Riverside Energy Park

ES Appendix M to B.1 Outline Operational Worker Travel Plan

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CORY
RIVERSIDE ENERGY

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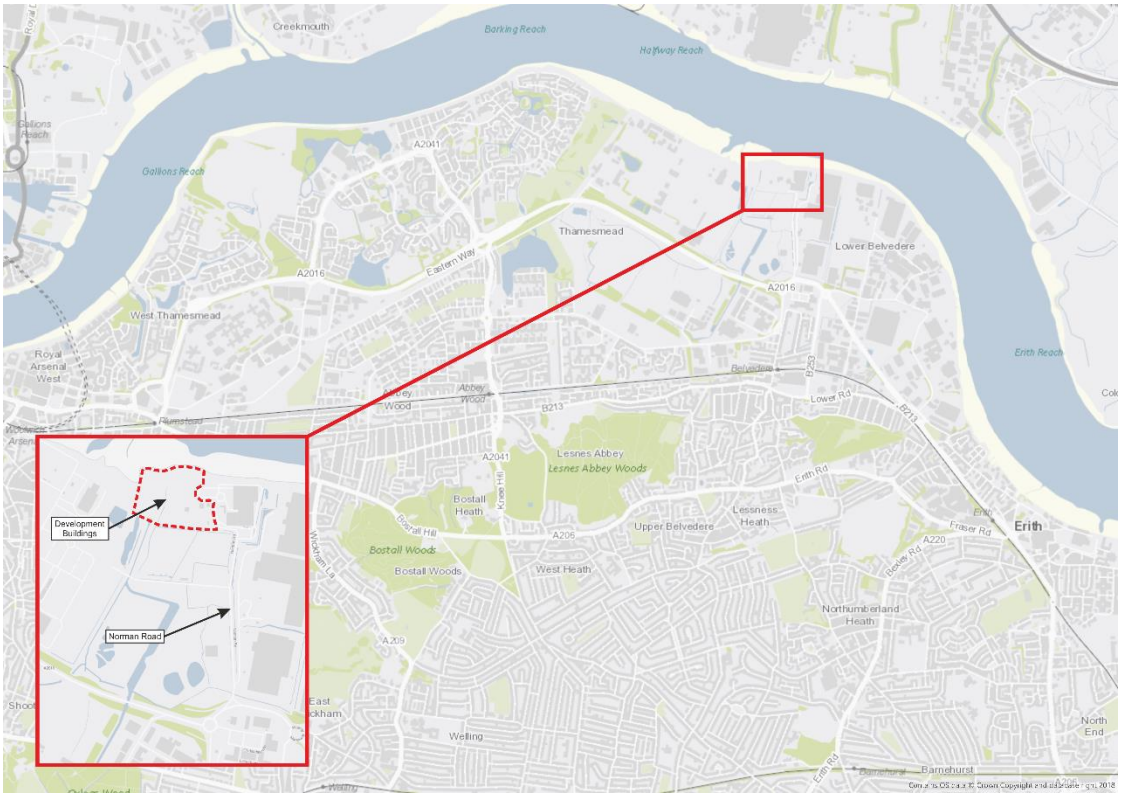
1 Introduction

1.1 Background

1.1.1 Peter Brett Associates LLP (PBA) has been commissioned by Cory Environmental Holdings Limited trading as Cory Riverside Energy (the Applicant), to provide transport and highway advice to support an application for an integrated Energy Park to be known as Riverside Energy Park (REP). The principal elements of REP comprise complementary energy generating development and an associated Electrical Connection (together referred to as the 'Proposed Development'). As REP would generate in excess of 50 MWe capacity it is classified as a Nationally Significant Infrastructure Project (NSIP) under section 14 of the PA 2008 and therefore requires a Development Consent Order (DCO) to authorise its construction and operation.

1.1.2 The Proposed Development, located in Belvedere in the London Borough of Bexley (LBB), would be known as 'Riverside Energy Park'(REP) and would be situated adjacent to an existing Energy Recovery Facility (ERF) (referred to as Riverside Resource Recovery Facility (RRRF)) also currently operated by the Applicant. A location plan is provided as **Figure 1.1** and the DCO application boundary is provided in **Appendix A**.

Figure 1.1: REP site location



1.2 Scope

1.2.1 The TfL Travel Planning Guidance describes a Travel Plan as "*a long term management strategy which encourages sustainable travel for new and existing developments. It sets out transport impacts, establishes targets and identifies a package of measures to encourage sustainable travel*". A Travel Plan is intended to be a 'living' document that incorporates the flexibility to respond and adapt to changing conditions, such as:

- new or amended transport services in the vicinity of the site;
- transport network operations as a result of changing background travel demand over time; and
- initiatives employed through the travel plan drawing on experience of its implementation.

1.2.2 This outline Operational Worker Travel Plan provides a travel demand management strategy to address the travel behaviour of staff and visitors travelling to and from REP (including those from the commissioning stage of the development). The nature of REP requires the plant to be operated and staffed 24 hours per day. Staff shifts would be set to be able to benefit from opportunities to use public transport or walk or cycle to work. The indicative shift pattern is for the day time shift to be 06:00-18:00hrs and the night time shift to be 18:00-06:00hrs. This being the case, workers would arrive between 05:00-06:00hrs and 17:00-18:00hrs, and depart between 18:00-19:00hrs and 06:00-07:00hrs. The Operational Worker Travel Plan would not relate to the construction period nor the operational vehicle movements associated with the waste and by-products.

1.2.3 The movement of materials to and from the site, including waste imports and anaerobic digestion outputs, and the types of vehicles transporting these materials are considered elsewhere: in the Transport Assessment (TA). However, it is noted herein that the Applicant will be delivering most of the waste to REP by barge from riparian Waste Transfer Stations (WTS) along the River Thames, utilising the existing jetty facilities as per the existing RRRF. The remainder of waste feedstock would be delivered by road (limited to the waste throughput cap set out in Schedule 2 of the DCO). By-products including Incinerator Bottom Ash (IBA) would be transported by river to the existing IBA facility at the Port of Tilbury for treatment/recycling, and then onward use as secondary aggregate in the construction sector. Air Pollution Control Residues (APCR) (approximately 3% of throughput) would be taken off site by road in sealed containers to be recycled.

1.2.4 Travel plans prepared in advance of the commissioning and occupation of a site can only offer an overall strategy for the adoption of sustainable transport measures. Once the site commences commissioning and a Travel Plan Coordinator (TPC) is appointed, there would be the opportunity to develop the document to reflect the specific needs of the site users, whilst meeting the key

objectives and planning commitments. The proposed approach embeds measures from the outset, through good physical infrastructure and plans for management and monitoring, as discussed and outlined in this document.

1.2.5 There is an existing Travel Plan for RRRF and the appointed TPC for REP would seek to align the Operational Worker Travel Plan measures with those for RRRF, such as: undertaking joint events promoting sustainable travel; undertaking travel plan monitoring on a consistent basis; and 'joined-up thinking' when considering travel to both RRRF and REP.

1.3 Proposed Development – Summary

1.3.1 The Proposed Development comprises the following elements:

Energy Recovery Facility (ERF): to provide thermal treatment of Commercial and Industrial (C&I) residual (non-recyclable) waste with the potential for treatment of residual (non-recyclable) Municipal Solid Waste (MSW);

Anaerobic Digestion facility: to process food and green waste. Outputs from the Anaerobic Digestion facility would be transferred off-site for use in the agricultural sector as fertiliser or as an alternative, where appropriate, used as a fuel in the ERF to generate electricity;

Solar Photovoltaic Installation: to generate electricity. Installed across a wide extent of the roof of the Main REP Building;

Battery Storage: to store and supply additional power to the local distribution network at times of peak electrical demand. This facility would be integrated into the Main REP building; and

On Site Combined Heat and Power (CHP) Infrastructure: to provide an opportunity for local district heating for nearby residential developments and businesses. REP would be CHP Enabled with necessary on site infrastructure included within the REP site.

Electrical Connection REP would be connected to the electricity distribution network via a new 132 kilovolt (kV) underground electricity cable connection.

1.4 Travel Plan Structure

1.4.1 This outline Operational Worker Travel Plan is divided into the following chapters:

- Chapter 2 briefly summarises the existing national, regional and local planning policy and guidance that informs the writing of this Operational Worker Travel Plan;
- Chapter 3 outlines site accessibility and the existing travel situation;

- Chapter 4 discusses the objectives and targets;
- Chapter 5 presents the measures;
- Chapter 6 discusses the approach to management, monitoring and review; and
- Chapter 7 provides the implementation action plan.

1.4.2 This outline Operational Worker Travel Plan will form the basis of a final Operational Worker Travel Plan once detailed design works have progressed. This is secured through a draft DCO Requirement (**Document Reference 3.1**) which requires the Applicant to submit the final plan for the approval of the local authority prior to commissioning, which must be in substantial accordance with the outline Operational Worker Travel Plan.

2 Policy and Guidance Review

2.1 Introduction

2.1.1 This section provides a review of the key national, regional and local policy and guidance documents relevant to travel planning for the Proposed Development. The policy and guidance covered within this review are:

- Overarching National Policy Statement for Energy (EN-1) (2011);
- National Planning Policy Framework (2018);
- Planning Practice Guidance (2014);
- Draft New London Plan (2018)
- Mayor's Transport Strategy (2018);
- TfL Travel Planning Guidance (online); and
- Bexley Core Strategy (2012).

2.2 National Policy and Guidance

Overarching National Policy Statement for Energy – EN1 July 2011

2.2.1 Section 5.13 of the NPS includes the following points which have helped to form the input and structure used for this outline Operational Worker Travel Plan and would guide the focus for the final report:

- "*The consideration and mitigation of transport impacts is an essential part of Government's wider policy objectives for sustainable development as set out in Section 2.2 of this NPS*." (Paragraph 5.13.2)
- "*If a project is likely to have significant transport implications, the applicant's ES (see Section 4.2) should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport Guidance, or any successor to such methodology. Applicants should consult the Highways Agency and Highways Authorities as appropriate on the assessment and mitigation*." (Paragraph 5.13.3)
- "*Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts.*" (Paragraph 5.13.4)

- "*A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the [Secretary of State] should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development*." (Paragraph 5.13.6)

National Planning Policy Framework (July 2018)

2.2.2 The National Planning Policy Framework (NPPF) was published in 2018. The document sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for development can be produced.

2.2.3 Chapter 9 of the NPPF refers to promoting sustainable transport with respect to development proposals. Paragraph 102 states that "*transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*

- *The potential impacts of development on transport networks can be addressed;*
- *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places."*

2.2.4 Paragraph 110 refers to the fact that developments should be designed to give priority first to pedestrian and cycle movements, and access to high quality public transport should be facilitated. Paragraph 111 states that, "*All developments that will generate significant amounts of movement should be required to provide a Travel Plan*."

Planning Practice Guidance (PPG)

2.2.5 Sitting alongside and supporting the NPPF is the Planning Practice Guidance (PPG) which was published in March 2014. This offers guidance on effective delivery of objectives through the planning process.

2.2.6 The 'Travel plans, transport assessments and statements in decision-taking' section provides advice on when transport assessments and transport statements are required, and what they should contain:

- Paragraph 36 sets out that all developments which generate significant amounts of transport movement should be required to provide a Travel Plan.

2.3 Regional Policy and Guidance

London Plan (March 2016)

2.3.1 The London Plan was published in July 2011. Since than three sets of alterations have been made to ensure it is as up-to-date as possible.

2.3.2 A key objective of the 2016 London Plan, at Chapter 6 'London's Transport', states London should be:

"A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling".

2.3.3 The London Plan's objectives, at Chapter 1, pertaining to Travel Plans are as follows:

- "*A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling, makes better use of the Thames and supports delivery of all the objectives of this Plan*"; and

- "*A city that becomes a world leader in improving the environment locally and globally, taking the lead in tackling climate change, reducing pollution, developing a low carbon economy, consuming fewer resources and using them more effectively.*".

2.3.4 Chapter 6 of the London Plan identifies polices to support the delivery of an efficient and effective transport system and places emphasis on encouraging sustainable travel by enhancing walking policies, promoting electric car use and improving public transport capacity.

Draft New London Plan showing Minor Suggested Changes 2018

2.3.5 A draft new London Plan was published by the Mayor for consultation in December 2017, with a Draft New London Plan showing Minor Suggested Changes published in August 2018. Whilst the current 2016 plan is still the adopted Development Plan, the Draft London Plan is a material consideration in planning decisions.

2.3.6 The Draft New London Plan showing Minor Suggested Changes includes **Policy T4 Assessing and mitigating transport impacts**. This provides the

following text, in paragraphs 10.4.3 to 10.4.4, highlighting the use of travel plans and freight strategies as a mechanism to reduce negative development impacts and bring about positive outcomes:

> "*10.4.3 It is important that development proposals reduce the negative impact of development on the transport network and reduce potentially harmful public health impacts. The biggest transport-related impact of development on public health in London is the extent to which it enables physical activity from walking, cycling and using public transport. The other main impacts on public health relate to air quality, road danger, noise, and severance. The phasing of development, and the use of travel plans and freight strategies, may help reduce negative impacts and bring about positive outcomes.*"
>
> "*10.4.4 New development that will give rise to significant numbers of new trips should be located in places well-connected by public transport, with capacity adequate to support the additional demand, or where there is a realistic prospect of additional access or capacity being provided in time to meet the new demand. The ability to absorb increased travel demand through active travel modes must also be considered.*"

2.3.7 Further policies with relevance to Travel Planning and sustainable modes of transport include:

- **Policy T5 Cycling** refers to developments' support of a network of cycle routes through London and provision of fit for purpose, secure and well-located cycle parking in accordance with standards set out in Table 10.2 and Figure 10.2 of the Plan.

  For REP, the cycle parking standard for 'sui generis' development is stated as "*As per most relevant other standards*". This is considered to be B2-B8 'General industrial, storage or distribution' for which the cycle parking standards are:

  Long Stay: 1 space per 500 sqm (GEA)
  Short Stay: 1 space per 1000 sqm (GEA)

- **Policy T6 Car parking** states that "*Car parking should be restricted in line with levels of existing and future public transport accessibility and connectivity*" and "*Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles in line with policies T6.1, T6.2, T6.3 and T6.4. All operational parking should make this provision, including offering rapid charging*."

  With regard to car parking standards, it is stated that "*Where no standard is provided, the level of parking should be determined on a case-by-case*

basis taking account of Policy T6 Car parking, current and future PTAL and wider measures of public transport, walking and cycling connectivity."

- **Policy T6.5 Non-residential disabled persons parking** states that "*All non-residential elements of a development should provide at least one on or off-street disabled persons parking bay*" with workplaces offering 5% of overall parking as designated and enlarged bays for disabled users (Table 10.6).

Mayor's Transport Strategy (2018)

2.3.8 The Mayor's Transport Strategy highlights the importance of travel planning and smarter, efficient and active travel initiatives to promote the range of health and environmental benefits of walking, particularly in schools, workplaces and in deprived areas where the cost of public transport may be a barrier to travel.

2.3.9 Throughout the strategy, emphasis is placed on:

- improving cycling and walking in London;
- improving the interchange between transport modes;
- promoting sustainable technologies such as electric vehicles;
- providing better travel information to travellers;
- encouraging the use of the River Thames and other waterways to transport goods and people;
- promoting strategic interchange between inner and outer areas of London; and
- improving strategies to tackle road congestion.

2.3.10 Policy 1 states that:

2.3.11 *The Mayor, through TfL and the boroughs, and working with stakeholders, will reduce Londoners' dependency on cars in favour of active, efficient and sustainable modes of travel, with the central aim for 80 per cent of all trips in London to be made on foot, by cycle or using public transport by 2041*"

2.3.12 Proposal 7 within the strategy states:

2.3.13 "*The Mayor, through TfL and the boroughs, will work with schools, employers and community groups to promote walking and cycling, whether for the whole journey or as part of a longer journey*."

TfL Travel Planning Guidance

2.3.14 TfL's guidance on travel plans is provided through their on-line portal.

2.3.15 The preferred contents of a travel plan are presented in the guidance and a number of possible measures to be implemented are recommended with information also on how they should be monitored, secured and enforced. For Travel Plans prepared at outline/interim stage (i.e. before occupation or commissioning) the following are required, to be changed by agreement with the local authority at a later stage:

- baseline travel patterns;
- targets for mode share; and
- an action plan with measures to be implemented.

2.4 Local Policy and Guidance

Bexley Core Strategy (2012)

2.4.1 The Bexley Core Strategy sets out the spatial planning framework for the Borough until 2026. It seeks to ensure that investment and development decisions are not made in isolation, but are coordinated appropriately, with a focus on promoting sustainable development.

2.4.2 Policy CS16 'Reducing the need to travel and the impact of travel' specifically highlights accessibility and quality of life for Bexley residents which can be enhanced through minimising the need and distance of travel through "*promoting travel awareness campaigns, workplace travel plans, area based travel plans and car clubs*."

2.4.3 There are several other references to workplace travel plans throughout the Core Strategy, particularly in relation to requiring new developments to produce such documents.

3 Existing Transport and Movement Context

3.1 Introduction

3.1.1 This chapter describes the existing conditions within the site and its vicinity; including, amongst other things, a description of existing uses, description of local transport networks, and their proposed improvements, and local amenities within the area.

3.2 Site Location and Existing Land Use

3.2.1 **Figure 1.1** shows the REP site location. It's context within the Application Boundary is provided in **Appendix A**. To the east of REP lies RRRF, an existing Energy Recovery Facility (ERF) with a maximum consented residual waste throughput of approximately 785,000 tpa generating up to 72 MWe. RRRF operates 24 hours a day and seven days per week.

3.2.2 The REP site is currently used as an ancillary area associated with RRRF. The overall REP site includes the existing jetty in the River Thames which is used for delivery of waste and the despatch of some by-products at the RRRF. The jetty would be used for the same purpose for the operation of REP.

3.2.3 The REP site is accessed from Norman Road which extends southwards to the A2016 Picardy Manorway which forms part of the London Strategic Route Network (SRN) and runs in an east/west orientation. Norman Road is already used by vehicles associated with RRRF and operations would be coordinated and consolidated between RRRF and REP.

3.3 Public Transport

Public Transport Accessibility Level

3.3.1 Public Transport Accessibility Levels (PTALs) are a measure of the accessibility of a site to the public transport network, taking into account: walking access times; and public transport service availability; frequency and reliability. A PTAL can range from zero to 6b, where a score of zero is the worst case but typically the lowest rate of 1 indicates a "very poor" level of accessibility and 6b indicates "excellent" provision. PTALs are used to inform both the density of a proposed development as well as required car parking provision.

3.3.2 According to TfL's online WebCAT toolkit, the REP site has a PTAL of 0 as a result of the bus stops on Picardy Manorway being situated over 640 m from the site. The area around the Norman Road / Picardy Manorway junction is graded at PTAL1b/2. The complete PTAL report is included in **Appendix B.**

Bus Network

3.3.3 A number of bus services operate in the local area, as set out in **Figure 3.1**. There are two bus services (180 and 401) which operate on Picardy Manorway from which Norman Road forms the primary access into REP. Both routes offer services to local residential areas (Lewisham, Bexleyheath and Thamesmead), providing a viable alternative to the private car for employees at REP.

3.3.4 The eastbound bus stop is on the northern side of Picardy Manorway approximately 130m east of Norman Road and the westbound bus stop is on the southern side of Picardy Manorway. A summary of the two bus services is provided in **Table 3.1**. TfL is currently reviewing and developing the local bus routes as part of the North Greenwich to Slade Green Transit Corridor to coordinate with the opening of the Elizabeth Line (Crossrail).

Figure 3.1: Bus Service Plan

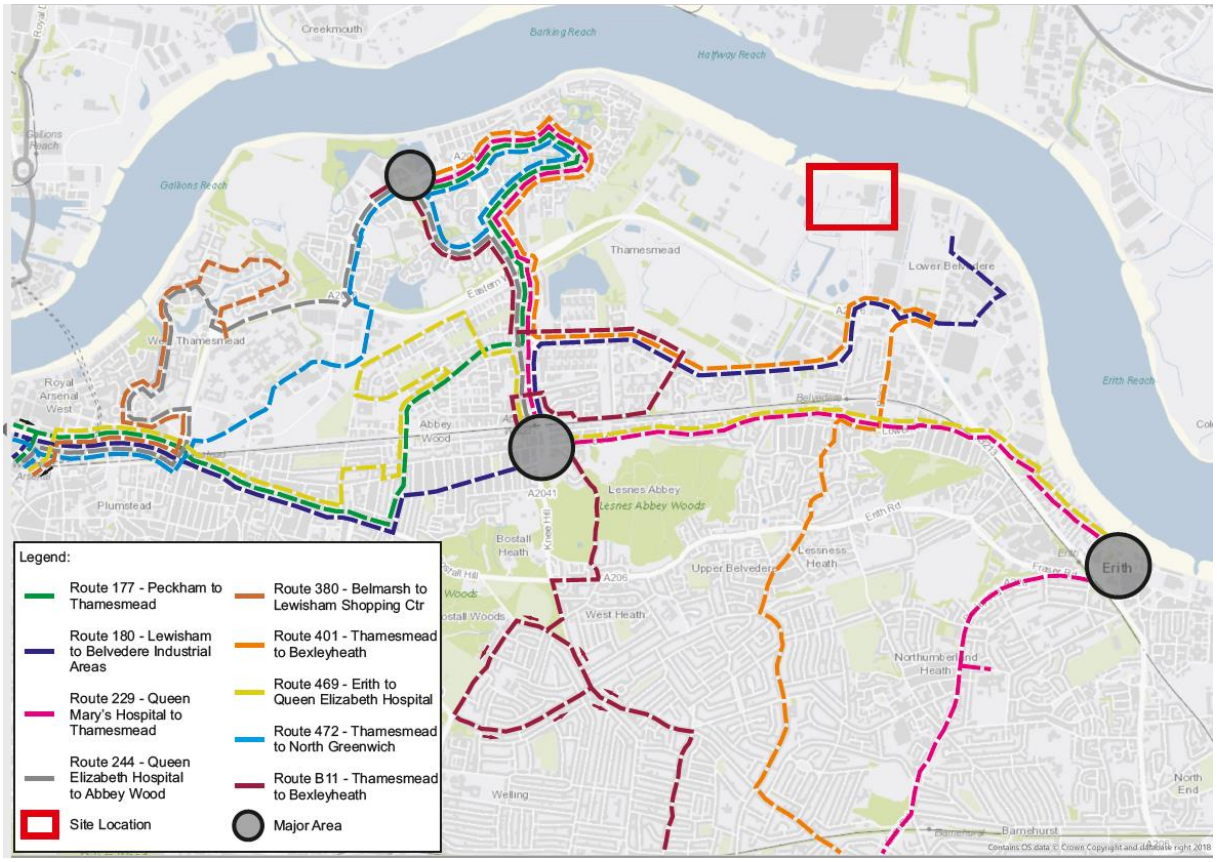


Table 3.1: Picardy Manorway Bus Service Summary

Bus No.	Route	Headway (mins)		
		Weekday (07:00-19:00)	Saturday (07:00-19:00)	Sunday (07:00-19:00)
180	Belvedere Industrial Area – Abbey Wood – Plumstead – Woolwich – Charlton – Greenwich – Lewisham	9-12	8-11	15
401	Bexleyheath – Belvedere – Thamesmead	15	15	30

Rail Network

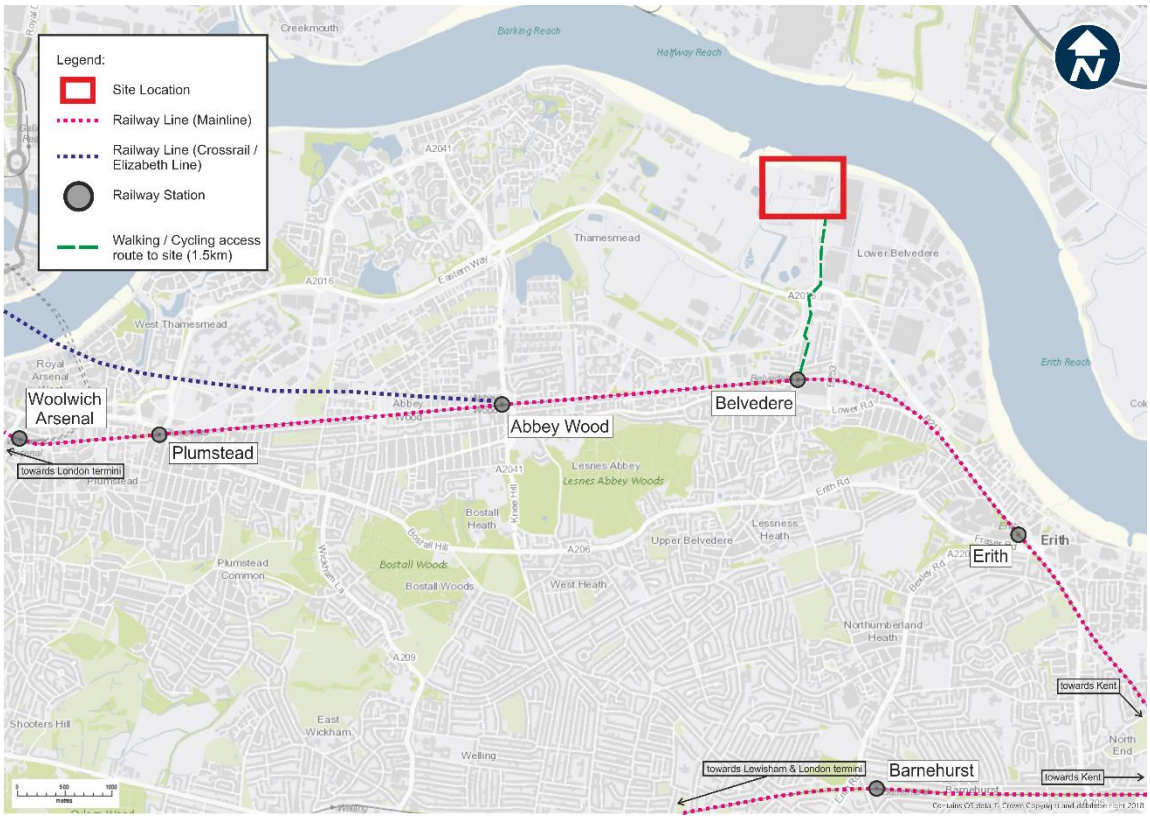
3.3.5 Belvedere railway station is located approximately 1.4 km to the south, a 17-minute walk, serving London Charing Cross, London Cannon Street, London Bridge, Dartford, Gravesend and Gillingham. The 401 bus, with the stop located immediately the east of Norman Road on Picardy Manorway, has a journey time to Belvedere station of three minutes.

3.3.6 The station has several peak hour services to/from London Charing Cross and has the following typical off-peak services:

- Six trains per hour to London Cannon Street calling at stops including Abbey Wood, Plumstead, Woolwich Arsenal;
- Two trains per hour to Dartford calling at Erith and Slade Green;
- Two trains per hour to Slade Green calling at Erith; and
- Two trains per hour to Hither Green calling at stops including Erith, Slade Green, Bexley and Sidcup.

3.3.7 Abbey Wood railway station is approximately 11 minutes on the 180 bus service or one stop west on the same line as Belvedere station. Elizabeth Line services will commence from Abbey Wood during 2019 (subject to adjusted completion dates) and the station also benefits from 2 tph to London Charing Cross via Lewisham, 2 tph in each direction between the Medway Towns and Luton via central London on Thameslink. **Figure 3.2** shows stations in proximity to the site.

Figure 3.2: Railway stations in proximity to the site



3.4 Pedestrian Network

3.4.1 The network of Public Rights of Way (PRoW) FP2, FP3 and FP4 surround REP, linking Norman Road with the Thames Path to the north. The FP2 PRoW originates at the junction of Norman Road and the A2016, which extends west then northwest through the Crossness Nature Reserve to its border with the Thames Water Crossness STW. From here this PRoW extends north to the Thames Path, and south to the A2016.

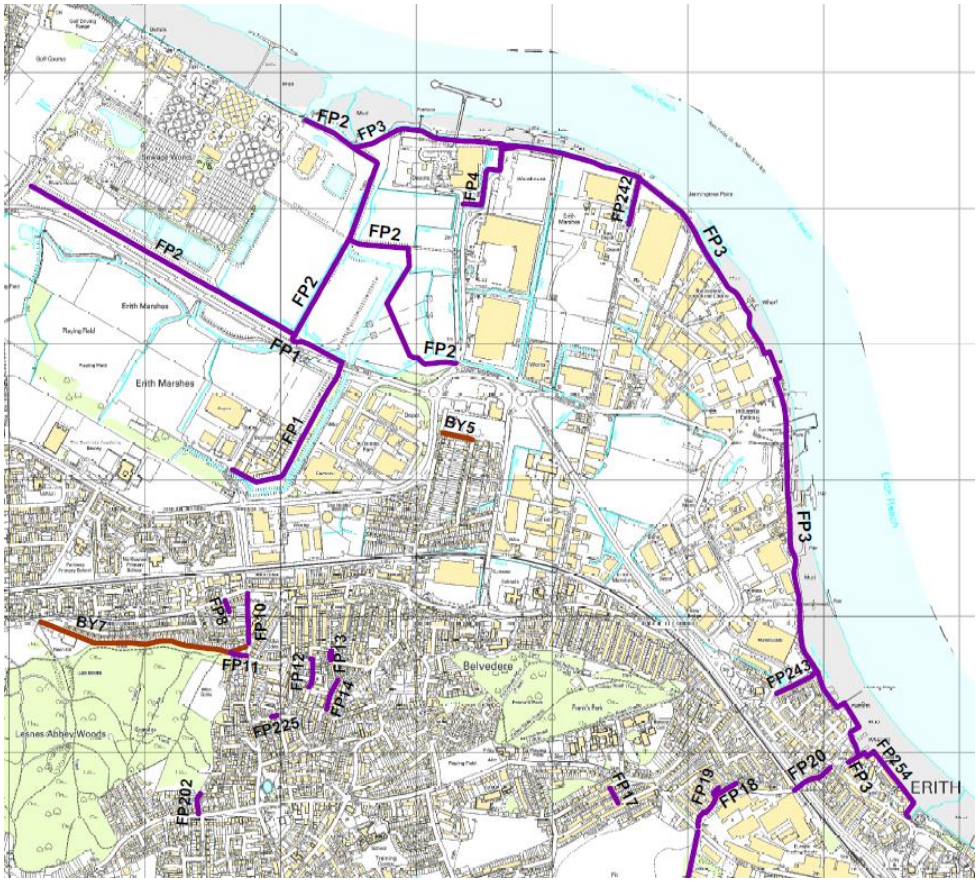
3.4.2 The England Coast Path, a new national trail around England's coast, in the vicinity of the proposed development, is to be confirmed but is expected to follow the route of the Thames Path and is scheduled for completion by 2020. The construction and operation of REP would have no direct impact on the operation of the Thames Path, and hence the anticipated route of the England Coast Path.

3.4.3 Norman Road has a footway on its eastern side which runs between RRRF in the north and Picardy Manorway to the south. A three-stage toucan crossing of Norman Road and Picardy Manorway provides connection with the southern footway of Picardy Manorway including the eastbound bus stop.

3.4.4 Via the toucan crossing on Picardy Manorway, pedestrians can access Belvedere station via Clydesdale Way and the southern section of Norman

Road. The station has level access to the eastbound platform. Access to the westbound (London) platform is via a footbridge.

Figure 3.3: Extract from PRoW Definitive Map for Bexley north [courtesy LBB]



Pedestrian Environmental Review System (PERS) Audit

3.4.5 During pre-application discussions, TfL requested that an abridged (PERS) audit was carried out on footways immediately outside REP and routes towards local bus stops. An audit has therefore been conducted of Norman Road and routes from Norman Road to the westbound and eastbound bus stops of the A2016 Picardy Manorway. The full results of the PERS audit can be found at **Appendix C** and a summary is provided below.

3.4.6 The following table indicates the scores for each of the three links assessed. This includes the individual score and Red-Amber-Green (RAG) rating given to each of the three links.

Table 3.2: PERS Audit Link Assessment

ID	Link Name	RAG	RAG index	Overall Score
L1	Norman Road	Green	3	83
L2	Picardy Manorway EB	Green	3	92
L3	Picardy Manorway WB	Amber	2	35

3.4.7 Norman Road scored highly on criteria such as lack of obstructions and conflicts but scored negatively on personal security. Picardy Manorway, eastbound, scored well for the quality of footway on this link. The footway is wide and accommodates the more vulnerable users with high levels of tactile paving and tonal contrast between road, cycleway and footway. The link still scores negatively on permeability and quality of environment as a result of high traffic levels as well as the lack of sense of place. Picardy Manorway, westbound, scored lower than the other links due to a narrower footway and a perceived lower level of maintenance.

3.4.8 There are no major inclines in the area and footways are all bitumen-bound wide surfaced corridors. At the junction of Norman Road with Picardy Manorway there are connections to the wider footway and PRoW network. Controlled crossings are provided to assist with access to bus services. Street lighting is provided along the corridors, including Norman Road and Picardy Manorway. Signs and markings indicate the segregation between cycle and pedestrian corridors along the routes.

3.5 Cycle Network

3.5.1 Norman Road has a mixture of advisory cycle lanes and shared use paths providing a cycle route to the cycle path on the north side of Picardy Manorway and the three-stage toucan crossing of Norman Road and Picardy Manorway. There are elements of cycle infrastructure to provide a route to Belvedere station.

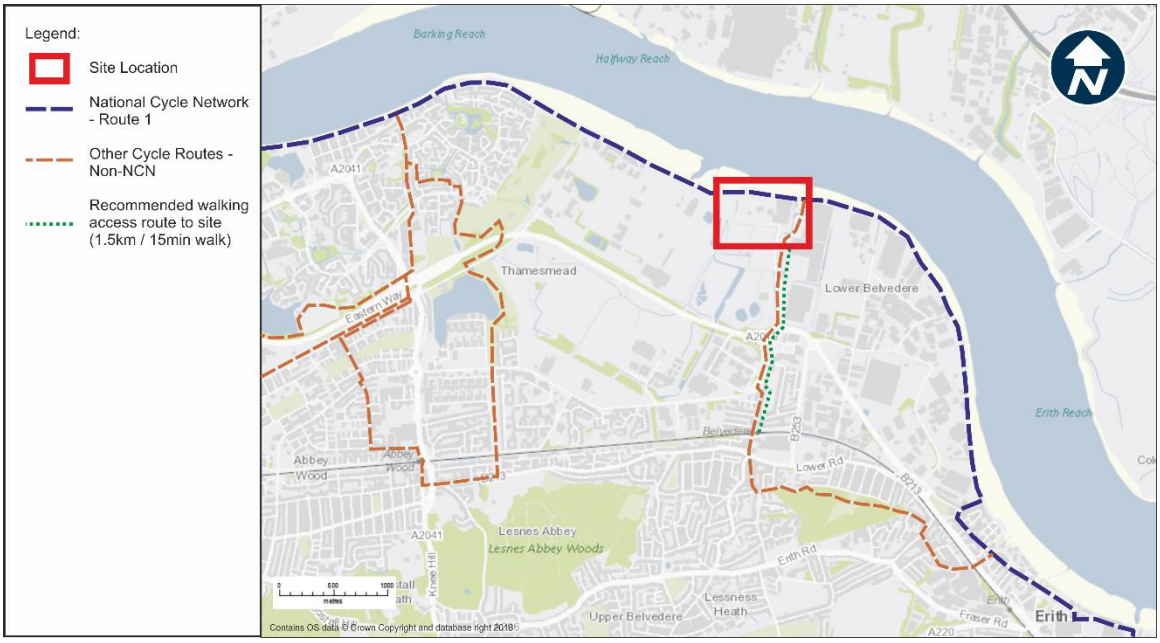
3.5.2 The Thames Path, which forms part of Route 1 of the National Cycle Network, would provide a good traffic-free route between REP, Thamesmead to the west and Erith to the east.

Cycling Level of Service Assessment

3.5.3 **Figure 3.4** shows cycle routes in the proximity of REP. National Cycle Network Route 1 runs along the Thames Path, due north of REP, with a further local cycle route connecting to this east of RRRF.

3.5.4 A Cycling Level of Service (CLoS) assessment of the Norman Road / A2016 Picardy Manorway junction was requested by TfL during the pre-application process. The full results of the CLoS assessment can be found at **Appendix D**. Applying a RAG assessment, the majority of movements on the assessed junctions scored 'green' movements. This is due to the provision of off-carriageway cycle lanes along the eastern side of Norman Road, along both sides of the A2016 (east of Norman Road), and a shared pedestrian / cycle route between the A2016 south side and Clydesdale Way. However, there were some 'amber' scoring movements as a result of unclear road markings to indicate whether routes were bi-directional or uni-directional.

Figure 3.4: Cycle routes in proximity to the site



3.6 Existing Travel Patterns

3.6.1 Census Journey to Work data has been analysed for the Super Output Area, E02000067: Bexley 003 (2011 super output area - middle layer). This indicates the 'main' mode of travel shares for journeys to work into the area shown in **Table 3.3**.

Table 3.3: Main Mode of Travel, Census Journey to Work, E02000067: Bexley 003

Travel Mode	Percentage
Underground, metro, light rail or tram	1%
Train	5%
Bus, minibus or coach	12%
Taxi	0%
Motorcycle, scooter or moped	2%
Driving a car or van	63%
Passenger in a car or van	5%
Bicycle	2%
On foot	9%
Other method of travel to work	0%

3.6.2 The trip generation of the existing, adjacent, RRRF has been examined through traffic surveys undertaken on Norman Road conducted over two weeks in April 2018. Further detail about these counts can be found in the Transport Assessment, however a summary of the peak hour and daily vehicle trip generation of the site is provided in **Table 3.4**.

Table 3.4: Existing Vehicle Trip Generation

(average of two weeks surveyed via ATC on Norman Road)

AM [All movements]						**PM** [All movements]			**Daily** [All movements]		
REP Shift peak (05:00-06:00)			Network peak (06:00-07:00)			REP Shift peak and Network peak (18:00-19:00)			24 hour		
Arr	Dep	Tot	Arr	Dep	Tot	*Arr*	Dep	Tot	Arr	Dep	Tot
12	6	18	25	4	29	8	25	33	199	195	394

4 Proposed Development

4.1 Development Proposals

4.1.1 REP would comprise of a number of different components, as set out below. **Appendix E** provides a site layout plan:

Processing

Main process building = 10,108 m^2

Turbine Hall = 1,326 m^2

ACC = 1,675 m^2

Processing Total = 13,109 m^2

Administration

Admin Building:

Ground Floor = 470 m^2

First Floor = 462 m^2

Second Floor = 462 m^2

Third Floor = 462 m^2

Fourth Floor = 462 m^2

Admin Building Total = 2,318 m^2

TOTAL AREA (Process and Administration) = 15,427 m^2

4.1.2 The above areas exclude any upper levels in the main process areas or the AD digester, transformer / switch yards and the fire water tank which are external.

4.2 Staff and Working Hours

4.2.1 In the order of 83 operational staff are anticipated on-site, split over two shifts daily. During commissioning, a range of 83-153 staff are anticipated on site, depending on the overlap with construction and the practical constraints that might exist in the site layout and state of development at that time. The assessment in the Environmental Statement allows for a 'reasonable worst

case' of an additional 10% of staff. Management staff would be shared with the existing RRRF facility and are already present on the RRRF site. These operational staff are broken down as:

Operations	17
Jetty/site Ops	54
Engineers	1
Technicians/Fitters	9
Stores	1
Finance/Admin	1

4.2.2 The operational staff would work in two shifts to provide a 24 hour operation.

4.3 Proposed Vehicle Parking

4.3.1 The following areas of vehicle parking are proposed, as shown on the site layout plan in **Appendix E** with electric vehicle charging infrastructure provided in line with London Plan requirements.

Additional area within RRRF car park: 10 car/van spaces

New car park: 37 car/van spaces and 4 motorcycle spaces

4.4 Proposed Cycle Parking

4.4.1 The draft London Plan 'Policy T5 Cycling' includes cycle parking standards. The cycle parking standard for 'sui generis' development states "As per most relevant other standard". This is considered to be B2-B8 general industrial, storage or distribution for which the cycle parking standards are:

Long Stay: 1 space per 500 sqm (GEA)

Short Stay: 1 space per 1000 sqm (GEA)

4.4.2 Taking the development floor areas set out in paragraph 4.1.1 above and applying the cycle parking standards in full would result in a requirement for 31 long-stay cycle parking spaces and 16 short-stay cycle parking spaces. However, the 'Processing' components of the development have a predominantly operational, rather than staffed, function with only a small number of workers present in these areas, such as operating internal grab cranes and in the control room within REP. Applying the cycle parking standards to the 'Administration' components only results in a requirement for 5 long-stay cycle parking spaces and 3 short-stay spaces.

4.4.3 Operationally, it would be proposed to provide cycle parking at a level between the whole development floor areas (including non-staffed areas) and Administration only areas. The location of the cycle parking would be confirmed through the detailed layout of REP. The proposed number of spaces provided would be as follows:

Long Stay:	18 spaces
Short Stay:	10 spaces

5 Indicative Objectives & Targets

5.1 Objectives

5.1.1 The travel plan objectives describe the key 'goals' that the Outline Worker Travel Plan seeks to achieve. These are set out in **Table 5.1** below.

Table 5.1: Indicative Travel Plan Objectives

Objective	Summary
1	To support the site as a sustainable workplace and environment.
2	To encourage a low single occupancy car travel mode by facilitating and encouraging the use of sustainable modes of travel for all journeys to and from the site.
3	To raise awareness of the Operational Worker Travel Plan and its objectives.
4	To promote healthy lifestyles to employees at the site.
5	To minimise travel demand and reduce the need to travel by providing on-site sustainable travel facilities at the outset of the development.
6	To reduce carbon emissions associated with the development.
7	To continually develop, implement, monitor and evaluate the progress of the Operational Worker Travel Plan towards achieving its targets.

5.1.2 Details on how the Operational Worker Travel Plan could deliver these objectives are considered as part of the measures proposed in **Chapter 6**. These would be refined in the approved Operational Worker Travel Plan.

5.2 Targets

5.2.1 The targets of this Operational Worker Travel Plan are SMART:

Specific Measurable Attainable Realistic Time-bound

5.2.2 The predicted staff multi-modal trip generation, based on the Census Journey to Work data for Bexley is presented in **Table 5.2**:

Table 5.2: Expected Staff Trip Generation

Travel Mode	Percentage	Baseline Staff Travel
Underground, metro, light rail or tram	1%	-
Train	5%	5
Bus, minibus or coach	12%	10
Taxi	0%	-
Motorcycle, scooter or moped	2%	2
Driving a car or van	63%	51
Passenger in a car or van	5%	5
Bicycle	2%	2
On foot	9%	8
Other method of travel to work	0%	-
TOTAL		**83**

N.B. Minor adjustments due to rounding

5.2.3 Mode share targets would be set prior to the start of commissioning and operations at REP. Indicative targets for Years 1, 3 and 5 of operation are shown, in **Table 5.3**. Staff numbers during commissioning will vary due to the potential overlap with construction and the practical constraints that might exist in the site layout and state of development at that time. Therefore, anticipated staffing numbers and targets will be confirmed to the relevant planning authority by the Engineering Procurement and Construction Contractor prior to the start of commissioning in accordance with the percentage mode share targets set out in Table 5.3. These targets should prioritise a shift to sustainable modes of travel from single occupancy car use. Given the processing and manual nature of the work, encouraging a reduction in the 'need to travel' would not be appropriate for REP.

5.2.4 The Year 1 indicative target is deliberately challenging to encourage more sustainable travel from the outset and to ensure that there is no excess parking over that provided, even taking account of shift changeover times, when both shifts' staff may be present.

Table 5.3: Indicative Travel Plan Targets, Years 1, 3 and 5

Mode	Baseline Mode Share (%)	Year 1		Year 3		Year 5	
		Staff by Mode	Mode Share (%)	Staff by Mode	Mode Share (%)	Staff by Mode	Mode Share (%)
Underground	1%	-	0%	-	0%	-	0%
Train	5%	5	7%	5	7%	5	7%
Bus, minibus or	12%	11	15%	11	15%	12	16%
Taxi	0%	-	0%	-	0%	-	0%

Mode	Baseline Mode Share (%)	Year 1		Year 3		Year 5	
		Staff by Mode	Mode Share (%)	Staff by Mode	Mode Share (%)	Staff by Mode	Mode Share (%)
Motorcycle	2%	2	3%	2	3%	2	3%
Driving a car or	63%	37	49%	34	45%	31	41%
Passenger in a car	5%	6	8%	7	9%	7	9%
Bicycle	2%	4	5%	5	7%	6	8%
On foot	9%	10	13%	11	15%	12	16%
Other	0%	-	0%	-	0%	-	0%
Total		75	100.0%	75	100.0%	75	100.0%

6 Travel Plan Measures

6.1 Introduction

6.1.1 This section sets out potential measures which could be implemented to achieve the targets during commissioning and operation and to influence staff and visitor travel. The measures are deemed appropriate to the scale of development as well as having the greatest potential for encouraging the use of sustainable modes of travel.

6.1.2 It is anticipated that the Operational Worker Travel Plan for the operational phase of REP would be undertaken alongside RRRF, providing economies of scale and ensuring that employees of both facilities would be given similar messages and information.

6.2 'Hard' and 'Soft' Measures

6.2.1 A number of specific 'hard' (i.e. infrastructure) and 'soft' (i.e. marketing and promotional) measures could be implemented.

6.2.2 The links between the measures, targets and objectives are provided within the proposed Indicative Action Plan, which is included in **Chapter 8**.

6.3 Measures to Encourage Walking & Cycling

6.3.1 The following measures could be implemented to promote cycling and walking to and from the development amongst staff:

- Cycle parking would be provided in accordance with the London Plan, including short-stay parking for visitors and long-stay parking for staff. Details of the proposed cycle parking is set out in Section 4.4;
- A Bicycle User Group (BUG) could be formed of employees and chaired by the TPC;
- The development would provide showers, changing, drying and locker facilities for staff;
- The TPC could seek to negotiate discounts at local cycle shops for cycles and cycle equipment purchased by employees;
- The TPC should promote national sustainable travel events to workforces including Bike Week and Walk to Work Week; and
- The TPC should outline the health benefits and cost savings of walking and cycling over public transport and single occupancy vehicle trips.

6.4 Measures to Encourage Public Transport Use

6.4.1 Public transport use should be promoted within a Travel Information Pack. This could include the following information:

- Maps presenting local bus routes, bus stops and timetable information;
- Information on public transport fares, discounts and travelcards; and
- Key destination travel information for services from nearby rail stations.

6.5 Measures to Encourage Sustainable Car Use

Electric Vehicle Charging Points

6.5.1 Electric vehicle charging points (EVCPs) would be provided in line with the minimum requirements set out in the London Plan. For the proposed land use this requires 20% of spaces have 'active' provision and a further 10% have 'passive' provision. In the case of REP, there would be 7 spaces with active EVCPs and 4 with passive.

Car Sharing

6.5.2 Car sharing is already encouraged amongst RRRF staff and would be encouraged amongst staff of REP. It is a useful means of reducing the number of car vehicle trips through bringing together individuals living in the same areas or along the same journey corridors.

6.5.3 The existing database of staff willing to share journeys, home addresses and working hours would be updated to incorporate REP commissioning and operational staff.

6.5.4 Staff could be directed to the Liftshare web-based journey matching service (liftshare.com) and also invited to promotional events, at which potential car sharers could be matched. Any events should be coordinated to include both RRRF and REP staff to increase the likelihood of matches.

6.6 Marketing and Promotional Strategy

6.6.1 Providing travel information and raising awareness of the benefits of sustainable travel would be key objectives of the approved Operational Worker Travel Plan. Measures would be utilised by the TPC to increase staff awareness and prompt individuals to think about their travel choices.

6.6.2 These measures could include a Travel Information Pack would be the initial means of informing staff about their travel options. The guide should include the following:

- Information on walking, including local walking maps to local destinations with walking times and distances provided.

- Information on cycling, including information about local cycle routes, cycle parking at REP, local cycle shops, information on cycle training and cycle safety.
- Information on local public transport, including route information, timetables and ticket information.
- Information on what to do if a member of staff wishes to car share.

6.7 Visitors

6.7.1 There would be a variety of visitor travelling to REP including contractors and maintenance personnel.

6.7.2 Visitors would benefit from a number of the measures set out above such as cycle parking and promotion through the Applicant's websites which could set out how to access the site by various modes of transport.

6.7.3 Parking spaces would be specifically set aside for visitors and the use of these should be monitored and revised if necessary. These spaces could be on a pre-book basis to limit car travel to REP and to ensure that there is no overspill parking onto the public highway.

7 Management, Monitoring and Review

7.1 Introduction

7.1.1 This chapter outlines the probable management structure for implementation as well as the ongoing monitoring and review programme. This would be determined through the approved Operational Worker Travel Plan.

7.2 Management Structure

7.2.1 The Applicant would have overall responsibility for the Operational Worker Travel Plan and the relevant obligations, including the funding of all measures listed in **Chapter 6** and appointing the TPC.

7.2.2 The implementation of 'soft' measures to influence travel behaviour of staff would be the responsibility of the TPC.

7.3 Travel Plan Coordinator (TPC)

7.3.1 A TPC would be appointed by the Applicant prior to commissioning and would be responsible for the ongoing implementation and review of the Operational Worker Travel Plan. There is an existing Travel Plan for RRRF and the appointed TPC for REP should seek to align the Operational Worker Travel Plan measures with those for RRRF, such as undertaking joint events promoting sustainable travel, undertaking travel plan monitoring on a consistent basis and 'joined-up thinking' when considering travel to both RRRF and REP.

7.3.2 The name and contact details of the post holder would be notified to the relevant travel plan officer at LBB with funding terminating upon completion of the five-year review and submission of the final Year 5 Monitoring Report. The five year review period will commence on the date of final commissioning.

7.3.3 The role and responsibilities envisaged for the TPC are set out below and would be kept under review, in keeping with the evolving nature of the 'living document' nature of the Operational Worker Travel Plan:

- Establishing contacts within the local community including public transport operators, cycle shop owners, local planning and highway authorities;
- Leading on the implementation of measures, including preparing Travel Information Packs for issue to staff;
- Obtaining baseline mode share data for employees and agreeing final baseline mode share and final targets with LBB; and
- Conducting Staff Travel Surveys one year after commencement of commissioning and in Years 1, 3 and 5 of operation following the baseline survey and submission of a Monitoring Report to LBB on each occasion.

7.3.4 It is anticipated that the TPC would dedicate approximately 2-3 hours per week to the travel plan duties. There would be a higher level of input at times of monitoring.

7.4 Monitoring and Review Framework

7.4.1 A programme of monitoring and review would be implemented by the TPC to evaluate the effectiveness of the measures and whether targets are being met.

7.4.2 The TPC would undertake baseline staff travel surveys within 6 months of first commissioning to refresh the initial targets set out in the approved Operational Worker Travel Plan. These would be reviewed and the results submitted to LBB to agree a final base mode share and targets.

7.4.3 Subsequent monitoring would be carried out one year from the commencement of commissioning and one year, three years and five years after first commission and should update the initial baseline surveys. This would include:

Bi-annual staff travel surveys – a survey of staff to obtain a range of qualitative and quantitative information, including current mode of travel data, origin-destination point analysis and gather feedback on measures.

Compilation of Monitoring Reports – assessing the implementation status of the measures and performance of the Operational Worker Travel Plan in relation to the final targets. A copy of the Monitoring Reports would be submitted to LBB.

7.4.4 Monitoring would be undertaken during neutral months where possible, outside of summer months and not during the school holiday period, and should be carried out at a similar time each year.

7.5 Ownership, Duration and Handover

7.5.1 The ownership of the Operational Worker Travel Plan and TPC role would be maintained by the Applicant throughout the five year post commissioning monitoring period at REP.

7.6 Securing the Travel Plan and Enforcement

Securing the Plan

7.6.1 The implementation of the approved Operational Worker Travel Plan is secured as a Requirement of the DCO, and will be reviewed in collaboration with LBB.

7.6.2 The travel survey results and travel plan reviews would be submitted to LBB. The ownership of the Operational Worker Travel Plan, the commitment to provide a TPC and the Coordinator's role are set out above.

Enforcement

7.6.3 The TPC would seek support and guidance as necessary from the travel plan officer at LBB, in addition to reporting on Monitoring Reports, to ensure that the Operational Worker Travel Plan is effective in meeting its objectives. Where targets are not met, the TPC would develop and agree, with LBB, suitable remedial action – appropriate to the scale of operation at REP.

Remedial Measures

7.6.4 If the targets are not achieved, measures and initiatives could be further developed.

7.6.5 The TPC would prepare appropriate proposals for contingency measures designed to meet the agreed outcomes with LBB over an agreed period of time. Failure to meet targets in one sustainable mode (such as walking) could be offset by overachievement against targets for another sustainable mode (such as cycling), as it would still be meeting the objective to reduce single occupancy car trips.

7.6.6 Contingency measures could include:

- provision of further cycle parking;
- discounted public transport tickets for a limited period of time; and
- increased travel behaviour change initiatives such as travel awareness campaigns.

7.6.7 The TPC would review the measures proposed and make recommendations to the LBB officers.

7.7 Travel Plan Funding

7.7.1 The approved Operational Worker Travel Plan would be resourced by the Applicant as follows:

- All agreed ‘hard’ infrastructure measures -such as cycle parking and welfare facilities;
- All ‘soft’ measures - such as the production of Travel Information Packs; and
- The appointment of a TPC.

8 Indicative Action Plan

8.1.1 An indicative Action Plan which should be considered for the Operational Worker Travel Plan is included below in **Table 8.1**:

Table 8.1: Indicative Travel Plan Action Plan

Measures	Linked to Objectives	Timescale/Trigger	Responsibility
Short-Term (Construction Phase)			
Provide secure cycle parking.	1,2,4,6	Construction period	Applicant
Appoint a Travel Plan Coordinator (TPC).	7	4 months prior to commissioning	Applicant
Medium-Term (Commissioning to First Year Review)			
Prepare Travel Information Pack.	3,4	Prior to commissioning	TPC
Distribute Travel Information Packs to staff.	3,4	Upon commissioning	TPC
Conduct baseline staff travel surveys and update Operational Worker Travel Plan targets.	7	Within 6 months of commissioning	TPC
Promote Personalised Travel Planning service to staff.	3,4,5	During Commissioning	TPC
Conduct commissioning staff travel surveys.	7	12 months after commencement of commissioning	TPC
Conduct Year 1 staff travel surveys.	7	12 months after	TPC

Measures	Linked to Objectives	Timescale/Trigger	Responsibility
		commissioning	
Review results of staff travel surveys including effectiveness of measures, mode shift attained over the previous review period; submit Travel Plan Monitoring Report to LBB and feedback to staff.	7	Following Year 1 travel surveys	TPC
Long-Term (Third to Fifth Year Review)			
Conduct Year 3 staff travel surveys.	7	3 years after commissioning	TPC
Review results of staff travel surveys including effectiveness of measures, mode shift attained over the previous review period; submit Travel Plan Monitoring Report to LBB and feedback to staff.	7	Following Year 3 travel surveys	TPC
Promote national sustainable travel events including Cycle to Work Week, Liftshare Week and Walk to Work Week.	3,4	Annually	TPC
Conduct Year 5 staff travel surveys.	7	5 years after commissioning	TPC
Review results of staff travel surveys including effectiveness of measures, mode shift attained over the previous review period; submit Travel Plan Monitoring Report to LBB and feedback to staff.	7	Following Year 5 travel surveys	TPC

Appendix A Application Boundary

REP Site

Main Road used by Cable Route

Main Road used by Cable Route

Littlebrook Substation

Application Boundary
Area not Included in Application Boundary
Data Centre (Consented)

Zone
Access to the Riverside Energy Park Site
Electrical Connection Route
Main Temporary Construction Compound
The Riverside Energy Park Site

RIVERSIDE ENERGY PARK

0 0.5 1 km

pba peterbrett

Client CORY RIVERSIDE ENERGY

1:25,000 @ A3
30/09/19
Drawn: HG/CM
Checked: JM

Application Boundary and Assessment Areas

Figure 1.2 | Rev 1

Appendix B PTAL Report

TRANSPORT FOR LONDON

PTAL output for Base Year
0

Norman Rd, Belvedere DA17 6JY, UK
Easting: 549502, Northing: 180472

Grid Cell: 80509

Report generated: 04/12/2017

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Appendix C PERS Audit

Riverside Energy Park

Pedestrian Environment Review System Audit

On behalf of **Cory Riverside Energy**

Project Ref: 42166/5501 | Rev: - | Date: September 2018

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Document Control Sheet

Project Name: **Riverside Energy Park**

Project Ref: **42166**

Report Title: **Pedestrian Environment Review System Audit**

Doc Ref: **001**

Date: **September 2018**

	Name	Position	Signature	Date
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Approved by:	Manu Dwivedi	Senior Associate	*M Dwivedi*	September 2018
For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved

Contents

Figures

Tables

1 Introduction

1.1 Overview

1.1.1 Peter Brett Associates LLP (PBA) has been commissioned by Cory Riverside Energy (Cory or "the Applicant")) to produce a Pedestrian Environmental Review System (PERS) audit in support of an application to the Secretary of State under the Planning Act 2008 (PA 2008) for powers to construct, operate and maintain an integrated Energy Park, to be known as Riverside Energy Park (REP or the Proposed Development).

1.1.2 Pedestrian links to local bus facilities and on key links adjacent to the site have been assessed as well as the relevant pedestrian crossing points. The audit was undertaken on Tuesday 18th September 2018 during daylight hours, the weather conditions were cloudy but dry. The audit team were:

- Matthew Bolshaw – PBA Assistant Transport Planner; and
- Ella Pafford – PBA Graduate Transport Planner.

1.2 Preparation of Audit

1.2.1 This PERS audit is prepared as part of the requirements requested by Transport for London (TfL) and supplements the main Transport Assessment (TA). The audit extents have been agreed with TfL through the TA scoping, which is reported and included within the TA for this application.

1.2.2 To inform preparation for the audit, the location of key facilities in relation to REP were confirmed i.e. location of schools and places of worship; as well as trip generators within walking distance of the site. The extent of the audit has been determined through a desktop study with the scope of works chosen as nearby road and footpath links and local bus stops. The facilities being appraised could be used by workers during the construction phase and by employees during the operational phase at REP.

1.2.3 A map showing the extent of the audit was drawn up as shown in Figure 1.1. Facilities identified within the audit area include bus stops, crossings, links and routes. This extent was proposed by TfL. The audit includes three links, three crossing points, two public transport waiting areas and two routes.

1.2.4 When considering which public transport waiting areas to assess, only the bus stops that are closest to REP were included in the audit as it is assumed that employees would choose the closest bus stop if they are serviced by the same bus route. The pedestrian links as shown in the audit extent have also been combined to make two complete routes to demonstrate the environment across a number of links.

Figure 1.1 PERS Extent

1.3 Methodology

1.3.1 A PERS audit assesses the quality of an environment in terms of how it meets the needs of a pedestrian, with the "standard" pedestrian defined by Transport Research Laboratory (TRL) as *"towards the vulnerable end of the spectrum"*.

1.3.2 The PERS audit was conducted using the PERS Streetaudit software version 1.1.10.211. This software has been devised by the TRL for TfL.

1.3.3 All links, crossings and public transport waiting areas were assessed by review parameters as detailed in Table 1.1.

1.3.4 Each of these parameters is made up of a number of sub-factors which are given an individual score on a scale of -3 (very poor) to +3 (very good). A score of 0 represents an average score, whilst N/A indicates that a particular factor was not assessed or was not relevant. The reviewer uses these sub-factor scores to assign an overall score for each review parameter, again on a scale from -3 (very poor) to +3 (very good).

1.3.5 The scores for all parameters are entered into the TfL Streetaudit programme which weights all the parameters and assigns them a Red, Amber or Green (RAG) band. Each link; crossing; public transport waiting area; and interchange then has a RAG band assigned for each parameter assessed. Green represents good or very good provision. Amber represents average provision, with some features that give cause for concern potentially. Red represents a facility or aspect that presents significant cause of concern.

1.3.6 The process then brings together all parameters assessed and assigns each link, crossing or public transport waiting area an overall score. This overall score again informs a RAG band. The banding is graded the same way as above.

Table 1.1 PERS Review Parameters

Links	Crossings	PT Waiting Areas
Effective width	Crossing provision	Information to the waiting area
Dropped kerbs	Deviation from desire line	Infrastructure to the waiting area
Gradient	Performance	Boarding public transport
Obstructions	Capacity	Information at the waiting area
Permeability	Delay	Safety perceptions
Legibility	Legibility	Security measures
Tactile information	Legibility for sensory impaired people	Quality of the environment
Colour contrast	Dropped kerbs	Maintenance and cleanliness
Personal security	Gradient	Waiting area comfort
Surface quality	Obstructions	
User conflict	Surface quality	
Maintenance	Maintenance	

1.3.7 Some photographs from the on-site audit are included within each review chapter.

1.4 Summary

1.4.1 This report presents the findings of the PERS audit which took place on 18th September 2018. The audit included three links, two public transport waiting areas and three crossings and two routes.

1.4.2 The audit was undertaken using the Streetaudit software and in line with the guidance given in the PERS handbook.

2 Links

2.1 Introduction

2.1.1 This chapter sets out the performance of the three links included within the audit. These links were selected as a result of discussions with TfL to assess the surrounding roads and their pedestrian facilities.

2.1.2 All links were audited during the site visit, with movements observed throughout the audit. Photos were also taken to support the conclusions of the audit.

2.2 Results

2.2.1 The following table indicates the scores for each of the three links. This includes the individual score and RAG rating given to each of the three links.

Table 2.1 Results of links audited

ID	Link Name	RAG	RAG index	Overall Score
L1	Norman Road (north of Picardy Manorway)	Green	3	83
L2	Picardy Manorway (eastbound side)	Green	3	92
L3	Picardy Manorway (westbound side)	Amber	2	35

2.2.2 As shown in the table above, both Picardy Manorway (eastbound side) and Norman Road (north of Picardy Manorway) have similar scores, with Norman Road scoring lower and achieving a lower RAG rating. Norman Road generally scores higher due to less traffic and Picardy Manorway (eastbound side) scores high as a result of the width of the footway. A more detailed review of the links is given below.

Norman Road (north of Picardy Manorway)

2.2.3 Norman Road routes north south and is approximately 600m in length when travelling north from Picardy Manorway. The main footway is adjacent to the southbound side of the carriageway which leads from the main highway network (Picardy Manorway) to REP.

2.2.4 The link scored highly on criteria such as lack of obstructions and conflicts but scored negatively on personal security. The pictures in Figure 2.1 show the footway at two locations on Norman Road. This indicates the lack of obstructions from street furniture and also the low number of conflicts as a result of the low pedestrian flows. They do, however, also highlight the isolated nature of the link and the lack of passive surveillance, which led to the lower personal security score.

Figure 2.1 Pictures of Norman Road (north of Picardy Manorway)

Picardy Manorway Eastbound

2.2.5 Picardy Manorway, on the eastbound side of the carriageway, as a link has been audited between the Picardy Manorway/Clydesdale Way/Yarnton Way/Eastern Way roundabout, to the west, and the Horse Roundabout, to the east. This audit result is relevant to the eastbound carriageway footway only. The westbound carriageway footway has been assessed separately.

2.2.6 The link has scored slightly higher than Norman Road as a consequence of the better quality footway on this link. The footway is wide and provides well for the more vulnerable users with high levels of tactile paving and tonal contrast between road, cycleway and footway, although the link still scores negatively on permeability and quality of environment. This is as a result of high traffic levels as well as the lack of sense of place.

Figure 2.2 Pictures of Picardy Manorway Eastbound

2.2.7 The pictures demonstrate the above, that whilst there is a wide footway in place and segregation from other modes, there is a lack of sense of place and permeability on the link.

Picardy Manorway Westbound

2.2.8 Picardy Manorway, on the westbound side of the carriageway, relates to the opposite carriageway to Picardy Manorway eastbound. The westbound link scores much lower and achieves an Amber rating compared to the Green ratings of the other links. This is because of a narrower footway and a perceived lower level of maintenance.

Figure 2.3 Pictures of Picardy Manorway Westbound

2.2.9 As can be seen from the photographs in Figure 2.3 the footway is narrower than in Figure 2.2 and this is exacerbated by the overhanging foliage which narrows the footway further. The worn markings and seasonal foliage also contribute to a lower score with the maintenance and quality of environment suffering as a result of this.

2.3 Summary

2.3.1 In summary the PERS assessment demonstrated that all three links assessed attained a positive score. Norman Road (north of Picardy Manorway) and Picardy Manorway (eastbound side) attained a 'Green' score with Picardy Manorway (westbound side) scoring 'Amber'.

2.3.2 The lowest score recorded was 35 which was given to Picardy Manorway (westbound side). However, this link is only anticipated to be used by employees up to the bus stop.

2.3.3 Overall, all links expected to be commonly used by future employees of the REP attained positive 'Green' or 'Amber' scores and no serious issues or concerns were raised.

3 Crossings

3.1 Introduction

3.1.1 This chapter sets out the performance of the three crossings included within the audit. These crossings are those located in the extent suggested by TfL that are likely to be used by those travelling to and from REP.

3.2 Results

3.2.1 The following table indicates the scores for each of the three crossings. This includes the individual score and RAG rating given to each of the three crossings.

Table 3.1 Results of crossings audited

ID	Link Name	RAG	RAG index	Overall Score
C1	Picardy Manorway	Green	3	87
C2	Norman Road/Picardy Manorway	Green	3	92
C3	Isis Reach / Asda Depot Access Road	Green	3	76

3.2.2 Further detail of the scores provided above is given below.

Picardy Manorway

3.2.3 The scores for this crossing relate to the staggered crossing across Picardy Manorway. The two crossings have been assessed as one due to their similarities and the fact that they act as a staggered crossing rather than two individual crossings.

3.2.4 The crossing pictured in Figure 3.1 scores 87, as a result of having high scores on performance and crossing provision. The only negative scores for the crossing were in relation to ‘delay’. As the traffic flow is high on the A2016 there is considerable delay between calling the crossing and being able to cross.

Figure 3.1 Pictures of Picardy Manorway crossing

Norman Road to Picardy Manorway Crossing

3.2.5 This crossing facility is located close to the Picardy Manorway crossing. This facility relates to the crossing over the Norman Road connection to Picardy Manorway. This crossing has scored 92. The primary reasons for this scoring is due to high scores for 'performance' and 'delay' as well as the absence of any negative scores.

Figure 3.2 Pictures of Norman Road to Picardy Manorway crossing

Isis Reach / Asda Depot Access Road Crossing

3.2.6 This crossing is an uncontrolled crossing over the Isis Reach / Asda depot access road, which again scored all positive results. The crossing is staggered with a central reservation. The crossing is indicated by 'elephant feet' road marking which alert driver to the presence of the facility. The crossing also allows cyclists to cross here.

3.2.7 The crossing scored 71 and this is largely because of high scores for 'crossing provision', 'maintenance' and 'surface quality'. The only negative scores were for 'deviation from the desire line'. This is because when travelling northbound, the crossing is not located at the natural point to cross and has been located further round into the side road to reduce the crossing length.

Figure 3.3 Pictures of Isis Reach / Asda depot access road crossing

3.3 Summary

3.3.1 The PERS assessment demonstrated that all 3 crossings assessed attained a positive score, with all achieving 'Green' RAG scores.

3.3.2 The highest scoring crossing, Norman Road to Picardy Manorway, achieved a total score of 92 showing excellent provision. This is expected to be used by construction workers and employees walking from the bus stop on Picardy Manorway, westbound side, towards the construction site and REP, once completed.

3.3.3 The lowest score recorded was at the Isis Reach / Asda depot access crossing which was given a total score of 71. Though this link is expected to be a commonly used route by future employees, its 'Green' RAG score indicates good provision and no serious issues or concerns.

4 Public Transport Waiting Areas

4.1 Introduction

4.1.1 This chapter sets out the performance of the two public transport (PT) waiting areas included within the audit. These PT waiting areas are those located in the extent suggested by TfL that are likely to be used by those travelling to and from REP both when the facility is operational and during the construction period.

4.2 Results

4.2.1 The following table indicates the scores for each of the two PT waiting areas. This includes the individual score and RAG rating given to each of the two waiting areas.

Table 4.1 Results of PT waiting areas audited

ID	Link Name	RAG	RAG index	Overall Score
PT1	Eastern Way/Norman Road (westbound)	Amber	2	-19
PT2	Picardy Manorway/Eastern Way (eastbound)	Amber	2	-7

4.2.2 Further detail of the scores provided above is given below.

Eastern Way/Norman Road (Westbound)

4.2.3 Eastern Way/Norman Road (westbound) bus stop received a number of negative scores. These were attributed to the lack of perceived safety and security, the quality of environment and the waiting area comfort. The area around the bus stop is surrounded by trees which in most cases are overgrown into the footway. In particular, to the east of the bus stop, these block the sightline to oncoming buses and also encloses the bus stop so that there is almost no passive surveillance. The isolated nature of the bus stop is further exacerbated by any lighting being blocked out by trees.

4.2.4 In addition, there is no shelter or seating provided at the stop, with the only shelter provided by the overhanging foliage. Although under the cover of these trees, it is extremely difficult to be able to see the oncoming buses. The overgrown nature of the vegetation around the bus stop is shown in Figure 4.1.

Figure 4.1 Pictures of Eastern Way/Norman Road Bus Stop

Picardy Manorway/Eastern Way (EB)

4.2.5 The eastbound bus stop scores higher than the westbound bus stop although still receives a number of negative scores. Whilst there are no issues with foliage isolating the bus stop, it is still isolated from any passive surveillance other than from the road itself.

4.2.6 There is no seating or shelter provided, meaning anyone waiting at the stop is exposed to the weather conditions. Quality of environment also scored negatively, and this is due to there being no active frontage surrounding the bus stop, only the A2016. The fence surrounding the Asda depot further increases the feeling of enclosure. Pictures showing this bus stop are below in Figure 4.2.

Figure 4.2 Pictures of Picardy Manorway/Eastern Way Bus Stop

4.3 Summary

4.3.1 The PERS assessment demonstrated that the two PT waiting areas assessed both scored negatively, receiving ‘Amber’ RAG ratings. This was due to the lack of: perceived safety and security; passive surveillance; waiting area comfort; and good visibility of waiting area due to overgrown trees.

4.3.2 Although these bus stops are expected to be commonly used by future employees of the proposed development and construction workers, the current bus stop provision is sufficient regarding the context of the site as workers are likely to leave in groups due to the shift work nature of the construction and operational phases.

5 Routes

5.1 Introduction

5.1.1 In order to assess the movement between all components of this PERS audit, two routes have been assessed. The two routes have been formed from key routes to and from REP.

5.1.2 The assessment of the routes is important as this provides an insight into the pedestrian environment over a longer distance and how different links, connect together. The two links selected in this audit are from REP, along Norman Road (north of Picardy Manorway) and then towards the two respective bus stops.

5.2 Results

5.2.1 The following table indicates the scores for each of the two routes. This includes the individual score and RAG rating given to each of the routes.

Table 5.1 Results of routes audited

ID	Link Name	RAG	RAG index	Overall Score
R1	REP to eastbound bus stop	Amber	2	25
R2	REP to westbound bus stop	Amber	2	3

5.2.2 Further detail of the scores provided above is given below.

Route 1 REP to Eastbound bus stop

5.2.3 This route is made up of the links Norman Road and Picardy Manorway, eastbound side, as well as the Isis Reach / Asda depot access road crossing. The route is one that would be used by those travelling to and from REP and the construction site and using the eastbound bus stop.

5.2.4 The route achieved mainly positive scores, with the ‘directness of the route’ and ‘legibility of signing’ being the highest scoring components. Negative scores were achieved, however, in regard to ‘rest points’ and ‘perception of road safety’. This is as a result of the high levels of traffic on the second part of the route as it runs parallel to Picardy Manorway and the fact that there are no rest stops or sheltered areas on the route.

Route 2 REP to WB bus stop

5.2.5 This route is made up of the links of Norman Road and Picardy Manorway westbound as well as all three crossing points. The route is one that would be used by those travelling to and from REP and the construction site when using the westbound bus stop.

5.2.6 The route achieved similar scores to the previous route although with some scores being slightly lower. ‘Personal security’ and ‘directness’ were two of the criteria that scored lower, this is as a result of Picardy Manorway westbound having less surveillance caused by overgrown trees and the directness reduced by the number of crossing points required along

the route. All other scores are the same with the exception of ‘permeability’. This was also marked slightly lower due to the need to cross Picardy Manorway on this route.

5.3 Summary

5.3.1 The PERS assessment demonstrated that although the two routes assessed both scored positively, they both received ‘Amber’ RAG ratings.

5.3.2 The reason for both routes having relatively low scores is due to lack of: rest points; apparent road safety and personal security due to overgrown trees and high levels of traffic on the routes.

5.3.3 Although these routes are expected to be commonly used by future REP employees and construction workers, the current route provisions are sufficient regarding the context of REP as it is not anticipated that vulnerable users such as children or the elderly will frequently use these routes.

6 Summary

6.1 Summary

6.1.1 This report details the findings of the PERS audit undertaken for the Proposed Development.

6.1.2 In total, 3 links, 3 crossings, 2 routes and 2 public transport waiting areas were audited. Two out of the three links and all three crossings achieved a Green RAG score overall showing a good standard of provision.

6.1.3 Both public transport waiting areas scored ‘Amber’ which was due to a lack of ‘perceived safety and security’ and ‘waiting area comfort’.

6.1.4 Both routes scored ‘Amber’ due to lack of ‘rest points’, ‘road safety’ and ‘personal security’. However, due to both routes having positive scores, the current existing provisions are deemed sufficient.

6.1.5 Despite public transport waiting areas having a relatively low score, this can be easily resolved through better maintenance. Our recommendation would be to engage with LBB and request that notice is served on the Isis Reach estate managers to cut-back the trees that over-hang the Highway. These trees are blocking views of oncoming buses and restrict the spread of street lighting.

6.1.6 No improvements are suggested for the surrounding links and crossings as existing infrastructure is deemed sufficient.

6.2 Conclusion

6.2.1 Overall, this PERS audit suggests that if the above recommendations are executed the current facilities and infrastructure are sufficient in the context of the construction and operation of REP. This conclusion reflects the positive Link and Crossing scores and is in spite of the negative public transport waiting areas scores.

Appendix D CLoS Assessment

Riverside Energy Park

Cycle Level of Service (CLoS) Assessment

On behalf of **Cory Riverside Energy**

Project Ref: 42166/5501 | Rev: -| Date: September 2018

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Document Control Sheet

Project Name: **Riverside Energy Park**

Project Ref: **42166**

Report Title: **Cycling Level of Service (CLoS) Assessment**

Doc Ref:

Date: **September 2018**

	Name	Position	Signature	Date
Prepared by:	Ella Pafford	Graduate Transport Planner	E Pafford	September 2018
Reviewed by:	Adrian Neve	Senior Associate	A Neve	September 2018
Approved by:	Manu Dwivedi	Senior Associate	M Dwivedi	September 2018
For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved

Contents

Figures

Tables

1.1 Cycle Environment Assessment

Cycling Level of Service (CLoS)

1.1.1 Cory Environmental Holdings Limited (trading as Cory Riverside Energy (Cory or "the Applicant")) is applying to the Secretary of State under the Planning Act 2008 (PA 2008) for powers to construct, operate and maintain an integrated Energy Park, to be known as Riverside Energy Park (REP). Peter Brett Associates LLP (PBA) has been commissioned by Cory to produce a Cycling Level of Service (CLoS) assessment in support of that application.

1.1.2 The CLoS assessment has been developed by TfL in order to set a common standard for the performance of cycling infrastructure for routes / schemes and for individual junctions.

1.1.3 This CLoS assessment focuses solely on the Norman Road / Picardy Manorway junction, as requested by TfL during pre-application discussions. The assessment has been undertaken in accordance with guidance outlined in Chapter 2 of TfL's London Cycling Design Standard (2016).

1.1.4 The most common type of cycle collision tends to involve movements at or around junctions. A supplementary process for assessing junctions has therefore been developed to give a broader assessment of a given location.

1.1.5 Rather than going through the entire CLoS assessment for each possible movement of a cyclist through a junction, an estimation of potential conflict can be done through briefly assessing each junction in turn. Junctions are identified in a study area and each movement at each junction is marked on a plan. Each movement can be rated and marked on the plan according to how safely and comfortably it can be made by cyclists:

- Red – where conditions exist that are most likely to give rise to the most common collision types;
- Amber – where the risk of those collisions has been reduced by design layout or traffic management interventions; and
- Green – where the potential for collisions has been removed entirely.

1.1.6 In order to help assess junction movements, Table 1.1 suggests typical scenarios that might lead to a 'red', 'amber' or 'green' rating. This has been taken from the London Cycling Design Standards (2016).

Table 1.1: Indicative Criteria for Scoring Junction Assessments

Factors needing Removal or Mitigation	Possible Improvements	Further Improvements
Red	Amber	Green
Heavy left turn movement with high HGV mix	Entry treatment at side road junction	Left turn ban for general traffic
Opposed right turns with general traffic accelerating quickly into opportunistic gaps	Continuation of lane across junction	Opposing right turn banned for general traffic
Left slip lane	Right-turn protected island	Physically protected turn

Guard-railing	Tight corner radii; pinch points removed (avoiding nearside lane of 3.2-4.0m)	Left bypass of signals
Large junction radii	Bus lane of 3.0-3.2m or of 4.5m or more	Segregation of cycle movements using dedicated cycle signals
High speed motor traffic through junction	2m wide central feeder lane	Raised tables
Uphill gradients	ASLs (preferably 5m+ deep)	Area-wide speed limit/ reduction
Wide junction crossings	Signal adjustments to cycle movement	
No clear nearside access		
Multiple lanes		

1.1.7 Figure 1-1 shows the various movements which can be undertaken by cyclists at the junction scored by colour.

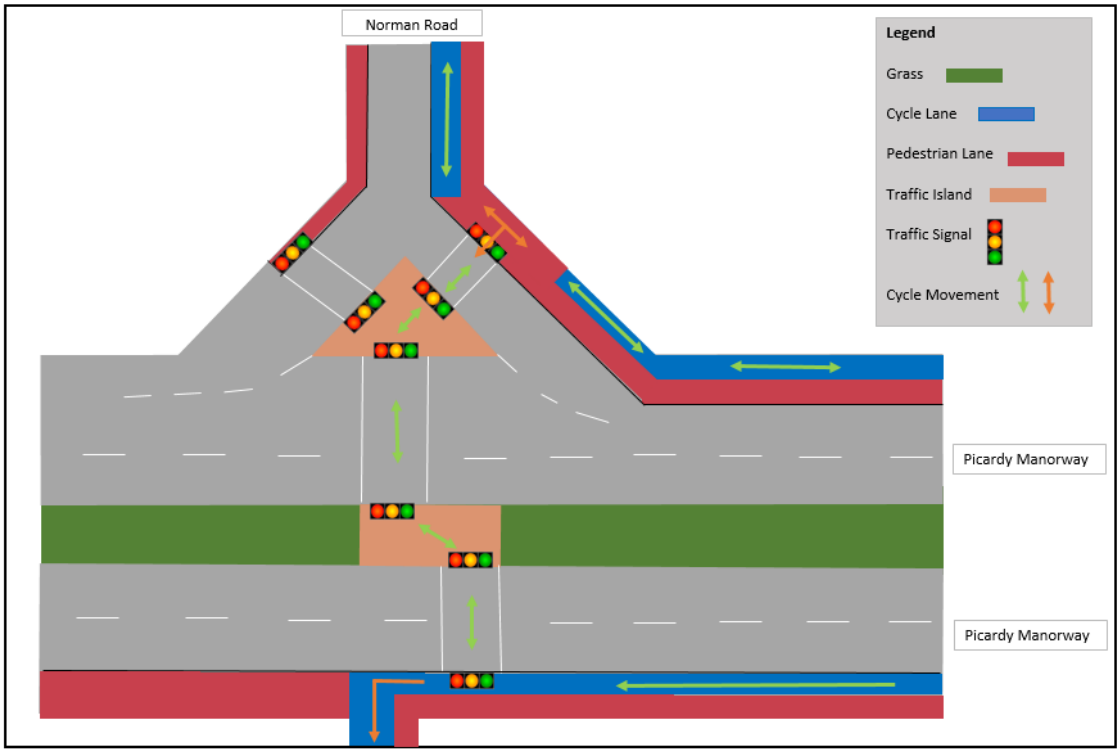


Figure 1-1: Norman Road / Picardy Manorway Junction – CLoS Assessment

1.1.8 As can be seen, the majority of movements on the assessed junctions were deemed to have a 'green' rating. This is due to the provision of off-carriageway cycle lanes along the eastern side of Norman Road, along both sides of Picardy Manorway (east of Norman Road), and a shared pedestrian / cycle route between the Picardy Manorway south side and Clydesdale Way.

1.1.9 The 'amber' cycle movements, shown in Figure 1-1, are due to the potential for pedestrian – cycle collisions where pedestrian and cycle routes intersect.

1.1.10 At the junction and on the eastern side of Norman Road, the cycle facility is located adjacent to the kerb. This stretch of cycle track is two-directional. On the northern side of Picardy Manorway, the cycle facility is alongside the Highway boundary. This latter section of cycle route is marked to imply it is for use westbound only, as a result of the 'give-way' markings.

1.1.11 On the southern side of Picardy Manorway, the cycle facility to the east of the crossing facility appears to be two-directional. Using the cycle route in the eastbound direction, however, would result in entering the carriageway against the flow of traffic. To the west of the crossing, on the southern side of Picardy Manorway, pedestrians are required to cross the cycle track to access the crossing, which provides potential for pedestrian – cycle collisions.

1.1.12 Overall, while it is considered that some minor improvements could be made to improve the cycle environment at this junction, it should be recognised that the PIC analysis, presented in Chapter 2, has identified no cycle incidents at this junction. The provision of off-carriageway cycle tracks in addition to crossing facilities, is considered to provide a safe environment for cyclists at the Norman Road / Picardy Manorway junction for access to the REP site.

Norman Road Cycle Environment

1.1.13 Norman Road, to the north of Picardy Manorway, provides on-street cycle lanes on both sides. The cycle lane on the western side of Norman Road stops approximately 150m to the south of the REP site. At this point, a 'Cyclists Dismount' sign is provided, and cyclists are directed to the cycle route on the eastern side of Norman Road which is provided as a shared off-carriageway cycle / pedestrian route.

1.1.14 Given the volume of HGV traffic along Norman Road, it is considered that on-street cycle lanes provide only minimal provision for cyclists. The facilities, however, reflect the probable low level of use and the constraints on the width of the corridor.

1.1.15 An alternative cycle route is running alongside Norman Road (using the Isis Reach access road). This cycle route is entirely off-carriageway and thus provides a safer alternative for cyclists to travel along Norman Road. However, the final connection to the north of this access road does not connect to Norman Road.

1.1.16 It would be beneficial for cycle access if the connection between the two existing cycle routes could be implemented, however, this is not currently viable due to the need for the public adoption of the Isis Reach access road and the land required to make the connection.

1.2 Conclusion

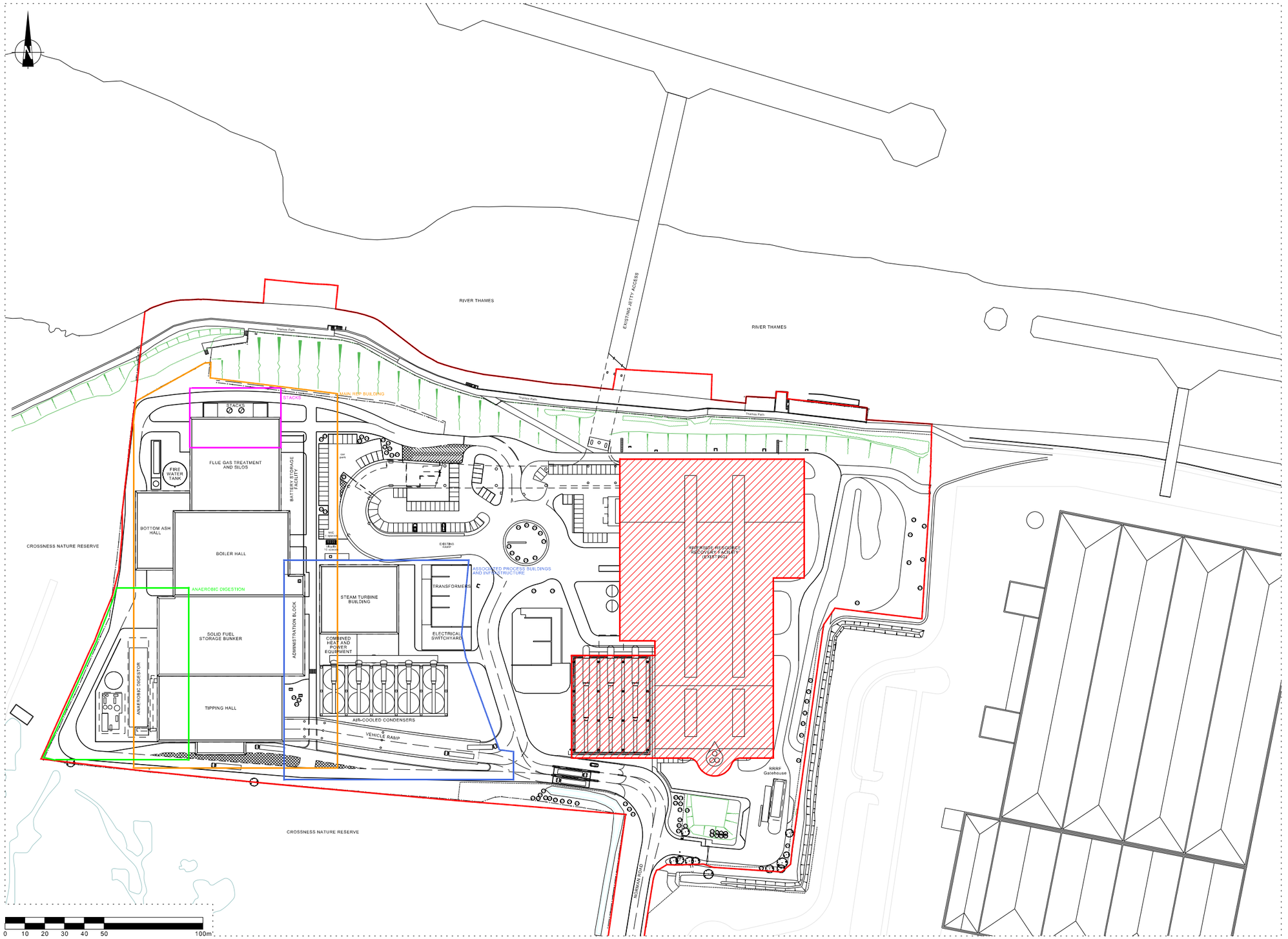
1.2.1 Off-carriageway cycle routes are clearly defined at the junction of Picardy Manorway with Norman Road which provide some connection to wider cycle facilities. These cycle lanes are generally well configured, indicating the areas of potential conflict.

1.2.2 The current signs, markings and lining shows some signs of age but are adequate to convey the messages to cyclists, pedestrians and motorists.

1.2.3 The on-carriageway facilities to the north of the Isis Reach access provides a minimal facility but reflect the corridor width constraints.

1.2.4 Whilst some improvements could be made to the local cycle infrastructure, the current facilities provide good crossing provision of Picardy Manorway and a connection to the proposed construction site compound, at the southern end of Norman Road (north of Picardy Manorway) and a connection to the operational REP.

Appendix E Site Layout Plan



KEY:

- APPLICATION BOUNDARY
- AREA NOT INCLUDED IN APPLICATION BOUNDARY

PARAMETERS KEY:

- MAIN REP BUILDING
- ANAEROBIC DIGESTION
- ASSOCIATED PROCESS BUILDINGS AND INFRASTRUCTURE
- STACKS

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CORY RIVERSIDE ENERGY

RIVERSIDE ENERGY PARK

NORMAN ROAD BELVEDERE LONDON

ILLUSTRATIVE SITE LAYOUT AND PARAMETERS PLAN

THE RIVERSIDE ENERGY PARK SITE LONDON

Date	17.05.19
A3 Scale	1:2000
Drawn by	AG
Checked by	PC
Drawing Number	Figure 1.3a Rev 1