



Implementation Report - Safeguarded Wharves Review 2018 - 2019

Final – December 2019

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Photographs

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Copies of this report are available from the weblink set out on the 'how to give your views' page

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Supporting documents

This Report is supported by the following documents, which were available for public consultation from 11th May to 3rd August 2018:

- 1) Individual Site Assessments of each wharf, updated December 2019, GLA

And

- 2) Forecasting London's Freight Demand and Wharf Capacity on the Thames 2015 – 2041, December 2016, Ocean Shipping Consultants

And

- 3) Strategic Environmental Assessment – Safeguarded Wharves Review, February 2018, WSP Consultants.

And

- 4) Habitats Regulations Assessment Screening, February 2018 WSP Consultants

And

- 5) An Equalities Impact Assessment of the Safeguarded Wharves Review, GLA

You can view these documents online and download them from:
<https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves-review>

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Executive Summary

- The last review of the network of safeguarded wharves approved by Government was undertaken in 2005.
- The proposals set out in this document were subject to a 3 month consultation from 11 May and 17 August 2018, with a further round of consultation on changes in response to submissions from 20 August to 2 October 2019. After considering the responses the Mayor is submitting this final set of recommendations to the Secretary of State for Housing, Communities and Local Government for his approval and to ask him to issue a further set of directions.
- The Mayor is recommending the removal of the safeguarding designation from the wharves listed in table ES 1 below.

Table ES 1 - Wharves where safeguarding Direction is recommended to be removed.

Borough	Wharf
Bexley	Railway
Newham	Priors
Newham	Mayer Parry
Barking & Dagenham	Welbeck
Havering	Phoenix

- The proposed Silvertown tunnel scheme will lead to the temporary loss of a safeguarded wharf and the need to relocate existing operators. This offers the opportunity to consolidate wharf activities within a more coherent boundary.

Table ES 2 - Wharves where safeguarding Direction is recommended to be removed due to the Silvertown Tunnel Scheme and to consolidate existing wharf operators

Borough	Wharf
Newham	Thames
Newham	Manhattan
Newham	Sunshine

- The Mayor is recommending the protection of the following wharves, which are not currently safeguarded, with the safeguarding Directions. These are set out in table ES 3 below.

Table ES 3 - Wharves where safeguarding Direction is proposed to be applied.

Borough	Wharf
Newham	Royal Primrose
Barking & Dagenham	Alexander

- The capacity of the network of safeguarded wharves is estimated at 18.0 mt. If the recommendations in tables ES1-ES3 are implemented the network's capacity will change to c.17.4 mt, a fall of 3.5%.
- The Habitats Regulation Assessment (HRA) screening, indicates that for the Mayor proposed Safeguarded Wharves *"it is not considered likely that there will be any significant effects on the European sites..."*
- The Strategic Environmental Assessment (SEA), indicates for the proposed safeguarded wharves the impact on the identified SEA topics is overwhelming positive.

Introduction

This chapter sets out some contextual background on wharves.

- 1.1 Safeguarding of Thames wharves was introduced as part of the suite of policies in Strategic Guidance for the River Thames (RPG3b/9b) in February 1997. Safeguarding Directions transferred the responsibility for safeguarding from the Secretary of State to the mayor of London and designated the wharves to be safeguarded. Planning applications on these wharves are referable to the Mayor under Category 4 of the Town & Country Planning (Mayor of London) Order 2008. Thus, any application lodged on the sites should be treated as a strategic referral to the Mayor under the procedures set out in the Order. This applies irrespective of whether it is for comprehensive redevelopment of the site or cargo-handling operations. The last set of safeguarding Directions were issued in 2005, as a result of the review of the same year.
- 1.2 Whilst the power to issue safeguarding Directions rests with the Secretary of State, it is for the Mayor to recommend to the Secretary of State which sites should be safeguarded, in the context of the London Plan.
- 1.3 The Directions have enabled the redevelopment of wharves that are viable or capable of being made viable for cargo-handling, to be fully considered in terms of the wharf's operational, planning and transport context.
- 1.4 The Mayor sought to review the Safeguarded Wharves network in 2011 making final recommendations to the Secretary of State for changes to the network in 2013. The Secretary of State chose not to endorse the Mayor's proposals and thus the network of wharves safeguarded via the 2005 review still represents the current network of safeguarded wharves.
- 1.5 National policy is set out in the National Planning Policy Framework¹ (March 2012) (the NPPF). The following paragraphs are of most relevance. Paragraph 17 *"Within the overarching roles that the planning system ought to play, a set of core planning principles should underpin both plan-making and decision-taking. These, 12 principles are that planning should;...proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure...support the transition to a low carbon future in a changing climate,...contribute to conserving and enhancing the natural environment and reducing pollution."* Paragraph 30 *"Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives."* Paragraph 31 *"Local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development"* Paragraph 35 *"Plans should protect and exploit opportunities for the use of sustainable*

¹ <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

modes for the movement of goods or people...” Paragraph 143 “In preparing Local Plans, local planning authorities should...safeguard existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials..”

- 1.6 The Marine Policy Statement² (March 2011) (the MPS) sets out a framework for preparing marine plans and for taking decisions that affect the marine environment and is a material consideration for both land use and marine planning. Any decision made by planning authorities in relation to safeguarded wharves is required to have regard to the MPS. Two sections of the MPS are relevant to this report – Shipping and ports and marine aggregates.
- 1.7 In paragraph 3.4.1 the MPS states *“Ports and shipping play an important role in the activities taking place within the marine environment. They are an essential part of the UK economy, providing the major conduit for the country’s imports and exports.”* In paragraph 3.4.7 it adds *“Marine plan authorities and decision makers should take into account and seek to minimise any negative impacts on shipping activity...”*. ‘Decision makers’ includes both the Mayor and the boroughs. In paragraph 3.4.11 it advises *“When decision makers are advising on or determining an application for an order granting development consent in relation to ports, or when marine plan authorities are developing Marine Plans, they should take into account the contribution that the development would make to the national, regional or more local need for the infrastructure, against expected adverse effects including cumulative impacts.”*
- 1.8 In paragraph 3.5.1 the MPS supports the continued use of marine aggregates *“The UK has some of the best marine aggregate resources in the world. Marine sand and gravel makes a crucial contribution to meeting the nation’s demand for construction aggregate materials, essential for the development of our built environment. They are particularly important in England, accounting for 38% of the total regional demand for sand and gravel in the South East (80% in London),...It continues”* The extraction of marine dredged sand and gravel should continue to the extent that this remains consistent with the principles of sustainable development, recognising that marine aggregates are a finite resource and in line with the relevant guidance and legislation”. In paragraph 3.5.2 it adds *“Marine aggregates contribute to diversity of supply and deliver high quality aggregate into the centre of areas of high demand with minimum disruption.”* London is an area of high demand. In paragraph 3.5.3 the MPS advises *“Marine aggregates can present reduced impacts on local communities compared to the extraction of land-won aggregates, in particular with regard to the extraction process and transportation. Substantial*

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf

volumes of marine aggregates are landed on wharves close to where they are needed and locally distributed by rail, water (through barges) and road. Wider social and economic benefits include skilled, stable employment and the generation of income through the construction industry supply chain.”

1.9 Section 41 of the Greater London Authority Act (1999) places duties on the Mayor with regards to the strategies the Mayor produces, such as the Mayor’s Transport strategy or the Spatial Development Strategy, usually referred to as the London Plan. Given this, in sub sections 4 and 5, of Section 41, the Act states that:

- *In preparing or revising any strategy mentioned in subsection (1) above, the Mayor shall have regard to—*
- *the principal purposes of the Authority;*
- *the effect which the proposed strategy or revision would have on—*
- *the health of persons in Greater London; and*
- *the achievement of sustainable development in the United Kingdom; and*
- *the matters specified in subsection (5) below.*
- *Those matters are:*
- *the desirability of promoting and encouraging the use of the River Thames safely, in particular for the provision of passenger transport services and for the transportation of freight.*

1.10 The London Plan³ (March 2016) contains a number of relevant policies such as: Policy 5.20 Aggregates “*A The Mayor will work with all relevant partners to ensure an adequate supply of aggregates to support construction in London. This will be achieved by: 3 importing aggregates to London by sustainable transport modes. Fb – safeguard wharves and/or railheads with existing or potential capacity for aggregate distribution Fc minimise the movement of aggregates by road and maximise the movement of aggregates via the Blue Ribbon Network.*”

1.11 Policy 6.14 Freight “*A The Mayor will work with all relevant partners to improve freight distribution...and to promote movement of freight by rail and waterways...B Development proposals that: c) increase the use of the Blue Ribbon Network for freight transport will be encouraged. C DPDs should promote sustainable freight transport by: a safeguarding existing sites and identifying new sites to enable the transfer of freight to rail and water...*”

1.12 Policy 7.26 Increasing the use of the Blue Ribbon Network for freight transport “*A The Mayor seeks to increase the use of the Blue Ribbon Network to transport freight. B Development proposals a) should protect existing facilities for waterborne freight traffic, in particular safeguarded wharves should only be used for waterborne freight handling use. The redevelopment of safeguarded*

³ <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

wharves for other land uses should only be accepted if the wharf is no longer viable or capable of being made viable for waterborne freight handling...Temporary uses should only be allowed where they do not preclude the wharf being reused for waterborne freight handling uses...The Mayor will review the designation of safeguarded wharves prior to 2012. B) which increase the use of safeguarded wharves for waterborne freight transport, especially on wharves which are currently not handling freight by water, will be supported. C) adjacent or opposite safeguarded wharves should be designed to minimise the potential for conflicts of use and disturbance D) close to navigable waterways should maximise water transport for bulk materials, particularly during demolition and construction phases. C) Within LDFs boroughs should identify locations that are suitable for additional waterborne freight.”

- 1.13 Other plan policies also promote waterborne freight. Policy 5.17 on Waste Capacity promotes the use of the river “*B Proposals for waste management should be evaluated against the following criteria:...e) achieving a positive carbon outcome for waste treatment methods and technologies (including the transportation of waste,... g the full transport and environmental impact of all collection, transfer and disposal movement and, in particular, the scope to maximise the use of rail and water transport using the Blue Ribbon Network. G Land to manage borough waste apportionments should be brought forward through: ...d safeguarding wharves (in accordance with Policy 7.26) with an existing or future potential for waste management.”* Policy 5.18 dealing with Construction, Excavation and Demolition waste the use of the river “*A New construction, excavation and demolition (CE&D) waste management facilities should be encouraged at existing waste sites, including safeguarded wharves,... B Waste should be removed from construction sites, and materials brought to site, by water or rail transport wherever that is practicable...”* Policy 7.24 calls for “*prioritizing uses of the waterspace and alongside it safely for water related purposes, in particular for passenger and freight transport.”*
- 1.14 The draft London Plan continues to set out the Mayor’s support for river freight. Policy E4 on providing land to support London’s economic functions especially Parts A and D1. Policy SI 8 on waste especially Part B3C, Aggregates policy SI 10 part D2, Policy SI 15 on water transport, Transport Policy T2 on healthy streets particularly, Parts B 1 and D 2 and Policy T7 on freight and servicing.
- 1.15 The Mayor’s Transport Strategy⁴ (March 2018, pg. 198) sets out a complementary approach to that of the London Plan, it contains the following policy “*The Mayor, through TfL and the boroughs, and working with stakeholders, will seek the use of the Thames to carry passengers to integrate river services with the public transport system, walking and cycling networks,*

⁴ <https://www.london.gov.uk/sites/default/files/mayors-transport-strategy-2018.pdf>

and to enable the transfer of freight from road to river in the interests of reducing traffic levels and the creation of Healthy Streets.”

- 1.16 In November 2011, the Mayor adopted his statutory Municipal Waste Management Strategy ‘London’s Wasted Resource’⁵ This contains Policy 2 (pg. 77) *‘Reducing the climate change impact of London’s municipal waste management’* This is underpinned by a series of proposals such as Proposal 2.5(pg. 77) which states *“The Mayor, through Transport for London (TfL), will work with waste authorities to maximise cost efficiencies and reduce the environmental impact of transporting municipal waste...”*. On page 90 the strategy states *“The Mayor also wishes to see greater use of rail and water for transporting London’s municipal waste and supports the development of more waste infrastructure at railheads and wharves...”* This is developed further in Proposal 5.3 (pg115) *“The Mayor, through TfL, will encourage the movement of municipal waste using sustainable modes of transport. The Mayor, through TfL, will promote sustainable forms of transport for municipal waste, maximising the potential of rail and water transport where practicable The Mayor, through TfL, will work with waste authorities to make better use of London’s wharves and canals and the River Thames for developing the city’s municipal waste management infrastructure.”*
- 1.17 In his adopted Business Waste Strategy (November 2011) ‘Making Business Sense of Waste’⁶ the Mayor is seeking a similar approach for business waste Proposal 3.6 (pg83) encourages the integration of waste infrastructure into the urban environment noting that *“London needs to make better use of its rivers and canals, particularly for waterborne freight, including waste. This can also provide an opportunity for the waste sector to reduce its own transport-related environmental impacts. Water transport is particularly suited to bulk movements of relatively low value cargoes, including waste and recyclates, and waste and materials associated with construction and demolition activities.”*
- 1.18 This proposal is underpinned by a number of actions *“Action 3.6.1 The Mayor will examine opportunities for transporting waste by rail or water. Transport for London will, as appropriate, support businesses to explore opportunities to open up the rail and navigable water network for the transportation of waste, to allow the waste sector to reduce its vehicle mileage and the associated environmental and social impacts, including emissions, air quality, health impacts, noise and dust.”* and *“Action 3.6.2 Through Policy 5.17 of the London Plan, the Mayor will continue to require that wharves with an existing or future potential for waste management should be identified and safeguarded specifically for that use.”*

⁵ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/mayors-municipal-waste-management-strategy>

⁶ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/mayors-business-waste-management-strategy>

- 1.18 "Delivering London's Energy Future"- London's Climate Change Mitigation and Energy Strategy⁷ (October 2011, pg. 181) highlights that the transport sector was responsible for 22% of London's CO₂ emissions (9.9Mt) in 2008. Policy 10 seeks to tackle these emissions by *"Minimizing CO₂ emissions through a shift to more carbon efficient modes of transport. The Mayor, through TfL and working with boroughs and partners will support and incentivise carbon efficient travel behaviour, minimise the need to travel, and encourage a switch to lower carbon modes of transport....for freight, it will include water and rail-based movement."*
- 1.19 The strategy notes that (pg 184) *"In total nearly three quarters of London's CO₂ emissions from transport are from road-based modes."* In contrast, water based transport contributes less than 1% of the emissions (Pg185). The strategy (pg. 189) notes that *"The average emissions from vans below 3.5 tonnes are 340g of CO₂e per tonne of freight moved per kilometre (tkm). The average emissions from large heavy goods vehicles (HGV's) are 83g of CO₂e per tkm. Rail is much lower at 32g of CO₂e per tkm. Rail and water are only suited to certain types of freight flows and often have to be used in conjunction with road for collection and delivery. However, given London's relatively dense network of railways and waterways, there is an opportunity to reduce CO₂ emissions from transporting freight in London."*
- 1.20 The Mayor's London Environment Strategy⁸ sets out an overall approach to environmental issues. Proposal 4.2.1e seeks to *"reduce emissions from freight through encouraging a switch to lower emission vehicles."* This includes *"examining other ways in which freight can be moved around...making better use of river and rail services."* *"The Mayor will also support any proposals to use wharves as freight consolidation centres..."* This approach is complemented by Policy 9.1.1 *"Minimize the adverse impacts of noise from London's road transport network"*, and proposal 9.1.1a *"The Mayor will work with TfL to encourage mode shift to reduce road traffic"* Policy 9.1.1c *"The Mayor will work with key stakeholders to reduce noise from freight activity in London."*
- 1.21 In July 2016 the Port of London Authority published its 20 year 'Vision for the Tidal Thames'⁹ which provides a framework for the development of the tidal Thames through to 2035. The Vision was developed in partnership with estuary stakeholders and includes six key goals for growth and actions to deliver these goals. A number of these goals relate to waterborne freight and the future use of safeguarded wharves.
- 1.22 The Vision includes a goal to *'see more goods and materials routinely moved between wharves on the river – every year over 4 million tonnes carried by water – taking over 400,000 lorry trips off the region's roads'*. The Vision also includes a goal to *'see the Port of London becoming the biggest it's ever been, handling 60 – 80 million tonnes of cargo each year'*. The vision recognises the importance of

⁷ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/delivering-londons-energy-future-climate-change>

⁸ Mayor of London (2018), London Environment Strategy, <https://www.london.gov.uk/what-we-do/environment/london-environment-strategy>

⁹ <https://pla.co.uk/About-Us/The-Thames-Vision>

maintaining and improving exit and entry points to the river to enable freight and cargo transport and includes a goal to '*maintain or reactivate viable cargo handling facilities, with at least five additional facilities brought into operation by 2025*'. The Vision also includes a goal to extend the Mayor's River Concordat, originally set up to promote passenger transport, to include the promotion of freight movement by water.

- 1.23 The Thames Estuary 2050 Growth Commission was announced by the Chancellor of the Exchequer in March 2016. The Commission is charged with developing a vision and delivery plan for North Kent, South Essex and East London, reporting back by 2017 with a clear and affordable delivery plan for achieving the vision. As outlined in DCLG's July 2016 discussion paper¹⁰, a key work stream for the Commission will be to review opportunities and constraints associated to 'increasing connectivity', which will include a review waterborne transport and associated infrastructure.
- 1.24 The Environment Agency's Thames River Basin District – River Basin Management Plan 2015¹¹ establishes a framework for protecting and enhancing the environmental, social and economic benefits provided by the water environment, implementing the requirements of the European Water Framework Directive. The Plan recognises that value of the estuary, and wider water environment, in supporting transportation and economic development. The plan recognises that value of the estuary in supporting commerce and navigation, through its designation as a Heavily Modified Water Body (HMWB).
- 1.25 The National Needs Assessment (NNA) is a cross-sector policy review of the UK's national economic infrastructure needs to 2050. Coordinated by the Institute of Civil Engineers (ICE), it covers energy, transport, communications, housing, water, waste and flooding. The NNA has established a shared vision for infrastructure, stating '*The UK will invest efficiently, affordably and sustainably in the provision of infrastructure assets and services to drive the economic growth necessary to enhance the UK's position in the global economy, support a high quality of life and shift towards a low carbon future*'.
- 1.26 Ensuring commercial activities continue to thrive and grow without compromising the natural, heritage, recreational, and landscape resources of the estuary is an overarching aim of the guidance. The guidance highlights that using the river as a sustainable transport corridor could result in significant reductions in road traffic and congestion. The guidance also includes Principles for Action for the safeguarding of riverside areas with good navigational access for river dependant activities.
- 1.27 Thames Strategy East is a strategic planning document providing a 100 year vision for the Thames area stretching from Tower Bridge to Gravesham. The plan focuses on providing landscape and development design guidance based on heritage, natural habitat preservation, recreational and access needs, economic considerations and flood defence requirements. The strategy includes reach specific guidance and policy which highlights the potential of waterborne transport.

¹⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/537578/Call_for_ideas.pdf

¹¹ <https://www.gov.uk/government/collections/river-basin-management-plans-2015#thames-river-basin-district-rbmp-2015>

Freight – Demand, Capacity and Distribution to 2041

Demand

- 2.1 In the Autumn of 2016 the Mayor appointed Ocean Shipping Consultants Limited to undertake an assessment of demand for freight on the Thames in London to 2041, estimate the capacity of the current network to handle this forecast demand and examine the distribution of the demand/capacity across the network. This chapter presents a summary of their findings, a link to the full report is set out on the 'how to give your views' page.
- 2.2 Table 2.1 below shows that overall there has been a growth in freight volumes on the Thames in London over the 2005-2015 period. A period that covers both economic growth and economic recession. Strong growth in Construction Materials (this includes Construction, Demolition & Excavation Waste) and Petroleum Products has outweighed decline in Sugar, Agricultural Bulks and Steel. Waste and Vehicles have seen small growth.

Table 2.1 Change in Freight Volumes on the Thames 2005-2015

Commodity	Tonnes 2005	Tonnes 2015	Overall Change	% Change from 2005	% CAGR
Construction Materials	4,894,407	6,943,274	2,048,867	41.9%	3.6%
Sugar	1,164,999	543,416	- 621,583	-53.4%	-7.3%
Waste	1,009,224	1,076,856	67,632	6.7%	0.7%
Vehicles/Unitised	862,625	882,979	20,354	2.4%	0.2%
Agricultural Bulks	652,712	577,009	- 75,703	-11.6%	-1.2%
Steel	54,667	6,402	- 48,265	-88.3%	-19.3%
Petroleum	295,550	686,260	390,710	132.2%	8.8%

Products					
Total	9,092,167	10,716,196	1,624,029	17.9%	1.7%

- 2.3 Table 2.2 shows how the composition of freight volumes on the Thames in London has changed over the 2005-2015 period. The most notable features being the increasing importance of Construction Materials and the decline in Sugar.

Table 2.1 Composition of Freight Volumes on the Thames 2005-2015

Commodity	% of Total 2015	% of Total 2005
Construction Materials	64.8%	53.1%
Sugar	5.1%	12.8%
Waste	10.0%	11.1%
Vehicles/Unitised	8.2%	9.5%
Agricultural Bulks	5.4%	7.2%
Steel	0.1%	0.6%
Petroleum Products	6.4%	3.3%

- 2.4 OSC suggested that the basis for all commodity forecasts is the Compound Annual Growth Rate (CAGR) which is used to calculate an annual average growth rate over the historical period 2005-2015. CAGR accounts for fluctuations in the annual data and provides an average rate of change in volumes which can be used for forecasting.

- 2.5 The formula for CAGR is:

$$CAGR = \left(\left(\frac{End\ Value}{Start\ Value} \right)^{\frac{1}{n}} \right) - 1$$

Where n = time period

- 2.6 Even though CAGR can accurately reflect historical trends, it cannot, on its own, constitute an accurate forecasting method, especially over a longer time

horizon. So, even though it is used as a basis for the forecasts, it is not applied uniformly over the forecast period. In moving from the short-term to the longer-term, additional market assessments and assumptions are made which influence future commodity trends, therefore OSC utilised a CAGR 'Adjusted' measure. These will be discussed in more detail for each of the main commodities together with the overall forecast results.

- 2.7 Within this forecast methodology (CAGR 'Adjusted'), a high, base and low case scenario can be formulated. The base case scenario represents the most likely outcome whereas the high and low cases serve as a sensitivity analysis.
- 2.8 The CAGR of the different commodities from the historical dataset are presented in Table 2.3 below:

Table 2.3 Historical Commodity CAGR

Commodity	Start Value	End value	Period	% CAGR
Agricultural Bulks	652,712	577,009	2005-2015	-1.2%
Construction M.	4,894,407	6,943,274	2005-2015	3.6%
Petroleum	295,550	686,260	2005-2015	8.8%
Steel	54,667	21,313	2005-2016*	0.1%
Sugar	1,164,999	550,000	2005-2016*	5.1%
Vehicles	862,625	882,979	2005-2015	0.2%
Waste	1,009,224	1,076,856	2005-2015	0.7%

*2016 values were estimated and so forecasts begin a year later for these two commodities

- 2.9 As an example, the CAGR for Agricultural Bulks is calculated as follows:

$$CAGR = \left(\left(\frac{577,009}{652,712} \right)^{\frac{1}{2015-2005}} \right) - 1 = -0.01$$

Or -1% if expressed as a percentage.

- 2.10 It should be noted that cargo types assigned to individual wharves do not change over time i.e. a wharf is assumed to have been used for the same type of cargo over the period 2005-2015. This is an assumption that does not significantly affect estimated commodity volumes since it is accurate for the majority of cases. If a wharf is categorised as vacant during 2015, it is

assumed that they are vacant throughout the study period – although this may change in practice.

- 2.11 In the majority of cases, as the following table shows, CAGR calculations were used as a foundation for the base case scenario. In the case of Petroleum, the calculated CAGR was significantly high, based on our market intelligence information. This was deemed too high to reflect market conditions as a base case scenario. Therefore this was utilised as the high case scenario. For Steel and Sugar, the opposite is true.

Table 2.4 Commodity CAGR Scenarios

Commodity	CAGR Scenario
Agricultural Bulks	Base Case
Construction Materials	Base Case
Petroleum	High Case
Steel	Low Case
Sugar	Low Case
Vehicles	Base Case
Waste	Base Case

- 2.12 It should be highlighted however, that none of the scenarios, even the ones formulated on historical CAGR, are solely based on this value. As previously mentioned, they are combined with market condition assumptions and market intelligence. Each year in the period under consideration is given its own growth rate; rates for representative years are shown in tables after each commodity forecast.

- 2.13 So, for example, the 2021 estimated value of a commodity will be:

$$2021value = 2020value * (1 + 2021growthrate)$$

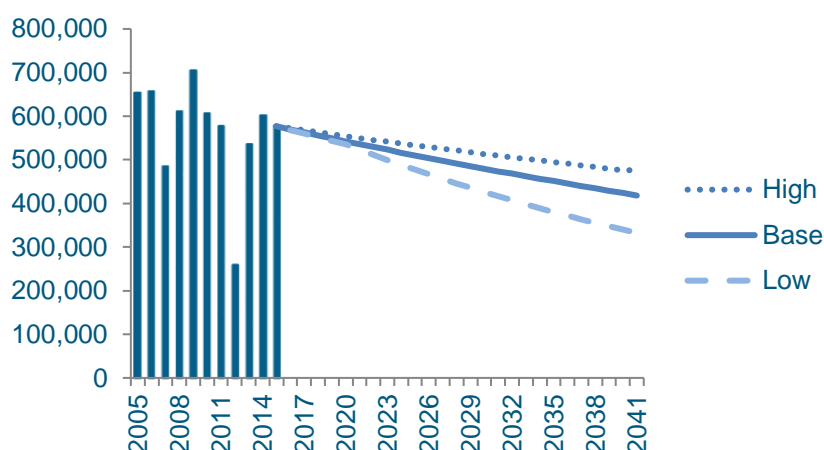
- 2.14 The base case scenario represents the most probable estimation of future market conditions. However, for the sake of sensitivity analysis, High and Low scenarios are also presented. They are an indication of possible volumes if growth rates fluctuate from our base case mean. The three scenarios broadly follow a similar trend for most commodities. When they do not, the cases are based on alternative market scenarios that can influence throughput in a significant way and are discussed under the individual commodity forecasts.

Individual Commodities

- 2.15 Whilst agricultural bulks represent a relatively small portion of overall traffic, it accounts for approximately 600,000t. Even though there have been significant

fluctuations, the overall trend is slowly decreasing over time. The base case scenario is formulated by applying the CAGR uniformly across the forecast horizon as it is anticipated that there will be no significant alteration to either supply or demand within the trading area. OSC were unable to confirm our forecast with a major oil seed importer. Accordingly, by 2041, the volumes will be around the 400,000t. In all three scenarios, a small decrease is expected in agricultural bulks. However, the forecasted values are anticipated to be within range of observed historical volumes.

Figure 2.1 Forecast Agricultural Bulks (tonnes)



(Source: Ocean Shipping Consultants)

Table 2.5 Forecast Agricultural Bulks CAGR by focus year

Agricultural Bulks	2016	2021	2031	2041
High	-0.85%	-0.75%	-0.75%	-0.75%
Base	-1.23%	-1.23%	-1.23%	-1.23%
Low	-1.50%	-2.25%	-2.25%	-2.25%

(Source: Ocean Shipping Consultants)

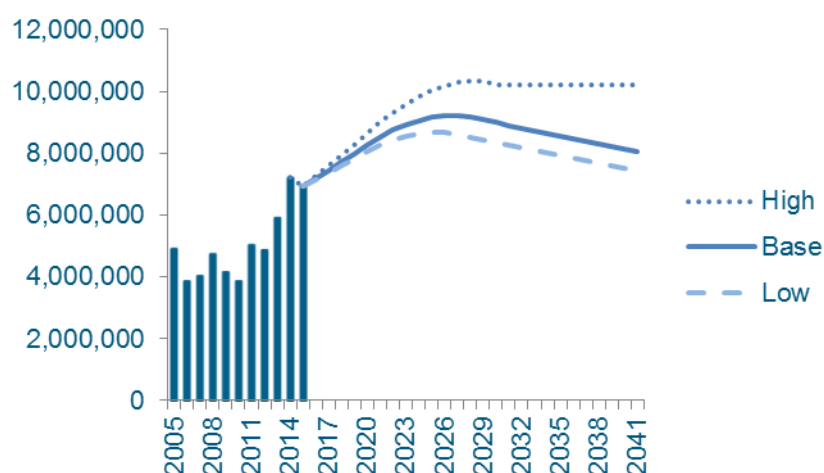
2.16 Construction Materials represent the majority of cargo for traffic on the Thames and have been rising rapidly over the recent past. CAGR for the period 2006-2015 was 4%. Construction materials are expected to continue on this upward trend especially since there are major projects planned in or around London. These include:

- The High Speed Rail (HS2)
- Silvertown Tunnel
- Thames Tideway Tunnel
- Bakerloo Line Extension
- Crossrail 2

2.17 In addition to the above schemes, the recent announcement from the Mayor's office (October 2016) that there will be new Thames crossings (bridges and tunnels) will also add to the potential for construction material to be transported via the Thames.

2.18 These projects are expected to generate both an increase in construction materials and an increase in CD&E waste moved via the river. Given the historic trend and the planned projects, this commodity is expected to increase substantially, in line with build-out of large infrastructural projects. The base case scenario is based on CAGR, however a 3.5% increase is unlikely to be sustained in the long-run. The planned projects given above are due for completion by 2028 and it is uncertain whether there will be further projects of this magnitude to sustain the same level of growth. Therefore, the growth rate gradually slows over latter the forecast period. Overall, construction materials are forecast to increase to 9.2mt by 2026, before declining to approximately 8.0mt by the end of the study period.

Figure 2.2 Forecast Construction Materials (tonnes)



(Source: Ocean Shipping Consultants)

Table 2.6 Forecast Construction Materials CAGR by focus year

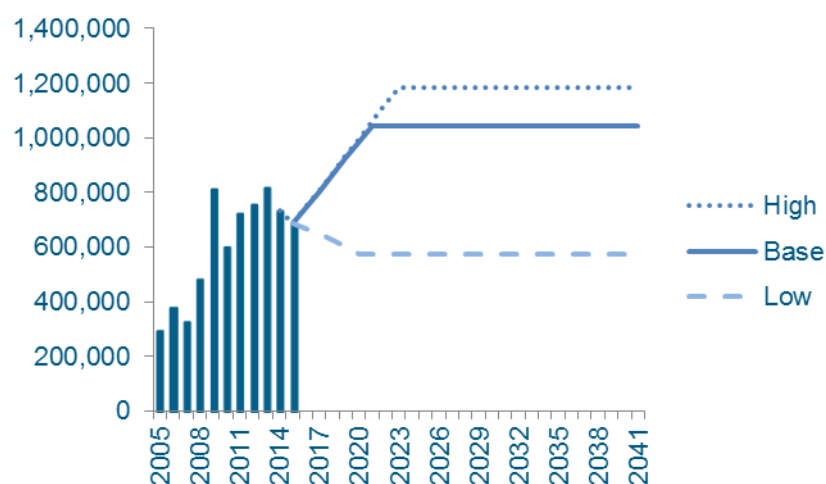
Construction M	2016	2021	2031	2041
High	4.50%	4.00%	0.00%	0.00%
Base	3.56%	3.06%	-1.00%	-1.00%
Low	3.00%	2.50%	-1.00%	-1.00%

(Source: Ocean Shipping Consultants)

2.19 Growth in petroleum products has been strong with a CAGR of 9%. All the petroleum products that are transported on the Thames flow to the Pinnacle Terminal where Stolt have a processing and storage facility. It is unlikely that another terminal will begin operations within the study area during the forecast period. Discussion with Stolt highlighted the investment that the company has made at the site in recent years. They also have expansion plans, meaning

that potential throughput at the terminal will increase in the near-term. Overall, there is positive potential for petroleum products on the Thames. The forecast highlights that the base case could rise to 1,000,000 tonnes per annum - if additional capital is invested at the facility- thus leading to a higher annual throughput.

Figure 2.3 Forecast Petroleum (tonnes)



(Source: Ocean Shipping Consultants)

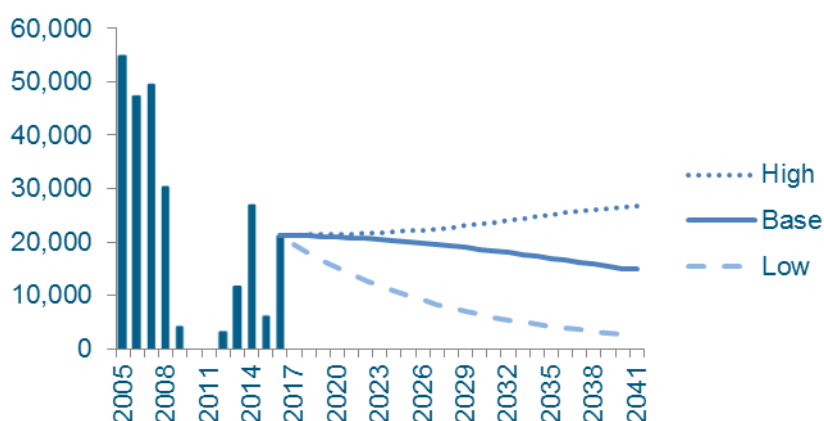
Table 2.7 Forecast Petroleum CAGR by focus year

Petroleum	2016	2021	2031	2041
High	8.79%	6.29%	0.00%	0.00%
Base	8.50%	6.00%	0.00%	0.00%
Low	-2.50%	0.00%	0.00%	0.00%

(Source: Ocean Shipping Consultants)

2.20 Steel traffic on the Thames mostly refers to scrap steel/metal and amounts to approximately 20,000 tonnes (average of past 10-years). Historical data is characterised by very large fluctuations in scrap metal throughput. Forecasting future throughput for the base case is based on declining throughput. This has not been verified via interviews, as these were declined. The low case scenario is formulated using CAGR and according to this, there is potential that this trade could cease during the forecast period. However, given the large inconsistency of the data, the base case is deemed the most likely scenario.

Figure 2.Error! No text of specified style in document. **Forecast Steel (tonnes)**



(Source: Ocean Shipping Consultants)

Table 2.8 Forecast Steel CAGR by focus year

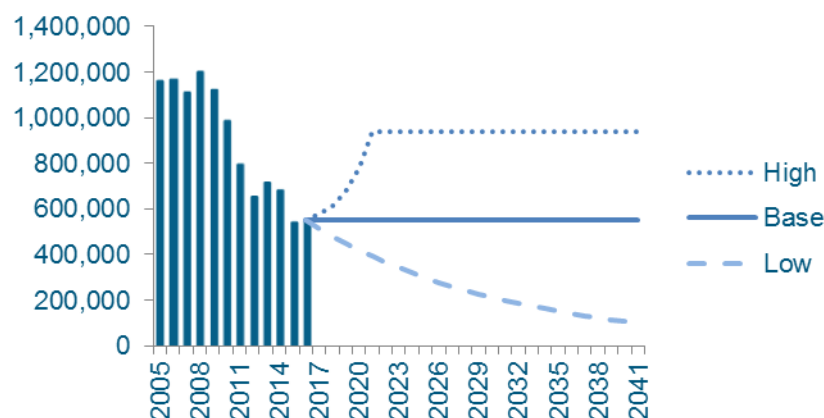
Steel	2016*	2021	2031	2041
High	21,313	0.40%	1.40%	0.80%
Base	21,313	-0.60%	-1.60%	-2.60%
Low	21,313	-8.21%	-8.21%	-8.21%

*2016 throughput for steel has been estimated as the average of the period 2005-2015, this was done due to missing values and large fluctuations to the dataset

(Source: Ocean Shipping Consultants)

2.21 The Thames Refinery plant has undergone a downgrading of refining capacity in recent years, as an adjustment to the changing demands from the sugar market. Capacity is around 500,000t annually. However, the operator hopes that the effect of Brexit on the UK sugar market may be positive, with more open policies, and improved customs and tariffs that will benefit the plant. Potentially the plant could double its current capacity if this were to occur.

Figure 2.5 Forecast Sugar (tonnes)



(Source: Ocean Shipping Consultants)

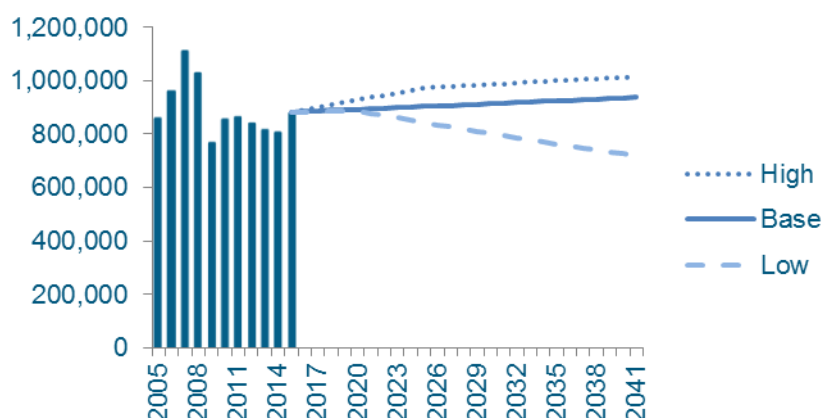
Table 2.9 Forecast Sugar CAGR by focus year

Sugar	2016*	2021	2031	2041
High	550,000	20.50%	0.00%	0.00%
Base	550,000	0.00%	0.00%	0.00%
Low	550,000	-6.60%	-6.60%	-6.60%

*2016 throughput for sugar has been estimated based on market intelligence

(Source: Ocean Shipping Consultants)

2.22 Vehicle traffic has been stable with a CAGR of 0.2%. This is forecasted to continue as shown in the base case scenario. Ford at Dagenham have recently invested in refurbishing the jetty and during 2015 purchased new tugs. Approximately, 300,000 vehicles per year are imported at the facility, whilst Dagenham-made diesel engines, plus eco-boost engines that are made at Bridgend are exported back to the Continent. As with sugar, the effects of Brexit could impact future throughput of vehicles.

Figure 2.6 Forecast Vehicles (tonnes)

(Source: Ocean Shipping Consultants)

Table 2.20 Forecast Vehicles CAGR by focus year

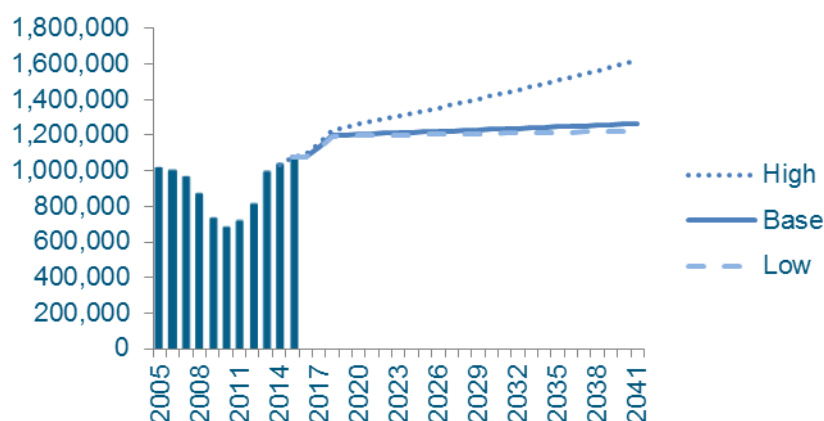
Vehicles	2016	2021	2031	2041
High	1.00%	1.00%	0.25%	0.25%
Base	0.23%	0.23%	0.23%	0.23%
Low	0.10%	-1.00%	-1.00%	-1.00%

(Source: Ocean Shipping Consultants)

2.23 The outlook for waste transportation on the Thames is a positive one. There is growing interest in the movement of waste via the Thames along with increased pressure on local councils to provide sustainable ways to handle

waste. The ability of the Belvedere incinerator to handle an additional 115,000t above current capacity will provide increased momentum for waste flows to the plant. Waste, which is handled on 10 safeguarded wharves, is forecast to increase throughout the study period. The base case scenario below highlights the potential increases of capacity at the Belvedere facility in the near-term, followed by historic rate increase per annum.

Figure 2.7 Forecast Waste (tonnes)



(Source: Ocean Shipping Consultants)

Table 2.11 Forecast Waste CAGR by focus year

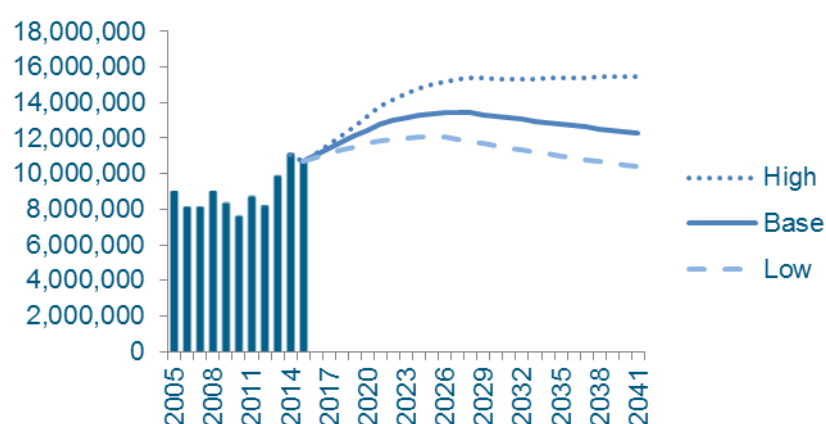
Waste**	2016	2021	2031	2041
High	1.20%	1.20%	1.20%	1.20%
Base	0.65%	0.65%	0.65%	0.65%
Low	0.10%	0.10%	0.10%	0.10%

(Source: Ocean Shipping Consultants)

**50,000 and 65,000t have been added to the forecasts for 2017 and 2018 respectively

2.24 The overall trend for the amount of cargo handled is forecast to increase to 13.4m tonnes by 2028. This peak could be pushed forward if there are significant delays in the major government backed infrastructure projects. Thereafter, it is anticipated that potential building/construction projects will continue, albeit at a lower less intensive rate than seen in previous decades. By the end of the study period, overall tonnes handled are approximately 12.3m tonnes. This total excludes new cargoes that may be transported on the river during the forecasts period, particularly containerised goods.

Figure 2.8 Forecast Total (tonnes)



(Source: Ocean Shipping Consultants)

Table 2.32 Overview of Commodity Forecast, by Case (tonnes)

Commodities	2015	2021	2031	2041
Agricultural Bulks				
High		549,583	509,728	476,336
Base	577,009	535,870	473,718	418,775
Low		522,974	416,532	331,754
Construction M				
High		8,998,686	10,229,853	10,229,853
Base	6,943,274	8,522,773	8,899,229	8,048,303
Low		8,250,386	8,245,252	7,456,858
Petroleum				
High		1,061,225	1,182,041	1,182,041
Base	686,260	1,044,215	1,044,215	1,044,215
Low		574,205	574,205	574,205
Steel				
High		21,527	23,661	26,737
Base	6,402	20,786	18,328	15,002

Low		13,890	5,900	2,730
Sugar				
High		941,454	941,454	941,454
Base	543,416	550,000	550,000	550,000
Low		391,019	197,637	99,894
Vehicles				
High		937,300	990,080	1,015,113
Base	882,979	895,421	916,549	938,175
Low		878,529	794,526	718,555
Waste				
High		1,276,565	1,438,295	1,620,515
Base	1,076,856	1,207,955	1,236,457	1,265,632
Low		1,198,729	1,210,770	1,222,933
Total				
High		13,786,340	15,315,112	15,492,048
Base	10,716,196	12,777,019	13,138,497	12,280,103
Low		11,829,733	11,444,821	10,406,927

(Source: Ocean Shipping Consultants)

Capacity

2.25 In order to help assess the capacity of the network, it is broken down into three geographic sections. The wharves to the west of Tower Bridge (on both sides of the river) (West), the wharves to the east of Tower Bridge on the North bank (North East) and those to the east of Tower Bridge on the South bank (South East). Appendix 1 sets out all the safeguarded wharves by sub region by commodity and capacity. This is summarised in table 2.13 below, giving a capacity of just over 18 million tonnes. In an effort to give as accurate picture as possible this estimate treated Alexander Wharf, an operational wharf but not safeguarded by the abortive 2011/3 review, as a safeguarded wharf. At 12,000 tonnes or 0.07% of overall capacity the Mayor did not view its inclusion as a significant change. Victoria Stone wharf (c.460,000 tonnes) currently handles construction materials by road not river. Therefore although the overall capacity figure for the NE sub region is correct at c.8.7m tonnes, the figure for construction material is an over estimate by 460,000 tonnes and the vacant figure is an under estimate by 460,000 tonnes.

- 2.26 Assessing capacity is problematic, as it can be affected by so many variables. Obviously, water depth can limit the size of a vessel using a wharf restricting capacity to high tide only. Many wharves have some form of on-site processing (such as washing marine gravel) which is considered to be critical to the economic viability of both the wharf itself and river transport generally. On-site processing will take up land that could otherwise be used for storing material and on-site processing may occur at a slower rate than loading/unloading, restricting capacity. A lack of suitable transport access can increase dwell times as streets may only be suitable for smaller lorries. A wharf's size and morphology can effect on site storage capacity. Restrictions on working hours, imposed as a condition of a planning permission, to reduce the impact of noise and dust on sensitive neighbouring uses are an obvious limit on capacity, especially when high tides fall outside of normal working hours.
- 2.27 All of these factors make it extremely difficult to provide a totally accurate assessment of wharf capacity. The data set out in Appendix 1 and summarized below is drawn from a number of sources. The Port of London Authority gives figures on the maximum annual throughput achieved for a number of wharves since 1995. This highpoint is taken as their theoretical capacity as it reflects the maximum throughput at the wharf, in the context of its characteristics, across several economic cycles. Another way to show capacity to examine it by commodity, this is shown in table 2.14 below.

Table 2.43 Estimated Capacity of Wharves by Commodity and Sub-Region, 2015

Commodities	North East	South East	West
Agricultural Bulks	-	857,000	-
Construction M	2,804,700	4,859,000	979,000
Food	21,400	-	-
Outside PLA Area	84,000	-	-
Petroleum	819,000	-	26,900
Steel	85,000	-	-
Sugar	1,331,000	-	-
Vacant	1,493,000	612,800	
Vehicles	1,112,000	-	-
Waste	961,000	1,220,000	771,000
Total	8,711,100	7,548,800	1,777,100

(Source: PLA 2016)

Table 2.14 Estimated Capacity of Wharves by Commodity, 2015

Commodity	Tonnes	%
Construction M	8,642,900	47.9%
Waste	2,952,000	16.4%
Vacant	2,105,800	11.7%
Sugar	1,331,000	7.4%
Vehicles	1,112,000	6.2%
Agricultural Bulks	857,000	4.8%
Petroleum	845,900	4.7%
Steel	85,000	0.5%
Total	18,037,000	

(Source: Table 2.13)

Demand

2.28 Table 2.15 and reveals that all sub regions experienced decline in the 2005-2010 period, probably due to the 2008/9 recession. Over the 2010-2015 period, there has been growth at wharves in all three sub regions. The data for the North East and South East sub regions shows they have enjoyed strong growth so that the 2015 figure is now above the 2005 baseline, this is especially true of the South East sub region. In the West sub region, the 2015 figure is still below the 2005 baseline but recovering from the 2010 figure.

Table 2.55 Historic Demand by Sub region 2005-2015

Sub region	2005	2010	2015	Change	% CAGR
North East	4,454,008	3,941,008	4,934,828	480,820	1.0%
South East	3,524,822	2,987,065	4,937,405	1,412,583	3.4%
West	1,113,337	665,027	843,963	- 269,374	-2.7%
Total	9,092,167	7,593,100	10,716,196	1,624,029	1.7%

(OSC)

2.29 Sub regional demand figures are shown below. They are based on the assumption, that if a sub region had 20% of a commodity in 2015, then it will have 20% of the 2041 total. They reveal the following sub regional patterns. In the North East sub region it is anticipated that strong growth will occur and the same pattern is found in the South East and West sub regions.

Table 2.16 Distribution of Commodities by sub region

Commodity	Total 2015	North East	South East	West
Construction Materials	6,943,274	36.1%	59.6%	4.3%
Waste	1,076,856	28.5%	20.7%	50.8%
Vehicles	882,979	100%	0%	0%
Petroleum	686,260	100%	0%	0%
Agricultural Bulks	577,009	0%	100%	0%
Sugar	543,416	100%	0%	0%
Steel	6,402	100%	0%	0%
Total	10,716,196	46.1%	46.1%	7.9%

(Source: OSC)

Table 2.17 Estimated Demand by sub region 2015-2041

Sub region	2015	2041	Change	% Change	% CAGR
North East	4,934,828	5,655,010	720,182	14.6%	0.53%
South East	4,937,405	5,657,963	720,558	14.6%	0.53%
West	843,963	987,116	143,153	17.0%	0.53%
Total	10,716,196	12,300,089	1,583,893	14.8%	0.53%

(Source: OSC)

2.30 Table 2.18 below highlights both commodity and capacity by sub region and the potential capacity gap. However, this excludes vacant wharves as these are not assigned a commodity. Table 2.19 highlights the overall demand and capacity in each region through to 2041. These include current capacity assumptions for all wharves in each area, both operational and vacant as provided by the PLA. In their examination of the gap analysis OSC advised that there is sufficient capacity to handle the forecast demand increases during the study period. On an aggregated sub-regional basis there is sufficient capacity to accommodate the increase in demand. However, in the near-term there could be concerns with both construction materials and petroleum that are forecast to have higher demand than capacity.

Table 2.18 Future Demand and Capacity* by Commodity and sub region 2015-2041 (mt)

Area	2015	2021	2031	2041
West				
Construction M				
Demand	296,914	364,458	380,556	344,168
Capacity	979,200	979,200	979,200	979,200
Gap	682,286	614,742	598,644	635,032
Waste				
Demand	547,049	613,648	628,127	642,948
Capacity	771,000	771,000	771,000	771,000
Gap	223,951	157,352	142,873	128,052
Petroleum				
Demand	-	-	-	-
Capacity	26,900	26,900	26,900	26,900
Gap	26,900	26,900	26,900	26,900
South East				
Agricultural Bulks				
Demand	577,009	535,870	473,718	418,775
Capacity	857,000	857,000	857,000	857,000
Gap	279,991	321,130	383,282	438,225
Construction M				
Demand	4,137,624	5,078,876	5,303,213	4,796,131

Capacity	4,859,000	4,859,000	4,859,000	4,859,000
Gap	721,376	- 219,876	- 444,213	62,869
Waste				
Demand	547,049	613,648	628,127	642,948
Capacity	1,220,000	1,220,000	1,220,000	1,220,000
Gap	672,951	606,352	591,873	577,052
North East				
Construction M				
Demand	2,508,736	3,079,439	3,215,460	2,908,004
Capacity	2,804,700	2,804,700	2,804,700	2,804,700
Gap	295,964	-274,739	-410,760	- 103,304
Petroleum				
Demand	686,260	1,044,215	1,044,215	1,044,215
Capacity	819,000	819,000	819,000	819,000
Gap	132,740	-225,215	- 225,215	- 225,215
Steel				
Demand	6,402	20,786	18,328	15,002
Capacity	85,000	85,000	85,000	85,000
Gap	78,598	64,214	66,672	69,998
Sugar				
Demand	543,416	550,000	550,000	550,000
Capacity	1,331,000	1,331,000	1,331,000	1,331,000
Gap	787,584	781,000	781,000	781,000
Vehicles				
Demand	1,076,856	895,421	916,549	938,175
Capacity	1,112,000	1,112,000	1,112,000	1,112,000
Gap	35,144	216,579	195,451	173,825
Waste				
Demand	222,772	249,893	255,789	261,825
Capacity	961,000	961,000	961,000	961,000
Gap	738,228	711,107	705,211	699,175

2.31 Table 2.19 below provides a sub-regional summary of the capacity across the network over the 2015-2041 forecast period. By 2041, it is forecast that the greatest capacity oversupply will be in the North East sector. Over the forecast period, all sub-regions are forecast to have a decline in surplus capacity.

Table 2.19 Future Demand & Capacity by sub-region 2015-2041 (mt)

	2015	2021	2031	2041
West				
Demand	0.8	1.0	1.0	1.0
Capacity	1.8	1.8	1.8	1.8
Surplus	1.0	0.8	0.8	0.8
South East				
Demand	4.9	5.9	6.0	5.5
Capacity	7.5	7.5	7.5	7.5
Surplus	2.6	1.6	1.5	2.0
North East				
Demand	4.9	5.9	6.1	5.8
Capacity	8.7	8.7	8.7	8.7
Surplus	3.8	2.8	2.6	2.9

Site Assessment Summaries

- 3.1 This chapter provides an overview of the individual wharf assessments. This chapter presents a summary of the findings, a link to the full report is set out on the 'how to give your views' page. It breaks the assessment down by sub-region.
- 3.2 There are currently 10 wharves safeguarded in the west sub-region, covering all safeguarded wharves west of Tower Bridge, so although classified as west some are actually fairly central. The assessment recommends all ten continue to be safeguarded. The OSC work, in Section 2, forecasts spare capacity in the sub-region. However, the Thames Tideway Tunnel Project, a scheme to move sewage across London to Beckton, has brought vacant wharves back into active use (eg Hurlingham, Cremorne), demonstrating their suitability for waterborne cargo handling. The extant permission at Swedish and Comley's wharf would, if implemented, bring Swedish wharf back into active use for waterborne cargo handling. Land values in west and central London are typically higher than those found in east London making it more difficult to bring other sites in this part of London into a wharf use, making it more important to retain the network London has. Being able to move material by river eases congestion and pollution in west/central London.

Table 3.1 Summary Assessment of Wharves in West sub-region

Borough	Wharf	Recommendation
Hammersmith & F	Hurlingham	Retain
Hammersmith & F	Swedish	Retain
Hammersmith & F	Comleys	Retain
Wandsworth	Smugglers Way	Retain
Wandsworth	Pier	Retain
Wandsworth	Cringle Dock	Retain
Wandsworth	Kirtling	Retain
Wandsworth	Middle	Retain
Kensington & C	Cremorne	Retain
City	Walbrook	Retain

- 3.3 There are currently 15 safeguarded wharves in the south east sub-region, OSC forecast that by 2041 there will be 2.0mt of spare capacity in this part of the network. The Mayor is recommending the release of one wharf from its safeguarding direction in this sub-region. This reflects navigational difficulties that make other wharves more attractive. Two of the vacant wharves in this

sub-region (Mulberry and Standard) have been recently acquired. The Mayor recommends maintaining their safeguarding while the new owners seek to develop cargo handling services or find new operators for these wharves. In October 2017 a permission was granted on Standard wharf for ancillary facilities that will increase its attractiveness to river operators.

Table 3.2 Summary Assessment of Wharves in South East sub-region

Borough	Wharf	Recommendation
Lewisham	Convoys	Retain
Greenwich	Brewery	Retain
Greenwich	Tunnel	Retain
Greenwich	Victoria Deep Water Terminal	Retain
Greenwich	Angerstein	Retain
Greenwich	Murphy's	Retain
Greenwich	Riverside	Retain
Bexley	Middleton	Retain
Bexley	Mulberry	Retain
Bexley	Pioneer	Retain
Bexley	Albion	Retain
Bexley	Erith	Retain
Bexley	Railway	Release
Bexley	Town	Retain
Bexley	Standard	Retain

- 3.4 There are currently 25 safeguarded wharves in the north east sub-region, OSC forecast that by 2041 there will be 2.9mt of spare capacity in this part of the network. The Mayor is recommending the release of four wharves in this sub-region. This reflects a combination of locational or site issues, navigational difficulties that make other wharves more attractive and major infrastructure projects which may lead to the loss of wharves. The table below refers to 24 wharves as Debden and Rippleway wharves are now considered as one wharf, Rippleway.

Table 3.3 Summary Assessment of Wharves in North East sub-region

Borough	Wharf	Recommendation
Tower Hamlets	Northumberland	Retain
Tower Hamlets	Orchard	Retain
Newham	Priors	Release
Newham	Mayer Perry	Release
Newham	Thames	Release
Newham	Peruvian	Retain
Newham	Manhattan	Release
Newham	Sunshine	Release
Newham	Thames Refinery	Retain
Barking & D	Welbeck	Release
Barking & D	Pinns	Retain
Barking & D	Steel	Retain
Barking & D	Rippleway	Retain
Barking & D	Docklands	Retain
Barking & D	Victoria Stone	Retain
Barking & D	DePass	Retain
Barking & D	Dagenham	Retain
Barking & D	Pinnacle Terminal	Retain
Barking & D	No.1 Western	Retain
Barking & D	East Jetty	Retain
Barking & D	No.4 Jetty	Retain
Barking & D	Fords' Dagenham	Retain
Havering	Phoenix	Release
Havering	Halfway	Retain

- 3.5 The Silvertown tunnel - a road-based river crossing between Greenwich and Newham – will, during its construction phase lead to the temporary loss of the currently safeguarded Thames wharf. In addition, the non-safeguarded Dock

Entrance wharf would also be lost. The public examination into this scheme ended in April 2017 and a Development Consent Order (DCO) was granted by the Department for Transport on 10 May 2018. This project opens up options for the reconfiguration of wharf capacity in the Thameside west area of LB Newham. Current operators at Thames wharf and the non-safeguarded Dock Entrance wharf would need to be relocated.

- 3.6 With this in mind, the Mayor is recommending that a safeguarding Direction is applied to Royal Primrose wharf adjacent to Peruvian wharf. This would allow a group of operators, affected by the Silvertown Tunnel, to co-locate and derive benefits from co-location, release existing sites for redevelopment as other uses, reduce the areal coverage of these operations whilst increasing their actual capacity and deliver modal shift benefits from road to water.
- 3.7 Alexander wharf was not safeguarded under the 2005 Directions but was recommended for safeguarding as part of the 2011 review. Having undertaken this assessment the Mayor still recommends that Alexander wharf is safeguarded

Table 3.4 Wharves proposed to have safeguarding Direction applied

Borough	Wharf
Barking & D	Alexander
Newham	Royal Primrose

Conclusions and Recommendations

- 4.1 Chapter 1 reveals a high level of policy support for the movement of goods by water and the need to have a network of wharves available to load/unload goods.
- 4.2 Chapter 2 highlights the growth forecast for the London section of the Thames over the 2015-2041 period. Despite this forecast growth, the study identified surplus capacity in each sub-region by the end of the plan period.
- 4.3 Chapter 3 summarises the results of the individual wharf assessments by sub-region. The Thames Tideway Tunnel scheme will be making use of previously vacant wharves in the west sub-region and this scheme has shown that these wharves are still viable for river-related uses and, as such, it would be premature to release any wharves in this sub-region.
- 4.4 In the South-East sub-region, an oversight meant that Railway wharf was omitted from the wharf capacity work so it was not included in the future demand and capacity work. Therefore, its loss as a safeguarded wharf does not change the overall picture in the SE sub-region. The 2011 study estimated the capacity of this wharf at 100,000 tonnes (<0.6% of total capacity).
- 4.5 In the North-East sub-region, greater change is proposed. The proposed changes to the network could see the loss of up to 787,000 tonnes of capacity. The addition of 250,000 tonnes at Royal Primrose wharf and 12,000 tonnes at Alexander wharf would mean that the overall change would be a loss of 525,000 tonnes. This would reduce the spare capacity in this sub-region from an estimated 2.9 mt by 2041 to c.2.4mt, a 18% reduction in excess capacity. This is spelt out in more detail in table 4.1 below.

Table 4.1 – Possible loss of capacity from NE sub-region

Wharf	Capacity
Priors	80,000
Mayer Parry	4,000
Welbeck	194,000
Phoenix	386,000
Sub - total	664,000
If Silvertown Tunnel proceeds	
Thames	104,000
Manhattan	4,000
Sunshine	15,000
Silvertown sub-total	123,000
Potential lost capacity	787,000

- 4.6 WSP Consultants, a multi-disciplinary consultancy, were appointed by the Mayor to undertake a Strategic Environmental Assessment of this safeguarded wharves review, plus a Habitats Regulation Assessment screening. In addition, the Mayor has undertaken an Equalities Impact Assessment.
- 4.7 These documents were subject to a 3 month public consultation alongside the round two consultation. Following consultation, the Mayor has considered any representations made and will be submitting his final set of recommendations to the Secretary of State for Housing, Communities and Local Government. It will be for the Secretary of State to come to a decision on changes to the safeguarded network and the issuing of any further Directions.

Appendix 1 – Capacity Estimates by Wharf

Sub region	Commodity	Wharf	Capacity	Group total	
West	Aggregates	Comleys	58,100		
		Pier	227,000		
	Petroleum	Kirtling	227,000	512,100	
		Swedish	26,900	26,900	
	Vacant	Hurlingham	356,000		
		Middle	70,600		
	Waste	Cremorne	40,500	467,100	
		Smugglers Way	319,000		
		Cringle Dock	342,000		
		Walbrook	110,000	771,000	
Sub total			1,777,100		
South East	Aggregates	Brewery	137,000		
		Victoria Deep Water	779,000		
		Angerstein	1,046,000		
		Murphy's	1,956,000		
		Riverside	95,000		
		Pioneer	477,000		
	Agricultural	Erith	369,000	4,859,000	
		Albion	857,000	857,000	
	Vacant	Convoys	200,000		
		Tunnel	116,000		
North East		Mulberry	56,800		
		Standard	140,000	612,800	
	Waste	Middleton	820,000		
		Town	400,000	1,220,000	
	Sub total			7,548,000	
		Aggregates	Thames	104,000	
			Rippleway	66,700	
			Victoria Stone	460,000	
			Dagenham	399,000	
			No.1 Western	212,000	
No.4 Jetty			1,563,000	2,804,700	
Petroleum		Pinnacle	819,000	819,000	
		Steel	85,000	85,000	
Sugar		Thames Refinery	1,331,000	1,331,000	
		Orchard	610,000		
Total		Priors	80,000		
		Mayer Parry	4,000		
		Peruvian	500,000		
		Manhattan	4,000		
		Sunshine	15,000		
		Welbeck	194,000		
		DePass	170,000		
		Phoenix	386,000		
	Vehicles	Halfway	21,400	1,984,000	
		Ford Dagenham	1,112,000	1,112,000	
Waste	Northumberland	115,000			
	Alexander	12,000			
	Pinns	206,000			
	Docklands	131,000			
Sub total			575,000		
Total		East Jetty	111,000	8,711,100	
				18,037,000	

Safeguarded Wharves Review – 2018/19

Individual Site Assessments

Updated December 2019

Individual Site Assessments by sub-region

West

1. Hurlingham	4	
2. Swedish	7	
3. Comley's	10	
4. Smuggler's Way	13	
5. Pier	16	
6. Cringle Dock	19	
7. Kirtling	23	
8. Middle	26	
9. Cremorne	30	
10. Walbrook	34	

South East

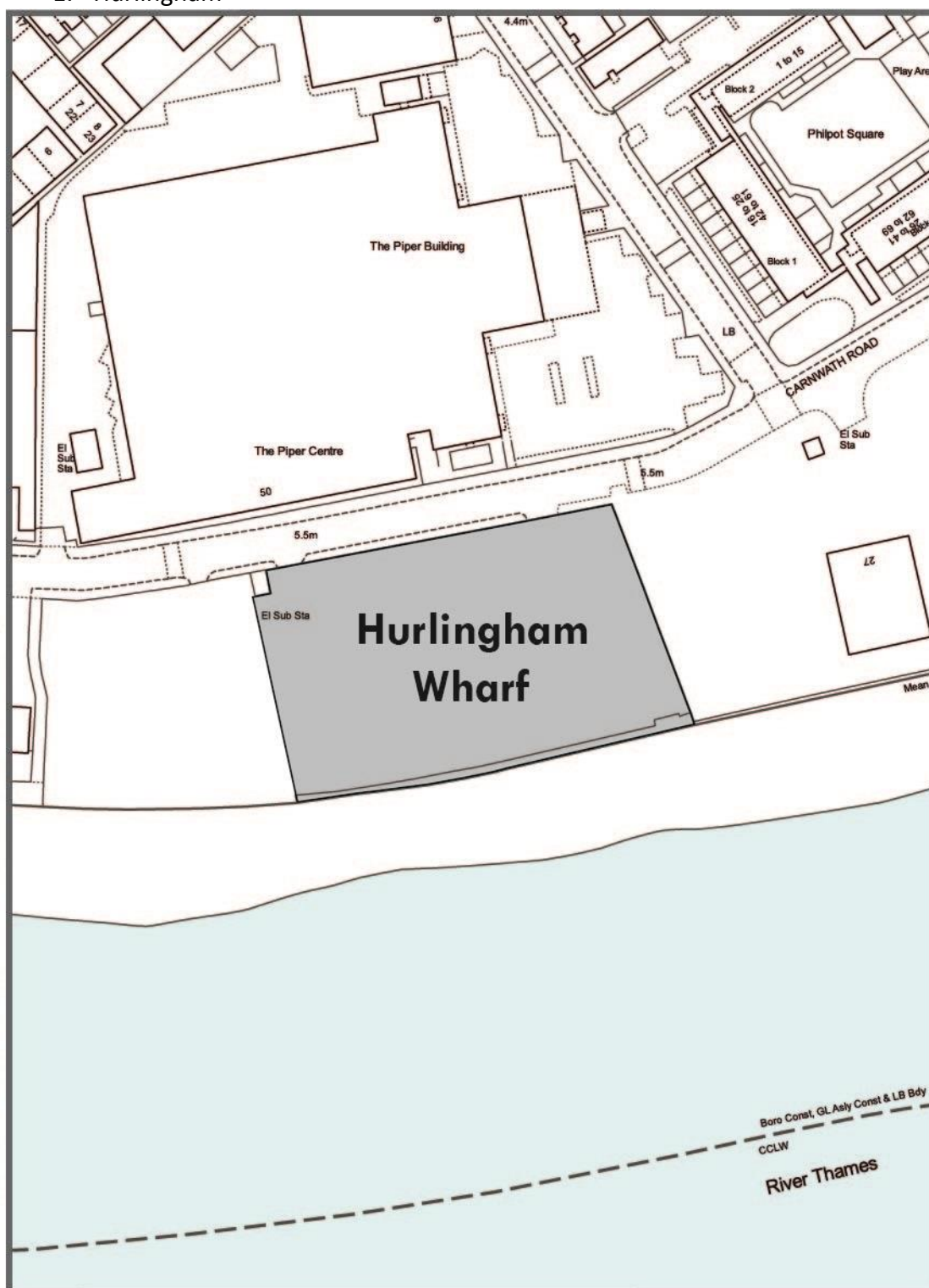
11. Convoys	37	
12. Brewery	40	
13. Tunnel	43	
14. Victoria Deep Water Terminal		46
15. Angerstein	49	
16. Murphy's	52	
17. Riverside	55	
18. Middleton	58	
19. Mulberry	61	
20. Pioneer		64
21. Albion	67	
22. Erith	70	
23. Railway		73
24. Town	76	
25. Standard	79	

North East

26. Northumberland	82	
27. Orchard	85	
28. Priors	88	
29. Mayer Parry	91	
30. Thames	94	
31. Peruvian	97	
31A.Royal Primrose	100	
32. Manhattan	103	

33. Sunshine	106
34. Thames Refinery	109
35. Welbeck	112
36. Alexander	115
37. Pinns	118
38. Steel	121
39. Rippleway	124
40. Docklands	127
41. Victoria Stone	130
42. DePass	133
43. Dagenham	136
44. Pinnacle Terminal	139
45. No.1 Western Extension	142
46. East Jetty	145
47. No.4 Jetty	148
48. Ford Dagenham Terminal	151
49. Phoenix	154
50. Halfway	156

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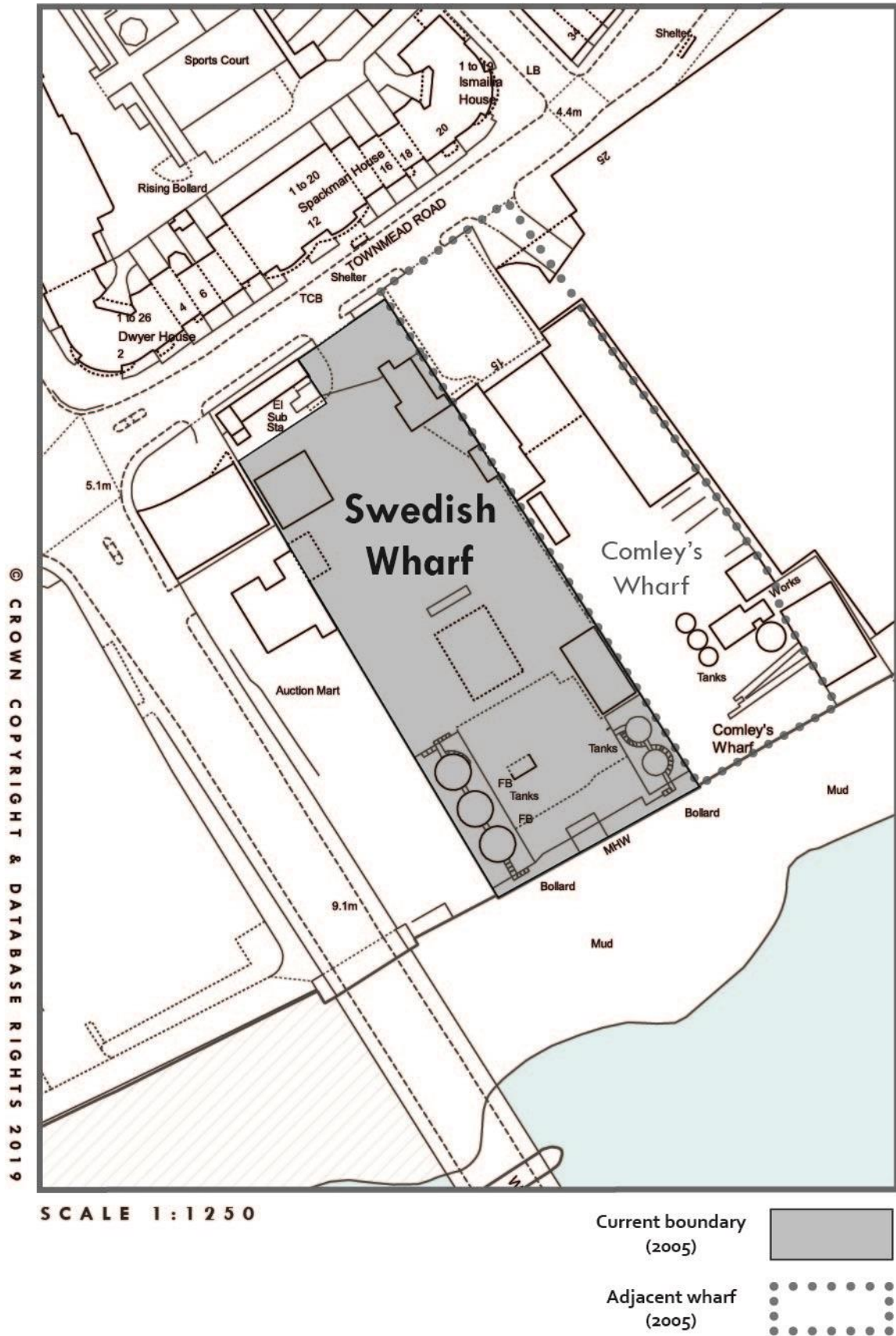
Current boundary
(2005)



Address	Carnwath Road, London SW6
Local Authority	Hammersmith & Fulham
Grid reference	E 525,603/ N 175,568
Site area	0.51 ha
Boundary Change	None
Road Access	Access to Carnwath Road from north via Wandsworth Bridge Road, A217 (SRN) with connections to New Kings Road, A308 (SRN), access from south via Wandsworth Bridge Road, A217 (SRN)
Congestion (delay in minutes/km)	Wandsworth Bridge Road A217 between j/w York Road (A3205) and j/w King's Road (A308): North bound: 0.5 to over 1.5 South bound 0.5 to over 1.5
Rail Access	N/A
Comments	Wandsworth Bridge Road, A217 (SRN) offers connections to west and southwest London via junctions with A308 (SRN), A3 (TLRN), and a number of other strategic routes. Wandsworth Bridge Road experiences significant HGV flows at present. There are capacity constraints at the junction of Wandsworth Bridge Road and Carnwath Road, especially at peak times. However, the local Highway Authority has identified an improvement scheme to provide additional capacity. A Delivery and Servicing Plan could help to mitigate the noise and air quality effects of road freight activity at the wharf. Retaining wharf capacity in the area could help encourage mode shift to water, reducing the amount of strategic road freight passing through west London.
Min. and max. berth depths	Dries 2.26 metres to 3.68 metres
Wall or jetty berth (and length)	Wall berth (80 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Works to the berth are to be undertaken prior to Tideway's use of the wharf in connection with the Thames Tideway Tunnel which will maintain the wharf's viability.
Site's planning status	The LB Hammersmith & Fulham Core Strategy (February 2018) in paragraph 5.106 promotes the consolidation of wharf capacity onto

Surrounding land use and planning context	fewer better located sites. The wharf forms part of the Carnwarth Road main drive site for the Thames Tideway Tunnel scheme.
Current Use (if vacant date and last handled cargo)	Vacant, last cargo handled c.1997 when wharf acquired by property developer.
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The wharf is to be used in connection with the Thames Tideway Tunnel project until 2022, handling over 1mt of cargo by water, including CD&E waste, aggregates and tunnel lining segments. In addition, there continues to be substantial interest from operators within and new to the Port of London for handling bulk cargoes, especially aggregates and containerised traffic.
Safeguarding Recommendation	Retain safeguarding. Site is viable and long-standing interest has been expressed in it by a range of cargo-handling operators.

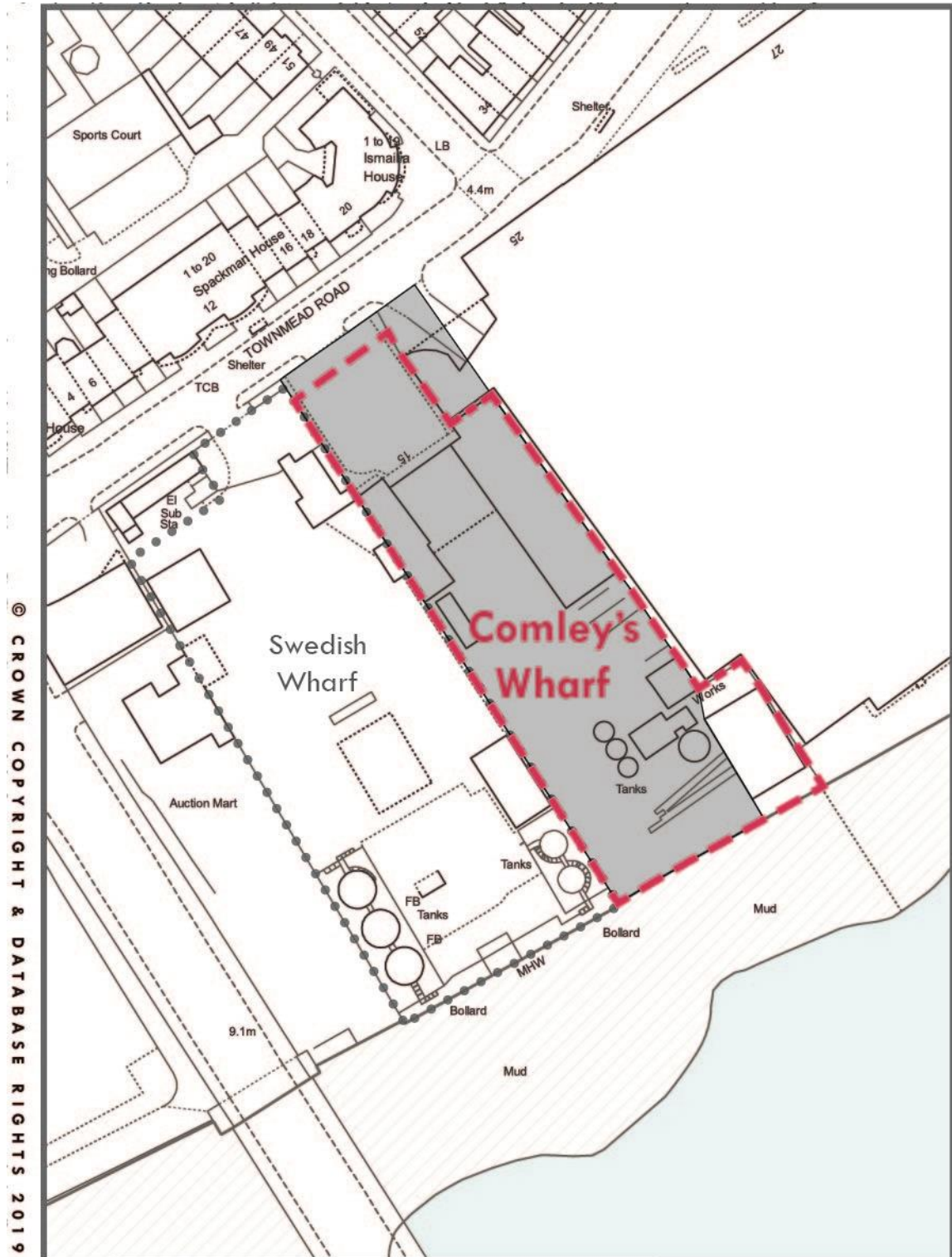
2. Swedish



Address	Townmead Road, London SW6
Local Authority	Hammersmith & Fulham
Grid reference	W 525,942/N 175,722
Site area	0.55 ha
Boundary Change	None
Road Access	From north via Wandsworth Bridge Road, A217 (SRN)) with connections to New Kings Road, A308 (SRN), from south via Wandsworth Bridge Road, A217 (SRN), then left / right turn on to Townmead Road.
Congestion (delay in minutes/km)	Wandsworth Bridge Road A217 between j/w York Road (A3205) and j/w King's Road (A308) North bound 0.5 to over 1.5 South bound 0.5 to over 1.5
Rail Access	N/A
Comments	Wandsworth Bridge Road, A217 (SRN) offers connections to west and southwest London via junctions with A308 (SRN), A3 (TLRN), and a number of other strategic routes. Wandsworth Bridge Road experiences significant HGV flows at present. There are capacity constraints at the junction of Wandsworth Bridge Road and Townmead Road, especially at peak times. The Local Highway Authority has identified an improvement scheme to provide additional capacity. A Delivery and Servicing Plan could help to mitigate the noise and air quality effects of road freight activity at the wharf. Retaining wharf capacity in the area could help encourage mode shift to water, reducing the amount of strategic road freight passing through west London.
Min. and max. berth depths	Dries 2.86 metres to 3.08 metres
Wall or jetty berth (and length)	Wall berth (50 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	The LB Hammersmith & Fulham Core Strategy (February 2018) in paragraph 5.160 promotes the consolidation of wharf capacity onto fewer better located sites. The site was in industrial use (fuel storage) until November 2017. The site falls under the COMAH




	<p>regulations, which control the loading, storage and security of fuels at the site.</p> <p>Planning consent for a consolidated wharf with Comley's Wharf and Albert wharf (not safeguarded) with residential development above granted in 2015, not yet implemented. Total throughput across the consolidated wharf projected at 115ktpa.</p>
Current Use (if vacant date and last handled cargo)	Petroleum products by road until November 2017. Last waterborne cargo handled c.2004. Site has substantial fuel storage tanks and pipes for fuel transmission from the river.
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Although planning consent granted for consolidation, there continues to be substantial interest from operators within and new to the port of London for handling bulk cargoes.
Safeguarding Recommendation	Retain safeguarding. Site is viable and long-standing interest has been expressed in it by a range of cargo-handling operators.


3. Comley's



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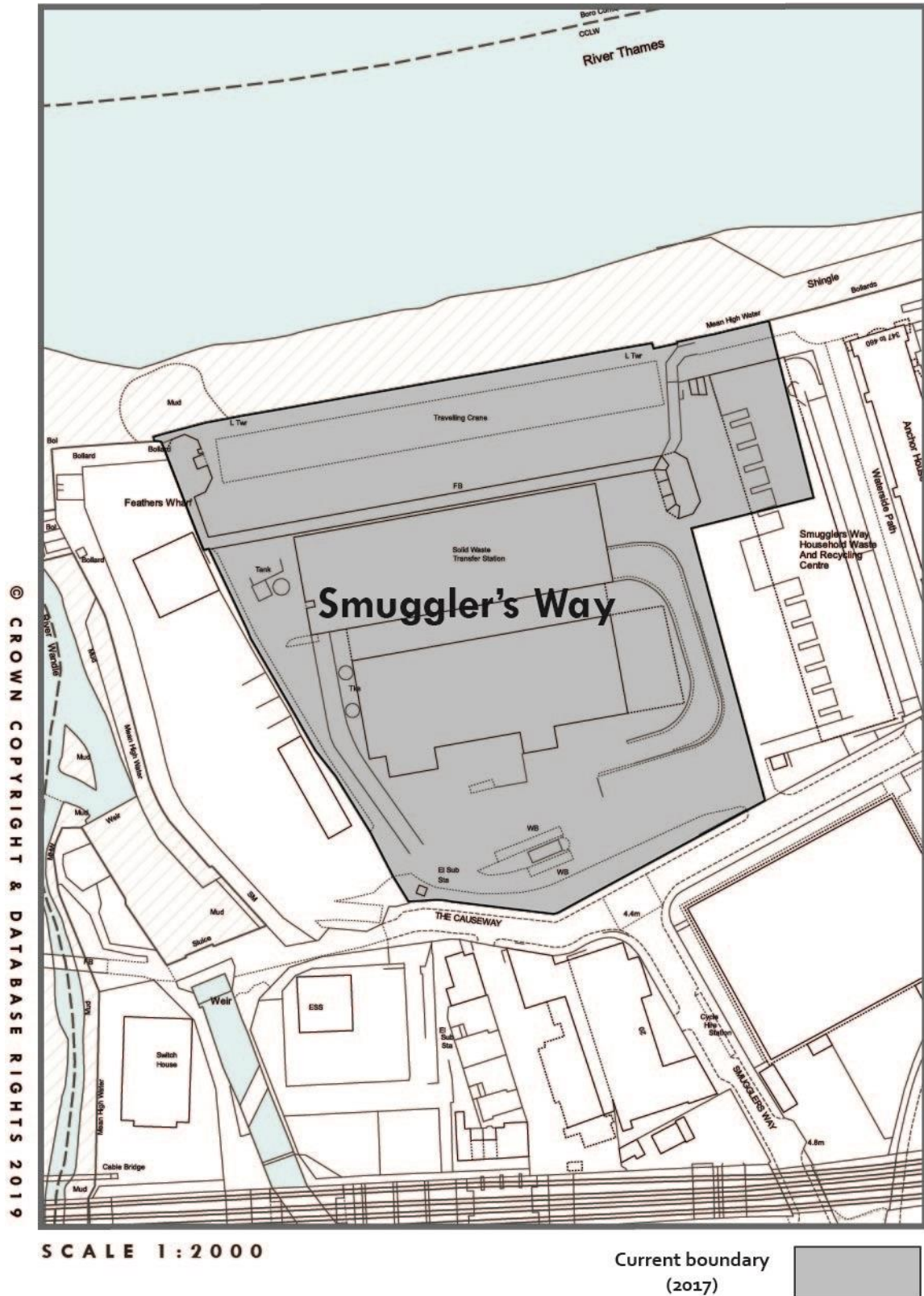
SCALE 1:1250

- Current boundary (2005) 
- Proposed boundary (2018/19) 
- Adjacent wharf (2005) 

Address	Townmead Road, London SW6
Local Authority	Hammersmith & Fulham
Grid reference	E 525,975/N 175,743
Site area	0.44 ha
Boundary Change	Minor change to reflect operations, ownership and highway works
Road Access	From north via Wandsworth Bridge Road, A217 (SRN)) with connections to New Kings Road, A308 (SRN), from south via Wandsworth Bridge Road, A217 (SRN), then left / right turn on to Townmead Road. Wharf site is located on southern side of road.
Congestion (delay in minutes/km)	Wandsworth Bridge Road A217 between j/w York Road (A3205) and j/w King's Road (A308) North bound: 0.5 to over 1.5  South bound: 0.5 to over 1.5
Rail Access	N/A
Comments	Wandsworth Bridge Road, A217 (SRN) offers connections to west and southwest London via junctions with A308 (SRN), A3 (TLRN), and a number of other strategic routes. Wandsworth Bridge Road experiences significant HGV flows at present. There are capacity constraints at junction with Wandsworth Bridge Road especially at peak times. The Local Highway Authority has identified an improvement scheme to provide additional capacity. - The finalised section 106 agreement for the development at this wharf will include transfer to the borough of a 5 metre strip along Townmead Road for the purposes of related highway improvements. A Delivery and Servicing Plan could help to mitigate the noise and air quality effects of road freight activity at the wharf. Retaining wharf capacity in the area could help encourage mode shift to water, reducing the amount of strategic road freight passing through west London.
Min. and max. berth depths	Dries 1.96 metres to 3.98 metres
Wall or jetty berth (and length)	Wall Berth (50 metres)
Vessel size LOA x beam x draft (m)	Tugs and tows and motorised barges
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Limited dredging works to berth approaches undertaken in 2015 prior to wharf's reactivation.

Site's planning status Surrounding land use and planning context	<p>The LB Hammersmith & Fulham Core Strategy (February 2018) in paragraph 5.106 promotes the consolidation of wharf capacity onto fewer better located sites. The site is currently in use for aggregates transshipment and the owners have received planning permission to upgrade the facilities and increase the capacity of the site, subject to a S106 agreement. It is estimated that following the implementation of the permission this will increase the amount of river cargo handling to 80,000 tonnes per annum with a reduction in HGV movement per annum from 32,081 to 31,800 movements.</p> <p>Planning consent for a consolidated wharf with Comley's Wharf and Albert wharf (not safeguarded) with residential development above granted in 2015, not yet implemented. Total throughput across the consolidated wharf projected at 115ktpa.</p> <p>Please note that the 2000 Direction refers to this wharf as RMC Fulham.</p>
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012-2016)	Deliveries of aggregate by water to the wharf recommenced in 2016 after four years of road-only transport.
On-site processing	Concrete batching plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf, expected to benefit from demand arising from the Thames Tideway Tunnel scheme.
Safeguarding Recommendation	Retain safeguarding. Site is in active use, with the benefit of planning permission to increase throughput.

4. Smuggler's Way

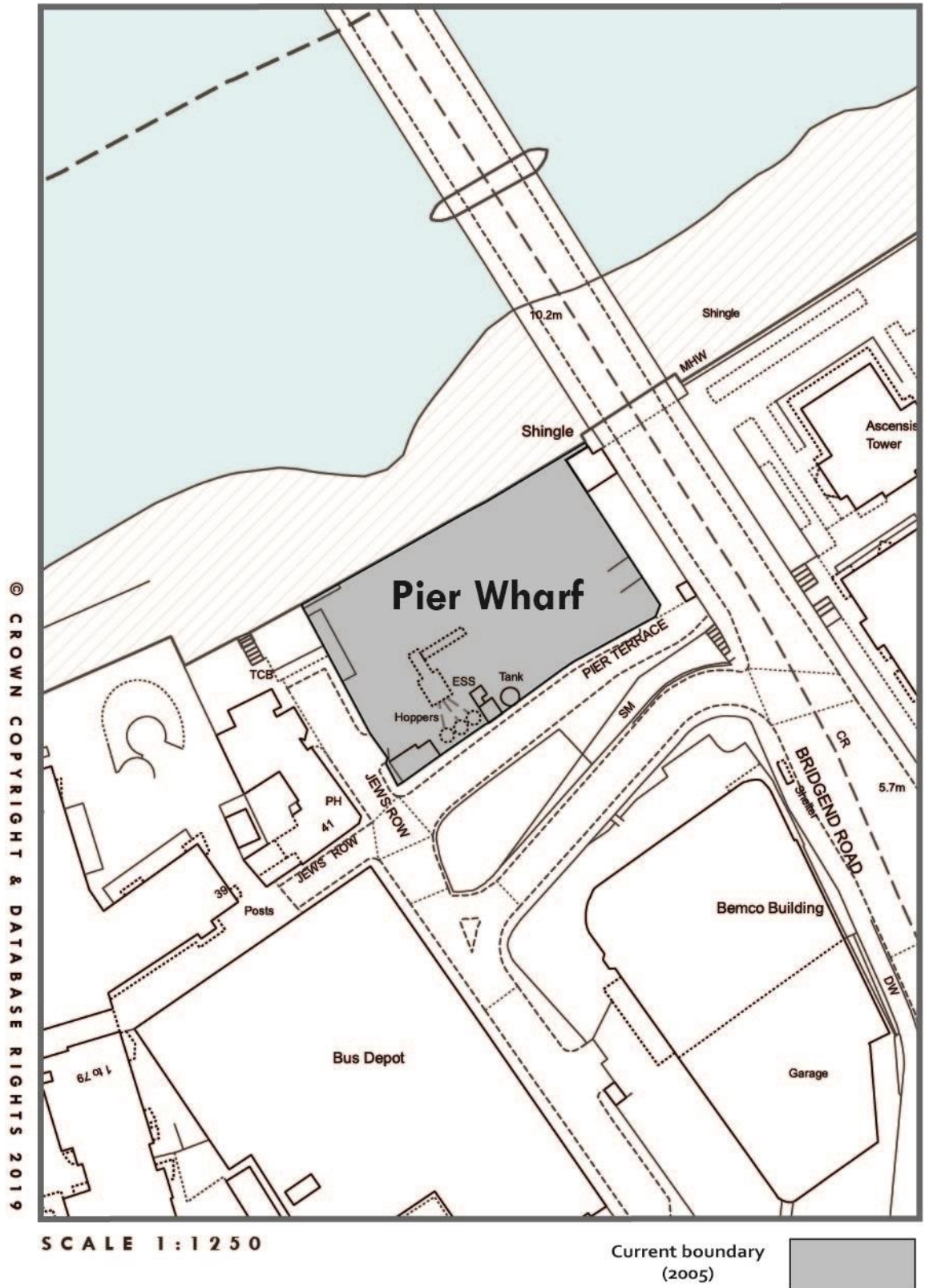


Address	Smuggler's Way, London SW18
Local Authority	Wandsworth
Grid reference	E 525,634/N 175,255
Site area	2.81 ha
Boundary Change	Yes, the boundary shown reflects changes made in 2017 by the Secretary of State.
Road Access	Access from Smuggler's Way using Wandsworth Bridge Road roundabout; A217 Wandsworth Bridge Road (TLRN) from the north; York Bridge Road A3205 (TLRN) from north easterly direction; Trinity Road A214 (TLRN) from south east, and Swandon Way A217 (TLRN) to the west. A3 (TLRN) is also close - providing access to central London.
Congestion (delay in minutes/km)	A217 Swandon Road between j/w Armoury Way and York Road ☐ North bound: 0.5 to 1.0 ☐ South east bound: 1 to over 1.5 A3205 York Road j/w Swandon Road and A3220 Battersea Bridge Road ☐ North east bound: under 0.25 to over 1.5 ☐ South west bound: under 0.25 to over 1.5 A3 Wandsworth Common Road j/w Wandsworth Bridge Road and Elspeth Road (A3220) ☐ East bound: 0.25 to over 1.5 ☐ West bound: 0.25 to over 1.5 A214 Trinity Road j/w Earlsfield Road to Swandon Road ☐ NW bound: 0.25 to 1.5 ☐ SE bound: under 0.25 to 1.0 Junction: Wandsworth Bridge Road roundabout A217/A3205: ☐ 0.25 to 1.5
Rail Access	N/A
Comments	Congested area; key node in south and southwest London road network. Site generates traffic, however, the waste authority needs to use sites close to the population it serves. Mode shift opportunities could help reduce freight demand for road network
Min. and max. berth depths	Dries 1.66 metres to 4.28 metres
Wall or jetty berth (and length)	Wall Berth (150 metres)
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	A drying berth, typical of the river upstream of the Thames Barrier. Substantial campshed, allowing barges to berth two abreast (double bottom). Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status	LB Wandsworth have an adopted Core Strategy (March 2016) that in Policy PL9 maintains its protection for the 5 currently safeguarded wharves. The site is currently in use as a waste transfer station. The

Surrounding land use and planning context	<p>wharf is set within a wider site that includes a civic amenity site. LB Wandsworth's adopted Core Strategy describes in the spatial strategy (paragraph 4.75) that the redevelopment of safeguarded wharves should only be accepted if the wharf is no longer viable or capable of being made viable for cargo handling uses. Policy PL 9 (River Thames and the riverside) currently protects the five safeguarded wharves for the transshipment of freight, including waste and aggregates, and for freight related activities. Development next to or opposite safeguarded wharves should be designed to minimise the potential for conflicts of use and disturbance. The site is allocated in the Site Specific Allocations Document (site 3.5)</p> <p>To the east is the St George's Wharf residential development, which has been designed and occupied whilst the wharf and civic amenity site have been operational. To the south lies an area of large format retail and commercial units. The site is generally compatible with surrounding land uses.</p> <p>Please note that the 2000 Direction refers to this wharf as Western Riverside Waste Transfer Station.</p>
Current Use (if vacant date and last handled cargo)	<p>Waste transfer station. - The waste is transported to the Energy from Waste facility in Belvedere (Middleton Jetty). A substantial part of the wharf area is given to the loading area for the waste vehicles that serve the site. The Western Riverside Waste Authority (WRWA) owns this site and their current 30 year disposal contract with Cory Riverside Ltd gives the operators control of the site until 2032. This contract ensures the continued use of the wharf for residual waste to be transported by river barge. Site includes Materials recycling facility and upgraded civic amenity site.</p> <p>In 2017 the Secretary of State issued new directions to adjust the boundary of Smugglers Way wharf, which was extended by 3,335 sq.m. to incorporate part of an existing household waste and recycling centre. This provided compensation for the reduction in the extent of safeguarded wharf uses at Cringle Dock by 3,335 sq.m.</p>
Recent average tonnage (2012-2016)	217,000 tonnes pa
On-site processing	Waste Transfer Station – residual waste is fed into a compactor compressing the waste into individual containers. Containers then transferred by two cranes onto barges.

	<p>Material Recycling Facility – Mixed recyclable material is brought in by road and sorted then taken by road for onward reprocessing.</p> <p>Civic Amenity Site – Public bring household waste and recycling for disposal. Recyclable material is removed by road and residual waste goes into the compactors of the Waste Transfer Station.</p>
Environmental Impacts	<p>See Separate WSP Consulting Appendices.</p> <p>The new upgraded Civic Amenity Site operates in a new split level format and has local environmental benefits for neighbours.</p>
Market Interest and alternative wharves	Operational wharf.
Safeguarding Recommendation	Retain safeguarding. Site is in active use, with dedicated infrastructure to serve the current user.

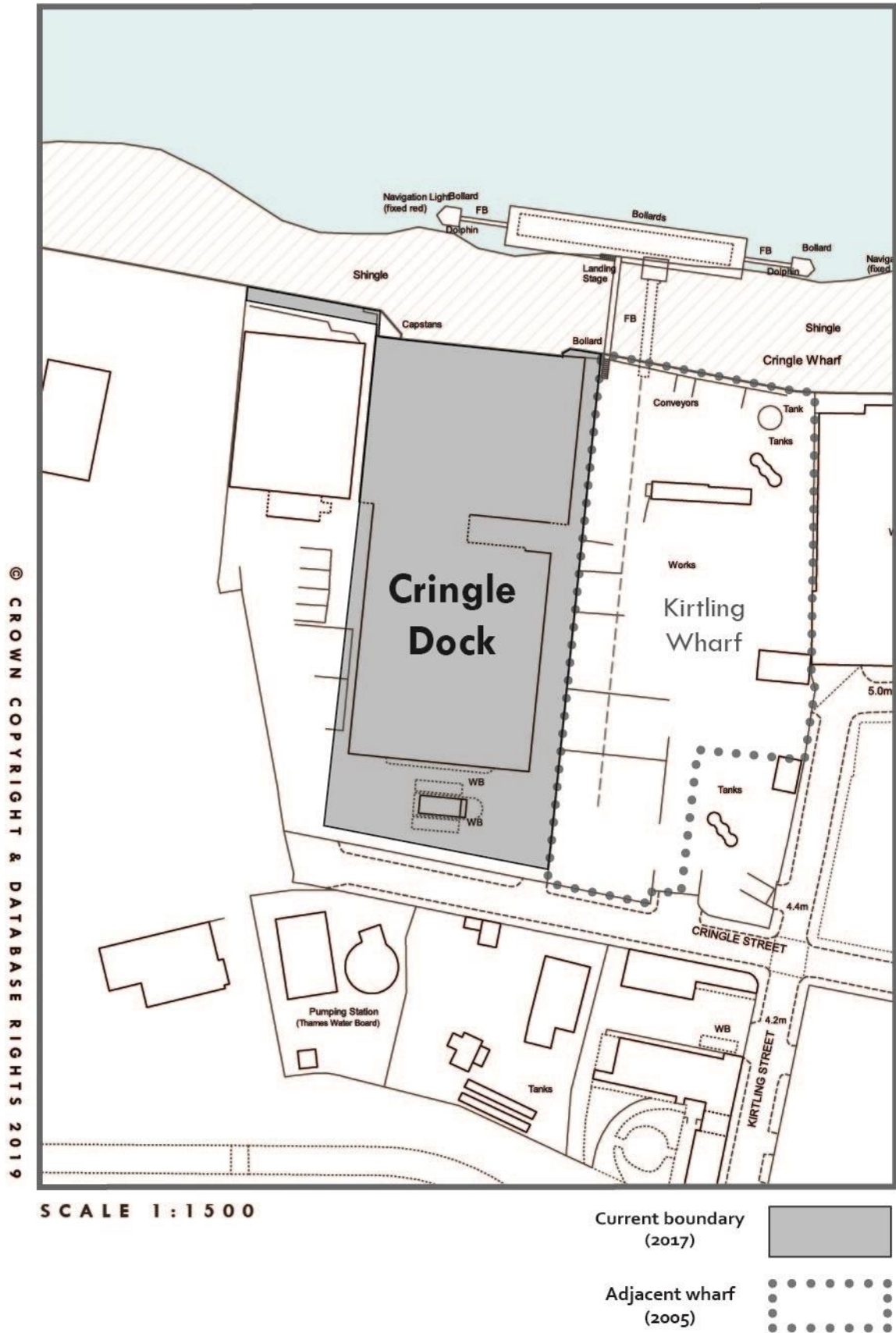
5. Pier



Address	Pier Terrace, Jews Row, London SW18
Local Authority	Wandsworth
Grid reference	Easting 526,000 / Northing 175,430
Site area	0.25 ha
Boundary Change	None proposed
Road Access	As per Smuggler's Way - except access is via Jews Row from northbound A217 Wandsworth Bridge Road, and is a one-way street with egress is via Marl Road onto Swandon Way.
Congestion (delay in minutes/km)	A217 Swandon Road between j/w Armoury Way and York Road North bound: 0.5 to 1.0 ☐ South east bound: 1 to over 1.5 A3205 York Road j/w Swandon Road and A3220 Battersea Bridge Road ☐ North east bound: under 0.25 to over 1.5 ☐ South west bound: under 0.25 to over 1.5 A3 Wandsworth Common Road j/w Wandsworth Bridge Road and Elspeth Road (A3220) ☐ East bound: 0.25 to over 1.5 ☐ West bound: 0.25 to over 1.5 A214 Trinity Road j/w Earlsfield Road to Swandon Road ☐ NW bound: 0.25 to 1.5 ☐ SE bound: under 0.25 to 1.0 Junction: Wandsworth Bridge Road roundabout A217/A3205: ☐ 0.25 to 1.5
Rail Access	N/A
Comments	Congested area; near key nodes in south and southwest London road network. Site generates traffic, however, in light of significant amounts of construction activity in the area sites such as this, located near to market, are needed to meet the needs of the sub-region. Mode shift opportunities could help reduce freight demand for road network. Nine Elms Lane (A3025) is a key route for HGVs. TfL data prepared in 2009 suggests daily average flow of between 500 and 1,500 HGVs per day. Use during construction (and operational) phase of Thames Tunnel could reduce the number of road freight vehicle movements.
Min. and max. berth depths	Dries 1.66 metres to 4.28 metres
Wall or jetty berth (and length)	Wall berth (70 metres)
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	LB Wandsworth have an adopted Core Strategy (March 2016) that in Policy PL9 maintains its protection for the 5 currently safeguarded wharves. The site is currently in use as an aggregates wharf with concrete batching plant on site. Development next to or opposite safeguarded wharves should be designed to minimise the potential for

	conflicts of use and disturbance. The site is allocated in the Site Specific Allocations Document (site 3.5) To the west lies a pub and then St George's Wharf (residential). To the east lies the A217 Wandsworth Bridge Road. Thus the site is generally compatible with surrounding land uses and has not experienced problems in operation over recent years. Extensive residential development has taken place whilst the wharf has been operational.
Current Use (if vacant date and last handled cargo)	Aggregates. The site is relatively small and effectively uses its whole area.
Recent average tonnage (2012-2016)	150,000 tonnes per annum
On-site processing	Concrete batching plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational Wharf, expected to benefit from demand arising from the Thames Tideway Tunnel Scheme.
Safeguarding Recommendation	Retain safeguarding. Site is in active use, with a particularly high throughput for a small wharf.

6. Cringle Dock



Address	Cringle Street, Battersea, London SW8
Local Authority	Wandsworth
Grid reference	Easting 529,145 / Northing 177,567
Site area	1.23 ha (1.12 ha)
Boundary Change	Yes, incorporation of marine infrastructure. The boundary shown also reflects changes made in 2017 by the Secretary of State.
Road Access	Access to / from Nine Elms Lane A3025 (TLRN) using Cringle Road. Access to Battersea Bridge using Queenstown Circus and Queenstown Road A3216 (BPRN). Alternative access to central and South London via Vauxhall Cross A3036 (TLRN).
Congestion (delay in minutes/km)	A3025 j/w A3216 to Vauxhall Cross, A3 Northbound: under 0.25 to over 1.5 ☐ Southbound: under 0.25 to over 1.5 A3216 j/w A3205 Battersea Park Road to j/w Chelsea Embankment, A3212 ☐ Northbound: 0.25 to over 1.5 ☐ Southbound: 1 to over 1.5
Rail Access	N/A
Comments	Congested area; key node in south and southwest London road network. Site generates traffic, however, the waste authority needs to use sites close to the population it serves. Mode shift opportunities could help reduce freight demand for road network. Nine Elms Lane (A3025) is a key route for HGVs. TfL data published 2010 ₁ suggests daily average flow of between 500 and 1,500 HGVs per day. Use during construction (and operation) of the VNEB Opportunity Area could reduce the number of road freight vehicle movements in the area.
Min. and max. berth depths	Dries 2.22 metres to 3.95 metres
Wall or jetty berth (and length)	Dock berth
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	The wharf is unique in London in that barges are moored inside the dock, rather than along the wharf's frontage. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Throughout the construction of the Thames Tunnel navigational access will be maintained.
Site's planning status Surrounding land use and planning context	LB Wandsworth have an adopted Core Strategy (March 2016) that in Policy PL9 maintains its protection for the 5 currently safeguarded wharves. Development next to or opposite safeguarded wharves should be designed to minimise the potential for conflicts of use and disturbance. The site is allocated in the Site Specific Allocations Document (site 2.1.6) derelict Battersea Power Station to the west, the safeguarded wharf, to be used as a main drive site for the Thames

	<p>Tideway Tunnel, to the east and other derelict land in the vicinity. Therefore the site is generally compatible with surrounding land uses and has not experienced problems in operation over recent years. However the surrounding land uses are set to change substantially from predominantly industrial uses into a mix of uses with a large number of residential units: The Opportunity Area Planning Framework for Vauxhall, Nine Elms Battersea and the land use approach within the LB Wandsworth both envisage large-scale land use change in the surrounding area, notably the redevelopment of the adjacent Battersea power Station site. This will lead to extensive new mixed-use development, with a large number of residential properties in the vicinity - some already have planning permission. It will be important to ensure that the layout and design of the surrounding uses including any proposals for the Thames Path do not reduce the operational viability of this wharf and the neighbouring Kirtling Wharf. Given the scale of surrounding redevelopment it will be important to ensure that appropriate HGV access to the two wharves is not compromised.</p> <p>Also, given the amount of development expected in the area, the wharves in the VNEB Opportunity Area have the potential to play an important role in the transport of construction and demolition materials by water. Planning consent for a wharf with residential development above granted in 2016, not yet implemented. The consented scheme may increase throughputs in the longer term but will also increase operational resilience and environmental mitigation.</p>
Current Use (if vacant date and last handled cargo)	<p>Waste transfer station. - The waste is transported to the new Energy from Waste facility in Belvedere (Middleton Jetty). A substantial part of the wharf area is given to the loading area for the waste vehicles that serve the site. The Western River Waste Authority owns this site and their current 30 year disposal contract with Cory Riverside gives the operator control of the site until 2032. This contract ensures the continued use of the wharf for residual waste to be transported by river barge. The site is unique in having covered docking areas for loading barges. This significantly increases the throughput of the wharf.</p> <p>In 2017 the Secretary of State issued new directions to adjust the boundary of Cringle Dock, which was reduced by 3,335 sq.m. The loss of this area was compensated by the addition of 3,335 sq.m. of safeguarding area at Smugglers Way.</p>
Recent average tonnage (2012-2016)	222,000 tonnes per annum
On-site processing	Following removal of the recyclates, residual waste is fed into compactor which compresses the waste into individual containers. Containers subsequently transferred by two cranes onto barges.

Environmental Impacts	See Separate WSP Consulting Appendices No current nuisance complaints. Recent planning consent provides environmental improvements to operations.
Market Interest and alternative wharves	Operational Wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within specialist infrastructure, which enables the waste transfer activities to take place in a covered dock.

7. Kirtling

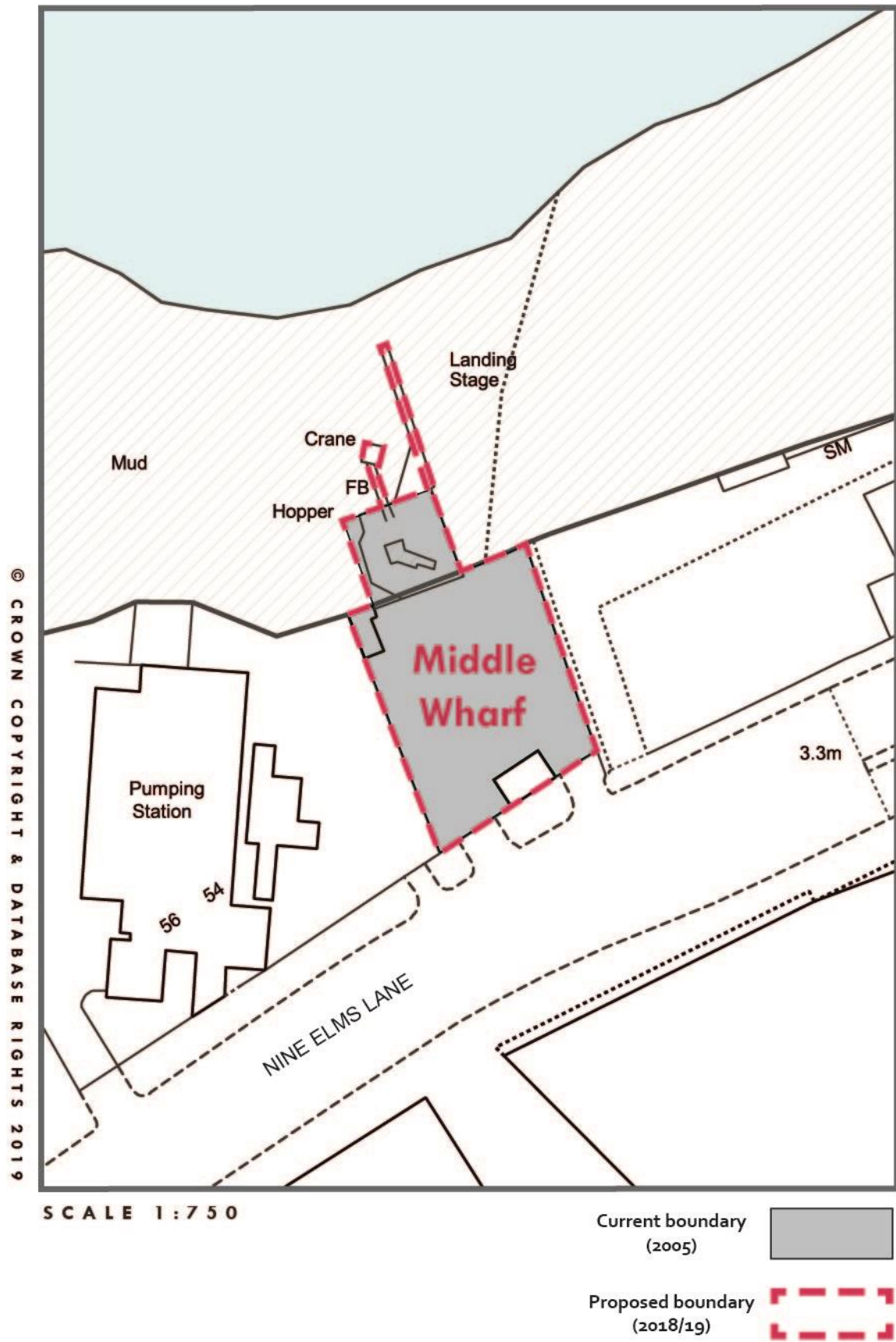


Address	Cringle Street, Nine Elms, London SW8
Local Authority	Wandsworth
Grid reference	Easting 529,213 / Northing 177,555
Site area	0.87 ha (0.68 ha)
Boundary Change	Yes, incorporation of marine infrastructure and to reflect operations and ownership
Road Access	Access to / from Nine Elms Lane A3025 (TLRN) using Cringle Road. Access to Battersea Bridge using Queenstown Circus and Queenstown Road A3216 (BPRN). Alternative access to central and South London via Vauxhall Cross A3036 (TLRN).
Congestion (delay in minutes/km)	A3025 j/w A3216 to Vauxhall Cross, A3 Northbound: under 0.25 to over 1.5 ☐ Southbound: under 0.25 to over 1.5 A3216 j/w A3205 Battersea Park Road to j/w Chelsea Embankment, A3212 ☐ Northbound: 0.25 to over 1.5 ☐ Southbound: 1 to over 1.5
Rail Access	N/A
Comments	Congested area; near key nodes in south and southwest London road network. Site generates traffic, however, in light of significant amounts of construction activity in the area sites such as this, located near to market, are needed to meet the needs of the sub-region. Mode shift opportunities could help reduce freight demand for road network. Nine Elms Lane (A3025) is a key route for HGVs. TfL data published 2010 suggests daily average flow of between 500 and 1,500 HGVs per day.
Min. and max. berth depths	0.58 metres to 6.75 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Tugs, tows and motorised barges
Comments	The most upstream wharf served by a jetty. Access to the jetty by large (1,000 tonne) barges is available across most of the tidal cycle, although in practice barge traffic travels to the wharf on the flood tide, mooring at or near high water. Works to the berth are to be undertaken prior to Tideway's use of the wharf in connection with the Thames Tideway Tunnel which should improve the wharf's viability.
Site's planning status Surrounding land use and planning context	LB Wandsworth have an adopted Core Strategy (March 2016) that in Policy PL9 maintains its protection for the 5 currently safeguarded wharves. The site is allocated in the site Specific Allocations Document (site 2.1.7) – including other freight handling sites The site is within an industrial area with the safeguarded Cringle Dock waste transfer The site was, until acquired for the Thames Tideway Tunnel scheme,

	<p>operational for aggregates transshipment. Planning permission, although not implemented, was obtained to upgrade the facilities and increase the capacity of the site. The Opportunity Area Planning Framework for Vauxhall, Nine Elms Battersea and the land use approach within the LB Wandsworth both envisage the retention of this and the adjacent Cringle Dock waste wharf.</p> <p>Development next to or opposite safeguarded wharves should be designed to minimise the potential for conflicts of use and disturbance.</p> <p>However the surrounding land uses are set to change substantially from predominantly industrial uses into a mix of uses with a large number of residential units (see paragraph below). An initial example of this is the recent planning permission for residential development relatively close to the site, which has given the operators cause for concern regarding potential future land use conflict. The Opportunity Area Planning Framework for Vauxhall, Nine Elms Battersea and the land use approach within the LB Wandsworth both envisage large-scale land use change in the surrounding area, notably the redevelopment of the Battersea Power Station site. This will lead to extensive new mixeduse development, with a large number of residential properties in the vicinity, some already have planning permission. It will be important to ensure that the layout and design of the surrounding uses including the Thames Path do not reduce the operational viability of this wharf and the neighbouring Cringle Dock waste wharf.</p> <p>Given the scale of surrounding redevelopment it will be important to ensure that appropriate HGV access to the two wharves is not compromised.</p> <p>Also, given the amount of development expected in the area, the wharves in the VNEB Opportunity Area have the potential Operational Status to play an important role in the transport of construction and demolition materials by water.</p> <p>Please note that the 2000 Direction refers to this wharf as Metro Greenham.</p>
Current Use (if vacant date and last handled cargo)	Acquired for the Thames Tideway Tunnel scheme
Recent average tonnage (2012-2016)	134,000 tonnes per annum.
On-site processing	Concrete batching plant

Environmental Impacts	See Separate WSP Consulting Appendices.
Market Interest and alternative wharves	The wharf is to be used in connection with the Thames Tideway Tunnel project until 2022, handling over 2mt of cargo by water including CD&E waste, aggregates and tunnel lining segments. It has been a successful wharf prior to acquisition and there continues to be substantial interest from operators within and new to the Port of London for handling bulk cargoes, particularly aggregates.
Safeguarding Recommendation	Retain safeguarding. Wharf was until very recently in active use and will be again, benefits from planning permission to increase throughput.

8. Middle

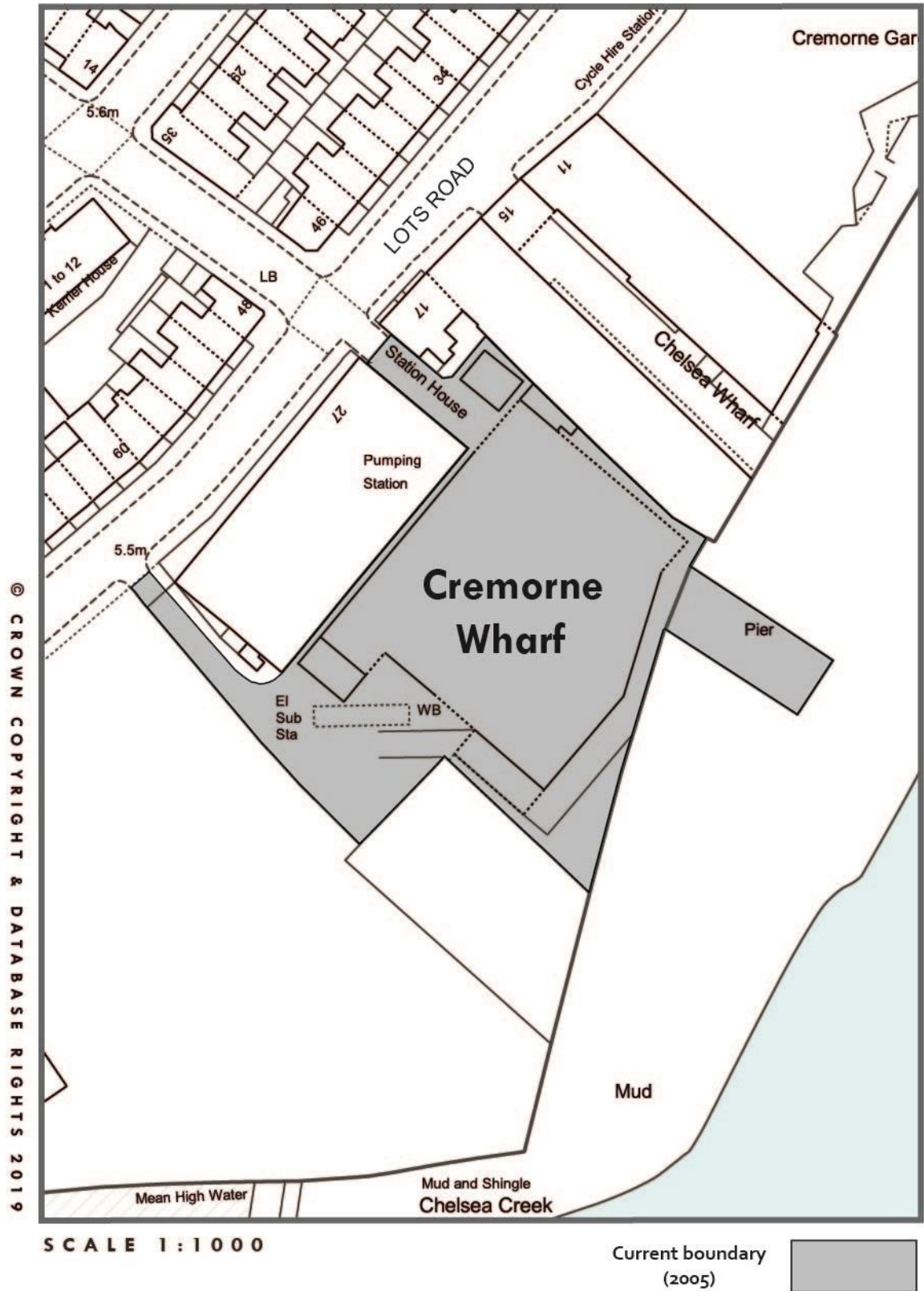


Address	Nine Elms Lane, Vauxhall, London SW8
Local Authority	Wandsworth
Grid reference	Easting 529,575 / Northing 177,639
Site area	0.088 ha (0.087 ha)
Boundary Change	Yes, incorporation of marine infrastructure and to reflect operations and ownership
Road Access	Access to / from Nine Elms Lane A3025 (TLRN) using Cringle Road. Access to Battersea Bridge using Queenstown Circus and Queenstown Road A3216 (BPRN). Alternative access to central and South London via Vauxhall Cross A3036 (TLRN).
Congestion (delay in minutes/km)	A3025 Nine Elms Lane j/w Battersea Park Road to j/w Wandsworth Road ☐ Northbound: under 0.25 to over 1.5 ☐ Southbound: under 0.25 to over 1.5 A3216 j/w A3205 Battersea Park Road to j/w Chelsea Embankment, A3212 ☐ Northbound: 0.25 to over 1.5 ☐ Southbound: 1 to over 1.5 Junction: Queenstown Circus under 0.25 to over 1.5 (depending on junction arm).
Rail Access	N/A
Comments	Congested area; near key nodes in south and southwest London road network. Site generates traffic, however, in light of significant amounts of construction activity in the area sites such as this, located near to market, are needed to meet the needs of the sub-region. Mode shift opportunities could help reduce freight demand for road network. Nine Elms Lane (A3025) is a key route for HGVs. TfL data prepared in 2009 suggests daily average flow of between 500 and 1,500 HGVs per day. Use during construction phase of Thames Tunnel and the VNEB Opportunity Area could reduce the number of road freight vehicle movements.
Min. and max. berth depths	Dries 1.12 metres to 5.05 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames Barrier. Unusual berthing arrangements, with vessels moored perpendicular to the wharf. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Works to the berth are to be undertaken prior to Tideway's use of the wharf in connection with the Thames Tideway Tunnel which should improve the wharf's viability.

<p>Site's planning status</p> <p>Surrounding land use and planning context</p>	<p>LB Wandsworth have an adopted Core Strategy (March 2016) that in Policy PL9 maintains its protection for the 5 currently safeguarded wharves. In re-activating the wharf it will be important to ensure that other surrounding development can come forward without land use conflict that cannot be resolved by the design of that development.</p> <p>The Opportunity Area Planning Framework for Vauxhall, Nine Elms Battersea and the land use approach within the LB Wandsworth both envisage the retention of Middle Wharf. The Opportunity Area Planning Framework for Vauxhall, Nine Elms Battersea and the land use approach within the LB Wandsworth both envisage large-scale land use change in the – including other freight handling sites surrounding area, notably the redevelopment of the Battersea Power Station site. This will lead to extensive new mixed-use development, with a large number of residential properties in the vicinity - some already have planning permission.</p> <p>However the surrounding land uses are set to change substantially from predominantly industrial uses into a mix of uses with a large number of residential units (see paragraph below). An initial example of this is the recent planning permission for residential development relatively close to the site, which has given the operators cause for concern regarding potential future land use conflict. The Opportunity Area Planning Framework for Vauxhall, Nine Elms Battersea and the land use approach within the LB Wandsworth both envisage large-scale land use change in the surrounding area, notably the redevelopment of the Battersea Power Station site. This will lead to extensive new mixed use development, with a large number of residential properties in the vicinity, some already have planning permission. It will be important to ensure that the layout and design of the surrounding uses including the Thames Path do not reduce the operational viability of this wharf and the neighbouring Cringle Dock waste wharf.</p> <p>Given the scale of surrounding redevelopment it will be important to ensure that appropriate HGV access to the two wharves is not compromised. Also, given the amount of development expected in the area, the wharves in the VNEB Opportunity Area have the potential Operational Status to play an important role in the transport of construction and demolition materials by water.</p>
<p>Current Use (if vacant date and last handled cargo)</p>	<p>Wharf acquired by Thames Water for the Thames Tideway Tunnel scheme.</p>
<p>Recent average tonnage (2012-2016)</p>	<p>N/A</p>

On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The wharf is to be used in connection with the Thames Tideway tunnel project until 2022 handling 50 kt of cargo by water, including CD&E waste and aggregates. The PLA has an option to reactivate the wharf for cargo-handling following the end of the project and informal marketing indicates interest from operators within the Port of London for handling bulk cargoes.
Safeguarding Recommendation	Retain safeguarding. Site is viable with long-standing interest expressed in it by a range of cargo-handling operators.

9. Cremorne

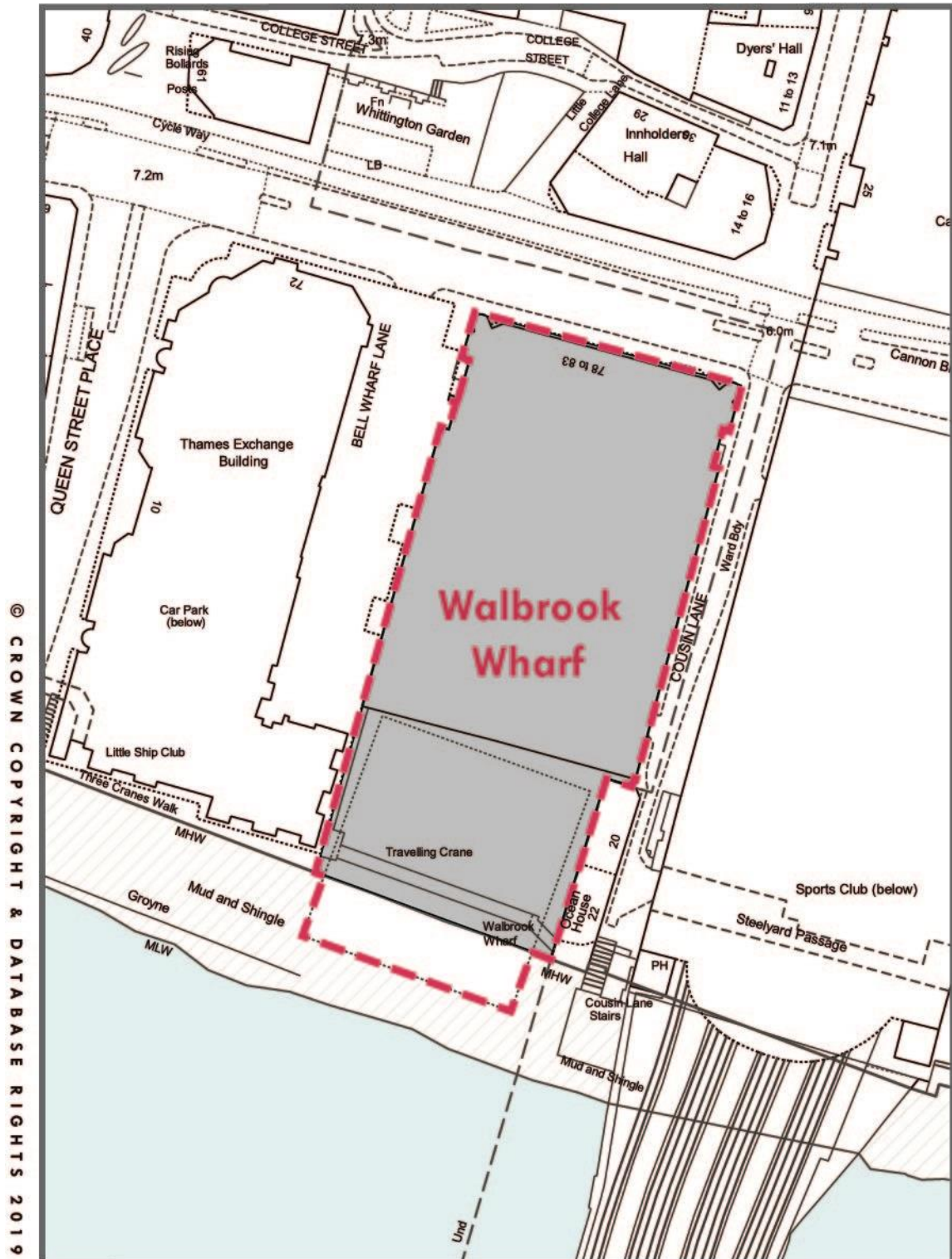


Address	Lots Road, Chelsea, London SW10
Local Authority	Kensington & Chelsea
Grid reference	Easting 526,530 / Northing 177,108
Site area	0.39 ha
Boundary Change	None
Road Access	A3220 Cremorne Road (TLRN)- single carriageway - north / west-bound - wide lanes; one-way system operated using King's Road (A308) and Edith Grove (also forms A3220) south/ east-bound.
Congestion (delay in minutes/km)	A3212 from j/w Battersea Bridge to j/w Fulham Road. ☐ North / West bound: 0.5 to over 1.5 ☐ South / East bound: A3212 – 1.5 to over 1.5 A308 King's Road, between j/w Cremorne Road and Edith Grove, Eastbound: 0.5 to 1.5
Rail Access	N/A
Comments	Site is close to Transport for London Road Network, however, access from the north and west (and to the south and east on egress) is constrained due to a one-way system. The proximity of the listed pumping station wall and the rear wall of the former Lots Road Power station means that the access/egress cannot easily be widened to enable large vehicles to have easier access. If the wharf was re-activated, a Delivery and Servicing Plan could help to mitigate the noise and air quality effects of road freight activity at the wharf.
Min. and max. berth depths	Dries 2.07 metres to 4.01 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Works to the berth are to be undertaken prior to Tideway's tunnel use of the wharf in connection with this project, including a temporary camp shed and fender piles.
Site's planning status Surrounding land use and planning context	The site is currently being utilised on a temporary basis for development of the Thames Tideway Tunnel and part of the site will need to be permanently retained for ongoing maintenance access to the tunnel. It is currently safeguarded as a waste management site, although waste transfer no longer takes place. The Borough's waste is dealt with by the Western Riverside Waste Authority and shipped from Smuggler's Wharf in the LB Wandsworth. This agreement lasts until 2031.

	<p>The consolidated local plan for RB Kensington & Chelsea (Oct 2015) seeks the continued safeguarding of the wharf acknowledging its potential to be reactivated.</p> <p>The Secretary of State granted the Thames Tideway Tunnel Development Consent Order (DCO) in September 2014, which is programmed for completion in 2022. The building and structures at Cremorne Wharf are due to be demolished. The DCO includes the construction and replacement of buildings and structures at Cremorne to replace those being demolished.</p> <p>The site was previously proposed for an application for the Counters Creek Storm Relief sewer scheme. This would have utilised Cremorne Wharf during construction and for new below ground assets. Following a detailed review of the requirement for the new sewer, Thames Water have concluded that it is not an effective solution for the sewer flooding they are looking to address at this time. At this stage, the need for a new storm relief sewer in the future cannot be completely discounted, however, Thames Water is continuing to investigate what future resilience may be required.</p> <p>When these projects are complete it is anticipated that Cremorne Wharf will be brought back into use, possibly for waste, but it is unclear if this will be for waste alone or include treatment/sorting operations. It is therefore proposed to continue safeguarding the site for waste management for the duration of the Local Plan partial review.</p> <p>The whole of the borough is in an Air Quality Management Area, and the use of the site as a wharf should ensure that any impacts on surrounding residential properties were acceptable.</p> <p>To the north and east of the site are existing residential properties. Adjacent to the site to the west is the Lots Road Power Station site, which has planning permission for a mix of uses including residential. Cremorne Gardens, which is a valuable source of public open space in this part of the Borough, is also in close proximity to the east of the wharf.</p> <p>It will be important to retain larger vehicle access to the site and vicinity for construction purposes given that extensive, predominantly residential development that is likely to take place over the coming years, principally from the Lots Road development.</p>
Current Use (if vacant date and last handled cargo)	Site is currently being used as a tunnelling site for the Thames tideway Tunnel. Last cargo handled prior to 1997.

Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The wharf is to be used in connection with the Thames Tideway tunnel project until 2022, handling over 30kt of cargo by water, including CD&E waste. The wharf was previously identified as the main drive site for the Counters Creek scheme, handling over 400kt of cargo, including CD&E Waste, aggregates and tunnel lining segments. However, the scheme is not being progressed at this time. Informal marketing of the wharf indicates interest from operators within the Port of London for handling bulk cargoes, particularly aggregates.
Safeguarding Recommendation	Retain safeguarding. Site is viable and long-standing interest has been expressed in it by a range of cargo-handling operators.

10. Walbrook



SCALE 1:1250

Current boundary
(2005)



Proposed boundary
(2018/19)



Address	Upper Thames Street
Local Authority	City of London
Grid reference	Easting 532,505 / Northing 180,731
Site area	0.69 ha (0.66 ha)
Boundary Change	Yes, incorporation of marine infrastructure
Road Access	Access is from A3211 Upper Thames Street (forms part of the TLRN)
Congestion (delay in minutes/km)	A3211 Upper Thames Street between j/w A201, Blackfriars Bridge and London Bridge, A10 West bound: under 0.25 to over 1.5 East bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Changes to the carriageway to accommodate the cycle superhighway have resulted in Thames Street is a two-lane carriageway westbound and one lane eastbound with a right turn into Bell Wharf Lane. There is a narrow access down Bell Wharf Lane under a building, which has suitable clearance heights for cars, vans and HGVs. There is limited room for vehicular movements in Bell Wharf lane and once vehicles enter the transfer station they must conform to the traffic management of the site. The catchment area for freight movements generated by the site is well defined - predominantly City of London and other central London boroughs. Borough officers also highlighted the importance of the break in the central reservation is maintained to allow traffic to turn right into Bell Wharf Lane from the west to help reduce traffic movements on Upper Thames Street and also to allow a right turn out of Bell Wharf Lane when exiting.
Min. and max. berth depths	Dries 1.92 metres to 4.63 metres
Wall or jetty berth (and length)	Wall Berth (60 metres)
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	A drying berth, typical of the river upstream of the Thames Barrier. Substantial campshed, allowing barges to berth two abreast (double bottom). Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	City of London's Local Plan (adopted Jan 2015) calls for the continued safeguarded of this wharf. Local Plan Policy DM17.4 prevents the development of adjacent sites for noise sensitive uses. The site is also safeguarded as a waste handling site. The site is in use as a waste transfer site utilising river transport. Vehicular access to and from Upper Thames Street needs to be maintained for both eastbound and westbound traffic in order to facilitate efficient operation of Walbrook

	<p>Wharf. The site is predominantly surrounded by offices within the City of London along with some leisure uses. It is generally compatible with surrounding land uses, as it has not experienced problems in operation over recent years. Cannon Street National Rail and London Underground station is adjacent to Walbrook Wharf to the east. Cannon Street Railway Bridge crosses the River Thames immediately to the east of Walbrook Wharf and Southwark Bridge crosses approximately 65m to the west. Planning approval was granted in 1995 for infilling of the dock, construction of a crane and riverside walkway as part of the conversion to a containerised depot. Relevant conditions include:</p> <ul style="list-style-type: none"> ▣ Riverside walkway to be open at all times except during removal of containers over the walkway ▣ Use of crane prohibited between 10pm and 6am to protect residential amenity ▣ Level of refuse limited to 110,000 tonnes per annum to limit lorry movements to and from depot <p>There is also a contract limit of 85k tonnes as a safe operating limit. ▣ Noise levels should not exceed specified limits to protect residential amenity</p>
Current Use (if vacant date and last handled cargo)	<p>Waste Transfer Station The current contract that the City of London has with Cory Riverside for the disposal of waste runs until 2025, within this contract the operator can use the transfer station and wharf to accept trade/ commercial waste from other customers. The City of London is also exploring the possibility of also transporting recycling materials by river in an attempt to take more vehicle movements off the roads.</p>
Recent average tonnage (2012-2016)	<p>48,000 tonnes per annum. The capacity is limited to 110,000 tonnes per annum by a planning condition. The Environment Agency licence for this site shows the annual tonnage permitted as 171,080 tonnes.</p>
On-site processing	<p>Waste fed into compactor, which compresses the waste into individual containers. Containers transferred by crane onto barges.</p>
Environmental Impacts	<p>See Separate WSP Consulting Appendices</p> <p>Complaints - There have been no complaints about noise or odour from this site since it's development in 1995. Noise levels in connection with the Waste transfer station at Walbrook Wharf are limited by planning condition. The whole of the City, in common with the rest of central London, has been identified as an Air Quality Management Area for particulate matter (PM10) and Nitrogen Dioxide. Upper Thames Street has been identified in the Mayor of London's Air Quality Strategy 2010 as one of seven locations in central London which are at risk of exceeding the EU daily limit values for PM₁₀. Activities at Walbrook Wharf must not exacerbate the poor air quality in this area. The maximum height of buildings and structures at this site is limited by the Mayor's London View Management Framework, Monument Views and St Paul's Heights protection policies. See Core Strategy Policy CS13 <i>Protected Views</i>.</p>

Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within infrastructure designed to meets its current use. The City Corporation regards the wharf as an essential part of the infrastructure in managing the City's waste contributing to reductions in traffic on London's busy road network, and thus reducing airborne pollutants and carbon emissions.

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Current boundary
(2005)



Proposed boundary
(2018/19)

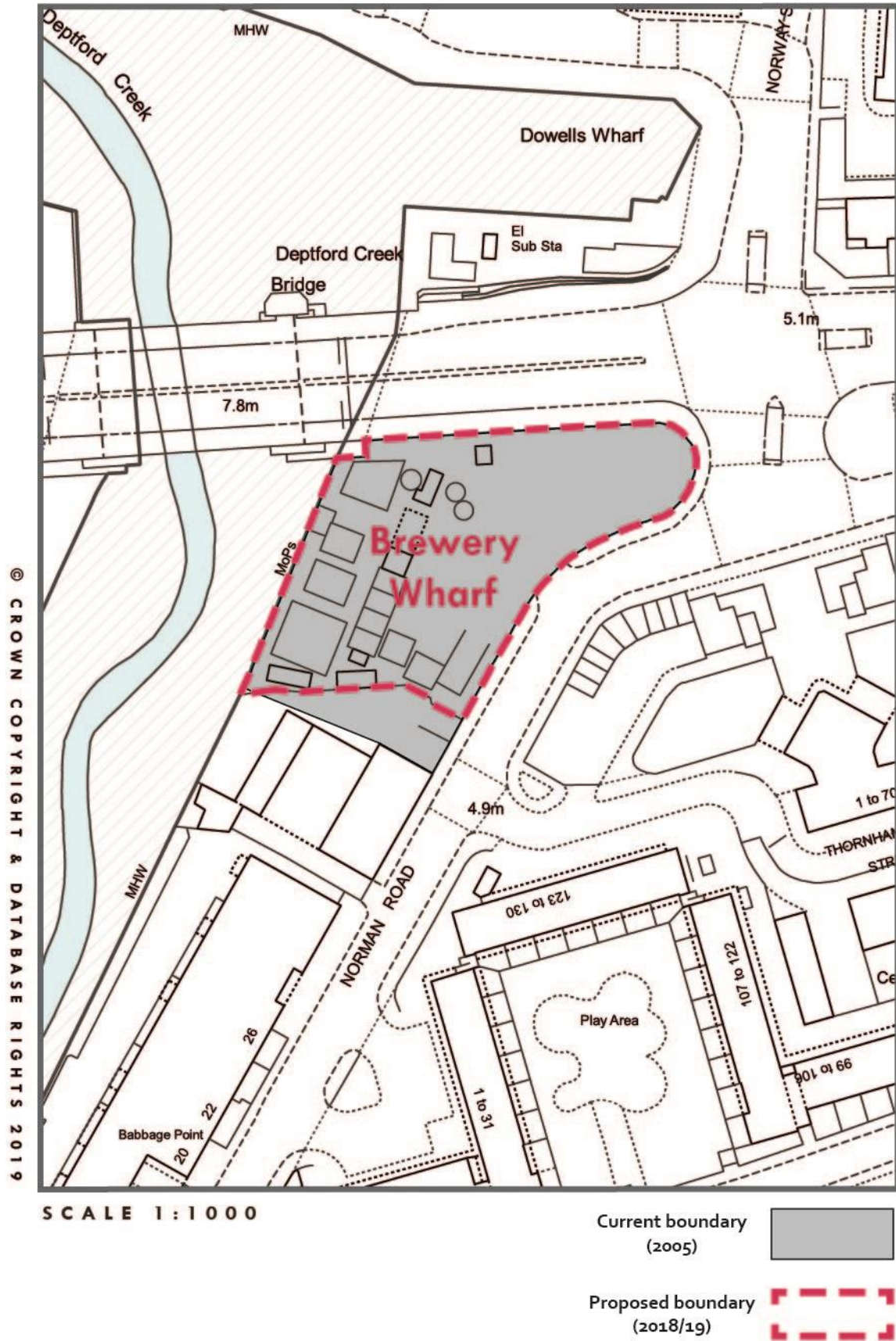


Address	Princes Street, Deptford, London SE8
Local Authority	Lewisham
Grid reference	Easting 536,987 / Northing 178,261
Site area	9.14 ha (8.59 ha) A potential wharf could be 2.6Ha
Boundary Change	Yes, reduction of safeguarding area to reflect extant planning permission for the site.
Road Access	Strategic access from A2 at Deptford Bridge (TLRN) via Deptford Church Street A2209 (BPRN) on to Evelyn Street A200 (BPRN). Local access – one way system from Evelyn Street via Prince Street eastbound (in) and New King Street southbound (out).
Congestion (delay in minutes/km)	A2 from j/w A2211 Lewisham Road to New Cross Gate → North / West bound A2 0.25 to over 1.5 → South / East bound A2 0.25 to over 1.5 A200 from j/w Deptford Church Street to Lower Road (also A200) → North / West bound A200 - 1 to over 1.5 → South / East bound A200 - 0.25 to over 1.5
Rail Access	None
Comments	The site is currently accessed via residential streets off A200, Evelyn Street, the main route through the area (Rotherhithe-Greenwich) with significant levels of traffic (20-25% through traffic). Prince Street/New King Street effectively reduced to single lane carriageway due to on-street parking. Historic second site access (junction Grove Street/Leeway) not in use.
Min. and max. berth depths	5.15 metres to 11.81 metres (downstream jetty berth)
Wall or jetty berth (and length)	Jetty berth. Upstream Ro-Ro berth not useable and in need of significant repair/replacement
Vessel size LOA x beam x draft (m)	N/A
Comments	Deep water is available at all stages of the tide at the fixed (downstream) jetty, allowing the berthing of substantial seagoing vessels. The upstream cargo-handling infrastructure is in a poor state of repair.
Site's planning status Surrounding land use and planning context	<p>The adopted Lewisham Core Strategy includes a Strategic Site allocation policy for Convoys Wharf. This policy allocates the whole site (including the protected wharf area) for mixed-use redevelopment. Amongst other things the policy requires any redevelopment to satisfactorily address the safeguarded wharf status of part of the site.</p> <p>The site is within the Deptford Creek/Greenwich Riverside Opportunity Area identified in the London Plan. Annex 1 of the London Plan states</p>

	<p>'subject to resolution of wharf related issues, parts of Convoys Wharf should be developed for a range of uses' (page 264).</p> <p>The site is not currently operational. The wider area (16.6 Ha) has been the subject of a planning application for mixed-use development made in 2013. In March 2014 the Mayor resolved to grant planning permission and a S106 was signed and permission granted in March 2015. Enabling works began on site in 2017. The first reserved matters application is expected late 2017. The permission granted consent for a 32,200 sq.m. working wharf with vessel moorings.</p> <p>The applicants undertook an assessment of the wharf's viability and determined that 2.3 hectares plus a further 0.3 hectares on a new jetty of the current site was viable for cargo-handling. Wharf activation is covered in the Eighth Schedule of the s106.</p> <p>The site is surrounded by residential development. It will be important to ensure that future wharf uses do not harmfully impact on residential and other neighbours and a list of 'Excluded Uses on the wharf' is attached to the s106 Agreement. This list includes uses which cause noise, disturbance and unpleasant smells.. Conditions are attached to the planning permission in regard to the use of the wharf and access to it.</p>
Current Use (if vacant date and last handled cargo)	Vacant. Last cargo handled c. 2000
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Agents acting on behalf of the site owner and, subsequently, the PLA undertook extensive marketing exercises and have identified a number of operators, handling primarily bulk cargoes, who have sought to occupy the revised wharf area. The wharf's location (closest to the east side of central London) and depth of water available, make it attractive for cargo-handling.
Safeguarding Recommendation	Retain safeguarding with boundary amendments. The wharf's location close to central London remains valuable for cargo-handling uses and

	the site will need to retain flexibility to meet a range of operational needs.
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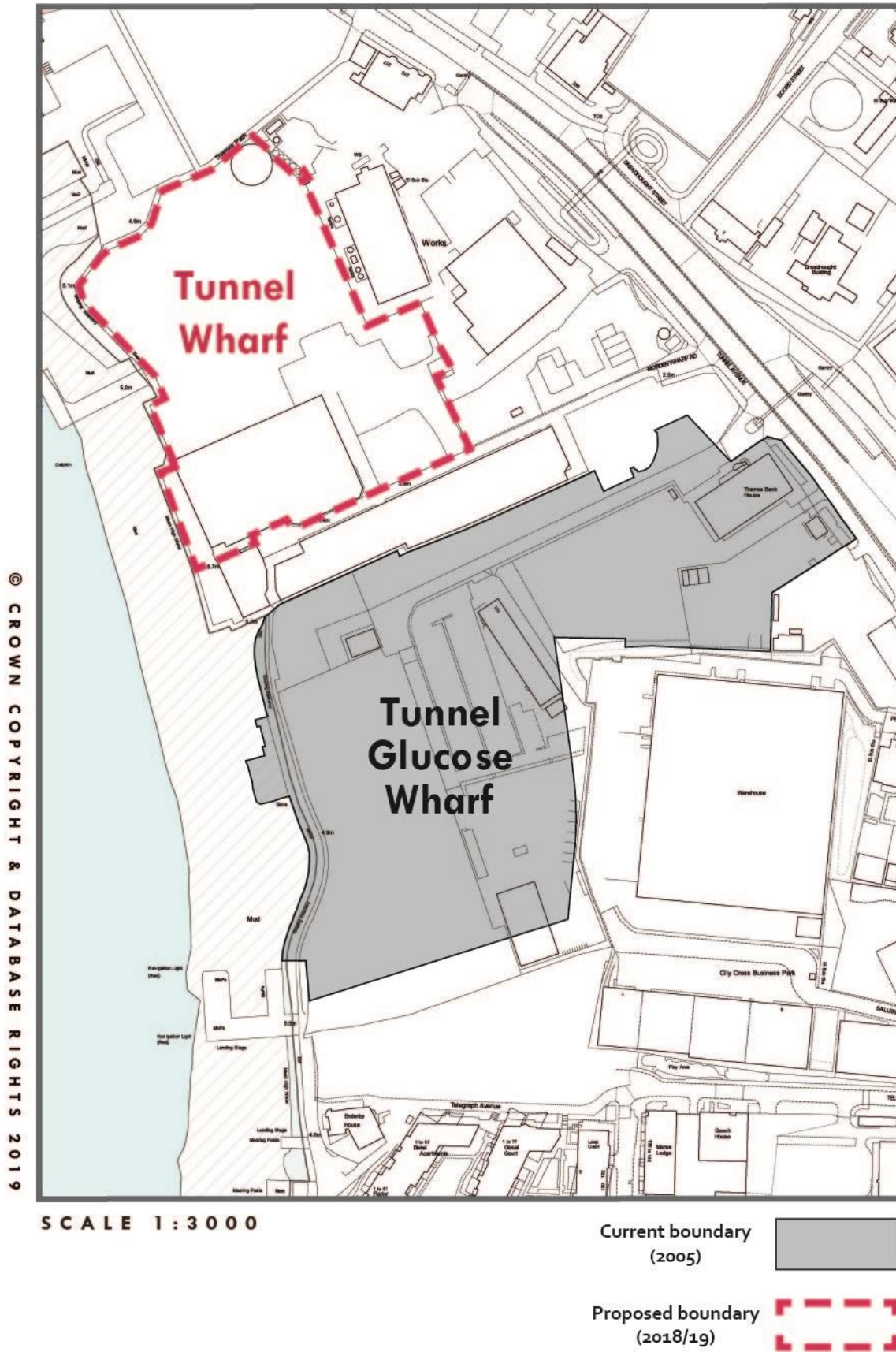
12. Brewery



Address	Norman Road, Greenwich, London SE10
Local Authority	Greenwich
Grid reference	Easting 537,894 / Northing 177,654
Site area	0.24 ha
Boundary Change	Yes, to reflect site ownership.
Road Access	Access from A2 Deptford Bridge (TLRN) via Depford Church Street A2209 (BPRN) on to Creek Road A200 (BPRN). Alternative access via A206 (BPRN). A weight limit of 7.5 tonnes is in place on Romney Road
Congestion (delay in minutes/km)	A200 j/w Greenwich Church Street to j/w Grove Street ☐ westbound 1.0 to over 1.5 ☐ eastbound under 0.25 to 1.5
Rail Access	N/A
Comments	Close to the Strategic Road Network (SRN) and Transport for London Road Network (TLRN), providing good access to destinations in Lewisham and outer SE London, and wider SE via M25 and A2.
Min. and max. berth depths	Dries 2.05 metres to 4.63 metres
Wall or jetty berth (and length)	Wall Berth (45 metres)
Vessel size LOA x beam x draft (m)	55 x 8 x 2.5
Comments	A drying berth, typical of tidal creeks. No campshed. Creek Road Bridge, downstream of the wharf which operates on a 24/7 basis can open to allow the unencumbered passage of the vessels. Berth characteristics appropriate for barge (which to this wharf is motorised) traffic, which travels to the wharf on the flood tide.
Site's planning status Surrounding land use and planning context	<p>The local plan for RB Greenwich (July 2014) calls for existing safeguarded wharves to be protected in policy IM5. The site is located on the Deptford Creek and operates as an aggregates wharf. The site is within the Deptford Creek/Greenwich Riverside Opportunity Area.</p> <p>There are other land uses in close proximity and these have been designed to reduce conflicts. The site is generally compatible with surrounding land uses. Further redevelopment in the vicinity of the wharf is expected. It will be important to ensure that this does not generate conflicts with the wharf operation or HGV access.</p>
Current Use	Aggregates

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	125,000 tonnes per annum
On-site processing	Concrete batching plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use and is one of the closest to central/inner London markets.

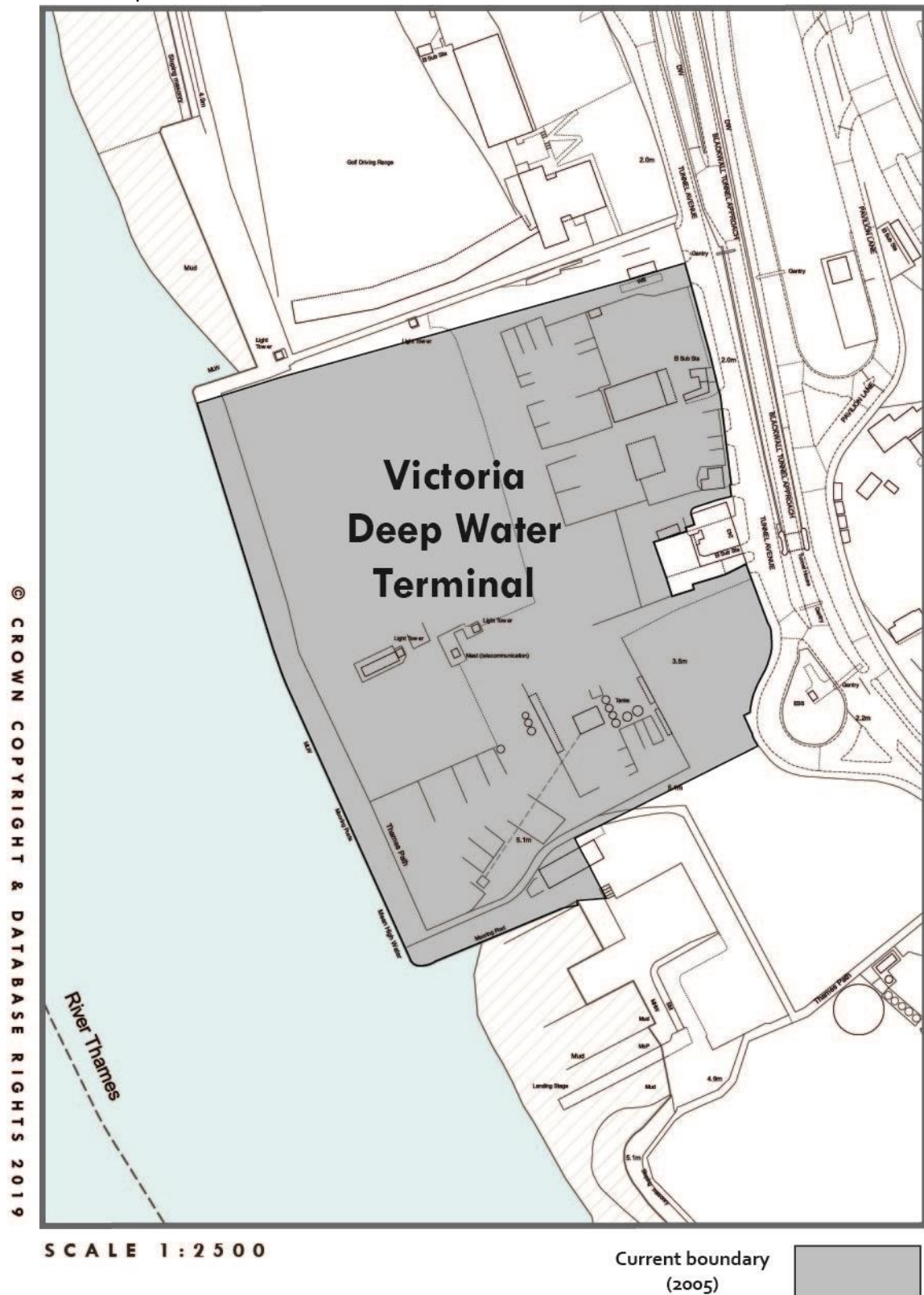
13. Tunnel



Address	Thames Bank House
Local Authority	Greenwich
Grid reference	Easting 539,113 / Northing 179,140
Site area	2.68 ha (4.21 ha)
Boundary Change	Yes, safeguarding will be removed from Tunnel Glucose Wharf to Tunnel Wharf in order to cluster with other existing marine related infrastructure and ensure it remains within the Strategic Industrial Location
Road Access	Access to from A2, and A13 via Blackwall Tunnel southern approach A102 (TLRN) via Blackwall Lane A2203 (BPRN).
Congestion (delay in minutes/km)	A2203 Blackwall Lane (entirety) Northbound: 0.25 to over 1.5 Southbound: 0.5 to over 1.5 A102 Northbound: Sun in the Sands roundabout to Blackwall Tunnel southern approach roundabout. Under 0.25 to 1.0 Southbound: j/w East India Dock Road to Blackwall Tunnel southern approach roundabout. 0.25 to over 1.5 Junctions: Blackwall Tunnel southern approach roundabout under 0.25 to 1.0
Rail Access	N/A
Comments	Close to the TLRN. Good access to East and South East London via Blackwall Tunnel and wider South East via A2/ M25. On egress from site HGVs over 4m in height are not permitted from using the Blackwall tunnel in the northbound direction and must use either the Woolwich Ferry or Dartford Crossings instead.
Min. and max. berth depths	See below
Wall or jetty berth (and length)	See below
Vessel size LOA x beam x draft (m)	N/A
Comments	The majority of the cargo-handling infrastructure at the wharf has been mostly removed the existing jetty could be used, subject to consents. Water depths off the wharf are good, with over four meters of water available within 100 metres of the wharf.
Site's planning status Surrounding land use and planning context	The local plan for RB Greenwich (July 2014) calls for existing safeguarded wharves to be protected in policy IM5. It forms part of the Greenwich Peninsula West Strategic Development Location. The Mayor has objected to this. The wharf is in the Greenwich Peninsula Opportunity Area. The reactivation of this wharf should ensure that the Thames Path is maintained and, where it would have no detrimental impact of cargo-handling operations, potentially

	<p>improved. The site was predominantly cleared and levelled in 2010, with a warehouse structure remaining at the southern end of the site</p> <p>The site is bounded by the new boat yard at Bay Wharf to the north and warehouse buildings to the south and east. Therefore the site is generally compatible with surrounding land uses. Tunnel Glucose wharf lies to the south of the site and is located within a strategic development location but outside the strategic industrial location. Planning permission granted in 2011 for a mixed use redevelopment to the south – Enderby wharf and is currently under construction. Enderby wharf includes a cruise liner terminal and this has been designed to ensure the appropriate navigation to the safeguarded wharf remains for cargo vessels and that land use conflicts are minimised.</p>
Current Use (if vacant date and last handled cargo)	Vacant. Last cargo handled pre 1997.
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Informal marketing of the proposed location of the safeguarded wharf indicates interest from operators within the Port of London for handling bulk cargoes.
Safeguarding Recommendation	Retain a safeguarded wharf in the general area, the opportunity exists to reduce site area in view of the excess of capacity in SE London and adjust boundaries to the north to cluster with other marine related infrastructure and ensure it remains within the Strategic Industrial Location.

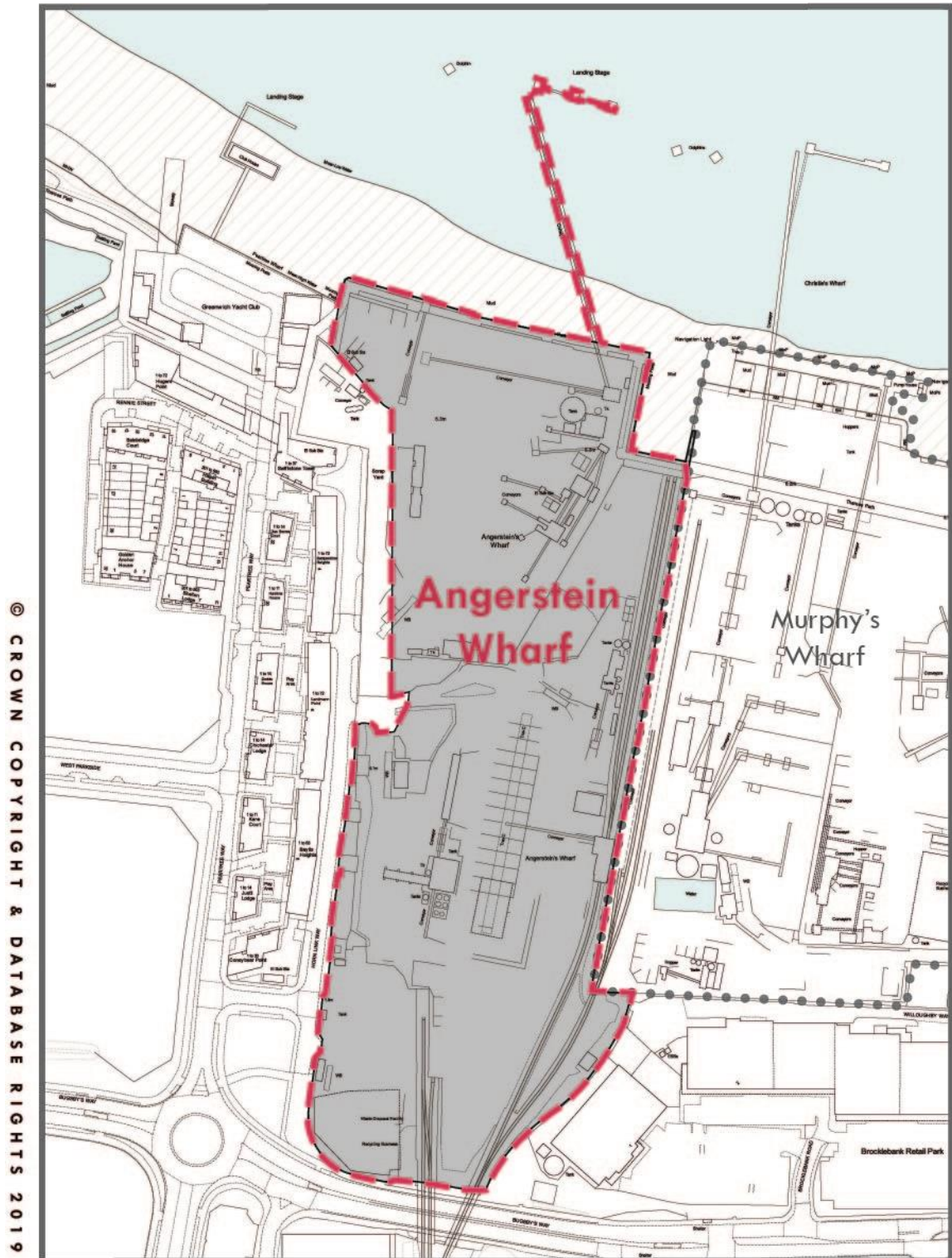
14. Victoria Deep Water Terminal



Address	231 Tunnel Avenue, Greenwich, London SE10
Local Authority	Greenwich
Grid reference	Easting 538,952 / Northing 179,448
Site area	4.42 ha
Boundary Change	None proposed
Road Access	Access to from A2 and A13 via Blackwall Tunnel southern approach, A102 (TLRN), via Blackwall Lane, A2203 (BPRN), and Blackwall Southern approach roundabout.
Congestion (delay in minutes/km)	A2203 Blackwall Lane (entirety) Northbound: 0.25 to over 1.5 $\frac{1}{2}$ Southbound: 0.5 to over 1.5 A102 $\frac{1}{2}$ Northbound: Sun in the Sands roundabout to Blackwall Tunnel southern approach roundabout. Under 0.25 to 1.0 $\frac{1}{2}$ Southbound: j/w East India Dock Road to Blackwall Tunnel southern approach roundabout. 0.25 to over 1.5 Junctions: Blackwall Tunnel southern approach roundabout under 0.25 to 1.0
Rail Access	N/A
Comments	Close to the TLRN. Good access to East and South East London via Blackwall Tunnel and wider South East via A2/ M25. Heavy Goods Vehicles over 4m in height are not permitted from using the Blackwall tunnel in the northbound direction and must use either the Woolwich Ferry or Dartford Crossings instead.
Min. and max. berth depths	5.45 metres to 12.11 metres
Wall or jetty berth (and length)	Wall berth (200 metres)
Vessel size LOA x beam x draft (m)	Up to 166 x 25 x 10.5 and tugs and tows
Comments	This wharf is unique in Greater London in having a wall berth directly to deep water. Depths are very good at all stages of the tide, allowing the mooring of all but the largest vessels throughout the tidal cycle.
Site's planning status Surrounding land use and planning context	<p>The local plan for RB Greenwich (July 2014) calls for existing safeguarded wharves to be protected in policy IM5. The site is in use as an aggregates wharf. It is part of the Greenwich Peninsula West Strategic Industrial Location and Strategic development Location on the Proposals Map and is included in the Greenwich Peninsula Opportunity Area.</p> <p>A number of permissions have been granted for this site. A temporary batching plant to maintain throughput. A permission for a tunnel segment factory and cement import terminal which will increase throughput by more than 100kt pa. The cement terminal will be</p>

	<p>unique this far upstream and the closest to central London by sustainable transport. The scheme also improves access to the Thames path.</p> <p>To the east the site is immediately bounded by the Dome coach park. Further east there is a mix of new business and residential developments. The residential development immediately to the north of the site provide a visual and acoustic buffer between the wharf and residential development. To the south is the Bay wharf boatyard. This boatyard has been designed to reduce potential conflicts with the wharf. This site is generally compatible with surrounding land uses.</p>
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012-2016)	584,000 tonnes per annum
On-site processing	Concrete batching plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational Wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

15. Angerstein



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SCALE 1:3500

Current boundary
(2005)



Proposed boundary
(2018/19)



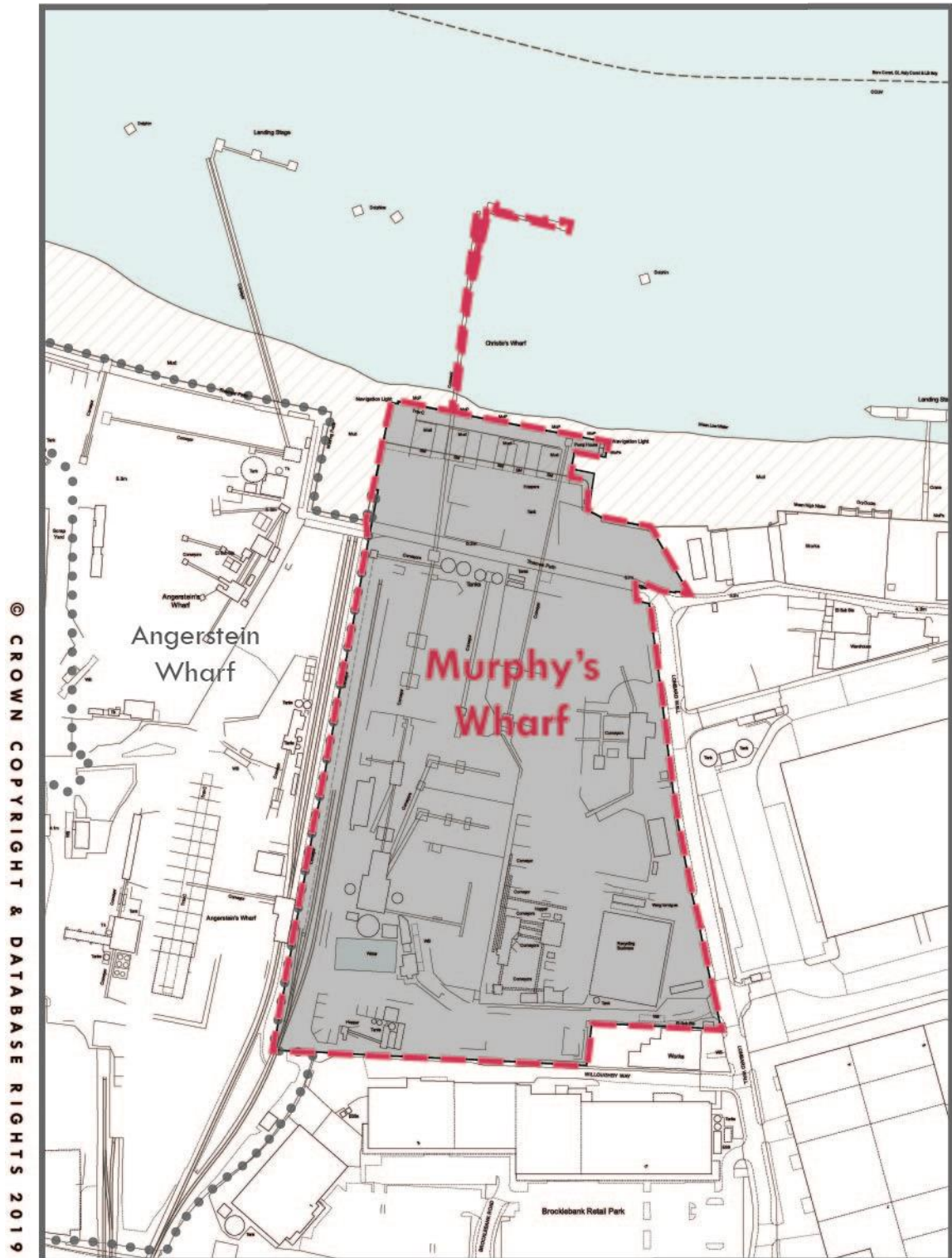
Adjacent wharf
(2005)



Address	Off Horn Lane, Bugsby Way, Charlton, London SE10
Local Authority	Greenwich
Grid reference	Easting 540,359 / Northing 179,002
Site area	7.36 ha (7.24 ha)
Boundary Change	Yes, incorporation of marine infrastructure
Road Access	Access to from A2 and A13 via Blackwall Tunnel southern approach A102 (TLRN), via Blackwall Lane A2203 and Bugsby's Way A2052 and Peartree Way. Direct access to Murphy and Angerstein from Bugsby's Way eastbound, westbound traffic access via roundabout.
Congestion (delay in minutes/km)	A102 Northbound: Sun in the Sands roundabout to Blackwall Tunnel southern approach roundabout. Under 0.25 to 1.0 $\frac{1}{2}$ Southbound: j/w East India Dock Road to Blackwall Tunnel southern approach roundabout. 0.25 to over 1.5 A2052 Bugsby's Way between Blackwall Tunnel roundabout and wharves) $\frac{1}{2}$ Eastbound: 0.25 to over 1.5 $\frac{1}{2}$ Westbound: under 0.25 to 1.5
Rail Access	Yes
Comments	Close to the TLRN. Good access to East and South East London via Blackwall Tunnel and wider South East via A2/ M25. Heavy Goods Vehicles over 4m in height are not permitted from using the Blackwall tunnel in the northbound direction and must use either the Woolwich Ferry or Dartford Crossings instead.
Min. and max. berth depths	4.48 metres to 11.07 metres
Wall or jetty berth (and length)	Jetty berth and wall berth (Barge outloading)
Vessel size LOA x beam x draft (m)	Up to 120 x 20 x 8 and tugs and tows
Comments	An intensively used jetty berth that is accessible to self-discharging dredgers throughout most of the tidal cycle. The wall berth provides access to barges at or near high water.
Site's planning status Surrounding land use and planning context	<p>The local plan for RB Greenwich (July 2014) calls for existing safeguarded wharves to be protected in policy IM5.</p> <p>The site, along with the adjacent Murphy's Wharf, also forms an Aggregates Zone within the draft Core Strategy. It sits within the Charlton Riverside Strategic Industrial Location and the Charlton Riverside Opportunity Area. The site successfully operates in conjunction with the Thames Path using conveyors.</p> <p>The surrounding area is in industrial and freight uses but mixed-use development has occurred nearby over recent years. Neighbouring</p>

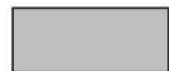
	uses accommodate existing wharf use. Further mixed use development is proposed in this area in future. It will be important to ensure that this does not introduce conflicting land uses and retains appropriate HGV access to the site.
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012-2016)	965,000 tonnes
On-site processing	Concrete batching plant, aggregate distribution.
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational Wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area and has infrastructure and a railhead to enable large-scale operation.

16. Murphy's



SCALE 1:3500

Current boundary
(2005)



Proposed boundary
(2018/19)



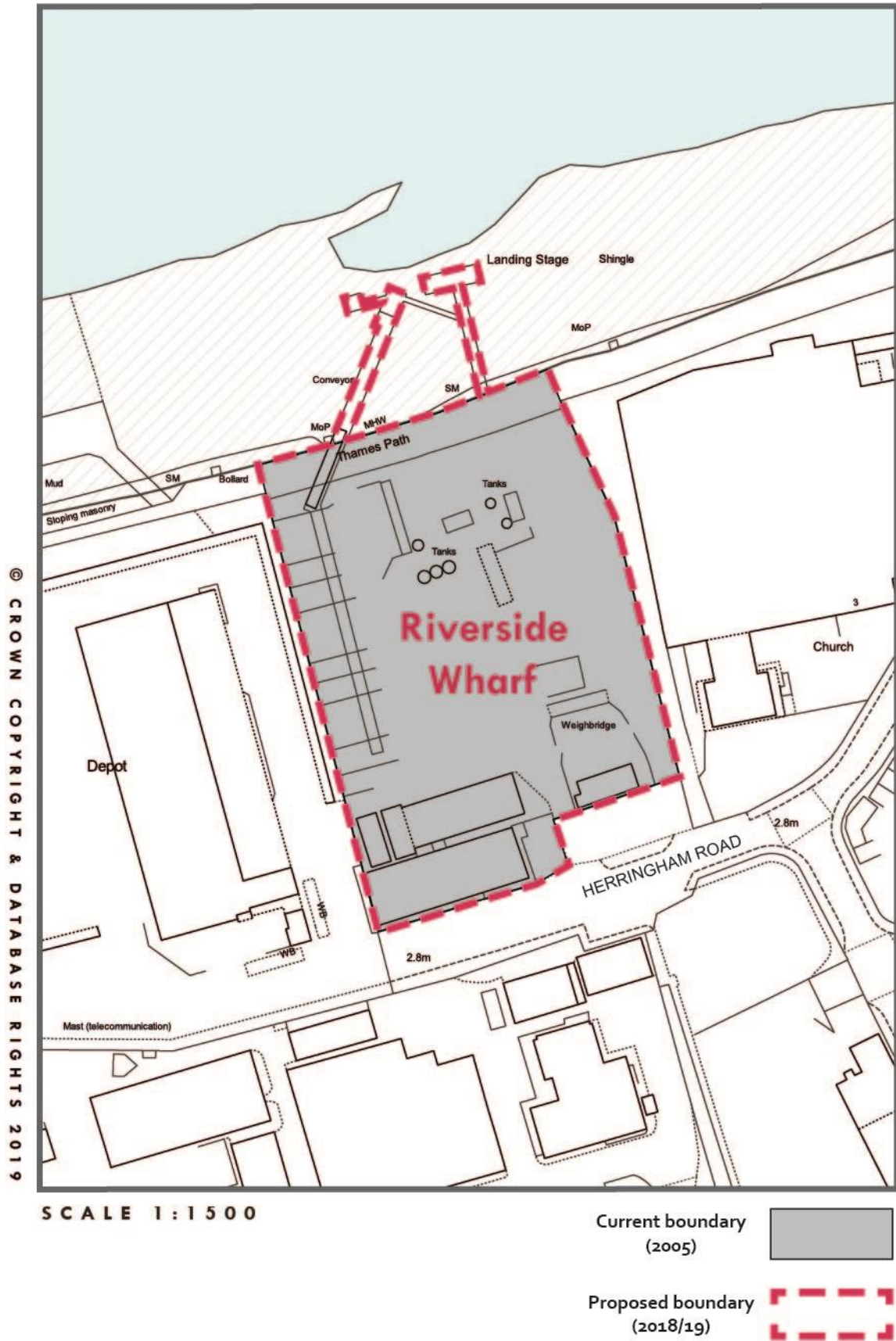
Adjacent wharf
(2005)



Address	Lombard Wall, Charlton, London SE7
Local Authority	Greenwich
Grid reference	Easting 540,543 / Northing 179,035
Site area	6.58 ha (6.67 ha)
Boundary Change	Yes, incorporation of marine infrastructure and to reflect operations and ownership
Road Access	Access to from A2 and A13 via Blackwall Tunnel southern approach A102 (TLRN), via Blackwall Lane A2203 and Bugsby's Way A2052 and Lombard Wall. Direct access to Murphy and Angerstein from Bugsby's Way eastbound, westbound traffic access via roundabout.
Congestion (delay in minutes/km)	A102 Northbound: Sun in the Sands roundabout to Blackwall Tunnel southern approach roundabout. Under 0.25 to 1.0 ☐ Southbound: j/w East India Dock Road to Blackwall Tunnel southern approach roundabout. 0.25 to over 1.5 A2052 Bugsby's Way between Blackwall Tunnel roundabout and wharves) ☐ Eastbound: 0.25 to over 1.5 ☐ Westbound: under 0.25 to 1.5
Rail Access	Yes
Comments	Close to the TLRN. Good access to East and South East London via Blackwall Tunnel and wider South East via A2/ M25. Heavy Goods Vehicles over 4m in height are not permitted from using the Blackwall tunnel in the northbound direction and must use either the Woolwich Ferry or Dartford Crossings instead.
Min. and max. berth depths	Outer - 3.88 metres to 10.47 metres. Inner – dries 0.02 metres to 6.57 metres
Wall or jetty berth (and length)	Jetty berths and wall berth
Vessel size LOA x beam x draft (m)	Outer – up to 100 x 18 x 7 Inner – up to 82.5 x 11.5 x 4 and tugs and tows
Comments	Three separate berths operate at this wharf. An intensively used jetty berth that is accessible to self discharging dredgers throughout most of the tidal cycle; and a drying, inner berth that, due to nearby deep water and ease of navigational access enables the berthing of sea-going vessels at or near high water, and a wall berth providing access to barges at or near high water.
Site's planning status Surrounding land use and planning context	The local plan for RB Greenwich (July 2014) calls for existing safeguarded wharves to be protected in policy IM5. The site is in use as an aggregates wharf. The site, alongside the adjacent Angerstein Wharf, is also within an Aggregates Zone. It sits within the Charlton Riverside Strategic Industrial Location and the Charlton Riverside Opportunity Area. The site successfully operates in conjunction with

	<p>the Thames Path using conveyors. Planning consent has been granted for a barge-loading facility associated with the outer (jetty) berth.</p> <p>The surrounding area is in industrial and freight uses but mixed-use development has occurred nearby over recent years. Neighbouring uses accommodate existing wharf use. Further mixed use development is proposed in this area in future. It will be important to ensure that this does not introduce conflicting land uses and retains appropriate HGV access to the site.</p>
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012- 2016)	1,670,000 tonnes per annum
On-site processing	Concrete batching plant, aggregate distribution.
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational Wharf. A new barge outloader is operational at the wharf following the successful award of contracts to supply aggregates to the Thames Tideway Tunnel project.
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area and has infrastructure and a railhead to enable large-scale operation.

17. Riverside



Address	Herringham Road
Local Authority	Greenwich
Grid reference	Easting 541,270 / Northing 179,188
Site area	0.98 ha (1.01 ha)
Boundary Change	Yes, to reflect marine infrastructure
Road Access	Access to from A2 and A13 via Blackwall Tunnel southern approach, A102 (TLRN), and via Woolwich Road, A206. Access from A206 via Herringham Road and Westmoor Street, on the Anchorage Point Industrial estate.
Congestion (delay in minutes/km)	Measurements for A102, as per Tunnel Wharf. A206 (between Blackwall Tunnel southern approach and wharves) ↗ Eastbound under 0.25 to 1.5 ↗ Westbound: 0.25 to over 1.5
Rail Access	N/A
Comments	Close to the TLRN. Good access to East and South East London via Blackwall Tunnel and wider South East via A2/ M25. Heavy Goods Vehicles over 4m in height are not permitted from using the Blackwall tunnel in the northbound direction and must use either the Woolwich Ferry or Dartford Crossings instead.
Min. and max. berth depths	Dries 0.72 metres to 5.87 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	Unusually, a drying berth served by a jetty, although water depths reasonable. No campshed. Berth characteristics appropriate for large (1,000 tonne) barges, which travel to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	<p>The local plan for RB Greenwich (July 2014) calls for existing safeguarded wharves to be protected in policy IM5. The site is in use as an aggregates wharf and includes an asphalt plant. The wharf is allocated as part of the Greenwich Peninsula West Defined Industrial Area. The wharf is in the Charlton Riverside Opportunity Area.</p> <p>The surrounding area is in industrial and freight uses but mixed-use development has occurred nearby over recent years. Neighbouring uses accommodate existing wharf use. Further mixed use development is proposed in this area in future. It will be important to ensure that this does not introduce conflicting land uses and retains appropriate HGV access to the site.</p>

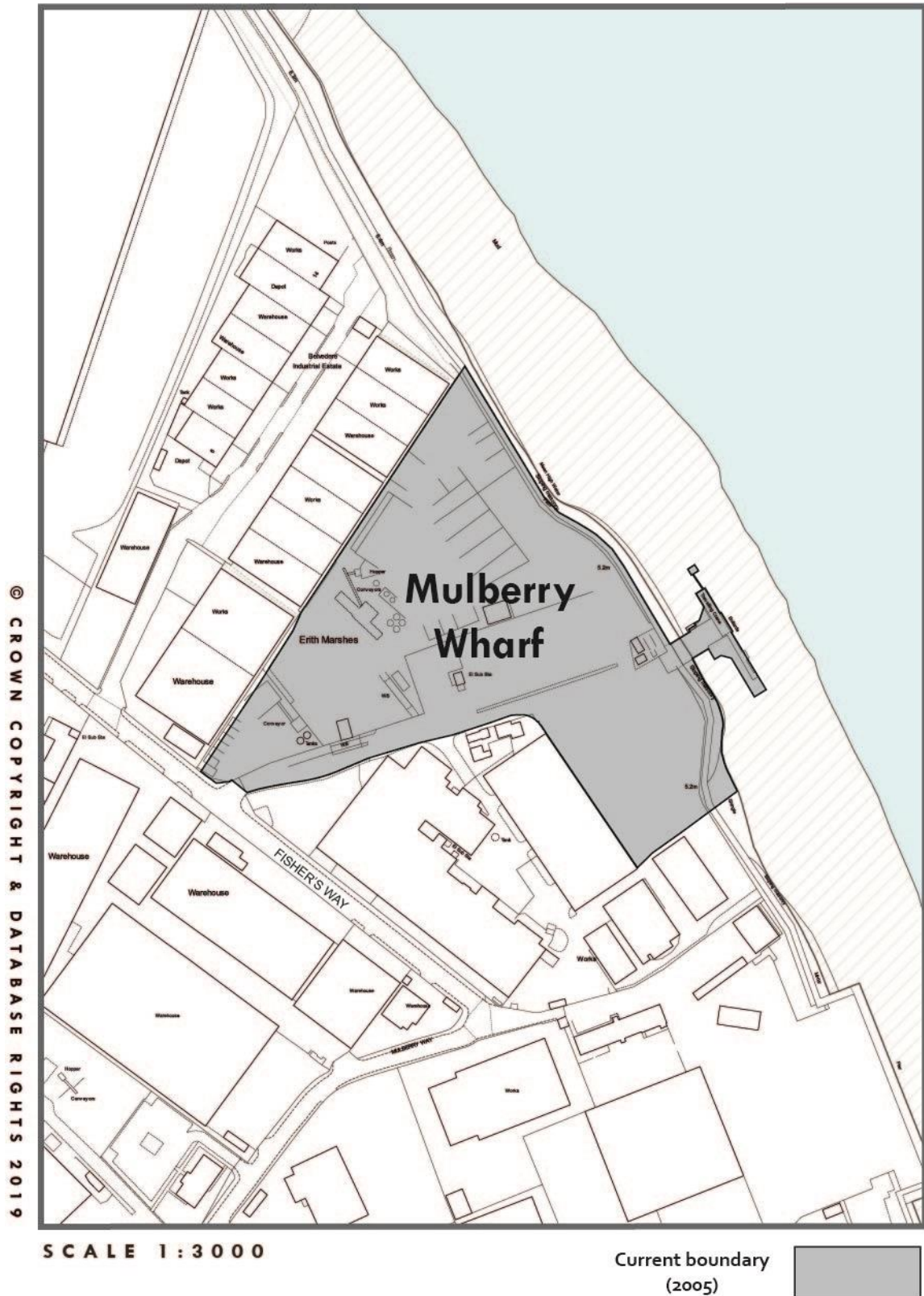
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012- 2016)	35,000 tonnes per annum
On-site processing	Asphalt Plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational Wharf. The operator is currently considering the intensification of uses and resultant cargo handling at the wharf.
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

SCALE 1:4000

Address	Norman Road, Erith, Bexley, Kent DA18
Local Authority	Bexley
Grid reference	Easting 549,587 / Northing 180,747
Site area	9.35 ha (8.68 ha)
Boundary Change	Yes, incorporation of marine infrastructure and to reflect operations and ownership
Road Access	Accessible from A282 and A2 (TLRN) using A206 and A2016 (both SRN). Also accessible from via A2 and A220. From strategic roads vehicles access Norman Road j/w Eastern Way, A2016 (SRN).
Congestion (delay in minutes/km)	A2016 between j/w Queen's Road and j/w Picardy Manorway: 2 North / west bound: under 0.25 to 0.5 2 South / east bound: under 0.25 to 0.5 A206 between j/w Perry Street and j/w Bexley Road 2 North / west bound: under 0.25 to 1.5 2 South / east bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road 2 North bound: under 0.25 to over 1.5 2 South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 Roads serving Belvedere Industrial Estate are well-equipped to accommodate HGVs.
Min. and max. berth depths	3.52 metres to 9.82 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	A substantial new jetty has been developed alongside the Energy from Waste facility, which provides access for barge traffic throughout the tidal cycle.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves. The site has become fully operational as an energy from waste facility with river borne delivery of waste from 2011. Planning permission ref 07/11615/FUL includes a condition stating that except in periods of jetty outage or emergency the jetty and pier shall remain available at all times for tugs and barges transporting waste, residual material following incineration of construction materials associated with the development and

	<p>consumables necessary for the operation of the development and for no other purpose; to ensure the maximum use of the river for transportation. The site part of the Belvedere Industrial Area Strategic Industrial Location and the Bexley Riverside Opportunity Area. The site is within an Air Quality Management Area.</p> <p>The site is surrounded by other industrial uses that are unlikely to raise any land use conflicts. Therefore it is generally compatible with surrounding land uses. GLA and LB Bexley will look at the potential of working on the Bexley Riverside OAPF for the Belvedere area. This is likely to focus on the employment role of the area and will place a particular value on retaining the wharf uses. The site is adjacent t the recent Belvedere links regeneration project.</p> <p>Please note that the 2005 Direction refers to this wharf as Borax Wharf/Manor Wharf.</p>
Current Use (if vacant date and last handled cargo)	Waste
Recent average tonnage (2012-2016)	190,000 tonnes per annum. This volume average only relates to incinerated bottom ash moved to Tilbury for recycling, to prevent double counting, as all waste to the facility is listed at the wharf of origin.
On-site processing	Use of a jetty to unload waste containers for use at the Riverside Energy from Waste facility and to load containers with incinerated bottom ash for transport to Tilbury for use as secondary aggregate.
Environmental Impacts	<p>See Separate WSP Consulting Appendices</p> <p>Under the planning permission granted in 2008, there are various conditions related to environmental impacts, including a number of conditions relating to noise impacts, including only performing some operations within specific times to protect the environment of those living and working in the area.</p>
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area and benefits from new infrastructure to fulfil its waste to energy role.

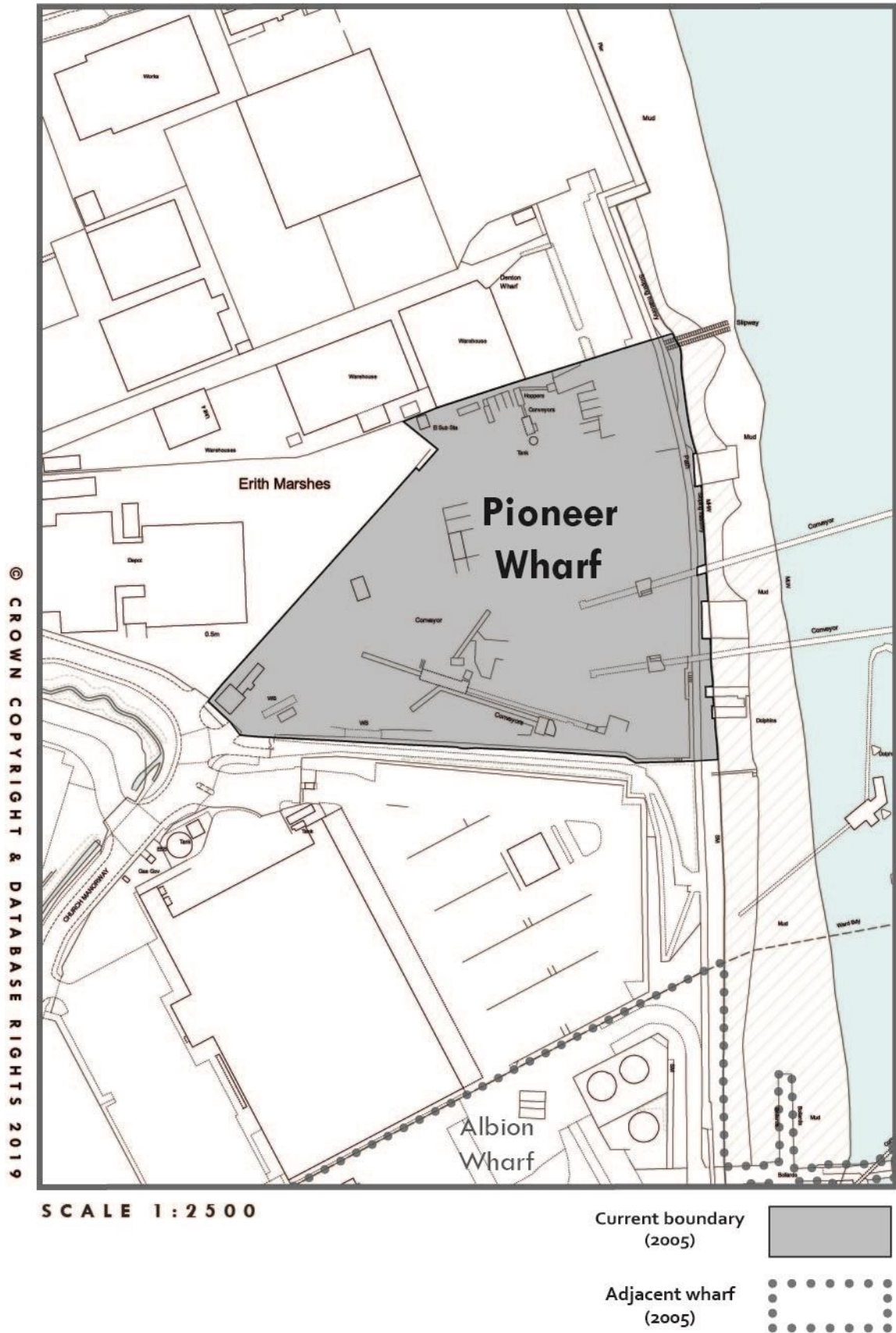
19. Mulberry



Address	Crabtree Manorway, Belvedere, Kent DA17
Local Authority	Bexley
Grid reference	Easting 550,613 / Northing 180,152
Site area	2.86 ha
Boundary Change	None proposed
Road Access	Accessible from A282 and A2 (TLRN) using A206 and A2016 (both SRN). Also accessible from via A2 and A220. From strategic roads, vehicles use Anderson Way, Crabtree Manorway and Fishers' Way. Bronze Age Way (A2016) and Anderson Way roundabout - no right turn from A2016 westbound carriageway so roundabout also needed to access Anderson Way.
Congestion (delay in minutes/km)	A2016 between j/w Queen's Road and j/w Picardy Manorway: North / west bound: under 0.25 to 0.5 ☐ South / east bound: under 0.25 to 0.5 A206 between j/w Perry Street and j/w Bexley Road ☐ North / west bound: under 0.25 to 1.5 ☐ South / east bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road ☐ North bound: under 0.25 to over 1.5 ☐ South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 Roads serving Belvedere Industrial Estate are well-equipped to accommodate HGVs.
Min. and max. berth depths	Dries to 2.28 metres to 4.02 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying jetty berth that, despite efforts to maintain increased water depths and ensure a stable berth, has not been maintained satisfactorily.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves The site is currently in use as road served aggregates facility. The site part of the Belvedere Industrial Area Strategic Industrial Location and the Bexley Riverside Opportunity Area. The site is within an Air Quality Management Area.

	<p>The site is surrounded by other industrial uses that are unlikely to raise any land use conflicts. Therefore it is generally compatible with surrounding land uses. GLA and LB Bexley will look at the potential of working on the Bexley Riverside OAPF for the Belvedere area. This is likely to focus on the employment role of the area and will place a particular value on retaining the wharf uses. The site is adjacent to the recent Belvedere links regeneration project.</p>
Current Use (if vacant date and last handled cargo)	Aggregates by road. Last cargo handled c. 2004
Recent average tonnage (2012-2016)	N/A
On-site processing	Ashpalt plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	<p>The current operator acquired the site from a competitor and is actively investigating the reactivation of the wharf for aggregates. These investigations are focussed on improving the stability of the berth for vessels.</p>
Safeguarding Recommendation	Retain safeguarding while current operator pursues reactivation.

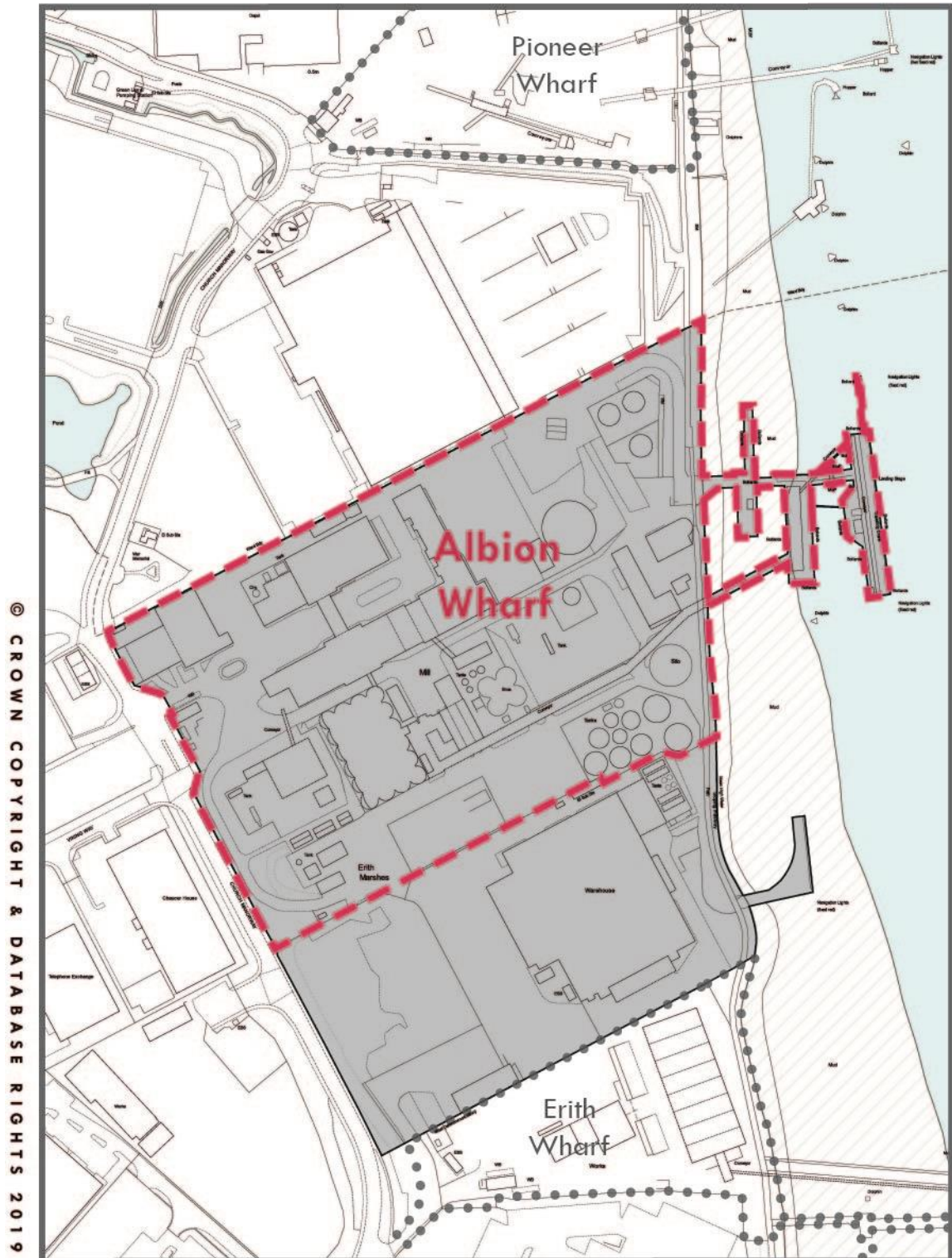
20. Pioneer



Address	Church Manorway, Erith, Kent DA8
Local Authority	Bexley
Grid reference	Easting 550,757 / Northing 179,721
Site area	2.51 ha
Boundary Change	None proposed
Road Access	Accessible from A282 and A2 (TLRN) using A206 and A2016 (both SRN). Also accessible from via A2 and A220. From strategic roads, vehicles use Lower Road (B213) grade separated junction onto Church Manorway.
Congestion (delay in minutes/km)	A2016 between j/w Queen's Road and j/w Picardy Manorway: ☐ North / west bound: under 0.25 to 0.5 ☐ South / east bound: under 0.25 to 0.5 A206 between j/w Perry Street and j/w Bexley Road ☐ North / west bound: under 0.25 to 1.5 ☐ South / east bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road ☐ North bound: under 0.25 to over 1.5 ☐ South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 Roads serving Belvedere Industrial Estate are well-equipped to accommodate HGVs.
Min. and max. berth depths	5.53 metres to 11.78 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Up to 110 x 18 x 7
Comments	An intensively used jetty berth that is accessible to self-discharging dredgers across most of the tidal cycle.
Site's planning status Surrounding land use and planning context	<p>The site is currently in use for handling aggregates. The site part of the Belvedere Industrial Area Strategic Industrial Location and the Bexley Riverside Opportunity Area. The site is within an Air Quality Management Area.</p> <p>LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves</p> <p>Site is surrounded by other industrial uses that are unlikely to raise</p>

	land use conflicts. GLA and LB Bexley will look at the potential of working on the Bexley Riverside OAPF for the Belvedere area. This is likely to focus on the employment role of the area and will place particular value on retaining the wharf use. Site is adjacent to the Belvedere Links Regeneration project.
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012- 2016)	235,000 tonnes per annum
On-site processing	Concrete batching plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

21. Albion



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SCALE 1:3500

Current boundary
(2005)



Proposed boundary
(2018/19)



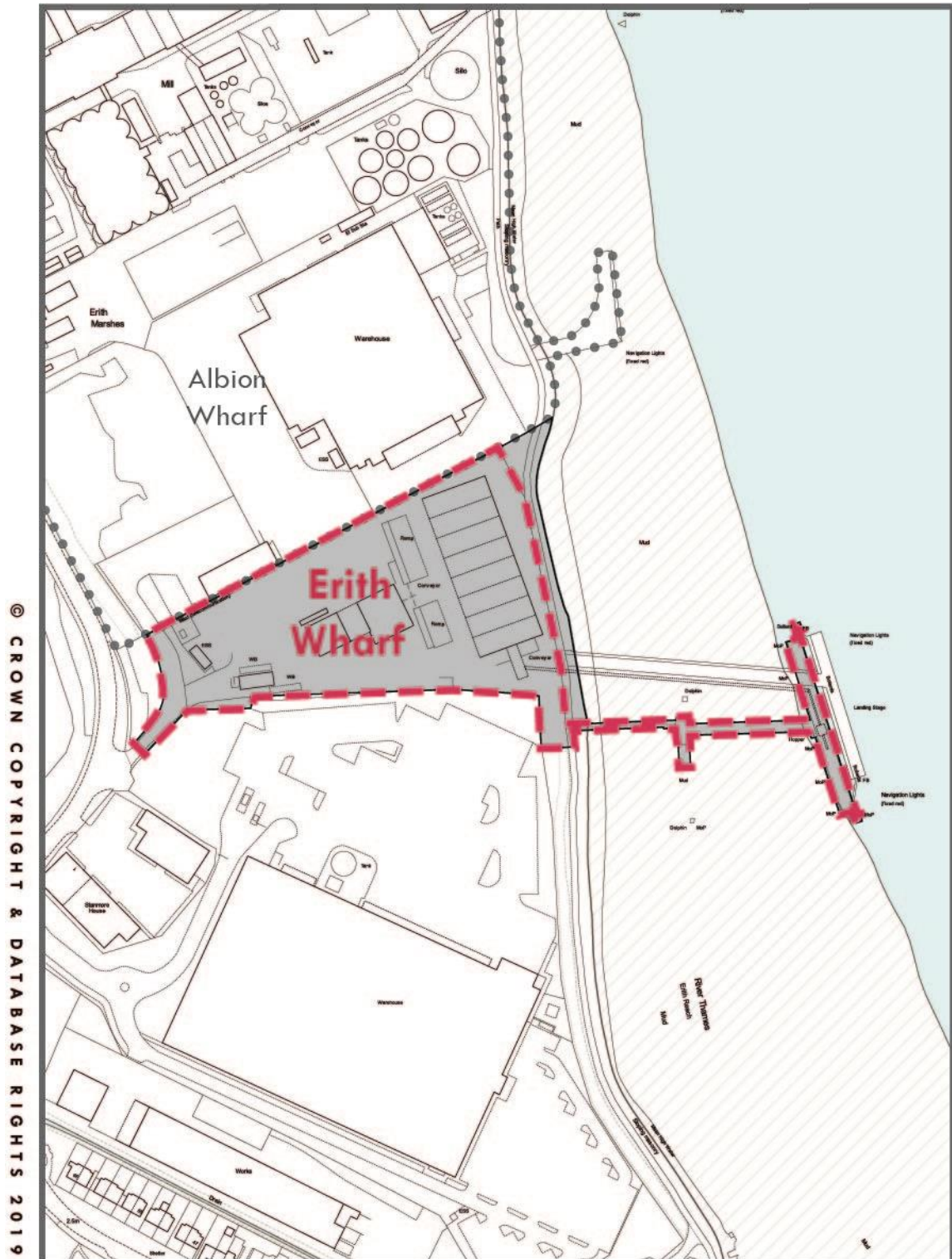
Adjacent wharf
(2005)



Address	Church Manorway, Erith, Kent DA8
Local Authority	Bexley
Grid reference	Easting 550,758 / Northing 179,312
Site area	6.85 ha (10.42 ha)
Boundary Change	Yes, to reflect operations and ownership
Road Access	Accessible from A282 and A2 (TLRN) using A206 and A2016 (both SRN). Also accessible from via A2 and A220. From strategic roads, vehicles use Lower Road (B213) grade separated junction onto Church Manorway.
Congestion (delay in minutes/km)	A2016 between j/w Queen's Road and j/w Picardy Manorway: North / west bound: under 0.25 to 0.5 South / east bound: under 0.25 to 0.5 A206 between j/w Perry Street and j/w Bexley Road North / west bound: under 0.25 to 1.5 South / east bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road North bound: under 0.25 to over 1.5 South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 Roads serving Belvedere Industrial Estate are well-equipped to accommodate HGVs.
Min. and max. berth depths	Outer berth - 6.73 metres to 12.98 metres. Inside berth - 2.93 metres to 9.18 metres
Wall or jetty berth (and length)	Jetty berths
Vessel size LOA x beam x draft (m)	Outer – up to 109 x 16 x 6 Inner – up to 91.5 x 13.5 x 5
Comments	Two intensively used berths that can accommodate sea-going vessels, which can moor at the outer berth throughout the tidal cycle. The inner berth is also used by motorised barges serving another terminal downstream.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves The site is currently in use handling oilseed and vegetable oil. The site part of the Belvedere Industrial Area Strategic Industrial Location and the Bexley Riverside Opportunity Area. The site is within an Air Quality Management Area.

	GLA and LB Bexley will look at the potential of working on the Bexley Riverside OAPF for the Belvedere area. This is likely to focus on the employment role of the area and will place a particular value on retaining wharf uses. The site is adjacent to the recent Belvedere Links Regeneration project.
Current Use (if vacant date and last handled cargo)	Oilseed and vegetable oil
Recent average tonnage (2012-2016)	516,000 tonnes per annum
On-site processing	Oil seed processing and vegetable oil refining. Rape seed meal exporting
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area, and retains flexibility to meet a range of operational needs.

22. Erith



SCALE 1:3000

Current boundary
(2005)



Proposed boundary
(2018/19)



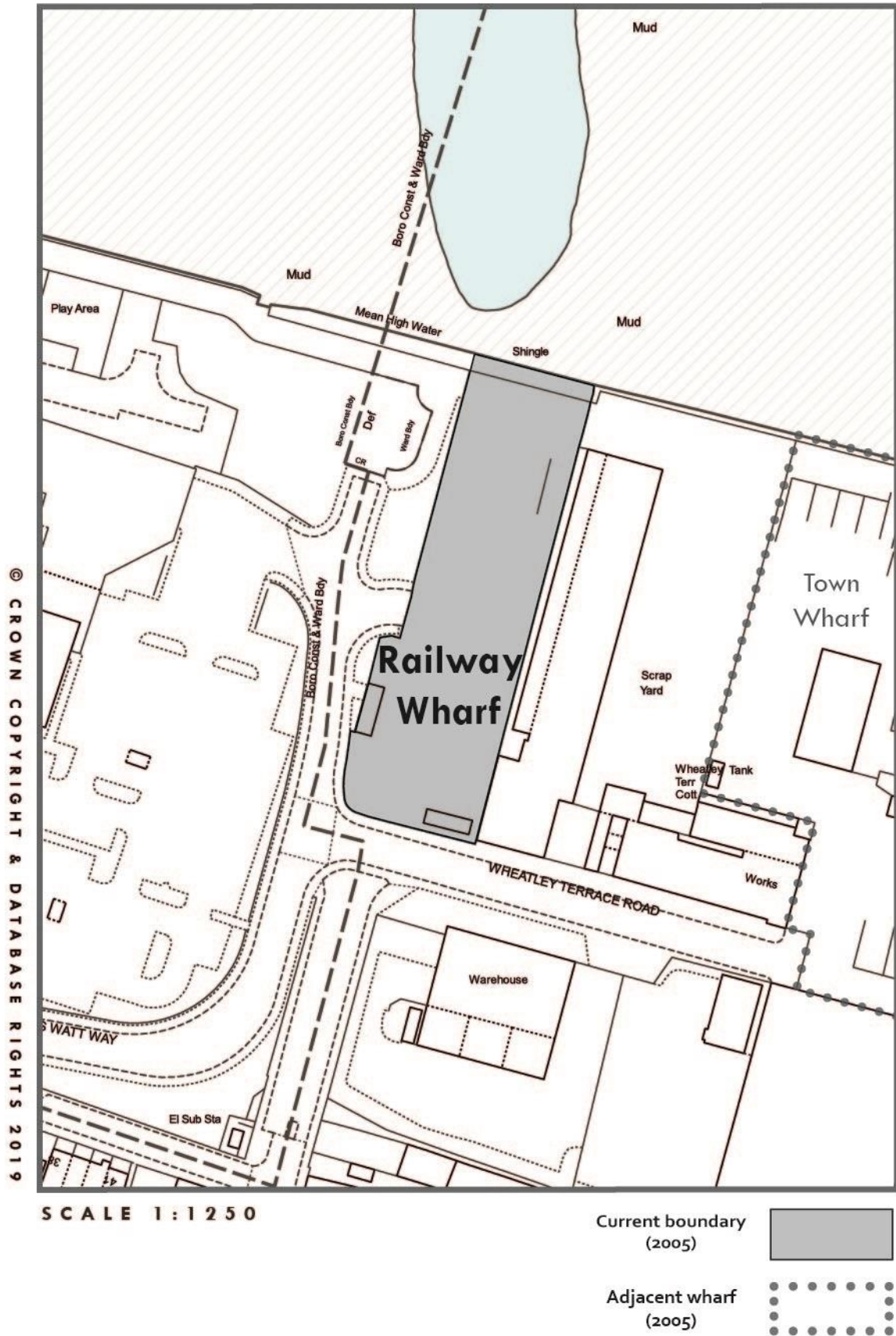
Adjacent wharf
(2005)



Address	Church Manorway, Erith, Kent DA8
Local Authority	Bexley
Grid reference	Easting 550,879 / Northing 179,090
Site area	1.7 ha (1.8 ha)
Boundary Change	Yes, to reflect operations and ownership
Road Access	Accessible from A282 and A2 (TLRN) using A206 and A2016 (both SRN). Also accessible from via A2 and A220. From strategic roads, vehicles use Lower Road (B213) grade separated junction onto Church Manorway.
Congestion (delay in minutes/km)	A2016 between j/w Queen's Road and j/w Picardy Manorway: North / west bound: under 0.25 to 0.5 ☐ South / east bound: under 0.25 to 0.5 A206 between j/w Perry Street and j/w Bexley Road ☐ North / west bound: under 0.25 to 1.5 ☐ South /east bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road ☐ North bound: under 0.25 to over 1.5 ☐ South bound: under 0.25 to over 1.5
Rail Access	N/A☐
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 Roads serving Belvedere Industrial Estate are well-equipped to accommodate HGVs.
Min. and max. berth depths	4.13 metres to 10.38 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Up to 91 x 24 x 6
Comments	A new jetty was constructed across the old infrastructure to handle aggregates. The berth can accommodate sea-going vessels delivering aggregates from UK and European ports.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves The site is currently in use handling aggregates. The site part of the Belvedere Industrial Area Strategic Industrial Location and the Bexley Riverside Opportunity Area. The site is within an Air Quality Management Area. GLA and LB Bexley will look at the potential of working on the Bexley Riverside OAPF for the Belvedere area. This is likely to focus

	<p>on the employment role of the area and will place a particular value on retaining wharf uses. The site is adjacent to the recent Belvedere Links Regeneration project.</p> <p>Please note that the 2005 Direction refers to this wharf as RMC Erith.</p>
Current Use (if vacant date and last handled cargo)	Aggregates
Recent average tonnage (2012-2016)	306,000 tonnes per annum
On-site processing	Asphalt plant, concrete batching plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

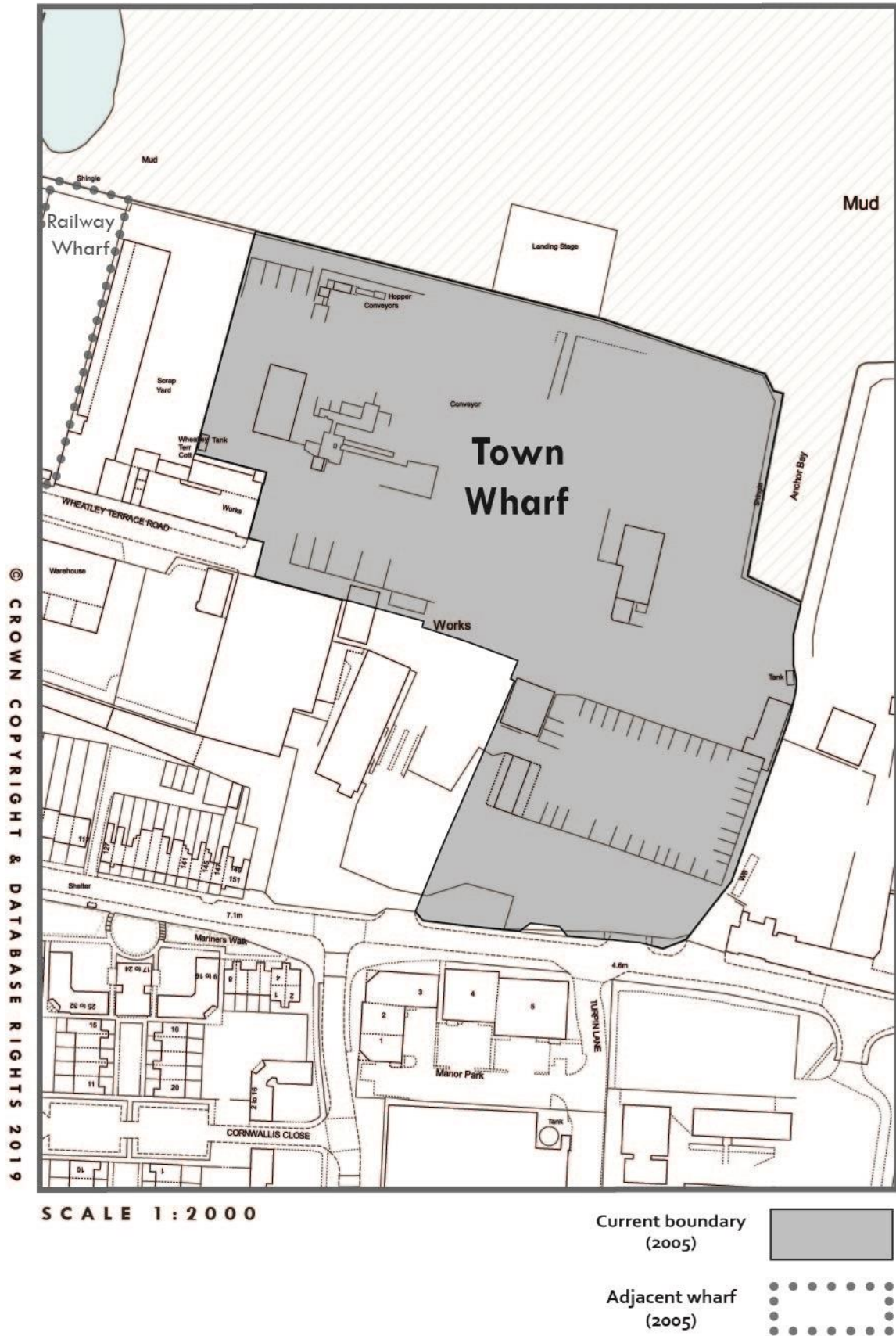
23. Railway



Address	Manor Road, Erith, Kent DA8
Local Authority	Bexley
Grid reference	Easting 551,944 / Northing 177,935
Site area	0.28 ha (0.28 ha)
Boundary Change	<i>Release proposed</i>
Road Access	Accessible from A282 and A2 using A206, Queen's Road (TLRN). From strategic roads, vehicles use single-lane B252 James Watt Way.
Congestion (delay in minutes/km)	A206 between j/w Crayford Way and j/w Manor Road North bound: under 0.25 to 1.5 ☐ South bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road ☐ North bound: under 0.25 to over 1.5 ☐ South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 A206 has a weak bridge at Queens Rd / South Road and is unsuitable for abnormal loads. Current access route is James Watt Way, as Appold Street is not open to through traffic. According to Bexley borough officers this has caused some difficulties, as vehicles need to take routes passing local superstore, causing congestion due to insufficient carriageway width.
Min. and max. berth depths	Dries 2.07 metres to 4.18 metres
Wall or jetty berth (and length)	Wall berth (30 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying wall berth. No campshed. Although the available depths on the berth are comparable with wharves upstream of the Thames Barrier, the approaches to the berth are long and are shallower than the berth by almost two metres. The berth is the shortest of all the safeguarded wharves.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves The site has been vacant for a number of years. The site part of the Erith Riverside Strategic Industrial Location and the Bexley Riverside Opportunity Area. Wharf is located directly to the east of Erith Town Centre, and is adjacent to recently developed residential units and a

	<p>major supermarket. LB Bexley has an aspiration to base similar industrial uses to the west at the Belvedere Industrial Estate.</p> <p>Please note that the 2005 Direction refers to this wharf as RMC Railway Wharf.</p>
Current Use (if vacant date and last handled cargo)	Vacant. Last cargo handled pre-1997
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The PLA is not aware of any interest in the wharf from operators either within or new to the Port of London.
Safeguarding Recommendation	Release from safeguarding. Current and potential conditions at the wharf, in particular the approaches to the berth, are less favourable than other wharves in this sub-region.

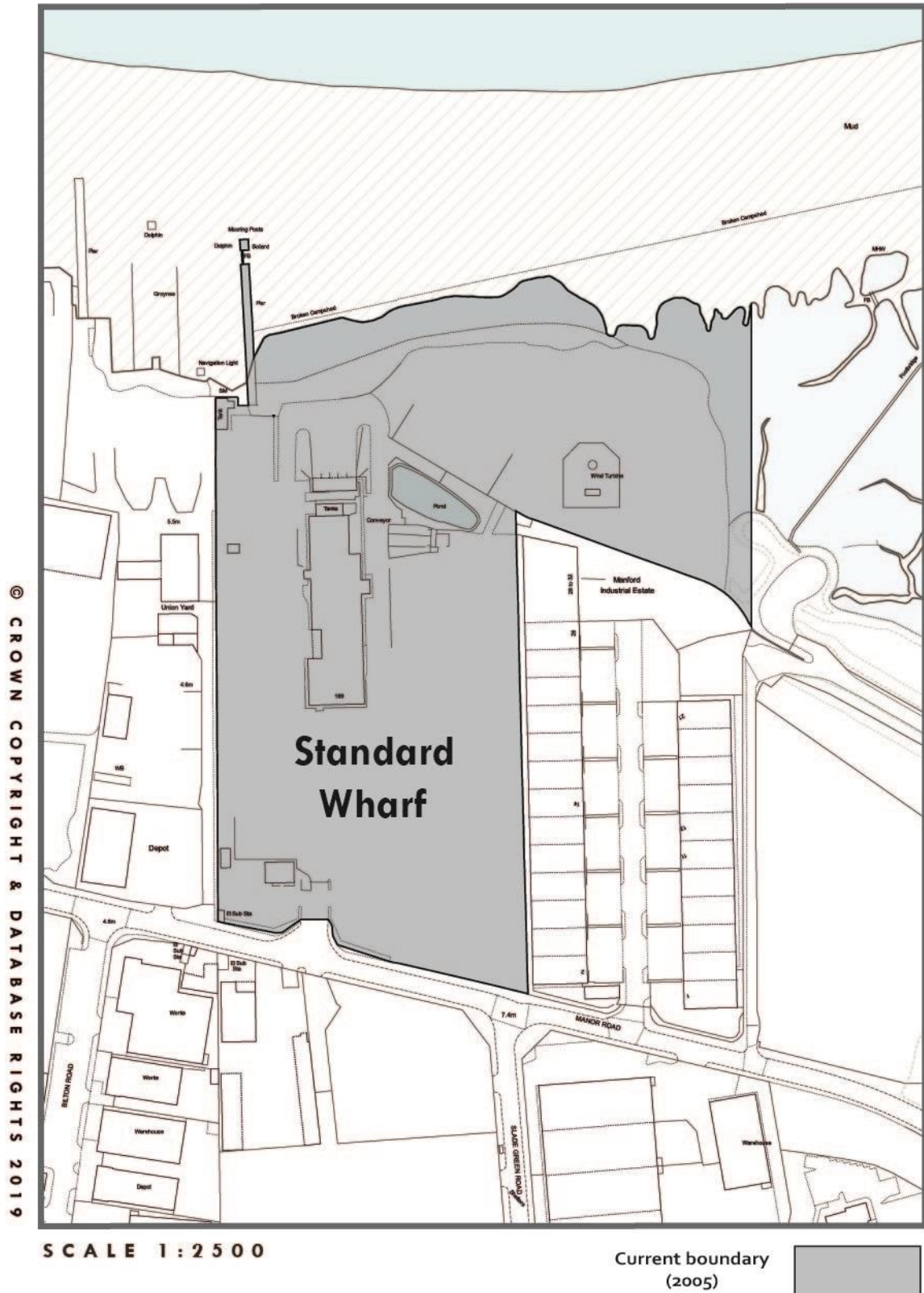
24. Town



Address	Manor Road, Erith, Kent DA8
Local Authority	Bexley
Grid reference	Easting 552,103 / Northing 177,841
Site area	3.00 ha
Boundary Change	None proposed
Road Access	Accessible from A282 and A2 using A206, Queen's Road (TLRN). From strategic roads, vehicles use single-lane carriageway Manor Road, which has a junction with the wharf.
Congestion (delay in minutes/km)	A206 between j/w Crayford Way and j/w Manor Road North bound: under 0.25 to 1.5 South bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road North bound: under 0.25 to over 1.5 South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 A206 has a weak bridge at Queens Rd / South Road and is unsuitable for abnormal loads. Vehicles accessing the Manor Road industrial area have to pass through a residential area with its related environmental problems. According to Bexley borough officers the road also has a poor safety record for conflicts with pedestrian and cycle users.
Min. and max. berth depths	Dries 2.10 metres to 4.68 metres
Wall or jetty berth (and length)	Wall berth (200 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying wall berth. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves The site is part of the Erith Riverside Strategic Industrial Location and the Bexley Riverside Opportunity Area. Wharf is located directly to the east of Erith Town Centre, and is adjacent to recently developed residential units and a major supermarket. LB Bexley has an aspiration

	<p>to base similar industrial uses to the west at the Belvedere Industrial Estate.</p> <p>Please note that the 2005 Direction refers to this wharf as EMR Erith (Mayer Parry Recycling).</p>
Current Use (if vacant date and last handled cargo)	Wharf was reactivated in 2013, metal recyclate taken by water to operator's main processing and export facility at the Port of Tilbury.
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding, site in active use.

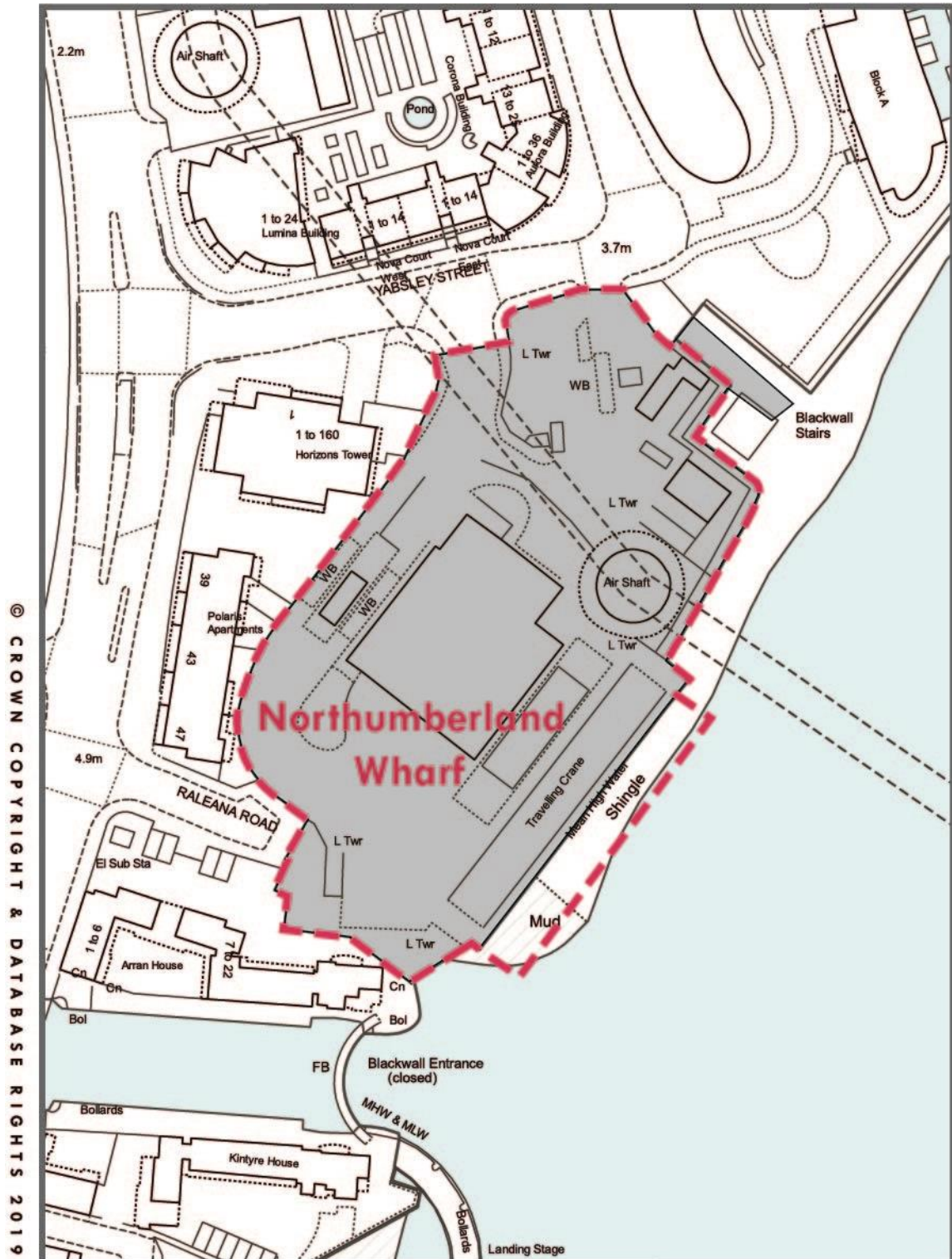
25. Standard



Address	Manor Road, Erith, Kent DA8
Local Authority	Bexley
Grid reference	Easting 552,532 / Northing 177,787
Site area	4.21 ha
Boundary Change	None proposed
Road Access	Accessible from A282 and A2 using A206, Queen's Road (TLRN). From strategic roads, vehicles use single-lane carriageway Manor Road, which has a junction with the wharf.
Congestion (delay in minutes/km)	North bound: under 0.25 to 1.5 → South bound: under 0.25 to over 1.5 A220 between j/w Watling Street and j/w Queen's Road → North bound: under 0.25 to over 1.5 → South bound: under 0.25 to over 1.5
Rail Access	N/A
Comments	Good access to the TLRN and SRN. Site is a short journey away from M25 and Dartford Crossing providing access to wider South East using A206 and A2016 (SRN). Also good access to SE London, Docklands and central London via A2 and A220 (TLRN). Some congestion in Crayford, Erith town centre, North End, Northumberland Heath and Dartford areas - some congested nodes en route to M25 / A2 A206 has a weak bridge at Queens Rd / South Road and is unsuitable for abnormal loads. Vehicles accessing the Manor Road industrial area have to pass through a residential area with its related environmental problems. According to Bexley borough officers the road also has a poor safety record for conflicts with pedestrian and cycle users.
Min. and max. berth depths	See below
Wall or jetty berth (and length)	See below
Vessel size LOA x beam x draft (m)	N/A
Comments	The existing jetty infrastructure is in poor condition and requires replacement to handle aggregates. Water depths are appropriate for barge traffic within 100 metres of the wharf.
Site's planning status Surrounding land use and planning context	LB Bexley's Core Strategy (February 2012) calls for the retention and improvement of safeguarded wharves The site part of the Erith Riverside Strategic Industrial Location and the Bexley Riverside Opportunity Area. Wharf is located directly to the east of Erith Town Centre, and is adjacent to recently developed residential units and a major supermarket. LB Bexley has an aspiration to base similar industrial uses to the west at the Belvedere Industrial Estate. The site has temporary planning permission for the

	construction of a concrete batching plant, with associated infrastructure.
Current Use (if vacant date and last handled cargo)	Vacant. Aggregates by road. Last cargo handled pre-1997
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The PLA is working with the wharf owner to develop a new berth to reactivate the wharf for cargo-handling. Additionally, the PLA has been dealing with an operator (and LB Bexley) in relation to an application for a new concrete batching plant at the wharf. The plant, by itself, does not justify the cost of new infrastructure at the wharf. However, the operator has, as an interim measure, committed to source aggregates for the plant from other nearby safeguarded wharves.
Safeguarding Recommendation	Retain safeguarding while current operator pursues reactivation.

26. Northumberland



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Current boundary
(2005)



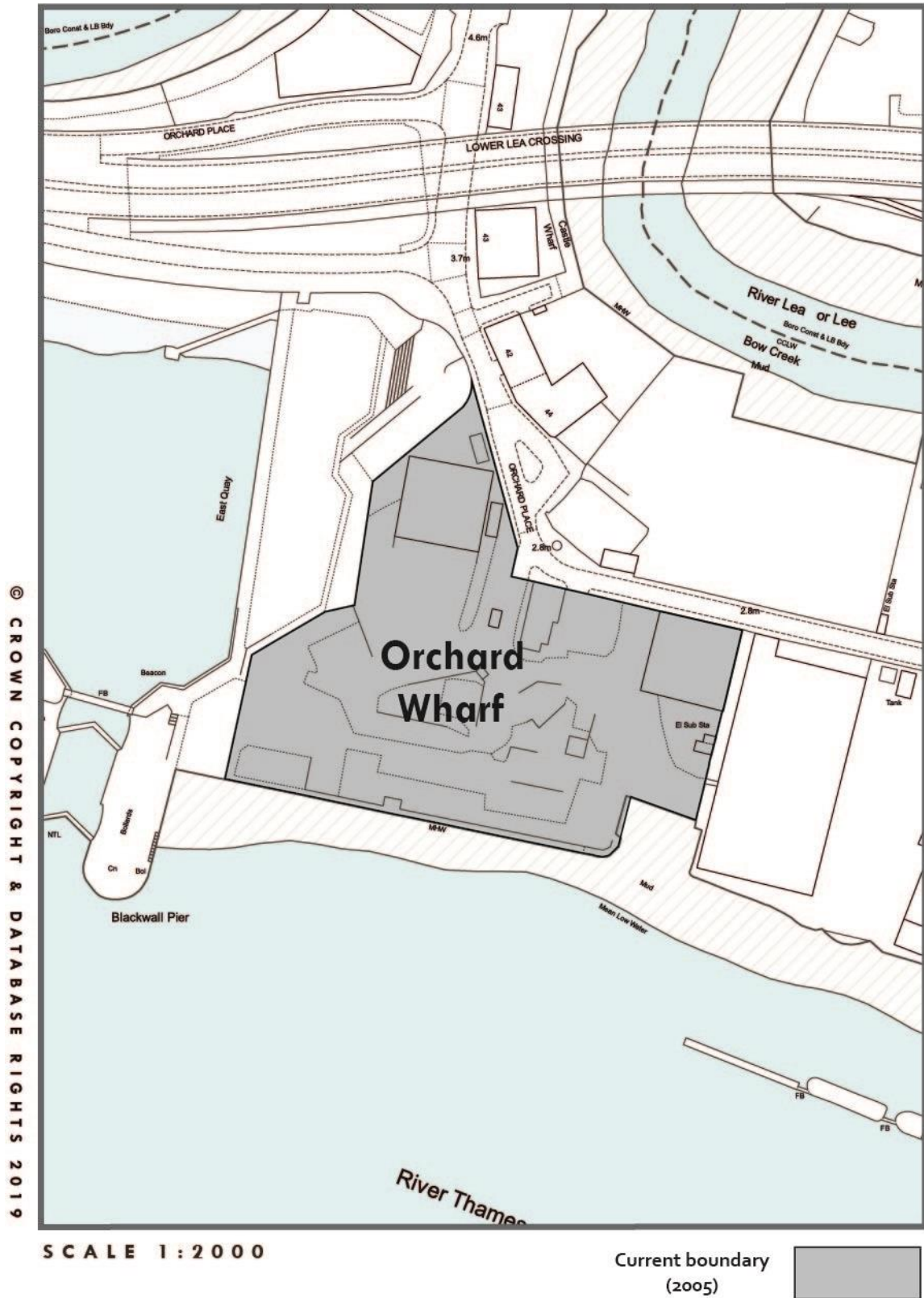
Proposed boundary
(2018/19)



Address	Yabsley Street, London E14
Local Authority	Tower Hamlets
Grid reference	Easting 538,470 / Northing 180,292
Site area	0.89 ha (0.85 ha)
Boundary Change	Yes, incorporation of marine infrastructure and to reflect operations and ownership
Road Access	Access to / from Blackwall tunnel via A13 East India Dock Road (TLRN). Then A1206 - Cotton Street / Preston's Road (also connects to Aspen Way A1261). Preston's Road has j/w Yabsley Street.
Congestion (delay in minutes/km)	A13 between j/w Burdett Road (A1205) and Blackwall Tunnel Northern Approach (A12) ☐ West bound - under 0.25 ☐ East bound - under 0.25 A1206 Preston's Road between j/w Marsh Wall and j/w Aspen Way ☐ North bound: 0.25 to 1.5 ☐ South bound: under 0.25 to 1.0 A1261 Aspen Way between j/w Westferry Road and j/w Cotton Street. ☐ West bound: under 0.25 to 0.5 ☐ East bound: under 0.25 to 1.0
Rail Access	N/A
Comments	Very close to Blackwall Tunnel (A102, TLRN). Heavy Goods Vehicles over 4m in height are not permitted from using the Blackwall tunnel in the northbound direction and must use either the Woolwich Ferry or Dartford Crossings instead. Good connections to A13 TLRN for access to Central. East and North London and M25; A102 provides access to SE London and A2/M20. A 17 tonne weight restriction is in place on Yabsley Street, limiting the range of HGVs, which can deliver to/from the facility.
Min. and max. berth depths	Dries 0.85 metres to 5.81 metres
Wall or jetty berth (and length)	Wall Berth (65 metres)
Vessel size LOA x beam x draft (m)	Tugs and tows
Comments	A drying berth, typical of the river upstream of the Thames Barrier. Campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	LB Tower Hamlets Core Strategy (September 2010) in Policy SP08 seeks to promote the sustainable transport of freight by safeguarding existing wharves. The site is currently in use as a waste transfer station. The site is within the Isle of Dogs Opportunity Area.

	The site has been increasingly surrounded by residential development. Site is generally compatible with surrounding land uses. Future development needs to retain HGV access to maintain operational viability.
Current Use (if vacant date and last handled cargo)	Waste transfer station
Recent average tonnage (2012-2016)	90,000 tonnes per annum
On-site processing	Waste fed into compactor which compresses the waste into individual containers. Containers transferred by crane onto barges
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use with cargo-handling infrastructure to serve current operational use.

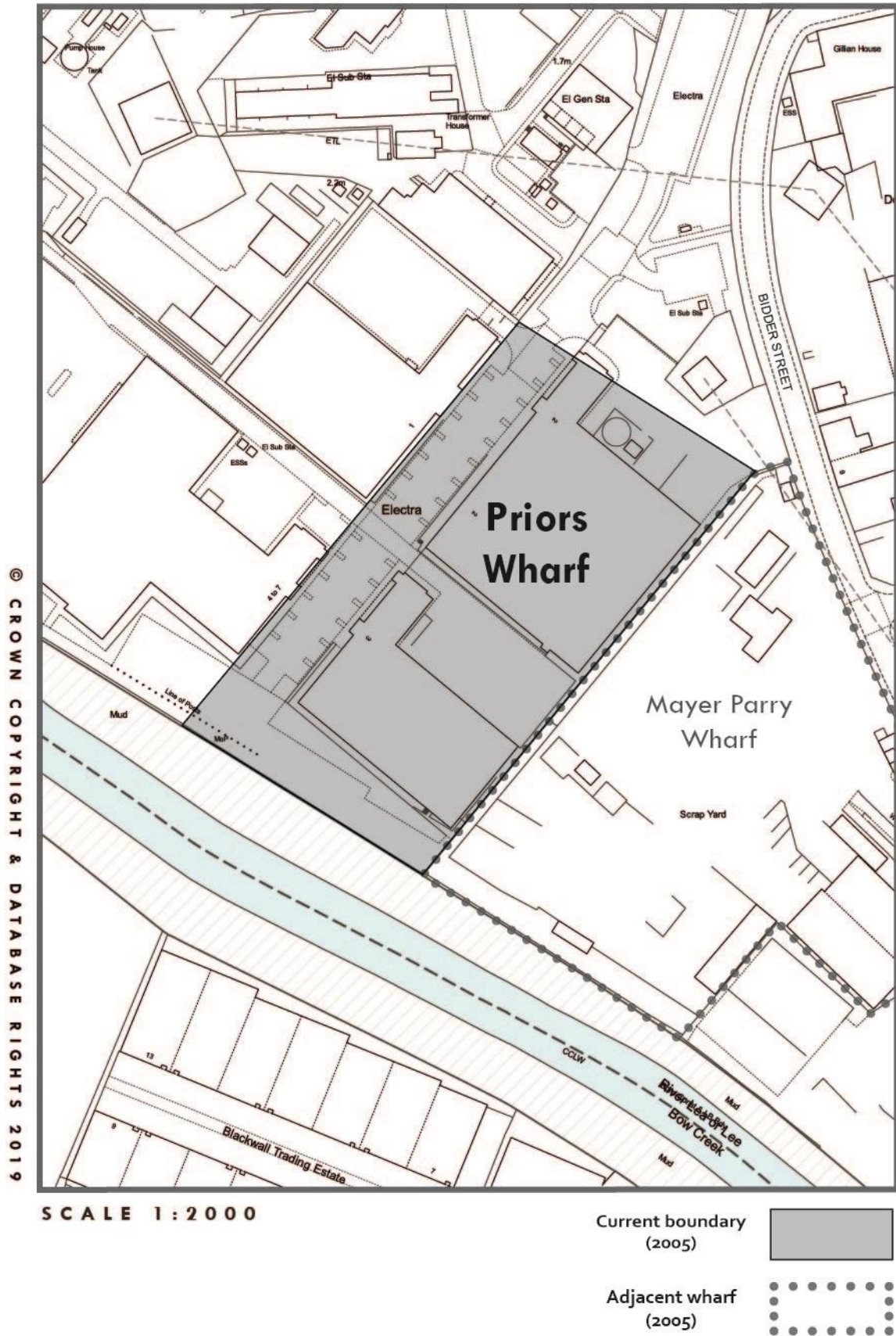
27. Orchard



Address	Orchard Place, London, E14 0JU
Local Authority	Tower Hamlets
Grid reference	Easting 539,248 / Northing 180,778
Site area	1.41 ha
Boundary Change	None proposed
Road Access	Access from the A13 East India Dock Road (TLRN) via A1261 Leamouth Road, A1020, Lower Lea Crossing (SRN) and Orchard Place. A1020 Lower Lea Crossing also connects with A1261, Aspen Way. One-way access on to/from Lower Lea Crossing. No left turn from A1020 from the east, access via roundabout, then onto Orchard Place.
Congestion (delay in minutes/km)	A13 East India Dock Road between j/w Blackwall Tunnel Northern Approach and j/w A1011 Manor Road- Silvertown Way ☐ West bound: under 0.25 to over 1.5 ☐ East bound: under 0.25 to over 1.5 A1020 Lower Lea Crossing between j/w A1261 Aspen Way and j/w Silvertown Way ☐ West bound: under 0.25 ☐ East bound: under 0.25 to 1.5
Rail Access	N/A
Comments	Very close to Leamouth Road roundabout for connections to A13 and close also to Blackwall Tunnel (A102, TLRN). Good connections to A13 TLRN for access to Central. East and North London and M25; A102 provides access to SE London and A2/M20. A1261 provides access to Docklands. A Delivery and Servicing Plan could help to mitigate the noise and air quality effects of road freight activity at the wharf on the live-work units nearby.
Min. and max. berth depths	Dries 1.85 metres to 4.81 metres.
Wall or jetty berth (and length)	Wall berth (150 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water.
Site's planning status Surrounding land use and planning context	LB Tower Hamlets Core Strategy (September 2010) in Policy SP08 seeks to promote the sustainable transport of freight by safeguarding existing wharves. Site has been vacant for 15 years. Following the conclusion of a lengthy process that ultimately resulted in the dismissal of the DfT's

	<p>confirmation of the Compulsory Purchase Order for the wharf the owner is considering scenarios for the wharf's reactivation.</p> <p>The site lies adjacent to employment uses to the north and east. Immediately to the north are some live-work units. A Nature reserve is adjacent to the site but is not expected to result in land use conflicts. It will be important to ensure that new uses do not restrict the operation of the wharf and retain good access to the A1261.</p>
Current Use (if vacant date and last handled cargo)	Vacant – last cargo handled pre-2002.
Recent average tonnage (2012- 2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The landowner is currently pursuing reactivation of the wharf use.
Safeguarding Recommendation	Retain safeguarding. Site is viable, well located to serve central and inner London locations.

28. Priors



Address	Bidder Street, Canning Town, London E16 4ES
Local Authority	Newham
Grid reference	Easting 538,979 / Northing 181,733
Site area	1.67 ha
Boundary Change	<i>Release proposed</i>
Road Access	A13 (TLRN) provides strategic access. From A13: \rightarrow Eastbound – j/w Bidder Street \rightarrow Westbound - access via Leamouth roundabout before returning on A13 eastbound to j/w Bidder Street. Bidder Street forms a one-way system providing northbound circulation, and Stephenson Street.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 \rightarrow West bound under 0.25 to over 1.5 \rightarrow East bound under 0.25 to 1.5
Rail Access	N/A
Comments	A13 (TLRN) provides strategic access to from east, west, north and south London and wider South East. The A13 dual carriageway enables fast access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25.
Min. and max. berth depths	Dries 3.10 metres to 4.01 metres
Wall or jetty berth (and length)	Wall berth
Vessel size LOA x beam x draft (m)	N/A
Comments	River wall appears in good condition. The river may require some spot dredging. The meandering nature of Bow Creek means that only small barges can reach the wharf.
Site's planning status Surrounding land use and planning context	<p>LB Newham Core Strategy (January 2012) seeks to protect wharves but seeks consolidation/relocation of wharves in the Royal Docks area.</p> <p>The site is in employment use with extensive warehouse type buildings but does not utilise water transport. The site is part of the British Gas Site / Cody Road Strategic Industrial Location (SIL) and the Lower Lea Valley Opportunity Area.</p> <p>The land surrounding the site is in industrial use, including the safeguarded Mayer Perry EMR wharf to the immediate south. Site is generally compatible with surrounding land uses.</p>

Current Use (if vacant date and last handled cargo)	Last cargo handled pre 1997
Recent average tonnage (2012- 2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	There are alternative wharves within the sub-region with more favourable conditions.
Safeguarding Recommendation	Release of safeguarding in view of surplus capacity in NE London. The site is less favourable than other wharves due to its location along Bow Creek and the presence of uses and extensive buildings on site, which were not designed to handle or accommodate riverborne cargo.

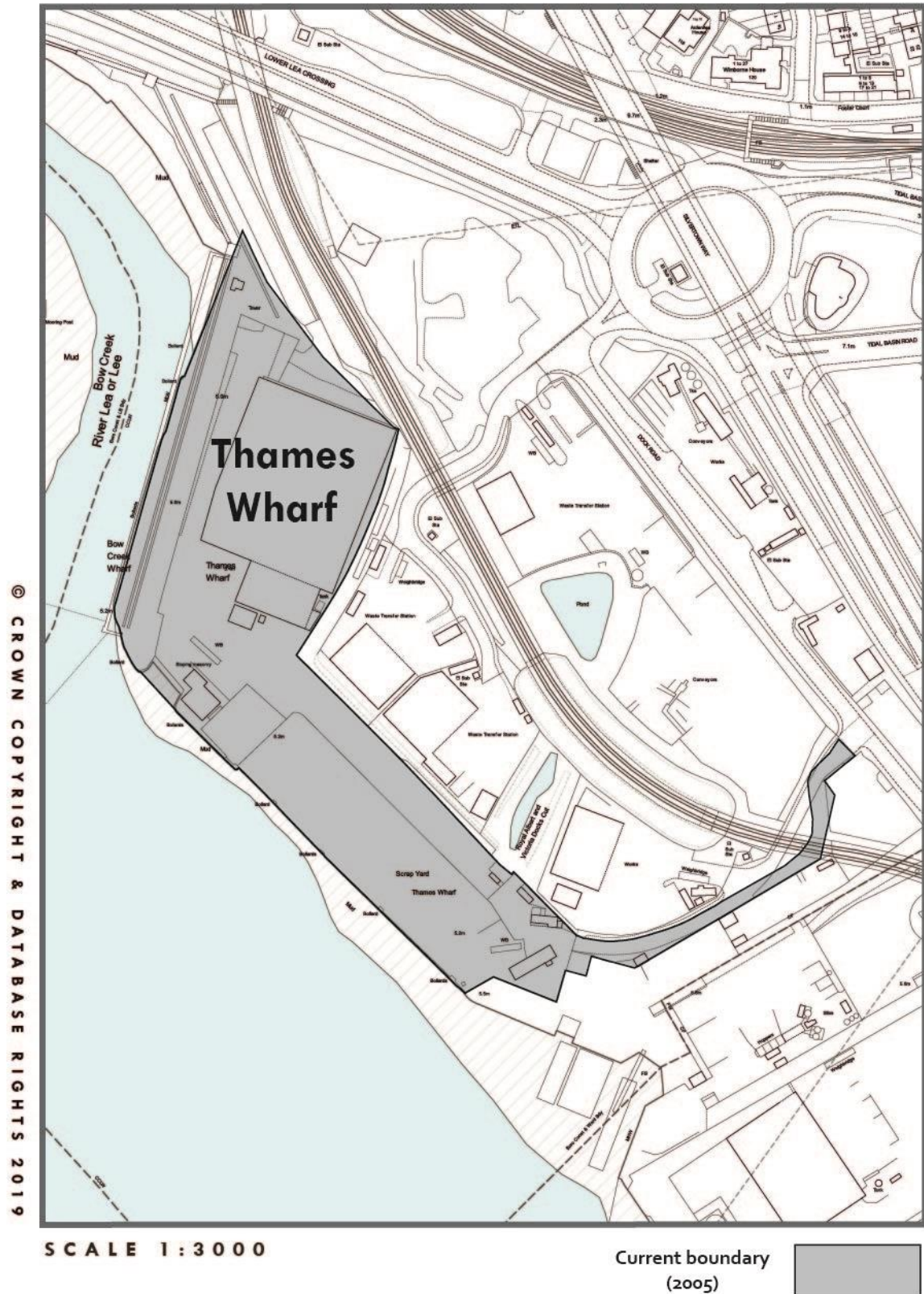
29. Mayer Parry



Address	Bidder Street, Canning Town, London E16
Local Authority	Newham
Grid reference	Easting 539,065 / Northing 181,684
Site area	1.96 ha
Boundary Change	<i>Release proposed</i>
Road Access	A13 (TLRN) provides strategic access. From A13: ☐ Eastbound – j/w Bidder Street ☐ Westbound - access via Leamouth roundabout before returning on A13 eastbound to j/w Bidder Street. Bidder Street forms a one-way system providing northbound circulation, and Stephenson Street.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 ☐ West bound under 0.25 to over 1.5 ☐ East bound under 0.25 to 1.5
Rail Access	N/A
Comments	A13 (TLRN) provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25.
Min. and max. berth depths	Dries to 3.60 metres to 3.51 metres
Wall or jetty berth (and length)	Wall berth
Vessel size LOA x beam x draft (m)	N/A
Comments	River wall appears in good condition. The river may require some spot dredging. The meandering nature of Bow Creek means that only small barges can reach the wharf.
Site's planning status Surrounding land use and planning context	<p>LB Newham Core Strategy (January 2012) seeks to protect wharves but seeks consolidation/relocation of wharves in the Royal Docks area.</p> <p>The site is in employment use but does not utilise water transport. The site is part of the British Gas Site / Cody Road Strategic Industrial Location (SIL) and the Lower Lea Valley Opportunity Area.</p> <p>The land surrounding the site is in industrial use, including the safeguarded Priors wharf to the immediate north. Site is generally compatible with surrounding land uses.</p>
Current Use	Metal recycling by road. Local arisings from within Newham and

(if vacant date and last handled cargo)	adjoining boroughs, which are all transported by road to Tilbury. Last cargo handled by water pre 1997.
Recent average tonnage (2012-2016)	N/A
On-site processing	Scrap metal recycling - the material is sorted into different categories of scrap, sheared and/or baled to produce a recyclable metal product
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	There are alternative wharves within the sub-region with more favourable conditions.
Safeguarding Recommendation	Release of safeguarding in view of surplus capacity in NE London. The site is less favourable than other wharves due to its location along Bow Creek and the associated navigational issues limiting the dimensions of the barges required to transport the heavy bulk cargo handled at the wharf.

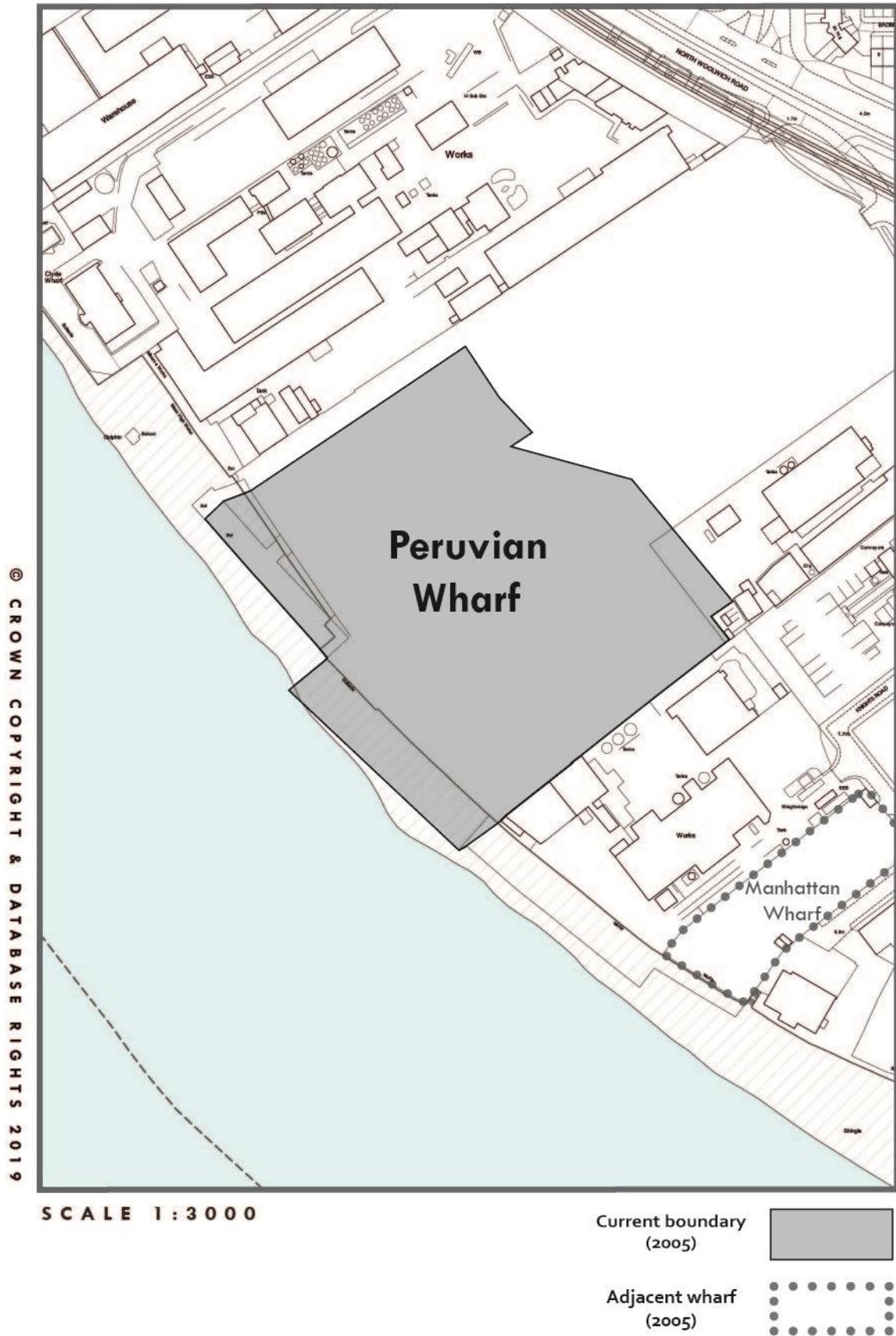
30. Thames



Address	Dock Road, Canning Town, London E16
Local Authority	Newham
Grid reference	Easting 539,615 / Northing 180,587
Site area	3.27 ha
Boundary Change	<i>Release proposed</i>
Road Access	A13 provides strategic access. Access from A13 (TLRN) on to A1020 (BPRN) via Tidal Basin Road roundabout, onto Silvertown Way A1011 (BPRN) and also access to Blackwall Tunnel. One-way access between A1011 Silvertown Way and Scarab Close using Tidal Basin roundabout for egress.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 ☐ West bound under 0.25 to over 1.5 ☐ East bound under 0.25 to 1.5 A1011 Silvertown Way from j/w: A13 to Silvertown roundabout ☐ North / west bound: under 0.25 to 1.0 ☐ South / east bound: under 0.25 to 1.0 Tidal Basin roundabout (serves A1020 and A1011): 1 to 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast dual carriageway access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however in free-flow conditions A13 provides a fast link to Docklands and M25.
Min. and max. berth depths	Dries 1.85 metres to 4.81 metres
Wall or jetty berth (and length)	Wall berth (150 metres)
Vessel size LOA x beam x draft (m)	Up to 90 x 14.5 x 4.5 and tugs and tows
Comments	A drying berth, typical of the river upstream of the Thames Barrier. The berth's length, nearby deep water and ease of navigational access enables the berthing of substantial barges and sea-going vessels at or near high water.
Site's planning status Surrounding land use and planning context	<p>LB Newham Core Strategy (December 2018) seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity.</p> <p>If approval is given for Silvertown tunnel scheme and it is implemented, wharf will be temporarily lost. Current operators will need to relocate. Opportunity exists to relocate waterborne cargo handling operators onto Royal Primrose wharf along with operators</p>

	from the non safeguarded dock entrance wharf next to Peruvian and provide capacity and environmental benefits.
Current Use (if vacant date and last handled cargo)	Aggregates; Construction, Excavation and Demolition Waste; and project cargoes. ASD distribute steel products by road.
Recent average tonnage (2012- 2016)	335,000 tonnes per annum
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Release from safeguarding due to the impacts of the Silvertown tunnel scheme. Site capacity can be consolidated elsewhere in Thameside West.

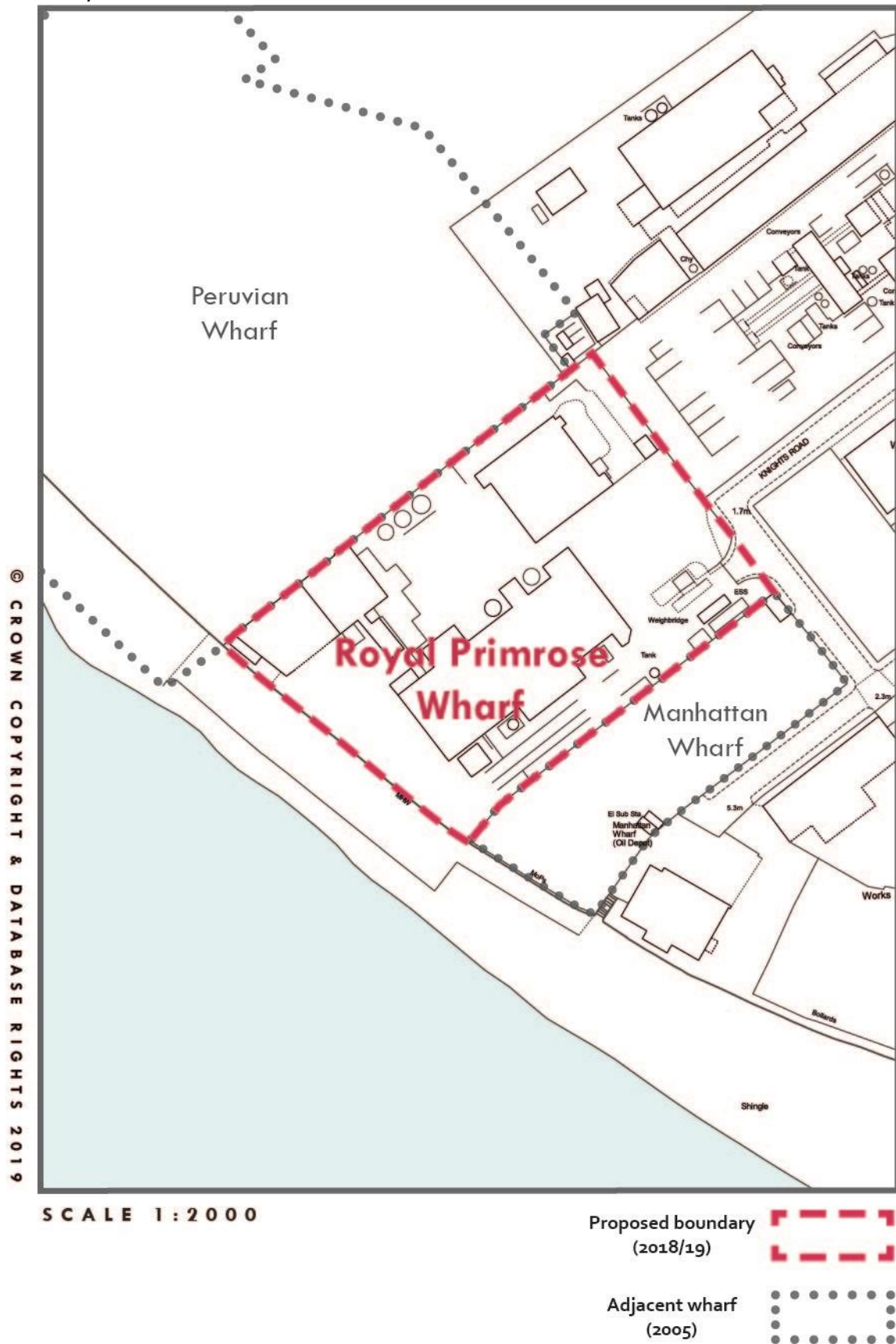
31. Peruvian



Address	North Woolwich Road, Silvertown, London E16
Local Authority	Newham
Grid reference	Easting 540,151 / Northing 179,992
Site area	3.62 ha
Boundary Change	None proposed
Road Access	A13 provides strategic access. Access from A13 (TLRN) on to A1020 (BPRN) via Tidal Basin Road roundabout, onto Silvertown Way A1011 (BPRN) and also access to Blackwall Tunnel.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 West bound under 0.25 to over 1.5 $\frac{1}{2}$ East bound under 0.25 to 1.5 A1011 Silvertown Way from j/w: A13 to Silvertown roundabout $\frac{1}{2}$ North / west bound: under 0.25 to 1.0 $\frac{1}{2}$ South / east bound: under 0.25 to 1.0 Tidal Basin roundabout (serves A1020 and A1011): 1 to 1.5
Rail Access	N/A $\frac{1}{2}$
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 dual carriageway enables fast access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however in free-flow conditions A13 provides a fast link to Docklands and M25. There are a number of banned right turns from south / eastbound A1011 Silvertown Way carriageway.
Min. and max. berth depths	Dries 2.45 metres to 4.21 metres
Wall or jetty berth (and length)	Jetty and campshed Berth
Vessel size LOA x beam x draft (m)	Planning permission proposes vessels of up to 82m LOA on jetty and tugs and tows on campshed.
Comments	A drying berth, typical of the river upstream of the Thames Barrier. The berth's length, nearby deep water and ease of navigational access enables the berthing of sea-going vessels at or near high water. Dredging consented at jetty berth will improve the wharf's viability.
Site's planning status Surrounding land use and planning context	<p>LB Newham Core Strategy (December 2018) seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity.</p> <p>The PLA acquired the wharf in 2016, enabling works, including construction of access road from highway network to wharf to be completed. Could see a consolidation of aggregate-related activities by a number of operators located here.</p>

	The site is close to other freight sites including wharves and therefore is generally compatible with surrounding land uses.
Current Use (if vacant date and last handled cargo)	Vacant but now in PLA ownership with permission for aggregate handling and related processes.
Recent average tonnage (2012-2016)	N/A.
On-site processing	Permission granted for concrete batching plant, dry silo mortar plant and aggregates bagging plant.
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The Brett group has an agreement with the PLA for reactivation of this wharf.
Safeguarding Recommendation	Retain safeguarding. Site is viable, within an industrial area and retains flexibility to meet a range of operational needs. Has recent permission, which has been implemented, as an aggregates wharf.

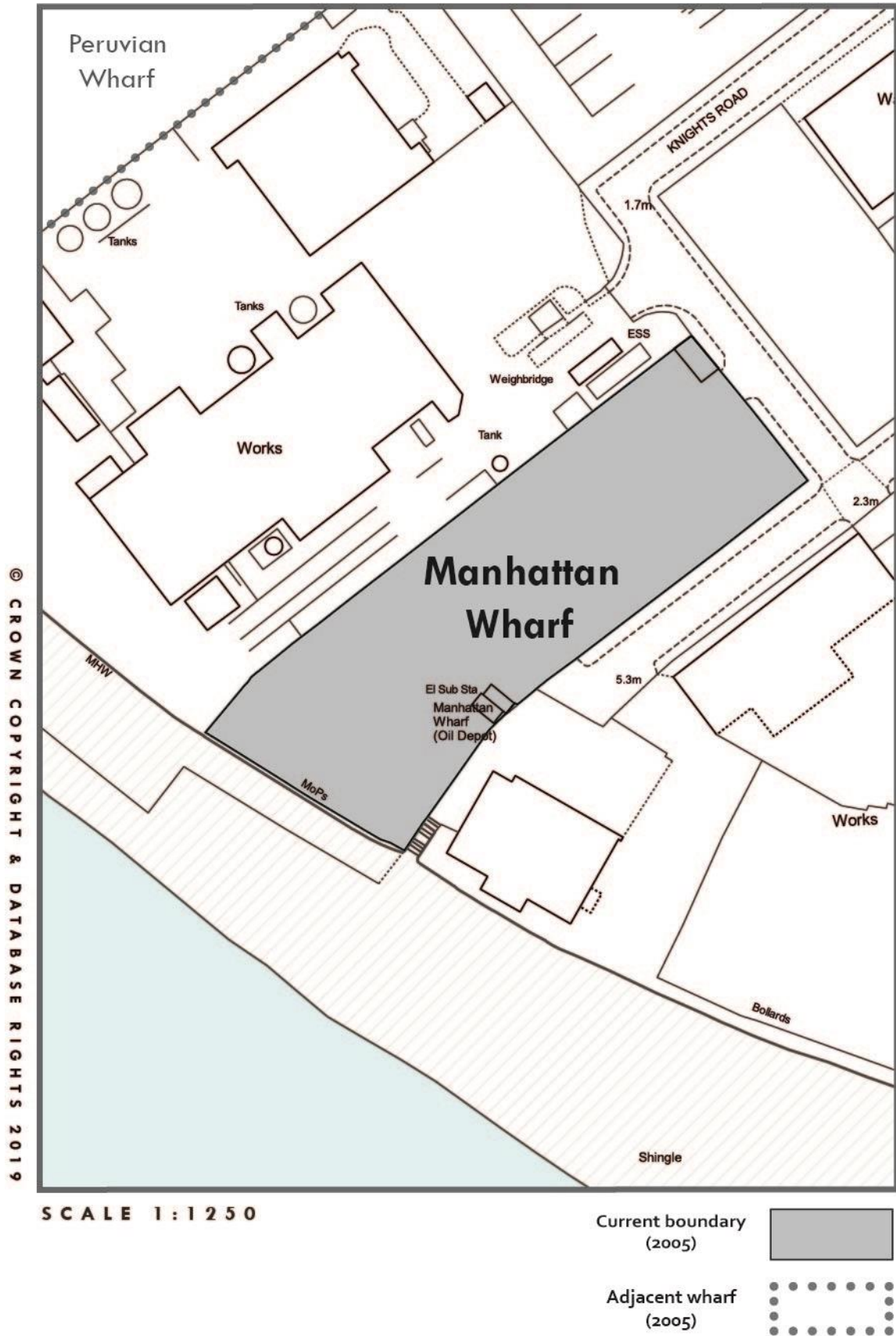
31A. Royal Primrose



Address	Knights Road, Silvertown, London E16
Local Authority	Newham
Grid reference	Easting 540,151 / Northing 179,992
Site area	1.5 ha
Boundary Change	New wharf
Road Access	A13 provides strategic access. Access from A13 (TLRN) on to A1020 (BPRN) via Tidal Basin Road roundabout, onto Silvertown Way A1011 (BPRN) and also access to Blackwall Tunnel.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 West bound under 0.25 to over 1.5 East bound under 0.25 to 1.5 A1011 Silvertown Way from j/w: A13 to Silvertown roundabout North / west bound: under 0.25 to 1.0 South / east bound: under 0.25 to 1.0 Tidal Basin roundabout (serves A1020 and A1011): 1 to 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 dual carriageway enables fast access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however in free-flow conditions A13 provides a fast link to Docklands and M25. There are a number of banned right turns from south / eastbound A1011 Silvertown Way carriageway.
Min. and max. berth depths	Dries 3.8 metres to 3.3 metres
Wall or jetty berth (and length)	Wall berth (110 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames barrier. Campshed, although subject to substantial accretion, so some dredging would increase viability. Berth characteristics appropriate for barge traffic, although length and access to deep water make it suitable for more substantial vessels.
Site's planning status Surrounding land use and planning context	<p>There could be a consolidation of aggregate-related activities by a number of operators located here.</p> <p>The site is close to other freight sites including wharves and therefore is generally compatible with surrounding land uses.</p> <p>LB Newham Core Strategy (December 2018) seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West</p>

	on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity.
Current Use (if vacant date and last handled cargo)	Vacant. Last cargo handled pre-1997
Recent average tonnage (2012- 2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	The site is of particular value in the consolidation of wharves in Thameside West, particularly in view of the Silvertown Tunnel Scheme. The wharf offers substantial modal shift benefits, providing river access to the substantial concrete batching plant landward of the wharf.
Safeguarding Recommendation	Add safeguarding. Site is viable, within an industrial area and retains flexibility to meet a range of operational needs.

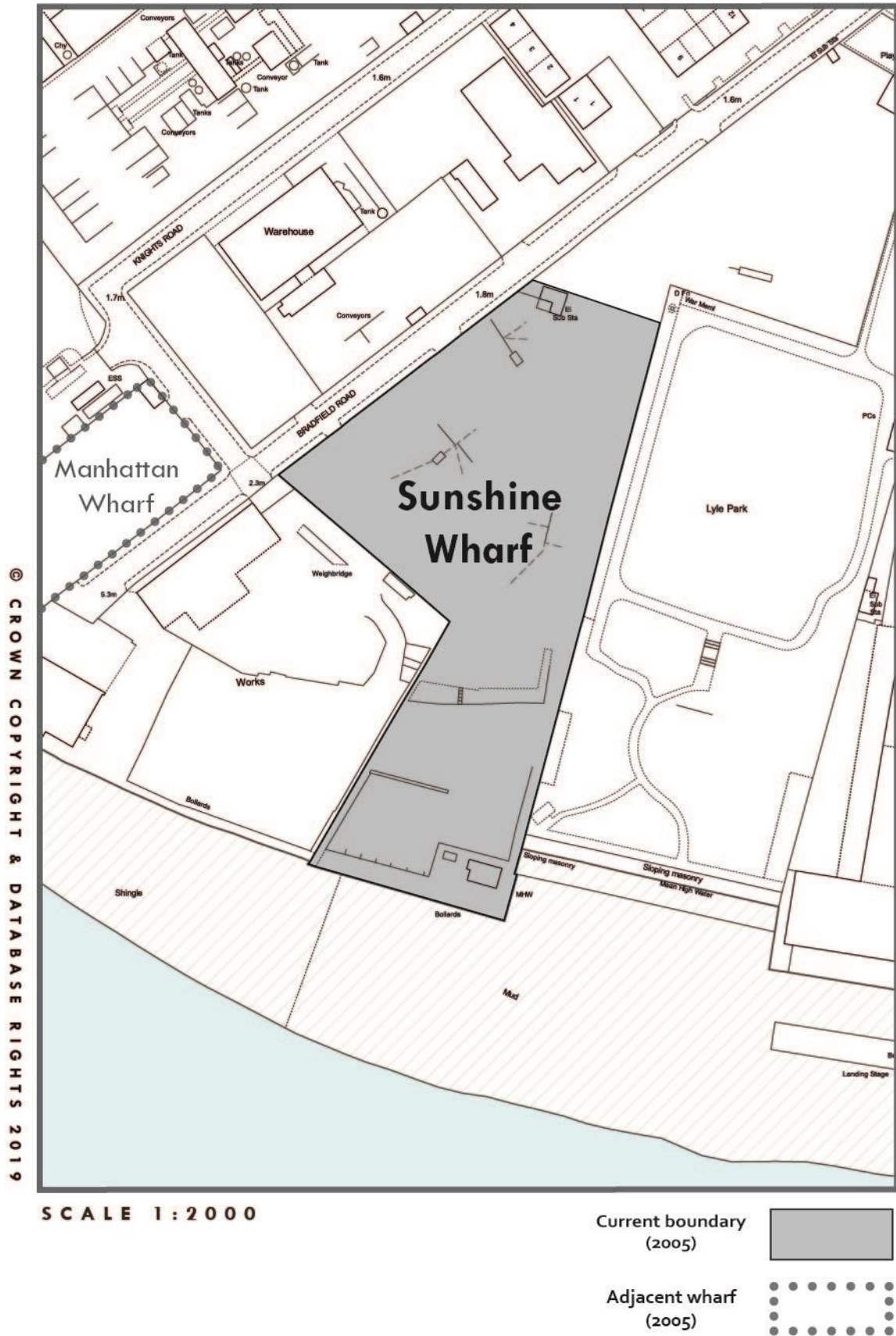
32. Manhattan



Address	Knights Road, Silvertown, London E16
Local Authority	Newham
Grid reference	Easting 540,314 / Northing 179,841
Site area	0.51 ha
Boundary Change	<i>Release proposed</i>
Road Access	A13 provides strategic access. Access from A13 (TLRN) on to A1020 (BPRN) via Tidal Basin Road roundabout, onto Silvertown Way A1011 (BPRN) and also access to Blackwall Tunnel.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 West bound under 0.25 to over 1.5 East bound under 0.25 to 1.5 A1011 Silvertown Way from j/w: A13 to Silvertown roundabout North / west bound: under 0.25 to 1.0 South / east bound: under 0.25 to 1.0 Tidal Basin roundabout (serves A1020 and A1011): 1 to 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 dual carriageway enables fast access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however in free-flow conditions A13 provides a fast link to Docklands and M25. There are a number of banned right turns from south / eastbound A1011 Silvertown Way carriageway.
Min. and max. berth depths	Dries 3.05 metres to 3.61 metres
Wall or jetty berth (and length)	Wall berth (50 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Some bed levelling/dredging would improve the wharf's viability.
Site's planning status Surrounding land use and planning context	LB Newham Core Strategy (December 2018) seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity. Dependant on outcome of Silvertown tunnel examination a consolidation of wharves within Thameside west, focussing on Peruvian and Royal Primrose enable the release of this wharf from safeguarding.
Current Use	Vacant. Last cargo handled c.2001.

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	There is significant demand for handling bulk cargoes and particularly aggregates in this part of the sub-region, due to its proximity to central London and emerging markets, to the extent that operators are temporarily located on non-safeguarded wharves due to vacant wharves not being made available by owners.
Safeguarding Recommendation	Release from safeguarding if Royal Primrose Wharf is afforded safeguarding protection and consolidation of wharf uses can proceed at this new site..

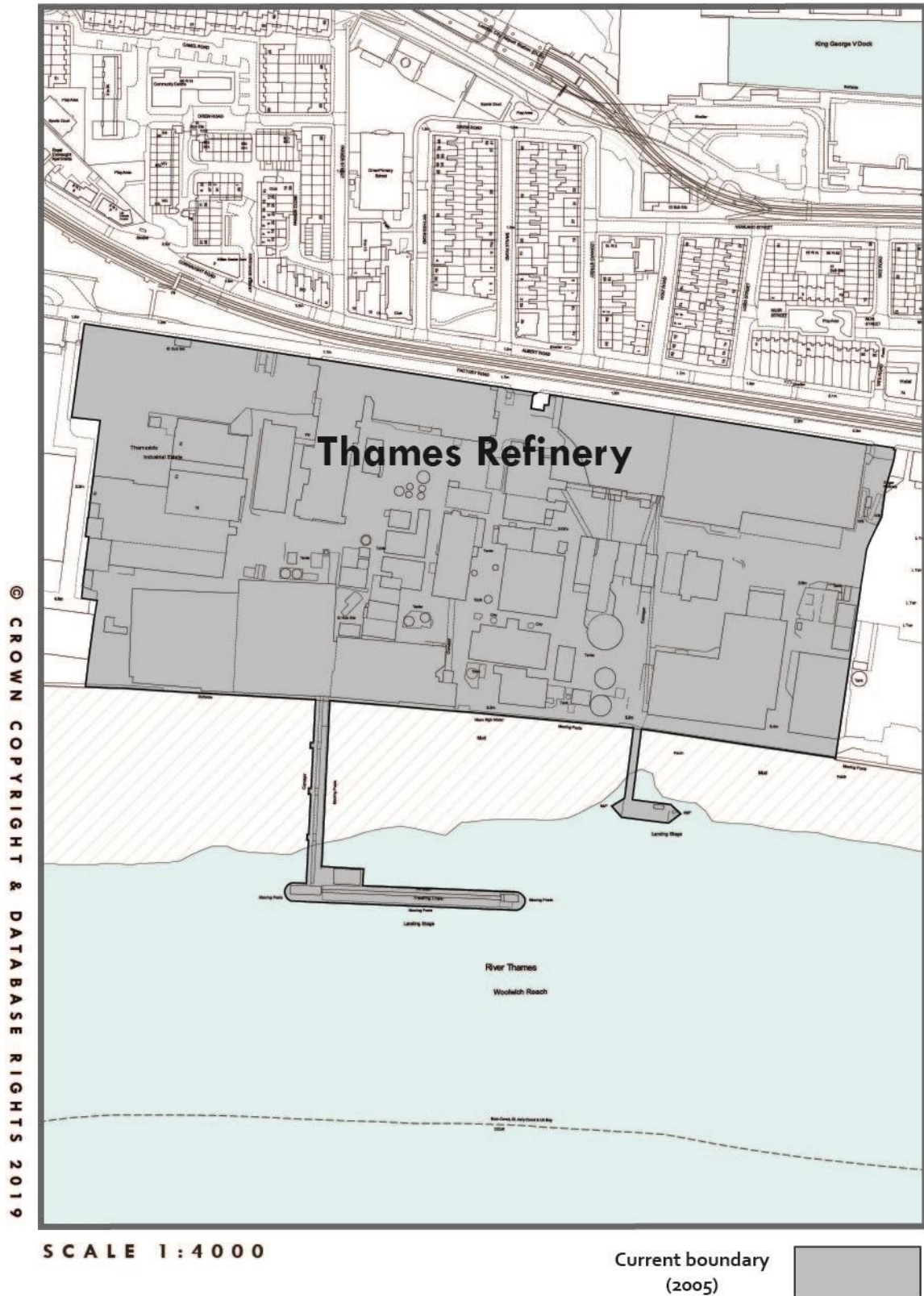
33. Sunshine



Address	Bradfield Road, Silvertown, London E16
Local Authority	Newham
Grid reference	Easting 540,461 / Northing 179,823
Site area	1.46 ha
Boundary Change	Release proposed
Road Access	A13 provides strategic access. Access from A13 (TLRN) on to A1020 (BPRN) via Tidal Basin Road roundabout, onto Silvertown Way A1011 (BPRN) and also access to Blackwall Tunnel.
Congestion (delay in minutes/km)	A13: j/w A117 to j/w A12 West bound under 0.25 to over 1.5 $\frac{1}{2}$ East bound under 0.25 to 1.5 A1011 Silvertown Way from j/w: A13 to Silvertown roundabout $\frac{1}{2}$ North / west bound: under 0.25 to 1.0 $\frac{1}{2}$ South / east bound: under 0.25 to 1.0 Tidal Basin roundabout (serves A1020 and A1011): 1 to 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 dual carriageway enables fast access to Blackwall Tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however in free-flow conditions A13 provides a fast link to Docklands and M25. There are a number of banned right turns from south / eastbound A1011 Silvertown Way carriageway.
Min. and max. berth depths	Dries 3.45 metres to 3.21 metres
Wall or jetty berth (and length)	Wall Berth (70 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Bed levelling/dredging would improve the wharf's viability.
Site's planning status Surrounding land use and planning context	<p>LB Newham Core Strategy (December 2018) seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity.</p> <p>Dependant on outcome of Silvertown tunnel examination a consolidation of wharves within Thameside West, focussing on Peruvian and Royal Primrose wharves could enable the release of this wharf from safeguarding. The possibility exists to reduce negative impacts associated with wharf activity to create a buffering set of land</p>

	uses around the wharves, increase wharf capacity and release land for mixed use development.
Current Use (if vacant date and last handled cargo)	Vacant. Last cargo handled c.2007
Recent average tonnage (2012- 2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	There is significant demand for handling bulk cargoes and particularly aggregates in this part of the sub-region, due to its proximity to central London and emerging markets, to the extent that operators are temporarily located on non-safeguarded wharves due to vacant wharves not being made available by owners.
Safeguarding Recommendation	Release from safeguarding if Royal Primrose Wharf is afforded safeguarding protection and consolidation of wharf uses can proceed at this new site.

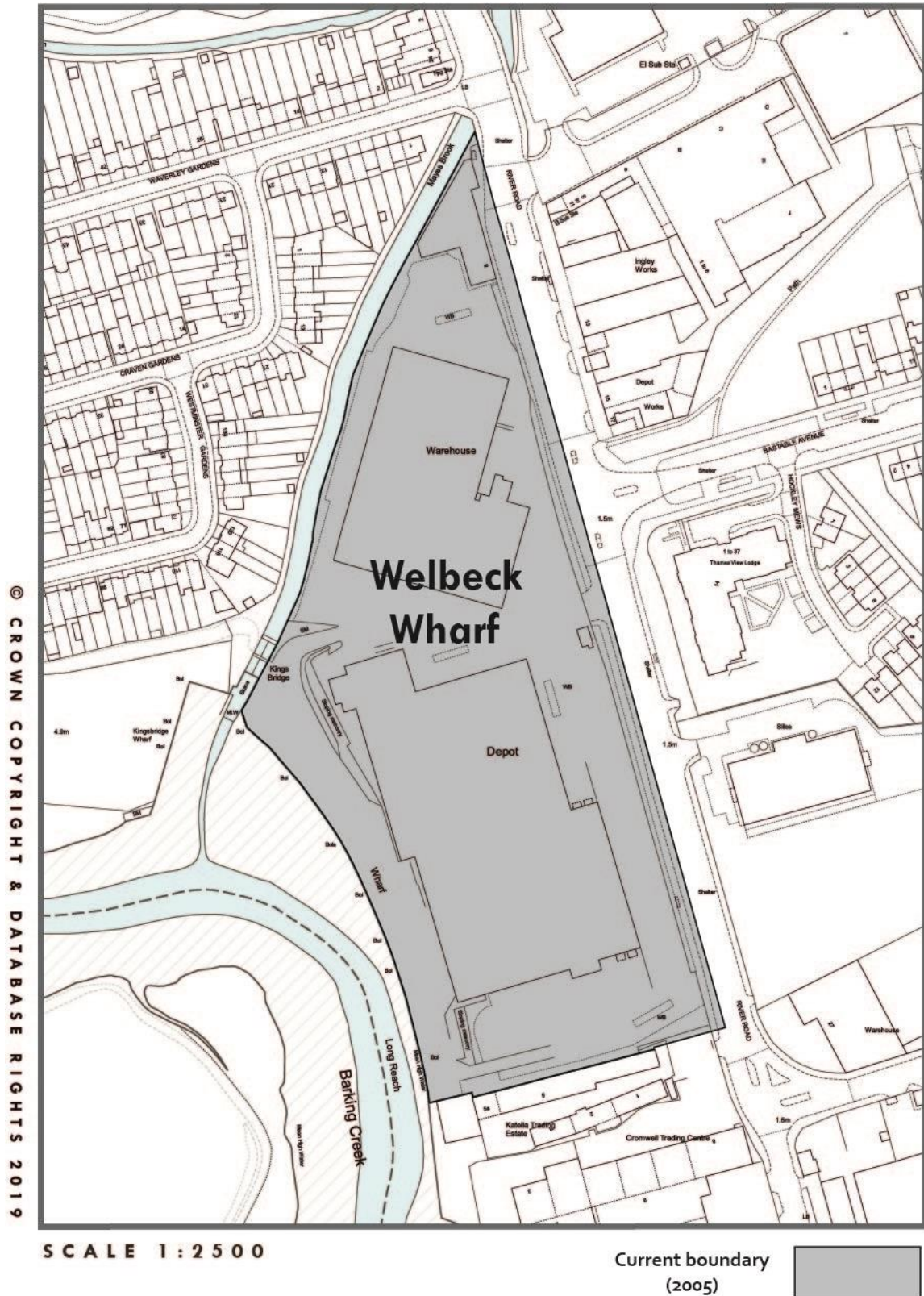
34. Thames Refinery



Address	Thames Refinery, Factory Road, Silvertown, London E16
Local Authority	Newham
Grid reference	Easting 542,248 / Northing 179,909
Site area	11.54 ha
Boundary Change	None proposed
Road Access	A13 provides strategic access. Access from A13 (TLRN) on to A1020 (BPRN) via Tidal Basin Road roundabout, onto Silvertown Way A1011 (BPRN) and also access to Blackwall Tunnel. Alternatively, access via A112 (BPRN) Connaught Bridge Road and Airport roundabout onto North Woolwich Road then Factory Road. - Locally, no access from Connaught Road. - Access is also possible from the Woolwich Ferry.
Congestion (delay in minutes/km)	A1020 j/w Connaught Bridge Road to j/w Silvertown Way East bound: under 0.25 to 0.5 ② West bound yellow, under 0.25-0.5 A112 j/w Gallions Reach Roundabout to j/w Connaught Bridge Road ② East bound under 0.25 to 0.5 ② West bound under 0.25 to 1.0 Gallions Reach roundabout A117 / A1020 0.25 to over 1.5
Rail Access	N/A②
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 dual carriageway enables fast access to Blackwall tunnel for SE London or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however in free-flow conditions A13 provides a fast link to Docklands and M25. Northbound overheight vehicles can access from SE London via the Woolwich Ferry and Pier Road. This is also an alternative route if the Blackwall Tunnel is disrupted.
Min. and max. berth depths	Raw sugar jetty 10.28 metres to 16.87 metres. Refined sugar jetty 1.68 metres to 8.27 metres
Wall or jetty berth (and length)	Jetty berths
Vessel size LOA x beam x draft (m)	Raw sugar jetty – up to 190 x 32 x 12 Refined jetty – up to 95 x 15 x 5
Comments	The main (raw sugar) jetty provides the deepest water at any wharf in Greater London; sufficient to accommodate very large (up to 52,000 tonnes) bulk carriers.
Site's planning status Surrounding land use and planning context	LB Newham Core Strategy (January 2012) seeks to protect wharves but seeks consolidation/relocation of wharves in the Royal Docks area. The site is operational as a cane sugar refinery feeding UK and international markets as well as the company's processing plant at Plaistow wharf. The site is within the Thameside East Strategic

	<p>Industrial Location and the Royal Dock and Beckton Waterfront Opportunity Area.</p> <p>Site is surrounded by other industrial land uses without any conflicting land uses.</p> <p>Please note that the 2005 Direction refers to this wharf as Thames Refinery/Cairn Mills.</p>
Current Use (if vacant date and last handled cargo)	Sugar (raw and refined). Site is operational as the largest cane sugar refinery in Europe utilising the main jetty for importing cane sugar together with exports of refined sugar.
Recent average tonnage (2012-2016)	627,000 tonnes per annum
On-site processing	Refining of raw cane sugar. Export of bulk dry and liquid product for consumption and further processing.
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and has infrastructure in place specifically to meet the current operator's requirements. It is recognised that the large extent of the wharf area is a particular reflection of Tate & Lyle's business, handling a unique cargo type.

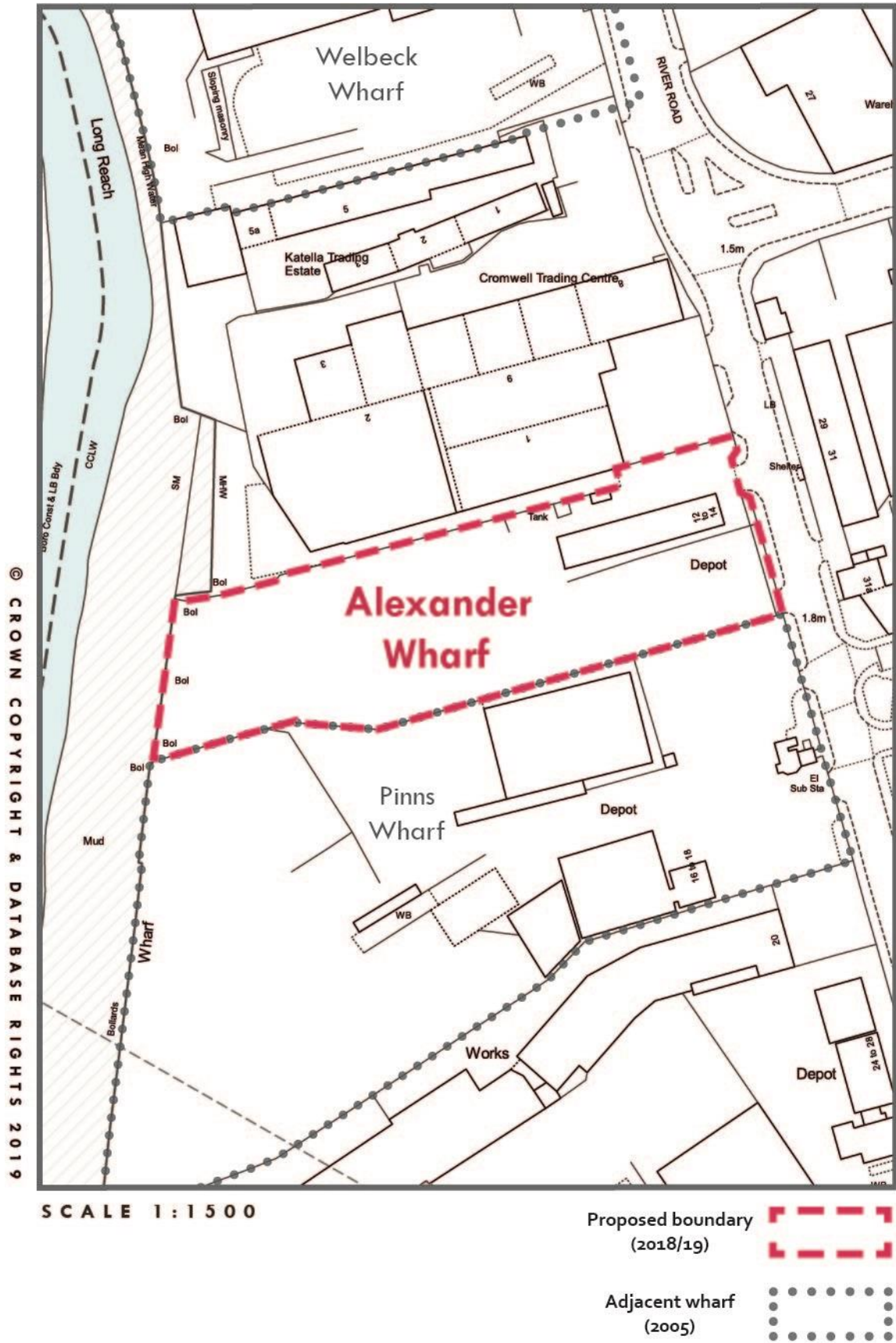
35. Welbeck



Address	Welbeck House, River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 545,325 / Northing 183,000
Site area	3.68 ha
Boundary Change	<i>release proposed</i>
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane Eastbound: under 0.25 to over 1.5 Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: Eastbound: 0.5 to over 1.5 Westbound: under 0.25 to over 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	Dries 1.52 metres to 4.88 metres
Wall or jetty berth (and length)	Wall berth (175 metres)
Vessel size LOA x beam x draft (m)	N/A
Comments	A drying berth, typical of tidal creeks. No campshed. Maximum length of vessels permitted within Barking Creek is 100 metres. The furthest upstream of the wharves within the creek with shallow approaches.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses, although there are residential properties to the north and a residential care home to the east.
Current Use	Road served storage only. Last cargo handled c. 2007. No waterborne

(if vacant date and last handled cargo)	use
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Marketing undertaken, with no interest in the wharf. There are alternate wharves within the sub-region with more favourable conditions.
Safeguarding Recommendation	Release of safeguarding - in view of surplus capacity in NE London. The site is less favourable than other wharves due to its navigational characteristics, its location furthest up the creek, the large site area and the presence of extensive specialised buildings on site.

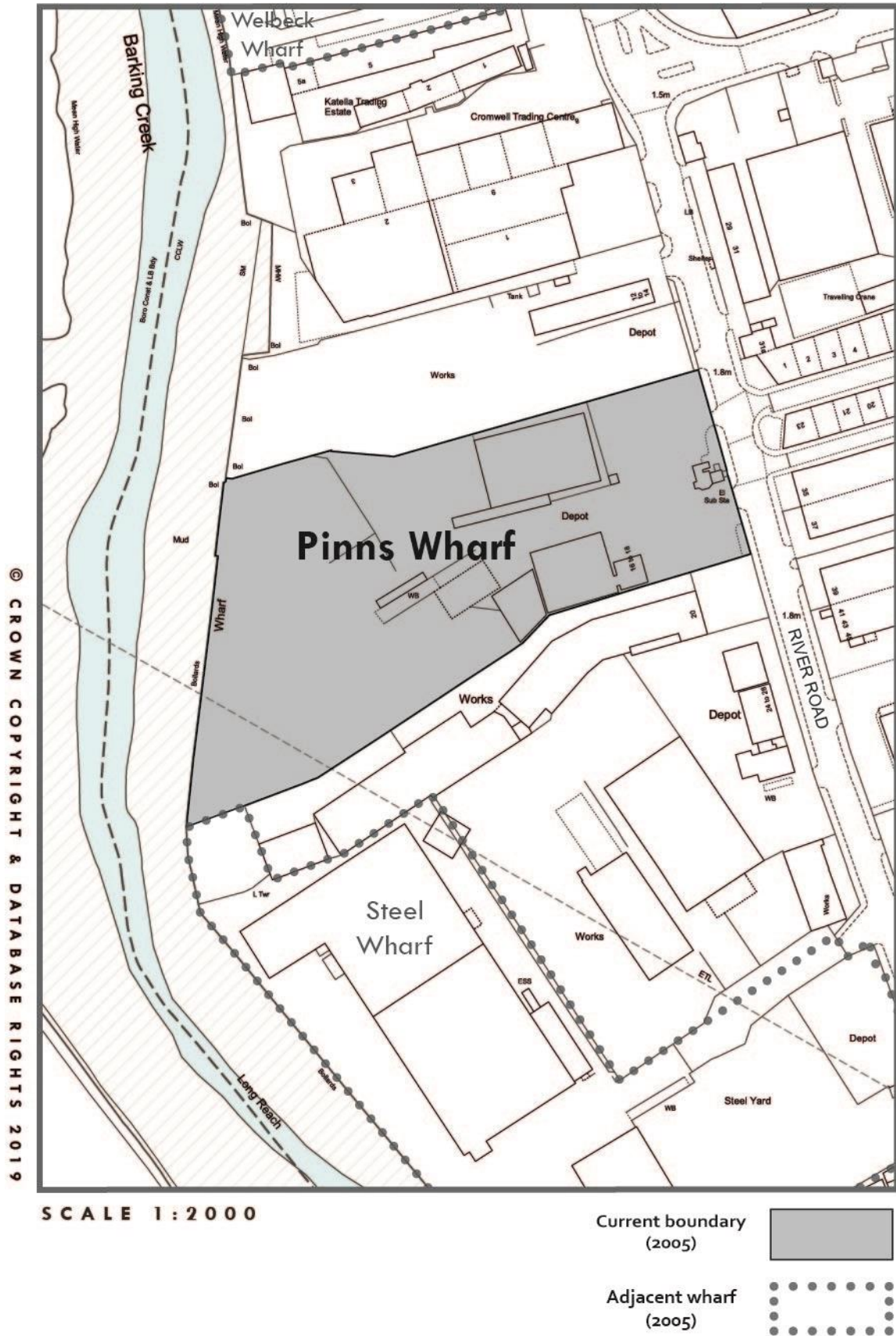
36. Alexander



Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 545,378 / Northing 182,673
Site area	0.66 ha
Boundary Change	New wharf
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane Eastbound: under 0.25 to over 1.5 ② Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: ② Eastbound: 0.5 to over 1.5 ② Westbound: under 0.25 to over 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	Dries 1.20 metres to 5.20 metres
Wall or jetty berth (and length)	Wall berth (40 metres)
Vessel size LOA x beam x draft (m)	82.5 X 11.5 X 4
Comments	A drying berth, typical of tidal creeks. No campshed. Maximum length of vessels permitted within Barking Creek is 100 metres. Berth characteristics make it appropriate for seagoing vessels mooring or departing the berth at or near high water
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is currently in use handling metal recyclate. The site is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses. The wharf was considered but not safeguarded through the 2013

	Safeguarded Wharves Review final recommendation document following the wharf's reactivation for cargo handling in 2008.
Current Use (if vacant date and last handled cargo)	Metal Recyclate
Recent average tonnage (2012-2016)	6,000 tonnes per annum
On-site processing	Scrap Processing
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	New safeguarding. - Site is viable, in active use, within an industrial area and retains flexibility to meet a range of operational needs.

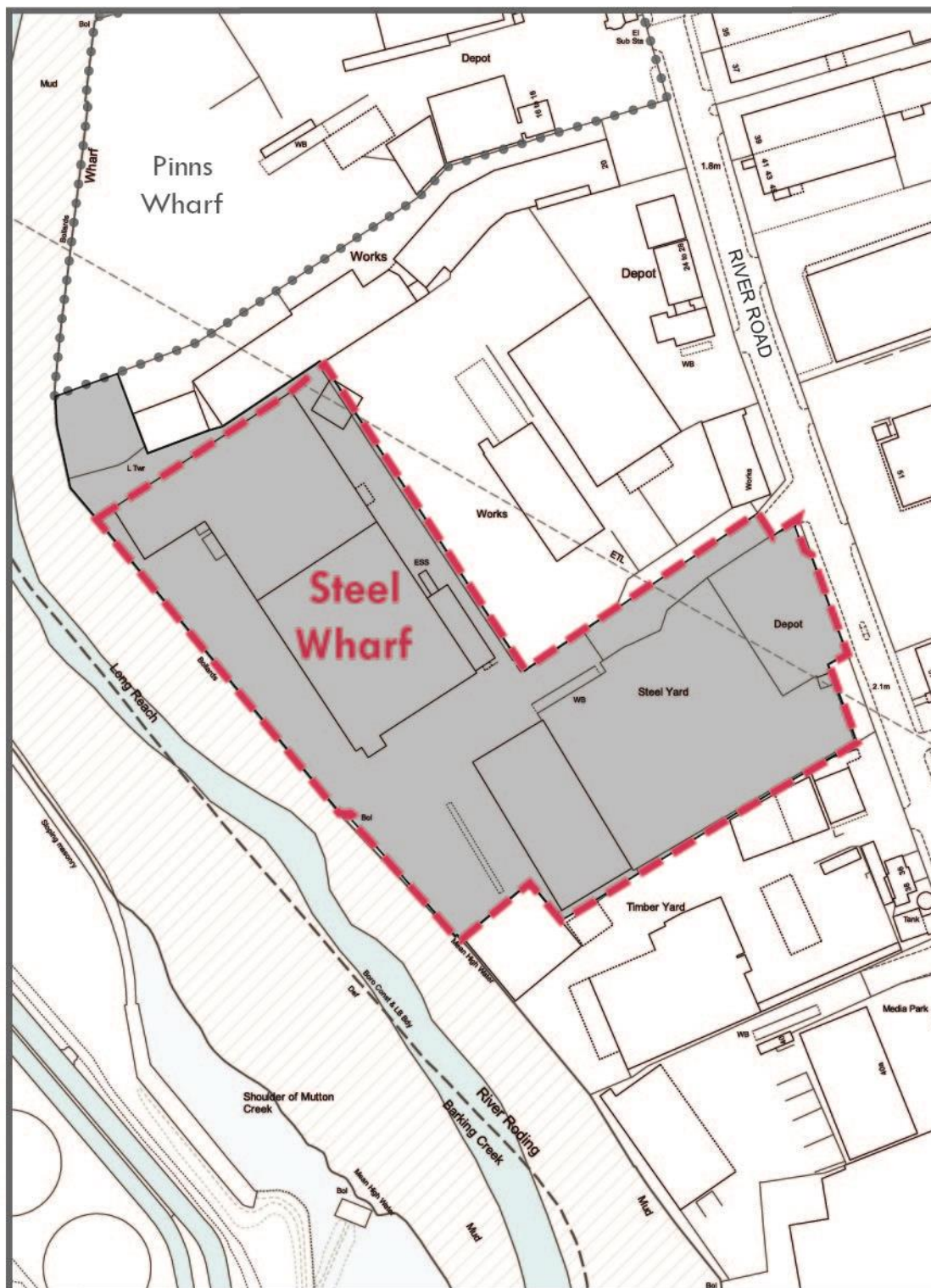
37. Pinns



Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 545,379 / Northing 182,574
Site area	1.50 ha
Boundary Change	None proposed
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane Eastbound: under 0.25 to over 1.5 ② Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: ② Eastbound: 0.5 to over 1.5 ② Westbound: under 0.25 to over 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	Dries 1.02 metres to 5.38 metres
Wall or jetty berth (and length)	Wall berth (140 metres)
Vessel size LOA x beam x draft (m)	Up to 88 x 13 x 4.5
Comments	A drying berth, typical of tidal creeks. No campshed. Maximum length of vessels permitted within Barking Creek is 100 metres. Berth characteristics make it appropriate for seagoing vessels mooring or departing the berth at or near high water.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is currently in use handling metal recyclate. The site is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.
Current Use	Metal recyclate

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	102,000 tonnes per annum
On-site processing	Scrap processing
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

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Current boundary (2005)

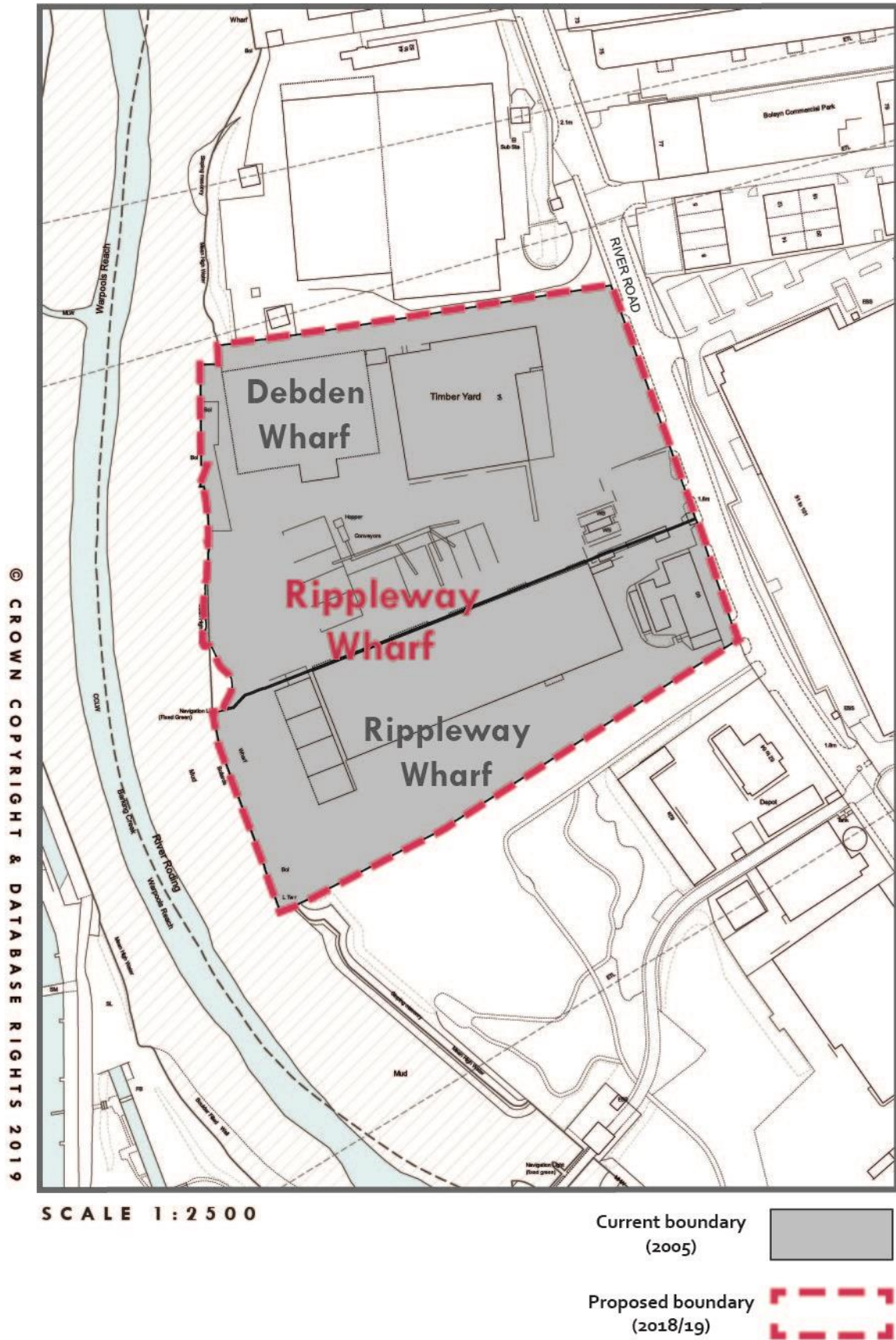
Proposed boundary (2018/19)

Adjacent wharf (2005)

Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 545,423 / Northing 182,434
Site area	2.01 ha (2.12 ha)
Boundary Change	Yes, to reflect operations and ownership
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane ⑦ Eastbound: under 0.25 to over 1.5 ⑦ Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: ⑦ Eastbound: 0.5 to over 1.5 ⑦ Westbound: under 0.25 to over 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	Dries 1.12 metres to 5.28 metres
Wall or jetty berth (and length)	Wall berth (150 metres)
Vessel size LOA x beam x draft (m)	Up to 88 x 12.5 x 4.5 and tugs and tows
Comments	A drying berth, typical of tidal creeks. No campshed. Maximum length of vessels permitted within Barking Creek is 100 metres. Berth characteristics make it appropriate for seagoing vessels mooring or departing the berth at or near high water.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.
Current Use	Construction, Demolition and Excavation waste, aggregates and project cargoes.

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	N/A. Site was reactivated in 2016 following closure of previous operation.
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

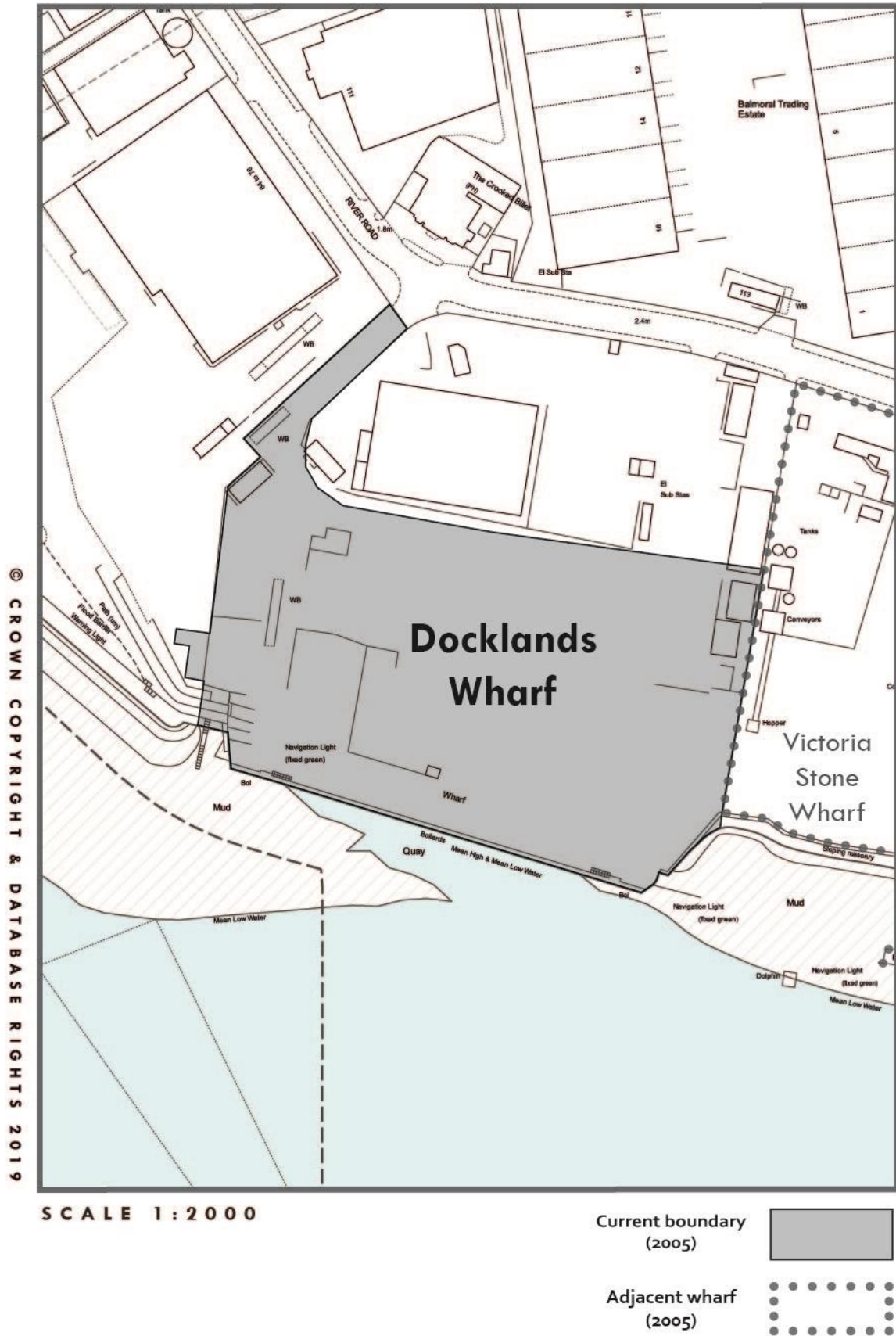
39. Rippleway



Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 545,590 / Northing 181,932
Site area	4.13 ha (1.64 ha + 2.49 ha)
Boundary Change	Merge two neighbouring sites in same ownership
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane Eastbound: under 0.25 to over 1.5 Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: Eastbound: 0.5 to over 1.5 Westbound: under 0.25 to over 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	Dries 1.42 metres to 4.98 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Up to 88 x 12.5 x 4.0 and tugs and tows
Comments	A drying jetty berth, typical of tidal creeks. No campshed. Maximum length of vessels permitted within Barking Creek is 100 metres. Although currently principally handling barge traffic, the jetty berth is appropriate for sea-going vessels mooring or departing the berth at or near high water.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.
Current Use	Aggregates; CD & E Waste, RDF.

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	40,000 tonnes per annum
On-site processing	Concrete batching plant, waste processing
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding, merging Debden Wharf and Rippleway Wharf. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

40. Docklands



Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 545,848 / Northing 181,691
Site area	2.01 ha
Boundary Change	None proposed
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane Eastbound: under 0.25 to over 1.5 ② Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: ② Eastbound: 0.5 to over 1.5 ② Westbound: under 0.25 to over 1.5
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	Dries 0.42 metres to 5.98 metres
Wall or jetty berth (and length)	Wall berth (160 metres)
Vessel size LOA x beam x draft (m)	Up to 91 x 14 x 5.5
Comments	Drying berth at the confluence of Barking Creek and the River Thames. No campshed. Berth characteristics make it appropriate for sea-going vessels mooring or departing the wharf at or near high water.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.
Current Use	Metal recyclate

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	60,000 tonnes per annum
On-site processing	Scrap processing
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

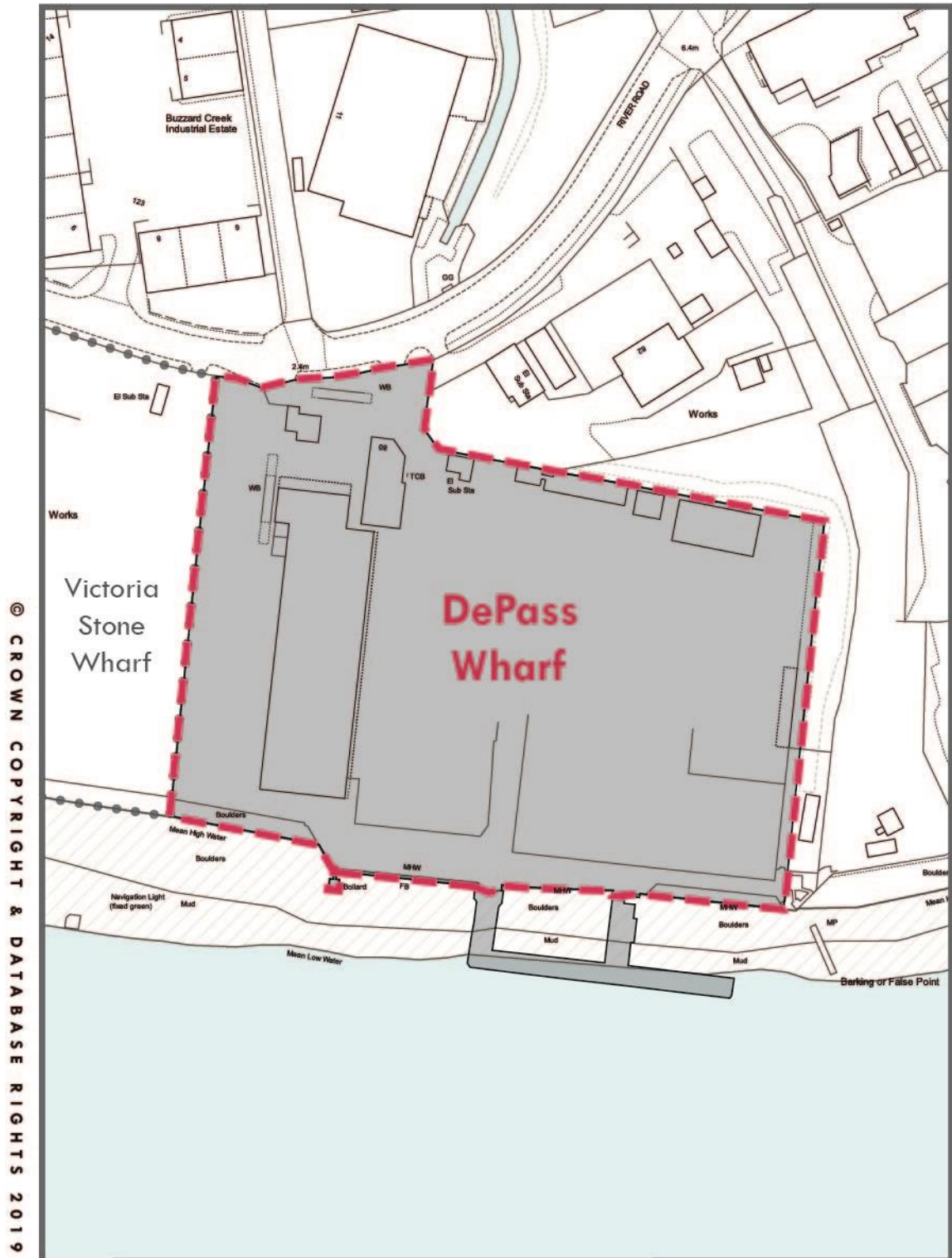
41. Victoria Stone



Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 546,011 / Northing 181,656
Site area	2.00 ha
Boundary Change	None proposed
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane Eastbound: under 0.25 to over 1.5 ② Westbound: under 0.25 to 0.25 A13, at Movers Lane junction: ② Eastbound: 0.5 to over 1.5 ② Westbound: under 0.25 to over 1.5
Rail Access	N/A②
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	See below
Wall or jetty berth (and length)	See below
Vessel size LOA x beam x draft (m)	N/A
Comments	The existing jetty infrastructure is in poor condition and requires replacement to handle aggregates. Water depths near wharf are very good - over seven metres at all states of the tide within 100 metres of the wharf – and a new jetty would enable access to the wharf by sea-going vessels across the tidal cycle.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.
Current Use	Handles aggregates by road, last cargo handled pre-1997

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	N/A
Safeguarding Recommendation	Retain safeguarding. Navigational characteristics are excellent. If reactivated aggregates currently delivered by road could be delivered by river achieving modal shift.

42. DePass



SCALE 1:2000

Current boundary
(2005)



Proposed boundary
(2018/19)



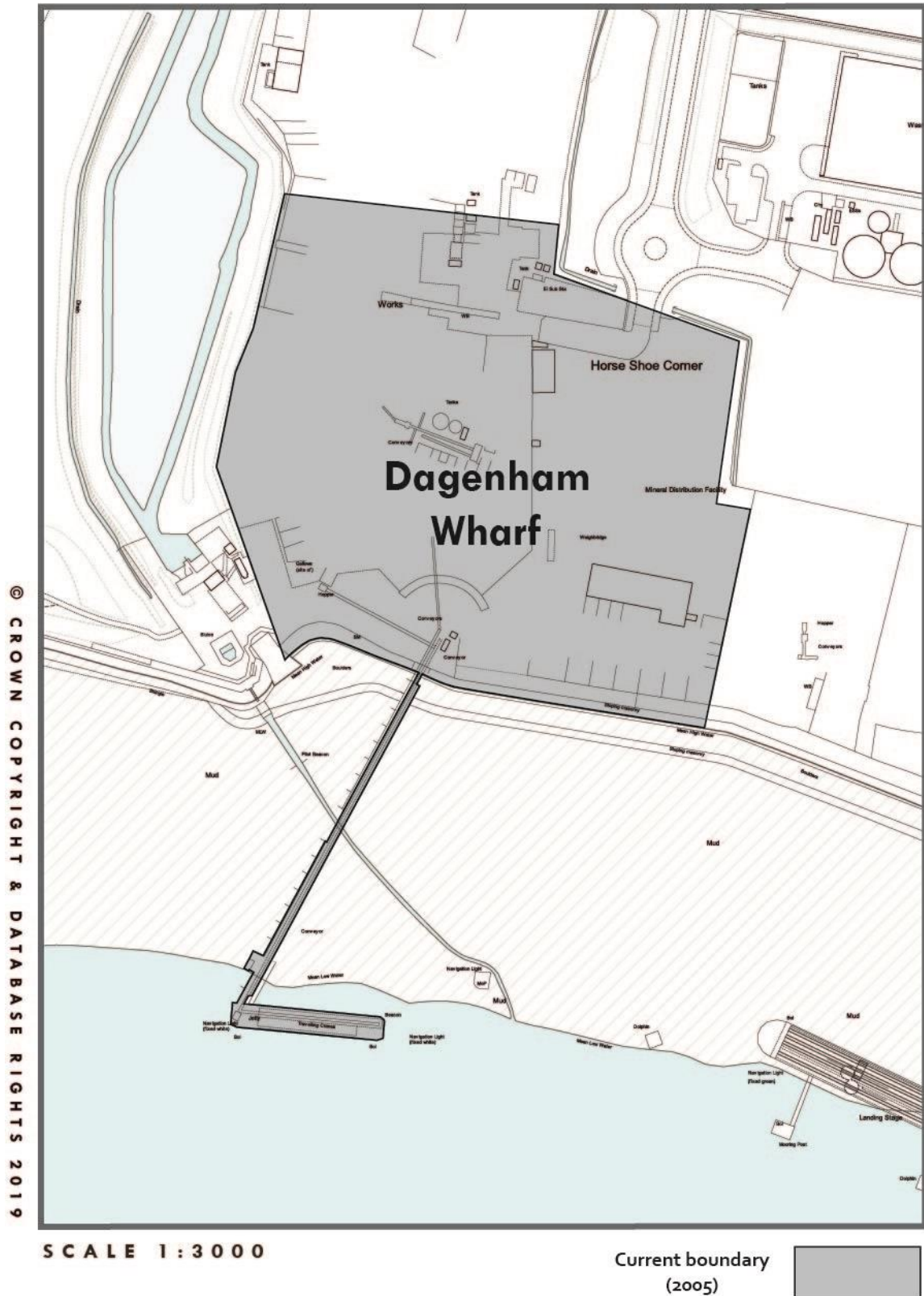
Adjacent wharf
(2005)



Address	River Road, Barking, Essex IG11
Local Authority	Barking & Dagenham
Grid reference	Easting 546,179 / Northing 181,625
Site area	2.87 ha
Boundary Change	Amend to remove jetty
Road Access	Grade-separated junction (Mover's Lane) from Alfred's Way A13 (TLRN) allows access on to River Road. Wharf is accessible via a junction with River Road.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Movers Lane ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to over 1.5 (at junction)
Rail Access	N/A
Comments	A13 (TLRN) - provides strategic access to from east, west, north and south London and wider South East. A13 enables fast access to Blackwall tunnel or M25/A282 (Dartford Crossing). A13 experiences some delays, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and the M25. River Road is a single-lane carriageway passing through industrial land (Lyon and River Road business parks and Katella trading estate) although it lies not far from the Thames View residential estate in Barking.
Min. and max. berth depths	See below
Wall or jetty berth (and length)	See below
Vessel size LOA x beam x draft (m)	N/A
Comments	Following removal of the previous cargo-handling infrastructure a new jetty is currently in design. Water depths near wharf are good - over five metres at all states of the tide within 100 metres of the wharf – and a new jetty would enable access to the wharf by sea-going vessels across the tidal cycle
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is on the Barking Creek and is part of the River Road Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.

Current Use (if vacant date and last handled cargo)	Last cargo handled pre-1997. Site has been acquired by an operator and has commenced importing aggregates directly by self discharging dredgers..
Recent average tonnage (2012- 2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Proposals currently under consideration for reactivation of wharf for importing aggregates.
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Wharf is being brought back into use for aggregates industry.

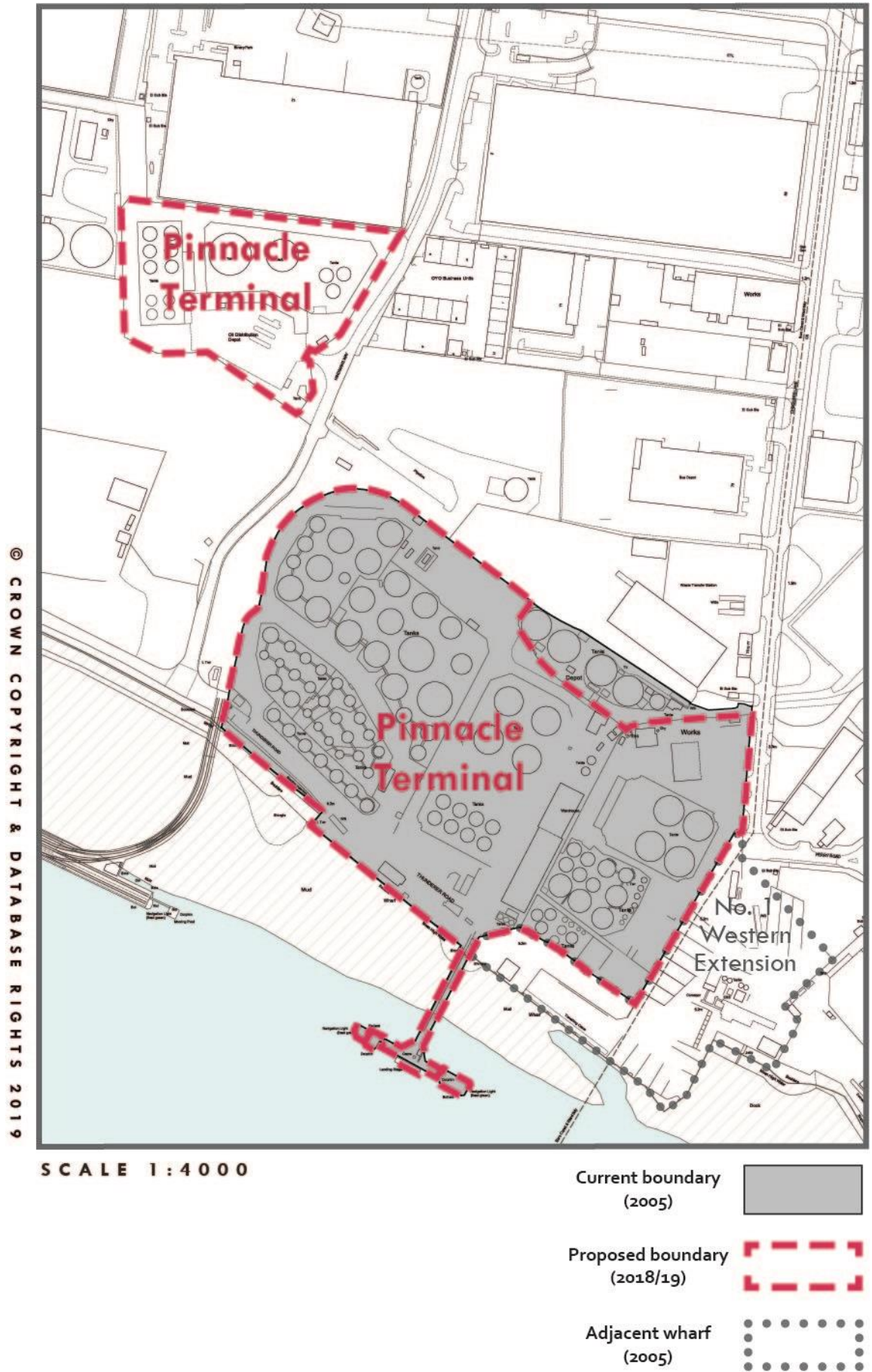
43. Dagenham



Address	Choates Road, Dagenham Dock, Dagenham RM9
Local Authority	Barking & Dagenham
Grid reference	Easting 548,174 / Northing 182,182
Site area	5.19 ha
Boundary Change	None proposed
Road Access	Access from A13 via Goresbrook Interchange, then onto Choats Manor Way and Hindman's Way
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Marsh Way ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to 0.25 Goresbrook Interchange (A13/ A1306) ☐ Eastbound [from A13]: Over 1.5 ☐ Westbound [from A13]: Over 1.5
Rail Access	N/A
Comments	A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25. Choats Manor Way and Hindman's Way have been purpose-built to serve the industrial area and accommodate HGVs.
Min. and max. berth depths	3.70 metres to 10.05 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Up to 130 x 22 x 7
Comments	A jetty, with water depths that allows access at most states of tide and is appropriate for a range of sea-going vessels. There has been a substantial recent investment by the operator on the jetty and plant at the wharf.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is part of the Dagenham Dock Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses. Please note that the 2005 Direction refers to this wharf as RMC Roadstone.
Current Use (if vacant date and last handled cargo)	Aggregates

Recent average tonnage (2012-2016)	250,000 tonnes per annum
On-site processing	Concrete batching plant, aggregate distribution
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of needs.

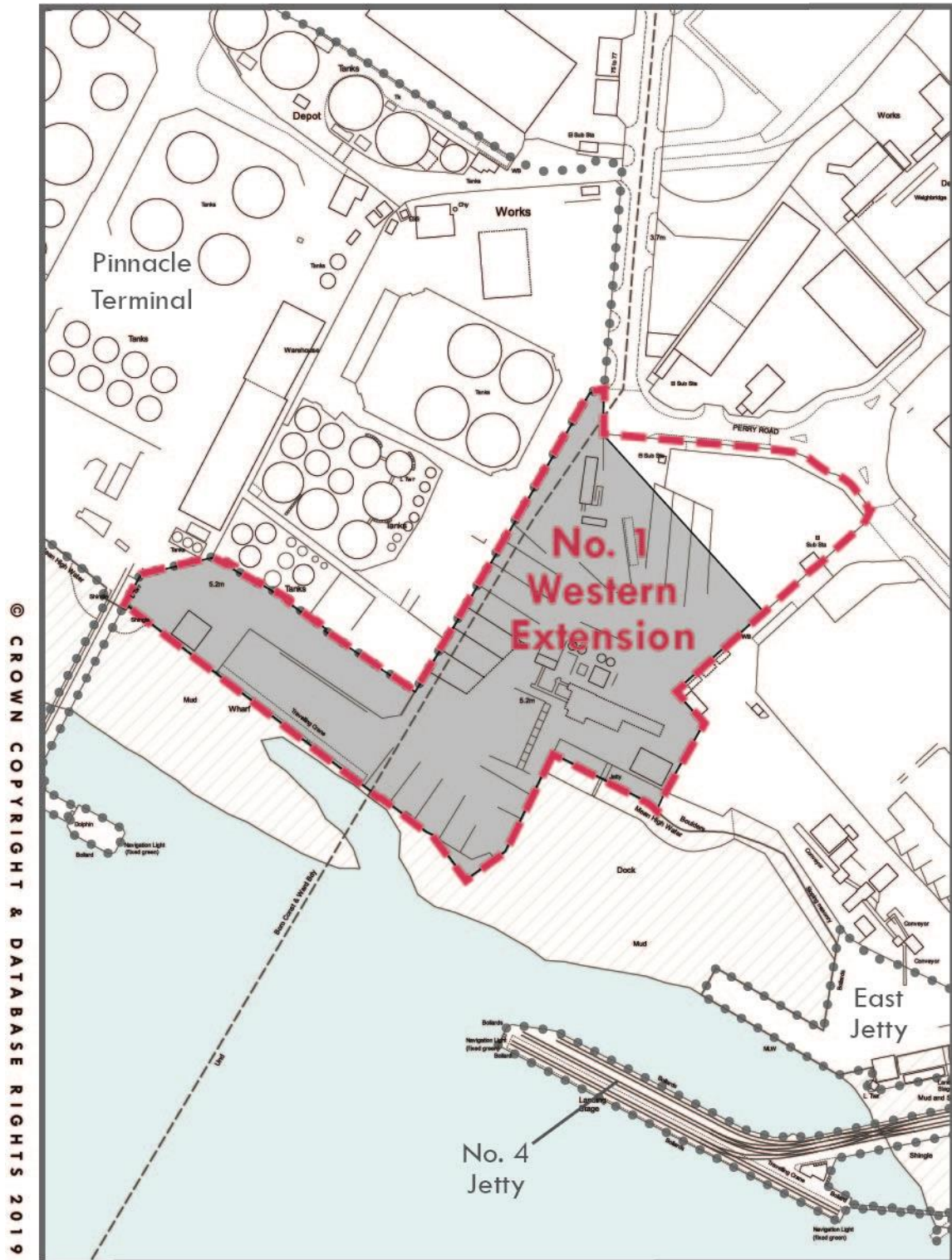
44. Pinnacle Terminal



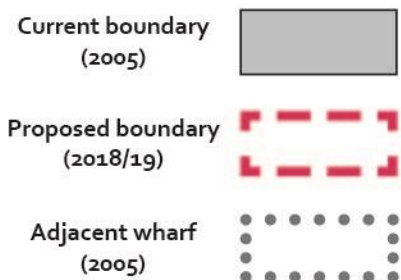
Address	Thunderer Jetty, Dagenham Dock, Dagenham RM9
Local Authority	Barking & Dagenham
Grid reference	Easting 548,723 / Northing 181,972
Site area	9.64 ha (7.83 ha)
Boundary Change	Yes, to reflect operations and ownership – the separate new area of land is part of the operational area and connected via pipeline to the rest of the site and the jetty
Road Access	Access from A13 via Goresbrook Interchange, then onto Choats Manor Way and Hindman's Way
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Marsh Way ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to 0.25 Goresbrook Interchange (A13/ A1306) ☐ Eastbound [from A13]: Over 1.5 ☐ Westbound [from A13]: Over 1.5
Rail Access	N/A
Comments	A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25. Choats Manor Way and Hindman's Way have been purpose-built to serve the industrial area and accommodate HGVs.
Min. and max. berth depths	9.90 metres to 16.25 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Up to 175.5 x 19 x 9.5
Comments	The most westerly of the petroleum berths within the Port of London, the jetty provides deep water at all states of the tide, allowing access to substantial tankers. There has been substantial recent investment by the operator on the jetty and plant at the wharf.
Site's planning status Surrounding land use and planning context	<p>LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is part of the Dagenham Dock Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.</p> <p>The site is on the River Thames and is currently in use handling petroleum products and a range of bulk liquid cargoes. It is classified as a top tier COMAH site.</p>
Current Use (if vacant date and last handled cargo)	Petroleum products; chemicals

Recent average tonnage (2012-2016)	797,000 tonnes per annum
On-site processing	Blending, packing, temperature controlled storage tanks
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area with appropriate infrastructure for petroleum products.

45. No.1 Western Extension



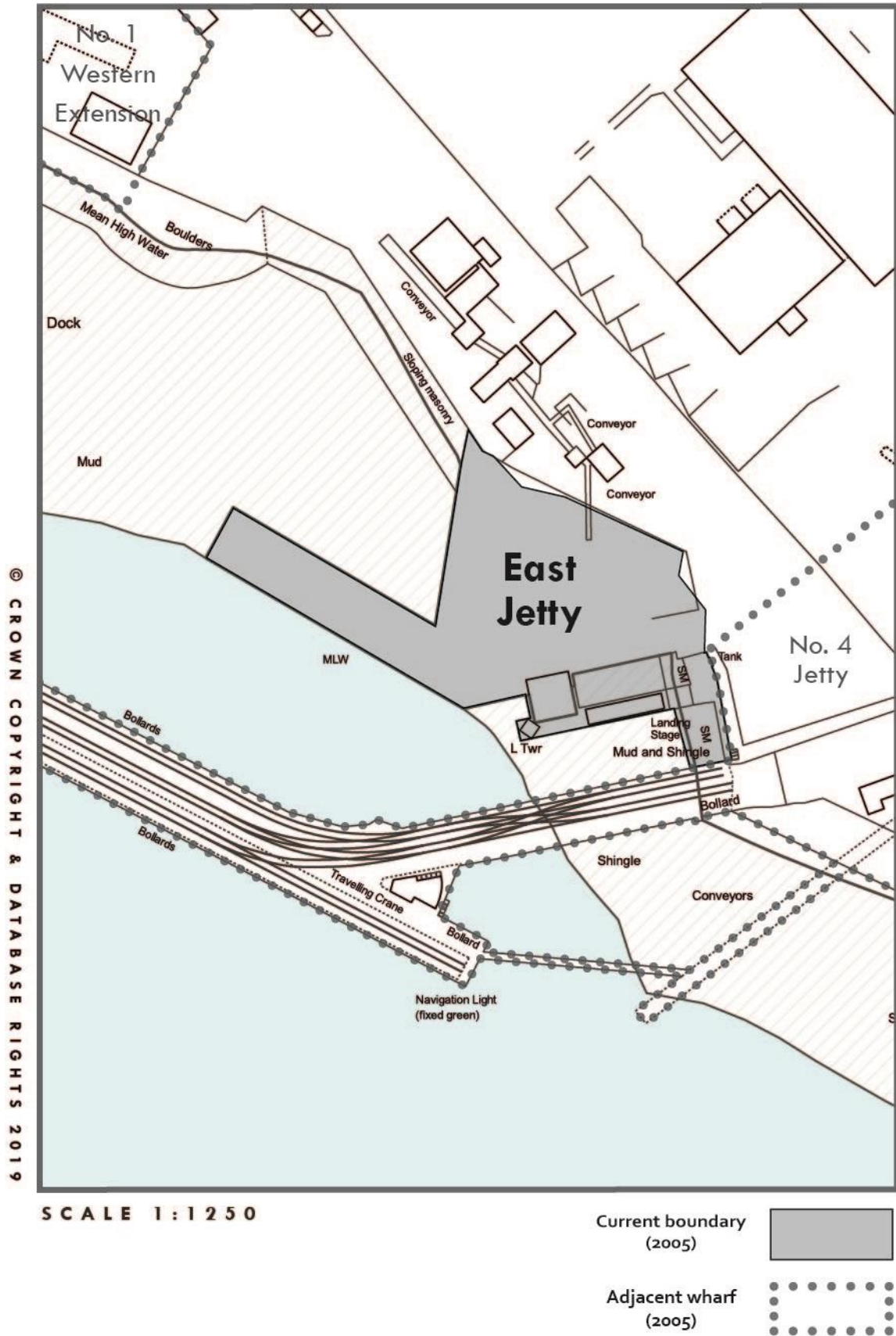
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Address	No 1 Western Extension, Dagenham Dock, Dagenham RM9
Local Authority	Barking & Dagenham
Grid reference	Easting 548,857 / Northing 181,846
Site area	2.21 ha (1.94 ha)
Boundary Change	Yes, to reflect operations and ownership
Road Access	Access from A13 via Goresbrook Interchange, then onto Choats Manor Way and Hindman's Way
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Marsh Way ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to 0.25 Goresbrook Interchange (A13/ A1306) ☐ Eastbound [from A13]: Over 1.5 ☐ Westbound [from A13]: Over 1.5
Rail Access	N/A
Comments	A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25. Choats Manor Way and Hindman's Way have been purpose-built to serve the industrial area and accommodate HGVs.
Min. and max. berth depths	Dries 1.00 metres to 5.35 metres
Wall or jetty berth (and length)	Wall berth (100 metres)
Vessel size LOA x beam x draft (m)	Up to 90 x 12.5 x 4.5 and tugs and tows
Comments	A drying wall berth. No campshed. Berth characteristics appropriate for both barge traffic and sea-going vessels, mooring and departing the berth at or near high water.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is part of the Dagenham Dock Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses. Please note that the 2005 Direction refers to this wharf as White Mountain Roadstone.
Current Use (if vacant date and last handled cargo)	Aggregates

Recent average tonnage (2012-2016)	147,000 tonnes per annum
On-site processing	Ashphalt plant
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is active use, within an industrial area and retains flexibility to meet a range of operational needs.

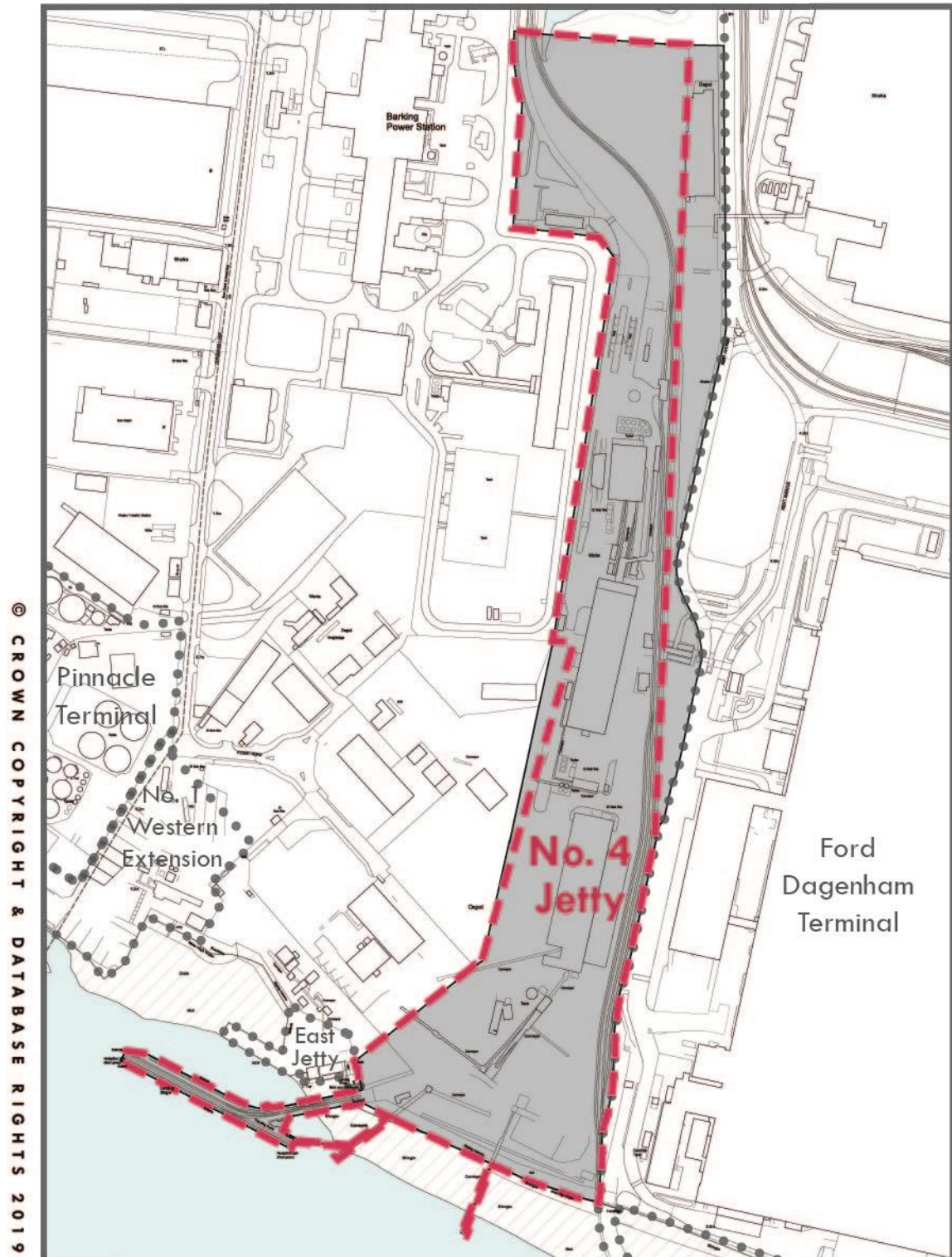
46. East Jetty



Address	Chequers Lane, Dagenham Dock, Dagenham RM9
Local Authority	Barking & Dagenham
Grid reference	Easting 548,993 / Northing 181,712
Site area	0.32 ha
Boundary Change	None proposed
Road Access	Access from A13 via Goresbrook Interchange, then onto Choats Manor Way and Hindman's Way
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Marsh Way ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to 0.25 Goresbrook Interchange (A13/ A1306) ☐ Eastbound [from A13]: Over 1.5 ☐ Westbound [from A13]: Over 1.5
Rail Access	N/A
Comments	A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25. Choats Manor Way and Hindman's Way have been purpose-built to serve the industrial area and accommodate HGVs.
Min. and max. berth depths	Dries 0.50 metres to 6.85 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	Up to 88 x 13 x 5
Comments	A drying berth that is appropriate for sea-going vessels that moor and depart the berth at or near high water.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is in use for metal recyclate and part of the Dagenham Dock Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses. Please note that the 2005 Direction refers to this wharf as Van Dalen (Hunt's Wharf).
Current Use (if vacant date and last handled cargo)	Metal and other recyclate

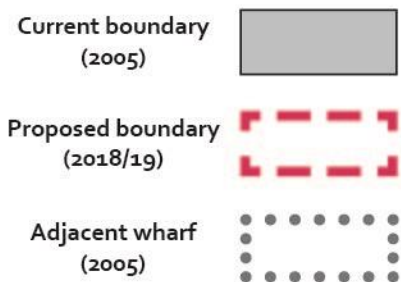
Recent average tonnage (2012-2016)	34,000 tonnes per annum
On-site processing	Scrap processing
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.

47. No.4 Jetty



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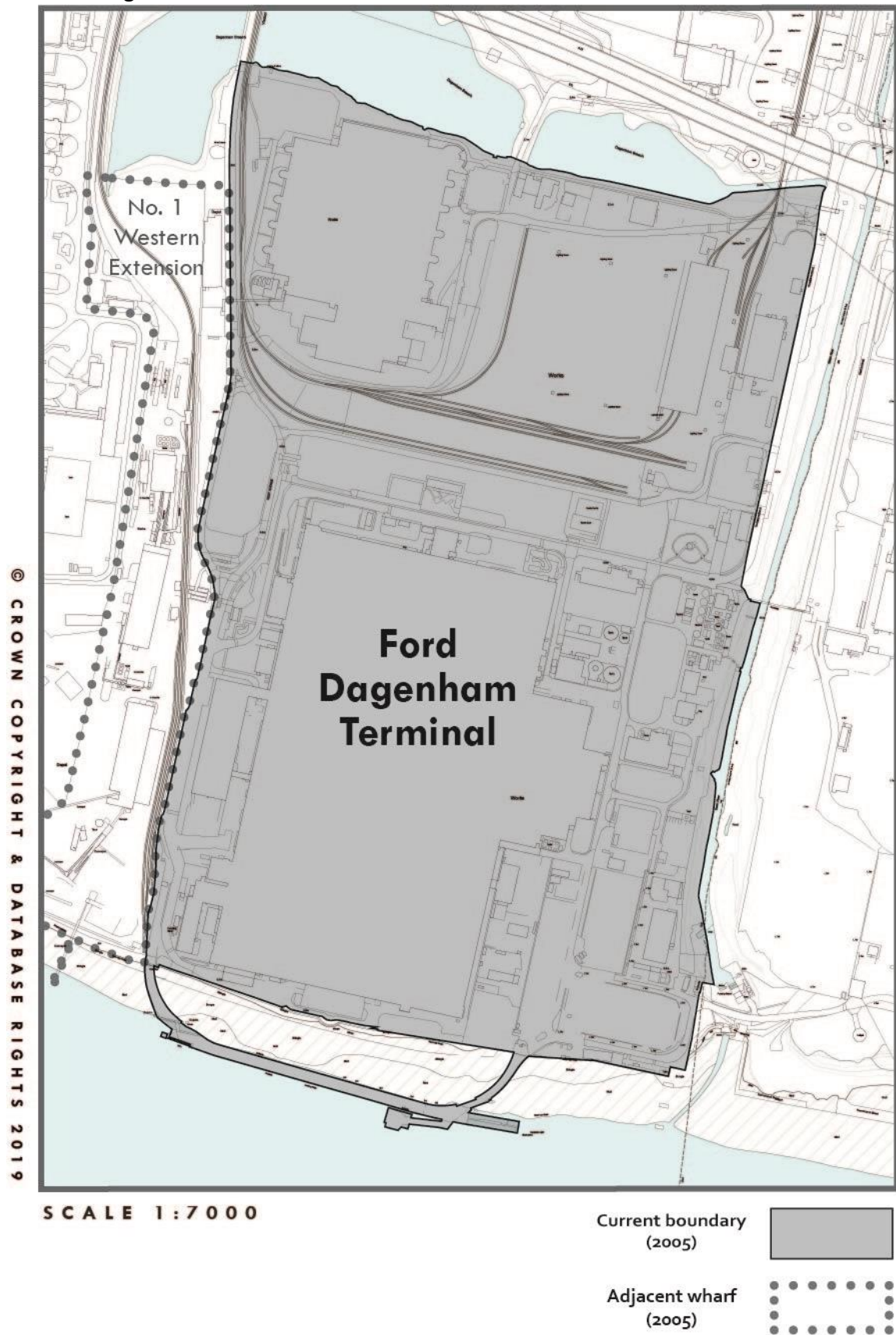
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Address	Dagenham Depot, Dagenham Dock, Dagenham RM9
Local Authority	Barking & Dagenham
Grid reference	Easting 549,258 / Northing 182,032
Site area	10.05 ha (11.45 ha)
Boundary Change	Yes, to reflect operations and ownership
Road Access	Access from A13 via Goresbrook Interchange, then onto Choats Manor Way and Hindman's Way
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Marsh Way ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to 0.25 Goresbrook Interchange (A13/ A1306) ☐ Eastbound: Over 1.5 ☐ Westbound: Over 1.5
Rail Access	Yes
Comments	A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25. Choats Manor Way and Hindman's Way have been purpose-built to serve the industrial area and accommodate HGVs.
Min. and max. berth depths	Main jetty – 8.00 metres to 14.35 metres. Barge berth – 3.70 metres to 10.05 metres.
Wall or jetty berth (and length)	Jetty berths (one barge loading)
Vessel size LOA x beam x draft (m)	Up to 117 x 18 x 7 and tugs and tows
Comments	Two intensively used jetties – the main berth can accommodate self-discharging dredgers at all states of the tide, whilst the barge berth has sufficient water to enable the berthing of large (1,000 tonne) barges across the tide.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. The site is in use as an aggregates wharf and is part of the Dagenham Dock Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses. It's unusual shape is partly due to the presence of railway siding. Please note that the 2005 Direction refers to this wharf as Hanson Aggregate.
Current Use	Aggregates

(if vacant date and last handled cargo)	
Recent average tonnage (2012-2016)	1,298,000 tonnes per annum. This is only the average volume of interport traffic, internal movements of aggregates to other wharves on Thames owned by the operator are not included to avoid double counting.
On-site processing	Asphalt plant, concrete batching plant, aggregates distribution.
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding with boundary amendments. Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs, with the added benefit of a rail head for inter-modal transfers.

48. Ford Dagenham Terminal



Address	Thames Avenue, Dagenham, Essex RM9
Local Authority	Barking & Dagenham
Grid reference	Easting 549,648 / Northing 182,001
Site area	71.58 ha
Boundary Change	None proposed
Road Access	A13 provides strategic access. A13 access via Goresbrook Interchange, then A1306 Ripple Road / New Road and either Kent Avenue or Thames Avenue.
Congestion (delay in minutes/km)	A13 between Goresbrook Interchange and j/w Marsh Way ☐ Eastbound: under 0.25 to over 1.5 ☐ Westbound: under 0.25 to 0.25 A1306 Ripple Road between A13 and j/w Chequers Lane ☐ North /east bound: under 0.25 to over 1.5 ☐ South / west bound: under 0.25 to 0.5
Rail Access	Yes
Comments	A13 experiences some delay, especially on approaches to junctions, however, in free-flow conditions A13 provides a fast link to Docklands and M25. Kent Avenue and Thames Avenue have been purpose-built to serve the industrial area and accommodate HGVs.
Min. and max. berth depths	5.90 metres to 12.25 metres
Wall or jetty berth (and length)	Ro-Ro berth
Vessel size LOA x beam x draft (m)	Up to 162.5 x 26 x 6.5
Comments	An intensively used Ro-Ro jetty with currently up to three sailings per day to Europe. The infrastructure is dedicated to this particular cargo-handling operation.
Site's planning status Surrounding land use and planning context	LB Barking and Dagenham's adopted Core Strategy (July 2010) protects this safeguarded wharf. It is the principal logistics facility for Ford UK and part of the Dagenham Dock Employment Area Strategic Industrial Location and the London Riverside Opportunity Area. The site is surrounded by other industrial and freight uses and is therefore generally compatible with surrounding land uses.
Current Use (if vacant date and last handled cargo)	Roll on and off cargo and vehicles.

Recent average tonnage (2012-2016)	830,000 tonnes per annum
On-site processing	Multi modal distribution hub for all Ford UK operations.
Environmental Impacts	See Separate WSP Consulting Appendices
Market Interest and alternative wharves	Operational wharf
Safeguarding Recommendation	Retain safeguarding. Site is in active use, within an industrial area and is set up to serve Ford business.

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Address	Marsh View Industrial Estate, Ferry Lane, Rainham, Essex RM13
Local Authority	Havering
Grid reference	Easting 550,911 / Northing 181,138
Site area	2.51 ha
Boundary Change	<i>Release proposed</i>
Road Access	A13 (TLRN) provides strategic access. Access to/from A13 via Ferry Lane, east or westbound using Ferry Lane junction (grade separated).
Congestion (delay in minutes/km)	A13 Thames Gateway Road between j/w A1306 London Road and A1311 Marsh Way ☐ Eastbound: under 0.25 ☐ Westbound: under 0.25
Rail Access	N/A
Comments	The A13 dual carriageway passes through Havering, enabling fast access to/from east and central London. The site is also close to the M25.
Min. and max. berth depths	See below
Wall or jetty berth (and length)	See below
Vessel size LOA x beam x draft (m)	N/A
Comments	No existing jetty infrastructure.
Site's planning status Surrounding land use and planning context	<p>The site has been developed as a waste facility and does not use the river. Site is part of the Dagenham Dock/Rainham employment area Strategic Industrial Location and the London Riverside Opportunity Area. LB Havering's adopted Core Strategy protects the wharf.</p> <p>Please note that the 2005 Direction refers to this wharf as Phoenix Wharf/Frog Island.</p>
Current Use (if vacant date and last handled cargo)	Waste by road. Last cargo handled pre-1997
Recent average tonnage (2012-2016)	N/A
On-site processing	N/A
Environmental Impacts	See Separate WSP Consulting Appendices

Market Interest and alternative wharves	There are alternative wharves within the sub-region with more favourable conditions.
Safeguarding Recommendation	Release from safeguarding. Surplus capacity in NE sub-region, use is less favourable than other wharves due to fixed flood defence walls and lack of jetty infrastructure which would be costly to replace.

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Address	Coldharbour Lane, Rainham, Essex RM13
Local Authority	Havering
Grid reference	Easting 551,548 / Northing 180,328
Site area	3.91 ha
Boundary Change	None proposed
Road Access	A13 (TLRN) provides strategic access. Access to/from A13 via Ferry Lane, east or westbound using Ferry Lane junction (grade separated) then Coldharbour Lane.
Congestion (delay in minutes/km)	A13 Thames Gateway Road between j/w A1306 London Road and A1311 Marsh Way ☐ Eastbound: under 0.25 ☐ Westbound: under 0.25
Rail Access	N/A
Comments	The A13 dual carriageway passes through Havering, enabling fast access to/from east and central London. The site is also close to the M25.
Min. and max. berth depths	2.52 metres to 8.82 metres
Wall or jetty berth (and length)	Jetty berth
Vessel size LOA x beam x draft (m)	N/A
Comments	A jetty berth that, although substantial for this part of the River Thames, is appropriate for sea-going vessels that moor and depart the berth at or near high water.
Site's planning status Surrounding land use and planning context	<p>The site is currently in use as a food storage and distribution facility and does not use the river. Site is part of the Dagenham Dock/Rainham employment area Strategic Industrial Location and the London Riverside Opportunity Area. LB Havering's adopted Core Strategy protects the wharf. Site is surrounded by other industrial and freight uses and is therefore generally compatible with those uses.</p> <p>Please note that the 2005 Direction refers to this wharf as Tilda Rice.</p>
Current Use (if vacant date and last handled cargo)	Agricultural products by road using containers. Last cargo handled c.2007
Recent average tonnage (2012-2016)	N/A

On-site processing	Food processing
Environmental Impacts	See Separate WSP Consulting Appendices. Any intensification of the use would be subject to Environmental Impact Assessment to assess impacts on Rainham Marsh SSSI.
Market Interest and alternative wharves	N/A
Safeguarding Recommendation	Retain safeguarding. Its cargo handling infrastructure remains in place. If reactivated cargo delivered by road could be delivered by river, achieving modal shift.

Safeguarded Wharves Review 2018 - Statement of Consultation

Summary of Round One and Round Two Consultation – December 2019

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1. Introduction

The Mayor of London consulted on proposed changes to London's network of safeguarded wharves between 11 May and 17 August 2018 (Round One) and again from 20 August and 2 October 2019 (Round Two). The Safeguarded Wharves Review (the Review) documents consisted of:

Round One

- draft Implementation Report May 2018, Mayor of London
- Individual Site Assessments, WSP Consultants
- Forecasting Freight demand and Wharf capacity on the Thames 2015 – 2041, Ocean Shipping Consultants
- Strategic Environmental Assessment (SEA) – Safeguarded Wharves Review, WSP Consultants
- Habitats Regulations Assessment Screening, WSP Consultants
- Equalities impact assessment of the Safeguarded Wharves Review, Mayor of London

Round Two

- Safeguarded Wharves Review 2018 – Further Consultation, August 2019

The Review recommended:

- Removal of safeguarding directions for five of the current 50 safeguarded wharves primarily due to unfavourable berthing, access and navigational conditions, combined with a surplus capacity of wharves in north-east London
- Removal of safeguarding directions from a further three wharves in the Thameside West area if the Silvertown Tunnel project proceeds, as these sites will no longer be viable, and the existing operators can re-locate within the area and achieve greater efficiencies
- The application of new safeguarding directions to two currently in use and viable wharves.
- Various minor boundary changes to reflect marine infrastructure and/or site ownership.

Forty-three submissions were received in response to the Round One consultation, and a further twelve to the Round Two consultation. The responses ranged widely in their views, and predominantly addressed issues associated with individual wharves. Issues raised included support for the continued safeguarding of all wharves, the further release of safeguarded wharves, further review of the potential for mixed-use redevelopment of safeguarded wharves, individual boundary changes, and environmental and heritage considerations.

2. Matters raised

Please see Table 1 and Table 2 for the summary of key comments received and the GLA's response.

Table 1: Round One Summary of submissions

Submitter	Summary of comments	GLA Response
General comments		
London First; RB Kensington and Chelsea; LB Hammersmith and Fulham	The Review should have considered the option of mixed-use redevelopment of safeguarded wharves, along with the assessment of continued wharf use or its release in the ' <i>Individual Site Assessments</i> ' (WSP 2018). In addition, some London Boroughs would like to see the exploration of mixed-use development on specific wharves within their boundaries.	The Review's primary purpose is to assess the ongoing viability of London's network of safeguarded wharves, so an assessment of mixed-use redevelopment potential is outside the scope. As stated in Policy SI15 of the draft London Plan (2018), the purpose of safeguarded wharves is for ' <i>waterborne freight handling use, including consolidation centres</i> '. It is not within the purview of the Review to consider co-location of residential or other uses alongside this designated use. There are mechanisms within Policy SI15 for development proposals to include provision of a water-freight use alongside other land uses (above or alongside). It is up to individual landowners to explore these options, whilst ensuring that there are no conflicts of land use (for example within industrial designations such as Strategic Industrial Land (SIL) and Locally Significant Industrial Sites (LSIS)) and that the freight-handling capacity of the wharves is not reduced (as required under Policy SI15 G). Such issues are best dealt with through development plans.
Ballymore Group; Hutchison Property Group; U+I Group PLC	Comments on the freight capacity and demand estimates in the freight demand study, ' <i>Forecasting London's Freight Demand and Wharf Capacity on the Thames 2015 – 2041</i> ' (OSC 2016). Including that the freight demand study significantly underestimated existing capacity whilst also over-estimating demand,	It is important to ensure that the network of safeguarded wharves remains viable in the long-term, with the ability to increase waterborne freight movement in response to demand, both spatially and temporally. The freight demand study acknowledges that estimating the capacity of wharves is affected by many variables, from water depth influencing vessel size, restrictions on working hours, to the type of commodity handled. The freight

	<p>resulting in an over-supply of capacity and the unnecessary continued safeguarding of many wharves.</p>	<p>demand study took a robust approach to estimating capacity and used the best available data at the time. In estimating demand, the freight demand study looked at different approaches to estimating growth and assessed growth across the major commodity types transported by water. The approach taken provided a suitable basis to inform the Review.</p> <p>In addition, the safeguarding of wharves is not simply a matter of reconciling demand with supply across the entire network. It is important that there is an adequate spatial distribution of wharves, to support and encourage waterborne freight movement throughout London. To keep the network of safeguarded wharves resilient and flexible, it is necessary to maintain a surplus of capacity in the network to accommodate growth, and to ensure that safeguarded wharves are spatially distributed and provide a viable alternative to road-based freight movement throughout Greater London.</p> <p>It is prudent to take a precautionary approach to the release of safeguarded wharves, as once they are released from safeguarding they are lost from the wharf network permanently.</p>
<p>Cory Riverside Energy; Freight Transport Association; Company of Watermen & Lightermen; Port of Tilbury; Brett Group; Port of London Authority (PLA)</p>	<p>The review underestimated demand and did not consider increased modal shifts to waterborne freight handling, with some scepticism that there is spare capacity in the safeguarded wharf network.</p>	<p>The freight demand study acknowledges that estimating the capacity of wharves is affected by many variables, from water depth influencing vessel size, restrictions on working hours, to the type of commodity handled. Nevertheless, the freight demand study took a robust approach to estimating capacity and used the best available data at the time. In estimating demand, the freight demand study assessed possible approaches and assessed growth across the major commodity types transported by water. The approach taken provided a suitable basis to inform the Review.</p>

Freight Transport Association; Mineral Products Association	Strongly support the continued growth and use of the Thames and its waterways for waterborne freight handling.	Noted. This is recognised as an important area for growth and a tool to ease congestion on London's already busy roads. The continued safeguarding of wharves along the length of the Thames and its waterways is important in supporting the growth of waterborne freight handling.
Hutchison Property Group; LB Hammersmith & Fulham; London First	Industrial uses at some safeguarded wharves are no longer appropriate due to the surrounding sensitive land uses and, further, that this constitutes a 'waste of valuable land resources in London' with a potential negative effect on the increase in the supply of housing.	Policy SI15 of the draft London Plan requires development proposals adjacent to or opposite safeguarded wharves to be designed to minimise the potential for conflicts of use and disturbance, in line with the Agent of Change principle. Industrial uses on safeguarded wharves are important for the continuing viability of London's freight network and are essential in supporting the economic growth of the city. Safeguarded wharves are important in the movement of household and commercial and industrial waste and the import of aggregate material required for the construction and development industry, as well as logistics hubs for last mile transportation - all of which reduce the burden on London's already congested road network. Safeguarded wharves also provide both direct and indirect employment opportunities for London. Safeguarded wharves and their industrial uses are considered of strategic importance to London and it is important they can be maintained. Any impact on surrounding land users from their continued and ongoing use should be managed in line with the Agent of Change principle
Company of Watermen and Lightermen of the River	Support increasing the number of safeguarded wharves.	Noted
Canal and River Trust	Recommend that the Review include consideration of the operational needs and the opportunities for London's canals to support niche markets, and an assessment of	The Mayor supports opportunities to utilise London's waterways for the transportation of freight where they arise, including on London's canal network. The Review looked at opportunities to apply safeguarding to new and viable waterfront locations, and

	potential loading and unloading sites on London's canal network.	<p>found that two new wharves are suitable for protection and provide viable locations for the handling of waterborne freight.</p> <p>In addition, as part of the 2011 Safeguarded Wharves Review, an assessment was undertaken by URS (August 2011) of the viability of the canal network to support an increase in waterborne freight. The assessment found a number of barriers to the uptake of freight on the canals and concluded that the only realistic demand was for small, niche markets that were already occurring, or for temporary projects occurring close to the waterway. Whilst the GLA supports the use of the canals for freight where appropriate, these opportunities would not benefit from safeguarding of specific permanent sites.</p>
Port of London Authority (PLA)	Recommend the Review assess the potential for transport of alternative cargoes on the river and include this in the demand and forecast assessment projections.	The freight demand capacity report explored the transportation of alternative cargoes on the Thames and concluded that the main focus for expansion of additional cargo handling on the Thames will primarily stem from construction projects. The freight demand study adequately assessed the potential for alternative cargo handling for the purposes of the Review.
Gazeley	No objection to the removal of safeguarding on three wharves as a result of the Silvertown Tunnel Project, but request to be informed of any progress in this area.	Noted
Environment and heritage values		
Historic England	Recommend that further work is undertaken on the five sites proposed to have safeguarding removed in order to provide greater clarity on their heritage significance and the potential impacts of any new development that may follow. Submitted that the Strategic Environmental Assessment did not include a sufficient historic environmental assessment, as it did not refer to the	The Strategic Environmental Assessment (SEA) considered the historic environment and consulted Historic England in the initial scoping for the report. The SEA found that there were no known heritage assets within the immediate vicinity of the five wharves proposed for de-designation. In addition, as stated in Table 12 of the SEA, any redevelopment of wharves would need to comply with environmental legislative requirements, which would identify any potential impacts and set appropriate mitigation measures through planning conditions. It is more appropriate to consider

	London Historic Environment Record, nor was a map regression analysis undertaken.	site-specific heritage issues through site allocations and/or at planning application stage of any proposed wharf re-development. As such, it is not considered necessary to undertake further heritage assessments of the wharves proposed for de-designation.
Environment Agency	Request that the Environment Agency be consulted on proposed works to reactivate wharves, as the reactivation of existing wharves may have environmental impacts, particularly if dredging is required.	Any work to reactivate wharves would go through the required environmental approvals, with any impacts appropriately mitigated through planning conditions.
Environment Agency	Note that at the eight sites proposed for de-designation there is potential for the intertidal mudflat to re-establish and provide improved habitat value.	Noted
Frequency of reviews		
LB Hammersmith and Fulham; London First; Momentum Transport Consultancy	Recommend that the Mayor commit to regular review of the safeguarded wharf network and, in particular, set time frames to review wharves that have remained vacant or underused.	A set time frame for the review of vacant or underutilised wharves may lead to perverse outcomes and encourage land-banking. If a Safeguarded Wharf remains viable for the transportation of waterborne freight and there is sufficient demand within the network, the recommendation will be to maintain safeguarding status. Whilst the current use of a wharf is a consideration, it is important to also consider other factors including forecast demand trends, available capacity and the spatial connectivity of the whole network.
PLA	Note that this is the last time the PLA would expect to see release of any safeguarded wharves.	Noted
Other comments		

London First	Recommend that the Review consider TfL's Passenger Pier Strategy.	As the purpose of a safeguarded wharf is for the handling and movement of waterborne freight, it is not deemed necessary to include reference to the Passenger Pier Strategy.
Momentum Transport Consultancy	Note that the Review appears to be recommending the safeguarding of wharves 'for the sake of it'.	The Review took a robust approach to assessing the ongoing viability of the network of safeguarded wharves. Those recommended for safeguarding remain viable for freight handling purposes. In addition, as noted in the Inspectors Report on the draft London Plan, 'wharves are an essentially finite resource and once lost are highly unlikely to be replaced' ¹ and thus the policies in London Plan are justified in affording a high level of protection, consistent with national policy and necessary to address a matter of strategic importance and help deliver the Mayor's aim of Good Growth. This supports the approach in the SWR to support the viable area of Convoy's Wharf under safeguarding protection to ensure it remains available for waterborne freight handling.
Momentum Transport Consultancy	Recommend that the Review take the opportunity to make use of Safeguarded Wharves as micro-consolidation centres, and that the GLA should undertake a strategic review of how a network of wharves could support its efforts to promote consolidation of operational deliveries in central London.	The GLA supports the use of the waterways for the transportation of freight. However, the purpose of the Review was to assess the viability of the current network of safeguarded wharves. It is beyond the scope of the Review to determine the best and most effective use of these sites for the transportation and handling of waterborne freight.
Anonymous	Propose that the consultation documents lack an evidence base, the review fails to consider alternatives to safeguarding and does not meet EU law.	The Review is supported by a Strategic Environmental Assessment, an Equalities Impact Assessment, as well as strategic assessments of individual wharves. It is felt that these documents adequately support the proposals made in the Review.
Western Sub Region		

¹ The Planning Inspectorate (2019), Report of the Examination in Public of the London Plan 2019, Paragraph 533

LB Hammersmith and Fulham	<p>Contend that wharves located in LB Hammersmith and Fulham are not required as there is good rail access for freight available as a sustainable alternative, and the boroughs waste is transported out of the Western Riverside Waste Authority facilities next to Battersea PowerStation.</p>	<p>The Individual Site Assessments determined that although sites in LB Hammersmith and Fulham are vacant, they remain viable for waterborne freight handling, and that in addition there is long-standing interest from cargo-handling operators for the use of these sites. In addition, the freight demand study shows that the western sub-region has the lowest excess capacity. It is important to retain wharf uses in this region to ensure adequate spatial distribution of the network.</p>
LB Hammersmith and Fulham	<p>Object to the continued safeguarding of Hurlingham Wharf. Contend that the Review does not adequately justify the reintroduction of industrial uses on Hurlingham Wharf, and this would represent an underutilisation of scarce land resources and provide little in the way of employment, impinge on regeneration objectives, and reduce the provision of housing.</p> <p>Recommend consolidation of wharf activities on Swedish and Comley's Wharf, with Hurlingham Wharf released from safeguarding.</p>	<p>The Individual Site Assessments determined that the site remains viable for freight handling use and there is longstanding interest in the site by cargo handling operators. In addition, this site is currently in use by the Tideway Project, demonstrating its viability for water-borne freight.</p> <p>Freight handling sites are required to support the provision of construction materials for delivery of housing in this area of London.</p>
Ferrovial Agroman/Laing O'Rourke Joint Venture (FLO); Tideway	<p>Note that the use of safeguarded wharves (Hurlingham, Cremorne, Middle and Kirtling Wharves) by the Tideway Project does not necessarily demonstrate that these wharves remain viable for the transportation of waterborne freight. Contend that the Tideway Project is unique in its close connection with the river, with transported materials used immediately adjacent to the river, and that much of the works undertaken to bring the wharves back into use are only temporary in nature.</p>	<p>The Tideway Project is required to maintain the viability of these wharves in accordance with the London Plan. The use of these wharves for the transport of construction materials, even if only temporary, demonstrates that they remain viable for waterborne freight handling. In addition, the Individual Site Assessments found that there has been long standing interest in the use of these wharves by a range of cargo-handling operators. There is the potential for their use to be maximised post the Tideway Project, and as such it is appropriate to maintain safeguarding.</p>

Tideway	Correction, the Tideway Project is not required to 'boost the long-term viability' of Hurlingham, Cremorne, Middle and Kirtling Wharves as stated in the draft Implementation Report.	Noted, amendments have been made to the Implementation Report.
Ferrovial Agroman/Laing O'Rourke Joint Venture (FLO)	Object to continued safeguarding of Middle Wharf on the grounds that it is the smallest wharf in the area with very limited capacity, there are other wharves nearby that mean the area will remain well served for wharf capacity, there is a large surplus capacity in the west sub-region, there is no useable jetty, and the Tideway Project is not required to improve or boost viability.	The Freight Demand Study shows that the western sub-region has the lowest excess capacity of the three identified, therefore it is important to retain all potential wharf capacity in this region to ensure adequate spatial distribution of the network.
RB Kensington and Chelsea	Object to continued safeguarding of Cremorne Wharf on the basis that the site is constrained by poor road access and requires investment to bring it back into viable use, with the Tideway Project only temporary in nature and does not improve viability.	The Tideway Project is required to maintain the viability in accordance with the current and draft London Plan. The use of these wharves for the transport of construction materials demonstrates that they remain viable for waterborne freight handling. The Individual Site Assessment found that there has been long standing interest in the use of this wharf by a range of cargo-handling operators. There is the potential for its use to be maximised post the Tideway Project.
LB Wandsworth	Request assurances that meanwhile uses can be applied to Middle Wharf whilst it is awaiting its use for waterborne freight handling.	Any alternative uses of Middle Wharf would be required to go through the appropriate planning process.
Fuel Oils	Object to the continued safeguarding of Swedish Wharf as it is not economically viable to operate the site as a fuel distribution business due to access constraints and environmental requirements. In addition, the use of the site for petroleum storage is not appropriate due to public safety concerns and environmental issues.	The Individual Site Assessment found that Swedish Wharf remains viable and there has been long standing interest from a range of cargo-handling operators. The site is also important due to its location. It is more difficult to bring other sites in this part of London into wharf use due to typically higher land values and so it is important to retain existing, viable wharf sites.

Battersea Power Station	Request that the Review provide commentary on the assessment that led to reduced safeguarded area of Cringle Dock and Smugglers Wharf.	In 2017 the boundary of Smuggler's Way wharf was extended by 3,335 sq.m. to incorporate part of an existing household waste and recycling centre. This provided compensation for the reduction in the extent of safeguarded wharf uses at Cringle Dock by 3,335 sq.m. The boundary shown in the Individual Site Assessment reflects these boundary changes.
City of London	Support continued safeguarding of Walbrook Wharf	Noted
South East Sub-region		
LB Lewisham Councillors; The Lenox Project	Support the 'Lenox Project' proposal at Convoys Wharf, which proposes to construct a tall ship and workshop on the site. Request that the Mayor write in support of this proposal.	The Section 106 agreement for the outline application allows for part of Convoys Wharf to be made available to The Lenox Project for a period of circa.20 years, with the option to extend. However, the purpose of a safeguarded wharf is for the handling of waterborne freight and that is the focus of the Review. An historic ship building is not considered a water-borne freight handling use.
The Lenox Project	<p>The Lenox Project should be the designated preferred use of the Safeguarded Wharf at Convoys Wharf as part of the Safeguarded Wharf Review recommendations in order to satisfy the current Safeguarded Wharf recommendations and meet the requirements of the planning approval conditions. The Lenox Project should also be referenced in the Individual Site Assessment for Convoys Wharf.</p> <p>The Lenox Project is the subject of a planning condition and section 106 agreement in which an independent Feasibility Study has determined that the project should be located on a 1.0 ha site on the Safeguarded Wharf at Convoys Wharf. The site occupies the whole of the river frontage on the wharf and consequently precludes other uses such as bulk cargo handling (which would be an</p>	<p>The purpose of the safeguarded wharves review is to make recommendations around sites in relation to their ability to support waterborne freight handling uses. Other uses, such as historic shipbuilding, are outside of the scope of the Review. The Review also cannot designate uses on specific sites. The site assessment references the Section 106 agreement associated with the consent.</p> <p>As outlined in both the draft and current London Plan, the purposes of a Safeguarded Wharf is for the purposes of waterborne freight-handling. Whilst the Section 106 agreement applying to Convoys Wharf references the potential use of some of the site for the purposes of historic shipbuilding for a period of time, the review and relevant London Plan policies are about the</p>

	<p>unsuitable use in a predominantly residential area with inadequate road access) and associated introduction of a deep-water jetty.</p> <p>The review should specifically exclude bulk cargo handling as a potential designated use by virtue of it being on the list of excluded uses contained in the 2015 Planning Approval section 106 agreement for Convoys Wharf for reasons of causing noise and disturbance to neighbouring residential areas. The inclusion of bulk cargo handling would be incompatible with the Lenox Project</p>	<p>wider long-term protection of sites for wharf use. It is not appropriate for the Review to designate or preclude specific waterborne freight handling uses at individual wharves.</p> <p>The individual site assessment reiterates the terms of the extant permission which includes consent for a working wharf and recognises that part of the site has viability for cargo-handling.</p>
LB Lewisham Councillors; Hutchison Property Group; LB Lewisham	Object to continued safeguarding of Convoys Wharf, on the basis that the site is no longer suitable for bulk handling due to nearby sensitive uses, requirements of the section 106 agreement that applies to the development on site, and/or air quality impacts.	Part of the planning application for mixed use development on the site included an assessment of the wharf's viability and determined that 2.3 hectares plus a further 0.3 hectares on a new jetty of the current site was viable for cargo-handling. In addition, the Lewisham Core Strategy requires the Convoys Wharf masterplan to satisfactorily address the protected wharf status of the site, with any new development required to not interfere with wharf operations or prejudice its future operation. As such, the area assigned for wharf use should retain safeguarding.
PLA; Hutchison Property Group	Recommend the boundary of Convoys Wharf be amended to reflect the boundary shown in the Outline Planning Permission for the mixed-use development on site.	Addressed in the Round Two Consultation report, with a proposal to amend the boundary to reflect the boundary indicated on the outline planning permission.
RB Greenwich	Support continued safeguarding of wharves within RB Greenwich – Brewery Wharf, Victoria Deep Water Terminal, Angerstein Wharf, Murphy's Wharf and Riverside Wharf.	Noted.

Anonymous	Object to the continued safeguarding of Brewery Wharf on the basis that wharf related activities on Brewery Wharf are not appropriate as they have unacceptable impacts on the surrounding amenity, and there are other unused, larger and better placed alternative wharves located elsewhere.	The Individual Site Assessment found that the wharf has an ongoing and viable use and is one of the closest wharves to central London. It is appropriate that this site remain in active wharf use and retains safeguarding.
PLA; Land Edition	There is an apparent mapping error in the boundary data of the Brewery Wharf safeguarding allocation. It shows the boundary extending beyond the physical extent of Brewery Wharf's southwestern edges, and into the northern part of the adjacent Ravensbourne Wharf.	Noted. A boundary change was proposed in the Round Two Consultation report.
Hyde Housing Association	Object to the continued safeguarding of Riverside Wharf, as it is part of the Charlton Riverside Opportunity Area and its continued use would have a significant impact on the townscape, and it doesn't make a significant contribution to the capacity of wharves within London.	Riverside Wharf is currently in active use as an aggregates wharf and is located within an industrial area. The Individual Site Assessment recommended that the site remain safeguarded as it is in active use and retains flexibility to meet a range of operational needs. It is noted that the site lies within RB Greenwich's Charlton Riverside SPD, which recognises the safeguarded status of Riverside Wharf and protects it accordingly. Any development on the sites surrounding the wharf should recognise this continued use and will be required to adequately respond to this use in their design, including employing the Agent of Change principle.
LB of Bexley	Object to the continued use of Town Wharf for heavy metal recycling as it 'has a detrimental effect on the existing residential areas and continued regeneration of Erith', and impacts on surround road networks.	The Individual Site Assessment found that Town Wharf has berth characteristics appropriate for barge traffic and has good road access for the transportation of goods within London. The wharf is currently in active use for waterborne freight and remains viable.
PLA; U+I Group PLC; Morden	Support the removal of safeguarding from Tunnel Glucose Wharf and the safeguarding of Tunnel Wharf.	Noted.

College; RB Greenwich		
U+I Group PLC; Morden College	Recommend that the safeguarded area of Tunnel Wharf be reduced to the boundary of the current wharf operation, with the release of the Northern Warehouse and its forecourt from safeguarding.	The GLA understands that northern warehouse is currently being utilised as a bus depot and is compatible with the current wharf operations. Whilst the warehouse area may not be needed by the current wharf operator, it may support wharf operations in the future. The retention of safeguarding over this site will help to ensure that this site remains in industrial use and leaves the possibility open for the site to support an expansion of waterborne freight handling capacity in the future.
North East Subregion		
LB Barking and Dagenham	Object to continued safeguarding of Pinns Wharf, Steel Wharf, Rippleway Wharf, Docklands Wharf, De Pass Wharf on the basis that there is an over-supply of capacity within LB Barking and Dagenham, the River Roding is of poor quality as a navigable river, and there is a need to use land more intelligently to accommodate multiple land uses.	The Individual Site Assessment found that these wharves remain viable for waterborne freight handling, with all but one currently in active use. In addition, the data for the North East subregion shows strong growth in freight movement, with growth anticipated for this area.
Freight Transport Association	Object to the removal of safeguarding from Welbeck, Railway, Phoenix, and Mayer Parry Wharves, on the basis that it is preferable to retain safeguarding status until a developer can make a compelling case for a change in status.	The Individual Site Assessment concluded that the continued use of these wharves is less favourable due to access issues, navigational issues, and/or lack of commercial interest. It is therefore appropriate to release these sites for other uses and focus on maintaining and reactivating those wharves with favourable conditions.
LB Barking and Dagenham; PLA	Support removal of safeguarding from Welbeck Wharf.	Noted.

LB Bexley; PLA	Support removal of safeguarding from Railway Wharf.	Noted.
LB Barking and Dagenham	Support the continued safeguarding of Victoria Stone Wharf, Dagenham Wharf, Principle Terminal, No 1 Western Extension, East Jetty, No 4 Jetty, Ford Dagenham Terminal.	Noted.
Tate & Lyle Sugars; PLA	Request the removal of approximately 1.2ha of Peruvian Wharf from safeguarding to enable use of the site by Tate and Lyle Sugars. This boundary change would enable this site to be utilised by Tate and Lyle Sugars to expand their operations.	Updated advice from the PLA indicates that this change is no longer required.
PLA; Mineral Products Association	Support the proposed safeguarding of Royal Primrose Wharf.	Noted.
Ballymore Group	Object to the proposed safeguarding of Royal Primrose Wharf to compensate for the loss of wharf capacity because of the Silvertown Tunnel Project. This is on the basis that the balance of supply and demand suggests that it is not required and that there has been no assessment of alternative locations for consolidation of operations that will be displaced.	The existing use of Thames Wharf demonstrates that this is a viable area to continue waterborne freight handling, and these users will require an appropriate location for their continued operation. In addition, the Individual Site Assessment found that, although Sunshine Wharf and Manhattan Wharf are not currently in use for waterborne freight handling, they remain viable for such a use. The sites have good strategic access by road, and the berth characteristics remain appropriate for barge traffic, with dredging possible to improve viability. As such, appropriate offsets for this loss of potential capacity are required. Royal Primrose Wharf provides a suitable location for existing users and will offset the loss of potential capacity from currently vacant sites. Although Royal Primrose is currently vacant, the Individual Site Assessment found that the site is viable as it has appropriate berth characteristics and is located within an existing industrial area.

Ballymore Group	Support the removal of safeguarding from Sunshine and Manhattan Wharves.	Noted.
Freight Transport Association	Support removal of safeguarding from Thames, Manhattan and Sunshine Wharves if the Silvertown Tunnel project proceeds, provided that the operators are content to re-locate to Royal Primrose Wharf as proposed.	Noted.
PLA	Support removal of safeguarding from Phoenix Wharf.	Noted.
LB Havering	Object to the removal of safeguarding from Phoenix Wharf, as the site would provide a strategic location to support the proposed Heathrow Logistics Hub in Rainham.	The Individual Site Assessment recommended de-designation of Phoenix Wharf as its use is less favourable than other wharves due to fixed flood defence walls and lack of jetty infrastructure. In view of the surplus capacity in the north east, the lack of jetty infrastructure, and the limited potential to reactive that site the recommendation to de-designate will remain.
Specific comments on the draft implementation report		
FLO	Contend that paragraph 3.2 of the Implementation Report goes on to state that the Tideway project has seen “investment in them [the wharves] to boost their long term suitability”, but this is not correct. There is no requirement for the Tideway project to “boost” the suitability of wharves. The only requirement for the Tideway project as set out in the DCO at each of the wharf sites is to maintain viability in accordance with the London Plan.	Noted: See summary of changes in Table 3

PLA	Propose corrections to references to Table 2.18 and Table 2.19.	Noted: See summary of changes in Table 3
PLA	Recommend that within section 3, paragraph 3.5 is updated in light of the Secretary of State for Transport granting a DCO on the 10 May 2018 for the Silvertown Tunnel project.	Noted: See summary of changes in Table 3
PLA	Recommend a correction: In the demand section of the executive summary and the conclusions of the 'Forecasting London's Freight Demand and Wharf Capacity on the Thames 2015 – 2041' ('Forecasting Report') it is stated that overall trade will increase to 13.4 mt by 2028. However paragraph 2.24 of the Implementation Report states that the overall trend for the amount of cargo handles is forecasted to increase to 13.4 mt by 2027. For consistency, whichever year is correct should be the same in both documents.	Noted: See summary of changes in Table 3
Specific comments on site assessments		
LB Hammersmith and Fulham	Note erroneous references to LB Hammersmith and Fulham's former Core Strategy as the Development Plan for the borough.	Noted: See summary of changes in Table 4
Fuel Oils	Propose a correction: Industrial uses (fuel storage) at Swedish Wharf ceased in November 2017.	Noted: See summary of changes in Table 4
Morden College	Propose a correction: Reference is made to Tunnel Wharf being "...cleared and levelled except for an office block at the eastern end". This description refers to Tunnel Glucose Wharf.	Noted: See summary of changes in Table 4

PLA	<p>Propose that a number of wharves need explanations of where boundary changes have occurred:</p> <ul style="list-style-type: none"> - Swedish Wharf - Comley's Wharf - Pier Wharf - Victoria Deep Wharf - Mulberry Wharf - Pioneer Wharf - Standard Wharf - East Jetty - Ford Dagenham Terminal - Halfway Wharf 	<p>Due to errors in the 2005 boundary layer shown in the Individual Site Assessment it appears that there were boundary changes where none occurred. The GLA can confirm that the boundaries for the following wharves remain the same as the original directions issued by the Secretary of State in 2000 or 2005:</p> <ul style="list-style-type: none"> - Victoria Deep Water - Hurlingham - Pier - Mulberry - Pioneer - Standard - Pinns - East Jetty - Ford Dagenham - Halfway - Swedish <p>The boundary of Comley's Wharf had minor changes to reflect operations, ownership and highway works, as noted in the Individual Site Assessment.</p>
PLA	<p>Propose that the key on each Safeguarded Wharf Map should be amended to state '2018 draft' rather than '2017 draft' to ensure the document is up-to-date</p>	Noted
PLA	<p>Propose updates to the references to the Newham Core Strategy which was adopted in December 2018.</p>	Noted: See summary of changes in Table 4
PLA	<p>Recommend that the 'sites planning status, surrounding land use and planning context' section of Standard Wharf is updated to reflect the fact that the site has temporary planning permission (January 2018) for the erection of a concrete batching plant, with associated infrastructure.</p>	Noted: See summary of changes in Table 4

PLA	On the basis that the site owner is also pursuing reactivation of the Safeguarded Orchard Wharf, consider that this should be highlighted in the 'Market interest and alternative wharves' section of the site assessment.	Noted: See summary of changes in Table 4
Thames Water	Propose removal of reference to the Counters Creek Storm Relief sewer scheme in the individual site assessment for Cremorne Wharf.	Noted: See summary of changes in Table 4
FLO	Propose correction: In regards to Cremorne Wharf, it is stated that "Works to the berth are to be undertaken prior to Tideway's use of the wharf in connection with this project, which should improve the wharf's viability. This is not correct. A temporary camp shed and fender piles will be installed for use in connection with the Tideway project. These, however, are not in the location of the previous berth (alongside the condemned jetty) and are not permanent infrastructure.	Noted: See summary of changes in Table 4
FLO	Propose correction: The site assessment for Hurlingham Wharf currently states that the Tideway Project should improve the wharf's viability. DCO Requirement CARRR14 requires the project to maintain viability of the safeguarded wharf for cargo handling, not to improve the viability of the safeguarded site.	Noted: See summary of changes in Table 4
Battersea Power Station	Request that commentary on the assessment that led to the reduced boundary of the Smugglers Way Wharf (24 November 2017) be included.	In 2017 the boundary of Smugglers Way wharf was extended by 3,335 sq.m. to incorporate part of an existing household waste and recycling centre. This provided compensation for the reduction in the extent of safeguarded wharf uses at Cringle Dock by 3,335 sq.m. The boundary shown in the Individual Site Assessment reflects these boundary changes. This is proposed to be reflected in the updates outlined in Table 4.

Western Riverside Waste Authority	<p>Propose corrections: In the site assessments for Cringle Dock and Smugglers Way Wharf it states incorrectly that the WRWA current 30 year waste disposal contract comes to an end in 2022. This should be amended to correctly state that it ends in 2032.</p> <p>In addition, the refurbishment to the civic amenity site on Smugglers Way Wharf has been completed.</p>	Noted: See summary of changes in Table 4
Specific comments on the OSC report.		
Marine Management Organisation	<p>Propose correction: The wrong English marine plan area is referenced on page 12 para 2.12. The text highlights and quotes from the South Marine Plan but the Thames Estuary is within the South East Marine Plan and as such the objectives stated are not appropriate. The objectives for the South East Marine Plan will be wholly taken from the high-level marine objectives from page 11 of the UK marine policy statement.</p>	<p>Noted. This was a drafting error. It is acknowledged that the South East Marine Plan is the appropriate document to refer to in relation to the Thames Estuary, this is acknowledged in the draft London Plan. The South East Marine Plan will be taken into account where it is relevant. However, it is not considered necessary to re-issue the evidence report to make this update.</p>

Table 2: Round Two Summary of submissions

Submitter	Comment	GLA Response
General comments		
Marine Management Organisation	No further comments.	Noted.
The Lenox Project	The draft Summary of Consultation does not include reference to the original submission made by the Lenox Project. In addition, the draft Summary of Consultation incorrectly states that the duration of the Lenox Project is only 20 years, whereas the Convoy's Wharf Section 106 agreement specifically allows for the period of occupation of the project site on the Safeguarded Wharf.	As the draft Summary of Consultation was a summary of the submissions received, the Lenox Projects submission was included alongside other support for the use of Convoys Wharf for the Lenox Project. Table 1 above has been amended to include more specific reference to the submission made by the Lenox Project in August 2018.
The Lenox Project	The draft Summary of Consultation incorrectly asserts that shipbuilding is not a designated use on the wharf. However, it is described as such in the Convoy's Wharf Section 106 agreement, with specific reference to the Lenox Project. The full range of potential uses on the Safeguarded Wharf are therefore not represented in the draft Summary of Consultation.	As outlined in the Round one consultation response, the current and draft London Plan state that Safeguarded Wharves should only be used for the purposes of waterborne freight-handling. This means the movement of goods or materials by water to and/or from the wharf in question. Shipbuilding is not considered a freight handling purpose and as such it is beyond the scope of the Safeguarded Wharves Review to safeguard the site for such uses.
The Lenox Project	The draft Summary of Consultation indicates that the Lenox Project would have to coexist alongside waterborne freight handling, which is not envisaged in the Section 106 agreement recommendations relating to the location of the project site.	As already outlined in the Round one consultation response, the current and draft London Plan state that Safeguarded Wharves should only be used for the purposes of waterborne freight-handling. This is the primary focus of the Safeguarded Wharves Review which looks at the long-term use and capacity of wharves.

		The recommendations in the Section 106 agreement in relation to historic ship building are a separate consideration.
Ballymore Group	<p>Welcomes the intent to safeguard wharf sites for the transportation of goods and materials however remains concerned regarding the identified over-supply of wharf capacity and the lack of additional assessment by the Greater London Authority.</p> <p>Raised several points regarding NPPF policies that address the need to reflect changes in the demand for land, the need for housing outlined in the draft London Plan, and the over-supply of wharf capacity within all sub-regions of London.</p>	These comments are outside the scope of the Round Two consultation. Matters relating to capacity and anticipated demand were addressed in the Round One consultation summary (see Table 1).
Ballymore Group	<p>Ballymore Group has been in detailed discussion with the Port of London Authority (PLA) over the activation of Royal Primrose Wharf (which forms part of their landholdings around Knights Road). The future reactivation of Royal Primrose Wharf (identified by the Review as having capacity for 250,000 tonnes) is dependent upon the timely release of Sunshine (15,000 tonnes capacity) and Manhattan (4,000 tonnes capacity).</p> <p>The Review should now identify Sunshine and Manhattan Wharves as to be released and the referenced link to the Silvertown Tunnel should be deleted.</p>	Noted. As the DCO for the Silvertown Tunnel Project has been approved the GLA/Mayor will be recommending that safeguarding be removed from Thames Wharf, Sunshine Wharf and Manhattan Wharf, with safeguarding designation applied to Royal Primrose Wharf.
Port of London Authority	Request an estimated timescale of when the final set of recommendations will be submitted to the Secretary of State.	The expected timescales will be made available on London.gov.uk.

Port of London Authority	Given the demand for wharves for water freight and the implications of emerging environmental legislation that will encourage new cargoes onto the river, this is the last time the PLA would expect to see any proposed release of Safeguarded Wharves.	Noted.
Company of Watermen and Lightermen	Various comments on the draft Summary of Consultation, largely reiterating the round one submission made.	These comments are outside the scope of the Round Two consultation. Comments made in the Round One consultation are addressed in Table 1.
U+I Group	U+I asks the GLA to conclude that the safeguarded allocation at Tunnel Wharf should properly be reduced in the interests of good planning to only the boundary of the Sivyer operation, releasing the Northern Warehouse and its associated forecourt from the proposed safeguarded wharf allocation for other important employment purposes within a defined Strategic Industrial Location.	These comments are outside the scope of the Round Two consultation. Comments made in the Round One consultation summary are addressed in Table 1.
Hutchison Property Group	<p>We take the view that the SWR is not adequate as it has not followed a suitably comprehensive approach, as for example set out in NPPF and NPPG guidance.</p> <p>Our understanding is that the process that should be followed in the safeguarded wharf review should broadly follow the process used for developing strategic policies as set out in the National Planning Policy Framework (NPPF) and should broadly follow the principles set out in the approach to 'housing and economic land availability assessment' set out in the National Planning Policy Guidance (NPPG). The approach used by the GLA has a number of inconsistencies with this guidance.</p>	These comments are outside the scope of the Round Two consultation. Comments made in the Round One consultation summary are addressed in Table 1.

	<p>The GLA has not followed a comprehensive approach to reviewing alternative sites, including non-designated sites. It has also not set out what scale of buffer of surplus land is justified and why. Consequently it has not demonstrated that its approach is 'adequate and proportionate'.</p>	
Hutchison Property Group	<p>Given the significant surplus of capacity over demand overall and in the South East sub-region, the size, likely marginal/negative viability and significant land side constraints on Convoys Wharf and the attractive characteristics of other wharves in the sub-region, we propose that, even before consideration of development viability, there is a substantial case to de-designate the whole of Convoys Wharf.</p> <p>We have clearly set out in our previous representation why there is considerable excess of capacity over demand. The GLA says it is prudent to plan for a buffer but clearly this is a matter of degree. The GLA has not set out its criteria and justification for a buffer. Our view is that even with a reasonable buffer there is still a considerable excess of capacity over demand and this justifies further release of safeguarded wharves. The evidence for this is set out in our previous representation.</p>	<p>These comments are outside the scope of the Round Two consultation. Comments made in the Round One consultation summary are addressed in Table 1.</p>
RB Kensington & Chelsea	<p>It is noted that the review focuses on three wharves where boundary changes are proposed. It is understood that these are factual corrections to reflect existing site circumstances and the site assessments. These corrections will reduce the amount of area to be safeguarded, the consultation does not set out the</p>	<p>The changes to DePass and Brewery Wharf are very minor, reflecting real-world site operations and ownership, as such it is not expected that these proposed changes will have a material impact on the capacity of the wharf network.</p> <p>Whilst the reduction in Convoys Wharf is more significant in overall area, in reality this is likely to have not material impact on the freight capacity of the wharf given the implementation of the</p>

	implications of these will have on London's ability to meet the demand for wharf capacity.	extant planning consent and that the OSC Report demonstrates there would still be sufficient capacity in the network in the long-term.
RB Kensington & Chelsea	Whilst the Mayors response to the first consultation highlights "There are mechanisms within Policy SI15 for development proposals to include provision of a water-freight use alongside other land uses (above or alongside)" the Council is disappointed that a more detailed assessment of site constraints at Cremorne Wharf has not been undertaken.	Noted.
Question 1: Do you agree with the proposed reduction of safeguarding at Convoys Wharf? Why/why not?		
Port of London Authority	Supports the proposed boundary change. It is recommended that further emphasis is now given to the requirement for the site owners and partners, including the PLA to expeditiously progress with reactivation, particularly given the level of documented interest from operators to use the proportion of the site that has remained safeguarded for cargo-handling.	Noted. The reduced area of safeguarded wharf will continue to be protected by the policies in both the current and draft London Plan, which make it clear that these safeguarded wharves should be used for the purposes of waterborne freight handling.
The Lenox Project	The proposed change to the boundary of Convoy's Wharf means that assumptions contained in draft London Plan Policy SI15 relating to water-borne freight handling at Convoys Wharf are no longer valid in relation to the proposed boundary change, as previous assumptions were based on the safeguarded wharf occupying the whole of the Convoys Wharf riverfront with multiple access points.	The proposed boundary change will mean that Policy SI15 in the draft London Plan will only apply to an area of 2.3ha and 0.3 ha of planned waterway infrastructure at Convoys Wharf, as indicated in the Round Two consultation document.

The Lenox Project	<p>The wharf uses proposed for the redefined wharf area by the GLA are incompatible with the adjoining residential areas and inadequate road infrastructure serving the Safeguarded Wharf. These issues are not adequately addressed in the Round Two Consultation document, while the benefits that would be derived from The Lenox Project occupying the site allocated in the Convoys Wharf Section 106 agreement have similarly not been addressed or even referred to in the report. The GLA response should be amended to include a shipbuilding dock and a home berth for the Lenox as one of the possible uses on the Safeguarded Wharf in accordance with the recommendations in the Convoys Wharf Section 106 agreement.</p>	<p>As the Review concerns the use of safeguarded wharves for the purposes of waterborne freight handling, it is beyond the scope to address matters relating to the use of the site for the purposes of historic ship building. In addition, the Individual Site Assessment summarises the Section 106 agreement that applies to the site, including consideration of harmful impacts on residential and other neighbours.</p>
LB Lewisham	<p>Supports the proposed boundary change.</p> <p>The Council seeks clarification in any future recommendation made by the Mayor to the Secretary of State, that the proposed reduction and de-designation of the safeguarded area at Convoys Wharf should take immediate effect and not be dependent on the extant outline planning consent being delivered.</p>	<p>Noted.</p> <p>It is intended that the recommendation to adjust the boundary of the safeguarded area of Convoys Wharf will be included in the package of recommendations made to the Secretary of State.</p>
LB Lewisham; Hutchison Property Group	<p>Request that wharf infrastructure in the Thames is removed from safeguarding, the additional 0.3 hectares to include water-way infrastructure at Convoys Wharf refers to a new jetty which does not currently exist and the nature of the potential future operations have not been determined and it would be premature to identify a specific area and configuration.</p>	<p>The outline of the proposed jetty reflects the boundary shown in the outline planning permission, as this is one of the reasons that the boundary has been adjusted it is considered appropriate that this is reflected in the updated Direction.</p>

LB Lewisham	The Council supports the use of Convoys Wharf for the Lenox Project. This use supports the site's and Deptford's history, and is not expected to harmfully impact on existing and future residents or place undue impact on the local roads which access the site.	Noted. The Review does not preclude the use of part of this site for the Lenox Project, however such a use is outside of the scope of the Review, the focus of which is on the long-term use of sites for waterborne freight handling.
Hutchison Property Group	Supports the proposed boundary change , but takes the view that the GLA has not sufficiently justified its proposal not to completely de-designate Convoys Wharf. Our analysis of the evidence is that there is a good case for completely de-designating Convoys Wharf.	The GLA is not proposing to de-designate the entirety of Convoy's Wharf, safeguarding will still apply to the site area available for waterborne freight handling. Given the implementation of the planning consent on the site it is considered appropriate to focus re-activation on the section of the wharf that will remain.
Hutchison Property Group	On the wider question of whether Convoys should be safeguarded at all our assessment is that the GLA has not carried out an appropriate and comprehensive review of safeguarded and non-safeguarded wharves on the River Thames and should revisit its work and analysis. Once this exercise is carried out it will be clearer whether Convoys is not an appropriate wharf.	The area identified for wharf use in the outline planning permission remains viable for waterborne freight handling, as such it is appropriate that this remains safeguarded. It is appropriate to retain the remaining viable area of Convoy's Wharf under safeguarding protection to ensure it remains available for waterborne freight handling in the long-term. The scope of the review and analysis that informed it is beyond the scope of the round 2 consultation and is appropriately outlined in the implementation report.
Freight Transport Association; Company of Watermen and Lightermen; Commercial Boat Operators Association	Do not support the proposed boundary change. There is no evidence that Convoys Wharf is no longer viable or capable of being made viable in accordance with the requirements of Policy 7.77 of the London Plan. In particular: <ul style="list-style-type: none"> - It is a strategically important wharf as it is one of the largest safeguarded wharves and is well positioned to serve central and outer London. - The jetty is still, or could be made, accessible. - The reduced site area would have major access issues which are not shared with the current site. 	As the extant planning permission has been implemented it is not considered appropriate retain a wharf boundary which would no longer reflect where wharf use on the site is possible. It is important to focus on the reactivation of the part of the wharf that is to be retained and so the amendment is considered appropriate.

	<ul style="list-style-type: none"> - There is no evidence of any development work having been carried out on the site. 	
Question 2: Does the proposed boundary change at Brewery Wharf accurately reflect the area of operations at Brewery Wharf? Why/why not?		
Port of London Authority	Supports the proposed boundary change.	Noted.
Freight Transport Association; Company of Watermen and Lightermen; Commercial Boat Operators Association	Does not support the proposed boundary change, as: <ul style="list-style-type: none"> - if strip of land proposed is removed from safeguarding status it may be available for residential development right up to the boundary of the safeguarded wharf, which could result in restrictions on the operations on the safeguarded wharf and thus a decrease in water freight. - The boundary fence between the Euromix site and Acorn Exhibitions, where the proposed boundary lies, is very dilapidated and structure is temporary in appearance, which casts doubt on the Mayor's assertion that this parcel of land was incorrectly included in the original safeguarding directions of 16 June 2000. - Given the use of safeguarded wharf by Euromix and the current congestion on the site, Euromix may wish to acquire the area proposed for removal in due course. 	<p>It is considered appropriate to amend the boundary to accurately reflect the wharf use, including waterway assets and ownership. This would not preclude the future expansion of the wharf operators onto neighbouring sites in the future. Protecting a narrow strip of land outside of site ownership in case of future acquisition is not deemed an appropriate use of the safeguarding directions.</p>

LB Greenwich	Note the proposed boundary change to Brewery Wharf, no further comments.	Noted.
Question 3 – Do you agree with the proposed boundary change at DePass Wharf? Why/why not		
Port of London Authority	Supports the proposed boundary change. Support the proposed amendment to the boundary of DePass Wharf.	Noted.
Freight Transport Association; Company of Watermen and Lightermen; Commercial Boat Operators Association	Does not support the proposed boundary change. The removal of the former jetty area from safeguarded designation would remove the Wharf's right of access to the riverside, which may restrict any further opportunity for this to be reactivated for commercial use.	It does not follow that the removal of the former jetty area would restrict access. As the site still has direct access to the waterway, a new jetty can still be provided to support the operation of the use in a location suitable for the operators. Any new infrastructure into the river would need the relevant approval, taking into account relevant considerations including navigational safety and planning policies, including those in relation to safeguarded wharves.

3. Corrections to consultation documents

In response to submissions received, the GLA has made several changes to the Implementation Report and the Individual Site Assessments, as outlined in Table 3 and Table 4.

Table 3: Implementation report

Change location	Proposed change
<i>Paragraph 2.24</i>	The overall trend for the amount of cargo handled is forecast to increase to 13.4m tonnes by 202 87 . This peak could be pushed forward if there are significant delays in the major government backed infrastructure projects. Thereafter, is it anticipated that potential building/construction projects will continue, albeit at a lower less intensive rate than seen in previous decades. By the end of the study period, overall tonnes handled are approximately 12.3m tonnes. This total excludes new cargoes that may be transported on the river during the forecasts period, particularly containerised goods
<i>Paragraph 2.30</i>	Table 2.18 below highlights both commodity and capacity by sub region and the potential capacity gap. It is also shown in figure 2.9. However, this excludes vacant wharves as these are not assigned a commodity. Table 2.19 highlights the overall demand and capacity in each region through to 2041. These include current capacity assumptions for all wharves in each area, both operational and vacant as provided by the PLA.
<i>Paragraph 3.2</i>	However, the Thames Tideway Tunnel Project, a scheme to move sewage across London to Beckton, has brought vacant wharves back into active use (eg Hurlingham, Middle Cremorne), demonstrating their suitability for waterborne cargo handling, and seen investment in them to boost their long-term suitability in a wharf use.
<i>Paragraph 3.5</i>	If it proceeds- The Silvertown tunnel - a road-based river crossing between Greenwich and Newham – would will , during its construction phase lead to the temporary loss of the currently safeguarded Thames wharf. In addition, the non-safeguarded Dock Entrance wharf would also be lost. The public examination into this scheme ended in April 2017 and a Development Consent Order (DCO) was granted by the Department for Transport on 10 May 2018 and the Mayor is awaiting the outcome. This project possibility opens up options for the reconfiguration of wharf capacity in the Thameside west area of LB Newham. Current operators at Thames wharf and the non-safeguarded Dock Entrance wharf would need to be relocated.

Table 4: Individual site assessments

Change location	Proposed change
<i>Hurlingham Wharf, Page 5</i>	Comments: A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Works to the berth are to be undertaken prior to Tideway's use of the wharf in connection with the Thames Tideway Tunnel which should improve will maintain the wharf's viability.
<i>Hurlingham Wharf, Page 5</i>	Site's planning status: The LB Hammersmith & Fulham Core Strategy (February 2018 October 2014) in paragraph 5.106 7.140 promotes seeks the consolidation of wharf capacity onto fewer better located sites. and in para 7.141 calls for the removal of the safeguarded designation at this wharf in the next Mayoral safeguarded wharves review.
<i>Swedish Wharf, page 8</i>	Site's planning status: The LB Hammersmith & Fulham Core Strategy (February 2018 October 2014) in paragraph 5.106 7.140 promotes seeks the consolidation of wharf capacity onto fewer better located sites. The site is was in industrial use (fuel storage) until November 2017 but is not currently utilising water transport.
<i>Swedish Wharf, page 9</i>	Current use: Petroleum products by road until November 2017. Last waterborne cargo handled c.2004.
<i>Comley's Wharf, page 11</i>	Site's planning status: The LB Hammersmith & Fulham Core Strategy (February 2018 October 2014) in paragraph 5.106 7.140 promotes seeks the consolidation of wharf capacity onto fewer better located sites.
<i>Smuggler's Way Wharf, Page 14</i>	Boundary Change: Yes, incorporation of marine infrastructure. the boundary shown reflects changes made in 2017 by the Secretary of State.
<i>Smuggler's Way Wharf, Page 14</i>	Site's Planning Status: LB Wandsworth have an adopted Core Strategy (March 2016) that in Policy PL9 maintains its protection for the 5 currently safeguarded wharves. The site is currently in use as a waste transfer station. The wharf is set within a wider site that includes a civic amenity site, which is currently being re-modelled.

<p><i>Smuggler's Way Wharf, Page 15</i></p>	<p>Current Use: Waste transfer station. - The waste is transported to the Energy from Waste facility in Belvedere (Middleton Jetty). A substantial part of the wharf area is given to the loading area for the waste vehicles that serve the site. The Western Riverside Waste Authority (WRWA) owns this site and their current 30 year disposal contract with Cory Riverside Ltd gives the operators control of the site until 2022 2032. This contract ensures the continued use of the wharf for residual waste to be transported by river barge. Site includes Materials recycling facility and upgraded civic amenity site. As part of a consent at Cringle Dock an additional area of safeguarding is proposed for this wharf.</p> <p>In 2017 the Secretary of State issued new directions to adjust the boundary of Smugglers Way wharf, which was extended by 3,335 sq.m. to incorporate part of an existing household waste and recycling centre. This provided compensation for the reduction in the extent of safeguarded wharf uses at Cringle Dock by 3,335 sq.m.</p>
<p><i>Cringle Dock, Page 20</i></p>	<p>Boundary Change: Yes, incorporation of marine infrastructure. The boundary shown also reflects changes made in 2017 by the Secretary of State.</p>
<p><i>Cringle Dock, Page 21</i></p>	<p>Current Use: Waste transfer station. - The waste is transported to the new Energy from Waste facility in Belvedere (Middleton Jetty). A substantial part of the wharf area is given to the loading area for the waste vehicles that serve the site. The Western River Waste Authority owns this site and their current 30-year disposal contract with Cory Riverside gives the operator control of the site until 2022 2032. ...</p> <p>In 2017 the Secretary of State issued new directions to adjust the boundary of Cringle Dock, which was reduced by 3,335 sq.m. The loss of this area was compensated by the addition of 3,335 sq.m. of safeguarding area at Smugglers Way.</p>
<p><i>Cremorne Wharf, Page 29</i></p>	<p>Comments: A drying berth, typical of the river upstream of the Thames Barrier. No campshed. Berth characteristics appropriate for barge traffic, which travels to the wharf on the flood tide, mooring at or near high water. Works to the berth are to be undertaken prior to Tideway's tunnel use of the wharf in connection with this project, including a temporary camp shed and fender piles. which should improve the wharf's viability.</p>
<p><i>Cremorne Wharf, Page 30</i></p>	<p>Site's planning status:</p>

	<p>...</p> <p>An application for the Counters Creek Storm Relief sewer scheme is expected imminently and will also utilise Cremorne Wharf during construction. Construction phases will overlap with Thames Tideway Tunnel. The site was previously proposed for an application for the Counters Creek Storm Relief sewer scheme. This would have utilised Cremorne Wharf during construction and for new below ground assets. Following a detailed review of the requirement for the new sewer, Thames Water have concluded that it is not an effective solution for the sewer flooding they are looking to address at this time. At this stage, the need for a new storm relief sewer in the future cannot be completely discounted, however, Thames Water is continuing to investigate what future resilience may be required.</p>
<i>Cremorne Wharf, Page 30</i>	<p>Current use: Site is currently being used as a tunnelling site for the Thames tideway Tunnel. An application is also expected for the Counters Creek Storm relief scheme. Last cargo handled prior to 1997.</p>
<i>Cremorne Wharf, Page 30</i>	<p>Market interest: The wharf is to be used in connection with the Thames Tideway tunnel project until 2022, handling over 30kt of cargo by water, including CD&E waste. The wharf has also been was previously identified as the main drive site for the Counters Creek scheme, handling over 400kt of cargo, including CD&E Waste, aggregates and tunnel lining segments. However, the scheme is not being progressed at this time. Informal marketing of the wharf indicates interest from operators within the Port of London for handling bulk cargoes, particularly aggregates.</p>
<i>Tunnel Wharf, Page 41</i>	<p>Site's Planning Status: ... The site has been was predominantly cleared and levelled in 2010, with a warehouse structure remaining at the southern end of the site. except for an office block at the eastern end.</p>
<i>Standard Wharf, Page 77</i>	<p>Site's Planning Status: ... The site part of the Erith Riverside Strategic Industrial Location and the Bexley Riverside Opportunity Area. Wharf is located directly to the east of Erith Town Centre, and is adjacent to recently developed residential units and a major supermarket. LB Bexley has an aspiration to base similar industrial uses to the west at the Belvedere Industrial Estate. The site has temporary planning permission for the construction of a concrete batching plant, with associated infrastructure.</p>

Orchard Wharf, Page 83	Site's Planning Status: ... Site has been vacant for 15 years. Following the conclusion of a lengthy process that ultimately resulted in the dismissal of the DfT's confirmation of the Compulsory Purchase Order for the wharf the owner is considering scenarios for the wharf's reactivation. The PLA is considering a further CPO for the wharf.
Orchard Wharf, Page 84	Market Interest: A recent marketing exercise undertaken by the PLA to identify a new 'preferred operator' for the site established considerable demand from operators within and new to the Port of London for a range of bulk cargoes, particularly aggregates, and containerised cargoes. The landowner is currently pursuing reactivation of the wharf use.
Royal Primrose Wharf, Page 98	Site's Planning Status: LB Newham Core Strategy (December 2018) seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity
Thames Wharf, Page 92; Peruvian Wharf, Page 95; Sunshine Wharf, Page 103; Manhattan Wharf, Page 101	Site's Planning Status: LB Newham Core Strategy (January 2012-December 2018) seeks to protect wharves but seeks consolidation/relocation of wharves in the Royal Docks area. seeks consolidation of safeguarded wharves in the Royal Docks area at Thameside West on Peruvian and Royal Primrose Wharves, with no net loss of functionality or wharf capacity.
Hurlingham Wharf, Page 4; Swedish Wharf, Page 7; Pier Wharf, Page 16; Victoria Deep Water Terminal, Page 43; Mulberry Wharf, Page 58; Pioneer Wharf, Page 61; Standard Wharf, Page 76; Pinns Wharf, Page 115; East Jetty, Page 140; Ford Dagenham Terminal, Page 145; Halfway Wharf, Page 150	<i>Please note that the '2005 Report' boundaries shown for these wharves were incorrect. There are no proposed changes to the boundaries of these wharves. The '2017 draft' boundaries reflect those found in the original safeguarding directions. The maps have been updated in the final version of the Individual Site Assessments.</i>

Forecasting London's Freight Demand and Wharf Capacity
on the Thames

2015 – 2041

Ocean Shipping Consultants Version



Acknowledgements

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Executive Summary

Overall Conclusion

- London will have sufficient wharf capacity to meet forecast demand for the period up to 2041.

Demand

- In 2015, the Thames carried 10.7 million tonnes (mt) of freight. An increase of 1.6mt or 18% over the decade from 2005.
- OSC forecast that overall trade will increase to 13.4 mt by 2028, an increase of 26%. Thereafter, it will decline to approximately 12.3 mt by 2041.
- There are 7 commodity groups currently using the Thames, which will remain through to 2041.
- In 2015, the use of the Thames was skewed towards two commodity groups accounting for over 75% of the freight on the Thames – Construction Materials and Waste. Construction materials alone accounted for 65%.
- In contrast, sugar and steel accounted for less than 6% of the freight on the Thames and 3 commodity groups were no longer being moved by the river – Other Liquid Bulks, Other Dry Bulks and General Cargo.
- By 2041 it is forecast that this distribution between commodity groups will be unchanged.

Capacity

- For 2015, the capacity of the safeguarded wharves is estimated at 18 mt. This includes an estimate for the currently vacant wharves of 2.1 mt (12%).
- By 2041, it is forecast that this capacity will be unchanged.

Distribution

- London's wharves are not evenly distributed along the Thames. For convenience, they are grouped into three areas – North bank of the Thames East of Tower Bridge (North East), South bank of the Thames East of Tower Bridge (South East) and West of Tower bridge (West).

- The analysis undertaken reveals that there will be excess wharf capacity for the North East Sector of 2.9 mt, excess wharf capacity for the South East Sector of 2.1 mt, excess wharf capacity for the West Sector of 0.8 mt by the end of the study period.

1 Introduction

- 1.1 The purpose of this report is to provide forecasts for the movement of freight on the Thames and estimate the capacity of the 50 safeguarded wharves for the 2015-2041 period. It is not a

review of the 50 safeguarded wharves, this will be a separate exercise undertaken later by the Mayor. Nor is it a study of changes in and capacity for passenger based river transport.

- 1.2 These forecasts will be an important consideration, but not the only one, that the Mayor will take into account in formulating his decisions on safeguarding wharves. The list of safeguarded wharves has not been updated since 2005. The Mayor believes an update is overdue.
- 1.3 The period up to 2041 has been chosen to be consistent with the forthcoming full review of the London Plan that will run over the same time period.
- 1.4 In 2011 the Greater London Authority (GLA) commissioned independent consultants URS/Scott Wilson to produce estimates of freight trade forecasts and wharf capacity. This consultant's study produced forecasts of demand up to 2031, examined the capacity of the wharves and the distribution of demand and capacity identifying surpluses and shortfalls in the capacity of the wharves network up to 2031. This work was made publically available in the Mayor's Safeguarded Wharves Review – Final Recommendation¹ March 2013.
- 1.5 This 2016 report, produced internally by the Mayor, but subjected to a 'critical friend review' by Ocean Shipping Consultants (OSC), draws on that 2011 URS/Scott Wilson study as a template to work from, accepting a number of the earlier study's assumptions and conclusions. For example, the 2011 study examined the feasibility of the use of the canal network for freight distribution and came to the conclusion that without much higher levels of public subsidy there would be little demand for the use of the canal network. Those much higher levels of public subsidy have not been forthcoming. Accordingly, this 2016 report does not look at the feasibility of using the canal network to transport freight, concentrating on the Thames.
- 1.6 The 2011 Study grouped the commodities moved on the Thames into 10 categories. To provide some consistency and allow some comparisons with the data provided by the 2011 study, the same commodity groupings have been used in this 2016 report.
- 1.7 Ocean Shipping Consultants (OSC), established in 1985 and now part of the Royal Haskoning DHV group, have over 30 years' experience in the fields of shipping economics and port development. They have extensive experience projecting cargo volumes, assessing the

¹ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves>

viability of ports and undertaking strategic studies. Their recent work for the Port of London Authority (2016) looking at forecasting vessels using the Thames up to 2030 and their study in 2015 examining the aggregates dredging activity in the South East of England looking at the aggregates industry and the potential for a new hub wharf highlights their suitability for this task. Given their track record, OSC were ideally placed to advise the Mayor on this piece of work and be a knowledgeable and robust 'critical friend' for this report.

- 1.8 OSC undertook their own consultations with users of the Thames and produced their own forecasts to 2041. The Mayor therefore takes the view that this report on forecasting freight and capacity on the Thames up to 2041 is a robust and reasonable one given the data constraints and inherent uncertainties involved in forecasting. Accordingly, the Mayor will use this report as an important consideration when he comes to his conclusions on reviewing the 50 safeguarded wharves.
- 1.9 Most of the data for this report has been provided by the Port of London Authority (PLA). Their assistance in compiling this report has been invaluable.
- 1.10 Section 2 of this report looks at the policy context for waterborne freight at all relevant levels, national, mayoral and local. It highlights strong support, at all levels, for this mode of freight transport.
- 1.11 Section 3 looks at demand for waterborne freight on the Thames. It highlights the current situation of freight on the Thames before moving on to discuss different ways of forecasting freight up to 2041. It compares the updated report with the earlier 2011 study to establish the extent of change between the newer forecast and the earlier 2011 study.
- 1.12 Section 4 highlights forecast demand for waterborne freight on the Thames through to 2014 via modelling undertaken by Ocean Shipping Consultants
- 1.13 Section 5 provides an estimate of capacity from the 50 currently safeguarded wharves, again examining change since the earlier 2011 study. London's wharves are divided into three sub groups, North East (east of Tower Bridge, north side of the Thames), South East (east of Tower Bridge, south side of the Thames) and West (west of Tower Bridge, both sides of the Thames). The capacity for each sub region is provided.

- 1.14 Section 6 tries to pull these two earlier sections together looking at surpluses and shortfalls in capacity to deal with the forecast demand for each of the three sub regions.
- 1.15 Section 7 sets out some overall conclusions on what the report has found.

2 Context

- 2.1 The purpose of this chapter is to examine the national, regional and local policy context for wharves. In summary, there is strong policy support at national, regional and local level for the use of the Thames for freight movement.

National Policy

- 2.2 National policy is set out in the National Planning Policy Framework² (March 2012) (the NPPF). The following paragraphs are of most relevance for this topic area;
- 2.3 Paragraph 17 *“Within the overarching roles that the planning system ought to play, a set of core planning principles should underpin both plan-making and decision-taking. These, 12 principles are that planning should;...proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure...support the transition to a low carbon future in a changing climate,...contribute to conserving and enhancing the natural environment and reducing pollution.”*
- 2.4 Paragraph 30 *“Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives.”*
- 2.5 Paragraph 31 *“Local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development...”*
- 2.6 Paragraph 35 *“Plans should protect and exploit opportunities for the use of sustainable modes for the movement of goods or people...”*
- 2.7 Paragraph 143 *“In preparing Local Plans, local planning authorities should...safeguard existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials..”*
- 2.8 The Marine Policy Statement³ (March 2011) (the MPS) sets out a framework for preparing marine plans and for taking decisions that affect the marine environment and is a material consideration for both land use and marine planning. Any decision made by planning authorities in relation to safeguarded wharves is required to have regard to the MPS. Three

² <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf

sections of the MPS are relevant to this report – Shipping and ports, marine aggregates and dredging.

- 2.9 In paragraph 3.4.1 the MPS states *“Ports and shipping play an important role in the activities taking place within the marine environment. They are an essential part of the UK economy, providing the major conduit for the country’s imports and exports.”* In paragraph 3.4.7 it adds *“Marine plan authorities and decision makers should take into account and seek to minimise any negative impacts on shipping activity...”*. ‘Decision makers’ includes both the Mayor and the boroughs. In paragraph 3.4.11 it advises *“When decision makers are advising on or determining an application for an order granting development consent in relation to ports, or when marine plan authorities are developing Marine Plans, they should take into account the contribution that the development would make to the national, regional or more local need for the infrastructure, against expected adverse effects including cumulative impacts.”*
- 2.10 In paragraph 3.5.1 the MPS supports the continued use of marine aggregates *“The UK has some of the best marine aggregate resources in the world. Marine sand and gravel makes a crucial contribution to meeting the nation’s demand for construction aggregate materials, essential for the development of our built environment. They are particularly important in England, accounting for 38% of the total regional demand for sand and gravel in the South East (80% in London),...It continues”* The extraction of marine dredged sand and gravel should continue to the extent that this remains consistent with the principles of sustainable development, recognising that marine aggregates are a finite resource and in line with the relevant guidance and legislation”. In paragraph 3.5.2 it adds *“Marine aggregates contribute to diversity of supply and deliver high quality aggregate into the centre of areas of high demand with minimum disruption.”* London is an area of high demand. In paragraph 3.5.3 the MPS advises *“Marine aggregates can present reduced impacts on local communities compared to the extraction of land-won aggregates, in particular with regard to the extraction process and transportation. Substantial volumes of marine aggregates are landed on wharves close to where they are needed and locally distributed by rail, water (through barges) and road. Wider social and economic benefits include skilled, stable employment and the generation of income through the construction industry supply chain.”*
- 2.11 When considering dredging activity, decision makers are encouraged to consider the potential adverse impacts of dredging on the marine environment.

2.12 Following on from the MPS, the Marine Management Organisation (MMO) is now in the process of producing marine plans for different stretches of the coast. The Thames Estuary is covered by the emerging South Inshore Marine Plan⁴ (October 2014). That plan contains 2 objectives relevant to this policy area *“Objective 6 To avoid, minimise or mitigate displacement of marine activities that provide social benefits (especially to coastal communities).”* And *“Objective 13 To support marine activities that create and enhance employment opportunities at all skills levels, particularly where this reflects existing or developing skills among the workforce of coastal communities using the South marine plan areas.”*

Greater London Authority Act (1999)

2.13 Section 41 of this Act⁵ places duties on the Mayor with regards to the strategies the Mayor produces, such as the Mayor’s Transport strategy or the spatial development strategy, usually referred to as the London Plan. Given this, in sub sections 4 and 5, of Section 41, the Act states that:

- *In preparing or revising any strategy mentioned in subsection (1) above, the Mayor shall have regard to—*
- *the principal purposes of the Authority;*
- *the effect which the proposed strategy or revision would have on—*
- *the health of persons in Greater London; and*
- *the achievement of sustainable development in the United Kingdom; and*
- *the matters specified in subsection (5) below.*
- *Those matters are:*
- *the desirability of promoting and encouraging the use of the River Thames safely, in particular for the provision of passenger transport services and for the transportation of freight.*

London Plan Policy

2.14 The London Plan⁶ (March 2016) contains a number of relevant policies such as:

⁴ <https://www.gov.uk/guidance/south-inshore-and-south-offshore-marine-plan-areas>

⁵ http://www.legislation.gov.uk/ukpga/1999/29/pdfs/ukpga_19990029_en.pdf

⁶ <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

- 2.15 Policy 5.20 Aggregates *“A The Mayor will work with all relevant partners to ensure an adequate supply of aggregates to support construction in London. This will be achieved by: 3 importing aggregates to London by sustainable transport modes. Fb – safeguard wharves and/or railheads with existing or potential capacity for aggregate distribution Fc minimise the movement of aggregates by road and maximise the movement of aggregates via the Blue Ribbon Network.”*
- 2.16 Policy 6.14 Freight *“A The Mayor will work with all relevant partners to improve freight distribution...and to promote movement of freight by rail and waterways...B Development proposals that: c) increase the use of the Blue Ribbon Network for freight transport will be encouraged. C DPDs should promote sustainable freight transport by: a safeguarding existing sites and identifying new sites to enable the transfer of freight to rail and water...”*
- 2.17 Policy 7.26 Increasing the use of the Blue Ribbon Network for freight transport *“A The Mayor seeks to increase the use of the Blue Ribbon Network to transport freight. B Development proposals a) should protect existing facilities for waterborne freight traffic, in particular safeguarded wharves should only be used for waterborne freight handling use. The redevelopment of safeguarded wharves for other land uses should only be accepted if the wharf is no longer viable or capable of being made viable for waterborne freight handling...Temporary uses should only be allowed where they do not preclude the wharf being reused for waterborne freight handling uses...The Mayor will review the designation of safeguarded wharves prior to 2012. B) which increase the use of safeguarded wharves for waterborne freight transport, especially on wharves which are currently not handling freight by water, will be supported. C) adjacent or opposite safeguarded wharves should be designed to minimise the potential for conflicts of use and disturbance D) close to navigable waterways should maximise water transport for bulk materials, particularly during demolition and construction phases. C) Within LDFs boroughs should identify locations that are suitable for additional waterborne freight.”*
- 2.18 Other plan policies also promote waterborne freight. Policy 5.17 on Waste Capacity promotes the use of the river *“B Proposals for waste management should be evaluated against the following criteria:...e) achieving a positive carbon outcome for waste treatment methods and technologies (including the transportation of waste,... g the full transport and environmental impact of all collection, transfer and disposal movement and, in particular, the scope to maximise the use of rail and water transport using the Blue Ribbon Network. G Land to manage borough waste apportionments should be brought forward through: ...d safeguarding*

wharves (in accordance with Policy 7.26) with an existing or future potential for waste management.”

- 2.19 Policy 5.18 dealing with Construction, Excavation and Demolition waste the use of the river “*A New construction, excavation and demolition (CE&D) waste management facilities should be encouraged at existing waste sites, including safeguarded wharves,... B Waste should be removed from construction sites, and materials brought to site, by water or rail transport wherever that is practicable...*” In addition London Plan Policy 4.10 promotes the development of green enterprise as part of the Circular Economy, waste materials will have a key role in developing the Circular Economy.
- 2.20 In January 2005 the Mayor published the London Plan Implementation Report Safeguarded Wharves on the River Thames⁷ to support what was then London Plan Policy 4C.9. It reviewed the suitability of maintaining the safeguarding for 28 wharves upstream of the Thames Barrier and assessed the appropriateness of safeguarding additional wharves eastward. This review was conducted in consultation with the Port of London Authority and the riparian boroughs. Fifty wharves were subsequently safeguarded by the Secretary of State, based on the Mayor’s recommendation, through an article 10(3) direction. This direction requires the Mayor to be consulted before planning permission on a safeguarded wharf is granted.
- 2.21 Government guidance calls for development plans to be updated at least every five years. Consequently, as part of a proposed update to the safeguarded wharves policy the Mayor commissioned the 2011 URS/Scott Wilson study to advise him on safeguarding policy. In 2013 the Mayor submitted his proposals for safeguarding wharves to the Secretary of State. However, the Secretary of State declined to make a decision on this matter. As it stands the 50 safeguarded wharves designated as such in 2005 are the currently safeguarded wharves.
- 2.22 This 2016 report is the first stage in reviewing the safeguarded wharves network. As part of the Government’s Localism agenda it is likely that the power to safeguard wharves will be devolved from the Secretary of State to the Mayor (subject to secondary legislation being issued under sections 2A and 74 of the Town and Country Planning Act 1990 (as amended by the Housing and Planning Act 2016)). The date for this devolution is currently unknown.

⁷ <http://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves>

Other Relevant Mayoral Strategies

- 2.23 The Mayor's Transport Strategy⁸ (May 2010, pg. 167) sets out a complementary approach to that of the London Plan, it contains the following proposal *"The Mayor, through TfL, and working with the Port of London Authority, London boroughs and operators, will seek to ensure that existing safeguarded wharves are fully utilised for water borne freight (including waste), and will examine the potential to increase the use of the Thames and London's canal network for waterborne freight transport."*
- 2.24 In November 2011, the Mayor adopted his statutory Municipal Waste Management Strategy 'London's Wasted Resource'⁹ This contains Policy 2 (pg. 77) *'Reducing the climate change impact of London's municipal waste management'* This is underpinned by a series of proposals such as Proposal 2.5(pg. 77) which states *"The Mayor, through Transport for London (TfL), will work with waste authorities to maximise cost efficiencies and reduce the environmental impact of transporting municipal waste..."* On page 90 the strategy states *"The Mayor also wishes to see greater use of rail and water for transporting London's municipal waste and supports the development of more waste infrastructure at railheads and wharves..."* This is developed further in Proposal 5.3 (pg115) *"The Mayor, through TfL, will encourage the movement of municipal waste using sustainable modes of transport."*
- 2.25 *The Mayor, through TfL, will promote sustainable forms of transport for municipal waste, maximising the potential of rail and water transport where practicable*
- 2.26 *The Mayor, through TfL, will work with waste authorities to make better use of London's wharves and canals and the River Thames for developing the city's municipal waste management infrastructure."*
- 2.27 In his adopted Business Waste Strategy (November 2011) 'Making Business Sense of Waste'¹⁰ the Mayor is seeking a similar approach for business waste Proposal 3.6 (pg83) encourages the integration of waste infrastructure into the urban environment noting that "London needs to make better use of its rivers and canals, particularly for waterborne freight, including waste. This can also provide an opportunity for the waste sector to reduce its own

⁸ <https://www.london.gov.uk/what-we-do/transport/transport-publications/mayors-transport-strategy>

⁹ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/mayors-municipal-waste-management-strategy>

¹⁰ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/mayors-business-waste-management-strategy>

transport-related environmental impacts. Water transport is particularly suited to bulk movements of relatively low value cargoes, including waste and recyclates, and waste and materials associated with construction and demolition activities.”

- 2.28 This proposal is underpinned by a number of actions *“Action 3.6.1 The Mayor will examine opportunities for transporting waste by rail or water. Transport for London will, as appropriate, support businesses to explore opportunities to open up the rail and navigable water network for the transportation of waste, to allow the waste sector to reduce its vehicle mileage and the associated environmental and social impacts, including emissions, air quality, health impacts, noise and dust.”* and *“Action 3.6.2 Through Policy 5.17 of the London Plan, the Mayor will continue to require that wharves with an existing or future potential for waste management should be identified and safeguarded specifically for that use.”*
- 2.29 “Delivering London’s Energy Future”- London’s Climate Change Mitigation and Energy Strategy¹¹ (October 2011, pg. 181) highlights that the transport sector was responsible for 22% of London’s CO₂ emissions (9.9Mt) in 2008. Policy 10 seeks to tackle these emissions by *“Minimizing CO₂ emissions through a shift to more carbon efficient modes of transport. The Mayor , through TfL and working with boroughs and partners will support and incentivise carbon efficient travel behaviour, minimise the need to travel, and encourage a switch to lower carbon modes of transport....for freight, it will include water and rail-based movement.”*
- 2.30 The strategy notes that (pg 184) *“In total nearly three quarters of London’s CO₂ emissions from transport are from road-based modes.”* In contrast, water based transport contributes less than 1% of the emissions (Pg185). The strategy (pg. 189) notes that *“The average emissions from vans below 3.5 tonnes are 340g of CO₂e per tonne of freight moved per kilometre (tkm). The average emissions from large heavy goods vehicles (HGV’s) are 83g of CO₂e per tkm. Rail is much lower at 32g of CO₂e per tkm. Rail and water are only suited to certain types of freight flows and often have to be used in conjunction with road for collection and delivery. However, given London’s relatively dense network of railways and waterways, there is an opportunity to reduce CO₂ emissions from transporting freight in London.”*

¹¹ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/delivering-londons-energy-future-climate-change>

- 2.31 The strategy does not give an equivalent figure for the movement of freight by water. Although not strictly comparable the Logistics Research Centre (2004), based at Heriott-Watt University gave a figure of 30g of CO₂e per tkm for shipping¹². These figures are set out more clearly in Table 2.1 below.

Table 2.1 Comparative CO₂ Emissions per tonne-km by mode

Mode	CO ₂ e per tkm
Goods Vehicle < 3.5 tonnes	340
Goods Vehicle > 3.5 tonnes	83
Rail	32
Maritime	30

(Source: GLA 2011, Heriott- Watt University 2004)

- 2.32 The European Environment Agency¹³ (2013) shows figures for carbon emissions per tonne – km (see Table 2.2 below) which reveals the same general picture of rail and water having a similar level of carbon impact, both well below the carbon emissions of road based vehicles.

Table 2.2 Comparative CO₂ emissions per tonne-km 2011 EU Level

Road	75.3
Rail	21.0
Maritime	14.0

(Source: European Environment Agency Website (2013))

- 2.33 These carbon savings are the basis for the Strategy's Action 10.7 (pg. 192) *"The Mayor will continue to... safeguard wharf sites for water freight."* This is developed further on (pg. 196/7) in that *"Water transport is particularly suited to bulk movements of relatively low value cargoes for which speed is less critical...Increasing waterborne freight will depend on the availability of wharf facilities to transfer cargo between land and water. To encourage this shift, the Mayor is seeking to ensure that existing safeguarded wharves are fully utilised for waterborne freight"*

¹² http://www.greenlogistics.org/SiteResources/d82cc048-4b92-4c2a-a014-af1eea7d76d0_CO2%20Emissions%20from%20Freight%20Transport%20-%20An%20Analysis%20of%20UK%20Data.pdf

¹³ <http://www.eea.europa.eu/data-and-maps/figures/specific-co2-emissions-per-tonne-2>

and will look at the potential to increase use of the Thames and London's canal network for freight transport."

Local Policy

- 2.34 Safeguarded wharves are located in the following London boroughs (from west-east); LB Hammersmith & Fulham, Wandsworth, Kensington & Chelsea, City of London, Lewisham, Tower Hamlets, Greenwich, Newham, Barking & Dagenham, Bexley and Havering. All local plans have to be in general conformity with the London Plan. Accordingly, they all safeguard the wharves in their respective boroughs.

West

- 2.35 In LB Hammersmith & Fulham's adopted Core Strategy¹⁴ (October 2011) paragraph 7.140 seeks the consolidation of wharf capacity onto fewer better located sites and paragraph 7.141 calls for the removal of the safeguarding designation at Hurlingham wharf via the next Mayoral safeguarded review.
- 2.36 LB Wandsworth have an adopted Core Strategy¹⁵ (March 2016) that in Policy PL9 (pg68) maintains its protection for the 5 currently safeguarded wharves.
- 2.37 The consolidated local plan for RB Kensington & Chelsea¹⁶ (October 2015) calls the preservation of the safeguarded Cremorne Wharf, currently for waste uses, but acknowledging its potential to be reactivated for river cargo handling purposes.
- 2.38 The City of London Local Plan¹⁷ (January 2015) Policy CS17 calls for the continued safeguarding of its safeguarded wharf recognising its current contribution to sustainable waste management and its potential use for river transport of materials.

South East

¹⁴ <https://www.lbhf.gov.uk/planning/planning-policy>

¹⁵ http://www.wandsworth.gov.uk/downloads/file/11500/local_plan_-_core_strategy_adopted_march_2016

¹⁶ <https://www.rbkc.gov.uk/planning-and-building-control/planning-policy/local-plan/local-plan>

¹⁷ <https://www.cityoflondon.gov.uk/services/environment-and-planning/planning/planning-policy/local-plan/Documents/local-plan-2015.pdf>

- 2.39 The Adopted Core strategy for LB Lewisham¹⁸ (June 2011, pg. 139) in Policy SSA 2 calls for the mixed use redevelopment of the Convoys wharf site without prejudicing its current and future operation as a safeguarded wharf.
- 2.40 The Local Plan for the RB of Greenwich¹⁹ (July 2014, pg. 165) in Policy IM5 calls for the existing safeguarded wharves to be protected.
- 2.41 LB Bexley's Core Strategy²⁰ (February 2012, pg. 82) in paragraph 4.7.13 refers to Bexley's commitment to retaining and improving its safeguarded wharves.

North East

- 2.42 The LB Tower Hamlets Core Strategy²¹ (September 2010, Policy SP08, pg. 74) seeks to promote the sustainable transport of freight by safeguarding existing wharves.
- 2.43 LB Newham's Core Strategy²² (January 2012, pg. 148) in Policy INF 1 protects its wharves but seeks the consolidation /relocation of the wharves especially in the Royal Docks area.
- 2.44 The LB Barking & Dagenham Core Strategy²³ (July 2010, pg. 56) in Policy CE4 sets out its protection for safeguarded wharves only allowing their release if this meets the criteria set out in the London Plan.
- 2.45 Similarly, the LB Havering Core Strategy and Development Management Policy Document²⁴ (2008) seeks in Policy CP10 pg. 122) to promote sustainable transport by seeking to maximise the use of the Thames, this is underpinned by DC 39 (pg. 232) that protects the safeguarded wharves, only allowing their loss when the criteria set out in the London Plan are met.

¹⁸ <https://www.lewisham.gov.uk/myservices/planning/policy/LDF/development-policies/Documents/DMLPAdoption.pdf>

¹⁹ http://www.royalgreenwich.gov.uk/info/1004/planning_policy/869/local_development_framework/2

²⁰ <http://www.bexley.gov.uk/corestrategy>

²¹ http://www.towerhamlets.gov.uk/ignl/environment_and_planning/planning/planning_guidance/local_plan.aspx

²² <https://www.newham.gov.uk/pages/services/local-plan.aspx>

²³ <https://www.lbld.gov.uk/residents/planning-and-building-control/planning-guidance-and-policies/development-plan/core-strategy-dpd-2010/>

²⁴ <https://www.havering.gov.uk/Pages/Services/Adopted-LDF-documents.aspx>

Other Relevant Strategies

- 2.46 OSC has undertaken their own literature review and outlined additional schemes and programmes that could provide increased cargo flows on the Thames. This calls on decision makers, such as the Mayor and local planning authorities to have a multi-focused approach in an effort to boost the use of waterborne freight.

Port of London Authority (2016) Vision for the Tidal Thames

- 2.47 In July 2016 the Port of London Authority published its 20 year 'Vision for the Tidal Thames'ⁱ which provides a framework for the development of the tidal Thames through to 2035. The Vision was developed in partnership with estuary stakeholders and includes six key goals for growth and actions to deliver these goals. A number of these goals relate to waterborne freight and the future use of safeguarded wharves.
- 2.48 The Vision includes a goal to '*see more goods and materials routinely moved between wharves on the river – every year over 4 million tonnes carried by water – taking over 400,000 lorry trips off the region's roads*'. The Vision also includes a goal to '*see the Port of London becoming the biggest it's ever been, handling 60 – 80 million tonnes of cargo each year*'. The vision recognises the importance of maintaining and improving exit and entry points to the river to enable freight and cargo transport and includes a goal to '*maintain or reactivate viable cargo handling facilities, with at least five additional facilities brought into operation by 2025*'. The Vision also includes a goal to extend the Mayor's River Concordat, originally set up to promote passenger transport, to include the promotion of freight movement by water.

The Thames Estuary Growth Commission

- 2.49 The Thames Estuary 2050 Growth Commission was announced by the Chancellor of the Exchequer in March 2016. The Commission is charged with developing a vision and delivery plan for North Kent, South Essex and East London, reporting back by 2017 with a clear and affordable delivery plan for achieving the vision. As outlined in DCLG's July 2016 discussion paperⁱⁱ, a key work stream for the Commission will be to review opportunities and constraints associated to 'increasing connectivity', which will include a review waterborne transport and associated infrastructure.

Environment Agency (2015) Thames River Basin District – River Basin Management

- 2.50 The Environment Agency's Thames River Basin District – River Basin Management Plan 2015ⁱⁱⁱ establishes a framework for protecting and enhancing the environmental, social and economic benefits provided by the water environment, implementing the requirements of the European Water Framework Directive. The Plan recognises that value of the estuary, and wider water environment, in supporting transportation and economic development. The plan recognises that value of the estuary in supporting commerce and navigation, through its designation as a Heavily Modified Water Body (HMWB).

National Needs Assessment

- 2.51 The National Needs Assessment (NNA) is a cross-sector policy review of the UK's national economic infrastructure needs to 2050. Coordinated by the Institute of Civil Engineers (ICE), it covers energy, transport, communications, housing, water, waste and flooding. The NNA has established a shared vision for infrastructure, stating *'The UK will invest efficiently, affordably and sustainably in the provision of infrastructure assets and services to drive the economic growth necessary to enhance the UK's position in the global economy, support a high quality of life and shift towards a low carbon future'*.

Thames Estuary Partnership - Management Guidance for the Thames Estuary (1999).

- 2.52 Ensuring commercial activities continue to thrive and grow without compromising the natural, heritage, recreational, and landscape resources of the estuary is an overarching aim of the guidance. The guidance highlights that using the river as a sustainable transport corridor could result in significant reductions in road traffic and congestion. The guidance also includes Principles for Action for the safeguarding of riverside areas with good navigational access for river dependant activities.

Thames Strategy East – Tower Bridge to Tilbury (2008).

- 2.53 Thames Strategy East is a strategic planning document providing a 100 year vision for the Thames area stretching from Tower Bridge to Gravesham. The plan focuses on providing landscape and development design guidance based on heritage, natural habitat preservation, recreational and access needs, economic considerations and flood defence requirements. Thames Strategy East forms part of the Mayor's London Plan. The strategy includes reach specific guidance and policy which highlights the potential of waterborne transport.

3 Demand

3.1 This chapter begins by looking at the current use of the Thames for freight before moving on to discuss alternative approaches to forecasting demand up to 2041. It then concludes by setting out a forecast to 2041.

3.2 It was stated in paragraphs 1.4 and 1.5 that this 2016 report builds from the 2011 URS/Scott Wilson study. To allow some comparisons this 2016 update takes a similar approach to analysing commodities on the Thames by grouping them together (further detail on this is set out in Appendix 2). A number of the categories are self-explanatory - petroleum, steel, sugar and vehicles - some are not;

- Construction Materials – Aggregates, Cement, Crushed Rock, CD&E waste
- Other Liquid Bulks – Vegetable Oils, Liquid Fertilisers
- Agricultural Bulks – Cereals, Animal Feeds, Oil Seed

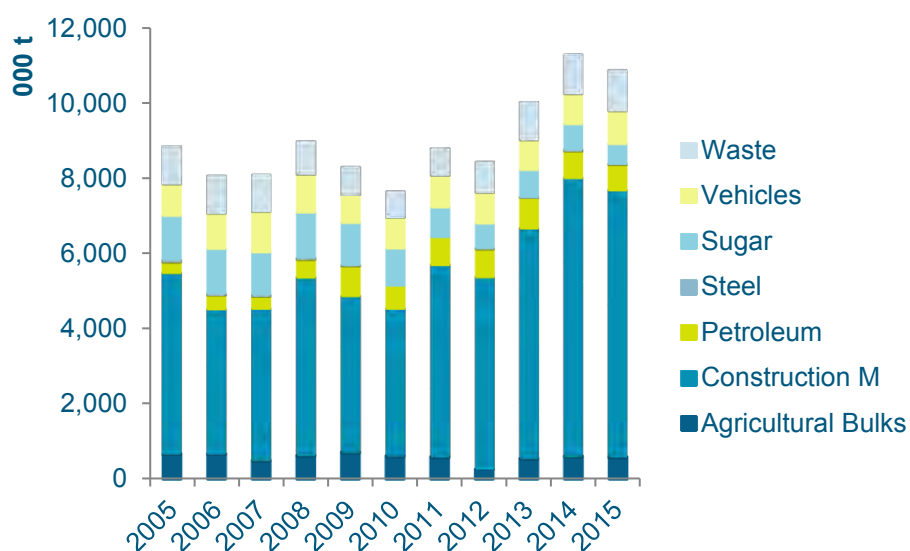
- Other Dry Bulks – Fertilisers, Dry Chemicals, Salts
- Waste – recycled materials, household and commercial waste but not CD&E waste
- General Cargo – Goods outside any of the other categories, for instance timber.

Current Position

3.3 Traffic on the Thames has been increasing over the last decade. Within the wharves under consideration overall trade reached almost 11mn tonnes in 2015. This is an increase in 20% since 2005. The main cargo handled is construction materials (including CD&E waste) which in 2015 accounted for 65% of the total traffic, as highlighted in Figure 3.1 below.

3.4 Table 3.1 shows the composition of freight on the Thames for 2015. It shows a highly skewed demand with construction materials and waste accounting for 75% of the traffic, while, Steel, Other Liquid Bulks, Other Dry Bulks and General Cargo account for less than 1% of the traffic. It is also clear that most of the uses relate to specific sectors of the economy – primary & utilities, manufacturing, construction and transport & communications.

Figure 3.1 Thames Freight Traffic, 2005-2015



(Source: PLA 2016)

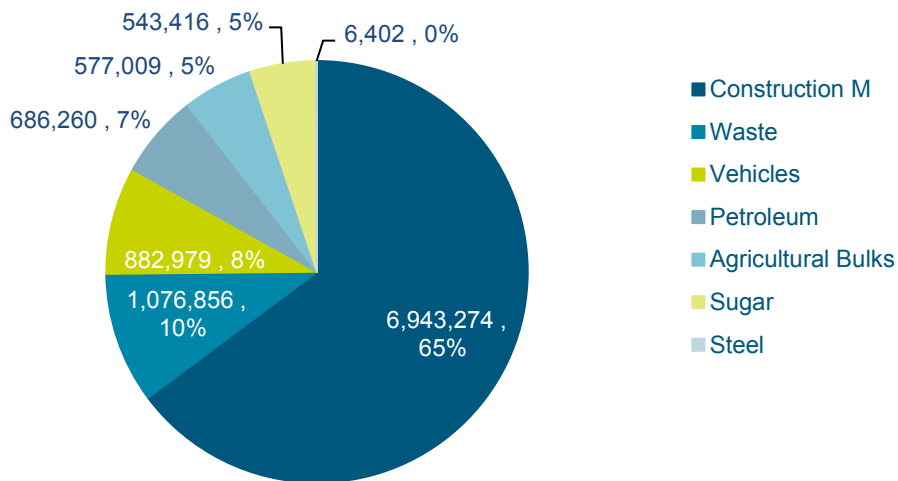
Table 3.1 Composition of Freight Traffic on the Thames 2015

Commodity	Tonnes	% of Total
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Construction Materials	6,943,274	64.8%
Waste	1,076,856	10.0%
Vehicles/Unitised	882,979	8.2%
Petroleum Products	686,260	6.4%
Agricultural Bulks	577,009	5.4%
Sugar	543,416	5.1%
Steel	6,402	0.1
Other Liquid Bulks	0	0
Other Dry Bulks	0	0
General Cargo	0	0
Total	10,716,196	

(Source: PLA 2016)

Figure 3.2 Trade Commodities on the Thames, 2015 (tonnes)



(Source: PLA 2016)

3.5 For their 2011 study the consultants used a 10 year window (2000-2010) to examine change in freight on the Thames²⁵. This 2016 update takes a similar approach of using a 10 year window to examine change (2005-2015). This is considered reasonable as it includes both a recessionary period and a growth period. Table 3.2 below shows that the pattern of those commodities using the Thames has changed over the last decade (2005-2015). The

²⁵ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves> pg 22

importance of Construction materials has increased, there has been a slight increase in waste and slight decline in vehicles, petroleum products have increased sharply. Agricultural Bulks have declined slightly. Sugar and Steel have seen large falls. The remaining three categories have fallen to zero.

- 3.6 Table 3.3 below shows change in freight traffic on the Thames over the 2005-2015 period. It shows overall growth of 18%. This total figure masks some variations between commodity groups. Whilst construction materials grew by 42%, sugar declined by 53%. The table also shows the compound annual growth rate for each commodity group (CAGR). CAGR is used as it shows geometric growth over a longer time period rather than the wide fluctuations that can occur with annual change figures.

Table 3.2 Composition of Freight Traffic on the Thames 2005

Commodity	Tonnes	% of Total
Construction Materials	4,823,936	53.1%
Sugar	1,164,999	12.8%
Waste	1,009,224	11.1%
Vehicles/Unitised	862,625	9.5%
Other Liquid Bulks	0	-
Agricultural Bulks	652,712	7.2%
Steel	54,667	0.6%
Petroleum Products	295,550	3.3%
Other Dry Bulks	0	-
General Cargo	0	-
Total	9,092,167	

(Source: GLA Safeguarded Wharves Review 2013 Table 3.5)

Table 3.3 Change in Freight Traffic on the Thames 2005-2015

Commodity	Tonnes 2005	Tonnes 2015	Overall Change	% Change from 2005	% Compound

					Annual Growth Rate
Construction Materials	4,894,407	6,943,274	2,048,867	41.9%	3.6%
Sugar	1,164,999	543,416	- 621,583	-53.4%	-7.3%
Waste	1,009,224	1,076,856	67,632	6.7%	0.7%
Vehicles/Unitised	862,625	882,979	20,354	2.4%	0.2%
Agricultural Bulks	652,712	577,009	- 75,703	-11.6%	-1.2%
Steel	54,667	6,402	- 48,265	-88.3%	-19.3%
Petroleum Products	295,550	686,260	390,710	132.2%	8.8%
Total	9,092,167	10,716,196	1,624,029	17.9%	1.7%

(Source: Tables 3.1 and 3.2 above)

3.7 Compound annual growth rate is calculated using the following formula;

$$CAGR = \left(\left(\frac{End\ Value}{Start\ Value} \right)^{\frac{1}{n}} \right) - 1$$

3.8 Table 3.4 below shows the compound annual growth rate (CAGR) URS/Scott Wilson found over the 2000-2010 compared with the equivalent figure for the 2005-2015 period found in Table 3.3. It shows that in the more recent 2005-2015 period that the overall rate of change has been positive +1.7%, well above the -3% found for the 2000-2010 period. For individual sectors it has seen acceleration in growth in agricultural bulks whereas sugar has seen an accelerated rate of decline. Other commodities, such as waste have seen their predicted rate of decline slow. Vehicles and agricultural bulks are now forecast to grow, rather than decline. Petroleum products are still assumed to grow strongly, albeit at a less expansive rate than found in the earlier period.

Table 3.4 Change of Rate in Freight Traffic on the Thames

Commodity	% CAGR 2000-2010	% CAGR 2005-2015
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Construction Materials	-2.5	3.6%
Sugar	-3.0	-7.3%
Waste	-4.0	0.7%
Vehicles/Unitised	-1.0	0.2%
Other Liquid Bulks	+7.0	
Agricultural Bulks	-12.0	-1.2%
Steel	n/a	-19.3%
Petroleum Products	+33.0	8.8%
Other Dry Bulks	n/a	
General Cargo	-45.0	
Total	-3.0	1.7%

(Source: GLA Safeguarded Wharves Review 2013, Table 3.5 and Table 3.3 above)

3.9 So the current context for freight traffic on the Thames reveals an overall picture of growth, masking variation within the commodity groupings that highlight growth in some sectors, construction materials and decline in others, such as steel. There has also been a contraction in the range of commodities moved on the Thames and the increasing importance of construction materials. URS/Scott Wilson (pg. 28) considered the decline of 3% in CAGR could be related to structural changes in the economy rather than a short term fall caused by the impact of the 2008 recession. This was due to their assumptions that those sectors of the economy that made most use of the river were forecast to shrink, impacting on wharf activity. By 2015, the position has reversed with growth now occurring. High levels of development activity in London may be causing the increase in construction materials found above, giving, in turn, an overall growth in activity.

3.10 Having established a current picture for freight traffic on the Thames, this report will move on to looking at ways to forecast future demand to 2041.

Forecasting Demand – Possible Approaches

3.11 One way to do this would be to look at economic forecasts, produced by organisations like the Office of Budgetary Responsibility and apply the percentage growth rates to the 2015 position. However, the tables above make it clear that the different commodity groups do not perform

in a uniform way. In addition, the London economy, with its higher proportion of service sector employment, does not perform in an identical pattern to the broader UK economy, a general pattern being that in good times, London does slightly better than the UK as whole and that in bad times recessions are less severe in London.

- 3.12 In 2006 the Department for Transport, appointed MDS Transmodal Ltd²⁶ to forecast UK port demand to 2030. While they forecast an overall growth of 30% in port demand for the 2005-2030 period, the bulk of this growth was forecast to be in unitised cargo and other liquid bulks. For the London region, the long term forecast showed no growth within London and URS/Scott Wilson found no correlation between DfT trade forecasts and London's wharf trade²⁷.
- 3.13 In November 2015, the Port of London Authority (PLA) published forecasts for the period 2014 – 2035²⁸. These forecasts apply to the entire PLA area (i.e. they include Essex and Kent). The forecasts were prepared by the Stamford Research Group, using a mixture of top-down econometric modelling and bottom-up market intelligence (talking to operators and owners). They produced a range of forecasts, low, central and high.
- 3.14 Table 3.5 below shows their central forecast to 2035. It shows overall growth in total traffic with unitised traffic growing at double the overall rate and only petroleum forecast to decline (in line with assumptions that the UK de-carbonises its economy). Unfortunately it is not possible to extract the London only data from this study. However, it does provide an indication of likely growth patterns for freight on the Thames for most of the relevant period under consideration. London's wharves are unlikely to benefit from the growth in unitised traffic as it lacks the deep water berths unitised traffic needs. However, there is no reason to believe that London could not share in the growth in aggregates and the all other commodity groups.

Table 3.5 PLA Forecasts Central Scenario 2014-2035 (Mt)

Commodity	Tonnes 2014	Tonnes 2035	Overall Change	% Change
Unitised	16.9	48.3	31.4	186

²⁶ <http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/consultations/archive/2006/ppr/ukportdemandforecaststo2030.pdf>

²⁷ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves>, pg 33

²⁸ <https://www.pla.co.uk/assets/forecasts-consultationdocumentv11december-1.pdf>

Petroleum	11.9	10.7	-1.2	-10
Aggregates	9.6	12.4	2.8	29
All Other	6.1	7.6	1.5	25
Total	44.5	79.0	34.5	78

(Source: PLA 2015)

- 3.15 Another way to forecast London-specific growth would be to apply the standard Gross Value Added (GVA) assumption of 2.5% per annum used by GLA Economics in their long term forecasting for London²⁹. This figure could be said to represent the long term view taking account the cyclical nature of economies. However URS/Scott Wilson³⁰ (pg. 29) found the correlation between London's GVA and its trade through the wharves to be a weak correlation of 0.3. This indicates that GVA is not an accurate predictor of demand for wharves. Given that the London economy has been de-industrialising over a number of decades it is unsurprising that overall economic growth is decoupled from the industrial sectors that currently dominate wharf activity.
- 3.16 This point is underlined by URS/Scott Wilson³¹ (pg. 31) when they found a negative correlation of -0.8 between GLA employment forecasts and wharf activity as the GLA forecasts (2007) found those sectors that use the wharves, primary & utilities, manufacturing, construction and transport & communications, were forecast to decline. The most recent GLA employment projections (June 2016) continue to show decline in primary & utilities, manufacturing and transport & communication sectors with some growth in construction.
- 3.17 Table 3.6 below compares the forecast change in GLA Economics employment projections for London as a whole and for the four sectors referred to in paragraph 3.16 above. It looks at the pattern in the earlier 2011-2031 projections³², used by URS/Scott Wilson to establish the negative correlation between employment forecasts and wharf activity and compares this with the most recent 2016 employment projections³³. The 2016 forecasts continue to show three of the sectors making no contribution to London's anticipated growth, although primary and manufacturing are now forecast to decline at a slower rate than the earlier projection. The

²⁹ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves>

³⁰ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves>

³¹ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/safeguarded-wharves>

³² https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/wp38-web-final.pdf

³³ <https://www.london.gov.uk/business-and-economy-publications/london-labour-market-projections-2016>

decline in the transportation sector is thought to be greater than anticipated previously. In contrast, the above London total projected change for construction, suggests strong growth in this sector.

Table 3.6 GLA Employment Projections

Sector	Projected Change 2011-2031	Projected Change 2014 – 2041
All	+ 14%	+15%
Primary & Utilities	-52%	-19%
Manufacturing	-54%	-44%
Construction	-1.0%	+16%
Transport & Communication	-1.0%	-18%

(Source: GLA Economics 2010 and 2016)

4 Historic Trends & Forecasting Demand

- 4.1 One way to forecast change into the future is to assume that what held true in the past will hold true into the future. Assuming that the change found over the 2005-2015 period can be applied over the 2016-2041 period.
- 4.2 OSC were asked to apply their specialist knowledge of the shipping industry and advise if they believed that there were other sectors the Mayor should be forecasting for up to 2041. Currently, construction materials and waste are the main focus for future transportation on the Thames. Both in-house discussions with engineers and various industry sector interviews provide an outline on some of the recent findings for current and future shipping on the Thames.
- 4.3 London is well served for container capacity; both Tilbury and London Gateway are within 25 miles of central London. In addition, Southampton, which has is a major container terminal on the south coast is only 70 miles from central London. However, the containers that service London stem mostly from road and rail transportation. Various schemes have been suggested that could encourage containers on to barges and shipped to local destinations within London. However, as the previous URS (2013) study mentioned, investment for the transshipment of containers is currently unviable, as expensive infrastructure equipment would be required for

a wharf (or wharves) to handle containers. As such, a container handling facility in central London would require a large site to encourage economies of scale for the transshipment of containers. This option could be politically encouraged, but would require significant investment from both central and local government to establish suitable facilities. It is reasonable to suggest that this is not a high enough priority for this to occur.

- 4.4 Whilst considering possible modal shifts in transportation, OSC in consultation with its in-house engineers highlighted that if political will was sufficient, the transportation of lorries and their associated cargoes (it is suggested possibly containers loaded at Tilbury or London Gateway) could be undertaken via barge. The lorries could be driven on to barges and then transported along the river to a depot/berth for disembarkation. Depending on the end destination of the cargo this could alleviate a number of truck movements into and through London. However, this is not a fully modelled suggestion, and would need examination/investigation for its viability.
- 4.5 The movement of household and light industrial waste, which can either be unsorted or sorted or baled, has also been highlighted by OSC. Materials either as a bulk cargo or in a container are being transported down the Thames to Tilbury for either further sorting or storage, then onward being transported to recycling plants in Europe. This is a growing sector that could provide significant quantities for barging in the future.
- 4.6 An interview with London Construction Link (LCL) highlights the possibilities to utilise the Thames more for the transportation of goods and materials. LCL is a collaboration between the Port of Tilbury and S. Walsh & Sons (a barge and tug owner/operator). The partnership is seeking to reduce congestion within London by promoting river transport. With the many largescale projects that are underway or planned in the Capital, the initial focus will be on construction materials and large equipment. However, in the longer term, this partnership is looking to provide a service to other cargoes.
- 4.7 The Port of Tilbury provides an area for cargoes to be consolidated before being transported up river to the appropriate wharf. It is envisaged that several of the safeguarded wharves could be utilised as 'spoke' wharves. Potentially, there could be a system whereby cargoes are loaded at Tilbury then transported up river to a spoke wharf in the 'East' or 'West'.

- 4.8 One concern that the LCL has encountered is that there are many local planners, councils, and stakeholders along the river, each having their own focus. A more holistic approach to encourage more river transport would be if there is a proposed development close to the river, planning approval should be provided with the stipulation that river transport is used for materials to and from the site. .
- 4.9 Overall, with the backing of LCL, there is clear potential for increased river transportation – not just construction materials but other commodities in the future.
- 4.10 In addition, OSC used their knowledge of the commodities analysed in this study identified that movements of large vessels on the Thames are restricted by draft and length of vessels. Vessels with a long overall length need to be accompanied by tugs through the Thames tidal barrier; such vessels include large cruise ships and naval vessels. Smaller bulk vessels that, for instance, supply the Tate & Lyle sugar refinery are able to proceed upstream unassisted. Overall, smaller vessels or barges offer the main form of transportation along the Thames.
- 4.11 Overall, the main focus of expansion for additional cargo flows on the Thames will stem from the numerous construction projects that are currently in progress or will commence in the near-future. This will require additional movements of barges for the construction industry and the materials utilised in each project.
- 4.12 For waste - there is increased interest in Refuse Derived Fuel (RDF) which could lead to increased quantities of waste being transported via the Thames to waste sorting depots - such as Tilbury.
- 4.13 Discussions with Stolt at Pinnacle Terminals highlighted that recent investment at their facility could provide additional storage and throughput capacity for petroleum products in the near-term.
- 4.14 Discussions with the Thames Refinery outline that for sugar the outcome of Brexit will be the largest single determinant of future trades. A positive exit and an open sugar policy have the potential to double sugar imports in the near-term.

Heathrow announcement

- 4.15 The Government has recently announced its support for the construction of a third runway at Heathrow. It is assumed that the majority of the material required for the project (construction and waste materials) will be transported by road and rail via a logistics centre – as was the case for Terminal 5. The plans are still at a preliminary stage, with additional details of the logistic requirements being furnished as the project develops. Overall requirements for construction materials are still in the design and planning stages. Unlike, T5, which was a new terminal, with accompanying pavement areas for planes, the third runway at Heathrow will require significantly more material movement.
- 4.16 There is potential for material for the site to be transported via the Thames. However, there are significant limitations. Firstly a new wharf would need to be established for the loading/offloading of material (at a location near Heathrow – possibly Staines). Second, a logistics centre would need to be established for the vehicles servicing the airport construction. Thirdly, there are a number of road and rail bridges and six locks (see below) to navigate when transporting materials to and from the upriver wharf.
- 4.17 Locks in the Upper-Thames
- Richmond Half lock
 - Teddington Lock
 - Hampton Court lock
 - Sundury lock
 - Chertsey Lock
 - Egham Lock
- 4.18 These various restrictions, and there could be additional factors not mentioned here, would make utilising the Thames for the Heathrow project in any meaningful capacity highly unlikely.

- 4.19 However, it should be noted that Surrey county council ‘consider opportunities to support commercial initiative for river freight transport on the River Thames on a case by case basis, subject to appropriate environmental safeguards and consideration of impact on other users’³⁴.
- 4.20 In their study, URS/Scott Wilson used historic trends to forecast wharf activity for most, but not all, of the commodity groupings. Instead they examined ‘bottom up’ trends in these sectors discussing potential for growth with operators in the relevant industry. These were waste and construction materials.

Waste

- 4.21 Paragraph 3.2 makes clear that for the purposes of classifying commodities into relevant groups that Construction, Demolition and Excavation (CD & E) waste is not categorised as waste but as construction materials. Accordingly, this important waste stream is not discussed under waste but in the following section as part of construction materials. The Mayor’s role in waste planning is a limited one, mainly focussing on persuasion and bringing the diverse players in the waste industry together. The Mayor is not a waste collection, disposal nor planning authority, but the Mayor does have specific waste duties under the GLA Act.
- 4.22 However, the now rescinded PPS10 (Waste) gave the Mayor a role in forecasting Household waste and Commercial/Industrial waste. The London Plan³⁵ (March 2016) contains forecasts for waste arisings for these streams. These forecasts were accepted by the Examination in Public Inspector as a sound and reasonable basis to work from. They are set out below in Table 4.1 and shows forecast change for these two waste streams for the 2016-2036 period. Although it is the household waste sector, the smaller of the two waste streams, that the bulk of the growth (86%) is forecast to occur, this reflects the strong upward demographic projections the Plan is based on. Over the forecast period household waste increases from 40% of the total in 2016 to 43% by 2036.

Table 4.1 London Plan Forecast Waste Arisings (000's tonnes pa) 2016-2036

	2016	2021	2026	2031	2036	Change
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³⁴ https://www.surreycc.gov.uk/_data/assets/pdf_file/0006/29985/STP-Freight-Strategy.pdf

³⁵ <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

Household	3,115	3,226	3,387	3,492	3,589	474
Commercial	4,654	4,637	4,647	4,681	4,734	80
Total	7,769	7,863	8,034	8,173	8,323	554

(Source: London Plan 2016 – Table 5.2)

- 4.23 An important consideration that needs to be borne in mind when looking at the waste industry is the very different approaches taken to these two waste streams. The Commercial/Industrial stream is almost exclusively dealt with within the private sector. Individual firms that generate waste enter into short term commercial contracts with waste management firms. These contracts can be as short as six months or one year. However, there is significant interest within this sector. As such there are a number of facilities being developed around the country specifically for this waste stream.
- 4.24 In contrast, the Household waste is collected either by or on behalf of the London boroughs. They will enter into long term contracts, twenty to twenty five years, with the waste management industry. The long term stability and certainty these contracts offer allow the private sector waste management firms to develop facilities to deal with this waste, knowing that they can rely on a steady stream of waste flowing into their facility.
- 4.25 Household waste has been moved by water historically for two purposes, moving material to landfill sites and moving material to incineration facilities. The Landfill tax escalator has made landfilling increasingly more expensive making alternative forms of waste management financially viable. Accordingly, the amount of Household waste being sent to landfill has been in decline for a number of years now. The movement of household waste by water to landfill sites ceased in 2010 with the closure of a landfill site in Essex.
- 4.26 Household waste is still moved on the Thames. Waste from the Western Riverside Waste Authority (comprising the boroughs of Hammersmith & Fulham, Kensington & Chelsea, Lambeth and Wandsworth) as well as waste from the City of London is moved down stream for processing at the Riverside Resource Recovery energy from waste facility at Belvedere – either for departure or receipt of waste. This has been occurring since 2011 when the facility was commissioned and will continue at least for the 30-year life of the Western Riverside contract. In addition, waste from Tower Hamlets (Northumberland Wharf) is also moved downstream to Belvedere. The planning permission restricts movement by road to a maximum of 85,000 tonnes pa., so movement by river is guaranteed unless the planning conditions are changed, which is unlikely.

- 4.27 In addition, the incineration process creates incinerator bottom ash (IBA). The IBA from the Riverside Resource Recovery facility is moved by barge from Middleton Jetty to Tilbury in Essex where it is processed for use as aggregate.
- 4.28 There are two other operational energy from waste facilities in London, LondonWaste in Edmonton (LB Enfield) and SELCHP (LB Lewisham). Both of these plants are remote from the Thames and although access by the canal network is possible the need to double handle any waste means river transport unlikely to be a viable option for either facility. LondonWaste has looked into this extensively, as have other waste operators such as ByWaters in Frog Island. River or canal transport is generally considered to be feasible if external funding can be sourced for the wharves / interchange facilities.
- 4.29 The facility at Belvedere is likely to continue to operate after 2036. There is currently a Development Consent Order for determination by the Secretary of State for the on-going operation of the facility at Edmonton. If approved this will extend the operational lifetime of the facility to 2051. It was 'originally' forecast to close in 2014. The facility at Belvedere is extremely likely to have its life extended, as is proposed for the facility in Edmonton, due to the financial benefits of continuing to operate a facility that is now 'paid for', and the difficulty in getting approval for a large scale replacement, the main reason why the facility at Edmonton continues to operate.
- 4.30 At the time that URS/Scott Wilson undertook their study they could not use the movement of household waste by water to Belvedere as part of well-established trend and therefore had to make some assumptions about waste. The facility at Belvedere has received approval (Dec 2015) to increase its annual throughput by 115,000 tonnes, which is expected to be sourced from the Port of Tilbury in Essex, and therefore will be transported by barge.³⁶
- 4.31 OSC highlight that Refuse Derived Fuel (RDF) exports from the UK have increased from approx. 10,000 tonnes in 2010 to 3.3 million tonnes in 2015. London Ports (Purfleet, Barking, Tilbury, Gillingham / Chatham, Thamesport, Ridham) are one of four key port hubs exporting RDF material (with Humber, Suffolk, and Kent ports being the other three). These four hubs handle 90% of England's RDF exports, sending material to the Netherlands, Germany,

³⁶ <http://www.letsrecycle.com/news/latest-news/cory-expansion-points-to-london-efw-growth/>

Sweden, Denmark, Latvia, Norway, Belgium, Portugal, France, Estonia and Portugal.³⁷ This new market for waste has developed in response to the reduction in landfill availability in the UK, limited growth in energy from waste capacity, and cheap disposal fees at continental energy from waste plants. The market continues to grow, and much of this export will continue to be from London given its proximity to the continent, but the level of future exports will be influenced by a number of issues:

- increased capacity in the UK for treating the waste;
- affordability e.g. increase in transport costs or disposal costs (gate fees) charged by continental facilities;
- government policy changes e.g. energy security – exporting RDF is exporting energy (none are currently signalled, but much can change between now and 2041); and
- impacts of Brexit (e.g. greater bureaucracy / increased difficulty of gaining approval for export / trade barriers / operators in the EU preferring to work with other EU suppliers, especially from Eastern Europe, which has a shortage of waste treatment facilities).
- Recycled materials continue to be exported from London ports, however London's recycling rate appears to have plateaued. Without significant government intervention, which has not been signalled by the current government, it seems unlikely that the amount of material recycled (and therefore exported) will increase substantially in the foreseeable future.³⁸ Following Brexit, it is reasonable to assume the impact of the Circular Economy Package (increased reuse and recycling rates) will be minimal as the government will need to develop its own environmental legislation.

Construction Materials

- 4.32 The approach to looking at construction materials has changed since the earlier study. The URS/Scott Wilson study made reference to Minerals Policy Statement 1, since replaced by the National Planning Policy Framework (NPPF) (March 2012) and Minerals Planning Guidance 6 that set out guidelines for aggregate production. The earlier study assumed that the trends identified in that guidance up to 2020 would continue on to 2031. They also made some assumptions about the amount of excavation waste that could be generated from schemes like Crossrail and the Thames Tideway Tunnel and further assumptions about tonnages of construction and demolition waste that could be moved via the river from other projects.

³⁷ <http://link2energy.co.uk/929>

³⁸ <https://www.london.gov.uk/press-releases/assembly/jenny-jones/londons-worst-annual-recycling-fall>

- 4.33 The NPPF³⁹ (March 2012) changes the approach to be taken on ensuring there is a steady and adequate supply of aggregates. Minerals Planning Authorities should now prepare (para 145) *"an annual Local Aggregate Assessment, either individually or jointly by agreement with another or other mineral planning authorities, based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources);"* The paragraph goes on to advise that published National and Sub National Guidelines should be used as a *guideline* (Mayor's emphasis) when planning for the future demand for and supply of aggregates. London has deposits of sand and gravel and as such this paragraph of the NPPF requires London to maintain a land bank of at least 7 years.
- 4.34 The Mayor is not a mineral planning authority so is not required to produce an annual local aggregates assessment (LAA) nor define a 7 year land bank for himself. However, recognising that his role is a strategic one and that staff resources in the boroughs are stretched thin in the current financial climate he has produced a London-wide Local Aggregate Assessment (2013). Adopted London Plan policy 5.20 (Aggregates) seeks to maintain a 7 year land bank of sand and gravel by setting a target for at least 5 million tonnes up to 2031, an annual figure of 0.7mt pa. This was accepted by the Examination in Public Inspector as a rate that was stretching but deliverable by the boroughs given that there are only 4 boroughs (Havering, Hillingdon, Hounslow and Redbridge) where mineral extraction was currently, or likely, to take place.
- 4.35 Table 4.2 below shows the rolling average of 10 years sales data, as advised by the NPPF to show likely levels of supply.

Table 4.2 Ten years sales data 2004-2013 (mt)

	Annual Average
Alternatives (CD&E)	5.5
Marine Dredged Sand & Gravel	3.8
Crushed Rock	3.5
Land won Sand & Gravel	0.8
Total	13.6

(Source: London Local Aggregates Assessment 2014)

³⁹ <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

- 4.36 Table 4.3 below summarises data from the London LAA⁴⁰ (September 2014). It shows the important contribution of marine dredged sand and gravel (MDSG) to London's aggregate supply. It also shows that the relative importance of MDSG is increasing over time from 25% in 2009 to 28% in 2013. The 2015 Aggregates Annual Monitoring Survey⁴¹ show a higher level of MDSG at 5.0mt being landed at London's wharves, approximately 30% of the total supply.

Table 4.3 Contribution of Different Materials to London's Aggregate Supply

Source	2009	2013
Total (mt)	15.4	15.6
Recycled CD&E Waste	6.0 (39%)	6.1 (39%)
Marine Dredged Sand & Gravel	3.8 (25%)	4.4 (28%)
Crushed Rock	4.1 (27%)	3.6 (24%)
Land won outside London	1.1 (4%)	1.1 (4%)
Land won within London	0.4 (3%)	0.3 (2%)

(Source: London Local Aggregates Assessment 2014)

- 4.37 The table above also shows the importance of recycled construction, demolition and excavation waste to London's total aggregate supply. Much of this material, because of its bulky, low value nature, is suited to movement on the river. Recent examples of this trade are the construction of Crossrail and the Lee Tunnel. Table 4.4 below shows the recent movement of CD&E waste on the Thames from these two construction projects.

- 4.38 Crossrail - An east-west train line across London and beyond, the Crossrail Bill was enacted in July 2008, tunnelling began in 2012; there will be 42km of tunnels. Waste is taken out from the western end at Paddington where it is moved by rail to Northfleet (Kent CC) before being put on the river. Waste at the eastern end has been put straight onto the river at three different wharves in the Canning Town area of LB Newham. Tunnelling has now finished and is estimated that 7mt of CD&E waste will have been generated. Data from Table 4.4 shows an

⁴⁰ <https://www.london.gov.uk/what-we-do/planning/who-we-work/planning-working-groups/london-aggregates-working-party>

⁴¹ <https://www.london.gov.uk/what-we-do/planning/who-we-work/planning-working-groups/london-aggregates-working-party>

annual average movement of 776,000 tonnes from three wharves. Out of the total of 7mt of CD&E waste, 3.1mt or 44% was moved by river within London.

- 4.39 The Lee Tunnel – is a tunnel to move sewage from the Abbey Mills pumping station to Beckton sewage works, both in LB Newham. It is 6.4km long, construction started in earnest in 2010 and boring began in 2011, tunnelling finished in Jan 2014. This material was moved from Abbey Mills and Beckton wharf at an annual average rate of 321,200 tonnes.

Table 4.4 CD&E Material moved by river from recent large scale construction schemes (kt)

Scheme	2010	2011	2012	2013	2014	2015	Total
Crossrail	-	-	1103	1,184	1,480	329.9	3103.9
Collonite			110	597.8	870	108.4	1686.2
Limmo			-	80	110	-	190
Thames			-	506.0	500	221.5	1227.5
Lee Tunnel	27	327	373	781	98	-	1,606
Abbey Mills	-	24.1	87.6	34.5	39.4		185.6
Beckton	27	302.8	285.7	746.1	58.7		1,420.3

(Source: Port of London Authority)

- 4.40 There are a number of other large scale construction projects that are currently either underway or are planned to take place during the forecast period. They are set out in the following paragraphs.
- 4.41 TfL are proposing a **Bakerloo line extension** (BLE), south-east from the Elephant & Castle to Lewisham via the Old Kent Road, work would begin in the 2020's and be finished by 2030. This would be via 2 tunnels each 7.5km long.
- 4.42 TfL are working with the Department for Transport on **Crossrail 2**, a train service proposed to run from Surrey through SW London to Hertfordshire via NE London, via 37kms of twin bore tunnels under central London. TfL hope to have consent by late 2019 with construction beginning in 2021 and the scheme operational by 2030.

- 4.43 The Government is proposing **HS2** to improve connectivity between London and Birmingham initially; the scheme will be in a tunnel under London to/from Euston. It will involve the redevelopment of Euston itself and c.20 km of twin tunnels under London. The tunnels between 7.5-8m diameter are larger than those for Crossrail (6.2m). Initial construction work is due to begin in 2017 and tunnelling in late 2019.
- 4.44 TfL has consent for a **Northern Line extension** (NLE) from Kennington via an intermediate station at Nine Elms and a terminal with crossover box at Battersea. The Transport and Works Act order was granted in November 2014 with tunnelling beginning in 2016. The extension would become operational in 2020.
- 4.45 TfL are promoting an additional road based river crossing between north Greenwich and Silvertown to relieve congestion in the Blackwell tunnel and improve connectivity in east London. TfL hope to have a decision on the **Silvertown Tunnel** by 2018, with construction beginning in 2018 with the scheme completed by 2023.
- 4.46 Thames Water has a Development Consent Order for the **Thames Tideway Tunnel**, to upgrade the capacity of London's sewer network. The new sewer will have 25 kilometres of tunnel, taking the waste from across London to Abbey Mills pumping station. Preliminary construction is due to start in 2016 with tunnelling taking place 2017-2021. In addition to the tunnel there will be 5 shafts, varying in depth from 30m to 66m.
- 4.47 Four of these six schemes have environmental statements setting out likely tonnages of CD & E waste they will generate. This data is shown below in Table 4.5. It is too early to have an environmental statement for the Bakerloo Line Extension or Crossrail 2. In Table 4.5 below the figure for the Bakerloo Line Extension is an assumption, based on the tonnage of CD&E waste per kilometre of tunnel dug generated by the Northern Line Extension (143 kt per km) applied to the predicted tunnel length of the scheme. Tube tunnels are the same size, this is a reasonable assumption.
- 4.48 There are currently 16 different tunnelling options for Crossrail 2, generating a range from 18.9mt -22.1mt for excavation waste alone. Crossrail found that Construction and Demolition waste added 20% to the total. Assuming this holds true for Crossrail 2, the range increases to 22.7mt-26.6mt, the midpoint of this range is used.

Table 4.5 Potential CD&E waste generated by large scale construction schemes (mt)

Scheme	Total tonnes
HS2 ⁴²	21.7
Northern Line Extension ⁴³	0.9
Silvertown Tunnel ⁴⁴	0.8
Thames Tideway Tunnel ⁴⁵	4.9
Total from Environmental Statements	28.3
Bakerloo Line Extension	2.1
Crossrail 2	24.7
Estimated Total	55.1

(Source: GLA, taken from relevant Environmental Statements)

- 4.49 There is no guarantee that all of these schemes will proceed, or that they will all be delivered to their agreed timetables. If they all proceed according to schedule, then over the 13 year period in which construction could start for the first scheme (2016 – the NLE) and end for the last scheme (2028 – the BLE), an annual rate of 4.2 mt of CD&E waste will be. This average figure masks significant variations in when CD&E waste is expected to be generated.
- 4.50 Taking the known excavation profile for the Thames Tideway Tunnel from its environmental statement and making further assumptions about the profiles for the other schemes, gives an indicative waste phasing profile shown in Table 4.6 below. The Northern Line Extension and the Silvertown Tunnel are both much smaller schemes than the others. So it is assumed they will only have one years' worth of tunnelling. There is a time profile for both Crossrail 2 and HS2, although they have different timeframes from the Thames Tideway tunnel. It is assumed that they will both experience a ramping up of activity, followed by a peak period of activity

⁴²https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265885/AllCFAs_Waste_and_Material_Resources_Assessment_WM-001-000.pdf

⁴³ <http://content.tfl.gov.uk/nle-twa-environmental-statement-volume-ii-a-appendices-a-b-d-e-and-f-a17-2a.pdf>

⁴⁴ <http://content.tfl.gov.uk/st-silvertown-tunnel-enviro-report.pdf>

⁴⁵ https://www.tideway.london/media/2025/6203_environmental_statement_volume_3_appendices_a_to_a4.pdf

then a falling off, along the lines that the environmental statement for the Thames Tideway Tunnel suggests and the actual pattern for the Lea Tunnel, shown above in Table 4.6. The indicative phasing below shows the peak period for waste generation will be 2024/2025.

- 4.51 The key issue that needs to be addressed is to establish how much of this waste can be reasonably assumed to be moved on the river. For four of these six schemes the Mayor, through Transport for London, is either solely or jointly responsible for their delivery. Section 2 of this report highlights the high level of Mayoral support for waterborne freight movement so it is reasonable to assume that, for these schemes, there will be a high level of freight movement on the Thames. The Tideway Tunnel is being promoted by Thames Water Ltd and HS2 is being delivered by a company established by central Government.

Table 4.6 Indicative Phasing of Waste Generation for all schemes

Year	Scheme	Total
2016	NLE – 915,260 TTT – 94,167	1,009,427
2017	HS2 – 1,082,782 TTT – 581,167	1,663,949
2018	HS2 – 1,082,782 TTT – 1,971,167	3,053,949
2019	HS2 – 2,165,642 ST – 807,620 TTT – 1,881,167	4,854,429
2020	HS2 – 2,165,642 TTT – 176,167	2,341,809
2021	HS2 – 5,413,911 TTT – 186,167	5,600,078
2022	HS2 – 5,413,911	5,413,911
2023	CR2 – 4,472,000 HS2 – 2,165,642	6,637,642
2024	CR2 – 8,944,000 HS2 – 1,082,782	10,026,782
2025	CR2 – 8,944,000	10,026,782

	HS2 – 1,082,782	
2026		
2027	BLE – 1,000,000	1,000,000
2028	BLE – 1,145,135	1,145,135

(Source: GLA estimates)

4.52 The Northern Line Extension is going to use the Thames, with its CD&E waste being loaded onto the river at Battersea. The Environmental Strategy Volume Ila⁴⁶ (May 2011) sets out in Appendix B its materials management strategy. On page 11 of Appendix B it states *“Under Option A and Option B an estimated 70% and 68% (by volume) respectively of material will be removed by barge, with the remainder by road. A description of each of these transportation methods is provided below....Removal of surplus material via the River Thames provides a viable and sustainable mode of transport. Barges offer a large capacity for bulk transport (i.e. 1000 tonnes per barge) when compared with an average lorry load (20 tonnes). This results in a much lower amount of movements than would be required for road transport and avoids the contribution of traffic to London’s road network and associated air quality effects... The excavated material is to be removed from the tunnel entrance via an inclined conveyor into an inverted hopper. Material will then be transported via a series of conveyors to the jetty, where it will be loaded into barges at a two berth facility at the Battersea Power Station jetty.”* The jetty at Battersea Power Station is currently unsafeguarded.

4.53 If the Silvertown tunnel proceeds then its location between RB Greenwich on the south bank and the London Boroughs of Newham and Tower Hamlets on the north bank makes it ideally located to use the wharves in this part of London. TfL are intending to use the river to transport CD&E waste, in the Silvertown Tunnel ‘Introductory Environmental Assessment Report’⁴⁷ (2014, pg. 134) para 11.3.8 *“It is anticipated that any spoil generated may be re-used off-site for landscaping or other beneficial purposes, therefore it is expected that only minimal volumes of material may require disposal at landfill..., to minimise disruption to the highway network, and reduce carbon emissions, river facilities are currently being considered for delivery of tunnel segments and other bulk materials to the site and removal of spoil via Thames Wharf. Due to proximity to the river and wharf, river transport is a logical option.”*

⁴⁶ <http://content.tfl.gov.uk/nle-twa-environmental-statement-volume-ii-a-appendices-a-b-d-e-and-f-a17-2a.pdf>

⁴⁷ <http://content.tfl.gov.uk/st-silvertown-tunnel-enviro-report.pdf>

- 4.54 It is too early to know what could happen with either the Bakerloo Line Extension or Crossrail 2 but at this stage it is TfL's intention to maximise the contribution of movement by barge. HS 2 are looking to move waste by road or preferably rail when the distances involved make this financially worthwhile.
- 4.55 In constructing the Thames Tideway Tunnel⁴⁸, Thames Water have indicated that *"the transport strategy equates to approximately 53% of the total tonnage of construction materials being transported by river across the construction period."* This has now been increased to 77%.
- 4.56 Based on the preceding paragraphs it is reasonable to assume that the following levels of CD&E waste will be moved on the Thames as shown in Table 4.7 below. This is based on the following assumptions that;
- 69% of the Northern Line Extension material is moved by barge;
 - That 77% of the CD&E waste for the Thames Tideway Tunnel is moved by barge;
 - The Silvertown tunnel project proceeds and 90% of the Silvertown Tunnel material is moved by barge.
 - The Bakerloo Line Extension project proceeds and achieves the 69% rate average used for the Northern Line extension;
 - Crossrail 2 proceeds and matches the removal rate by barge achieved by Crossrail, 44% .
 - In addition to the large-scale infrastructure projects that are currently under construction, or are scheduled in the near term, there is also a large market for building private dwellings within the London boundaries.

⁴⁸https://www.tideway.london/media/2034/6203_environmental_statement_volume_3_project_wide_effects_assessment.pdf Section 12 pg 4 para 12.2.19

Table 4.7 Potential Future Movement of CD&E Waste by River

Year	Scheme	Scheme Total	Year Total
2016	Northern LE Thames Tideway	631,500 49,900	681,400
2017	Thames Tideway	308,000	308,000
2018	Thames Tideway	1,044,700	1,044,700
2019	Silvertown Tunnel Thames Tideway	726,900 997,000	1,723,900
2020	Thames Tideway	93,400	93,400
2021	Thames Tideway	98,700	98,700
2022			
2023	Crossrail 2	1,967,700	1,967,700
2024	Crossrail 2	3,935,400	3,935,400
2025	Crossrail 2	3,935,400	3,935,400
2026			
2027	Bakerloo LE	690,000	690,000
2028	Bakerloo LE	790,100	790,100
Total			15,268,600

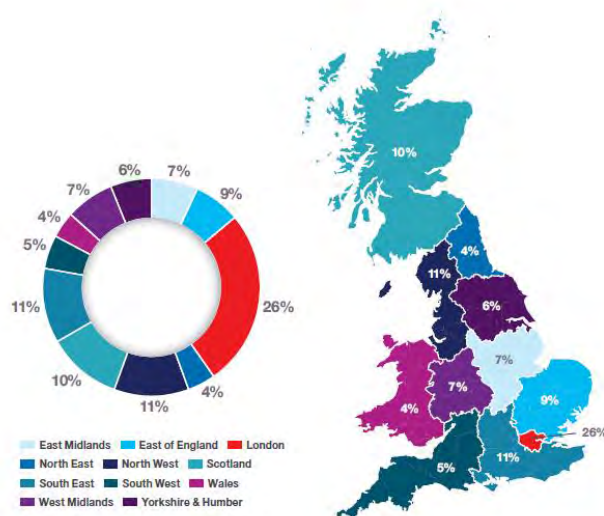
Annual Average	2016 – 2028 (13 years)		1,174,500
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(Source: GLA Estimates based on Environmental Statements)

4.57 The London Plan contains a target for housing supply for the 2015-2025 period. This sets out an annual target of c.42,400 dwellings London wide. In theory, it should be possible to estimate the amount of aggregate these dwellings will require. However, no reliable estimates are available for assessing this, there is no way of knowing the split between flats and houses or between 4 bedroom and 1 bedroom dwellings. The sites on which the development will occur cannot be known exactly, so proximity to the river cannot be guaranteed. Even if sites are located close to the river there is no way of estimating what percentage of their construction material would arrive via the river.

4.58 OSC advised that, for the construction materials sector, their market intelligence suggested that overall the London construction industry represents 26% of the contracts awarded across the UK according to Barbour ABI Economics and Construction Market Review (Dall, 2016) as highlighted in Figure 4.1.

Figure 4.1 Location of Contracts Awarded

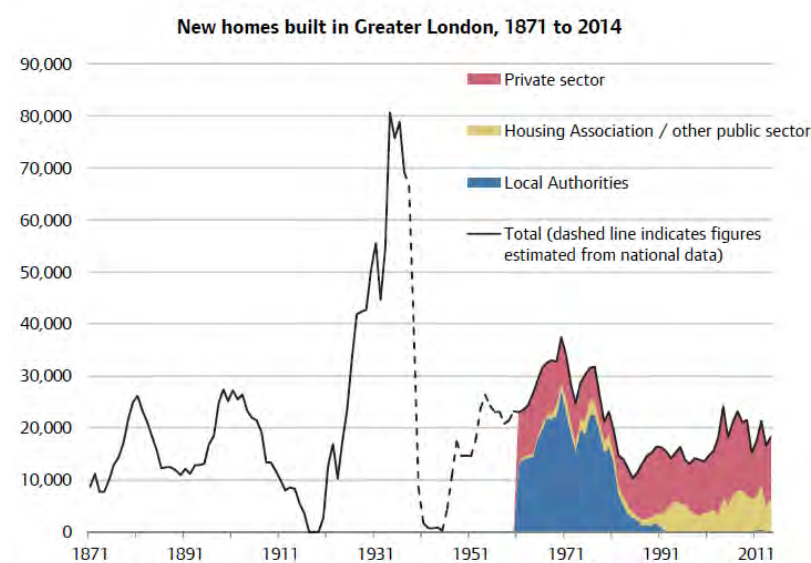


(Source: Dall, 2016)

- 4.59 Large projects such as Cross Rail, Thames Tideway Tunnel and a waste facility in Beddington have contributed to London's position in the construction industry. The Barbour ABI report also highlights that the London region is currently experiencing the highest activity in a number of construction sectors including housing, infrastructure, commercial & retail, hotel, leisure and sport, medical and health and education.
- 4.60 As such the demand for construction materials is critical to these projects. However, there are concerns regarding the supply of required materials. In London and the South East, it is estimated that demand for aggregate outstrips local supply by 500%. This has increased the commercial pressure to recycle aggregates. An example of this was the construction of the Wembley Stadium Access Corridor in which over 90% of materials were obtained from the demolition of major structures and recycled as aggregates and over half the aggregates used in building the new infrastructure were procured from recycled sources⁴⁹. Indeed the PLA have already set a target to recycle 95% of construction waste by 2020 in their London Plan.
- 4.61 London has seen an increase of 29% in infrastructure activity, a 3% increase in industrial activity, a 15% increase in medical and health activity and a 10% increase in education activity since March 2015. This highlights that London is still a growing and developing city.
- 4.62 According to Barbour ABI, London is the hub for residential sector activity, accounting for 20% of the value of contracts awarded within the UK. The National House Building Council (NHBC) has claimed that 25,994 houses were built in 2015, which represented a 9% decrease on the previous year. House building trends in London can be found in Figure 4.2.

⁴⁹ Foresight Future of Cities Project: "What will cities of the future be made of?"

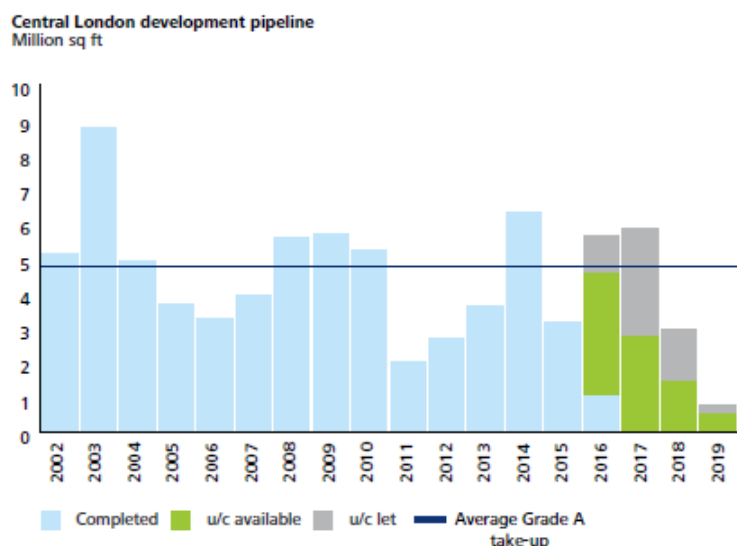
Figure 4.2 New homes built in Greater London, 1871 to 2014 (GLA, 2016)



(Source: GLA, 2016)

4.63 The London Office Crane Survey, produced by Deloitte in 2016 expects the construction industry in London to continue its increase in activity, especially related to office space. This increase is supported by the continued high levels of letting of space under construction, with 42% of space under construction already let. The expected short-term trends in developments in Central London are demonstrated in Figure 4.3 below

Figure 4.3 Central London Development Pipeline



Source: Deloitte Real Estate

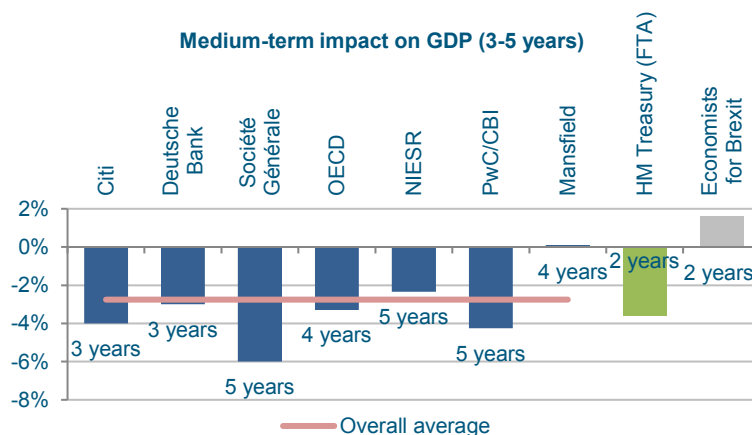
4.64 Overall, London is the single largest area for construction in the UK. Increased demand for construction materials from largescale infrastructure projects are planned through to the late-

2020s. Recycling of construction material and waste material from the proposed largescale government funded infrastructure projects will be a main focus for the industry within London. Therefore it is anticipated that the contribution of different material to London's aggregate supply will continue to be dominated by recycled construction materials and marine dredged sands & gravels.

The effects of Brexit

4.65 In addition to the aforementioned, the implications of the recent Brexit vote need to be outlined within the study. While there are many issues that need to be considered, the only certainty currently regarding the UK leaving the EU is that there is large-scale and significant uncertainty surrounding the withdrawal. HM Treasury has identified three possible scenarios that will impact UK GDP ranging from -3.4% to -9.5% after 15 years. Other institutions also forecast that in the medium-term that there will be an adverse effect on the UK economy.

Figure 4.4 Effect of Brexit on UK



(Source: OSC/market intelligence)

4.66 However, trade and demand in the short-term is forecast to remain relatively unaffected, but there is uncertainty regarding funding for UK agriculture, whilst UK housing market looks to continue its upward prices trend due to limited availability of housing stock. Whilst a reduction in economic growth until 2020 is anticipated, a prolonged recession is not now expected.

- 4.67 Therefore, the complexities of modelling the net results of Brexit on trade for the Thames are extremely unpredictable currently. However, there are commodities (sugar/vehicles) that may be more susceptible to the potential impacts of the Brexit vote, which are further investigated below.

Future Forecasts

- 4.68 OSC suggests that the basis for all commodity forecasts is the Compound Annual Growth Rate (CAGR) which is used to calculate an annual average growth rate over the historical period 2005-2015. CAGR accounts for fluctuations in the annual data and provides an average rate of change in volumes which can be used for forecasting.

- 4.69 The formula for CAGR is:

$$CAGR = \left(\left(\frac{End\ Value}{Start\ Value} \right)^{\frac{1}{n}} \right) - 1$$

Where n = time period

- 4.70 Even though CAGR can accurately reflect historical trends, it cannot, on its own, constitute an accurate forecasting method, especially over a longer time horizon. So, even though it is used as a basis for the forecasts, it is not applied uniformly over the forecast period. As we move from the short-term to the longer-term, additional market assessments and assumptions are made which influence future commodity trends, therefore OSC utilise a CAGR 'Adjusted' measure. These will be discussed in more detail for each of the main commodities together with the overall forecast results.
- 4.71 Within this forecast methodology (CAGR 'Adjusted'), a high, base and low case scenario can be formulated. The base case scenario represents the most likely outcome whereas the high and low cases serve as a sensitivity analysis.
- 4.72 The dataset includes the 50 safeguarded wharves on the River Thames (full list and wharf characteristics may be found in the appendix). The same dataset is used to create the forecasts below, as well as discuss capacity and formulate the gap analysis in later sections. This is to ensure data consistency and to enable accurate comparisons. Even though there

were throughput data for a number of additional, non-safeguarded wharves, capacity estimates were not available; therefore only the 50 safeguarded wharves have been included.

4.73 The CAGR of the different commodities from the historical dataset are presented in Table 4.8 below:

Table 4.8 Historical Commodity CAGR

Commodity	Start Value	End value	Period	% CAGR
Agricultural Bulks	652,712	577,009	2005-2015	-1.2%
Construction M.	4,894,407	6,943,274	2005-2015	3.6%
Petroleum	295,550	686,260	2005-2015	8.8%
Steel	54,667	21,313	2005-2016*	0.1%
Sugar	1,164,999	550,000	2005-2016*	5.1%
Vehicles	862,625	882,979	2005-2015	0.2%
Waste	1,009,224	1,076,856	2005-2015	0.7%

*2016 values were estimated and so forecasts begin a year later for these two commodities

4.74 As an example, the CAGR for Agricultural Bulks is calculated as follows:

$$CAGR = \left(\left(\frac{577,009}{652,712} \right)^{\frac{1}{2015-2005}} \right) - 1 = -0.01$$

Or -1% if expressed as a percentage.

4.75 It should be noted that cargo types assigned to individual wharves do not change over time i.e. a wharf is assumed to have been used for the same type of cargo over the period 2005-2015. This is an assumption that does not significantly affect estimated commodity volumes since it is accurate for the majority of cases. If a wharf is categorised as vacant during 2015, it is assumed that they are vacant throughout the study period – although this may change in practice.

4.76 In the majority of cases, as the following table shows, CAGR calculations were used as a foundation for the base case scenario. In the case of Petroleum, the calculated CAGR was significantly high, based on our market intelligence information. This was deemed too high to reflect market conditions as a base case scenario. Therefore this was utilised as the high case scenario. For Steel and Sugar, the opposite is true.

Table 4.9 Commodity CAGR Scenarios

Commodity	CAGR Scenario
Agricultural Bulks	Base Case
Construction Materials	Base Case
Petroleum	High Case
Steel	Low Case
Sugar	Low Case
Vehicles	Base Case
Waste	Base Case

4.77 It should be highlighted however, that none of the scenarios, even the ones formulated on historical CAGR, are solely based on this value. As previously mentioned, they are combined with market condition assumptions and market intelligence. Each year in the period under consideration is given its own growth rate; rates for representative years are shown in tables after each commodity forecast.

4.78 So, for example, the 2021 estimated value of a commodity will be:

$$2021value = 2020value * (1 + 2021growthrate)$$

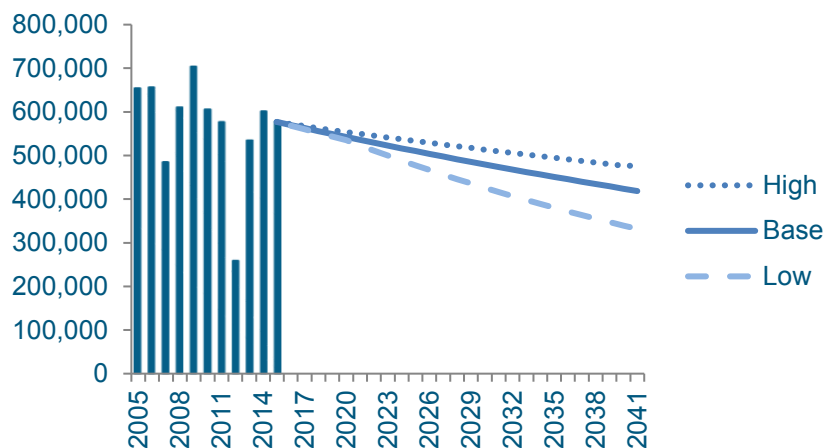
4.79 The base case scenario represents the most probable estimation of future market conditions. However, for the sake of sensitivity analysis, we also present High and Low scenarios. They are an indication of possible volumes if growth rates fluctuate from our base case mean. The three scenarios broadly follow a similar trend for most commodities. When they do not, the cases are based on alternative market scenarios that can influence throughput in a significant way and are discussed under the individual commodity forecasts.

4.80 OSC provides the following assessment of this updated forecasting work. Forecasts are presented on a commodity basis with discussion of potential sector developments and representative CAGR:

Agricultural Bulks

4.81 Whilst agricultural bulks represent a relatively small portion of overall traffic, it accounts for approximately 600,000t. Even though there have been significant fluctuations, the overall trend is slowly decreasing over time. The base case scenario is formulated by applying the CAGR uniformly across the forecast horizon as it is anticipated that there will be no significant alteration to either supply or demand within the trading area. OSC were unable to confirm our forecast with a major oil seed importer. Accordingly, by 2041, the volumes will be around the 400,000t. In all three scenarios, a small decrease is expected in agricultural bulks. However, the forecasted values are anticipated to be within range of observed historical volumes.

Figure 4.5 Forecast Agricultural Bulks (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.10 Forecast Agricultural Bulks CAGR by focus year

Agricultural Bulks	2016	2021	2031	2041
High	-0.85%	-0.75%	-0.75%	-0.75%
Base	-1.23%	-1.23%	-1.23%	-1.23%
Low	-1.50%	-2.25%	-2.25%	-2.25%

(Source: Ocean Shipping Consultants)

Construction Materials

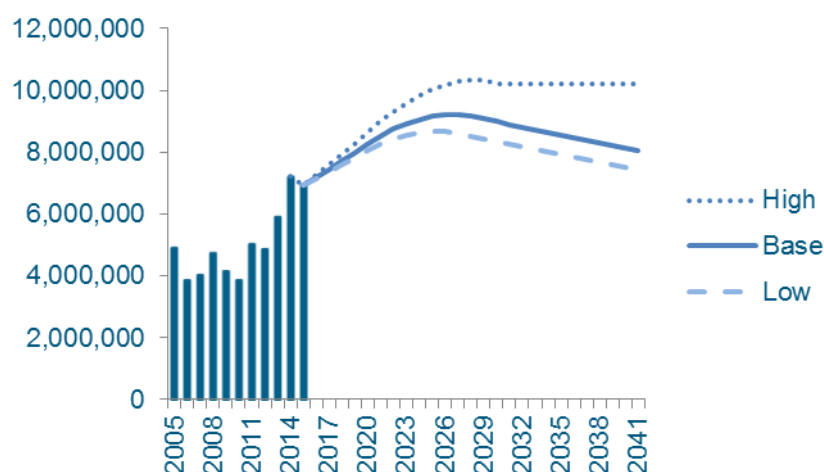
4.82 Construction Materials represent the majority of cargo for traffic on the Thames and have been rising rapidly over the recent past. CAGR for the period 2006-2015 was 4%. Construction materials are expected to continue on this upward trend especially since there are major projects planned in or around London. These include:

- The High Speed Rail (HS2)
- The Northern Line Extension
- Silvertown Tunnel
- Thames Tideway Tunnel
- Bakerloo Line Extension
- Crossrail 2

4.83 In addition to the above schemes, the recent announcement from the Mayor's office (October 2016) that there will be new Thames crossings (bridges and tunnels) will also add to the potential for construction material to be transported via the Thames.

4.84 These projects are expected to generate both an increase in construction materials and an increase in CD&E waste moved via the river. Given the historic trend and the planned projects, this commodity is expected to increase substantially, in line with build-out of large infrastructural projects. The base case scenario is based on CAGR, however a 3.5% increase is unlikely to be sustained in the long-run. The planned projects given above are due for completion by 2028 and it is uncertain whether there will be further projects of this magnitude to sustain the same level of growth. Therefore, the growth rate gradually slows over latter the forecast period. Overall, construction materials are forecast to increase to 9.2mt by 2026, before declining to approximately 8.0mt by the end of the study period.

Figure 4.6 Forecast Construction Materials (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.11 Forecast Construction Materials CAGR by focus year

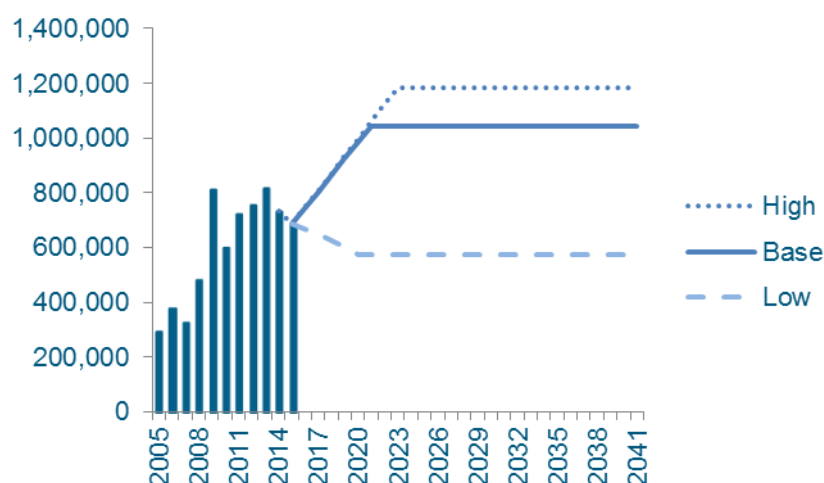
Construction M	2016	2021	2031	2041
High	4.50%	4.00%	0.00%	0.00%
Base	3.56%	3.06%	-1.00%	-1.00%
Low	3.00%	2.50%	-1.00%	-1.00%

(Source: Ocean Shipping Consultants)

Petroleum

4.85 Growth in petroleum products has been strong with a CAGR of 9%. All the petroleum products that are transported on the Thames flow to the Pinnacle Terminal where Stolt have a processing and storage facility. It is unlikely that another terminal will begin operations within the study area during the forecast period. Discussion with Stolt highlighted the investment that the company has made at the site in recent years. They also have expansion plans, meaning that potential throughput at the terminal will increase in the near-term. Overall, there is positive potential for petroleum products on the Thames. The forecast highlights that the base case could rise to 1,000,000 tonnes per annum - if additional capital is invested at the facility- thus leading to a higher annual throughput.

Figure 4.7 Forecast Petroleum (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.12 Forecast Petroleum CAGR by focus year

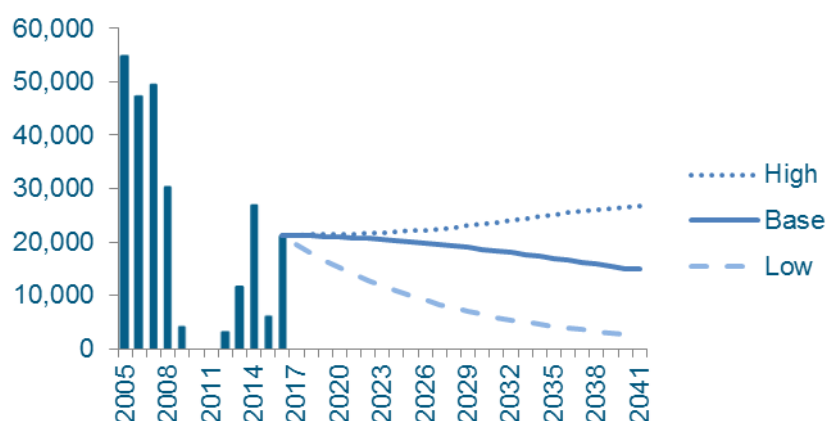
Petroleum	2016	2021	2031	2041
High	8.79%	6.29%	0.00%	0.00%
Base	8.50%	6.00%	0.00%	0.00%
Low	-2.50%	0.00%	0.00%	0.00%

(Source: Ocean Shipping Consultants)

Steel

- 4.86 Steel traffic on the Thames mostly refers to scrap steel/metal and amounts to approximately 20,000 tonnes (average of past 10-years). Historical data is characterised by very large fluctuations in scrap metal throughput. Forecasting future throughput for the base case is based on declining throughput. This has not been verified via interviews, as these were declined. The low case scenario is formulated using CAGR and according to this, there is potential that this trade could cease during the forecast period. However, given the large inconsistency of the data, the base case is deemed the most likely scenario.

Figure 4.8 Forecast Steel (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.13 Forecast Steel CAGR by focus year

Steel	2016*	2021	2031	2041
High	21,313	0.40%	1.40%	0.80%
Base	21,313	-0.60%	-1.60%	-2.60%
Low	21,313	-8.21%	-8.21%	-8.21%

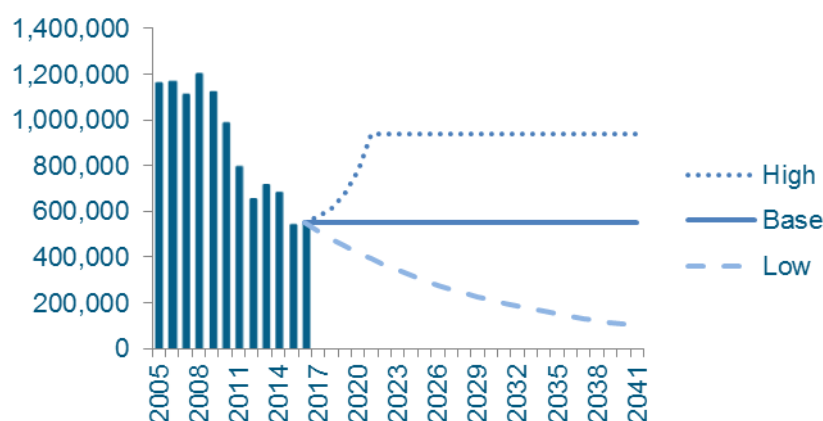
*2016 throughput for steel has been estimated as the average of the period 2005-2015, this was done due to missing values and large fluctuations to the dataset

(Source: Ocean Shipping Consultants)

Sugar

4.87 The Thames Refinery plant has undergone a downgrading of refining capacity in recent years, as an adjustment to the changing demands from the sugar market. Capacity is around 500,000t annually. However, there are two milestones that could affect the refineries throughput in the near-term. The first is the de-regulation of the sugar beet market in Europe during 2017. This is thought, due to the recent changes in the plant, not to be of major concern. The other milestone is the effects of Brexit on the UK sugar market. It is hoped that a positive exit, with more open policies, and improved customs and tariffs will benefit the plant. Potentially the plant could double its current capacity if this were to occur.

Figure 4.9 Forecast Sugar (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.14 Forecast Sugar CAGR by focus year

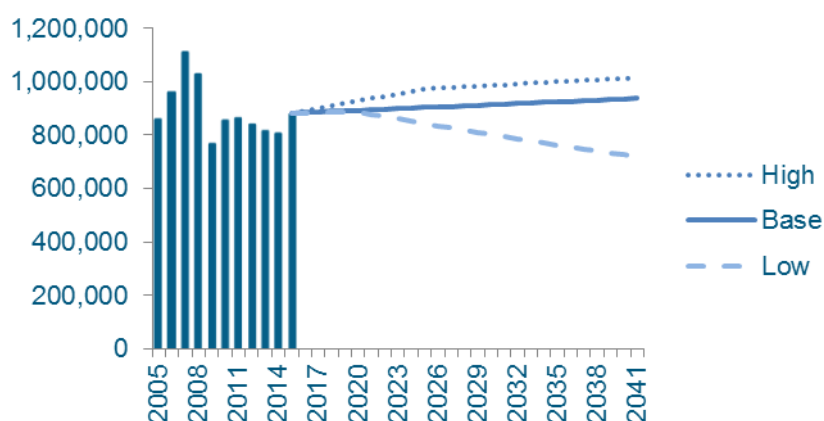
Sugar	2016*	2021	2031	2041
High	550,000	20.50%	0.00%	0.00%
Base	550,000	0.00%	0.00%	0.00%
Low	550,000	-6.60%	-6.60%	-6.60%

*2016 throughput for sugar has been estimated based on market intelligence
(Source: Ocean Shipping Consultants)

Vehicles

- 4.88 Vehicle traffic has been stable with a CAGR of 0.2%. This is forecasted to continue as shown in the base case scenario. Ford at Dagenham have recently invested in refurbishing the jetty and during 2015 purchased new tugs. Approximately, 300,000 vehicles per year are imported at the facility, whilst Dagenham-made diesel engines, plus eco-boost engines that are made at Bridgend are exported back to the Continent. As with sugar, the effects of Brexit could impact future throughput of vehicles.

Figure 4.10 Forecast Vehicles (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.15 Forecast Vehicles CAGR by focus year

Vehicles	2016	2021	2031	2041
High	1.00%	1.00%	0.25%	0.25%
Base	0.23%	0.23%	0.23%	0.23%
Low	0.10%	-1.00%	-1.00%	-1.00%

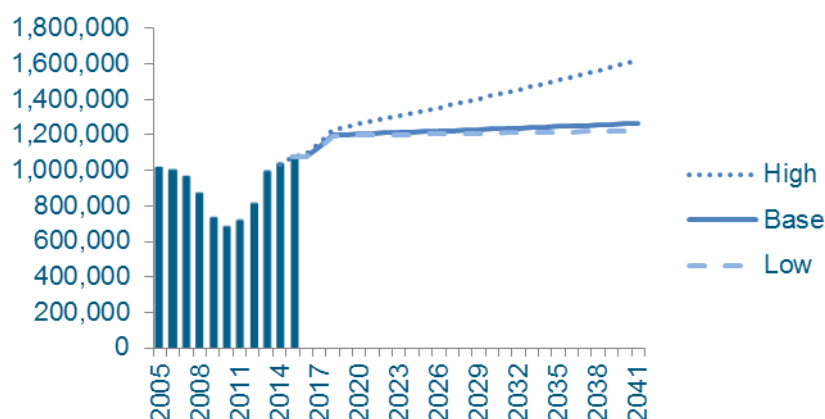
(Source: Ocean Shipping Consultants)

Waste

4.89 The outlook for waste transportation on the Thames is a positive one. There is growing interest in the movement of waste via the Thames along with increased pressure on local councils to provide sustainable ways to handle waste. The recent news that the Belvedere incinerator will be able to handle an additional 115,000t above current capacity will provide increased momentum for waste flows to the plant. Waste, which is handled on 10 safeguarded wharves, is forecast to increase throughout the study period. The base case scenario below highlights

the potential increases of capacity at the Belvedere facility in the near-term, followed by historic rate increase per annum.

Figure 4.11 Forecast Waste (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.16 Forecast Waste CAGR by focus year

Waste**	2016	2021	2031	2041
High	1.20%	1.20%	1.20%	1.20%
Base	0.65%	0.65%	0.65%	0.65%
Low	0.10%	0.10%	0.10%	0.10%

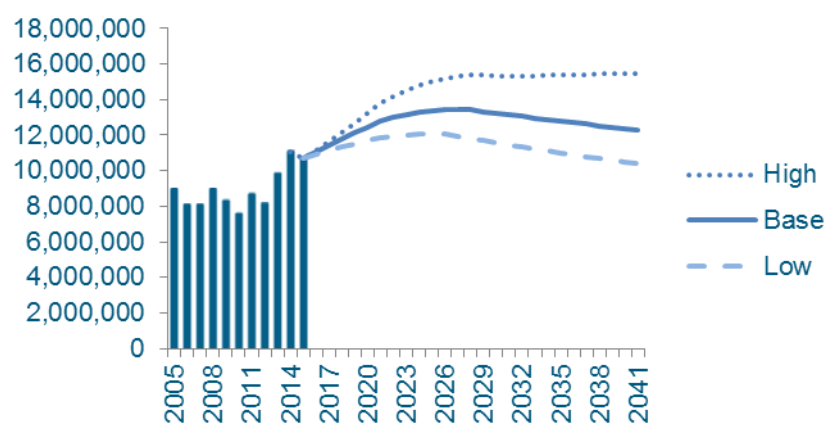
(Source: Ocean Shipping Consultants)

**50,000 and 65,000t have been added to the forecasts for 2017 and 2018 respectively

Total

- 4.90 The overall trend for the amount of cargo handled is forecast to increase to 13.4m tonnes by 2027. This peak could be pushed forward if there are significant delays in the major government backed infrastructure projects. Thereafter, is it anticipated that potential building/construction projects will continue, albeit at a lower less intensive rate than seen in previous decades. By the end of the study period, overall tonnes handled are approximately 12.3m tonnes.

Figure 4.12 Forecast Total (tonnes)



(Source: Ocean Shipping Consultants)

Table 4.17 Overview of Commodity Forecast, by Case (tonnes)

Commodities	2015	2021	2031	2041
Agricultural Bulks				
High		549,583	509,728	476,336
Base	577,009	535,870	473,718	418,775
Low		522,974	416,532	331,754
Construction M				
High		8,998,686	10,229,853	10,229,853
Base	6,943,274	8,522,773	8,899,229	8,048,303
Low		8,250,386	8,245,252	7,456,858

Petroleum				
High		1,061,225	1,182,041	1,182,041
Base	686,260	1,044,215	1,044,215	1,044,215
Low		574,205	574,205	574,205
Steel				
High		21,527	23,661	26,737
Base	6,402	20,786	18,328	15,002
Low		13,890	5,900	2,730
Sugar				
High		941,454	941,454	941,454
Base	543,416	550,000	550,000	550,000
Low		391,019	197,637	99,894
Vehicles				
High		937,300	990,080	1,015,113
Base	882,979	895,421	916,549	938,175
Low		878,529	794,526	718,555
Waste				
High		1,276,565	1,438,295	1,620,515
Base	1,076,856	1,207,955	1,236,457	1,265,632
Low		1,198,729	1,210,770	1,222,933
Total				
High		13,786,340	15,315,112	15,492,048
Base	10,716,196	12,777,019	13,138,497	12,280,103
Low		11,829,733	11,444,821	10,406,927

(Source: Ocean Shipping Consultants)

Note on vacant wharves

4.91 OSC has been made aware that there are a number of wharves on which operators have submitted bids to bring wharves back into active use, but which have not been taken forward by land owners in the hope of eventually obtaining residential planning permission. This involves the following wharves:

- Hurlingham Wharf-approx. 2006, in support of potential CPO
- Peruvian Wharf-approx. 2007, in support of CPO & wharf planning application by LDA/PLA
- Convoys Wharf-approx. 2010, in support of mixed use redevelopment planning application

- Orchard Wharf-approx. 2011, in support of CPO and wharf planning application by PLA
- Cremorne Wharf-2016, in support of Counters Creek Sewer Planning application

4.92 Peruvian, Convoys and Orchard Wharves have an estimated joint capacity of 1,310,000t. It is by no means certain that these wharves will be used in the near future and therefore they are categorised as vacant in the forecasts capacity assumptions. Even though it is recognised that there could be an issue of suppressed demand, there is uncertainty regarding which commodities these wharves are going to handle if re-commissioned or if their current estimated capacity is adequate. It is also a possibility that interested parties have already transferred their business to other operating wharves and so demand is already accurately reflected in current throughput. Therefore, there are no demand adjustments made in the forecasts.

5 Capacity

- 5.1 This chapter looks at the capacity available at the 50 currently safeguarded wharves, by commodity group and sub region. It provides a comparison with the position URS/Scott Wilson found.
- 5.2 Estimating capacity is an almost impossible task, as it can be affected by so many variables. Obviously, water depth can limit the size of a vessel using a wharf restricting capacity to high tide only. Many wharves have some form of on-site processing (such as washing marine gravel). On-site processing will take up land that could otherwise be used for storing material

and on-site processing may occur at a slower rate than loading/unloading, restricting capacity. A lack of suitable transport access can increase dwell times as streets may only be suitable for smaller lorries. A wharf's size and morphology can effect on site storage capacity. Restrictions on working hours, imposed as a condition of a planning permission, to reduce the impact of noise and dust on sensitive neighbouring uses are an obvious limit on capacity, especially when high tides fall outside of normal working hours.

- 5.3 All of these factors make it extremely difficult to provide a totally accurate assessment of wharf capacity. The data set out in Appendix 5 and summarized in Table 5.1 and Table 5.2 is drawn from a number of sources. The Port of London Authority gives figures on the maximum throughput achieved for a number of wharves since 1995. This highpoint is taken as their capacity. If the PLA were unable to provide a capacity figure, the 2011 URS capacity figure has been used.
- 5.4 OSC suggests that the actual capacity of the wharves under consideration have remained relatively stable in recent years, assuming that overall throughput is an indicator of a wharfs capacity. However, an ideal and current calculation of capacity can be a 'moving target' depending if throughput oscillates from year to year. Full calculations under PIANC, where stockyard capacity, crane capacity, whether a wharf is an import or export facility can all be measured to establish the potential capacity of a site. However, this assumes these sorts of data are readily available. Therefore, capacity figures provided through the PLA and the 2011 URS report are deemed suitable and appropriate considering the scope and timescale of this study. This has led the Mayor to conclude that these capacity estimates are theoretically correct.
- 5.5 Appendix 6 provides the background of how to calculate capacity for a bulk facility under PIANC.
- 5.6 Appendix 3 shows the location of the 50 safeguarded wharves and Table 5.1 shows the estimated capacity of the wharves by sub region for 2015. Table 5.2 provides a London-wide summary by commodity group. The full detail is set out in Appendix 4. On current evidence there is no reason to expect the capacity of the wharves to change further by 2041, this point is confirmed by OCS, who advised that the current number of commodities moved on the Thames will continue to remain the focus of future trades.

5.7 OSC has been informed that wharves in the West region will be used for the movement of construction materials in the relation to the Thames Tideway Tunnel. This includes the following, currently vacant, wharves:

- Hurlingham Wharf
- Cremorne Wharf
- Middle Wharf

5.8 These have a combined estimated capacity of 467,000t. Given this information, these wharves are assumed to become active in the very near future as the project is due to start in 2017. They are therefore classified under the Construction Materials category for the purposes of demand and capacity estimations as well as the gap analysis. After the completion of the project, they are assumed to remain operational for the remainder of the forecast horizon, thus increasing the available capacity for this commodity type.

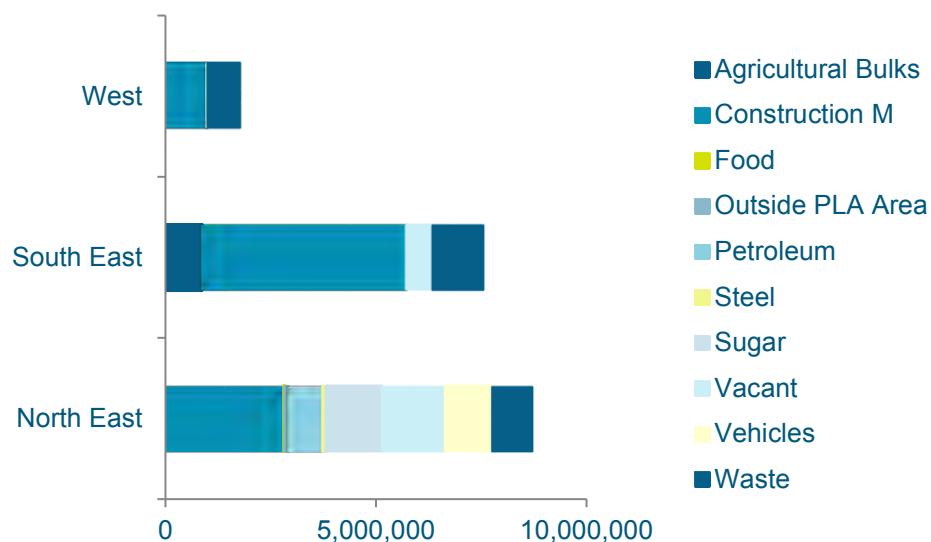
Table 5.1 Estimated Capacity of Wharves by Commodity and Sub-Region, 2015

Commodities	North East	South East	West
Agricultural Bulks	-	857,000	-
Construction M	2,804,700	4,859,000	979,000
Food	21,400	-	-
Outside PLA Area	84,000	-	-
Petroleum	819,000	-	26,900
Steel	85,000	-	-
Sugar	1,331,000	-	-
Vacant	1,493,000	612,800	
Vehicles	1,112,000	-	-
Waste	961,000	1,220,000	771,000
Total	8,711,100	7,548,800	1,777,100

%	48%	42%	10%
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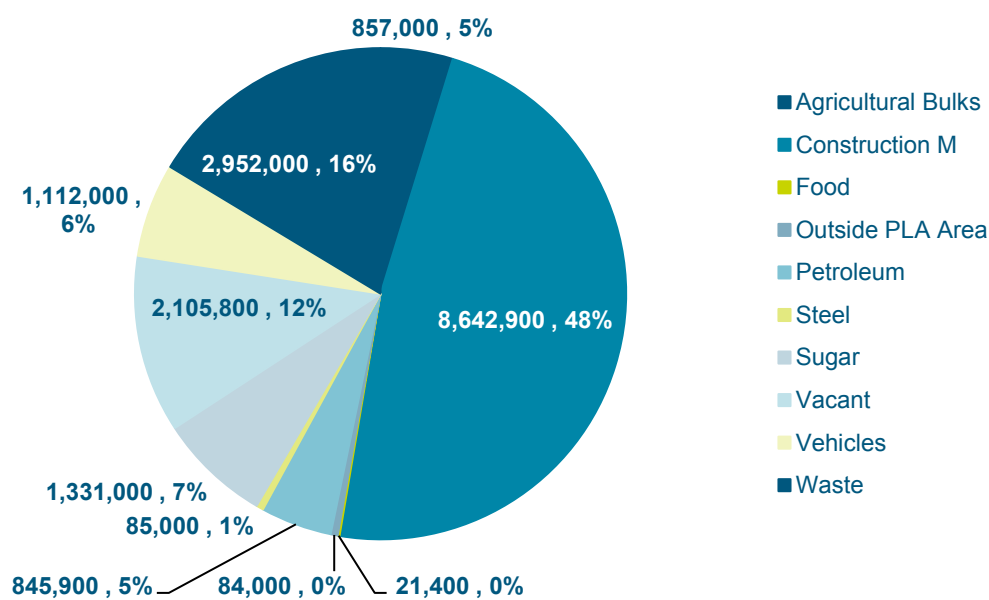
(Source: PLA 2016)

Figure 5.1 Capacity by Commodity and Area, 2015



(Source: PLA 2016)

Figure 5.2 Capacity by Commodity, 2015



(Source: PLA 2016)

Table 5.2 Estimated Capacity of Wharves by Commodity, 2015

Commodity	Tonnes	%
Construction M	8,642,900	47.9%

Waste	2,952,000	16.4%
Vacant	2,105,800	11.7%
Sugar	1,331,000	7.4%
Vehicles	1,112,000	6.2%
Agricultural Bulks	857,000	4.8%
Petroleum	845,900	4.7%
Steel	85,000	0.5%
Total	18,037,000	

(Source: Table 5.1)

- 5.9 For comparison purposes, Table 5.3 and Table 5.4 show the same information from the URS/Scott Wilson Study (further detail is provided in Appendix 5). Comparing Table 5.1 and Table 5.3 shows a small decrease in overall capacity. There is a small increase in the capacity of the west and south east sub regions. There has been a decrease in capacity in the North East sub region, leading to small overall variations in the level of capacity each sub region makes to London's overall capacity. The North East sub region still dominates, (48% of overall capacity down from 52%) just slightly less than in 2011.

Table 5.3 Estimated Capacity of Wharves by Sub region 2011

Sector	Commodity	Capacity
West	Construction Materials	443,500
	Petroleum	27,000
	Vacant	356,000
	Waste	731,500
	West Sub Total	1,558,000 (9%)
North East	Agricultural Bulks	21,500
	Construction Materials	2,209,750
	General Cargo	66,700
	Liquid Bulks	1,015,000
	Petroleum	4,000
	Steel	279,000
	Sugar	1,500,000
	Vacant	2,278,600
	Waste	551,500
	North East Sub Total	9,476,050 (52%)

South East	Construction Materials	4,845,800
	Liquid Bulk	889,700
	Vacant	556,000
	Waste	746,000
South East Sub Total		7,037,500 (39%)
London Total		18,071,550

(Source: PLA)

Table 5.4 Estimated Capacity of Wharves by Commodity 2011

Commodity	Tonnes	%
Construction Materials	7,499,050	41.5
Vacant	3,190,600	17.7
Waste	2,029,000	11.2
Liquid Bulks	1,904,700	10.5
Vehicles	1,550,000	8.6
Sugar	1,500,000	8.3
Steel	279,000	1.5
General Cargo	66,700	0.4
Petroleum	31,000	0.2
Agricultural Bulks	21,500	0.1
Total	18,071,550	

(Source: Table 5.3)

5.10 Similarly, comparing Table 5.2 and Table 5.4 reveals that there has been a small growth in the capacity for construction materials and waste and large growth for petroleum and

agricultural bulks. Vacant capacity has fallen slightly likewise Sugar and Vehicles. Steel has fallen dramatically.

5.11 Another factor to bear in mind is that some wharves are designed for specific operations or commodities whereas others are available to handle multiple commodities. Moving a wharf from dealing with a specialist commodity to general handling if that specialism ceases, may require a level of investment that makes its reuse, for what are intrinsically low value commodities (aggregates, waste) unviable.

5.12 Paragraph 5.3 above explains how these capacity estimates were derived. An alternative way to estimate capacity would be to do as follows. For those wharves for which the PLA were unable to provide a throughput figure, the PLA have a standard efficiency figure of 163 kt/ha (based on throughputs, commodity types, wharf size), this standard efficiency figure could be applied to those wharves with 'missing data' to provide a figure. This would have the advantage of providing data from one source, the PLA, rather than mixing data sources. However, the data in Table 5.5 shows the impact of using this second option on the overall capacity results.

Table 5.5 Comparative Wharf Capacity Approaches

Area	PLA 2016 + URS 2011	PLA 2016 + 163kt/Ha	Difference	% Change
Total	18,037,000	18,580,000	+543,100	+3.0
West	1,777,100	3,995,200	+2,218,100	+124.8
North East	8,711,100	7,299,600	-1,411,500	-16.2
South East	7,548,800	7,285,300	-263,500	-3.5
Selected Wharves				
Manhattan (NE)	4,000	326,000	+322,000	+8050.0
Middle (W)	70,600	1,630,000	+1,599,400	+2208.8
Mayer Parry (NE)	4,000	81,500	+77,500	+1937.5
Swedish (W)	26,900	370,400	+343,500	+1277.0
Cremorne (W)	40,500	418,000	+377,500	+932.1

Sunshine (NE)	15,000	108,700	+93,700	+624.7
Convoys (SE)	200,000	17,900	-182,100	-91.1
Peruvian (NE)	500,000	45,300	-454,700	-90.9
Town (SE)	400,000	54,300	-345,700	-86.4
Phoenix (NE)	386,000	65,200	-320,800	-83.1
Victoria Stone (NE)	460,000	81,500	-378,500	-82.3
Orchard (NE)	610,000	116,400	-493,600	-80.9

(Source: GLA 2016)

- 5.13 While overall the impact on London's capacity is small, only +3.0, there are wide variations between the three sub regions. In the West, where the wharves are generally small, using the standard efficiency figure results in very high capacity figures. Conversely larger wharves, mainly found in the North East sub region, end up with a much lower capacity figure. Taking this into consideration the Mayor has decided, despite its flaws, to retain the approach set out in paragraph 5.4 to capacity estimates.

6 Distribution

- 6.1 This chapter relates the forecast demand for wharves with the existing capacity of the wharves. In doing so, it will look at each of the three sub regions. Having a London-wide overall balance in demand and capacity for a commodity is meaningless if this is made up, for example, of a large capacity undersupply in the West sub region and a large capacity oversupply in the South East sub region.
- 6.2 Section 5 provides capacity by sub region whereas Section 4 provides demand by commodity. The first step is to turn the commodity figures into sub regional figures. This is shown in Table 6.1 and reveals that all sub regions experienced decline in the 2005-2010 period, probably due to the 2008/9 recession. Over the 2010-2015 period, there has been growth in all three sub regions. The data for the North East and South East sub regions shows they have enjoyed strong growth so that the 2015 figure is now above the 2005 baseline, this is especially true of the South East sub region. In the West sub region, the 2015 figure is still below the 2005 baseline but recovering from the 2010 figure.

Table 6.1 Historic Demand by Sub region 2005-2015

Sub region	2005	2010	2015	Change	% CAGR
North East	4,454,008	3,941,008	4,934,828	480,820	1.0%
South East	3,524,822	2,987,065	4,937,405	1,412,583	3.4%
West	1,113,337	665,027	843,963	269,374	-2.7%
Total	9,092,167	7,593,100	10,716,196	1,624,029	1.7%

(Source: URS/Scott Wilson Table 6.1 and Table 3.1 above)

- 6.3 Sub regional demand figures are shown below. They are based on the assumption, that if a sub region had 20% of a commodity in 2015, then it will have 20% of the 2041 total. They reveal the following sub regional patterns. In the North East sub region it is anticipated that strong growth will occur and the same pattern is found in the South East and West sub regions.

Table 6.2 Distribution of Commodities by sub region

Commodity	Total 2015	North East	South East	West
Construction Materials	6,943,274	36.1%	59.6%	4.3%
Waste	1,076,856	28.5%	20.7%	50.8%
Vehicles	882,979	100%	0%	0%
Petroleum	686,260	100%	0%	0%
Agricultural Bulks	577,009	0%	100%	0%
Sugar	543,416	100%	0%	0%
Steel	6,402	100%	0%	0%
Total	10,716,196	46.1%	46.1%	7.9%

(Source: GLA calculations)

Table 6.3 Estimated Demand by sub region 2015-2041

Sub region	2015	2041	Change	% Change	% CAGR
North East	4,934,828	5,655,010	720,182	16.2%	0.53%
South East	4,937,405	5,657,963	720,558	20.4%	0.53%
West	843,963	967,130	123,167	11.1%	0.53%
Total	10,716,196	12,280,103	1,563,907	17.2%	0.53%

(Source: GLA calculations)

- 6.4 The 2011 URS/Scott Wilson study findings of their gap analysis for the 2011-2031 period for their medium growth scenario are summarised below in Table 6.4. It reveals that, in comparison to the position in 2011, that the overall position has reduced the amount of spare capacity available. The 2011 analysis revealed that there would be a decline in the excess capacity over demand from 8.0mt in 2011 to 5.9mt by 2031.

Table 6.4 Future Demand and Capacity by Commodity by sub region 2011-2031 (mt)

	2011 Demand	2011 Capacity	2011 Gap	2031 Demand	2031 Capacity	2031 Gap
West						
Construction	0.3	0.4	0.1	0.7	0.4	-0.3
Waste	0.7	0.7	0.0	1.0	0.7	-0.3
Others	0.0	0.0	0.0	0.0	0.0	0.0
Vacant	0.0	0.4	0.4	0.0	0.4	0.4
Sub Total	1.0	1.5	0.5	1.7	1.5	-0.2
North East						
Construction	2.2	2.2	0.0	3.3	2.2	-1.1
Waste	0.3	0.6	0.3	0.3	0.6	0.3
Others	2.7	4.4	1.7	2.3	4.4	2.1
Vacant	0.0	2.3	2.3	0.0	2.3	2.3
Sub Total	5.2	9.5	4.3	5.9	9.5	3.6

South East						
Construction	3.2	4.9	1.7	3.5	4.9	1.4
Waste	0.0	0.8	0.8	0.9	0.8	-0.1
Others	0.6	0.8	0.2	0.8	0.8	0.0
Vacant	0.0	0.6	0.6	0.0	0.6	0.6
Sub Total	3.8	7.1	3.3	5.2	7.1	1.9
Total	10.1	18.1	8.0	12.2	18.1	5.9

(Source: URS/Scott Wilson Study 2011 Table 5.2)

- 6.5 Now that there are estimates of demand by sub region it is now possible to undertake a gap analysis. This will highlight where there are surpluses or deficits in capacity to handle the expected change in demand for 2041 and is discussed in the following section.

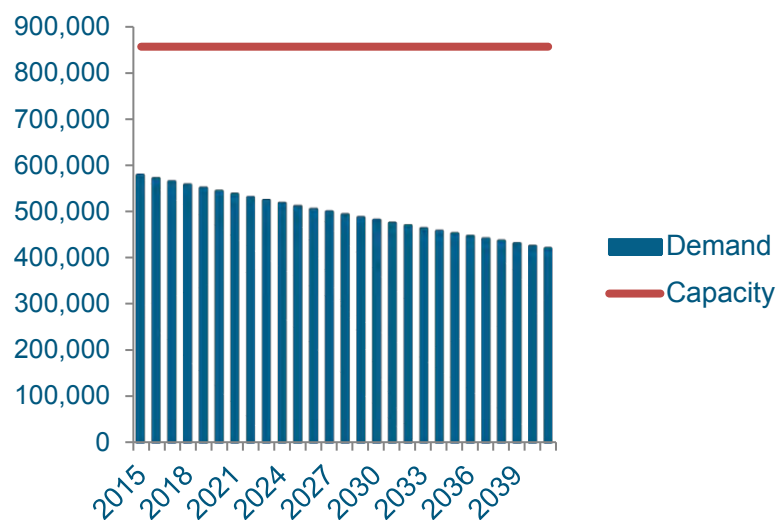
Gap Analysis by Commodity

- 6.6 The gap analysis is provided by highlighting the current capacity of the combined wharves that handle each product. It is assumed that the capacity of each commodity will remain at current levels throughout the forecast period. This is then compared to the forecast demand for each commodity over the forecast period.

Agricultural Bulks

- 6.7 The overall trend within the forecast for agricultural bulks is one of slow and sustained decline. Overall the gap between total wharf capacity and demand will decline from 67% of capacity to 49% by the end of the study period.

Figure 6.1 Gap Analysis-Agricultural Bulks (tonnes)

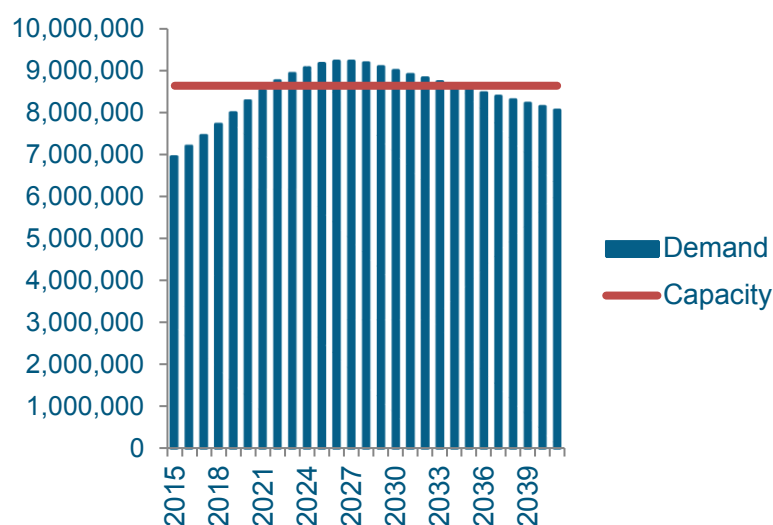


(Source: Ocean Shipping Consultants)

Construction Materials

- 6.8 There is a positive trend within the construction materials sector, in which by 2022, there could be more demand than current calculated capacity. Demand is forecast to peak at 106% of current capacity by 2026. It is thereafter forecast to decline to 93% of capacity by the end of the study period. The overall capacity could be aligned with demand as wharves (and their operators) re-arrange and re-develop their workflows within their wharves, through more efficient material handling and processing, more efficient equipment and even more frequent loading/unloading of material from vehicles.

Figure 6.2 Gap Analysis-Construction Materials (tonnes)

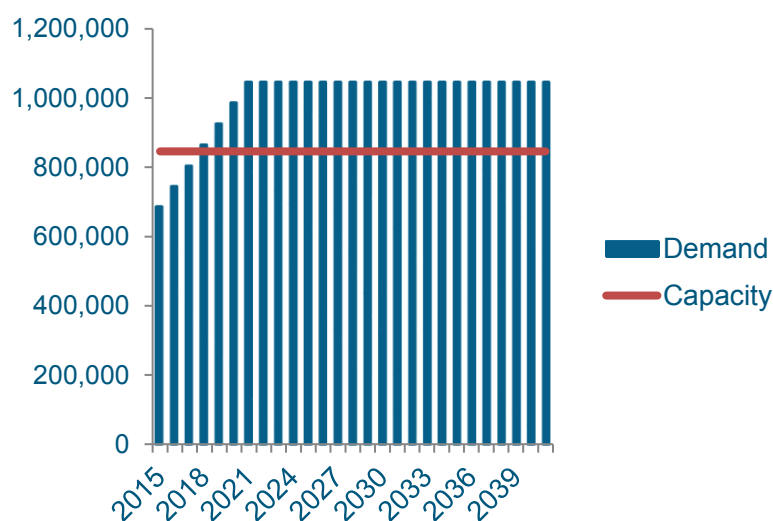


(Source: Ocean Shipping Consultants)

Petroleum

- 6.9 Current capacity is pegged at approximately 0.8 mt. This could potentially increase to 1m tonnes. This would require additional storage capacity, however, the timescale is unclear as to when or if this will occur. Therefore, overall capacity is forecast to increase to 123% of current capacity, however, this may reach 100% if overall capacity is increased in the near future.

Figure 6.3 Gap Analysis-Petroleum (tonnes)

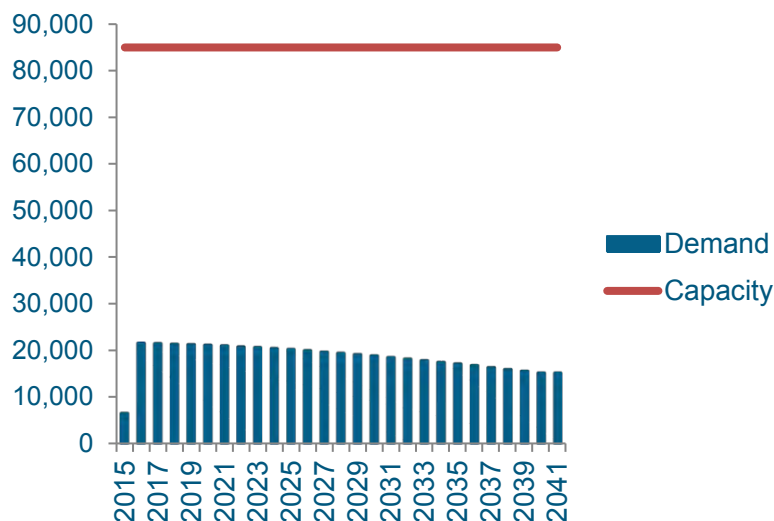


(Source: Ocean Shipping Consultants)

Steel

- 6.10 There is a relatively small trade in steel products on the Thames. Overall, demand accounts for only 25% of capacity. This is forecast to decline to 18% by the end of the forecast period.

Figure 6.4 Gap Analysis-Steel (tonnes)

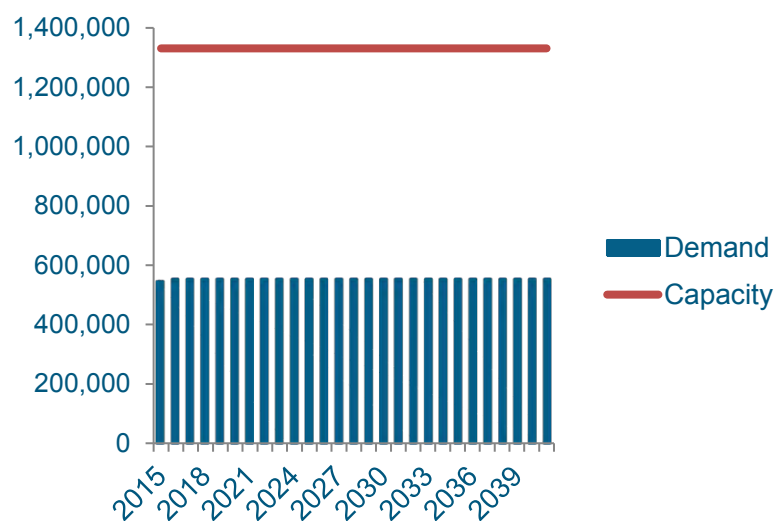


(Source: Ocean Shipping Consultants)

Sugar

- 6.11 Under the base case, forecast sugar demand is anticipated to remain at approximately 0.5 mt per year throughout the study period. This accounts for approximately 41% of capacity.

Figure 6.5 Gap Analysis-Sugar (tonnes)

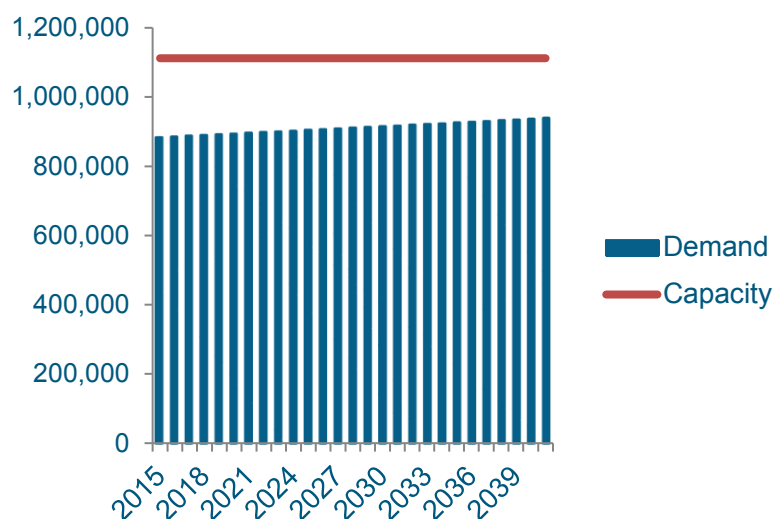


(Source: Ocean Shipping Consultants)

Vehicles

- 6.12 Trends within the vehicle sector suggest that there could be growing demand during the forecast period. Currently demand is approximately 80% of capacity. This is forecast to increase to 84% by 2041.

Figure 6.6 Gap Analysis-Vehicles (tonnes)

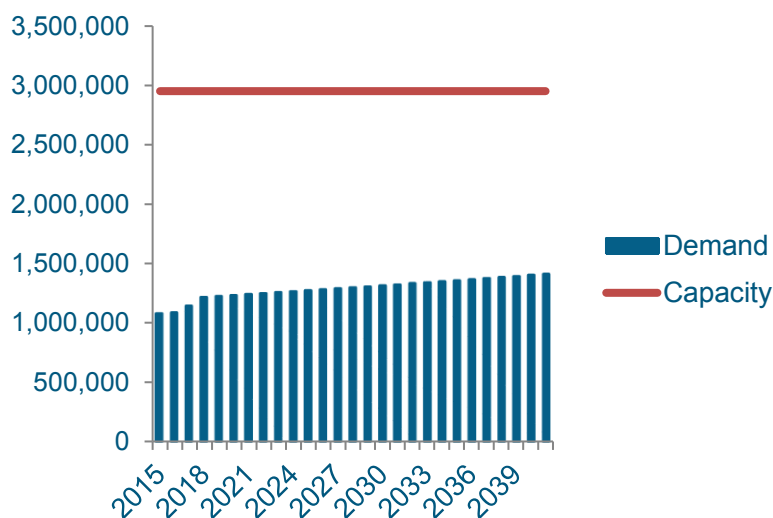


(Source: Ocean Shipping Consultants)

Waste

- 6.13 The overall trend within the waste sector is one of gradual increase. Overall the gap between total wharf capacity and demand is forecast to increase from 36% currently, to 48% by 2041.

Figure 6.7 Gap Analysis-Waste (tonnes)

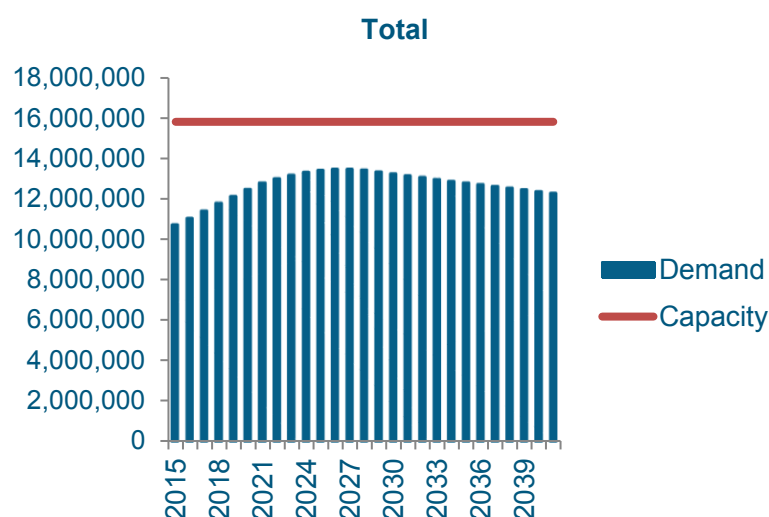


(Source: Ocean Shipping Consultants)

Total

- 6.14 The overall wharf capacity is approximately 15.8 mt, of which, current total demand accounts for 70% of overall capacity. This figure does not include vacant wharves as they cannot be assigned to any particular commodity. The total demand for all commodities under consideration is forecast to increase through to 2026, which will equate to 85% of current capacity. Thereafter, overall demand is forecast to decline resulting in capacity demand of 78%.

Figure 6.8 Gap Analysis-Total (tonnes)



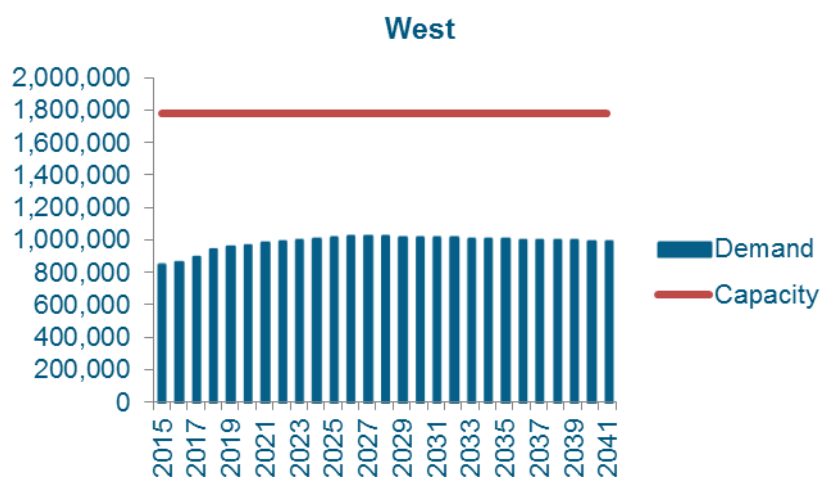
(Source: Ocean Shipping Consultants)

Gap Analysis by Sub-Region

- 6.15 The commodity gap analysis highlights the potential gap (in most cases) between the demand for commodities and the capacity of the wharves that handle the commodities. On a regional basis, the capacity has been calculated, along with the associated commodity demand within each sub-region. The gap between commodity totals and the overall capacity is highlighted by region below.

- 6.16 Demand within the West sub-region is forecast to increase from approximately 0.8 mt currently to 1.0 mt by 2028. This is followed by a decline to 0.9 mt by the end of the study period. The West sub-region has the lowest demand compared to capacity at 47.5% in 2015. This is forecast to increase to 57.2% of capacity by 2028. Thereafter overall demand is forecast to decline to 55.5% of the regions capacity. This translates in to a decline in overall capacity from 0.9 mt in 2015 to 0.8 mt by 2041.

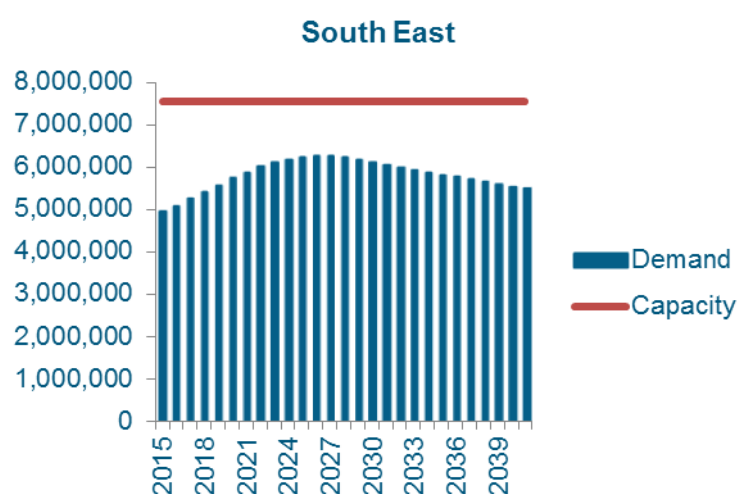
Figure 6.9 Gap Analysis-West (tonnes)



(Source: Ocean Shipping Consultants)

- 6.17 Demand within the South East is forecast to increase from 4.9 mt currently to 6.2 mt by 2028. Thereafter it is forecast to decline to 5.5 mt by 2041. The current capacity usage is 65%. This is forecast to increase to 82.3% by 2028. Demand is then forecast to decline to 72.6% of capacity by 2041. This translates in to a decline in overall capacity from 2.6 mt in 2015 to 2.1 mt by the end of the study period.

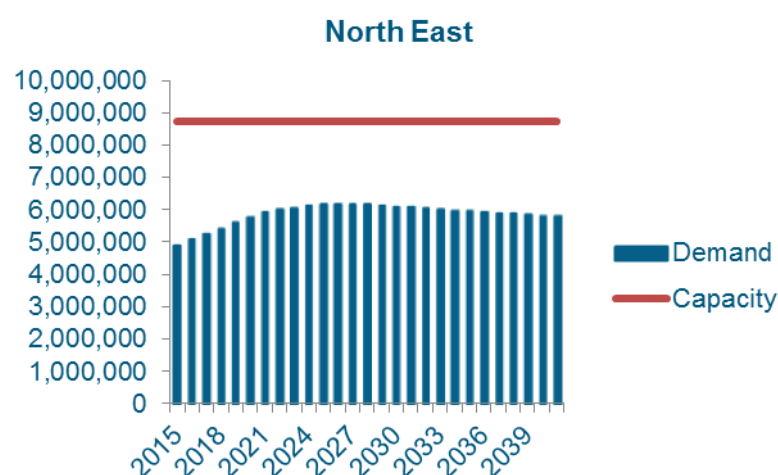
Figure 6.10 Gap Analysis-South East (tonnes)



(Source: Ocean Shipping Consultants)

- 6.18 Demand in the North East is forecast to increase from 4.9 mt currently to 6.19 mt by 2028. By the end of the study period demand is forecast to decline to 5.8 mt. This translates currently to 57% of capacity. This is set to increase to 71% by 2028. Thereafter, demand is forecast to decline to 67% of capacity by the end of the study period. This translates in to a decline in overall capacity from 3.8 mt in 2015 to 2.9 mt by the end of the study period.

Figure 6.11 Gap Analysis-North East (tonnes)



(Source: Ocean Shipping Consultants)

- 6.19 Table 6.5 below highlights both commodity and capacity by sub region and the potential capacity gap. However, this excludes vacant wharves as these are not assigned a commodity, and the handling of food at Halfway Wharf which stopped in 2006.

Table 6.5 Future Demand and Capacity* by Commodity and sub region 2015-2041 (mt)

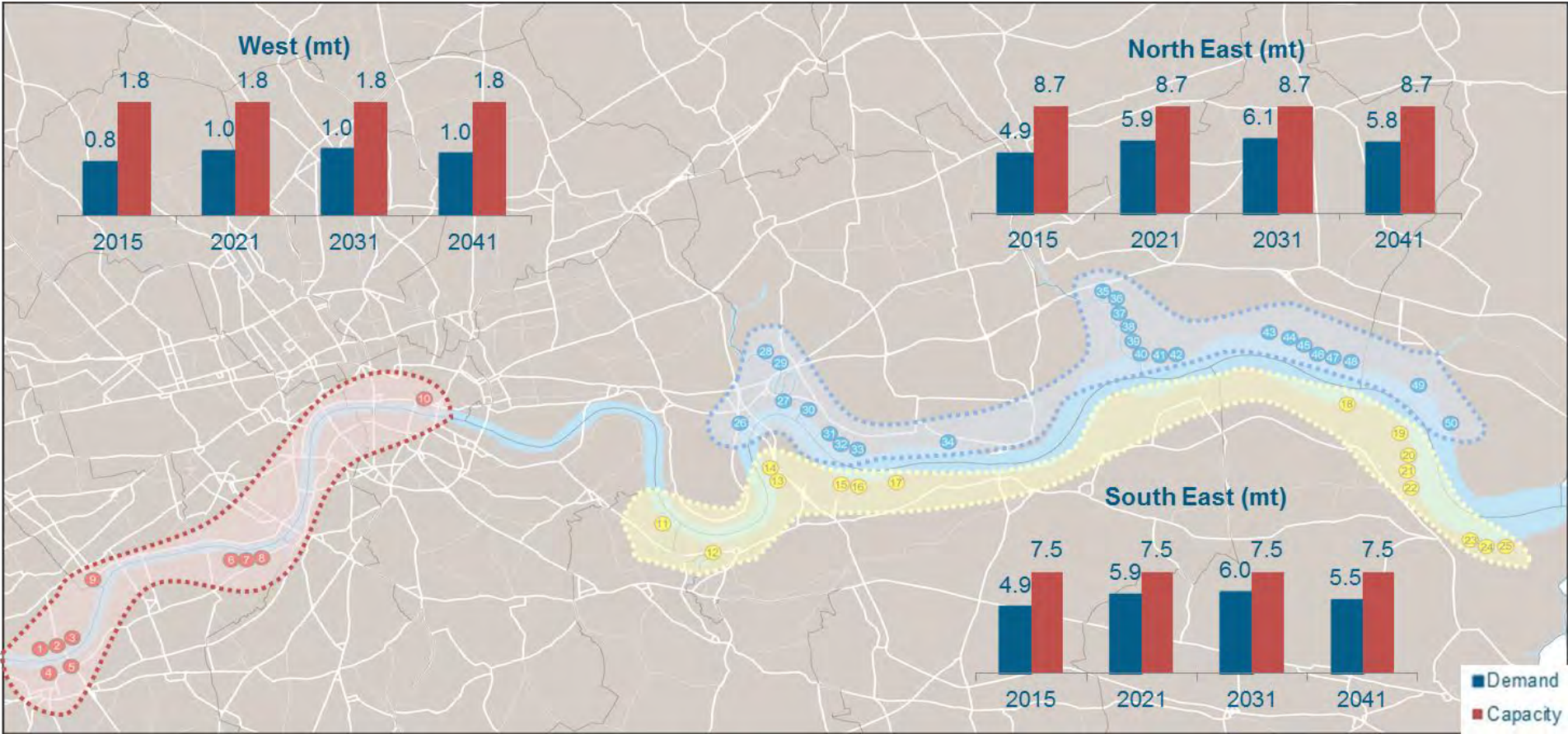
Area	2015	2021	2031	2041
West				
Construction M				
Demand	296,914	364,458	380,556	344,168
Capacity	979,200	979,200	979,200	979,200
Gap	682,286	614,742	598,644	635,032
Waste				
Demand	547,049	613,648	628,127	642,948
Capacity	771,000	771,000	771,000	771,000
Gap	223,951	157,352	142,873	128,052
Petroleum				
Demand	-	-	-	-
Capacity	26,900	26,900	26,900	26,900
Gap	26,900	26,900	26,900	26,900
South East				
Agricultural Bulks				
Demand	577,009	535,870	473,718	418,775
Capacity	857,000	857,000	857,000	857,000
Gap	279,991	321,130	383,282	438,225
Construction M				
Demand	4,137,624	5,078,876	5,303,213	4,796,131
Capacity	4,859,000	4,859,000	4,859,000	4,859,000
Gap	721,376	- 219,876	- 444,213	62,869
Waste				
Demand	222,772	249,893	255,789	261,825
Capacity	1,220,000	1,220,000	1,220,000	1,220,000
Gap	997,228	970,107	964,211	958,175
North East				
Construction M				
Demand	2,508,736	3,079,439	3,215,460	2,908,004
Capacity	2,804,700	2,804,700	2,804,700	2,804,700
Gap	295,964	-274,739	-410,760	- 103,304
Petroleum				
Demand	686,260	1,044,215	1,044,215	1,044,215
Capacity	819,000	819,000	819,000	819,000
Gap	132,740	-225,215	- 225,215	- 225,215
Steel				
Demand	6,402	20,786	18,328	15,002
Capacity	85,000	85,000	85,000	85,000
Gap	78,598	64,214	66,672	69,998
Sugar				
Demand	543,416	550,000	550,000	550,000
Capacity	1,331,000	1,331,000	1,331,000	1,331,000

Gap	787,584	781,000	781,000	781,000
Vehicles				
Demand	882,979	895,421	916,549	938,175
Capacity	1,112,000	1,112,000	1,112,000	1,112,000
Gap	229,021	216,579	195,451	173,825
Waste				
Demand	307,035	344,414	352,541	360,859
Capacity	961,000	961,000	961,000	961,000

* Excludes vacant wharves
(Source: Ocean Shipping Consultants)

- 6.20 Figure 6.12 highlights the overall demand and capacity in each region through to 2041. These include current capacity assumptions for all wharves in each area, both operational and vacant as provided by the PLA.
- 6.21 In their examination of the gap analysis OSC advised that there is sufficient capacity to handle the forecast demand increases during the study period. On an aggregated sub-regional basis there is sufficient capacity to accommodate the increase in demand. However, in the near-term there could be concerns with both construction materials and petroleum that are forecast to have higher demand than capacity.

Figure 6.12 Future Demand & Capacity by Sub-Region 2015-2041 (mt)*



*Including current vacant wharves

7 Conclusions

- 7.1 This chapter summarises the findings of this report.
- 7.2 At all levels of Government, national, regional and local there is strong policy support for the sustainable movement of freight by water. Given the number of clear policy steers contained in multiple policy documents, it would be perverse of the Mayor to ignore this support.
- 7.3 There is no one obvious way to forecast future demand for wharf activities. A number of approaches are available. Given that London's economy is different from that of the rest of the UK economy and that wharf activity tends to relate to specific sectors of the economy, expected to decline, conventional forecasting methods are not helpful.
- 7.4 OSC have advised the Mayor that given the structural trends in shipping the commodity groups forecast in 2010 will be the same ones that should be forecast forward to 2041.
- 7.5 One long-standing forecasting method is to assume past behaviour guides future performance. This approach has been adopted for most of the commodity groupings. However, there are a number of policy interventions open to the Mayor and it is assumed that, based on the experience of Crossrail and the Lea Tunnel, there could be an increased use of the river for the movement of CD&E waste from future infrastructure projects such as tube line extensions and major rail schemes like Crossrail 2. Obviously, if these infrastructure projects are not progressed or the levels of movement by water are not achieved then the forecasts will need to be revised.
- 7.6 Overall, freight on the Thames is forecast to increase from 10.7mt in 2015 to 13.4mt by 2028, before declining to 12.3 mt by 2041. This compound annual rate of change of 0.69% masks large variations between commodity groups. Most commodities are forecast to grow with agricultural bulks and steel forecast to decline during the forecast period at over -1.7% and -4.9% CAGR respective. In 2011 URS/Scott Wilson found a compound annual growth rate of 21%, on their medium forecast which is above the most recent forecast.

- 7.7 Capacity is estimated at 18.1mt for 2015, this is the same as in 2011. Overall, there is sufficient capacity to deal with forecast demand. Looking at the spatial distribution of this demand and capacity over the three sub regions, north east, south east and west reveals the following patterns.
- 7.8 In the North East sub region there is likely to be an oversupply of capacity, this is likely to fall from over 3.8mt in 2015 to 2.9mt by 2041.
- 7.9 In the South East sub region there is likely to be a decline in over capacity down from 2.6 mt in 2015 to 2.1mt by the end of the study period.
- 7.10 In the West sub-region there is likely to be a decline in over capacity from 0.9 mt in 2015 to 0.8 mt by 2041.

Appendices

Appendix 1 – List of Contacts for this study

Companies that provided information

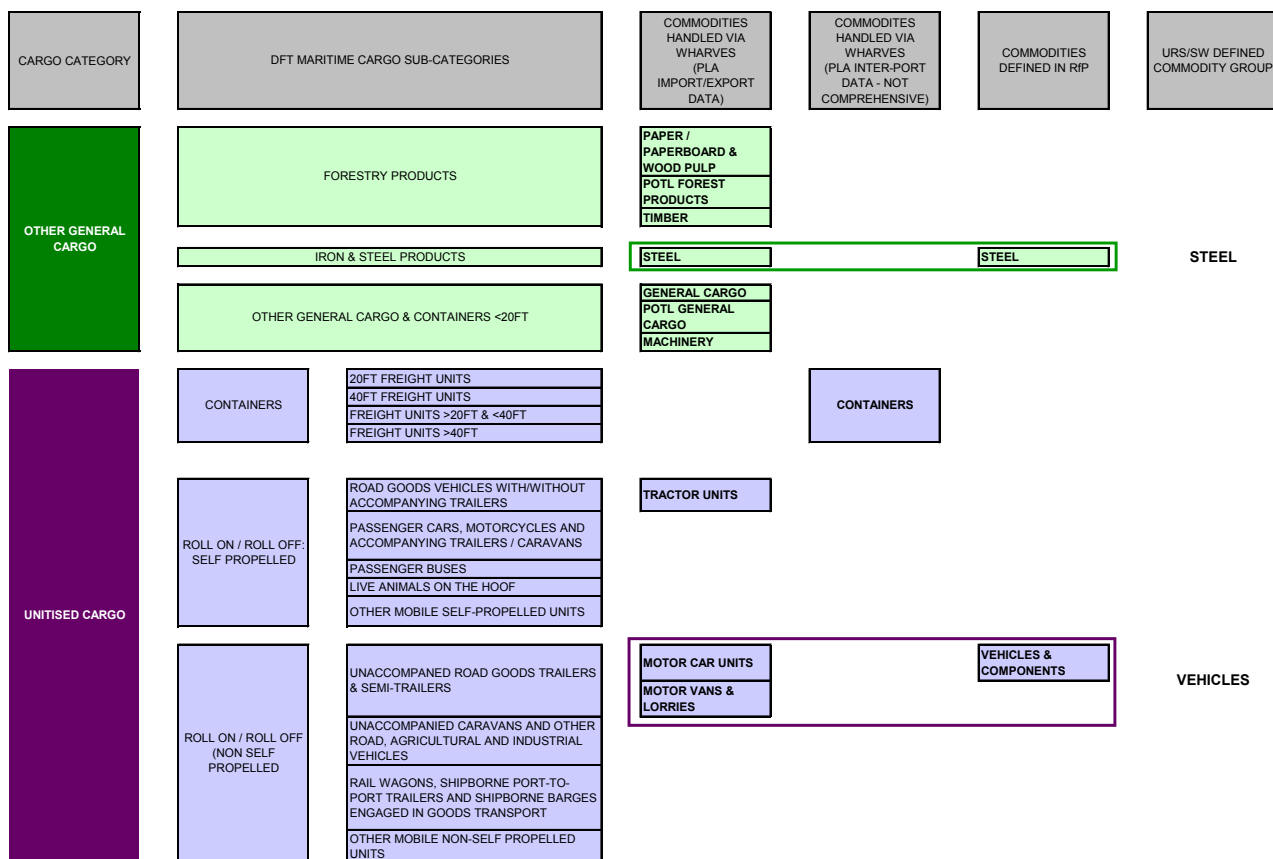
- 1) Segio Almeida - Stolthaven Dagenham Ltd
- 2) Gerald Mason – Tate & Lyle
- 3) Peter Ward – London Construction Link
- 4) David Rumbles - Bywater

Companies contacted but unable to provided information

- 1) ADM Oilseed Processing Plant
- 2) ADM Pura Foods Ltd
- 5) ELG Haniel Metals Ltd.

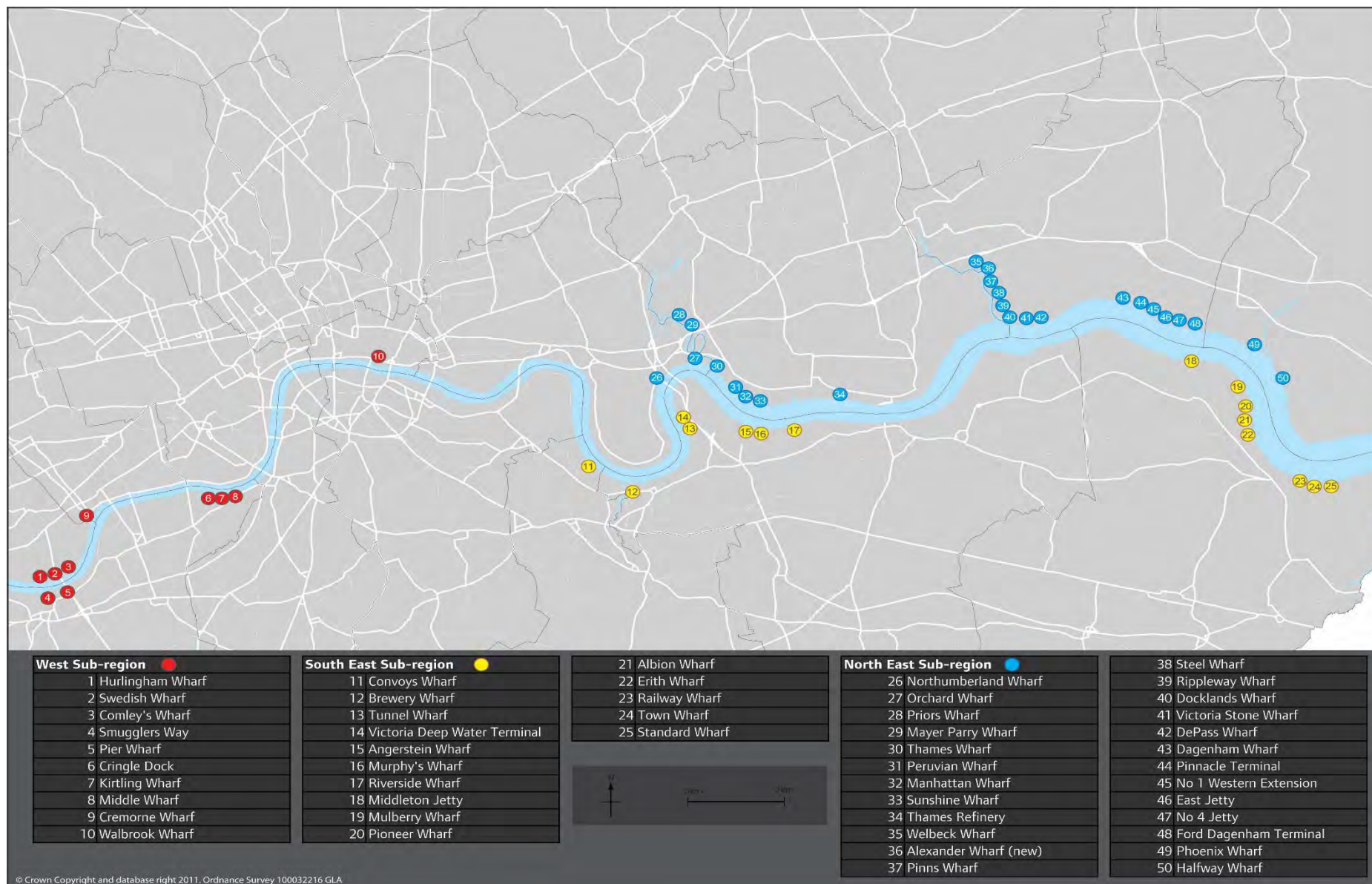
Appendix 2 – Commodity Classifications – taken from URS/Scott Wilson Study 2011 Fi

CARGO CATEGORY	DFT MARITIME CARGO SUB-CATEGORIES	COMMODITIES HANDLED VIA WHARVES (PLA IMPORT/EXPORT DATA)	COMMODITIES HANDLED VIA WHARVES (PLA INTER-PORT DATA - NOT COMPREHENSIVE)	COMMODITIES DEFINED IN RIP	URS/SW DEFINED COMMODITY GROUP
LIQUID BULK	LIQUEFIED GAS	PETROLEUM GASES			
	CRUDE OIL	CRUDE OIL			
	OIL PRODUCTS	MINERAL OILS	PETROLEUM	PETROLEUM PRODUCTS	PETROLEUM PRODUCTS
	OTHER LIQUID BULK	VEGETABLE OILS	VEGETABLE OILS OILS & FATS	VEGETABLE & EDIBLE OILS	OTHER LIQUID BULKS
		LIQUID CHEMICALS ETHANOL			
DRY BULK	ORES				
	COAL	COAL			
	AGRICULTURAL BULKS	OIL SEED WASTE FOOD / ANIMAL FEED CEREAL		OIL SEED ANIMAL SEED	AGRICULTURAL BULKS
	OTHER DRY BULKS	SEA DREDGED AGGREGATES	AGGREGATES DREDGED MATERIAL	SEA DREDGED AGGREGATES LAND WON AGGREGATES CRUSHED ROCK	CONSTRUCTION MATERIALS
		MINERALS / SAND STONE & GRAVEL SLAG*			
		BUILDING WASTE SPOIL		CE&DW **	
		CEMENT		CEMENTITIOUS PRODUCTS	WASTE
		SCRAP CULLET ****	WASTE	CONTAINERISED WASTE *** METAL RECYCLATE	
		SUGAR		SUGAR	SUGAR
		MINERALS / SALT FERTILISERS DRY CHEMICALS			OTHER DRY BULKS



* BY-PRODUCT OF METAL MANUFACTURE, PRIMARY USES IN CONSTRUCTION SECTOR
 ** CE&DW = CONSTRUCTION, EXCAVATION & DEMOLITION WASTE
 *** IF CONTAINERISED WOULD BE CATEGORISED BY DFT AS "AS OTHER GENERAL CARGO & CONTAINERS <20FT"
 **** CULLET = GLASS TO BE RECYCLED

Appendix 3 – Map of Currently Safeguarded Wharves



Appendix 4-List of Wharfs and their location and cargo

Wharf No.	Wharf	Area	Cargo
1	Hurlingham Wharf	West	Construction M
2	Swedish Wharf	West	Petroleum
3	Comleys Wharf	West	Construction M
4	Smugglers Way	West	Waste
5	Pier Wharf	West	Construction M
6	Cringle Dock	West	Waste
7	Kirtling Wharf	West	Construction M
8	Middle Wharf	West	Construction M
9	Cremorne Wharf	West	Construction M
10	Walbrook Wharf	West	Waste
11	Convoys Wharf	South East	Vacant
12	Brewery Wharf	South East	Construction M
13	Tunnel Wharf	South East	Vacant
14.1	Victoria Deep Water	South East	Construction M
14.2	Victoria Deep Water	South East	Construction M
15	Angerstein Wharf	South East	Construction M
16	Murphy's Wharf	South East	Construction M
17	Riverside Wharf	South East	Construction M
18	Middleton Jetty	South East	Waste
19	Mulberry Wharf	South East	Vacant
20	Pioneer Wharf	South East	Construction M
21	Albion Wharf	South East	Agricultural Bulks
22	Erith Wharf	South East	Construction M
23	Railway Wharf	South East	Vacant
24	Town Wharf	South East	Waste
25	Standard Wharf	South East	Vacant
26	Northumberland	North East	Waste
27	Orchard Wharf	North East	Vacant
28	Priors Wharf	North East	Outside PLA Area
29	Mayer Parry Wharf	North East	Outside PLA area
30	Thames Wharf	North East	Construction M
31	Peruvian Wharf	North East	Vacant
32	Manhattan	North East	Vacant
33	Sunshine Wharf	North East	Vacant
34	Thames Refinery	North East	Sugar
35	Welbeck Wharf	North East	Vacant
36	Alexander Wharf	North East	Waste
37	Pinns Wharf	North East	Waste
38	Steel Wharf	North East	Steel
39	Rippleway Wharf	North East	Construction M
40	Docklands Wharf	North East	Waste

41	Victoria Stone	North East	Construction M
42	DePass Wharf	North East	Vacant
43	Dagenham Wharf	North East	Construction M
44	Pinnacle Terminal	North East	Petroleum
45	No.1 Western	North East	Construction M
46	East Jetty	North East	Waste
47	No.4 Jetty	North East	Construction M
48	Ford Dagenham	North East	Vehicles
49	Phoenix Wharf	North East	Waste
50	Halfway Wharf	North East	Food

Appendix 5 – Capacity Estimates by Wharf 2015 and 2011

Table A4.1 Capacity Estimates by Wharf 2015

Sub region	Commodity	Wharf	Capacity	Group total
West	Aggregates	Comleys	58,100	
		Pier	227,000	
		Kirtling	227,000	512,100
	Petroleum	Swedish	26,900	26,900
		Hurlingham	356,000	
		Middle	70,600	
	Waste	Cremorne	40,500	467,100
		Smugglers Way	319,000	
		Cringle Dock	342,000	
		Walbrook	110,000	771,000
Sub total				1,777,100
South East	Aggregates	Brewery	137,000	
		Victoria Deep Water	779,000	
		Angerstein	1,046,000	
		Murphy's	1,956,000	
		Riverside	95,000	
	Agricultural	Pioneer	477,000	
		Erith	369,000	4,859,000
		Albion	857,000	857,000
		Convoys	200,000	
		Tunnel	116,000	
North East	Vacant	Mulberry	56,800	
		Standard	140,000	612,800
		Middleton	820,000	
		Town	400,000	1,220,000
				7,548,000
	Aggregates	Thames	104,000	
		Rippleway	66,700	
		Victoria Stone	460,000	
		Dagenham	399,000	
		No.1 Western	212,000	
	Petroleum	No.4 Jetty	1,563,000	2,804,700
		Pinnacle	819,000	819,000
		Steel	85,000	85,000
		Thames Refinery	1,331,000	1,331,000
		Orchard	610,000	
	Steel	Priors	80,000	
		Mayer Parry	4,000	
		Peruvian	500,000	
		Manhattan	4,000	
		Sunshine	15,000	
	Sugar	Welbeck	194,000	
		DePass	170,000	
		Phoenix	386,000	
		Halfway	21,400	1,984,000
		Ford Dagenham	1,112,000	1,112,000
	Vacant	Northumberland	115,000	
		Alexander	12,000	
		Pinns	206,000	
		Docklands	131,000	
		East Jetty	111,000	575,000
Sub total				8,711,100
Total				18,037,000

Table A4.2 – Capacity Estimates by Wharf 2011

Sub Region	Comodity Group		Wharf	Annual Capacity (tonnes)	
				Wharf	Commodity Group Total
West	vacant	1	hurlingham	356,000	356,000
	petroleum	2	swedish	27,000	27,000
	waste	4	western riverside waste	319,000	
		6	cringle dock	295,000	
		9	cremorne	40,500	
		10	walbrook	77,000	731,500
	construction materials	3	RMC Fulham	58,000	
		5	pier	115,000	
		7	metro greenham	200,000	
	8	RMC vauxhall	70,500	443,500	
Subtotal West Region					1,558,000
North East	vacant	27	orchard	610,000	
		28	priors	80,000	
		29	mayer parry canning town	4,000	
		31	peruvian	500,000	2,278,600
		38	debden	238,600	
		41	victoria stone	460,000	
		49	frog island	386,000	
	petroleum	32	manhattan	4,000	4,000
	liquid bulks	33	sunshine	15,000	
		44	thunderer jetty	1,000,000	1,015,000
	agri bulks	50	tilda rice	21,500	21,500
	waste	26	northumberland	100,000	
		30	thames wharf	101,000	
		36	pinns	220,000	
		40	docklands	130,500	551,500
	construction materials	42	de pass	170,000	
		43	cemex dagenham	348,000	
		45	eurovia roadstone	180,400	2,209,750
		46	van dalen	111,350	
		48	hanson aggregates	1,400,000	
	sugar	34	thames refinery cairn	1,500,000	1,500,000
	steel	35	welbeck	194,000	
		37	kierbech steel	85,000	279,000
	vehicles	47	ford	1,550,000	1,550,000
	timber	39	rippleway	66,700	66,700
North East Subtotal					9,476,050
South East	vacant	11	convoys	200,000	
		13	tunnel glucose	116,000	
		23	RMC railway	100,000	556,000
		25	standard	140,000	
	liquid bulk	21	albion	889,700	889,700
	waste	18	borax manor	690,000	
		24	mayer parry erith	56,000	746,000
	construction materials	12	brewery	150,000	
		14	victoria deep water	349,000	
		15	angerstein	1,300,000	
		16	murphys	2,000,000	
		17	riverside	90,000	4,845,800
		19	mulberry	56,800	
		20	pioneer	500,000	
		24	RMC erith	400,000	
South East Subtotal					7,037,500
London Total	vacant				3,190,600
	petroleum				31,000
	liquid bulk				1,904,700
	agri bulk				21,500
	construction materials				7,499,050
	waste			*see note below	2,029,000
	sugar				1,500,000
	steel				279,000
	vehicles				1,550,000
	timber				66,700
London Total					18,071,550

(Source: PLA)

Appendix 5

Pianc

A useful and recent reference for the planning of bulk handling material port facilities are the PIANC MarCom Report no. 158, where most of the numbers below are taken.

The handling capacity of solid dry bulk terminals is the minimum of two estimates:

- The berth annual handling capacity which relates to the
 - Number of cranes
 - Crane 'effective' handling rate and
 - The maximum practical berth occupancy
- The stockyard annual handling capacity which depends on a number of operational and physical factors, such as:
 - Whether the facility is for import or export
 - Segregation of the material by customer/ type/ grade
 - Seasonal peaking considerations or fluctuations in the vessel schedules that require a larger buffer
 - Net available area for stacking
 - Material density and angle of repose, or effective height
 - Type of storage (open, walled, covered, silos, etc.) and storage equipment
 - Stockpile turnover time

PIANC 158 has section 6 has detailed formulas for the calculation of berth and stockyard capacities, as functions of the above parameters.

When detailed information about the terminals are missing one can use rules of thumb to get an order of magnitude estimate of terminal capacity.

Such are:

- For Stockyard capacity:
 - Given the net area of the stockyard, the effective height for storage of the material and its density, estimate the static storage capacity
 - Typically assuming 20 turnarounds/ year, the annual storage capacity of the terminal is 20*static capacity or conversely:
 - For import terminals the yard has storage for 5-10% of the annual berth handling volume
 - For export terminals, the yard has storage for 10-25% of the annual berth handling volume
- For Berth handling capacity:
 - Number of cranes x effective handling rate x the berth occupancy at capacity x working hours in a year
 - The effective handling rate is the rate with which a crane can unload a whole vessel given as a percentage of the crane rated handling capacity

Berth occupancy is the maximum percent of hours that the berth can work to maintain a certain level of service for the ships and avoid long waiting times for the arriving ships.

ⁱ <https://pla.co.uk/About-Us/The-Thames-Vision>

ⁱⁱ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/537578/Call_for_ideas.pdf

ⁱⁱⁱ <https://www.gov.uk/government/collections/river-basin-management-plans-2015#thames-river-basin-district-rbmp-2015>

Safeguarded Wharves Review 2018

Equalities Impact Assessment

March 2018

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01	21 March	Peter Heath	Darren Richards, GLA

Equalities Impact Assessment (EqIA)

1. Introduction

1.1 This document set out the Equalities Impact Assessment (EqIA) for the draft Safeguarded Wharves Review 2018. The Mayor and GLA have “general public body duties” under equalities legislation and like all public bodies, have statutory duties to promote equality arising from the Equality Act 2010. The Mayor and the GLA also have an additional duty to promote equality of opportunity arising from the GLA Act 1999 (as amended).

1.2 Section 149 of the Equality Act 2010 includes a new single public sector equality duty (“the Duty”) which brings together the previous race, disability and gender duties and extends coverage to the following:

- age
- disability
- gender reassignment
- pregnancy and maternity
- race
- religion or belief
- sex
- sexual orientation
- marriage and civil partnership (applicable only to the need to eliminate unlawful discrimination)

1.3 These are the grounds upon which discrimination is unlawful and are referred to as ‘protected characteristics.’ The Duty requires the Mayor and the GLA when exercising their functions to have *due regard* to the following:

1. **Eliminate unlawful discrimination, harassment and victimisation** and any other conduct which is unlawful under the Equality Act 2010
2. **Advance equality of opportunity** between people who share a protected characteristic, and those who don’t have that characteristic. This means in particular:
 - a. **Removing or minimising disadvantages** suffered by people who share a protected characteristic that are connected to that characteristic
 - b. **Taking steps to meet the needs of people** who share a protected characteristic that are different from the needs of people who don’t have that characteristic
 - c. **Encouraging people** who share a protected characteristic **to participate in public life or in any other activity** in which their participation is disproportionately low
3. **Foster good relations** between people who share a protected characteristic, and those who don’t have that characteristic. This means, in particular:
 - a. **Tackling prejudice**
 - b. **Promoting understanding**

Compliance with these duties may involve treating some persons more favourably than others

1.4 In 2014 the Mayor published Equal Life Chances for All, a strategy to reduce inequality. In June 2017 he published a consultation draft of The Mayor's Vision for a Diverse and Inclusive City.

Identifying users/beneficiaries

1.5 The main users of the Safeguarded Wharves Review 2018 will be borough planning departments and developers. The Greater London Authority has produced and published the Supplementary Planning Guidance (SPG): Meeting the spatial needs of London's diverse communities. It sets out the main needs and priorities of each Equality Target Group and they are summarised in the following table:

Table 1: Target Equality Group needs

Equality Target Groups		Needs / Priorities	Evidence
Black, Asian and Minority Ethnic (BAME) people	Asian or Asian British	<ul style="list-style-type: none"> Reduction in multiple deprivation Access to employment and training 	London Divided (GLA 2002)
	Black or Black British	<ul style="list-style-type: none"> Reduction in multiple and employment deprivation affecting black people.. Increase in level of skills Support for ethnic SME businesses 	DMAG 2006/2 Simpson's diversity indices for wards 1991 and 2001 (Mayor of London, 2006)
	People of mixed race	<ul style="list-style-type: none"> Reduction in multiple and employment deprivation Increase in level of skills Access to employment and training 	Indices of multiple deprivation 2004
	Irish People		Focus on London (Office for National Statistic, Mayor of London 2007)
	White British People		The contribution of Asian-owned businesses to London's economy (Mayor of London, 2007)
	Chinese people and other ethnic minority communities not listed above.		<p>The state of equality in London report (Mayor of London, 2016/7)</p> <p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>Hate Crime Reduction Strategy (Mayor of London 2014-17)</p> <p>Assessment of GLA's Impact on Race Equality (GLA 2012)</p>
Gypsies and Travellers		<ul style="list-style-type: none"> Require more permanent sites with access to healthcare and education facilities, local services and play space. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>London enriched the Mayor's draft strategy for Refugee integration in London (Mayor of London, 2007)</p> <p>Assessment of GLA's Impact on Race Equality (GLA 2012)</p> <p>The state of equality in London Report (Mayor of London 2016/7)</p>
Asylum seekers, refugees and other migrants		<ul style="list-style-type: none"> Require improved accommodation facilities and access to support services and social facilities are vital as is the location of accommodation 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p>

		within reach of good public transport links.	<p>Focus on London (Office for National Statistic, Mayor of London 2007)</p> <p>Assessment of GLA's Impact on Race Equality (GLA 2012)</p> <p>Assessment of GLA's Impact on Faith Equality (GLA 2015)</p>
Gender	Women	<ul style="list-style-type: none"> • Greater access to employment and training and reduction of pay gap. • Affordable childcare provision • Better access to cheap, safe and reliable public transport • Safer public realm • Specialist accommodation such as sheltered accommodation for domestic violence victims. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>Women in London's Economy (GLA 2005)</p> <p>Focus on London (Office for National Statistic, Mayor of London 2007)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p> <p>Assessment of the GLA's impact on gender equality (GLA 2013)</p>
	Men	<ul style="list-style-type: none"> • Greater access to employment and training 	<p>Women in London (GLA 2009)</p> <p>Violence against women and girls 2014-2017 (GLA 2014)</p>
Age	Children and Young people (0-17)	<ul style="list-style-type: none"> • A need for access to open space and playspace • Child poverty is an important issue to address and improving access to employment and training for parents and providing affordable childcare have a role to play in this. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>SPG: Play and Informal Recreation (GLA 2012)</p> <p>State of London Children's Report (GLA 2004)</p> <p>Focus on London (Office for National Statistic, Mayor of London 2007)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p>
	Young adults (18 – 25)	<ul style="list-style-type: none"> • Better access to skills training and to employment 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p>

	Older people (60+)	<ul style="list-style-type: none"> • Access to hospital, healthcare facilities, open space and shopping amenities • Appropriate housing (both sheltered and supported) is provided in areas to tackle social isolation and poverty. • Safe public realm • Support into part time employment • Provision of community facilities are also essential to allow older people the chance to get out of the house and socialise with peers. Where necessary, these facilities should be appropriate to different cultures. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>SPG Accessible London (2014)</p> <p>Valuing Older People GLA (2006)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p> <p>Assessment of GLA's Impact on Older people (GLA 2013)</p> <p>An age-friendly city? (Kings College London 2015)</p>
Disability	Disabled people	<ul style="list-style-type: none"> • Step free access in the built environment • Housing meeting Lifetimes Homes Standard. • Step free access for transport • Employment and business support • Experiencing discrimination when accessing key services and going about their daily routines. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>The State of Equality in London: London Equalities Commission (2007)</p> <p>SPG: Accessible London: (GLA 2014)</p> <p>Assessment of GLA's impact on Disability equality (GLA 2013)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p>
Sexual Orientation and Gender Identity	Lesbian, Gay, Bisexual Trans (LGBT) people	<ul style="list-style-type: none"> • have particular concerns relating to their personal safety and security in the public realm, especially with regard to harassment. • Experiencing discrimination in accessing housing, employment and social facilities such as healthcare, employment and social facilities. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2006)</p> <p>The State of Equality in London: London Equalities Commission (2007)</p> <p>Stonewall</p> <p>Press for Change</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p> <p>Transexual People in the Workplace: PFC Code of Practice (1998)</p> <p>Assessment of GLA's Impact on Trans Equality (GLA 2011)</p> <p>Assessment of GLA's Impact on Lesbian, Gay and bi-sexual Equality (GLA 2012)</p>

People of faith	Christians/Buddists/ Hindu/Muslims/Jewish/Sikh/other religions	<ul style="list-style-type: none"> • Reduction in hate crimes. • Able to practice their religions without fear, hatred and prosecution. • Provision of modern religious facilities. • Need for faith schools/community facilities. 	<p>SPG: Planning for Equality and Diversity in London (GLA 2007)</p> <p>The State of Equality in London: London Equalities Commission (2007)</p> <p>The state of equality in London report (Mayor of London, 2016/7)</p> <p>Hate Crime Reduction Strategy 2014-2017 (GLA 2014)</p> <p>Assessment of GLA's Impact on Faith Equality (2015)</p>
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Monitoring Systems

1.6 The London Plan Annual Monitoring Report contains 25 Key Performance Indicators, which cover broad equalities issues and set out progress made against the Mayor's social inclusion objectives. These objectives have significant equalities impacts, although it might be difficult to identify impacts on specific Equality Target Groups. The sustainability appraisal has also identified equality objectives, these will be incorporated into the monitoring process.

Other evidence

1.7 A literature review was conducted to identify the most recent research reports and policy documents relevant to each Equality Target Group. Responses from the specialist stakeholders will be incorporated into the final version of the Safeguarded Wharves Review following the public consultation.

2. Findings of the EqIA

2.1 The draft Safeguarded Wharves Review will generally have a cumulative positive and long-term impact on most Londoners. These benefits are:

- Improving air quality by reducing pollution from road vehicles.
- Mitigating and adapting to the effects of climate change.
- Reducing road injuries by reducing vehicle movements.
- Increasing employment opportunities by bringing vacant wharves back into use.

2.2 The following table looks at each of the equalities target groups in turn and assesses known or potential impacts as a result of the draft Safeguarded Wharves Review.

Table 2 Impact of Safeguarded Wharves Review of Equality Groups

Equality Target Groups		Potential positive impacts	Potential neutral impacts	Potential negative impacts	Mitigating actions
Race	Asian or Asian British	Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river. Higher than average unemployment amongst these groups should be reduced through trainings. Improved access to employment and business support.		Maintaining use as a wharf precludes redevelopment for affordable housing Training initiatives may not be promoted in a way that BAME groups can easily access.	Draft London Plan shows sufficient alternate sites available. Ensure that appropriate media is used to target BAME and socially excluded groups
	Black or Black British				
	People of mixed race				
	Irish People				
	White British People				
	Chinese people and other ethnic minority communities not listed above.				
Gypsies and Travellers		Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river. Higher than average unemployment amongst these groups should be reduced through trainings. Improved access to employment and business support.		Maintaining use as a wharf precludes redevelopment for affordable housing Training initiatives may not be promoted in a way that G&T groups can easily access	Draft London Plan shows sufficient alternate sites available. Ensure that appropriate media is used to target G&T groups and socially excluded groups

Gender	Women	<p>Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.</p> <p>Improvements to training opportunities</p>		<p>Maintaining use as a wharf precludes redevelopment for affordable housing</p> <p>Training initiatives may not be promoted in a way that women can easily access</p>	<p>Draft London Plan shows sufficient alternate sites available.</p> <p>Ensure that appropriate media is used to target women and socially excluded groups</p>
	Men	<p>Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.</p> <p>Improvements to training opportunities.</p>		<p>Maintaining use as a wharf precludes redevelopment for affordable housing</p> <p>Training initiatives may not be promoted in a way that men can easily access</p>	<p>Draft London Plan shows sufficient alternate sites available.</p> <p>Ensure that appropriate media is used to target men and socially excluded groups</p>
Age	Children and Young people (0-17)	<p>Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.</p>		<p>Maintaining use as a wharf precludes redevelopment for affordable housing</p>	<p>Draft London Plan shows sufficient alternate sites available.</p>

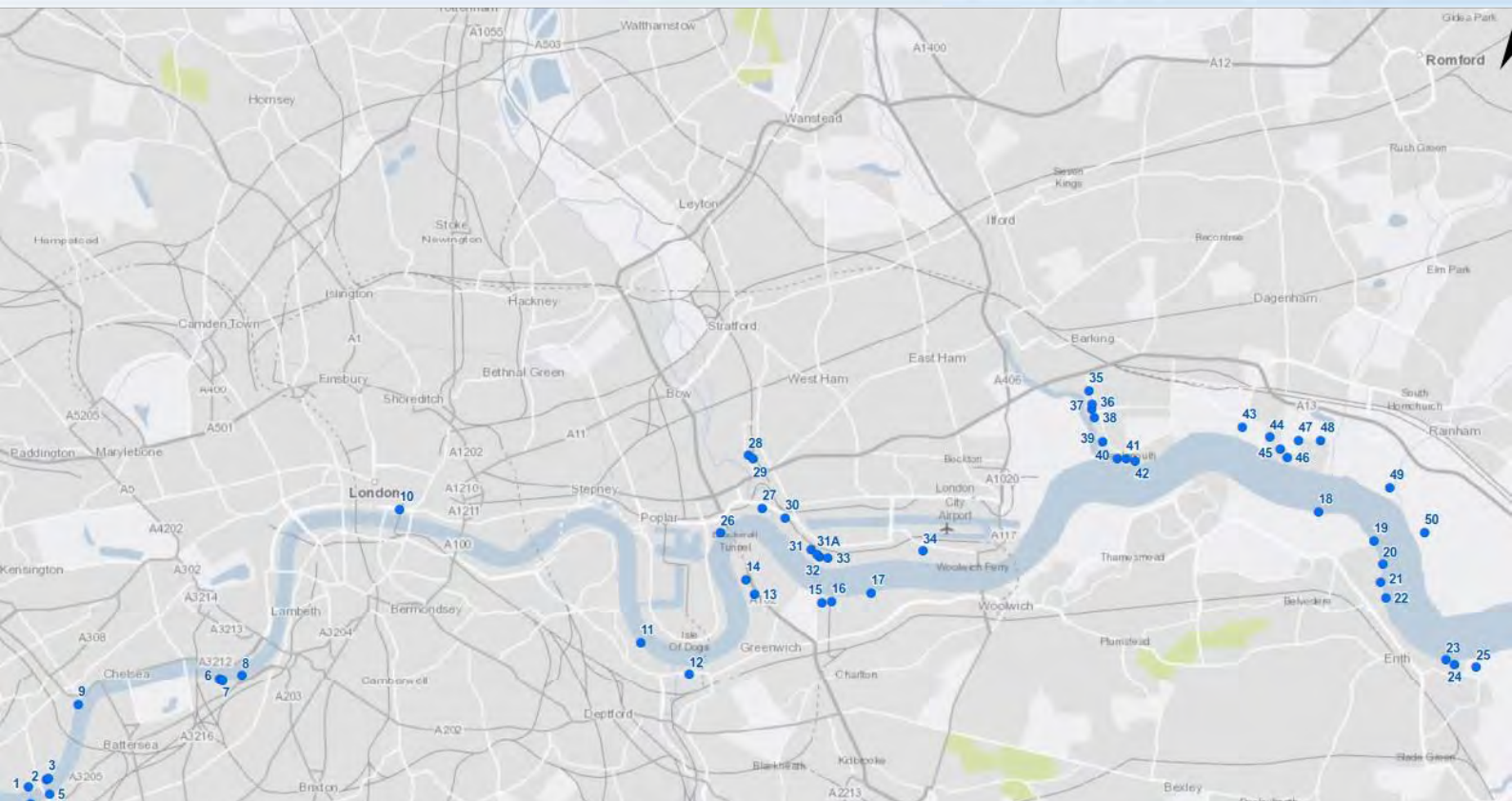
	Young adults (18 – 25)	Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river. Young adults could benefit from increased training and better access to employment.		Training may not fulfill the requirements / demand needs for young adults.	The content of training programmes should match needs.
	Older people (60+)	Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.		.	
Disability	Disabled people	Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.		Maintaining use as a wharf precludes redevelopment for affordable housing	Draft London Plan shows sufficient alternate sites available.
Sexual Orientation and Gender Identity	Lesbian, Gay, Bisexual Trans (LGBT) people	Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.		Maintaining use as a wharf precludes redevelopment for affordable housing	Draft London Plan shows sufficient alternate sites available.
People of faith	Christians/Buddhists/Hindu/Muslims/Jewish/Sikh/other religions	Improved health outcomes due to fewer road traffic accidents and improved air quality by moving more freight on the river.		Maintaining use as a wharf precludes redevelopment for affordable housing	Draft London Plan shows sufficient alternate sites available.



Greater London Authority

STRATEGIC ENVIRONMENTAL ASSESSMENT

Safeguarded Wharves Review





Greater London **Authority**

STRATEGIC ENVIRONMENTAL ASSESSMENT

Safeguarded Wharves Review

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Appendix 1: Consultation Responses

Appendix 2.1: Strategic Assessment of Wharves: West Sub-Region

Appendix 2.2: Strategic Assessment of Wharves: North East Sub-Region

Appendix 2.3: Strategic Assessment of Wharves: South East Sub-Region

1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1. In July 2000, under the Mayor of London Order 2000, the Mayor of London (hereafter the 'Mayor') assumed the responsibility for monitoring planning applications affecting safeguarded wharves from the Secretary of State for Environment. In 2005, new directions required all planning applications relating to the development of safeguarded wharves be referred to the Mayor, who has the power to direct that the application be refused. Whilst the power to issue safeguarding directions remains with the Secretary of State, it is the Mayor's role to recommend which sites should be safeguarded.
- 1.1.2. The 2005 Safeguarded Wharves' Review (hereafter, the '2005 Review') recommended the safeguarding of 50 wharves under the provisions of Category 4 of the Town and Country Planning (Mayor of London) Order 2008. Under Article 10(3) of the Town and Country Planning (General Development Procedure) Order 1995, the Mayor is required to be consulted before planning permission can be granted for development on them.
- 1.1.3. In 2011, the Mayor sought to formally review the safeguarded wharves network (hereafter, the '2011 Review'). Final recommendations for the network were submitted to the Secretary of State in 2013. The Secretary of State chose not to endorse the 2011 Review. The 2005 Review therefore still represents the most up-to-date current network of safeguarded wharves.

1.2 2018 SAFEGUARDED WHARVES' REVIEW

- 1.2.1. The London Plan (GLA, 2016) is currently being reviewed. A draft of the new London Plan was released in December 2017 for consultation and the final London Plan is due to be published in Autumn 2019. As part of this update, the Mayor has undertaken a review of the network of safeguarded wharves and is suggesting changes to the current network. The 2018 Safeguarded Wharves Review (hereafter the '2018 Review') will update and supersede the 2005 Review when accepted.

1.3 STRATEGIC ENVIRONMENTAL ASSESSMENT

- 1.3.1. A Strategic Environmental Assessment (SEA) is required alongside any formal update of the safeguarded wharves' network. SEA is the term used to describe environmental assessment as applied to plans and programmes in accordance with European Council Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'. EC Directive 2001/42/EC (the SEA Directive) is enacted in England through the 'Environmental Assessment of Plans and Programmes Regulations' (SI 2004/1633) (the SEA Regulations). These regulations place an obligation on local authorities to undertake SEA for certain plans and programmes.

This Environmental Report sets out the process, and findings of, the SEA for the 2018 Review.

2 SAFEGUARDED WHARVES' REVIEW 2018

- 2.1.1. An assessment of the demand for movement of freight on the River Thames in London between 2015 and 2041 was commissioned by the Greater London Authority (GLA) (Ocean Shipping Consultants (OSC), 2016) to estimate the capacity of the current safeguarded wharves' network to handle forecasted demand but also to examine the distribution of the demand/capacity across the network. This assessment is published alongside the 2018 Review.
- 2.1.2. The assessment identified a growth in freight volumes on the River Thames between 2005 and 2015, with 10.7 million tonnes of freight transported along the river in 2015. The planning and onset of large infrastructure projects, such as Thames Tideway Tunnel and the Northern Line Battersea extension has boosted strong growth in the transport of construction materials (aggregates, cement, crush rock and construction, demolition and excavation (CD&E) waste) and petroleum products. This has offset a decline in the transport of sugar, agricultural bulks and steel. The transportation of waste and vehicles has seen little growth.
- 2.1.3. The overall trend for the amount of freight handled is forecast to increase to 13.4 million (metric) tonnes (Mt) by 2028 and then fall to 12.3Mt by 2041 (against base case scenario (2016)). The existing capacity of the safeguarded wharves in 2015 was estimated at 18Mt and is generally sufficient to meet forecast demand, although there are some limitations in relation to location of the wharves and peaks within the time period.
- 2.1.4. The 2018 Review has split the network of safeguarded wharves into three geographic sub-regions as defined in **Table 1**. The locations of the wharves in the 2018 Review are shown on **Figure 1**.

Table 1 – Sub-regions of the safeguarded wharves

Sub-region	Location on the River Thames
West	Wharves to the west of Tower Bridge
North East	Wharves to the east of Tower Bridge on the north bank
South East	Wharves to the east of Tower Bridge on the south bank

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Under the 2018 Review, there are three potential safeguarding options for the safeguarded wharves within the network, these are summarised in **Table 2**.

Table 2 - Safeguarding options for wharves

Safeguarding Option	
Retain	Retain safeguarded wharf as part of the 2018 Review network
Release	Removal of safeguarded wharf from the 2018 Review network
Apply Safeguarding	Application of safeguarding status to wharf that is currently not safeguarded

- 2.1.5. There are currently ten safeguarded wharves in the West sub-region, all of which have been recommended to be retained as safeguarded wharves in the 2018 Review. OSC (2016) forecasted spare capacity in the West sub-region. However, the Thames Tideway Tunnel Project has brought vacant wharves back into active use (e.g. Hurlingham, Middle and Cremorne), demonstrating their suitability for waterborne freight handling, and has seen investment in them to boost their long-term suitability for wharf use. The existing planning permissions at Swedish and Comley's wharf would, if implemented, bring them wharf back into active use for waterborne freight handling. Land values in west and central London are typically higher than those in east London, making it more difficult to bring other sites in this sub-region into a wharf use, making it more important to retain the network of safeguarded wharves that London currently has. Being able to move material by the River eases congestion on London's road network and consequently, also air pollution in west and central London. The recommendations of the 2018 Review for safeguarded wharves within the West sub-region are summarised in **Table 3**.

Table 3 - 2018 Review recommendations for wharves in the West sub-region

Borough	Wharf	Recommendation
Hammersmith and Fulham	Hurlingham	Retain
Hammersmith and Fulham	Swedish	Retain
Hammersmith and Fulham	Comleys	Retain
Wandsworth	Smugglers Way	Retain
Wandsworth	Pier	Retain
Wandsworth	Cringle Dock	Retain
Wandsworth	Kirtling	Retain
Wandsworth	Middle	Retain
Kensington and Chelsea	Cremorne	Retain
City	Walbrook	Retain

- 2.1.6. There are currently 15 safeguarded wharves in the South East sub-region, the Mayor is recommending the release of one wharf from its safeguarded designation in this sub-region; 14 wharves are therefore recommended for safeguarding in the South East sub-region in the 2018 Review. OSC (2016) forecasted that by 2041 there will be 2.0Mt of spare capacity in this region of the network. The release of one wharf reflects navigational difficulties that make other wharves more accessible and therefore attractive to operators. Two of the vacant wharves in this sub-region (Mulberry and Standard) have been recently acquired by new owners. The Mayor recommends maintaining their safeguarding while the new owners seek to develop freight handling facilities or find new operators for these wharves. In October 2017, permission was granted on Standard Wharf for ancillary facilities that will increase its attractiveness to river operators. The recommendations of the 2018 Review for safeguarded wharves within the South East sub-region are summarised in **Table 4**.

Table 4 - 2018 Review recommendations for wharves in the South East sub-region

Borough	Wharf	Recommendation
Lewisham	Convoys	Retain
Greenwich	Brewery	Retain
Greenwich	Tunnel	Retain
Greenwich	Victoria Deep Water	Retain
Greenwich	Angerstein	Retain
Greenwich	Murphy's	Retain
Greenwich	Riverside	Retain
Bexley	Middleton	Retain
Bexley	Mulberry	Retain
Bexley	Pioneer	Retain
Bexley	Albion	Retain
Bexley	Erith	Retain
Bexley	Railway	Release
Bexley	Town	Retain
Bexley	Standard	Retain

- 2.1.7. There are currently 25 safeguarded wharves in the North East sub-region. The 2018 Review has recommended the release of four wharves, the amalgamation of two wharves and the protection of two new wharves that are not currently safeguarded; 22 wharves are therefore recommend for safeguarding in the North East sub-region in the 2018 Review. OSC (2016 forecasted that by 2014 there will be 2.9Mt of spare capacity in this sub-region of the network. The release and amalgamation of five wharves reflects a combination of locational or site issues, navigational difficulties and major infrastructure which may lead to the loss of wharves. The recommendations of the 2018 Review for safeguarded wharves within the North East sub-region are summarised in **Table 5**.

Table 5 – 2018 Review recommendations for wharves in the North East sub-region

Borough	Wharf	Recommendation
Tower Hamlets	Northumberland	Retain
Tower Hamlets	Orchard	Retain
Newham	Priors	Release
Newham	Mayer Perry	Release
Newham	Thames	Retain *
Newham	Peruvian	Retain
Newham	Royal Primrose	Apply safeguarding
Newham	Manhattan	Retain *
Newham	Sunshine	Retain *
Newham	Thames Refinery	Retain
Barking and Dagenham	Welbeck	Release
Barking and Dagenham	Alexander	Apply safeguarding

Barking and Dagenham	Pinns	Retain
Barking and Dagenham	Steel	Retain
Barking and Dagenham	Rippleway**	Retain
Barking and Dagenham	Docklands	Retain
Barking and Dagenham	Victoria Stone	Retain
Barking and Dagenham	DePass	Retain
Barking and Dagenham	Dagenham	Retain
Barking and Dagenham	Pinnacle Terminal	Retain
Barking and Dagenham	No.1 Western Extension	Retain
Barking and Dagenham	East Jetty	Retain
Barking and Dagenham	No.4 Jetty	Retain
Barking and Dagenham	Ford Dagenham Terminal	Retain
Havering	Phoenix	Release
Havering	Halfway	Retain

*Subject to outcome of Silvertown Tunnel application decision and wharf consolidation.

**Rippleway wharf site also includes Debden wharf which was designated as a separate safeguarded wharf under the 2005 Review; in the 2018 Review they are considered as one wharf.

- 2.1.8. The Silvertown Tunnel is a new road-based crossing that is proposed to be constructed under the River Thames to link the Greenwich Peninsula and Silvertown area. The deadline for a decision from the Secretary of State for the construction of the Silvertown Tunnel has been extended to 10th May 2018. If permission is granted then Thames wharf (safeguarded) and Dock Entrance wharf (not safeguarded) will be temporarily lost during construction of the Tunnel. Current operators at these wharves would need to be relocated. This offers the opportunity for the reconfiguration of wharves in the Thames-side west area of Newham.
- 2.1.9. Applying a new safeguarded direction to Royal Primrose Wharf, adjacent to the recently reactivated Peruvian Wharf would enable a group of aggregate operators, impacted by the construction of the Silvertown Tunnel, to co-locate and derive benefits from co-location, increase the actual capacity of the wharves in the area and deliver modal shift from road to water. The safeguarding of Royal Primrose Wharf would thus enable the removal of the safeguarding direction from the vacant Manhattan and Sunshine Wharves to enable their redevelopment for other uses

2.1.10. **Figure 2** identifies the safeguarding options for the wharves considered in the 2018 Review.

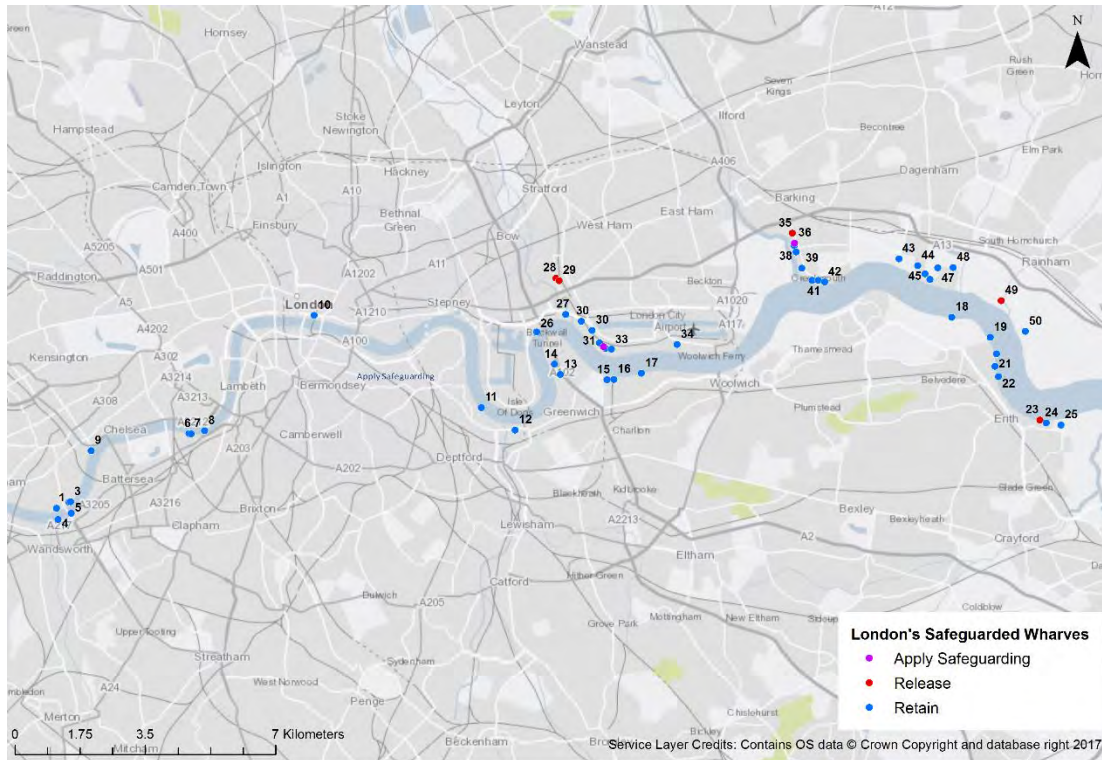


Figure 2 Safeguarding options for the wharves considered in the 2018 Review

3 SEA METHODOLOGY

3.1 SEA PROCESS

- 3.1.1. SEA is an iterative process of gathering data and evidence, assessing potential environmental effects, developing mitigation measures to address those effects and making recommendations to refine plans or programmes in view of the predictions. The effects predicted at this stage will be at a strategic level.
- 3.1.2. The approach adopted for the SEA of the 2018 Review follows that set out in the Practical Guide to SEA and the Planning Practice Guidance to SEA.
- 3.1.3. The SEA process recommended by the Practical Guide to SEA is set out in **Figure 3** below. This SEA is currently at Stages B and C, which comprise developing and refining strategic alternatives, assessing environmental effects and the preparation of this Environmental Report.

3.2 STAGE A: SCOPING & BASELINE

- 3.2.1. The first stage of the assessment process involved setting the context and objectives, establishing the baseline and deciding the scope. It also involved the development of an assessment framework comprising a series of SEA Objectives. The SEA Objectives were developed from an understanding of environmental issues identified through a review of existing baseline information and a review of other relevant plans, programmes and environmental protection objectives.
- 3.2.2. A Scoping Report was developed and issued to the statutory consultation bodies (i.e. Environment Agency, Natural England and Historic England) on 1st December 2017 (WSP, 2017) to for their review and comment as part of the consultation stage. It was also issued to the Port of London Authority. A redacted copy of consultation responses from the statutory consultation bodies is provided in **Appendix 1**.
- 3.2.3. A summary of the comments and key issues raised by the consultation bodies is set out in **Table 6**.

Table 6 – Summary of SEA Scoping Consultation Responses

Organisation	Summary of Response	How this has been addressed in the SEA
Historic England	<ul style="list-style-type: none"> ■ Outlined further plans, programmes and environmental protection objectives (PPPs) to be included in Appendix A of the Scoping Report; ■ Suggested reference to characterisation reports prepared by the relevant London Boroughs for further information on the townscape and historic environment of the areas surrounding the wharves; and ■ Provided amendments and additions to the SEA objectives. 	<ul style="list-style-type: none"> ■ PPPs added to Appendix A of the Scoping Report; ■ Appendix B of the Scoping Report updated; and ■ SEA objectives updated.
Natural England	<ul style="list-style-type: none"> ■ Suggested consideration of impacts on the migratory European smelt (<i>Osmeridae eperlanus</i>), a feature of the Upper Thames and Swanscombe recommended Marine Conservation Zones (rMCZ) which are currently under considered for designation for Tranche 3 (designations due in late summer 2018); and ■ Further consideration of air pollution impacts on nature conservation designated sites. 	<ul style="list-style-type: none"> ■ Wharf assessments in Appendix A and Section 5 of this report have considered rMCZs and air pollution impacts on designated sites.
Environment	<ul style="list-style-type: none"> ■ Outlined further PPPs to be included in in 	<ul style="list-style-type: none"> ■ PPPs added to Appendix A of the

Organisation	Summary of Response	How this has been addressed in the SEA
Agency	<p>Appendix A of the Scoping Report;</p> <ul style="list-style-type: none"> ▪ Suggested consideration of fluvial flood risk; and ▪ Provided minor amendments to the SEA objectives and suggested additional objectives for the 2018 Review to achieve in-channel riparian habitat creation and to achieve the objectives of the Thames River Basin Management Plan and Water Framework Directive (WFD). 	Scoping Report.
Port of London Authority	<ul style="list-style-type: none"> ▪ Provided further supplementary information and suggested re-wording and amendments to the Scoping Report. 	<ul style="list-style-type: none"> ▪ Wording amended in Scoping Report and Environmental Report.

- 3.2.4. **Section 4** of this report sets out a summary of Stage A, including a review of other PPPS, baseline information, environmental issues and SEA objectives. It incorporates responses to consultation as set out in **Table 6** above.



Figure 3 – Overview of the SEA Process

3.3 STAGE B: DEVELOPING AND REFINING ALTERNATIVES AND ASSESSING EFFECTS

- 3.3.1. As part of the SEA process shown in **Figure 3**, the objectives of the strategy (in this case the 2018 Review) are tested against the SEA Objectives to identify any conflicts. In this case, the 2018 Review does not have discrete objectives as it focuses on wharf locations. Therefore this step was not required.

DEVELOPING ALTERNATIVES

- 3.3.2. The SEA Objectives identified in **Section 4** are used to predict and evaluate environmental effects. A number of strategic alternatives were also developed at the scoping stage:

For wharves which are already safeguarded:

Alternative 1 – Continue to safeguard the wharf – this would comprise either maintaining the existing use of a wharf, or a future change of use if the wharf is not currently used for freight handling. In either case, there is potential for an increase in freight activity. It is not known at this stage what future infrastructure would be required at each wharf to enable freight handling as this would depend on specific requirements at the time.

Alternative 2 – Release the wharf from safeguarding – this assumes that the wharf will be developed. It is not known what type of development (e.g. residential, commercial, retail, mixed-use). However, this would be subject to planning permission under the Town and Country Planning Act 1990 and it would therefore be reasonable to assume the development will be in compliance with environmental legislation and standards.

For wharves which are not currently safeguarded but for which safeguarding is proposed:

Alternative 1 – Safeguarding is applied to a wharf – this would be applied to a wharf that is in existing use but not safeguarded. Therefore no change of use is anticipated, although there is potential for an increase in freight activity and associated infrastructure as set out above.

Alternative 2 – The wharf is not safeguarded – this assumes no change in use (a do nothing scenario).

- 3.3.3. It should be noted that all infrastructure development would be subject to Planning Permission under the Town and Country Planning Act 1990 and/or a Marine Licence under the Marine and Coastal Access Act 2009 and where applicable, Environmental Impact Assessment (EIA) under the relevant 2017 EIA Regulations.
- 3.3.4. The wharves identified in **Section 2** have been assessed against these alternatives.

PREDICTING AND EVALUATING EFFECTS

- 3.3.5. Detailed assessments for each wharf are provided in **Appendix 2** while **Section 5** of this Report summarises the assessment. Both alternatives above were compared for each wharf assessment and the GLA safeguarding recommendation has been included to show the preferred option.
- 3.3.6. As set out in Schedule 2 (Regulation 12(3)(6) of the SEA Regulations, likely significant effects include: ‘secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects’.
- 3.3.7. When determining the likely significance of effects on the environment, the criteria in Schedule 1 (Regulations 9(2)(a) and 10(4)(a)) of the SEA Regulations relating to the characteristics of the effects have been applied. These include:
- 2(a) *The probability, duration, frequency and reversibility of the effects;*
 - (b) *The cumulative nature of the effects;*
 - (c) *The transboundary nature of the effects;*
 - (d) *The risks to human health or the environment (for example, due to accidents); and*
 - (e) *The magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected).*
- 3.3.8. There are also additional criteria in Schedule 1 relating to the area affected. These are taken into account in the baseline and identification of receptors in the effect:

2(f) *The value and vulnerability of the area likely to be affected due to:*

- (i) *Special natural characteristics or cultural heritage;*
- (ii) *Exceeded environmental quality standards or limit values; or*
- (iii) *Intensive land-use; and*

(g) *The effects on areas or landscapes which have a recognised national, Community or international protection status.*

3.3.9. The significance of effects is largely determined using the above in combination with experience and professional judgement. **Table 7** sets out how significant effects are identified within this assessment.

Table 7 – Identification of effect significance

Coding	Effect Significance
++	Likely significant positive effect
+	Likely positive effect
0	Negligible or no effect
-	Likely negative effect
--	Likely significant negative effect
?	The effect is uncertain
+/-	The effect is likely to be both positive and negative

MITIGATION AND MONITORING OF EFFECTS

3.3.10. Where significant adverse effects are predicted or there is uncertainty, measures to prevent, reduce or offset effects are identified. The significant environmental effects of the strategy must be monitored to identify any unforeseen adverse effects and to enable appropriate remedial action. **Section 6** of this Report includes a mitigation and monitoring plan.

4 REVIEW OF PPPS AND BASELINE

- 4.1.1. This section provides an overview of the PPPs and environmental information used to develop the SEA Objectives and assess the potential effects of the 2018 Review.

4.2 REVIEW OF OTHER RELEVANT PPPS

- 4.2.1. A series of tables provided in Appendix A of the Scoping Report (WSP, 2017) identified the following:
- Relevant PPPs at international, national and local level;
 - Relevant environmental protection objectives, indicators or targets; and
 - How the PPPs should be taken into consideration in the development of the 2018 Review and the SEA, including any clear potential conflicts between them and the safeguarded wharves identified in the 2018 Review.
- 4.2.2. The review of the PPPs identified the following interactions with environmental protection objectives and how they relate to the 2018 Review:
- Environmental protection, particularly of land, air and water;
 - To protect biodiversity, including designated habitats and protected species but also other habitats and species;
 - To meet local air quality standards and improve air quality, particularly through reducing transport emissions;
 - To reduce greenhouse gas (GHG) emissions through transport of freight;
 - To protect designated landscapes;
 - To reduce environmental noise for local communities;
 - To protect river and estuarine water quality and meet standards;
 - The need for sustainable transport in London, including use of the river;
 - Promotion of the sustainable use of natural resources and reducing waste, particularly in relation to construction and demolition;
 - To adapt to the impacts of climate change, including flood risk along the River;
 - To enable sustainable growth for communities, including provision of housing; and
 - To protect the historic environment, particularly built heritage.
- 4.2.3. The 2018 Review is largely consistent with the majority of PPPs reviewed. The safeguarding of wharves to promote the use of the River as a sustainable transport method will contribute to a reduction in GHG emissions and an improvement in air quality through the reduction of vehicles using London's road network. However, where safeguarding exists, the land within which the wharf is located is not available for other types of development. This creates a potential conflict with objectives relating to the provision of land for the development of affordable housing.

4.3 REVIEW OF BASELINE

- 4.3.1. A detailed review of the existing baseline environment is set out in Appendix B of the Scoping Report (WSP, 2017). The Appendix sets out:
- A description of the existing environment likely to be affected, including future trends, regardless of whether the 2018 Review is accepted; and
 - An indication of existing environmental issues which are relevant to the 2018 Review.

Table 8 provides a summary of the baseline environment for each of the topics considered in this SEA.

Table 8 – Summary of the baseline environment review

Topic	Summary of Baseline Review
Population and Health	London's population is growing and is anticipated to rise from 8.9M in 2017 to 10.8M by 2041. In addition to population growth there is increasing diversity. Economically, although employment growth is anticipated and the population has generally high levels of income and education, London is also becoming increasingly polarised, in relation to poverty and the disadvantaged. Quality of life is important for health and wellbeing, not only socio-economic status but also healthcare, crime and environmental factors.
Biodiversity, Flora and Fauna	The middle and upper reaches of the tidal River Thames (which contain the sites of the 50 safeguarded wharves) contain no international or European designated nature conservation sites. Within Greater London there are a number of Sites of Importance for Nature Conservation (SINC) which cover over 20% of Greater London. The study area contains UK Priority habitats including; saltmarshes, mudflats, coastal and floodplain grazing marsh and rMCZ. These habitats support a varied biodiversity which includes species of invertebrates, fish, birds and marine mammals.
Estuarine Processes and Water Quality	The estuary of the River Thames has been reclaimed and modified over time. It has a mean spring tide range of 5.2m at Sheerness, which increases upstream to 6.6m at London Bridge. The estuary is well mixed and there are a variety of sediments, including muds, sands and gravels. The water quality in the upper reaches is influenced by variables such as freshwater flow, algal growth and discharges from sewage treatment works. The influence of the sewage treatment works is much more significant in the middle reaches but much less in the lower reaches.
Climate Change	GHG emissions from London are predominantly from burning fossil fuels to power and heat buildings. The second most significant cause of GHG emissions is from transport. The land surrounding the River Thames is designated as Flood Zone 3, and thus has a high probability of flooding. However, this land is protected by numerous flood defences. There are also areas of land within London that are at high risk from surface water flooding.
Air Quality	Whilst there have been improvements in air quality over recent years, London has consistently high levels of air pollution. In particular, (particulate matter) PM _{2.5} , PM ₁₀ and NO ₂ exceed national and European air quality strategy objectives. Approximately half of these emissions come from road traffic, with the remaining coming from construction activities, buildings and industrial emissions. All Boroughs in London have declared Air Quality Management Areas (AQMA) which have mostly been declared for exceedances in NO ₂ and PM ₁₀ .
Noise and Vibration	Excessive noise can damage human health and affect wellbeing. The largest single cause of noise pollution in London is road traffic due to the extensive road network. Other key sources include rail, construction works, industry and aviation noise. A number of Noise Action Planning Important Areas (NIA) exist to reflect the population affected by highest noise levels. Transportation on the River Thames is also a source of noise.
Transport, Navigation and Shipping	Pressure on London's existing transport infrastructure is increasing, resulting in the roads becoming busier and more congested. Because of this, there is the requirement to improve and construct new infrastructure that promotes sustainable travel and to improve accessibility along the River Thames. The River Thames is a busy and commercially significant tideway that provides a critical piece of transport infrastructure. Use of the river as a means of transport of passengers and freight is encouraged.
Townscape, Waterscape and Visual	The River Thames is diverse in terms of its townscape, waterscape and visual appearance. The landscape of the stretch of the River Thames that runs through London is predominantly urban, further to the east it is replaced by marsh land with industries visible, and in the outer estuary it becomes flat and is dominated by open spaces. The study area is within two National Character Areas (NCA) designated for their unique sense of place.
Historic Environment	There is a rich and varied historical environment in London. There are numerous archaeological, historic and cultural sites including United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Sites, Listed Buildings, conservation areas, registered parks and gardens and Scheduled Monuments. The River Thames itself has historically provided a vital corridor for trade, travel and industry and was a focal point of human occupation.

It should be noted that there are interactions between the SEA topics described above. For example, air quality and noise have a strong influence on health; townscape and the historic environment are also linked and transport influences GHG emissions, air quality and noise.

4.4 IDENTIFYING ISSUES AND THE SEA OBJECTIVES

- 4.4.1. SEA Objectives are a recognised way of considering the environmental effects of a plan or programme and comparing the effects of the alternatives. Objectives can be derived from environmental objectives which are established in law, policy or other plans or programmes or from a review of baseline information which highlights existing environmental issues. SEA objectives can be used or adapted from SEAs of related plans and programmes where each individual plan or programme has its own specific objectives.
- 4.4.2. Objectives to inform the SEA of the 2018 Review have been derived from the information and evidence outlined in the Scoping Report. The SEA Objectives are aspirational objectives against which to assess the 2018 Review and reflect a desired direction of change. In this instance, the SEA Objectives also align with the objectives of the London Plan, although are tailored to the issues identified for the 2018 Review. The environmental issues identified and SEA objectives are set out in **Table 9**.

Table 9 – Appraisal Framework for the SEA

SEA Topic	SEA Issue	SEA Objective(s)
Population & Health	The population of London is growing. There is a need to balance the needs of economic growth, affordable housing demand, transport and wellbeing. Safeguarding wharves enables a method of sustainable transport for future development. In some cases, it can also occupy land that could be otherwise used, particularly for the development of affordable housing.	To enable the development of land which meets the needs of London's growing and diverse population.
Biodiversity, Flora and Fauna	London's biodiversity is affected by anthropogenic influences and climate change. The River Thames supports a wide range of biodiversity including birds, fish, marine mammals and invertebrates. The river itself and the surrounding land also includes statutory and non-statutory nature conservation sites. In addition, the former Thames Estuary rMCZ has been split into two rMCZs designated as an area of importance for smelt.	To protect, enhance and promote the natural biodiversity of London and in particular, the River Thames. To achieve in-channel and riparian habitat creation. To achieve objectives of the Thames River Basin Management Plan and WFD.
Estuarine Processes and Water Quality	Whilst water quality in the river is improving, there remains issues with meeting water quality standards in the River Thames, primarily due to the influence of urban run-off, storm discharges, combined sewer discharges which contain detritus and contamination from road run-off and disturbance of contaminated sediments from dredging. In addition, modification to the river is impacting the surrounding biodiversity and estuarine processes. The safeguarding status of wharves can change the potential for polluting activities or enable development to modify the river environment.	To protect and enhance the chemical and ecological quality of the River Thames. To avoid impacts arising from changing estuarine processes in the River Thames.
Climate Change	GHG emissions, specifically emissions of carbon dioxide (CO ₂) contribute to climate	To mitigate and adapt to climate change through reducing GHG emissions, flood risk and

SEA Topic	SEA Issue	SEA Objective(s)
	<p>change.</p> <p>Although much of the River Thames is protected by local flood defences, there is always risk of flood defences failing and some defences require active intervention to provide protection. In addition, some of the wharves may form the statutory flood defence which may need raising in future as a result of increased flood risk and climate change. There is also increasing local risk from surface water flooding. Flood defences are proposed to be upgraded to manage flood risk. Increased frequency of storms, and hence rainfall, can increase the rates and incidence of climate-related hazards, such as sedimentation in drainage systems.</p> <p>The River Thames provides relief to hotter urban environments for adjacent developments and uses.</p>	infrastructure planning.
Air Quality	Air quality standards for PM _{2.5} and PM ₁₀ and NO ₂ are being continually exceeded in London, the latter having the greatest impact on human health. Road traffic is the biggest contributor to both sources (up to 80% and 46% respectively).	To improve London's air quality.
Noise and Vibration	Noise can adversely affect health and wellbeing through disturbance and annoyance. In London, guidelines for noise levels are exceeded in areas adjacent to road and rail route. However, activities associated with freight movement along the River Thames is also a source of noise.	To reduce environmental noise from transport sources.
Transport, Navigation and Shipping	London's transport network comprises its road, rail and river navigation networks, in addition to cycle and pedestrian routes. Road transport in particular is affected by increasing congestion which can be relieved through the use of wharves and river navigation.	To reduce journeys by road travel and promote safe and sustainable transport.
Townscape, Waterscape and Visual	The River Thames is very diverse in terms of its townscape, waterscape and visual interest. The estuary is both a vantage point and artery through a predominately urban townscape, providing a range of vistas and views, including major and local landmarks, riverside industry, distinctive building types and character areas, and open spaces. The change of safeguarded status and resultant change in land use can affect views and create visual impacts.	To protect and enhance River Thames corridor while maintaining a variety of urban land-uses, safeguarding views and appreciating the quality of London's townscape.
Historic Environment	London's historic environment includes designated World Heritage Sites, Registered Parks and Gardens, Conservation Areas, Listed Buildings and Scheduled Monuments. There is also potential for undesignated and	To conserve and enhance the significance of the historic environment, including the settings of heritage assets.

SEA Topic	SEA Issue	SEA Objective(s)
	unknown archaeology associated with the River Thames, river walls, foreshore and riverside land. As a result of a safeguarded status, through both the loss and change of status, development has the potential to impact on the significance of the historic environment, including the settings of both designated and undesignated heritage assets.	

5 ASSESSMENT OF SAFEGUARDED WHARVES' REVIEW

- 5.1.1. This section sets out the predicted significant effects of the 2018 Review. The assessment undertaken for each alternative for each individual wharf is presented in **Appendix 2**. The results are summarised by topic below and in **Table 10**.
- 5.1.2. Under each SEA topic, individual effects are set out in addition to cumulative effects from safeguarding all the wharves. Cumulative effects with respect to other policies, plans and programmes are set out at the end of this section.

5.2 POPULATION AND HEALTH

- 5.2.1. For the majority of the 46 wharves that will be safeguarded under the 2018 Review, significant positive effects on health are likely due to a reduction in road traffic (also see Air Quality and Noise sections). Indirect economic benefits associated with the movement of freight and subsequent job creation within the wider industry, including construction, are predicted.
- 5.2.2. Negative effects may arise where safeguarding prevents wharves from being used for residential, commercial or alternative industrial development to accommodate London's growing population (long-term). This was not considered to be significant given the allocations for development in the London Plan and the industrial nature of the surrounding land uses for the majority of the wharves. There would also be intermittent impacts on the local population in some cases arising from road traffic where there is transfer of freight from river to road (also refer to Air Quality and Noise sections below).
- 5.2.3. If these wharves were released from safeguarding, then there is potential for significant positive effects related to redevelopment, including residential, commercial and alternative industrial uses. These include provision of housing for London's growing population and potential socio-economic benefits associated with creation of jobs and services. The effects will apply to the five wharves proposed to be released from safeguarding in the 2018 Review.

5.3 BIODIVERSITY, FLORA AND FAUNA

- 5.3.1. For the 46 wharves that will be safeguarded under the 2018 Review (44 retained and two new), there is potential for cumulative negative effects from invasive non-native species (INNS) due to the increased risk of discharges of ballast water (containing harmful aquatic organisms and pathogens) from freight vessels. This was not assessed as a significant impact given stringent international conventions¹ and UK guidance on the control and management of ballast water (Maritime and Coastguard Agency, 2012); the potential effect therefore has a low probability of occurring
- 5.3.2. There is also the cumulative potential for increased freight traffic on the River Thames to disturb migratory fish including smelt. Impacts may also come from maintenance activities such as dredging or piling.
- 5.3.3. There is the potential for additional disturbance/destruction impacts due to the proximity of individual wharves to nature conservation sites (e.g. SINC's and Local Nature Reserves (LNR)). Where nature conservation sites are present within a study area, the impacts of each alternative has been detailed for the specific wharf in **Appendix 2**. With the exception of one wharf (Middleton Wharf), development of Alternative 2 predicted likely significant negative effects and Alternative 1 predicted likely negative effects on biodiversity, flora and fauna. For Middleton Wharf, significant negative effects are predicted for both Alternative 1 and 2 due to the proximity of the Wharf to Crossness LNR.
- 5.3.4. Alternatively, if the wharves were released from safeguarding, and for those five wharves that have been released by the 2018 Review, there may be effects associated with a change of use to residential, commercial or an alternative industrial development. This may involve loss of terrestrial, intertidal or sub-tidal habitat, or disturbance to aquatic, terrestrial or avifauna due to change in activities on the wharf.

¹ The International Maritime Organisation's Ballast Water Management Convention entered into force on 8 September 2017.

5.4 ESTUARINE PROCESS AND WATER QUALITY

- 5.4.1. Use of safeguarded wharves for freight has the potential to impact water quality through accidental spills and leaks from vessels and works adjacent to the River as well as the mobilisation of contaminated sediments from disturbance from ships propulsion systems and physical impact (e.g. accidental grounding). If additional infrastructure is required to facilitate freight movement (e.g. jetties, dolphins or installation of loading facilities which require works to the riverbed), as well as the mobilisation of potentially contaminated sediments from marine civil works such as dredging or piling, this may also affect local morphology and/or hydrodynamic processes once constructed. These were not assessed as significant due to temporary nature and/or low probability.
- 5.4.2. Wharves released from safeguarding would also have the potential for similar effects through redevelopment, during construction or operation. Development of both Alternative 1 and 2 predicted likely negative effects at all wharves. Redevelopment also has the potential to lead to increased surface water run off or incidents from sewage or other materials from a newly populated site.

5.5 CLIMATE CHANGE

- 5.5.1. Through the safeguarding of 46 wharves, there is the potential for a long-term, cumulative reduction in GHG emissions attributed to the modal shift of freight transport from road to river. It is widely acknowledged that the efficiencies to be gained in transporting freight via water, rather than road, result in fewer GHG emissions. The PLA estimates that every 1,000 tonne barge on the river takes 100 HGV movements off the roads. The Freight Transport Association (FTA, 2016) states that barges are capable of carrying up to 1,000 tonnes, while one HGV can carry 20 tonnes and a van just seven tonnes. A reduction in the transport of freight by road will therefore have a positive impact on the supply chain (of cargo, construction materials etc.), UK GHG emissions' contribution and climate change.
- 5.5.2. GHG emissions would cumulatively increase if wharves were released from safeguarding and freight was instead transported by road. This may be the case for those five wharves that have been released from safeguarding in the 2018 Review, potentially having a negative impact on climate change in the future. However, it should be noted that the wharves that have been released are less likely to be used for the handling of river freight due to suitability so the impact is not considered significant.
- 5.5.3. The duration of these impacts is unknown considering the current and future trends of automation, electrification and the move away from the use of fossil fuel powered transport. This is a long-term trend for both river vessels and road vehicles although the momentum of change and immediate outlook is currently stronger for technology adoption in HGVs compared to river barges. There are opportunities to reduce GHG emissions by better balancing the modes of transport for freight and that will realise benefits – to varying degrees – in terms of reduced noise and improved air quality.
- 5.5.4. A reduction or increase in the level of protection from existing and new flood defence structures is a potential impact for wharf sites which are either safeguarded or released from safeguarding. This is dependent on the extent of any potential modifications or expansions of the wharf (in the case of safeguarded wharves) or new development (in the case of wharves released from safeguarding).

5.6 AIR QUALITY

- 5.6.1. A long-term cumulative improvement in air quality is predicted through the safeguarding of wharves due to the reduction in the emission of key pollutants PM_{2.5}, PM₁₀ and NO₂ attributed to the modal shift of freight transport from road to river. This is not the case for the five wharves that will be released from safeguarding where there is a predicted reduction in air quality if they are developed for other uses which generate traffic, although given the small numbers of wharves and unsuitability for river freight, this is unlikely to be significant.
- 5.6.2. For wharves which are both safeguarded or recommended to be released from safeguarding, there is the potential for localised increases in pollutants and dust emissions associated with new construction works and operation activities. For safeguarded wharves, this could be from potential expansion or increase in activities associated with freight handling. For wharves which are released from safeguarding, this is likely to stimulate new developments. The nature and scale of such developments will influence the volume and frequency of air pollutants arising from civil works and the development in operation (e.g. car movements associated with new

residences). However, given the application of air quality standards and the requirements of the current consenting regime, as well as a steady toughening-up of air quality standards in future legislation, these impacts would need to be re-assessed as part of any future consent for further development. .

- 5.6.3. River vessel traffic currently serving safeguarded wharves will need to be diverted to different wharves, or given to haulage companies involved in transportation by road. In case of the latter, the change of transportation mode will have a bigger impact on the regional road network because of the additional volume of road transport and the relative proximity of HGVs to receptors. When comparing river barges with HGVs, nitrogen oxides (NO_x) tend to be elevated in river barges with PM around the same. However, NO_x levels from vessels tend to fall to levels far lower than the road sources in terms of exposure to receptors because barges tend to use a central line in the River with a minimum distance to human receptors of around 90m, compared to 5m from the road (PLA, 2017).

5.7 NOISE AND VIBRATION

- 5.7.1. Increases in noise and vibration can occur where wharves are both safeguarded and released from safeguarding, with the potential to impact local residents and natural receptors, such as marine and terrestrial ecology. These are localised impacts that will be intermittent depending on wharf activity (where safeguarded) or new development operations (where development occurs on land released from safeguarding).
- 5.7.2. Noise generated from activities on site is particularly important for the following wharves due to there being a NIA within the site boundary:
- Middle Wharf; and
 - Walbrook Wharf.
- 5.7.3. For the 46 wharves that are proposed for safeguarding, there is potential for a long-term cumulative contribution to the reduction of traffic noise across London as more freight is transported by the river instead of by road. Conversely, releasing wharves from safeguarding has the potential to contribute to the long-term cumulative increase in road traffic noise across London as freight that may have been transported by the river will instead be transported by road. Similarly, the release of wharves from safeguarding will likely stimulate new development, the nature and scale of new development will influence the levels of noise and vibration that occur during construction and operation. Noise generated from a change of development may also affect migratory fish protected under the rMCZ, specifically populations of smelt (see section 5.3).

5.8 TRANSPORT, NAVIGATION AND SHIPPING

- 5.8.1. Where wharves are safeguarded, a long-term cumulative reduction in road congestion is expected through the promotion of the River to transport freight rather than London's road network. However, with this comes the potential for disruption to navigation and shipping activities along the River Thames associated with an increase in vessels transporting freight along the River. Further analysis of OSC's (2016) report using OSC forecasts and the assumption of an average vessel size of 10,000ts to transport general cargo and steel, estimates that freight movement along the River Thames will increase by 1,730 between 2015 and 2041. The PLA (2016) has identified significant scope to increase the capacity of central London for river traffic, the safeguarding of wharves along the River Thames will contribute towards increasing the capacity.
- 5.8.2. Whilst the operation of safeguarded wharves to handle freight will likely generate some vehicle movements, the number is anticipated to much less than vehicle movements generated by the construction and operation of a released wharf for new development. The number of vehicle movements will be dependent on the type of development and will be identified and analysed as part of any future consent.
- 5.8.3. Alternatively, where the five wharves are released from safeguarding (2018 Review) there is the potential for permanent loss of valuable riverside infrastructure. This may have both positive and negative safety implications such as improved safety on the River due to fewer vessel movements but reduced safety on roads from an increased number of HGVs and vans transporting freight.

5.9 TOWNSCAPE, WATERSCAPE AND VISUAL

- 5.9.1. Retaining or applying safeguarding to the 46 wharves in the 2018 Review is anticipated to have no overall impact on the existing townscape and waterscape within the locality of each wharf. At the sites of the five wharves that are released from safeguarding, there may be potential permanent changes to the existing townscape and waterscape although this is dependent on the type of future changes in land use and the design features and scale of any new development proposals. The release of these safeguarded wharves and

potential change of use along with an associated construction programme and the long-term operation activities may impact townscapes as well the views of the River Thames afforded to the wharves. However, new developments would require planning permission and therefore it is assumed that design would be in keeping with the townscape and waterscape at the section of the River Thames within which the safeguarded wharves are located. Some views of the Thames may be lost but any potential effects are not anticipated to be significant.

5.10 HISTORIC ENVIRONMENT

- 5.10.1. Onward traffic movements on the region's roads associated with the handling of freight at safeguarded wharves have the potential to impact the historic setting or directly damage or disturb designated heritage assets (e.g. Scheduled Monuments, Listed Buildings and Conservation Areas). This is more likely at the following wharves where there are known archaeological assets within or directly adjacent to the site boundary:
- Hurlingham Wharf;
 - Swedish Wharf;
 - Comely's Wharf;
 - Kirtling Wharf;
 - Cremorne Wharf;
 - Walbrook Wharf;
 - Convoys Wharf;
 - Victoria Deep Water Terminal Wharf;
 - Northumberland Wharf; and
 - No. 4 Jetty.
- 5.10.2. Similarly, any required modification and/or expansion of the above safeguarded wharves to facilitate freight handling has the potential to impact the historic setting or disturb/damage designated heritage assets. The significance of effects will largely depend on the extent of any changes to the wharf; significant effects are predicted at this stage at three of the wharves above due to heritage assets being located within the wharves.
- 5.10.3. The five wharves identified for release from safeguarding have no designated archaeological assets within the immediate vicinity. The release of the wharves for new development is therefore unlikely to have a significant effect on known designated heritage assets.
- 5.10.4. Whilst there are a number of wharves where there are no known archaeological assets within the study areas, there may be unknown archaeology associated with the River Thames, river walls, foreshore and riverside land which can be affected by development of existing wharf sites to handle increased freight. The impact on these sites is uncertain. Similarly, at the sites where the five wharves are being released from safeguarding, there is also the potential for disturbance of unknown archaeological assets if there are any civil works to establish new development.

Table 10 - Summary of the potential impacts of the development alternatives assessed

Wharf	Population and Health		Biodiversity, Flora and Fauna		Estuarine Process and Water Quality		Climate Change		Air Quality		Noise and Vibration		Transport, Navigation and Shipping		Townscape, Waterscape and Visual		Historic Environment	
	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)	Alt 1 (S)	Alt 2 (NS)
1. Hurlingham Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	-/0	-/?
2. Swedish Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	-/0	-/?
3. Comley's Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	-/0	-/?
4. Smuggler's Way	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
5. Pier Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
6. Cringle Dock	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
7. Kirtling Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	-	-/?
8. Middle Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
9. Cremorne Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	-	-/?
10. Walbrook Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	--	--/?
11. Convoy's Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	--	--/?
12. Brewery Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
13. Tunnel Wharf	++/-	+/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	0/?
14. Victoria Deep Water Terminal	++/-	+/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	-	-/?
15. Angerstein Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	0/?
16. Murphy's Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	?
17. Riverside Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	?
18. Middleton Wharf	++/-	++/-	--	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	?
19. Mulberry Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	?
20. Pioneer Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	?
21. Albion Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	0/?
22. Erith Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	0/?
23. Railway Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
24. Town Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
25. Standard Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	?
26. Northumberland Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
27. Orchard Wharf	+/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	--	0	?	0	0/?
28. Priors Wharf	+/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	0/?
29. Mayer Parry Wharf	+/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	-	0	?	0	0/?
30. Thames Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	-	++/-	--	0	?	0	0/?
31. Peruvian Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	0/?
31A. Royal Primrose Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	0/?
32. Manhattan Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	?
33. Sunshine Wharf	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	0/?
34. Thames Refinery	++/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
35. Welbeck Wharf	+/-	++/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	?
36. Alexander Wharf	+/-	+/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	?
37. Pinns Wharf	+/-	+/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	?
38. Steel Wharf	+/-	+/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0	?
39. Rippleway Wharf	+/-	+/-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
40. Docklands Wharf	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
41. Victoria Stone Wharf	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
42. DePass Wharf	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
43. Dagenham Wharf	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
44. Pinnacle Terminal	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	-/?	--/?
45. No. 1 Western Extension	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	--/?	--/?
46. East Jetty	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	--/?	--/?
47. No. 4 Jetty	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	--/?	--/?
48. Ford Dagenham Terminal	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
49. Phoenix Wharf	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?
50. Halfway Wharf	+/-	-	-	--	-	-	++/-	--/+	++/-	--	-/++	--	++/-	-	0	?	0/?	0/?

5.11 CUMULATIVE EFFECTS WITH OTHER PLANS, POLICIES AND PROJECTS

REVIEW OF POLICIES, PLANS AND PROGRAMMES

- 5.11.1. At the Scoping Stage of the SEA, other PPPs were reviewed for relevance to the 2018 Review (see Appendix A of the Scoping Report). Based on this list, those PPPs which may give rise to cumulative effects were selected for review on the basis of their overarching relevance to the study area and potential for land-use development (and therefore impacts). On this basis, the London Plan was selected for potential cumulative effects. Other Plans, including the Thames River Basin Management Plan and Flood Risk Management Strategies were not assessed any further. These plans aim largely to have positive effects on the environment, in this case, on improved water quality and flood protection, respectively. Interactions with these plans has been identified at the Scoping Stage.
- 5.11.2. The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for its development over the next 20–25 years. The London Plan brings together the geographic and locational (although not site-specific) aspects of the Mayor's other strategies. The most recent approved London Plan was published in March 2016 (GLA, 2016). A draft of the new London Plan was released in December 2017 for consultation; the new London Plan is due to be published in autumn 2019 and will run to 2041. Although not yet adopted, the new London Plan has been used to identify cumulative effects as it covers a similar study period as the SEA. The London Plan covers the 32 Boroughs of London and the City of London, in addition to providing a framework for a number of strategies which are also listed in Appendix A of the Scoping Report.

POTENTIAL CUMULATIVE EFFECTS WITH THE LONDON PLAN

- 5.11.3. The draft Integrated Impact Assessment (IIA) for the new London Plan covers four assessments including SEA (in addition to assessments on health, equalities and community safety). The IIA for the new London Plan policies was reviewed for potential cumulative effects and other interactions with the 2018 Review.
- 5.11.4. There are a number of interactions between the 2018 Review and the new London Plan. The 2018 Review is in line with a number of policies, in particular those related to noise (D13), air quality (SI1), GHG emissions (SI2), viewpoints (HC3), protection and strategic use of waterways (SI17, SI14), water transport (SI15), and movement of freight (T7). Other policies in the new London Plan may conflict with the 2018 Review as described in the assessments above, including those associated with heritage conservation (HC1), protection of biodiversity (G6), and use for housing (H1 & H4). These effects are covered by the SEA Objectives and summarised above. Proposed mitigation and monitoring is also set out in **Section 6**.
- 5.11.5. The London Plan will also give rise to a range of new developments, which have the potential for cumulative effects with any development associated with individual wharves. In particular the following policies were identified, although there may be other policies:
- H1: Increasing housing supply – This policy supports the delivery of a range of housing and mixed-use developments to meet ambitious housing delivery targets across the London Strategic Housing Market Area.
 - E4: Land for industry, logistics and services to support London's economic function - The Policy aims to maintain a sufficient supply of land and premises in different parts of London to meet current and future demands for industrial and related functions. The Policy also aims to prioritise the retention and provision of additional industrial capacity in locations that are accessible, support logistics and provide capacity for micro, small and medium sized enterprises.
- 5.11.6. It is not currently known how safeguarded wharves would be developed (if at all), nor the type or location of any additional development which could give rise to cumulative effects. Therefore the cumulative assessment has adopted a generic approach for the safeguarded wharves, as summarised in **Table 11**.

Table 11 – Summary of the potential for cumulative effects with the SEA Objectives

Topic	Objectives	Potential for cumulative effects with other developments
Population & Health	To enable the development of land which meets the needs of London's growing and diverse population.	<p>Additional development in the vicinity of safeguarded wharf has potential to increase disturbance to local population during construction. If new development is industrial in nature, then there may be additional sources of disturbance during operation. Where development is residential, additional residents will move into the area, which will increase number of receptors potentially affected by freight transfers locally.</p> <p>It should also be noted that additional residential development would help counter-balance some of the potentially negative effects arising from safeguarding wharves by increasing the land available for housing.</p>
Biodiversity, Flora and Fauna	To protect, enhance and promote the natural biodiversity of London and in particular, the River Thames.	Additional development can cause cumulative effects including the loss of terrestrial, intertidal or sub-tidal habitat, or disturbance to aquatic, terrestrial or avifauna.
Estuarine Processes and Water Quality	<p>To protect and enhance the chemical and ecological quality of the River Thames.</p> <p>To avoid impacts arising from changing estuarine processes in the River Thames.</p>	<p>Additional development in the vicinity of a wharf, particularly if it is adjacent to the River Thames, has the potential to increase impacts on water quality both locally, and further afield because of the River's tidal nature.</p> <p>Depending on the nature of development there may be cumulative effects on local morphology and/or hydrodynamic processes, if works take place directly adjacent to, or in the water, although this is unlikely for most types of development.</p>
Climate Change	To mitigate and adapt to climate change through reducing GHG emissions, flood risk and infrastructure planning.	The reductions in GHG emissions through the use wharves and river barges (rather than road transport) to facilitate the movement of construction materials and associated wastes for new infrastructure projects has already been assessed.
Air Quality	To improve London's air quality.	Improvements in air quality through the use wharves to facilitate movement of construction materials for new development has already been assessed. However, there may be local cumulative effects if new development increases movement of HGVs.
Noise and Vibration	To reduce environmental noise from transport sources.	Reduced noise through the use of wharves to facilitate movement of construction materials for new projects/development has already been assessed. However, there may be local cumulative effects if new development increases movements of HGVs.
Transport, Navigation and Shipping	To reduce journeys and travel by road and promote safe and sustainable	Assisting the objective to reduce road congestion through the increased use of

	transport.	wharves to facilitate movement of construction materials for new projects has already been assessed. It is unlikely that new development associated with policies in the London Plan will give rise to increased number of vessel movements resulting in cumulative effects on navigation.
Townscape, Waterscape and Visual	To protect and enhance River Thames corridor while maintaining a variety of urban land-uses.	As safeguarding wharves generally retains existing townscape, waterscape and views, it is unlikely that this will give rise to cumulative effects with other local development. However, if wharves released from safeguarding are developed in the future there is potential for increased impact on views, particularly of the River, waterscape and townscape.
Historic Environment	To protect and enhance the historic environment.	There are potential indirect effects on designated heritage assets and their settings, particularly if new development increases traffic and disturbance. There is also potential for cumulative effects on unknown archaeological assets if wharf facilities are further developed alongside other waterside proposals.

- 5.11.7. As described above, there is generally insufficient information at this stage about any freight-related development at safeguarded wharves and the location and nature of additional development in the vicinity of each wharf. However, any future development at the wharves will require the necessary consents (e.g. planning application from the Local Planning Authority for works above Mean Low Water (MLW) and/or a marine licence from the Marine Management Organisation (MMO) for works below Mean High Water Springs (MHWS). Preparation of the supporting information that is required to obtain these consents will require a description of the development, often an EIA, and further detailed information on cumulative effects.

6 MITIGATION AND MONITORING

- 6.1.1. The assessment of predicted effects of the 2018 Review undertaken in **Section 5** identified a number of positive, negative and uncertain effects. Where significant adverse effects are predicted or where there is uncertainty, mitigation measures are set out in this section to prevent, reduce or offset the effects that have been identified. In addition, the significant environmental effects of the strategy must also be monitored to identify any unforeseen adverse effects and to enable appropriate remedial action. **Table 12** summarises the proposed mitigation and monitoring for the 2018 Review.

Table 12 - Proposed mitigation and monitoring for the 2018 Review

Topic	SEA Objective(s)	Significant or Uncertain Negative Effects of the 2018 Review	Mitigation	Proposed Monitoring
Population and Health	To enable the development of land which meets the needs of London's growing and diverse population.	<p>Wharves prevented from use for residential development.</p> <p>Disruption (e.g. nuisance, pollution, safety, congestion) to local residents and sensitive receptors.</p>	<p>Redevelopment of wharves will need to comply with relevant environmental legislative and consenting requirements (e.g. EIA Regulations 2017) to identify any adverse effects and mitigation specific to future development proposals. Examples of standard mitigation measures include:</p> <ul style="list-style-type: none"> ■ Implementation of a Construction Environmental Management Plan (CEMP); and ■ Production of a comprehensive stakeholder management strategy. 	See Air Quality and Noise, below.
Biodiversity, flora and fauna	<p>To protect, enhance and promote the natural biodiversity of London and in particular, the River Thames.</p> <p>To achieve in-channel and riparian habitat creation.</p> <p>To achieve objectives of the River Basin Management Plan and Water Framework Directive.</p>	Potential for habitat loss and/or disturbance of flora/fauna arising from redevelopment of wharves released from safeguarding.	<p>Redevelopment of wharves will need to comply with relevant environmental legislative and consenting requirements (e.g. EIA Regulations, Habitats Regulation Assessment (HRA) under the Habitats Regulations 2017 to identify any adverse effects and mitigation specific to future development proposals). Examples of standard mitigation measures include:</p> <ul style="list-style-type: none"> ■ Implementation of a CEMP; ■ Timing of works (e.g. restriction on seasonal working) 	<p>Where new development occurs:</p> <p>Use of data from monitoring of habitats and species within national/European designated sites (SPA, SAC, SSSI, rMCZ) undertaken by Natural England.</p> <p>Use of data from monitoring of habitats and species within LNR and SMI as undertaken by Local Authorities.</p> <p>Use of data from monitoring of</p>

Topic	SEA Objective(s)	Significant or Uncertain Negative Effects of the 2018 Review	Mitigation	Proposed Monitoring
			<ul style="list-style-type: none"> Ecological studies including surveys and assessments, particularly where there are protected species and/or designated sites; and On site Ecological Clerk of Works. 	<p>UK Biodiversity Action Plan (BAP) habitats and species undertaken by Local Authorities.</p> <p>Further monitoring as per consenting requirements for a development.</p>
Estuarine Process and Water Quality	<p>To protect and enhance the chemical and ecological quality of the River Thames and to achieve the objectives of the River Basin Management Plan and Water Framework Directive.</p> <p>To avoid impacts arising from changing estuarine processes in the River Thames.</p>	<p>Potential for accidental leaks and spills or mobilisation of contaminated sediments.</p> <p>Potential for redevelopment or further development of wharf to impact morphology and hydrodynamic processes.</p>	<p>Redevelopment of wharves will need to comply with environmental legislative and consenting requirements (e.g. EIA Regulations and WFD) to identify adverse effects and mitigation specific to future proposals. Examples of standard mitigation measures include:</p> <ul style="list-style-type: none"> Implementation of a CEMP; Use of standard pollution prevention measures (e.g. awareness training of all staff in avoiding spillages/accidents and emergency spill response procedures, placement of spill kits throughout the site, suitable bunding of fuel storage tanks and protection from contamination in re-fuelling areas). All vessels using the wharves will adhere to the requirements of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) and PLA policies. 	<p>Use of Environment Agency monitoring data obtained to ensure compliance with the WFD. Includes ecological and chemical monitoring undertaken in all waterbodies (e.g. rivers, lakes, estuaries, coastal and groundwater).</p> <p>Environment Agency monitoring of pollution events.</p> <p>Further monitoring in line with planning conditions and consenting requirements.</p>

Topic	SEA Objective(s)	Significant or Uncertain Negative Effects of the 2018 Review	Mitigation	Proposed Monitoring
Climate Change	To mitigate and adapt to climate change through reducing GHG emissions, flood risk and infrastructure planning.	No significant adverse effects predicted (only significant positive).	<p>Support of policies and initiatives to move traffic from roads onto the water.</p> <p>Support for new technology which reduces emissions from both road and river transport.</p>	Source, type and quantity of GHG emissions in London, particularly from transport sector where available.
Air Quality	To improve London's air quality.	No significant adverse effects identified although some minor or localised effects may occur.	<p>Redevelopment of wharves will need to comply with environmental legislative and consenting requirements (e.g. EIA) to identify adverse effects and mitigation specific to future proposals. Examples of standard mitigation measures include:</p> <ul style="list-style-type: none"> Adherence to a tailored CEMP; Production of Air Quality Management Plan; Plant and equipment restrictions (e.g. insistence on high quality specification of performance/emissions). 	<p>GLA's London Atmospheric Emission Inventory.</p> <p>Local Authority Air Quality Management Areas data.</p> <p>Further monitoring as per consenting requirements and planning conditions.</p>
Noise and Vibration	To reduce environmental noise from transport sources.	No significant adverse effects identified although some minor or localised effects may occur.	<p>Redevelopment of wharves will need to comply with environmental legislative and consenting requirements (e.g. EIA) to identify adverse effects and mitigation specific to future proposals. Examples of standard mitigation measures include:</p> <ul style="list-style-type: none"> Preparation and adherence to 	<p>GLA's Noise Important Areas data.</p> <p>Further monitoring as per consenting requirements and planning conditions of an approval for development.</p>

Topic	SEA Objective(s)	Significant or Uncertain Negative Effects of the 2018 Review	Mitigation	Proposed Monitoring
			CEMP; and <ul style="list-style-type: none"> Construction and operation timing restrictions (e.g. to avoid sleep disturbance) 	
Transport, Navigation and Shipping	To reduce journeys by road travel and promote safe and sustainable transport.	No significant adverse effects identified although some minor or localised effects may occur.	Redevelopment of wharves will need to comply with environmental legislative and consenting requirements (e.g. EIA) to identify adverse effects and mitigation specific to future proposals. Examples of standard mitigation measures include: <ul style="list-style-type: none"> Adherence to the CEMP; Production of Traffic Management Plan 	Transport for London traffic data. Port of London Authority data. Further monitoring as per consenting requirements and planning conditions stated in the approvals for a development.
Townscape, Waterscape and Visual	To protect and enhance River Thames corridor while maintaining a variety of urban land-uses, safeguarding views and appreciating the quality of London's townscape.	Potential changes to the existing townscape, waterscape and visual setting of the site if there is redevelopment.	Redevelopment of wharves will need to comply with environmental legislative and consenting requirements (e.g. EIA) to identify adverse effects and mitigation specific to future proposals. Examples of standard mitigation measures include: <ul style="list-style-type: none"> Sensitive design in relation to the surrounding townscape, including the historic character; and Protection of views and viewpoints of River Thames. 	As required by Local Authority. Further monitoring as per consenting requirements for a development.
Historic Environment	To conserve and enhance the significance of the	Potential for disturbance of known archaeological assets or unknown	Redevelopment of wharves will need to comply with environmental	Further monitoring as per

Topic	SEA Objective(s)	Significant or Uncertain Negative Effects of the 2018 Review	Mitigation	Proposed Monitoring
	historic environment, including the settings of heritage assets.	assets from re-development.	<p>legislative requirements (e.g. Ancient Monuments and Archaeological Areas Act 1979, EIA, Planning (Listed Buildings and Conservation Areas) Act 1990</p> <p>This process will identify any potential impacts and appropriate mitigation measures that will be enforced through planning conditions.</p> <p>Further studies including desk-based assessments and subsequent surveys.</p> <p>Use of mitigation, e.g., as set out in a Written Scheme of Investigation.</p>	<p>consenting requirements for a development.</p> <p>Conservation Area appraisals.</p>

7 REFERENCES

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8 ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations:	
AQMA	Air Quality Management Area
CD&E	Construction, demolition and excavation
CEMP	Construction Environmental Management Plan
CEMP	Construction Environmental Management Plan
CO ₂	Carbon dioxide
EC	European Commission
EIA	Environmental Impact Assessment
FOCI	Features of Conservation Importance
GHG	Greenhouse gas
GLA	Greater London Authority
HGV	Heavy goods vehicle
HRA	Habitats Regulations Assessment
IIA	Integrated Impact Assessment
INNS	Invasive non-native species
LNR	Local Nature Reserve
MHWS	Mean high water springs
MLW	Mean low water
MMO	Marine Management Organisation
mt	Megatonne
NCA	National Character Area
NIA	Noise Important Area
NO ₂	Nitrogen dioxide
OSC	Ocean Shipping Consultants
PLA	Port of London Authority
PM	Particulate matter
PPP	Policies, plans and programme
rMCZ	Recommended marine Conservation Zone
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEA	Strategic Environmental Assessment
SINC	Site of Importance for Nature Conservation
SMI	Site of Metropolitan Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

TTTP	Thames Tideway Tunnel Project
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WFD	Water Framework Directive



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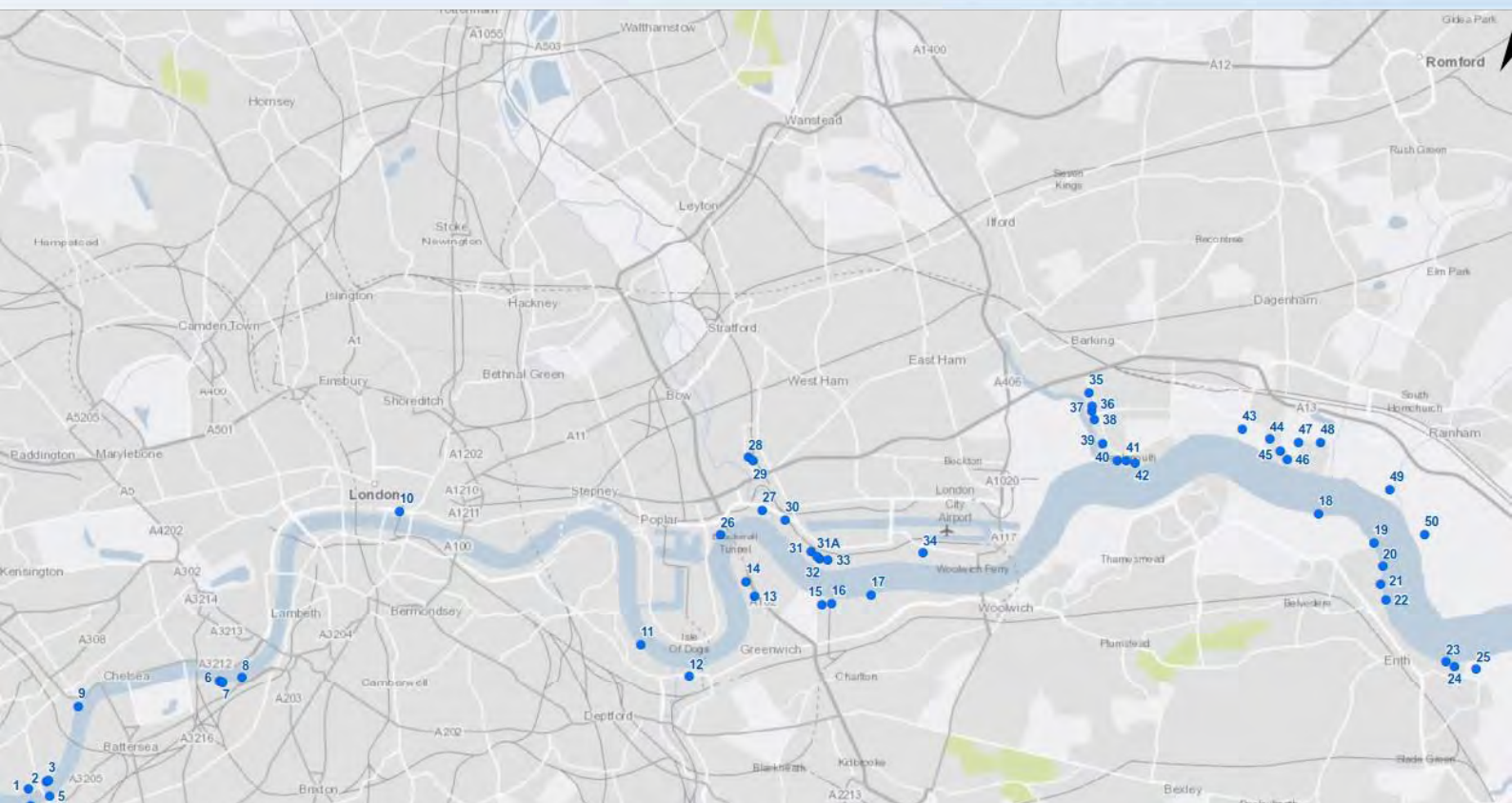
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SAFEGUARDED WHARVES REVIEW 2018

Information to Inform Habitats Regulations
Screening Assessment





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SAFEGUARDED WHARVES REVIEW 2018

Information to Inform Habitats Regulations Screening
Assessment

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EXECUTIVE SUMMARY

This report comprises a strategic-level Habitats Regulations Screening Assessment of the 2018 Review of Safeguarded Wharves (hereafter the '2018 Review').

For the 46 sites where safeguarding is to be retained or applied, it is not considered likely that there will be any significant effects on the European sites identified from their safeguarded status alone. However, if development or changes in operational use do subsequently occur, then likely significant effects cannot be ruled out, and a precautionary approach should be adopted. A revision of a Habitats Regulations Screening Assessment is recommended to be carried out once further information is known. This is due to the level of uncertainty relating to the extent and nature of any potential development arising from changes brought about by the 2018 Review; which is such that it is not possible to determine any potential significant effects on European sites at this level of assessment.

For the five sites which are to be released from safeguarding, there is an increased likelihood of development or changes in use occurring at these sites. While the nature and extent of any future development is uncertain, it follows that any likely significant effects on European sites cannot be ruled out, and that a project-level Habitats Regulations Screening Assessment should be carried out in relation to any specific developments.

Stage 1 of the HRA process (presented in this report) covers the following four stages:

- Determine whether the plan is directly connected with or necessary for the management of Natura 2000 sites;
- Describe the project/plan that has the potential for significant effects on Natura 2000 sites;
- Undertake an initial scoping for potential direct and indirect effects on Natura 2000 sites;
- Assess the likely significance of any effects on Natura 2000 sites.

The screening of designated sites reviewed a Zone of Influence (ZoI) within which potential impact pathways could allow significant effects to arise either alone or in combination with other policies, plans and projects. For this a 15km radius buffer was used to capture all designation with the potential to be impacted. Within this ZoI five Natura 2000 sites, two Ramsar sites and two recommended Marine Conservation Zones (rMCZs) were identified. Additionally, 1 Natura 2000 and a Ramsar site was on the very edge of the ZoI, but downstream of the wharf sites, so was included in the assessment.

Having identified the sites, a range of impacts were identified that could arise from the 2018 Review including:

- Disturbance (noise/vibration/visual/recreational);
- Hydrological changes (quality/flow);
- Air quality changes; and
- Operational/management and mitigation.

The potential effects identified above were assessed both alone and in combination with other policies, plans and projects. This assessment identified six Natura 2000 sites, three Ramsar sites and two rMCZs which could not be screened out from further assessment due to a lack of certainty relating to the nature of any development which might arise from the implementation of the 2018 Review.

Following this strategic-level Habitats Regulations Screening Assessment, an assessment at the project stage, fully supported by project-level site specific data, will be required to determine whether the development of any of the wharf sites would result in an adverse effect upon the integrity of the European sites listed above.

In any event, the policy provides that no consent will be granted unless there is full compliance with Article 6(3) or Article 6(4) of the Habitats Directive and that any necessary compensatory measures will be secured in accordance with Regulation 66.



It is therefore considered that these sites would require further consideration through a project-level Habitats Regulations Screening Assessment in relation to any subsequent development or significant change in the use of safeguarded or released wharf sites; and any subsequent Stage 2 Appropriate Assessments which may follow from the recommendations of the screening assessments (i.e. if likely significant effects are identified). This would be conducted on a site by site basis, or as appropriate when proposals for development or changes in the use of wharves are proposed.

This strategic screening assessment has been developed in consultation with Natural England.

1 INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1. In July 2000, the Mayor of London (hereafter the 'Mayor') assumed the responsibility for monitoring planning applications affecting safeguarded wharves from the Secretary of State for the Environment (hereafter the 'Secretary of State'). In 2005, new directions required all planning applications related to the development of safeguarded wharves be referred to the Mayor, who has the power to direct that the application be refused. Whilst the power to issue safeguarding directions remains with the Secretary of State, it is the Mayor's role to recommend which sites should be safeguarded.
- 1.1.2. The 2005 Safeguarded Wharves Review (hereafter the '2005 Review') recommended the safeguarding of 50 wharves under the provisions of Category 4 of the Town and Country Planning (Mayor of London) Order 2008. Under Article 10(3) of the Town and Country Planning (General Development Procedure) Order 1995, the Mayor is required to be consulted before planning permission can be granted for development on them.
- 1.1.3. In 2011, the Mayor sought to review the safeguarded wharves network (hereafter the '2011 Review'). Final recommendations for the network were submitted to the Secretary of State in 2013. The Secretary of State chose not to endorse the 2011 Review, and therefore the 2005 Review still represents the current network of safeguarded wharves.
- 1.1.4. As part of an ongoing review of the London Plan, which is due to be published in autumn 2019, the Mayor has undertaken a review of the network of safeguarded wharves, and is suggesting changes to the existing network. The 2018 Review will update and supersede the 2005 Review, when accepted.
- 1.1.5. Under the requirements of the European Council Directive 92/43/EEC 'The Habitats Directive' and the Council Directive 79/409/EEC 'The Wild Birds Directive' it is necessary to consider whether the proposed project may have significant effects upon areas of nature conservation importance designated/classified under the Directives. This requirement is translated into UK law through the Conservation of Habitats and Species Regulations 2017 (as amended) ('The Habitat Regulations'). The Habitat Regulations place a duty upon 'Competent Authorities' to consider the potential for effects upon sites of European importance prior to granting consent for projects or plans. Should likely significant effects be identified by the initial screening process, or if there is uncertainty over the possible effects, it is necessary to further consider the effects by way of an 'Appropriate Assessment'. Overall this process of assessment is known as HRA and further details of the applicable legislative context are summarised within Section 2.3 below.

1.2 REPORT FRAMEWORK

- 1.2.1. This document provides information to enable a strategic- level screening of the 2018 Review, covering the following four elements:
- Determining whether the plan is directly connected with or necessary for the management of applicable sites;
 - Describing the project/plan that may have the potential for significant effects upon applicable sites;
 - Undertaking an initial scoping for potential direct and indirect effects upon applicable sites; and,
 - Assessing the likely significance of any potential effects identified, both alone and in-combination with other plans and projects.
- 1.2.2. A description of the 2018 Review and the designated sites identified are provided within **Sections 3** and **Section 4**. Consideration of potential effects of the 2018 Review upon the designated sites and whether these are likely to be significant is provided within **Section 5**, including an assessment of potential in-combination effects.

1.3 HABITAT REGULATIONS ASSESSMENT CONTEXT

LEGISLATIVE CONTEXT

- 1.3.1. Article 6 (3) of the European Union Habitats Directive (1992, as amended, 'the Habitats Directive') sets out the need for 'Appropriate Assessment' of plans or projects which have potential to affect the integrity of a Natura 2000 site (including Special Protection Area (SPA), candidate SPA (pSPA) and possible SPA (pSPA) as well as Special Area of Conservation (SAC), candidate SAC (cSAC) and possible SAC (pSAC) sites such as those in proximity to the Project):
- *'Any plan or project likely to have a significant effect on a Natura 2000, either individually or in combination with other plans or projects, shall undergo an Appropriate Assessment to determine its implications for the site. The competent authorities can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned'* (Article 6(3).
- 1.3.2. As the purpose of the Natura 2000 network is preservation of examples of species and habitats across Europe, rather than preservation of individual sites, Article 6 (4) allows for exceptional circumstances where negative effects may be permitted. This reads:
- *'In exceptional circumstances, a plan or project may still be allowed to go ahead, in spite of a negative assessment, provided there are no alternative solutions and the plan or project is considered to be of overriding public interest'¹. In such cases the Member State must take appropriate compensatory measures to ensure that the overall coherence of the N2000 Network is protected.'* (Article 6(4))
- 1.3.3. The Habitats Directive is translated into UK law through the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations'); Regulation 63 (1) states that 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—
- (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
- (b) is not directly connected with or necessary to the management of that site,
- must make an Appropriate Assessment of the implications for that site in view of that site's conservation objective.'
- 1.3.4. Like the Habitats Directive, the Habitat Regulations also make allowance for projects or plans to be completed if they satisfy 'imperative reasons of overriding public interest (IROPI)²'. Regulations 64 and 68 relate to such situations.

POLICY CONTEXT

- 1.3.5. It is a matter of Government policy (National Planning Policy Framework (NPPF) paragraph 118) that sites designated under the 1971 Ramsar Convention for their internationally important wetlands (commonly known as Ramsar sites) and pSPA are also considered in the same way as SACs, SPAs and cSACs.

¹ An exact definition of 'imperative reasons of overriding public interest' is not provided, but EC guidance states 'It is reasonable to consider that the "imperative reasons of overriding public interest, including those of social and economic nature" refer to situations where plans or projects envisaged prove to be indispensable:

- within the framework of actions or policies aiming to protect fundamental values for the citizens' life (health, safety, environment);
- within the framework of fundamental policies for the State and the Society;
- within the framework of carrying out activities of economic or social nature, fulfilling specific obligations of public service.'

² '(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or

(b) any other reasons which the competent authority, having due regard to the opinion of the European Commission, consider to be imperative reasons of overriding public interest.'

1.4 STAGES OF HABITATS REGULATIONS ASSESSMENT

- 1.4.1. Guidance on the Habitats Directive (European Commission, 2000) sets out the step wise approach which should be followed to enable Competent Authorities to discharge their duties under the Habitats Directive and provides further clarity on the interpretation of Articles 6 (3) and 6 (4). The process used is usually summarised in four distinct stages of assessment.
- Stage 1: Screening: the process which identifies whether effects upon a Natura 2000 site of a plan or project are possible, either alone or in combination with other plans or projects, and considers whether these effects are likely to be significant.
 - Stage 2: Appropriate Assessment: the detailed consideration of the effect on the integrity of the Natura 2000 site of the plan or project, either alone or in combination with other plans or projects, with respect to the site's conservation objectives and its structure and function.
 - Stage 3: Assessment of alternative solutions: the process which examines alternative ways of achieving the objectives of the plan or project that avoid adverse effects on the integrity of the Natura 2000 site.
 - Stage 4: Assessment where no alternative solutions exist and where adverse effects remain: an assessment of whether the development is necessary for IROPI and, if so, of the compensatory measures needed to maintain the overall coherence of the Natura 2000 network.
- 1.4.2. This report presents information to enable the screening assessment required as part of Stage 1 of the HRA process, to establish whether or not the 2018 Review will have a likely significant effect upon Natura 2000 and Ramsar sites.
- 1.4.3. The precautionary principle is applied at all stages of the HRA process. In relation to screening this means that projects or plans where effects are considered likely and those where uncertainty exists as to whether effects are likely to be significant must be subject to the second stage of the HRA process, Appropriate Assessment.

2 THE SAFEGUARDED WHARVES REVIEW 2018

- 2.1.1. As described in **Section 1.1**, the Mayor is conducting a review of the network of safeguarded wharves, which will update and supersede the 2005 Review, when accepted. The locations of the wharves in the 2018 Review are shown in **Figure 1**.
- 2.1.2. In order to inform the 2018 Review, an assessment of the demand for movement of freight on the River Thames in London between 2015 and 2041 was commissioned by the Greater London Authority (GLA) (Ocean Shipping Consultants (OSC), 2016) to estimate the capacity of the current safeguarded wharves network to handle forecasted demand and examine the distribution of the demand/capacity across the network. This assessment is published alongside the 2018 Review.
- 2.1.3. The assessment identified a growth in freight volumes on the River Thames between 2005 and 2015, with 10.7 million tonnes of freight transported along the river in 2015. There has been strong growth in the transport of construction materials (aggregates, cement, crush rock and construction, demolition and excavation (CD&E) waste) and petroleum products, which has outweighed a decline in the transport of sugar, agricultural bulks and steel. The transportation of waste and vehicles has seen little growth.
- 2.1.4. The overall trend for the amount of freight handled is forecast to increase to 13.4 million tonnes by 2028 and then fall to 12.3 million tonnes by 2041 (base case scenario). The existing capacity of the safeguarded wharves in 2015 was estimated at 18 million tonnes, which would remain unchanged, and is generally sufficient to meet forecast demand, although there are some limitations in relation to location of the wharves and peaks within the time period.
- 2.1.5. Additionally, the report concluded that there will be excess wharf capacity for the North East sector of 2.9 million tonnes, excess wharf capacity for the South East sector of 2.1 million tonnes, and excess wharf capacity for the West sector of 0.8 million tonnes by the end of the study period.

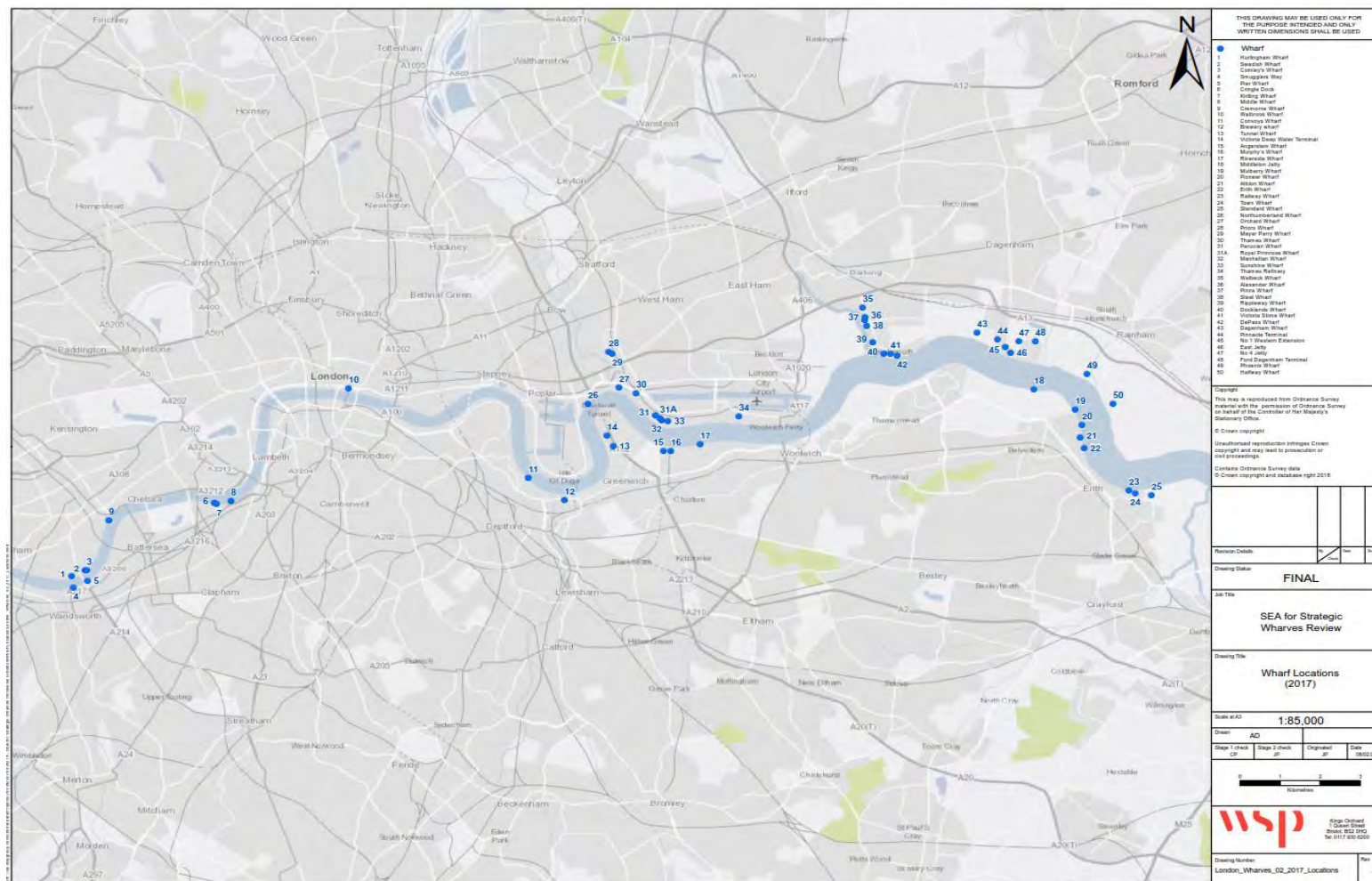


Figure 1 – Location of network of safeguarded wharves identified in the 2018 Review

- 2.1.6. The 2018 Review split the network of safeguarded wharves into three geographic sub-regions as defined in **Table 1**.

Table 1 – Sub-regions of the safeguarded wharves

Sub-region	Location on the River Thames
West	Wharves to the west of Tower Bridge
North East	Wharves to the east of Tower Bridge on the north bank
South East	Wharves to the east of Tower Bridge on the south bank

- 2.1.7. Under the 2018 Review there are three potential safeguarding options for the safeguarded wharves within the network and these are summarised in **Table 2**.

Table 2 - Safeguarding options for wharves

Safeguarding Option	Notes
Retain	Retain safeguarded wharf as part of the 2018 Review network
Release	Removal of safeguarded wharf from the 2018 Review network
Apply Safeguarding	Application of safeguarding status to wharf that is currently not safeguarded

- 2.1.8. There are currently 10 safeguarded wharves in the West sub-region, all of which have been recommended to be retained as safeguarded wharves in the 2018 Review. Ocean Shipping Consultants - Forecasting London's Freight Demand and Wharf Capacity on the Thames (OSC, 2016) forecasted spare capacity in the West sub-region. However, the Thames Tideway Tunnel Project has brought vacant wharves back into active use (e.g. Hurlingham, Middle and Cremorne), demonstrating their suitability for waterborne freight handling and has seen investment in them to boost their long term suitability in a wharf use. The existing permissions at Swedish and Comleys wharf would, if implemented bring Swedish wharf back into active use for waterborne freight handling. Land values in west and central London are typically higher than those in east London, making it more difficult to bring other sites in this sub-region into a wharf use, making it more important to retain the network of safeguarded wharves that London currently has. Being able to move material by river eases congestion on London's road network and consequently pollution in west and central London. The recommendations of the 2018 Review for safeguarded wharves within the West sub-region are summarised in Table 3.

Table 3 - 2018 Review recommendations for wharves in the West sub-region

Borough	Wharf	Recommendation
Hammersmith and Fulham	Hurlingham	Retain
Hammersmith and Fulham	Swedish	Retain
Hammersmith and Fulham	Comleys	Retain
Wandsworth	Smugglers Way	Retain
Wandsworth	Pier	Retain
Wandsworth	Cringle Dock	Retain

Borough	Wharf	Recommendation
Wandsworth	Kirtling	Retain
Wandsworth	Middle	Retain
Kensington and Chelsea	Cremorne	Retain
City	Walbrook	Retain

- 2.1.9. There are currently 15 safeguarded wharves in the South East sub-region; the Mayor is recommending the release of one wharf from its safeguarded designation in this sub-region, and therefore 14 wharves are recommended for safeguarding in the South East sub-region in the 2018 Review. OSC (2016) forecasted that by 2041 there will be 2.0mt of spare capacity in this region of the network. The release of one wharf reflects navigational difficulties that make other wharves more accessible and therefore attractive to operators. Two of the vacant wharves in this sub-region (Mulberry and Standard) have been recently acquired by new owners. The Mayor recommends maintaining their safeguarding while the new owners seek to develop freight handling facilities or find new operators for these wharves. In October 2017, permission was granted on Standard wharf for ancillary facilities that will increase its attractiveness to river operators. The recommendations of the 2018 Review for safeguarded wharves within the South-East sub-region are summarised in **Table 4**.

Table 4 - 2018 Review recommendations for wharves in the South East sub-region

Borough	Wharf	Recommendation
Lewisham	Convoys	Retain
Greenwich	Brewery	Retain
Greenwich	Tunnel	Retain
Greenwich	Victoria Deep Water	Retain
Greenwich	Angerstein	Retain
Greenwich	Murphy's	Retain
Greenwich	Riverside	Retain
Bexley	Middleton	Retain
Bexley	Mulberry	Retain
Bexley	Pioneer	Retain
Bexley	Albion	Retain
Bexley	Erith	Retain
Bexley	Railway	Release
Bexley	Town	Retain
Bexley	Standard	Retain

- 2.1.10. There are currently 25 safeguarded wharves in the North East sub-region. The 2018 Review has recommended the release of 4 wharves, the amalgamation of 2 wharves and the protection of two new wharves that are not currently safeguarded, 22 wharves are therefore recommend for safeguarding in the North East sub-region in the 2018 Review. OSC (2016 forecasted that by 2041 there will be 2.9mt of spare capacity in this sub-region of the network. The release and amalgamation of five wharves reflects a combination of locational or site issues, navigational difficulties and major infrastructure which may lead to the loss of wharves. The recommendations of the 2018 Review for safeguarded wharves within the North East sub-region are summarised in **Table 5**.

Table 5 - 2018 Review recommendations for wharves in the North East sub-region

Borough	Wharf	Recommendation
Tower Hamlets	Northumberland	Retain
Tower Hamlets	Orchard	Retain
Newham	Priors	Release
Newham	Mayer Perry	Release
Newham	Thames	Retain *
Newham	Peruvian	Retain
Newham	Royal Primrose	Apply safeguarding
Newham	Manhattan	Retain *
Newham	Sunshine	Retain *
Newham	Thames Refinery	Retain
Barking and Dagenham	Welbeck	Release
Barking and Dagenham	Alexander	Apply safeguarding
Barking and Dagenham	Pinns	Retain
Barking and Dagenham	Steel	Retain
Barking and Dagenham	Rippleway**	Retain
Barking and Dagenham	Docklands	Retain
Barking and Dagenham	Victoria Stone	Retain
Barking and Dagenham	DePass	Retain
Barking and Dagenham	Dagenham	Retain
Barking and Dagenham	Pinnacle Terminal	Retain
Barking and Dagenham	No.1 Western Extension	Retain
Barking and Dagenham	East Jetty	Retain
Barking and Dagenham	No.4 Jetty	Retain
Barking and Dagenham	Ford Dagenham Terminal	Retain
Havering	Phoenix	Release
Havering	Halfway	Retain

*subject to outcome of Silvertown Tunnel application decision and wharf consolidation.

**Rippleway wharf site also includes Debden wharf which was designated as a separate safeguarded wharf under the 2005 Review; in the 2018 Review they are considered as one wharf.

- 2.1.11. The Silvertown Tunnel is a new road-based crossing that is proposed to be constructed under the River Thames to link the Greenwich Peninsula and Silvertown area. The deadline for a decision from the Secretary of State for the construction of the Silvertown Tunnel has been extended to 10th May 2018. If permission is granted then Thames wharf (safeguarded) and Dock Entrance wharf (not safeguarded) will be temporarily lost during construction of the Tunnel. Current operators at these wharves would need to be relocated. This offers the opportunity for the reconfiguration of wharves in the Thames-side west area of Newham.
- 2.1.12. Applying a new safeguarded direction to Royal Primrose Wharf, adjacent to the recently reactivated Peruvian Wharf would enable a group of aggregate operators, impacted by the construction of the

Silvertown Tunnel, to co-locate and derive benefits from co-location, increase the actual capacity of the wharves in the area and deliver modal shift from road to water. The safeguarding of Royal Primrose Wharf would thus enable the removal of the safeguarding direction from the vacant Manhattan and Sunshine Wharves to enable their redevelopment for other uses.

- 2.1.13. **Table 6**, illustrates the differences between the 2011 Review and the 2018 Review safeguarding recommendations. Of the 50 sites considered in the 2011 Review, only 5 sites are proposed to have a change of status, namely site 19 Mulberry (Release to Retain), site 24 Town (Release to Retain), site 31A Royal Primrose (New site to be safeguarded), site 33 Sunshine (Release to Retain) and site 42 DePass (Release to Retain). The recommended status of all other sites is unchanged from the 2011 Review.
- 2.1.14. In total, the 2018 Review recommends the retention of 44 safeguarded wharves (including 2 sites amalgamated into a single site), the application of safeguarding to 2 new wharves, and the release of safeguarding at 5 sites.

Table 6 - Wharf Sites and Their Categorisation

Wharf		2011 Review	2018 Review	Change
1	Hurlingham	Retain	Retain	None
2	Swedish	Retain	Retain	None
3	Comley's	Retain	Retain	None
4	Smugglers Way	Retain	Retain	None
5	Pier	Retain	Retain	None
6	Cringle Dock	Retain	Retain	None
7	Kirtling	Retain	Retain	None
8	Middle	Retain	Retain	None
9	Cremorne	Retain	Retain	None
10	Walbrook	Retain	Retain	None
11	Convoys	Retain	Retain	None
12	Brewery	Retain	Retain	None
13	Tunnel	Retain	Retain	None
14	Victoria Deep Water Terminal	Retain	Retain	None
15	Angerstein	Retain	Retain	None
16	Murphy's	Retain	Retain	None
17	Riverside	Retain	Retain	None
18	Middleton Jetty	Retain	Retain	None
19	Mulberry	Release	Retain	Release to Retain
20	Pioneer Wharf	Retain	Retain	None
21	Albion	Retain	Retain	None
22	Erith	Retain	Retain	None
23	Railway	Release	Release	None
24	Town	Release	Retain	Release to Retain
25	Standard	Retain	Retain	None

Wharf		2011 Review	2018 Review	Change
26	Northumberland	Retain	Retain	None
27	Orchard	Retain	Retain	None
28	Priors	Release	Release	None
29	Mayer Parry	Release	Release	None
30	Thames	Retain	Retain	None
31	Peruvian	Retain	Retain	None
31A	Royal Primrose	Not included in 2011 review	Apply safeguarding	New site to be safeguarded
32	Manhattan	Retain	Retain	None
33	Sunshine	Release	Retain	Release to Retain
34	Thames Refinery	Retain	Retain	None
35	Welbeck	Release	Release	None
36	Alexander	Apply safeguarding	Apply safeguarding	None
37	Pinns	Retain	Retain	None
38	Steel	Retain	Retain	None
39	Rippleway	Retain	Retain	None
40	Docklands	Retain	Retain	None
41	Victoria Stone	Retain	Retain	None
42	DePass	Release	Retain	Release to Retain
43	Dagenham	Retain	Retain	None
44	Pinnacle Terminal	Retain	Retain	None
45	No 1 Western Extension	Retain	Retain	None
46	East Jetty	Retain	Retain	None
47	No 4 Jetty	Retain	Retain	None
48	Ford Dagenham	Retain	Retain	None
49	Phoenix	Release	Release	None
50	Halfway	Retain	Retain	None

- 2.1.15. There are a total of 40 sites (Sites 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 25, 26, 27, 30, 31, 32, 34, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48 and 50) where the recommendation is to retain safeguarding, which is unchanged from the previous reviews.
- 2.1.16. There are a total of 4 sites (Sites 19, 24, 33, and 42) where it is recommended to retain safeguarding where in the previous review they had been recommended for release. This represents a situation of 'no change' from the 2005 Review.
- 2.1.17. There are 2 new sites (Sites 31A and 36) where it is recommended that safeguarding is applied.
- 2.1.18. There are 5 sites which remain recommended for release from safeguarding (Sites 23, 28, 29, 35 and 49).

3 RELEVANT DESIGNATED SITES

EUROPEAN SITES WITHIN ZONE OF INFLUENCE

- 3.1.1. The Zone of Influence (Zol) is defined by the potential direct, indirect and in-combination effects arising from the project or plan and the available pathways for those impacts to reach and affect interest features of European sites.
- 3.1.2. In order to identify all European sites where potential direct, indirect and in-combination effects could be reasonably considered possible as a result of the plan, an initial buffer of 15km around each of the wharves in the 2018 Review was established. This 15km buffer provides a contextual framework for the consideration of effects.
- 3.1.3. As shown on **Figure 2**, 5 designated sites of European or national/international importance lie within the potential Zol of the Project, these lie within 15 km of the Project. These designated sites are:
- Epping Forest SAC
 - Wimbledon Common SAC
 - Richmond Park SAC
 - Lee Valley SAC, SPA, Ramsar
 - South West London Waterbodies SPA, Ramsar

The Thames Estuary & Marshes SPA, Ramsar site is on the very edge (just outside) of the 15km buffer zone, but it will be considered in this screening assessment given its location downstream of all of the wharf sites in the 2018 Review.

- 3.1.4. In addition, the estuary of the River Thames comprises the Thames Estuary recommended Marine Conservation Zone (rMCZ) which extends from Richmond Locks to Southend-on-sea. Natural England has advised that the Thames Estuary rMCZ has now been split into two separate sites (Chris Baines 2017, pers.comm., 7 December) and while this is not a material consideration at this stage, Natural England recommends their consideration in this assessment as they will become so when designated later in 2018. The two rMCZs are the Upper Thames (from Richmond Bridge to Battersea Bridge) and Swanscombe (from the Queen Elizabeth II Bridge to Columbia Wharf/Grays). The two Thames rMCZs are proposed as they are an important areas for smelt (*Osmerus eperlanus*) and the tentacled lagoon worm *Alkmaria romijni*. Smelt are a migratory species found along the whole of the Tidal Thames, and the most sensitive time for this species is spring, when they migrate up the River to spawn. Sediment plumes and under-water noise have potential to impact all life stages of smelt. Due to the unavailability of site data for these two sites, **Figure 2** identifies the location of the Thames Estuary rMCZ for reference.
- 3.1.5. The reasons for designation of these sites are summarised in **Table 7**. The known vulnerabilities of these sites are summarised in **Table 8**, collated from the Natura 2000 standard data forms (JNCC, 2016)³ and Site Improvement Plans (Natural England) for each site⁴.
- 3.1.6. With regard for the qualifying features within Table 7 and information on vulnerability of the sites within Table 8, the broad conservation objectives for SACs and SPAs in the area, as defined by Natural England (Natural England, 2014) are as follows:

Richmond Park, Wimbledon Common and Epping Forest SACs

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change; Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of the habitats of qualifying species

³ <http://jncc.defra.gov.uk/>

⁴ <http://publications.naturalengland.org.uk/category/6149691318206464>

- The structure and function of the habitats of qualifying species
- The supporting processes on which the habitats of qualifying species rely
- The populations of qualifying species, and
- The distribution of qualifying species within the site.

Lee Valley, Thames Estuary & Marshes, and South-west London Waterbodies SPAs

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The population of each of the qualifying features; and
- The distribution of the qualifying features within the site.

3.1.7. The Habitats Directive provides further interpretation of the meaning of 'favourable conservation status' within Article 1 parts a, e and i as below:

'(a) conservation means a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status as defined in (e) and (i);.....

(e) conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within the territory referred to in Article 2. The conservative status of a natural habitat will be taken as "favourable" when:

- *- its natural range and areas it covers within that range are stable or increasing, and*
- *- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and*
- *- the conservation status of its typical species is favourable as defined in (i);*

(i) conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2; The conservation status will be taken as "favourable" when:

- *- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
- *- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*
- *- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis'.*

Specific conservation objectives for Ramsar sites are not available.

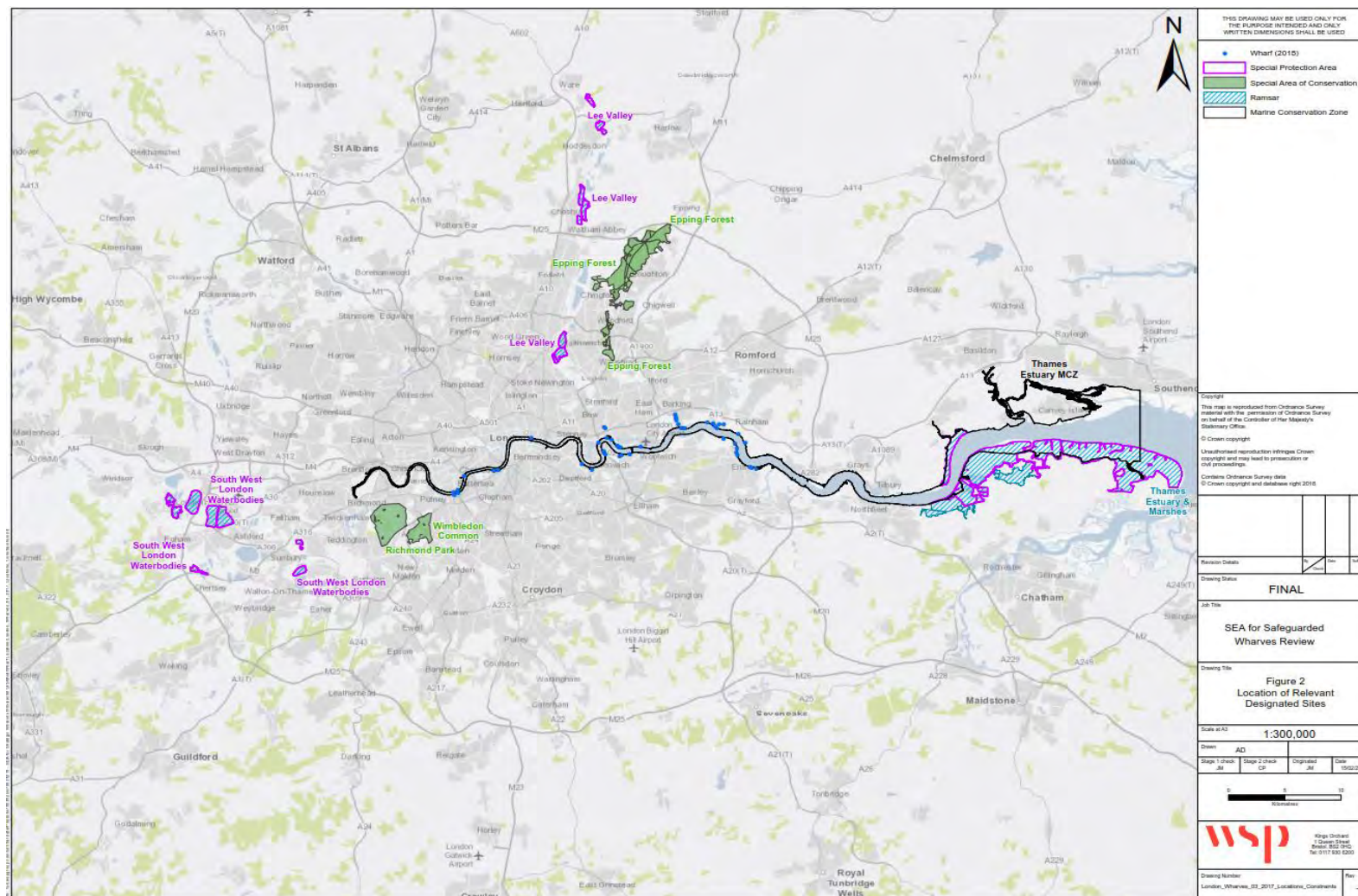


Figure 2 – Location of relevant designated sites

Table 7 - Relevant Natura 2000 or Ramsar Sites

Site Name	Summary of reasons for designation summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet
Richmond Park SAC	S1083 <i>Lucanus cervus</i> ; Stag beetle. Richmond Park SAC is at the heart of the south London centre of distribution for stag beetle, and more generally is a site of national importance for the conservation of the fauna of invertebrates associated with the decaying timber of ancient trees.
Wimbledon Common SAC	<p>Wimbledon Common is one of the largest areas of uncultivated land in the conurbation of London and sits in the Thames Valley Natural Character Area. It supports a mosaic of habitats including broadleaved woodland, acid grassland, dry and wet heath, scrub and mire.</p> <p>H4010 North Atlantic wet heaths with <i>Erica tetralix</i>; Wet heathland with cross-leaved heath; The SAC supports small but important areas of 'humid' heath as part of a complex mosaic of habitats. This type of heath vegetation is very rare in the London area. The humid heath vegetation is characterised by varying amounts of heather <i>Calluna vulgaris</i>, cross-leaved heath <i>Erica tetralix</i>, purple moor-grass <i>Molinia caerulea</i> and dwarf gorse <i>Ulex minor</i>, with locally uncommon plants including creeping willow <i>Salix repens</i>, heath grass <i>Dathonia decumbens</i> and mat grass <i>Nardus stricta</i>.</p> <p>H4030 European dry heaths; The SAC includes examples of dry heath vegetation typical of the south east of England. It is mostly present as part of a habitat mosaic which includes acid grassland, gorse scrub, bracken, birch woodland and transitions to wet of 'humid' heath. The dry heath vegetation is characterised by patches of heather <i>Calluna vulgaris</i>, with occasional dwarf gorse <i>Ulex minor</i> and common gorse <i>U. europaeus</i>. Where soils are free draining there are transitions to dry acid grassland where wavy hair-grass <i>Deschampsia flexuosa</i>, sheep's fescue <i>Festuca ovina</i> and sheep's sorrel <i>Rumex acetosella</i> are common associates of heather. Where soils are less free-draining, tormentil <i>Potentilla erecta</i>, purple moor-grass <i>Molinia caerulea</i> and heath rush <i>Juncus squarrosus</i> are typically frequent.</p> <p>S1083 <i>Lucanus cervus</i>; Stag beetle. The SAC is a particular stronghold for the stag beetle in the south east of England and is at the heart of the local centre of distribution of the species. The site provides ideal habitat conditions for the stag beetle, such as extensive areas of undisturbed woodland and large quantities of decaying wood. The site is also important in supporting small but important areas of heathland, a very scarce habitat in the London area.</p>
Epping Forest SAC	<p>Primary reasons for selection:</p> <p>H9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robotti-petraeae or Ilici-Fagenion) for which this is considered to be one of the best areas in the United Kingdom.</p> <p>S1083 <i>Lucanus cervus</i> (Stag beetle) for which this is one of only four known outstanding localities in the United Kingdom.</p>

Site Name	Summary of reasons for designation summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet
	<p>Qualifying Features:</p> <p>H4010 North Atlantic wet heaths with <i>Erica tetralix</i>; Wet heathland with cross-leaved heath – for which the area is considered to support a significant presence.</p> <p>H4030 European dry heaths for which the area is considered to support a significant presence.</p>
Lee Valley SPA/Ramsar	<p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex 1 of the Directive:</p> <p>Over winter:</p> <p>A021 <i>Botaurus stellaris</i>; Bittern (Non-breeding), 6 individuals representing at least 0.6% of the wintering population in Great Britain (5 year peak mean, 1992/3 – 1995/6)</p> <p>The site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter:</p> <p>A051 <i>Anas strepera</i>; Gadwall (Non-breeding), 515 individuals representing at least 1.7% of the wintering Northwestern/Central Europe population (5 year peak mean 1991/2 – 1995/6).</p> <p>A056 <i>Anas clypeata</i>; Shoveler (Non-breeding), 748 individuals representing at least 1.9% of the wintering Northwestern/Central Europe population (5 year peak mean 1991/2 – 1995/6).</p>
South West London Waterbodies SPA / Ramsar	<p>The South-West London Waterbodies SPA comprises several gravel pits and reservoirs scattered around Staines in Greater London. Hundreds of migratory wintering Gadwall <i>Anas strepera</i> and Shoveler <i>A.clypeata</i> spend the winter on and around these waterbodies. Their numbers are significant at a European level. Some sites appear to be favoured by one species more than the other whilst some are used by both and individual birds move from one waterbody to another. The waterbodies are also of national importance to a number of other species of wintering wildfowl, namely cormorant <i>Phalacrocorax carbo</i>, great crested grebe <i>Podiceps cristatus</i>, tufted duck <i>Aythya fuligula</i>, and coot <i>Fulica atra</i>.</p>

Site Name	Summary of reasons for designation summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet
	<p>This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter:</p> <p>A051 <i>Anas strepera</i>; Gadwall (Non-breeding), 786 individuals representing at least 2.6% of the wintering Northwestern Europe population (5 year peak mean 1991/2 – 1995/6).</p> <p>A056 <i>Anas clypeata</i>; Shoveler (Non-breeding), 1075 individuals representing at least 2.7% of the wintering Northwestern/Central Europe population (5 year peak mean 1991/2 – 1995/6).</p>
Thames Estuary and Marshes SPA / Ramsar	<p>The Thames Estuary and Marshes SPA is located on the south side of the Thames Estuary in southern England. The marshes extend for about 15 km along the south side of the estuary and also include intertidal areas on the north side of the estuary. To the south of the river, much of the area is brackish grazing marsh, although some of this has been converted to arable use. At Cliffe, there are flooded clay and chalk pits, some of which have been infilled with dredgings. Outside the sea wall, there is a small extent of saltmarsh and broad intertidal mud-flats. The estuary and adjacent grazing marsh areas support an important assemblage of wintering waterbirds, including grebes, geese, ducks and waders. The site is also important in spring and autumn migration periods.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:</p> <p>Over winter:</p> <p>Avocet <i>Recurvirostra avosetta</i>, 276 individuals representing at least 21.7% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)</p> <p>Hen harrier <i>Circus cyaneus</i>, 7 individuals representing at least 0.9% of the wintering population in Great Britain (5 year mean 93/4-97/8)</p> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p>

Site Name	Summary of reasons for designation summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet
	<p>On passage:</p> <p>Ringed plover <i>Charadrius hiaticula</i>, 559 individuals representing at least 1.1% of the Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6)</p> <p>Over winter:</p> <p>Ringed plover <i>Charadrius hiaticula</i>, 541 individuals representing at least 1.1% of the wintering Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6)</p> <p>Assemblage qualification: A wetland of international importance.</p> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl</p> <p>Over winter, the area regularly supports 33,433 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Redshank <i>Tringa totanus</i>, Black-tailed Godwit <i>Limosa limosa islandica</i>, Dunlin <i>Calidris alpina alpina</i>, Lapwing <i>Vanellus vanellus</i>, Grey plover <i>Pluvialis squatarola</i>, Shoveler <i>Anas clypeata</i>, Pintail <i>Anas acuta</i>, Gadwall <i>Anas strepera</i>, Shelduck <i>Tadorna tadorna</i>, White-fronted Goose <i>Anser albifrons albifrons</i>, Little Grebe <i>Tachybaptus ruficollis</i>, Ringed plover <i>Charadrius hiaticula</i>, Avocet <i>Recurvirostra avosetta</i>, Whimbrel <i>Numenius phaeopus</i>.</p>

Table 8 - Known threats and pressures upon relevant designated sites

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
Richmond Park SAC	None identified	The Richmond Park Management Plan should continue to be periodically reviewed to ensure the continuing availability of decaying wood habitat.
Wimbledon Common SAC	Public Access/Disturbance Habitat Fragmentation Invasive Species Air Pollution: impact of atmospheric nitrogen deposition	Pressure (affecting H4010 Wet heathland with cross-leaved heath, H4030 European dry heaths, S1083 Stag beetle) – Implement measures to reduce visitor impact. Threat (affecting S1083 Stag beetle) – Species recovery project. Threat (affecting H4010 Wet heathland with cross-leaved heath, H4030 European dry heaths, S1083 Stag beetle). Develop an invasives response plan. Pressure (affecting H4010 Wet heathland with cross-leaved heath, H4030 European dry heaths) – Establish a Site Nitrogen Action Plan.
Epping Forest SAC	B02 – Forest and Plantation Management & Use A04 - Grazing A02 – Modification of Cultivation Practices	M02 – Changes in biotic conditions H04 – Air Pollution, air-borne pollutants G01 – Outdoor sports and leisure activities, recreational activities J02 – Human induced changes in hydraulic conditions A04 - Grazing
Lee Valley	Water Pollution	Threat (affecting A021 Bittern, A051 Gadwall,

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
SPA/Ramsar	<p>Hydrological Changes</p> <p>Public Access/Disturbance</p> <p>Inappropriate Scrub Control</p> <p>Fisheries: Fish Stocking</p> <p>Invasive Species</p> <p>Inappropriate Cutting/Mowing</p>	<p>A056 Shoveler) – <i>Investigate and agree appropriate water quality.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall, A056 Shoveler) – <i>Investigate and agree appropriate water levels.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall, A056 Shoveler) – <i>Investigate recreational pressure priority areas and agree management measures.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall, A056 Shoveler) - <i>Manage scrub to required levels to maintain/restore habitat.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall, A056 Shoveler) - <i>Investigate and agree appropriate fish stocking.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall, A056 Shoveler) - <i>Investigate and agree appropriate management response.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall, A056 Shoveler) - <i>Manage reed beds for bittern.</i></p> <p>Threat (affecting A021 Bittern, A051 Gadwall,</p>

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
	Air Pollution: risk of atmospheric nitrogen deposition	A056 Shoveler) - <i>Investigate the potential impacts of air pollution.</i>
South West London Waterbodies SPA / Ramsar	Public access/disturbance	Pressure/Threat (affecting A051 (NB) Gadwall, A056 (NB) Shoveler) – <i>Produce written agreement with landowners and recreational users to reduce recreational disturbance.</i>
	Changes in species distributions	Pressure/Threat (affecting A051 (NB) Gadwall, A056 (NB) Shoveler) – <i>In partnership with bird recorders/watchers, review existing data and secure fit-for-purpose recording practices across the SPA and its surroundings.</i>
	Invasive species	Pressure/Threat (affecting A051 (NB) Gadwall, A056 (NB) Shoveler) – <i>Manage <u>Crassula helmsii</u> and equip recreational users and landowners to monitor for the plant.</i>
	Natural changes to site conditions	Pressure/Threat (affecting A051 (NB) Gadwall, A056 (NB) Shoveler) – <i>Carry out strategic habitat management, including management of bankside vegetation.</i>
	Fisheries: Fish stocking	Pressure (affecting A051 (NB) Gadwall, A056 (NB) Shoveler) – <i>Secure appropriate fish stocking levels.</i>
	Inappropriate weed control	Threat (affecting A051 (NB) Gadwall, A056

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
	Invasive species	<p>(NB) Shoveler) – Clarify appropriate weed control with owners and tenants through consents, and carry out enforcement action where necessary.</p> <p>Threat (affecting A051 (NB) Gadwall, A056 (NB) Shoveler) – Research Egyptian geese and control if necessary.</p>
Thames Estuary and Marshes SPA / Ramsar	<p>Coastal Squeeze</p> <p>Public access/disturbance</p>	<p>Pressure (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B), Marsh Harrier, A082(NB) Hen Harrier, A132(B) Avocet, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage) – Implement the South East Habitat Creation Programme</p> <p>Pressure/Threat (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B), Marsh harrier, A082(NB) Hen Harrier, A132(B) Avocet, A132(NB)</p>

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
	Invasive species	Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage) – Investigate sources of disturbance within the SPAs to inform management.
	Changes in species distributions	Threat (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B) Marsh Harrier, A082(NB) Hen Harrier, A132(B) Avocet, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage) – Establish the baseline of Carpet sea squirt and Pacific Oyster distribution.
		Pressure/Threat (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B) Marsh Harrier, A082(NB)

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
	<p>Fisheries: Commercial marine and estuarine</p> <p>Invasive species</p>	<p>Hen Harrier, A132(B) Avocet, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage) – <i>Investigation to identify cause of the decline in SPA birds.</i></p> <p>Pressure/Threat (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B) Marsh Harrier, A082(NB) Hen Harrier, A132(B) Avocet, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage) – <i>Investigate fishing activity and mechanisms for regulating it.</i></p> <p>Threat (affecting Breeding bird assemblage, Waterbird assemblage) – <i>Investigate the impact of freshwater invasives on SPA</i></p>

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
	<p>Invasive species</p> <p>Vehicles: illicit</p> <p>Fisheries: Commercial marine and estuarine</p>	<p><i>birds.</i></p> <p>Threat (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A082(NB) Hen Harrier, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank) – <i>Investigate the impact of <u>Spartina anglica</u> on native saltmarsh and birds.</i></p> <p>Pressure (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B) Marsh Harrier, A082(NB) Hen Harrier, A132(B) Avocet, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage) – <i>Collate and report incidences of illicit vehicle use.</i></p> <p>Threat (affecting A046a(NB) Dark-bellied Brent Goose, A048(NB) Common shelduck, A054(NB) Pintail, A056(NB) Shoveler, A081(B)</p>

Site Name	Activities with greatest effect upon the site, as listed on Natura 2000 standard data forms and Information Sheets for Ramsar Wetlands	Pressures and threats listed within the Site Improvement Plan (NE, undated)
	Air Pollution: Risk of atmospheric nitrogen deposition	<p>Marsh harrier, A082(NB) Hen harrier, A132(B) Avocet, A132(NB) Avocet, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, A157(NB) Bar-tailed Godwit, A162(NB) Common redshank, A176(B) Mediterranean Gull, A195(B) Little Tern, Breeding bird assemblage, Waterbird assemblage). - <i>Introduce appropriate management as required, and ensure compliance with bye-laws.</i></p> <p>Threat (affecting Hen Harrier, A195(B) Little Tern, Sea bird assemblage) – <i>Control, reduce and ameliorate atmospheric nitrogen impacts.</i></p>

4 SCREENING OF POTENTIAL EFFECTS

- 4.1.1. The strategy is not directly connected with or necessary for the management of the sites listed in **Section 4**. It has not been conceived solely to further the conservation of the site(s) and nor is it essential to the management of the site(s). Therefore, further consideration of the Policy within the HRA process is required.

4.2 CONSIDERATION OF EFFECTS

- 4.2.1. Using the information included within **Section 3 and 4**, the 2018 Review has been screened to identify whether there are any potential pathways which could cause effects to the designated sites. **Table 9** provides an assessment of potential direct and indirect effects, which may arise as a result of changes in the safeguarding arrangements of the identified wharf sites. It also takes into consideration any subsequent change in use or development affecting these sites which may arise as a result of these changes.

Table 9 - Potential Effects Associated with the proposal

Effect	Summary Description
Direct Habitat Loss/Fragmentation	The recommended changes proposed in the 2018 Review will not result in any direct habitat loss or fragmentation of Natura 2000 Sites within the Zol. Furthermore, it is not possible that any of the wharf sites could be altered so as to directly affect these sites.
Disturbance (noise/vibration/visual)	There will be no direct disturbance of the Natura 2000 Sites within the Zol brought about by the recommendations of the 2018 Review; however any subsequent development or change in use of any of the wharf sites (and associated boat traffic or in-river maintenance) may affect fish populations in the rMCZ sites in the River Thames. Specifically, in relation to populations of smelt and other migratory fish which commute through the River Thames, and/or which use it for spawning or nursery habitat. Activities associated with development, construction, maintenance or operation may lead to increased (or indeed decreased) disturbance, for example; piling or maintenance dredging, and these activities would need to be subject to a project-level Habitats Regulations Screening Assessment.
Hydrological Changes (quality/flow)	<p>While it is unlikely that any direct effects will result from the implementation of the recommendations the 2018 Review, it is possible that minor changes in water quality could occur. Direct effects may be associated with changes in boat traffic resulting from increased use of the River Thames for transporting materials and waste as well as from any revitalisation of existing wharf sites (and associated activities). This could also lead to an increase in the need for localised dredging at (newly) operational wharf sites, which could lead to sediment being disturbed, and potentially affecting designated sites downstream (including the rMCZs on the River Thames and the Thames Estuary and Marshes SPA). There is also a potential increased risk of the spread of non-native invasive species through increased boat traffic using the Thames.</p> <p>It may also be possible that the subsequent development of wharf sites which may be released from safeguarding could lead to increased run-off of surface water, or incidents from sewage or other materials from a newly populated site. However, regulatory measures imposed during the planning process should ensure that surface and foul water from any newly developed site is treated appropriately and is not allowed to enter the River Thames or other surface waters. As such, it is not considered likely that the implementation of the recommendations in the 2018 Review will result in significant effects, however these should be considered individually as part of a project-level Habitats Regulations Screening Assessment.</p>
Air Quality Changes	The main pollutants of concern for European sites are oxides of nitrogen (NO _x), ammonia (NH ₃) and sulphur dioxide (SO ₂). NO _x can have a directly toxic effect upon vegetation and greater NO _x or ammonia concentrations within the

Effect	Summary Description
	<p>atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen can lead to an increase in soil fertility, which can have an effect on the quality of semi-natural, nitrogen-limited terrestrial habitats. According to the Department of Transport's Transport Analysis Guidance, "Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant).</p> <p>It is possible that changes in operation for safeguarded wharves and any subsequent development of wharf sites released from safeguarding could induce changes in air quality negatively through increased construction traffic and activities associated with on-site developments; while reductions in emissions of airborne pollutants could be realised by increased use of the River Thames and its wharf system from transport of materials and waste. Owing to the distance between the wharf sites and the European sites identified within the ZOI it is unlikely that any significant effects will result; however, any effects will depend on the scale and duration of any changes, and therefore cannot be ruled out. As such, any proposed development should be subject to a project-level Habitats Regulations Screening Assessment.</p> <p>The relevant policies in the London Plan pertaining to air quality, and the Mayor's Air Quality Strategy will also influence the need for project-level Habitats Regulations Screening Assessment of air quality effects.</p>
Operation/Management and Mitigation	<p>It is unlikely that changes in the use of wharf sites as a result of the recommendations made in the 2018 Review will have any significant effects on the designated features of extant European sites. However, any changes in use or associated operational activity brought about by an increase in the use of wharves could potentially lead to effects on fish in the River Thames rMCZs, particularly smelt which migrates within and spawns in the lower River Thames. Factors such as physical disturbance of spawning grounds, impacts of noise and vibration on eggs and juvenile life stages of fish (through development or maintenance activity such as piling or dredging), and general disturbance causing avoidance or impediment or delay to fish migration would need to be considered in a lower tier assessment. It is unlikely that other species which are designated features of the identified European sites would be significantly affected by the recommendations of the 2018 Review; however with the forthcoming designation of the two Thames rMCZs in 2018, a project-level Habitats Regulations Screening Assessment will be required for any subsequent developments which result from the implementation of the 2018 Review.</p>
Recreational Disturbance	<p>Development of wharf sites either for operational or other uses (e.g. residential) will result in a local increase in the population resulting from a temporary influx of site workers. Any residential development which may subsequently result from the recommendations of the 2018 Review, is likely to permanently increase the local population, which in turn may increase recreational pressure on European sites. However, given the relatively large distance between each of the wharf sites and the European sites, it is unlikely that any effects will be significant. However, it is not possible to rule out effects entirely, and therefore recreational disturbance effects should be assessed as part of a project-level Habitats Regulations Screening Assessment for individual developments that result from the implementation of the 2018 Review.</p>

- 4.2.2. This screening assessment has been developed in consultation with Natural England and has incorporated their advice and recommendations. Natural England commented that the sites proposed for release from safeguarding would be unlikely to result in likely significant effects on European sites if subsequently developed for other uses (as a result of their release from safeguarding), principally due to their remoteness

from any of these sites; and furthermore that the sites proposed for new safeguarded status may potentially have a protective effect on Ingrebourne Marshes SSSI from future development related effects.

- 4.2.3. The retention or application of the safeguarded status in the 2018 Review is unlikely to result in any likely significant effects on the European Sites in isolation; however their status does not guarantee that development or increased operational use (which may subsequently affect European sites, as described in **Table 9**) will not occur at some point during the life of this most recent review (if adopted). Therefore, a project-level Habitats Regulations Screening Assessment of any development proposals or material changes in a site's operation purpose will need to be considered at the appropriate time, when sufficient detail of any proposed development or change in use becomes clear. This will enable a meaningful assessment of any likely significant effects on European sites to be made.
- 4.2.4. The increased use of the river to transport materials, goods and waste are likely to have a positive effect on air quality, by reducing freight traffic on roads. In turn, this is likely to have a beneficial effect on European sites which may have designated features which are sensitive to the effects of air pollution.
- 4.2.5. Certain risks have been identified for safeguarded sites (for which it is assumed that there will be a potential or likely increase in operational use), which include the potential spread of non-native invasive species, due to a potential increase in the risk of the release of contaminated ballast water from freight vessels. This is not considered a significant impact however, given the stringent international conventions and UK guidance on the control and management of ballast water (Maritime and Coastguard Agency, 2012), which reduce the probability of its occurrence.
- 4.2.6. Additionally, an increase in boat traffic and associated activities/effects (dredging, piling, noise, etc.) may lead to potential for increased effects on migratory fish which use the River Thames as a migratory corridor, spawning or nursery ground. This includes smelt, Atlantic salmon *Salmo salar*, sea trout *Salmo trutta*, European eel *Anguilla anguilla*, sea lamprey *Petromyzon marinus*, and river lamprey *Lampetra fluviatilis*. The Thames Estuary is also an important nursery area for sea bass *Dicentrarchus labrax* and other species. Whilst none of these is a designated feature of current European sites, the rMCZs on the Thames are recommended to be designated for its populations of smelt and the tentacled lagoon worm *Alkmaria romijni*. It is possible therefore that significant effects on these feature could arise as a result of development or changes in use of the wharves in the 2018 Review.
- 4.2.7. There is the potential for additional disturbance/destruction effects due to the proximity of individual wharves to nature conservation sites (e.g. Sites of Importance for Nature Conservation (SINC) and Local Nature Reserves (LNR)). Where relevant, these effects have been detailed for the specific wharves in Appendix A of the Strategic Environmental Assessment Scoping Report (WSP, 2018a).
- 4.2.8. For those five wharves that have been recommended for release from safeguarding by the 2018 Review, there may be effects associated with a change of use to residential, commercial or an alternative industrial development. This may result in both positive and negative effects through the development of any of these sites, and the nature of any changes will depend on the nature of what is proposed. However, negative effects could include the loss of terrestrial, intertidal or sub-tidal habitat, or disturbance to aquatic, terrestrial or avifauna; while alternatively, positive effects could come in the form of less direct disturbance within the watercourse through reductions in boat traffic, lower possibility of pollutants entering the watercourse, or habitat enhancements incorporated within the development plans.
- 4.2.9. Where the release of safeguarding has been proposed, it is more likely that development for alternative uses may occur, however, this is not guaranteed, nor is sufficient information about any such development or change in use available at this time. Therefore it is not possible to conclude that likely significant effects on European sites will not occur, and therefore project-level Habitats Regulations Screening Assessment will need to be considered once any development or change in use is proposed, and specific details of such changes are available.

4.3 POTENTIAL IN-COMBINATION EFFECTS

- 4.3.1. As part of the SEA for the Safeguarded Wharves Review 2018, other policies, plans and programmes (PPPs) have been reviewed for their relevance to the 2018 Review, and further details can be found in Appendix A of the SEA Scoping Report. PPPs which may give rise to cumulative effects were selected on the basis of their overarching application to the study area and potential for land-use development (and therefore potential effects). On this basis, the London Plan was selected for potential cumulative effects assessment. Other plans, including the Thames River Basin Management Plan and Flood Risk Management Strategies were not

assessed any further. These plans aim largely to have positive effects on the environment, in this case, water (and ecological) quality and flood management.

The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years. The London Plan brings together the geographic and locational (although not site specific) aspects of the Mayor's other strategies. The most recent approved London Plan was published in March 2016⁵. A draft of the new London Plan was released in December 2017 for consultation, the new London Plan is due to be published in autumn 2019 and will run to 2041. Although not yet adopted, the new London Plan has been used to assess the cumulative effects as it covers the same study period as the SEA. The London Plan covers the 32 Boroughs of London and City of London, in addition to providing a framework for a number of strategies.

POTENTIAL CUMULATIVE EFFECTS WITH THE LONDON PLAN

The draft Integrated Impact Assessment (IIA)⁶ for the new London Plan covers four assessments including SEA (in addition to assessments on health, equalities and community safety). The IIA for the new London Plan policies was reviewed for potential cumulative effects and other interactions with the 2018 Review.

The policies which are relevant to the assessment of cumulative effects with regard to the 2018 Review are detailed in **Table 10**:

Table 10 – Policies relevant to assessment of cumulative effects

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
H1 Increasing Housing Supply	This policy supports the delivery of a range of housing and mixed-use developments to meet ambitious housing delivery targets across the London Strategic Housing Market Area. The policy identifies ten year targets for net housing completions for each local planning authority, who are responsible for identifying delivery options through the Local Plan process. In order to achieve these targets, the policy encourages boroughs to prepare delivery-focused Development Plans, with a strong emphasis on monitoring and updating housing trajectories on an annual basis. Significant emphasis is placed on exploring opportunities to optimise suitable and available brownfield development, and using proactive measures to overcome constraints to delivery. This includes targeted infrastructure investment to reduce risks and unlock development opportunities, and encouraging increased diversification in the house building industry. Where new transport infrastructure is planned, the policy supports that's local planning authorities should take into account future public transport capacity and connectivity levels. This will increase opportunities to optimise site capacity and meet housing targets through increased densities.	Outcome of HRA screening showed the potential for likely significant effects. The quantum of growth provided does have the potential to result in locally significant effects upon European designated sites, although this is dependent on the ultimate location of the development.	The policy to increase housing supply may drive the residential development of wharves released from safeguarding under the 2018 Review. This may lead to potential effects upon European sites.
H4 Meanwhile use	This policy aims to encourage local	Outcome of HRA screening	It is possible that this policy

⁵ <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-2016-pdf>

⁶ https://www.london.gov.uk/sites/default/files/draft_london_plan_ia.pdf

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
	authorities within London to identify opportunities for meanwhile uses, in order to make efficient use of vacant land while it is waiting longer-term development. There is particular emphasis on delivering meanwhile housing units through precision manufacturing, to help increase short term demand, and encourage further re-use of units at a later date to occupy another site.	showed no likely significant effects, because there are no linking impact pathways present.	may influence changes in use for vacant wharf sites.
H9 Vacant building credit	This policy supports the appropriate management of vacant building credit, to ensure it contributes to development needs and does not undermine affordable housing provision. The policy sets out the limited circumstances where the Vacant Building Credit (VBC) should be applied, to provide an incentive for brownfield development on sites containing vacant buildings that would not otherwise come forward for development. Applicants are required to demonstrate that the building has been vacant for a continuous period of five years, and provide evidence the site has been actively marketed for at least two of the five years. The VBC is not anticipated to bring forward significant levels of additional development in London, and could have long term implications for the delivery of affordable housing.	Outcome of HRA screening showed no likely significant effects. Theoretically, Policy H9 (Vacant Building Credit) could indirectly lead to adverse effects on SACs/SPAs/Ramsar sites in conjunction with those policies setting the housing targets for each borough, as the policy advocates a mechanism to facilitate the potential for re-development on vacant brownfield sites that would not otherwise come forward for development. However, the policy makes clear that in London, this kind of development opportunity is highly unlikely to come forward, and it is also clear that the scale of development would be likely to be extremely limited. Therefore, it is possible to conclude no likely significant effects of policy H9 on European protected wildlife sites.	This policy could influence decision making over the future development of wharves which are released from safeguarding.
H16 Gypsy and Traveller accommodation	This policy supports boroughs in identifying permanent Gypsy and Traveller pitches, and putting measures in place to assess future needs. This includes both safeguarding current pitches and supporting the additional provision of secure sites. Gypsy and Traveller accommodation capacity should be protected by the boroughs in line with the requirements of the Equality Act 2010, and actively considered when reviewing new residential development proposals. The policy also supports boroughs in preparing a needs assessment and encourages an audit to be undertaken of existing pitches and sites. There is a strong emphasis on monitoring and reviewing identified needs, to ensure balanced communities are effectively planned for throughout the Plan period.	Outcome of HRA screening showed potential likely significant effects to designated sites. Potential linking impact pathways present include: Recreational pressure, Atmospheric pollution and Hydrological changes.	It is possible that wharf sites which are released from safeguarding may be used to provide this accommodation, and as with other residential development, additional pressures may arise which could affect European sites.
E4 E5 Strategic Industrial Locations (SIL)	The policy supports the proactive management of SILs through a plan-led process to sustain them as London's main reservoirs of industrial, logistics and related capacity for uses that support the function of London's economy. The policy supports development proposals in SILs for uses such as general industry, storage and distribution, light industrial and flexible uses. The policy states that proposals for other uses should be	Outcome of HRA screening showed no likely significant effects. The policy supports proactive management of SILs.	It is possible that this policy could lead to cumulative effects with the 2018 Review, although it promotes the use of industrial sites (such as safeguarded wharves) and protects them from development for other uses, or infringements on their ability to serve as

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
	<p>refused unless there has been a strategically co-ordinated process of SIL consolidation through a Development Plan.</p> <p>The policy aims to ensure that development proposals within or adjacent to SILs do not compromise the integrity or effectiveness of these locations in accommodating industrial type activities and their ability to operate on a 24 hour basis. Residential development adjacent to SILs should be designed to ensure that the industrial activities are not compromised or curtailed. Particular attention should be given to layouts, access, orientation, servicing, public realm, soundproofing and other design mitigation in the residential development.</p>		industrial sites.
E10 Visitor infrastructure	<p>This policy aims to strengthen London's visitor economy and associated employment by enhancing and extending its attractions, legibility, and overall visitor experience. There is a strong emphasis on protecting, enhancing and promoting key visitor attractions and supporting cultural infrastructure.</p> <p>The policy encourages a balanced tourist economy, and supports the sufficient supply of quality and accessible visitor accommodation, including hotels and serviced accommodation in the CAZ, but also in other parts of inner London and in outer London. The role of apart-hotel and short-term lettings are supported while ensuring they do not compromise housing provision.</p>	<p>Outcome of HRA screening showed no likely significant effects. The provision of 58,000 new serviced accommodation units could pose threats to European designated sites. However, it is for individual boroughs to determine where new capacity is most suitably located, through their Local Plans and development control process and these processes will include HRA as appropriate. Therefore, growth could be delivered in the majority of London without affecting European sites.</p>	<p>It is possible that wharf sites released from safeguarding could be developed for this purpose, with subsequent implications for European sites, however as with the HRA screening of the London Plan policy, any such development would need to be subject to development control and HRA as appropriate.</p>
G6 Biodiversity and access to nature	<p>The policy supports the protection of Sites of Importance for Nature Conservation (SINCs) and green corridors from inappropriate development and aims to improve access to wildlife sites. It also promotes the extension and enhancement of SINCS and green corridors by requiring boroughs to identify areas of deficiency in access to nature and seek opportunities to create habitats of relevance and benefit in the urban context.</p> <p>The policy sets out a hierarchy of mitigation where harm to a SINCS is unavoidable, the approach is to avoid adverse impacts, or minimise adverse impacts by requiring on-site mitigation and in exceptional cases provide off-site compensation.</p>	<p>Outcome of HRA screening showed no likely significant effects. The positive policy seeks to protect nature conservation sites including European designated sites.</p>	<p>Development associated with the release of safeguarded wharves could potentially impact on local biodiversity interests, as well as the increased pressures brought about by an increased population. Additionally, greater use of the river for freight transport and the potential revitalisation of safeguarded wharves could also lead to additional pressures to the aquatic habitats associated with the River Thames; but also deliver air quality benefits by reducing road traffic used for freight, which may reduce potential effects on sensitive European sites.</p>
SI1 Improving air quality	<p>The policy supports improvements to London's air quality and exposure to poor air quality, especially for vulnerable people, is reduced. All developments should propose methods which achieve either Air Quality Positive or Neutral outcomes depending on their scale. Where developments are unable to reduce</p>	<p>Outcome of HRA screening showed no likely significant effects. Whilst this improvement in air quality is driven primarily by human health considerations, an improvement in air quality through reductions in NOx concentrations will have a positive impact on</p>	<p>This policy is complementary to the safeguarded wharves review, as it seeks to improve air quality in London, and the promotion of the use of the River Thames to transport freight</p>

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
	emissions on-site, measures should be put in place elsewhere which deliver equivalent air quality benefits.	levels of atmospheric pollution at European designated sites.	and waste will help to reduce emissions in London.
SI2 Minimising greenhouse gas emissions	This policy supports the aspiration for major developments to be zero carbon and for emissions to be minimised through construction and operation. This would be achieved through the development of comprehensive energy strategies, the incorporation of energy efficiency measures which surpass the requirements of Building Regulations and the establishment of carbon offset funds.	Outcome of HRA screening showed no likely significant effects. The policy provides a positive environmental commitment. There are no adverse impact pathways present.	This policy is complementary to the safeguarded wharves review, as it seeks to minimise emissions of greenhouse gases in London, and the promotion of the use of the River Thames to transport freight and waste will help to reduce emissions in London.
SI5 Water infrastructure	The policy ensures that water supplies and resources are protected and conserved in a sustainable manner which minimises the use of mains water and reduces leakage levels. The policy also supports investment in water supply infrastructure and waste water treatment infrastructure with the aim of protecting water quality and the water environment.	Outcome of HRA screening showed no likely significant effects. This is a positive policy that aims to conserve and protect water resources in a sustainable manner. It provides for new residential development to minimise use of mains water, thus reducing pressure upon water resources in the natural environment that may interact with European designated sites. This policy also promotes the improvement of water quality and the water environment, which could also have a positive impact upon hydrologically connected European designated sites. This policy provides for 'sustainable' waste water treatment infrastructure, which by definition would not have an adverse impact upon European designated sites. This includes future proofing development so that future misconnections between foul and surface water networks are not easily created.	This policy seeks to improve water availability and quality, and therefore changes in the use of the river by increasing freight, or developing sites near the river, have the potential to result in localised effects on water quality and use.
SI8 Waste capacity and net waste self-sufficiency	This policy ensures existing waste management provisions are safeguarded and optimised with the aspiration of London becoming net self-sufficient, in terms of waste, by 2026. This will be achieved by encouraging the installation of a variety of processing facilities, the adoption of Circular Economy principles and energy from waste schemes. It also encourages all new developments and waste sites to adopt carbon efficient waste management practices which provide additional environmental, social and economic benefits.	Outcome of HRA screening showed no likely significant effects. The positive policy aims for net self-sufficiency by 2026 and includes for new waste management sites where required, which should reduce the need for waste to be exported out of London for processing.	This policy is likely to reduce the requirements to use wharf sites in London to transport waste away from the city, and therefore increases the available wharf capacity for other uses.
SI10 Aggregates	The policy ensures the adequate supply of sustainably sourced aggregate to support construction in London. This will include encouraging the re-use and recycling of construction material and its transportation by sustainable transport modes. Where aggregate extraction is required, where ever	Outcome of HRA screening showed no likely significant effects. The policy is positive in that it explicitly directs movement of aggregates to be by sustainable transport modes where possible, which would	This policy is likely to increase demand for wharf sites which are suitable for the transport of aggregates by boat, and reinforces the requirement to have a network of wharves

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
	possible, this would be within London and would ensure local plans are in place to mitigate the environmental and infrastructure impacts associated with extraction.	reduce the number of HGV movements involved. This is particularly relevant for London Borough of Redbridge given the presence of Epping Forest SAC within the borough and the air quality sensitivity of that site.	throughout London to provide spatial coverage to make this viable.
SI14 Waterways-strategic role	The policy supports the coordination and alignment at the interfaces between terrestrial and marine planning. It also seeks to reflect the distinctiveness of different areas of the River Thames and encourage boroughs to work together to create development proposals and policies which support the Thames Strategies as well as individual water management plans.	Outcome of HRA screening showed no likely significant effects. This is a positive policy for London's European sites, in that encouraging use of London's waterways may reduce recreational visits to areas such as Epping Forest (such as through the Walthamstow Wetlands project due to open in 2017) and also may reduce vehicle movements on London's road network. Use of waterbodies such as reservoirs (for example) recreation would still need to comply with the requirements of the Habitats Directive where those waterbodies are internationally important. This is a matter of law and does not need to be stated in this policy since the policy does not specifically identify particular waterbodies. The fact that recreational use and designated waterbodies are not incompatible is demonstrated by the Walthamstow Wetlands project which incorporates several internationally important waterbodies.	This policy is complementary to the 2018 Review as it encourages the use of the River Thames as a sustainable mode of transport; which has largely positive implications for European sites; however increased boat traffic and use of wharves, and development of wharves removed from safeguarding may increase the possibility of disturbance, pollution and the spread of invasive non-native species which could affect the designated features of these sites, although regulations would apply, and mitigate these risks.
SI15 Water transport	The policy supports the protection, enhancement and future development of existing passenger transport piers, boatyards and wharves for commercial and tourist uses. It also supports the expansion freight transportation by river and safeguard the associated infrastructure required to ensure the freight handling capacity of the river is not reduced.	Outcome of HRA screening showed no likely significant effects. This is a potentially a positive policy in that the more use of waterways for passenger and freight movements, the fewer vehicle movements will occur on London's road network.	This policy is complementary to the 2018 Review as it encourages the use of the River Thames as a sustainable mode of transport; which has largely positive implications for European sites; however increased boat traffic and use of wharves, and development of wharves removed from safeguarding may increase the possibility of disturbance, pollution and the spread of invasive non-native species which could affect the designated features of these sites, although regulations would apply, and mitigate these risks.
SI16 Water use and enjoyment	This policy supports the utilisation and enjoyment of the waterways by providing water-sport centres, water infrastructure, new moorings and associated facilities as well as promoting the use of the waterways for cultural, educational and community	Outcome of HRA screening showed no likely significant effects. This is a positive policy for London's European sites, in that encouraging use of London's waterways may reduce	Whilst this policy is complementary to the 2018 Review, the increase in recreational use and infrastructure does have the potential to affect

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
	facilities. It will also seek to protect existing access points to the waterways, as well as promoting improvements to, and the expansion of, the Thames Path and towpaths.	recreational visits to areas such as Epping Forest (such as through the Walthamstow Wetlands project due to open in 2017) and also may reduce vehicle movements on London's road network.	aquatic habitats and species, which will need to be considered during the planning process.
SI17 Protecting London's waterways	The policy seeks to ensure that all future developments facilitate river restoration and protection and maintain the open character and heritage of the waterways. It also supports the preservation of the local character and environment of London's canal network, docks, rivers and other water spaces whilst ensuring they remain accessible and usable to residents and visitors.	Outcome of HRA screening showed no likely significant effects. There are no impact pathways present.	This policy is complementary to the objectives of the 2018 Review.
T7 Freight and servicing	This policy facilitates sustainable freight movement in London through the consolidation, modal shift and promotion of deliveries at different times of day and night in order to reduce the impact on road congestion and air quality, and conflict with other uses. It also supports the Mayor and all relevant partners to improve safety and efficiency of freight and servicing across London.	Outcome of HRA screening showed no likely significant effects. Overall positive policy intended to maximise movement of freight by rail or water and to ensure that the air quality (and other environmental) impacts of freight growth are appropriately considered. Dependent on locations and scale, new freight logistics and transport sites could have adverse effects on features of internationally designated sites. However, this policy does not identify any specific location or extent of development.	This policy is aligned with the 2018 Review as it encourages sustainable freight transport.
T8 Aviation	This policy supports the expansion of London's airport capacity in order to support London's passenger and freight needs, recognising that this is crucial to London's continuing prosperity and to maintaining its international competitiveness and world-city status. However, it also emphasises that expansion must not come at the cost of environmental and health impacts on local and region wide residents. It requires the aviation industry fully meet its external and environmental costs, particularly in respect of noise, air quality and climate change.	Outcome of HRA screening showed potential implications to designated sites. It is acknowledged that air traffic is a large contributor to atmospheric pollution and airport growth could therefore have an adverse effect. However, the policy specifically acknowledges this. This policy does not in itself provide for any location, type or quantum of aviation development. It is recommended that some of the policy text is strengthened with regard to protecting internationally important wildlife sites. The term 'environmental costs' implies that whatever environmental damage that might result would/could be addressed, whereas for European sites the airport operator/promoter would need to prove 'no alternatives' and 'imperative reasons of overriding public interest' first. 'Acknowledging' impacts and meeting 'environmental costs' would not necessarily be compliant with the Habitats Directive. This is a main aspect for	Increasing aviation capacity in London is likely to have a range of effects on European sites. The 2018 Review seeks to encourage the use of the river to reduce emissions to the air and road use, therefore may help to off-set any negative effects of the increase in aviation capacity, albeit on a minor scale.

London Plan Policy	Policy Description (from IIA of The Draft London Plan)	Implications for HRA Screening (from IIA of The Draft London Plan)	Potential Interaction with 2018 Review
		discussion for the HRA report.	

The extent to which safeguarded wharves may be developed (if at all) is unknown, and the potential cumulative effects of development driven by the London Plan objectives are equally uncertain; therefore a generic approach to the assessment of the 2018 Review has been adopted during the SEA process, and a similar approach is used for the Habitats Regulations Screening Assessment. **Table 11** summarises this approach.

Table 11 – Summary of the potential for cumulative effects with the SEA Objectives

Topic	Objectives	Potential for cumulative effects with other developments
Population & Health	To enable the development of land which meets the needs of London's growing and diverse population.	<p>Additional development in the vicinity of safeguarded wharves has potential to increase disturbance to local population during construction. If new development is industrial in nature, then there may be additional sources of disturbance during operation. Where development is residential, additional populations will be present, which may increase number of receptors locally affected by freight transfers.</p> <p>It should also be noted that additional residential development would help mitigate some of the potentially negative effects arising from safeguarding wharves associated with land available for housing.</p>
Biodiversity, Flora and Fauna	To protect, enhance and promote the natural biodiversity of London and in particular, the River Thames.	<p>Additional development can cause cumulative effects including the loss of terrestrial, intertidal or sub-tidal habitat, or disturbance to aquatic, terrestrial or avifauna.</p> <p>Equally, additional freight traffic using the river and wharves has the potential to cause increased levels of disturbance to aquatic fauna.</p> <p>Maintenance of operational wharves through dredging, or installation of new infrastructure can also potentially lead to disturbance, habitat loss and pollution, although these processes are regulated and control measures are conditioned.</p> <p>Air quality improvements may be achieved by greater use of the river to transport freight, and thereby reducing freight transport on the roads.</p>

Topic	Objectives	Potential for cumulative effects with other developments
Estuarine Processes and Water Quality	<p>To protect and enhance the chemical and ecological quality of the River Thames.</p> <p>To avoid impacts arising from changing estuarine processes in the River Thames.</p>	<p>Additional development in the vicinity of a wharf, particularly if it is adjacent to the River Thames has the potential to increase localised impacts on water quality.</p> <p>Depending on the nature of development there may be cumulative effects on local morphology and/or hydrodynamic processes, although this is unlikely for most types of development.</p>
Climate Change	To mitigate and adapt to climate change through reducing greenhouse gas emissions, flood risk and infrastructure planning.	The reductions in GHG through the use wharves to facilitate movement of construction materials for new development has already been assessed.
Air Quality	To improve London's Air Quality	Improvements in air quality through the use wharves to facilitate movement of construction materials for new development has already been assessed. However, there may be local cumulative effects if new development increases movement of HGVs.
Noise and Vibration	To reduce environmental noise from transport sources.	Reduced noise through use of wharves to facilitate movement of construction materials for new development has already been assessed. However, there may be local cumulative effects if new development increases movement of HGVs. development.
Transport, Navigation and Shipping	To reduce journeys by road travel and promote safe and sustainable transport.	Reduced road congestion through use of wharves to facilitate movement of construction materials for new development has already been assessed. It is unlikely that new development associated with policies in the London Plan will give rise to increased number of vessel movements resulting in cumulative effects on navigation.
Townscape, Waterscape and Visual	To protect and enhance River Thames corridor while maintaining a variety of urban land-uses.	<p>As safeguarding wharves generally retains existing townscape, waterscape and views, it is unlikely that this will give rise to cumulative effects with other local development.</p> <p>However, if wharves released from safeguarding are developed in the future there is potential for increased impact on views, particularly of the river, waterscape and townscape.</p>
Historic Environment	To protect and enhance the historic environment.	There are potential indirect effects on designated heritage assets and their settings, particularly if new development increases traffic and disturbance.

Topic	Objectives	Potential for cumulative effects with other developments
		There is also potential for cumulative effects on unknown archaeology if wharf facilities are developed alongside other waterside proposals.

As described above, there is generally insufficient information at this stage about any freight-related development at safeguarded wharves and the location and nature of additional development in the vicinity of each wharf. However, future development will be the subject of a planning application or other development consent at which time this information would be available.

5 CONCLUSIONS

- 5.1.1. For the 46 sites where safeguarding is to be retained or applied, it is not considered likely that there will be any significant effects on the European sites identified from their safeguarded status alone. However, if development or changes in operational use do subsequently occur, then likely significant effects cannot be ruled out, and a precautionary approach should be adopted. A revision of a Habitats Regulations Screening Assessment is recommended to be carried out once further information is known. This is due to the level of uncertainty relating to the extent and nature of any potential development arising from changes brought about by the 2018 Review; which is such that it is not possible to determine any potential significant effects on European sites at this level of assessment.
- 5.1.2. For the five sites which are to be released from safeguarding, there is an increased likelihood of development or changes in use occurring at these sites. While the nature and extent of any future development is uncertain, it follows that any likely significant effects on European sites cannot be ruled out, and that a project-level Habitats Regulations Screening Assessment should be carried out in relation to any specific developments.
- 5.1.3. Following this strategic-level Habitats Regulations Screening Assessment, an assessment at the project stage, fully supported by project-level site specific data, will be required to confidently determine whether the development of any of the wharf sites would result in a likely significant adverse effect upon the integrity of the European sites present within the Zol and immediately adjacent.
- 5.1.4. In any event, the policy provides that no consent will be granted unless there is full compliance with Article 6(3) or Article 6(4) of the Habitats Directive and that any necessary compensatory measures will be secured in accordance with Regulation 66.
- 5.1.5. In summary, the 2018 Review deals with the status of the safeguarding of wharves, and does not necessarily imply development or change in use taking place or otherwise; nor the extent or nature of such development or change; rather that it affects the process of determining whether development for other uses should take place. Coupled with the lack of certainty in terms of the detail of any such development or changes in use of any of the wharf sites, it is considered that a project-level assessment of any likely significant effects on European sites should take place on a site specific basis as development or changes in use of these sites are proposed; especially in light of the proximity and potential effects on the recommended MCZs on the River Thames which are likely to be designated in 2018.

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7 ACRONYMS

Acronyms and Abbreviations:	
GLA	Greater London Authority
HRA	Habitats Regulations Assessment
IROPI	Imperative reasons of overriding public interest
IIA	Integrated Impact Assessment
INNS	Invasive non-native species
LNR	Local Nature Reserve
NPPF	National Planning Policy Framework
OSC	Ocean Shipping Consultants
PPP	Policies, plans and programme
rMCZ	Recommended Marine Conservation Zone
SAC	Special Area of Conservation
cSAC	Candidate Special Area of Conservation
pSAC	Possible Special Area of Conservation
SEA	Strategic Environmental Assessment
SINC	Site of Importance for Nature Conservation
SMI	Site of Metropolitan Importance
SPA	Special Protection Area
cSPA	Candidate Special Protection Area
pSPA	Possible Special Protection Area
SSSI	Site of Special Scientific Interest
VBC	Vacant Building Credit
ZOI	Zone of Influence



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