construction hours (covered in **Section 2.5**), and therefore provides a viable and attractive mode of travel for construction staff, particularly during winter months when active travel options may be less favourable.

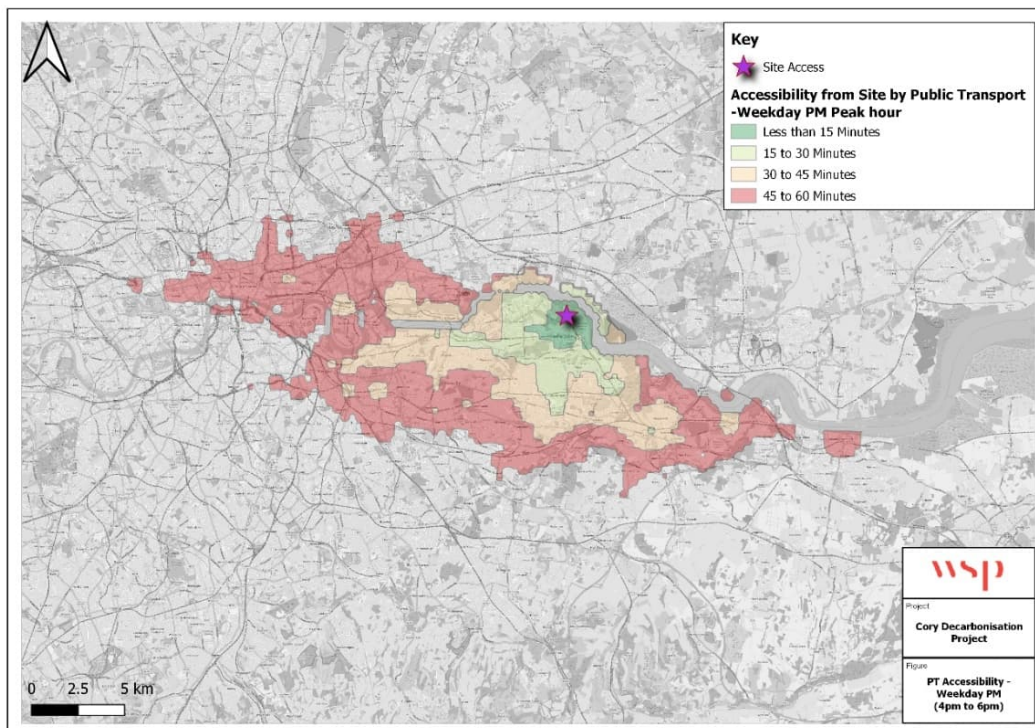
**Accessibility**

2.4.20. Taking into consideration the public transport services available from the Site (identified in **Table 1** and **Table 2**), accessibility plots have been produced demonstrating the catchment area within a 60-minute journey. **Figure 3** indicates the inbound accessibility (to the Site) during the morning, whilst **Figure 4** provides the outbound accessibility (from the Site) during the evening to align with the direction of travel of construction staff.

2.4.21. It can be seen that it is possible to reach Gravesend (to the east) and Camden, Hackney, and Stratford (to the west) within a 60-minute journey using public transport.



**Figure 3 - Public Transport Accessibility Plan (AM Inbound)**



**Figure 4 - Public Transport Accessibility Plan (PM Outbound)**



## HIGHWAY NETWORK

- 2.4.22. The Site will be accessed from Norman Road. Norman Road is single carriageway of circa 7 metres in width, is lit along its length and has a posted speed limit of 30mph. Norman Road provides access to Riverside 1 and Riverside 2 (under construction) and three large industrial units (via an adjacent spur) from the A2016 Picardy Manorway.
- 2.4.23. Norman Road is an appropriate standard road to accommodate construction HGV and staff vehicle movements. Norman Road currently accommodates regular HGV movements to and from Riverside 1, the other industrial units and the Riverside 2 construction site.
- 2.4.24. Norman Road forms the minor arm of a signalised junction (left-in left-out) with the A2016 Picardy Manorway. The A2016 and A206 are urban dual carriageway standard roads which function as an important east-west route from the M25/A282 Junction 1a in the east. The A2016 and A206 are appropriate standard roads to accommodate a temporary increase in construction HGV and staff vehicle movements.
- 2.4.25. It is recognised that this main vehicular access route to and from the Site is congested during peak travel times. This existing issue, particularly around the Dartford Crossing will act as a substantial 'stick' that will positively influence construction staff travel behaviour to and from the Site during the construction period. This existing congestion issue will encourage construction staff to access and egress the site by non-car modes using the options set out in this section or avoid the peak times through arriving at the Site early and leaving later in the evening.

## 2.5. CONSIDERATIONS AND ASSUMPTIONS

### INDICATIVE CONSTRUCTION PROGRAMME

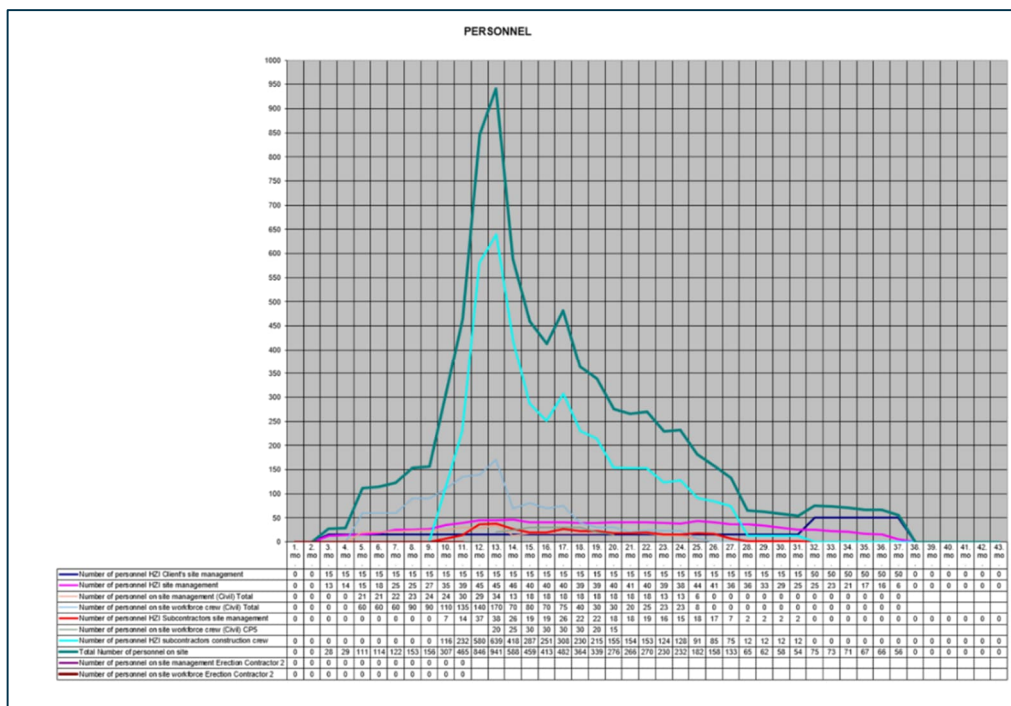
- 2.5.1. Construction for the Proposed Scheme is expected to start in 2026. There are two options for construction of the Carbon Capture Facility:
- Option 1 – Two-Phase Construction: First, one Carbon Capture Plant and CO<sub>2</sub> Processing Plant is constructed along with the LCO<sub>2</sub> Buffer Storage Area and LCO<sub>2</sub> Piping and Utilities to Proposed Jetty, the Supporting Plant, Proposed Jetty, and Ancillary Infrastructure. Then, the second Carbon Capture Plant and CO<sub>2</sub> Processing Plant is constructed sequentially (expected duration 60 months).
  - Option 2 – Single-Phase Construction: All elements of the Carbon Capture Facility, the Proposed Jetty and the Ancillary Infrastructure are constructed in

parallel (expected duration 42 months). Option 2 encapsulates either two plant design or a single plant design<sup>a</sup>.

- 2.5.2. Option 2 has been considered in **Chapter 18: Landside Transport Assessment (Volume 1)** and **Appendix 18-1: Transport Assessment (Volume 3)** as this presents the worst case scenario. This is because there would be greater construction traffic due to the consolidated construction programme. The use of Option 2 in the assessment is also representative of the worst case scenario for this topic for single plant design or two plant design.

### ESTIMATED PEAK TRIP ATTRACTION

- 2.5.3. At this stage, Contractor(s) have not been appointed; therefore, it is difficult to accurately predict the profile of staff numbers that would be on site across the construction programme. It is, however, recognised that the nature of construction work would change over time, resulting in different demands for staff, both in terms of quanta and skills.
- 2.5.4. **Figure 5** provides an overview of the staff projection associated with Riverside 2 (adjacent to the Proposed Scheme). The construction staff projection for Riverside 2 provides an appropriate comparable proxy to the construction projection of the Proposed Scheme due to it being similar in scale, location and duration.



**Figure 5 - Riverside 2 Construction Staff Projection**

<sup>a</sup> A two-plant design will be the worst case scenario, requiring a larger quantity of plant and equipment in comparison to the single-plant design and having a longer duration at 42 months. A single-plant design will have a duration of 36 months.

- 2.5.5. The construction staff projection for Riverside 2 demonstrates a defined “peak” – Month 13 (941 personnel) – with the shouldering months also exhibiting personnel numbers >500. However, it can be seen that the peak construction is short-term (circa 3-months whereby personnel on site is >500), with personnel numbers much lower throughout the rest of the construction programme.
- 2.5.6. As outlined in **Chapter 18: Landside Transport Assessment (Volume 1) (Document Reference 6.1)** and **Appendix 18-1: Transport Assessment (Volume 3) (Document Reference 6.3)** of the **ES**, during the peak construction year (2028), it is anticipated that there will be up to 1,000 construction staff on site per day. A total of 480 were predicted to undertake a solo occupancy private vehicle journey, based upon 2021 Census journey to work mode share data for Bexley residents. This data was considered to give a reasonable proxy to use (at the time of writing) in the absence of any other relevant data, as mode share is heavily influenced by local accessibility to different travel options, which would be similar for both travel directions.
- 2.5.7. Since the production of **Chapter 18: Landside Transport Assessment (Volume 1) (Document Reference 6.1)** and **Appendix 18-1: Transport Assessment (Volume 3) (Document Reference 6.3)** of the **ES**, data has been made available relating to the adjacent Riverside 2 construction workforce mode share, which is presented in **Table 3**.

**Table 3 – Observed Riverside 2 Construction Workforce Mode Share**

Time Period	Riverside 2 Construction Workforce Mode Share					
	Vehicular Modes				Sustainable Modes	
	No. People	Mode Share	Motor cycle	Vehicles (multiple occupancy <sup>b</sup> )	No. People	Mode Share
January to June 2023	59	100.0%	0	30	0	0.0%
July to December 2023	180	81.1%	1	90	42	18.9%
January to June 2024	404	79.2%	9	198	106	20.8%
July to October 2024	398	83.6%	1	199	78	16.4%

<sup>b</sup> Assumed multiple occupancy minimum of two members of staff per vehicle so as to not exceed onsite car parking provision. People that used motorcycles to commute to the Riverside 2 construction compound (which are presented within the vehicular totals for “No. People” and “Mode Share” columns) have been excluded from the “Vehicles (multiple occupancy)” calculation column. As such the level of car parking demand is shown to have remained below the available car parking provision.

- 2.5.8. The data demonstrates how the number and mode share of construction staff varies across the construction period captured and reinforces the need for the full CTMP to be dynamic and a 'living document' responding to elements (e.g. workforce origins/destinations and quanta on site) that are not fully known at this stage.
- 2.5.9. The observed Riverside 2 data also indicates a higher private vehicle mode share, but also a much higher vehicle occupancy rate (car sharing). Particularly looking at the January 2024 – June 2024 period, on average 404 people arrived at the Riverside 2 construction compound in vehicles (nine of which were motorcycles; 398 in cars/vans); however, there is only car parking provision for 200 vehicles. As such, the average vehicle occupancy is two members of staff per car/van (so as to not exceed onsite car parking availability), equating to 199 cars/vans on the network.
- 2.5.10. Applying a higher Riverside 2 vehicular mode share (83.6%), to the anticipated peak construction staff associated with the Proposed Scheme (1,000) equates to an estimate of 836 people likely to travel by vehicle. Applying the likely vehicle occupancy from the Riverside 2 surveys (two staff per vehicle), equates to 418 vehicles on the network, which is lower than the estimated 480 vehicles that has been assessed (which concluded that the anticipated impact on the transport networks would be negligible).
- 2.5.11. The data from the Riverside 2 construction workforce provides a representative mode share for staff that can be applied to the Proposed Scheme as a baseline (until construction staff surveys can be undertaken in accordance with the monitoring requirements). The observed Riverside 2 mode share data can also be used to inform the initial targets within the proposed Construction Workforce Travel Plan (CWTP) to be produced (see section 3), focusing upon increasing car occupancy levels. The initial targets, outlined in **Section 3.3**, are framed to ensure that construction vehicular volumes do not exceed those that have been assessed within **Chapter 18: Landside Transport Assessment (Volume 1) (Document Reference 6.1)** and **Appendix 18-1: Transport Assessment (Volume 3) (Document Reference 6.3)** of the **ES**.
- 2.5.12. In addition, during the peak construction year (2028), there will be approximately 25 daily HGV deliveries (50 two-way movements).

### **ASSUMED WORKING HOURS**

- 2.5.13. During construction, it is expected that standard working hours for the landside activities are Monday to Friday 07:00 to 19:00. On Saturdays, standard working hours are 07:00 to 13:00, with no working on Sundays or Bank Holidays. The working hours do not apply to construction works where these are (a) are carried out within existing buildings or buildings constructed as part of Proposed Scheme; (b) are carried out with the prior approval of the relevant planning authority; or (c) are associated with an emergency.

- 2.5.14. Working hours on major construction sites tend to be staggered due to various shift patterns related to different phases of construction and long due to construction phase deadlines and the available light. Therefore, the arrival and departure of worker vehicles tend to be spread over the peak arrival and departure periods rather than being compressed into the traditional highway network peak hours.

## 3. MEASURES

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### 3.1. INTRODUCTION

3.1.1. This section outlines potential measures that could be implemented to minimise, where practicable, the effects of construction vehicles on the surrounding transport networks, local communities, and the environment. These measures have been grouped into:

- Construction HGV Movements and Site Access:
  - safety/environmental standards and programmes;
  - designated routes;
  - delivery schedules;
  - site signage;
  - mud/debris management;
  - dust management;
  - traffic management;
- Construction Workforce Travel Plan (CWTP);
  - SMART targets;
  - measures;
- Communication Strategy; and
- Implementation, Monitoring and Updating.

### 3.2. CONSTRUCTION HGV MOVEMENTS AND SITE ACCESS

#### **SAFETY/ENVIRONMENTAL STANDARDS AND PROGRAMMES**

3.2.1. The Contractor(s) would seek to ensure all HGVs arriving at the Site comply with sufficient safety measures and requirements relating to Work Related Road Risk (WRRR), as detailed by TfL. The full CTMP(s) prepared by the Contractor(s) would detail how compliance would be enforced, monitored and managed.

3.2.2. Industry best practice would be adopted, wherever practicable, to support the construction stage of the Proposed Scheme. Through the procurement process, the Contractor(s) and their subcontractors, could be members of, or signatories to, relevant best practice schemes and initiatives including, for example:

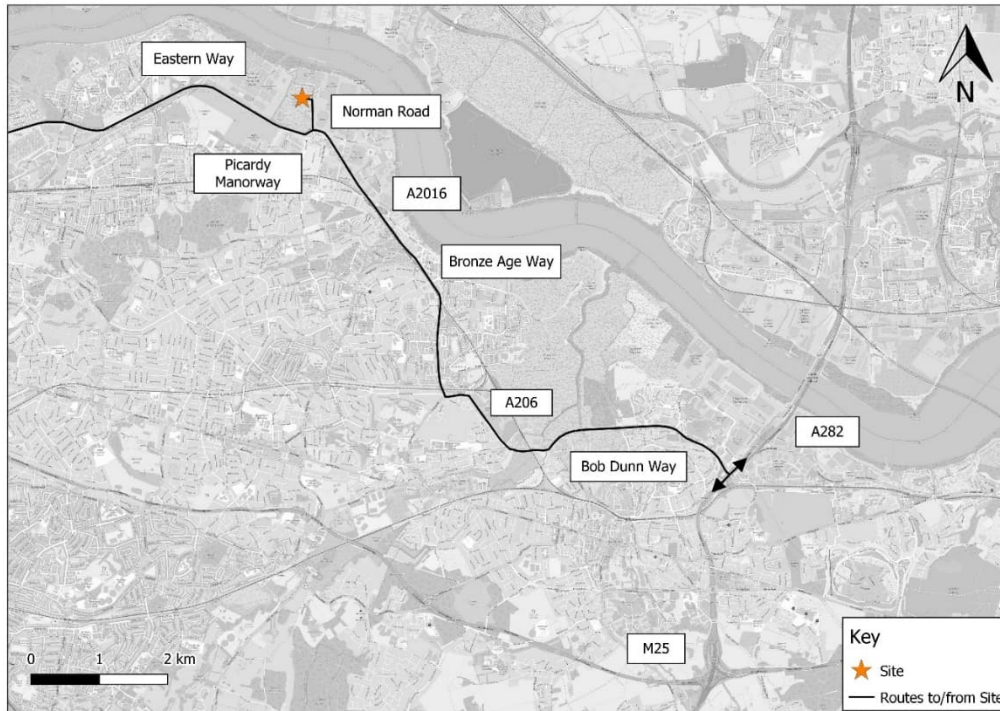
- Considerate Contractors Scheme (CCS) – promotes best practice that relates to onsite activities and those in the vicinity of the Site. The Site could be registered under CCS.

- Fleet Operator Recognition Scheme (FORS) – for suppliers that would deliver to, and hauliers that visit the Site, the Contractor(s) could mandate these businesses to be members of FORS before they could deliver to Site – unless a specific exception is agreed with the relevant local highway authorities prior to that haulier or supplier visiting Site.
- Construction Logistics and Community Safety (CLOCS) – brings the construction logistics industry together to revolutionise the management of work-related road risk and ensure a road safety culture is embedded across the industry. The Contractor(s) could require all hauliers and suppliers to be CLOCS compliant – unless a specific exception is agreed with the relevant local highway authorities prior to that haulier or supplier visiting Site.
- Construction Logistics Improvement Group (CLIG) – comprises around 50 construction industry stakeholders which are involved in TfL’s behaviour change project, aimed at minimising the impact of the increasing amount of construction and to ultimately reducing the congestion and improve safety and air quality for London and the surroundings.

## **DESIGNATED ROUTES**

- 3.2.3. HGVs associated with the construction of the Proposed Scheme would be required to access/egress the Site from Norman Road. The Contractor(s) will prepare and distribute a HGV routing plan to all HGV drivers during their induction. A draft routing plan is provided in **Figure 6**. The Contractor(s) will ensure that construction HGV deliveries use the designated routes to access and egress the Site. If required, sanctions can be put in place by the Contractor(s) to deal with any non-compliance issues.





**Figure 6 - Draft HGV Routeing Plan**

- 3.2.4. As shown in **Figure 6**, the proposed designated construction HGV Routeing Plan would require vehicles to route to and from the Site via the A2016 and the A206 towards the M25 (via the M25/A282 Junction 1a). Routes through Dartford Town Centre are excluded from the proposed routeing plan.
- 3.2.5. The Transport Assessment for the adjacent Riverside 2 (now under construction)<sup>2</sup> assumed construction HGV routeing from the north/west via the A2016 Eastern Way (25%), and the southeast (towards the M25) via the A2016 Bronze Age Way and A206 (75%). The Riverside 2 Transport Assessment was developed with input and approval from the local highway authorities; therefore, the same assumptions have been applied for the Proposed Scheme. Agreement on these assumptions was sought from the relevant local highway authorities for this Proposed Scheme, as detailed in **Chapter 18: Landside Transport (Volume 1)** of the **ES (Document Reference 6.1)**.
- 3.2.6. With 75% of the construction HGVs assumed to route to/from the southeast along A2016 Bronze Age Way (a route designated as ‘permitted’ on the London Lorry Control Scheme (LLCS) map), this would mean that the majority of construction-related movements would occur along routes that are already permitted for use by HGVs over 18 tonnes maximum gross weight.



3.2.7. LLCS controls the movement of HGVs over 18 tonnes and operates during evenings and at weekends on specific roads in London to minimise noise pollution. Enforcement is carried out in residential areas during unsociable hours through restricted use of these roads. The primary aim of the LLCS is to assist with minimising noise pollution in residential areas during the prescribed hours of:

- Monday - Friday: 9pm - 7am (including 9pm Friday night to 7am Saturday morning);
- Saturday: 1pm - 7am Monday morning; and
- Normal restrictions apply during public and bank holidays.

3.2.8. Vehicles over 18 tonnes maximum gross weight must obtain permission to use the restricted roads during the prescribed construction hours (detailed in **Section 2.3** of the **Outline Code of Construction Practice (Document Reference 7.4)**). The A2016 from the Eastern Way roundabout to the M25/A282 Junction 1a is shown as a permitted route.

### **DELIVERY SCHEDULES**

3.2.9. To minimise disruption, HGV deliveries could be scheduled to arrive/depart the Site to avoid the network peaks, whilst still occurring during the construction operating hours. HGV deliveries will be made during the standard working hours, unless agreed in exceptional circumstances in advance with the relevant local highway authorities.

3.2.10. The only expected HGV deliveries outside these hours are likely to be associated with Abnormal Indivisible Loads (AIL), if required, and these deliveries/their enabling mechanisms (e.g. traffic management) will be agreed on a case-by-case basis with the relevant local highway authorities.

### **SITE SIGNAGE**

3.2.11. The Contractor(s) will prepare an appropriate signage strategy and erect the relevant signage at the main junctions to appropriately direct all HGV traffic relating to the Proposed Scheme (both accessing and egressing the Site) via the approved designated routes. The Contractor(s) would be required to maintain all the HGV route signage for the duration of the construction phase and to regularly check to confirm they are visible and fit for purpose.

### **MUD/DEBRIS MANAGEMENT**

3.2.12. Any mud/debris arising from the Site should, so far as feasibly practicable, not be transferred onto the public highway. Therefore, in the interests of highway safety, wheel cleaning facilities (or a suitable alternative) could be installed, as required, at the Site from the start of the construction phase in accordance with the **Outline Code of Construction Practice (Outline CoCP) (Document Reference 7.4)**.

## DUST MANAGEMENT

- 3.2.13. Any dust arising from the Site should be minimised. The Contractor(s) will be aware of the potential human health and ecological effects of dust particulates and ensure that basic remedial action is taken to limit particle pollution.
- 3.2.14. It is anticipated that the construction activities will generate dust during extended periods of dry weather. This dust should be suppressed by water bowsers damping down site entrances and working areas, either on a continuous or as-required basis. Other techniques adopted to control dust during the construction phase could include:
- cleaning the wheels and chassis of vehicles to avoid the spread of mud, debris and dust;
  - ensuring that HGVs carrying debris or waste are properly covered and not overloaded;
  - cleaning the public carriageway near the site entrances as required; and
  - providing dust bags and water suppression where disk cutters are being used.
- 3.2.15. Dust management measures such as these are set out in the **Outline CoCP (Document Reference 7.4)** in order to minimise the risk of adverse effects arising from dust. A full CoCP will be developed to be in substantial accordance with this outline document, which will set out the final measures to mitigate these impacts.

## TRAFFIC MANAGEMENT

- 3.2.16. If required, traffic management will be implemented to effectively manage and control traffic flow where construction activities would likely impact the typical operation of a highway link. It is anticipated that the Contractor(s) would identify the need for traffic management and plan appropriate strategies that would enable the safe movement of all road users. Traffic management will be agreed on a case-by-case basis with the relevant local highway authorities.

## 3.3. CONSTRUCTION WORKFORCE TRAVEL PLAN

- 3.3.1. A CWTP will be developed as a part of the full CTMP(s) (as secured by the **Draft DCO (Document Reference 3.1)**) to promote the use of active modes, public transport and car/van sharing by staff during construction of the Proposed Scheme. Through inclusion of details of travel planning initiatives and behaviour change measures within the CWTP, construction staff engaged on the Proposed Scheme will be encouraged to use alternatives to single occupancy car/van travel to the Site, and if travelling from the east of the Site (via the M25/A282 Junction 1a), outside of the highway peak periods. The measures will include the promotion of walking, cycling, bus and rail (with potential supplementary linkages between transport interchanges for example, via minibus), car sharing and use/incentivisation of electric vehicles.

3.3.2. **Section 2.4** demonstrates the Site's accessibility, with the CWTP measures leveraging the benefits of the location to maximise sustainable travel by construction staff. The objectives of the CWTP are to:

- minimise construction staff car/van usage (particularly single occupancy car/van journeys);
- maximise the use of sustainable transport modes by construction staff accessing the Site; and
- minimise the impact of the movement of construction related vehicles on the local community and road network.

### **SMART TARGETS**

3.3.3. As per guidance from TfL, Travel Plan targets should be Specific, Measurable, Attainable, Realistic and Time-bound (SMART). At present, there are a number of unknown factors and considerations including the origin and number of construction staff that would commute on a daily basis to the Site in each of the main construction stages.

3.3.4. The nature of construction work would change over time. Initially, work would involve Site establishment works, where labour may be sourced locally. However, as construction progresses, the proportion of staff with more specialist skills would increase and this, in turn, may influence the catchment area from which such staff can be drawn.

3.3.5. At this stage, interim targets can be provided to set the scale of ambition for the Full CWTP. The following interim targets for the peak construction period are considered appropriate taking into consideration the Site's accessibility by non-car modes and evidence from Riverside 2 construction staff commuting travel behaviour:

- Achieve a minimum vehicular occupancy of two members of staff over the duration of the peak construction phase of the Proposed Scheme;
- Achieve a maximum vehicular mode share of 81% (aligning with the average Riverside 2 construction vehicular mode share January to October 2024) over the duration of the peak construction phase of the Proposed Scheme; and
- Achieve a minimum sustainable travel mode share of 19% (aligning with the average Riverside 2 construction sustainable mode share January to October 2024) over the duration of the peak construction phase of the Proposed Scheme.

3.3.6. These interim targets would be refined for each key construction phase, as appropriate, once more accurate construction worker numbers and mode share data is provided from an initial baseline travel survey that would take into account the location of the construction staff travelling to the Site on a daily basis.

## MEASURES

- 3.3.7. It is anticipated that the Contractor(s) would undertake the role of Travel Plan Coordinator (TPC) who would implement initiatives to minimise the environmental impacts of workforce travel and the impacts of commuting on the local road network. The TPC should:
- Implement and actively promote Travel Plan measures to maximise the use of non-car modes of travel to and from work, such as:
    - implementing a car share scheme (developing a platform and/or indicating areas where staff could meet within the locality to share lifts for the final portion of their journey) or promoting existing car sharing schemes in the area (e.g Liftshare);
    - providing information on the Site public transport catchment and services in the area and the walking routes to the local bus stops and Belvedere Station;
    - promoting the use of cycle routes and onsite supporting facilities (safe, secure cycle parking, washrooms and lockers) at the Core Temporary Construction Compound;
    - promote training (through TfL's existing Cycle Skills training initiatives), to encourage appropriate safer cycling equipment and guidance on safe cycle maintenance;
    - providing information on walk and cycle catchments and promoting the benefits of active travel and encouraging walking for those living within 2km of the Site or cycling for those living within 5km;
    - encouraging contractors/specialist labour that move into the area for a temporary period to book accommodation in locations within walking, cycling or direct public transport access of the Site; and
    - ensuring staff break areas provided onsite provide facilities for purchasing and/or making food and drinks and have facilities that can be used outside of the core construction hours if workers wish to arrive early and/or delay their site departure.
  - ensure the requirements for workforce/contractor inductions, briefings and communications include information and guidance on the importance of environmentally friendly commuting, the travel options available and the scale of congestion and travel delays at the M25/A282 Junction 1a and the Dartford Crossing;
  - act as a focal point for workforce commuting issues; and
  - manage the monitoring, assessment and review of workforce travel patterns.
- 3.3.8. Appropriate levels and types of temporary car parking will be provided onsite to accommodate the anticipated number of drivers. Construction car parking will be monitored onsite bi-annually to ensure demand does not exceed supply. As the

Contractor(s) have not yet been appointed, the exact details of the required parking provisions are currently unknown.

- 3.3.9. It will be made clear to construction staff that all car parking must take place within the Site and no parking is permitted on the surrounding streets. Should local residents or businesses experience parking issues related to the construction of the Proposed Scheme, they would be able to contact the Contractor(s)/Applicant using the details provided on the Proposed Scheme's website, and appropriate measures would be implemented to address these concerns. The monitoring of parking stress on the surrounding streets is considered unnecessary given that appropriate parking provision will be provided onsite.
- 3.3.10. Onsite storage facilities will be provided by the Contractor(s). This will encourage construction staff to store their tools and Personal Protective Equipment (PPE) onsite, reducing the number of tools that would need to be carried each day and assist those staff who are considering cycling, car sharing or public transport as a travel mode.

### **Influencing Travel from the East**

- 3.3.11. It is recognised that the main vehicular access route to and from the Site is congested during peak travel times. This existing issue, particularly around the M25/A282 Junction 1a and the Dartford Crossing will act as a substantial 'stick' that, combined with a targeted communication strategy (**Section 3.4**), will positively influence construction staff travel behaviour to and from the Site during the construction period.
- 3.3.12. Once a Contractor(s) is appointed, and as staff origins and postcode areas become known during the construction phase, a targeted approach will be applied in order to influence construction staff travel from the east to the Site as follows:
- **Impact Awareness:** within staff induction materials, the typical timing, severity and extent of congestion around the M25/A282 Junction 1a and Dartford Crossing will be communicated to contractors/staff and how this could negatively increase their journey times and journey reliability by car/van.
  - **Alternative Options:** alternative travel options from the east will be provided to staff who have to cross the Dartford Crossing and route through the M25/A182 Junction 1a. This will primarily be the promotion of alternative rail options.
  - **Peak Spreading:** where alternative travel options to/from the Site do not provide a viable or competitive alternative to vehicular travel, staff will be encouraged to car/van share and optionally (for example staggered shift patterns) undertake their journey outside of the typical peak periods to reduce pressures on the road network, minimise their journey time and maximise their journey reliability.
  - **Live Traffic:** news/live traffic updates will be communicated to staff enabling them to delay their departure from Site to avoid incidents and heavily congested periods. This could be achieved by staying onsite longer in staff areas or using local facilities such as cafes.

### 3.4. COMMUNICATION STRATEGY

3.4.1. Achieving the objectives will require the HGV management and construction worker sustainable travel measures to be communicated to construction staff. Any construction traffic issues arising during the construction works also need to be communicated to the Contractor(s)/Applicant for investigation and the implementation of remedial measures. This section sets out the communications channels that would be used.

#### Site Induction Materials

3.4.2. For construction staff relevant sustainable travel and M25/A282 Junction 1a and the Dartford Crossing area congestion information will be provided as part of the Site induction process. This will include relevant information on HGV routing and site access locations, active travel and public transport options, car sharing scheme, car parking requirements, and the timing, scale and extent of typical delays at the Dartford Crossing and the M25/A282 Junction 1a to positively influence travel behaviour.

3.4.3. Relevant information should be provided to construction staff in an information pack prior to them starting work at the Site. This will enable staff to make informed decisions about their travel mode prior to starting work at the Site.

3.4.4. Plans showing the locations within reasonable walking, cycling and public transport travel distance of the Site will be provided to staff and contractors. This information can be included in the welcome pack and to contractors directly to encourage accessing the Site by sustainable modes of travel.

#### Proposed Scheme's Website

3.4.5. To keep local residents and neighbouring businesses informed, relevant construction information will be provided on the Proposed Scheme's website, which would be regularly updated and provide sufficient advance notice of any significant changes to highway operations. The website will include contact details for local residents and businesses to discuss and raise any concerns with the Contractor(s)/Applicant.

#### Noticeboards

3.4.6. Key contact details will be displayed on a noticeboard adjacent to the Site entrance and the Temporary Construction Compounds, for members of the public, local residents and businesses to contact should they have any issues regarding construction traffic.

3.4.7. Staff noticeboards will also provide contact information for the TPC, measures in force and information on travel options, car sharing and car parking requirements.



### Traffic Management Forum

- 3.4.8. The TPC would be responsible for ensuring that local businesses, including Royal Mail, are kept informed about relevant construction works to minimise traffic disruption. They would also be responsible for promoting a good working relationship with the immediate neighbours to the Site and dealing with any traffic complaints arising from the construction of the Proposed Scheme. Contact information for local businesses will be available on the project website and public noticeboards.
- 3.4.9. If considered necessary by LBB when considering the full CTMP(s), a Traffic Management Forum (TMF) could be established to facilitate regular liaison with key stakeholders throughout the construction period. The TMF could meet (monthly/bi-monthly/quarterly) to discuss issues and opportunities over the duration of the construction period.

### Live Traffic Updates

- 3.4.10. To keep personnel informed, screens displaying real-time traffic updates will be installed across the Site. These screens will show live traffic conditions, including congestion, locations of nearby incidents and the status of the M25/A282 Junction 1a and the Dartford Crossing.
- 3.4.11. The screens will enable staff to become aware of any major delays or incidents prior to leaving, and alter their departure time by utilising welfare facilities (such as dining and resting areas) onsite.

## **3.5. IMPLEMENTING, MONITORING AND UPDATING**

- 3.5.1. This document does not include a detailed and defined description of how the full CTMP(s) would be implemented, monitored and updated. However, the following monitoring commitments would be implemented as a minimum.
- 3.5.2. A suitably qualified person from the Contractor(s) would be responsible for implementing the full CTMP(s) on behalf of the Contractor(s). Once implemented, the data and information to be collected as part of the full CTMP(s) would include:
- Number of HGV movements to/from the Site:
    - total HGV's accessing/egressing the Site;
    - arrival and departure time; and time spent on site;
  - Car park occupancy surveys; and
  - Onsite cycle parking availability and usage surveys.
  - Workforce Travel Surveys (bi-annual):
    - details of staff travel modes when commuting to the Site;
    - summary of travel times (arrival and departure);
    - staff postcodes;

- reasons for choice of mode;
- if travelling by car/van the reasons as to why they were unable to travel by sustainable modes;
- whether they would consider and be open to help car/van sharing; and
- whether they travel through the Dartford Crossing and/or the M25/A282 Junction 1a.

3.5.3. A common employee travel survey structure will be developed to enable the standardised collection of travel information every 6 months during the construction period. Following each 6 monthly survey (staff survey, HGV counts, car park and cycle parking surveys), the TPC will review the results to track progress and demonstrate whether the targets are being achieved, taking into consideration the construction stage and number of construction staff onsite. The data will be shared with LBB, and, in the event that the construction stage targets are not being met, alternative and additional remedial measures will be discussed, developed and implemented with the agreement of LBB. Other data and information to be monitored could include:

- Breaches, complaints and non-compliance:
  - vehicle routeing;
  - unacceptable queuing;
  - unacceptable parking; and
  - Ultra Low Emissions Zone (ULEZ) compliance.
- Safety:
  - logistics-related accidents;
  - record of associated injuries; and
  - vehicles and operations not meeting safety requirements.

3.5.4. This robust monitoring process will be developed in consultation with LBB and set out in the full CTMP.



## 4. REFERENCES

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<sup>1</sup> London Borough of Bexley. (2023). 'The Bexley Local Plan 2023'. Available at: <https://www.bexley.gov.uk/sites/default/files/2023-07/bexley-local-plan-adopted-26-april-2023.pdf>

<sup>2</sup> Cory Environment Holdings. (2018). 'Riverside Energy: Riverside Energy Park: Transport Assessment'. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010093/EN010093-000244-6.3%20ES%20Technical%20Appendices%20B.1%20Transport%20Assessment.pdf>



## DECARBONISATION

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