
Thameside West, Silvertown

Health Impact Assessment Addendum

March 2020

Thameside West, Silvertown

Health Impact Assessment

Prepared on behalf of Silvertown Homes Limited and GLA Land and Property

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APPENDICES

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EXECUTIVE SUMMARY

The importance of healthy communities is a theme running through National, London and local planning policy. The requirement for a Health Impact Assessment (HIA) to accompany the planning application for the proposed redevelopment of Thameside West, Silvertown (hereafter referred to as the "Site"), comes from the London Plan¹ and is acknowledged within the Planning Practice Guidance² (PPG).

The Site is located on the northern bank of the River Thames, to the west of Silvertown and south of Canning Town. The Site extends to 18.79 hectares (ha) and is located within the administrative area of London Borough of Newham (LBN).

Silvertown Homes Ltd and Greater London Authority's Land and Property Team (hereafter referred to as the "Applicant") seeks to redevelop the Site to provide a residential-led mixed-use development (hereafter referred to as the "Development"). The Development will be constructed in 12 phases and will comprise the following maximum parameters:

- 5000 residential units;
- 15,000 square metres (sqm) (gross external area (GEA)) of flexible employment floorspace (Classes B1c, B2 and B8);
- 4,441sqm (GEA) of flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8);
- 7,368sqm (GEA) of flexible retail floorspace (Classes A1 to A4);
- 7,055sqm (GEA) of community and leisure floorspace (Classes D1 and D2);
- **505** car parking spaces **(29 x commercial & 476 x residential)**;
- **9,833** cycle parking spaces;
- **76,147sqm of open space provision; and**
- Max 26 storeys height (97.90 max metres Above Ordnance Datum (AOD)).

The assessment has been undertaken using the London Health Urban Development Unit (HUDU) Healthy Urban Planning Checklist³ and the HUDU Rapid Health Impact Assessment Tool⁴. The assessment has reviewed the potential health effects of the proposed development and provided recommendations to seek to maximise health gains and remove or mitigate potential adverse impacts on health.

As shown in the assessment in Chapter 3 **of this HIA**, the Development was found to have a positive

¹ Greater London Authority (2016) *The London Plan; The Spatial Development Strategy for London Consolidated with Alterations Since 2011*.

² CLG (2014) *Planning Practice Guidance*

³ London Health Urban Development Unit (April 2017) *Healthy Urban Planning Checklist Third Edition*.

⁴ London Health Urban Development Unit (April 2017) *Rapid Health Impact Assessment Tool Third Edition*.

health effect in relation to the majority of the key health themes. The Development has been designed to provide a high quality, attractive and healthy environment for future residents and users.

As part of the design of the Development particular attention has been given to creating a balanced, mixed-use community which meets local housing need and provides employment opportunities. In addition, the Development promotes active and sustainable travel, including a new DLR station, attractive and safe cycling and pedestrian facilities that connect to the wider area. The Development also includes the re-provision of large open spaces that will be enhanced to increase biodiversity in the area, including an area specifically for enhanced habitat and intertidal habitat along the river wall. In addition, the design team have incorporated multi-use open space throughout the public and private areas which will provide a range of beneficial health effects.

1 INTRODUCTION

- 1.1 This Health Impact Assessment (HIA) has been prepared on behalf of Silvertown Homes Limited and the Greater London Authority Land and Property Team (the "Applicant") to accompany a planning application to the London Borough of Newham (LBN) for a mixed used development (the "Development") on land at Thameside West, Silvertown (the "Site").
- 1.2 The HIA seeks to identify and assess the potential health effects of the Development and provide recommendations that maximise health gains and remove or mitigate potential adverse impacts on health.
- 1.3 The structure of the HIA is set out in the table below.

Chapter	Content
Executive Summary	Summary of the HIA.
Chapter 1	Summary of the Site & Development, the requirement for HIA and a summary of relevant planning policy.
Chapter 2	Outlines the assessment methodology.
Chapter 3	Health Impact Assessment
Chapter 4	Provides the conclusions of the HIA and sets out recommendations to enhance the beneficial effects and reduce any potential adverse health effects identified.

1.3a This HIA has been updated to reflect the amendments in the design of the Development in March 2020. Text added to this HIA is indicated by track changes with 'bold underlining'.

Site Context and Description

- 1.4 The Site is located in the west of Silvertown, within the administrative area of LBN. The Site is bound to the north by Lower Lea Crossing and to the north-east by Silvertown Way, with the Royal Victoria Docks located beyond. The River Thames is adjacent to the south-western boundary of the Site. The River Lea/Bow Creek Estuary is located adjacent to the north-western boundary of the Site. London City Airport is located approximately 1.8km to the east of the Site.
- 1.5 The Greenwich Peninsula is directly opposite to the south-west of the Site, on the south side of the River Thames. The surrounding area including the majority of the Peninsula, the Lower Lea Valley, Royal Docks and Canning Town is undergoing significant re-development, with a number of major developments recently completed, under construction or having received planning permission:

- The Hoola Towers (ref. 13/01873);
 - The Pump House (ref. 10/00369/FUL);
 - Western Gateway, Canning Town (ref. 16/00819/FUL);
 - Royal Victoria Dock (ref. 16/01671/FUL);
 - Leamouth Peninsula South (ref. PA/14/03594);
 - Leamouth Peninsula North (ref. PA/10/01864);
 - Peninsula Riverside (ref. 13/2865/F);
 - Former Goswell Bakeries, Caxton Street (ref. 13/01461/FUL);
- 1.6 The Site extends to 18.79ha and currently comprises a variety of industrial/business/dock uses. The majority of the buildings on the Site are 1-2 commercial storeys, however the Carlsberg Tetley building extends to c.4 storeys.
- 1.7 The Site benefits from several existing transport infrastructure facilities, including the elevated A1020 Silvertown Way/Lower Lea Crossing, the elevated Docklands Light Railway (DLR) Woolwich extension, the Jubilee Line and the Emirates Air Line cable car. The Royal Victoria and West Silvertown stations are located approximately 230m and 340m to the north-east and south-east of the Site, respectively.

The Development

- 1.8 The **description of** Development **has been updated to reflect the changes to the Development in March 2020:**

"Hybrid planning application comprising:

- 1. Detailed planning application for Phase 1 with works to include: the proposed demolition of existing buildings and structures, the erection of buildings, including tall buildings, comprising: **401** residential Units (Use Class C3), **3,608** sqm (GEA) of flexible employment floorspace (Use Class **B1b**, **B1c**, **B2 (restricted)** and **B8**); **230** sqm (GEA) of flexible retail floorspace (Use Classes A1-A3); a new/altered access road from Dock Road/North Woolwich Road; new streets, open spaces, landscaping and public realm; car, motorcycle and bicycle parking spaces and servicing spaces; and other works incidental to the proposed development.*
- 2. Outline planning application (all matters reserved) for the **phased***

***delivery of the** balance of the site for the proposed demolition of existing buildings and structures; the erection of buildings, including tall buildings, comprising: a new local centre; a primary school (Use Class D1); residential and older person units (Use Class C3); flexible employment floorspace (Use Classes B1b, **B1c**, B2 (**restricted**) and B8); **flexible employment floorspace (Use Class B1c, B2 and B8)**; flexible retail floorspace (Use Classes A1-A4); community and leisure **floorspace** (Use Classes D1 and D2); the construction of a new flood defence wall and delivery of ecological habitat adjacent to the River Thames; associated infrastructure; streets, open spaces, landscaping and public realm (including new park and SINC improvements); car, motorcycle and bicycle parking spaces and servicing spaces; utilities including energy centre and electricity substations; and other works incidental to the proposed development.”*

1.9 The indicative phasing for the Development is for it to be brought forward in 12 phases. Phase 1 will comprise the detailed element of the application and includes plots A and B in the south-west corner of the Site and will provide:

- **401** residential units;
- **3,608** sqm (GEA) of flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8);
- **230** sqm (GEA) of flexible retail floorspace (Classes A1 to A4);
- **44*** car parking spaces (**3 x commercial & 41 x residential**);
- **753** cycle parking spaces;
- Max 21 storeys height.

1.10 Phases 2 to **11** form the outline element of the Development and will comprise:

- **4,599** residential units;
- 15,000 sqm (GEA) of flexible employment floorspace (Classes B1c, B2 and B8);
- **833** sqm (GEA) of flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8);
- **7,138** sqm (GEA) of flexible retail floorspace (Classes A1 to A4);
- 7,055 sqm (GEA) of community and leisure floorspace (Classes D1 and D2);
- **461*** car parking spaces (**26 x commercial & 435 x residential**);
- **9,080** cycle parking spaces (**653 x commercial & 8,427 residential**);

- Max 26 storeys height (97.90 max AOD).

[Please note: * = Of the 44 car parking spaces within the Phase 1 site area temporary, 27 spaces are temporary. These 27 spaces will be re-located into the basement area of Phase 2. The 486 car parking spaces indicated for Phase 2 to 11 only do not include the 28 phase 1 spaces to ensure there is no double counting of these spaces.]

- 1.11 The indicative construction phasing proposes the construction phase to start in the **north-east** corner (Phase 1) and migrate **westward** with the next **10** stages.

Requirement for HIA

- 1.12 The importance of healthy communities is a theme running through National, London and local planning policy. The requirement for HIA in this case specifically comes from the London Plan⁵. A summary of the relevant planning policy relating to health is set out below.

National Planning Policy Framework (NPPF)⁶

- 1.13 The revised NPPF published in July 2018 identifies the key principles in relation to health that local planning authorities should consider. In particular paragraph 91 in Chapter 8 of the NPPF 'Promoting healthy and safe communities' states that decisions should aim to achieve the following key features to a healthy and safe community:

- a) *"Promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use development, strong neighbourhood centre, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;*
- b) *Are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas; and*
- c) *Enable and support healthy lifestyles, especially where this would*

⁵ Greater London Authority (2016) *The London Plan; The Spatial Development Strategy for London Consolidated with Alterations Since 2011*.

⁶ CLG (July 2018) *National Planning Policy Framework*

address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.”

National Planning Practice Guidance (NPPG)⁷

- 1.14 The NPPG Health and Wellbeing (2014) states that *"Planning can influence the built environment to improve health and reduce obesity and excess weight in local communities."* One tool to support and foster healthy living early in the process is the use of a Health Impact Assessment, which the NPPG acknowledges as a reliable method where significant impacts are expected from Developments.

The Adopted London Plan (2016)⁸

- 1.15 Policy 3.2 of the London Plan states that the impacts of major development proposals on the health and wellbeing of communities should be considered, for example through the use of HIA. For the purposes of HIA, a 'major development' comprises '10 or more residential units (or a site of 0.5 ha or more), or 1,000 square metres or more of non-residential floorspace (or a site area of 1.0 ha or more)'. The Development exceeds these thresholds.

The Draft London Plan ([2019](#))⁹

- 1.16 Whilst not yet adopted, the draft London Plan is currently emerging and forms a material consideration in any planning decision. The weight to be afforded to the Draft London Plan will change as the document progresses through the examination process. **In December 2019, the Greater London Authority published the 'Intend to Publish London Plan 2019' following the examination in public that was held between January and May 2019.** The Draft London Plan highlights the importance in assessing development proposals on all aspects of health and wellbeing to improve Londoners' health and reduce health inequalities through the use of HIA. The Draft London Plan states that the environment to which Londoners live in largely determines the mental and physical health of the public. There are areas within London that are more deprived than others, and this is reflected in the life expectancies that differ across London which is acknowledged within the Draft London Plan. **Each of the policy areas in the emerging London Plan are informed by six Good**

⁷ CLG (March 2014) *National Planning Practice Guidance*

⁸ Greater London Authority (2016) *The London Plan; The Spatial Development Strategy for London Consolidated with Alterations Since 2011.*

⁹ Greater London Authority (2018 **2019**) *The draft London Plan Showing Minor Suggested Changes **The London Plan – Intend to Publish Version***

Growth objectives. Objective GG3 'Creating a healthy city' addresses how planning and development must promote healthy lifestyles and hence reduce health inequalities:

- A. *"ensure that the wider determinants of health are addressed in an integrated and co-ordinated way, taking a systematic approach to improving the mental and physical health of all Londoners and reducing health inequalities.*
- B. *promote more active and healthy lives for all Londoners and enable them to make healthy choices.*
- C. *use the Healthy Streets Approach to prioritise health in all planning decisions.*
- D. *assess the potential impacts of development proposals and development plans on the mental and physical health and wellbeing of communities, in order to mitigate any potential negative impacts, maximise potential positive impacts and help reduce health inequalities, for example through the use of Health Impact Assessments.*
- E. *plan for appropriate health and care infrastructure to address the needs of London's changing and growing population.*
- F. *seek to improve London's air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution.*
- G. *plan for improved access to and quality of green spaces, the provision of new green infrastructure, and spaces for play, recreation and sports.*
- H. *ensure that new buildings are well-insulated and sufficiently ventilated to avoid the health problems associated with damp, heat and cold.*
- I. *seek to create a healthy food environment, increasing the availability of healthy food and restricting unhealthy options."*

[Newham Local Plan 2018](#)¹⁰

1.27a On 10th December 2018, the Local Plan (2018) was formally adopted which sets out the vision for the borough until 2033. The LBN Core Strategy (2012)¹¹ and the

¹⁰ London Borough of Newham (2018) *Proposed Submission (Nov 2017) consolidated with Main & Minor Modifications*

¹¹ London Borough of Newham (2012) *Newham's Local Plan – The Core Strategy*

Detailed Sites and Policies Development Plan Document (2016)¹² have been formally withdrawn.

- 1.17 Policy SP2 'Healthy Neighbourhoods' confirms that LBN will support proposals that promote healthy lifestyles and reduce health inequalities across the Borough. LBN recognise the role of planning and its importance to create healthy neighbourhoods and places. There are a number of factors that proposals will need to address such as promote healthy eating, improve LBN's air quality, improve employment levels and reduce poverty. It also confirms that all major developments should be supported by a Health Impact Assessment.
- 1.18 Policy SP3 'Quality Urban Design within Places' confirms that all development proposals will be expected to follow a number of strategic principles and special strategies.
- 1.19 Policy H1 'Building Sustainable Mixed Communities' states that a net increase of additional quality homes exceeding 43,000 between 2018 and 2033 is needed within LBN. Proposals must ensure that a secure delivery of a mix and balance of housing types are included.
- 1.20 Policy INF2 'Sustainable Transport' identifies that proposals that will secure a sustainable pattern of movement in LBN, maximising efficiency and accessibility of the borough's transport network on foot, cycle and public transport, maximising positive health impacts will be supported.
- 1.21 Policy INF6 'Green Infrastructure & the Blue-Ribbon Network' states that a 'green-grid' approach will be promoted, with new and enhanced spaces.
- 1.22 Policy INF8 'Community Facilities' states that a new community should be accessible, welcoming, inclusive and open to all members of the local community, whilst also having sufficient capacity and flexibility to meet a range of local needs. Proposals that include the co-locating of facilities and services, whilst encouraging mixed use formats which incorporate new or enhance community facilities will be supported by LBN.

¹² London Borough of Newham (2016) *Detailed Sites and Policies Development Plan Document*

2 ASSESSMENT METHODOLOGY

- 2.1 The assessment has been based on the London Health Urban Development Unit (HUDU) Healthy Urban Planning Checklist¹³ which has been used to screen the health impacts of the proposed development. The HUDU Rapid Health Impact Assessment Tool¹⁴ has then been used to undertake the main assessment of health effects.
- 2.2 Consultation to seek to agree the scope of the assessment with LBN has been undertaken, as detailed within the Scoping Opinion issued by LBN (Appendix 5-B **of the 2018** Environmental Statement (**ES**), Volume III). LBN stated that the Population and Human Health assessment should use the NHS HUDU Rapid Health Impact Assessment Tool to derive significance of effects in relation to wider human health, thus fulfilling the requirements of the *Town and Country Impact Planning (Environmental Impact Assessment) Regulations 2017 as amended*¹⁵.
- 2.3 A preliminary assessment was undertaken during preparation of the planning application documents. Initial conclusions and recommendations for enhancing positive health outcomes and minimising adverse health effects were communicated to the client and design team and reflected in the Design and Access Statement (DAS). The assessment was then finalised upon receipt of the final DAS to be submitted in support of the planning application.

HUDU Healthy Urban Planning Checklist

- 2.4 The HUDU Healthy Urban Planning Checklist (Appendix 1) aims to promote healthy urban planning by ensuring that the health and wellbeing implications of local plans and major planning applications are consistently taken into account. The checklist was originally created by with input from the six London Olympic and Paralympic Host Boroughs (Barking and Dagenham, Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest), the local NHS, the NHS London Healthy Urban Development Unit, Greater London Authority and Groundwork London. The latest version of the HUDU Healthy Urban Planning Checklist was updated in April 2017 to be consistent with the adopted London Plan (March 2016). In this assessment, the checklist has been used as a desktop assessment to screen the health impacts of the Development.
- 2.5 The HUDU checklist is divided into four main themes:

1. Healthy housing;

¹³ London Health Urban Development Unit (April 2017) *Healthy Urban Planning Checklist Third Edition*

¹⁴ London Health Urban Development Unit (~~April 2017~~ **October 2019**) *Rapid Health Impact Assessment Tool Third **Fourth** Edition*.

¹⁵ SI 2018/695

2. Active travel;
3. Healthy environment; and
4. Vibrant neighbourhoods.

2.6 Each theme contains a number of questions focused on a planning issue and a number of related health and wellbeing issues as set out in the table below. The checklist has been used as a screening exercise to inform the more detailed Rapid Health Impact Assessment and is included at Appendix 1. To avoid repetition, full details on how the Development responds to the themes in the checklist is provided in Chapter 3 as part of the Rapid Health Impact Assessment.

Table 1: Themes within the HUDU Healthy Urban Planning Checklist

Theme	Planning Issue	Health and Wellbeing Issue
Healthy Housing	<ul style="list-style-type: none"> • Housing design • Accessible housing • Healthy living • Housing mix and affordability 	<ul style="list-style-type: none"> • Lack of living space – overcrowding • Unhealthy living environment – daylight, ventilation, noise • Excess deaths due to cold / overheating • Injuries in the home • Mental illness from social isolation and fear of crime
Active Travel	<ul style="list-style-type: none"> • Promoting walking and cycling • Safety • Connectivity • Minimising car use 	<ul style="list-style-type: none"> • Physical inactivity, cardiovascular disease and obesity • Road and traffic injuries • Mental illness from social isolation • Noise and air pollution from traffic
Healthy Environment	<ul style="list-style-type: none"> • Construction • Air quality • Noise • Contaminated land • Open space • Play space • Biodiversity • Local food growing • Flood risk • Overheating 	<ul style="list-style-type: none"> • Disturbance and stress caused by construction activity • Poor air quality - lung and heart disease • Disturbance from noisy activities and uses • Health risks from toxicity of contaminated land • Physical inactivity, cardiovascular disease and obesity • Mental health benefits from access to nature and green space and water Opportunities for food growing – active lifestyles, healthy diet and tackling food poverty • Excess summer deaths due to overheating
Vibrant Neighbourhoods	<ul style="list-style-type: none"> • Healthcare services • Education • Access to social infrastructure • Local employment and healthy workplaces • Access to local food shops • Public buildings and spaces 	<ul style="list-style-type: none"> • Access to services and health inequalities • Mental illness and poor self-esteem associated with unemployment and poverty • Limited access to healthy food linked to obesity and related diseases • Poor environment leading to physical inactivity • Ill health exacerbated through

Theme	Planning Issue	Health and Wellbeing Issue
		isolation, lack of social contact and fear of crime

2.7 The checklist (see Appendix 1) and the Rapid HIA have been completed using professional judgement and information from the following planning application documents:

- Covering letter;
- Planning Application Forms (including Certificate of Ownership & Additional CIL Information Forms);
- OS Site Location Plan;
- Existing drawings & Photographs;
- Proposed drawings (Outline);
- Proposed drawings (Detail – Phase 1);
- Proposed drawings (Outline - River Wall);
- Schedule of accommodation;
- Design and Access Statement (Part 1: ~~Site wide proposals~~ **Outline**);
- Design and Access Statement (Part 2: Phase 1);
- Design and Access Statement (Part 3: Design Principles **Codes**);
- Statement of Community Involvement;
- Environmental Statement (Volume 1: Main Text);
- Environmental Statement (Volume 2: Technical Appendix);
- Environmental Statement (Volume 3: Non-Technical Summary);
- **Transport Assessment:**
- Tall Building Justification Report;
- Independent Tall Buildings Statement;
- Energy Statement & Sustainability Statement;
- BREEAM Pre-Assessment (Phase 1 only);
- Overheating Analysis (Phase 1 only);
- Employment Floorspace Re-provision Statement;
- Economic Development Statement;
- **Community Facilities Statement:**
- River Wall Structural Survey;
- Safeguarded Wharf Report;
- Aviation Safeguarding Assessment;
- Demolition Method Statement;
- Piling Impact Assessment/ River Wall Safeguarding;
- Code of Construction Practice ~~& CMP~~;
- **Construction Logistics Plan;**

- **Delivery and Servicing Management Plan;**
- Arboricultural Survey and Impact Assessment;
- Fire Statement; and
- Density Management Plan.

The HUDU Rapid Health Impact Assessment Tool

2.8 The rapid assessment tool is designed to assess the likely health impacts of development plans and proposals. The scope of assessment has been informed by the completed HUDU checklist at Appendix 1.

2.9 The assessment matrix (see Chapter 3) identifies eleven topics of broad determinants:

- Housing design **and affordability;**
- Access to health **and social** care services and other social infrastructure;
- Access to open space and nature;
- Air quality, noise and neighbourhood amenity;
- Accessibility and active travel;
- Crime reduction and community safety;
- Access to healthy food;
- Access to work and training;
- Social cohesion and **inclusive design;**
- Minimising the use of resources; and
- Climate change.

2.10 Under each topic, planning issues which are likely to influence health and wellbeing are identified. The Rapid Assessment Tool provides assessment criteria and these have been tailored where possible to the Development. Where an impact has been identified recommendations to mitigate an adverse impact or enhance a beneficial impact are included where possible. Chapter 4 includes a high-level summary of effects and identified mitigation and enhancement measures.

Health and Wellbeing in Homes

2.11 In addition to the use of the HUDU checklist and impact assessment tool, a review of the UK Green Building Council Health and Wellbeing in Homes¹⁶ document has been undertaken. The document provides advice in relation to building and neighbourhood design features which

¹⁶ UK Green Building Council (July 2016) *Health and Wellbeing in Homes*

can enhance the health and wellbeing of residents and recognises that design and quality of a home and neighbourhoods is a key contributor to the health and wellbeing. The document highlights that it is vital to consider all three aspects of health and wellbeing equally – mental, social and physical. The key findings of the report have helped to inform the consideration of the potential health effects of the Development.

3 RAPID HIA

3.1 The tables below set out the potential health and wellbeing impacts associated with the Development during the construction and operational phases. As set out in the Assessment Methodology section in Chapter 2, the tables have been adapted from the HUDU Rapid Health Impact Assessment Tool¹⁷.

1. Housing Quality and Design and affordability

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal seek to meet all 16 design criteria of the Lifetime Homes Standard or meet Building Regulation requirement M4 (2)?	Yes ✓ No N/A	The Development is largely in outline, apart from Phase 1, however all phases will meet the standards set out in the London Plan and the Mayor of London SPG documents; Housing and Accessible Housing. For Phase 1 of the Development, 90% of the 401 residential dwellings will comply with Part M4(2) standards.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal address the housing needs of older people, i.e. extra care housing, sheltered housing, lifetime homes and wheelchair accessible homes?	Yes ✓ No N/A	The Development is largely in outline, with Phase 1 submitted in detail. Phase 1 of the Development will comprise 401 units, of which 46 10% will be wheelchair accessible homes and have been designed to meet M4(3) wheelchair user dwelling standards. The rest of the Development is in outline, but the Development will seek to address the housing needs of older persons. Housing needs for older people will be included within the accommodation mix, under the Use Class C3 and not C2.	Positive ✓ Negative Neutral Uncertain	<u>Enhancement action:</u> Applicant to ensure that housing needs are addressed for older people through future Reserved Matters applications.
Does the proposal include homes that can be adapted to support independent living for older and disabled people?	Yes ✓ No N/A	The Access Statement submitted with the planning application details the access strategy across the Development. The Access Statement states that Phase 1 of the Development will comprise 401 units, of which 90% will comply with Part M4(2) standards that will provide wide doorways and circulation space and an entrance level accessible bathroom. Additionally, window heights in living spaces starting no	Positive ✓ Negative Neutral Uncertain	<u>Enhancement action:</u> Applicant to ensure that adaptable homes will be provided at the Reserved Matters stage for older

¹⁷ London Health Urban Development Unit (April 2017) *Rapid Health Impact Assessment Tool Third Edition*

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		<p>higher than 850mm above floor level or at the minimum height necessary to comply with the requirements of Part K for guarding to windows. Furthermore, 10% of residential units will be designed to meet M4(3) wheelchair user dwelling standards, meeting the 10% minimum threshold required for the M4(3) homes.</p> <p>Apart from phase 1 of the Development, the Development is largely in outline. However, there are opportunities for homes that can be adapted to support independent living for older and disabled people through future Reserved Matters applications that will come forward through the design process of the Development.</p>		and disabled people.
Does the proposal promote good design through layout and orientation, meeting internal space standards?	Yes ✓ No N/A	The Development promotes good design through layout and orientation. The Development has been through a process of consultation and public exhibitions to inform the design process to ensure all requirements are met, including internal space standards.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal include a range of housing types and sizes, including affordable housing responding to local housing needs?	Yes ✓ No N/A	The Development includes a range of housing types and sizes, including affordable housing. The Development comprises 19 development zones that will deliver up to 5,000 residential units. The unit sizes range from studio apartments up to 4 bedroom, 6 persons across the 19 blocks. Of the 5,000 residential dwellings proposed, 1,625 units (more than 30%) are proposed to be affordable.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal contain homes that are highly energy efficient (e.g. a high SAP rating)?	Yes ✓ No N/A	The Applicant is committed to provide a sustainable development. The Lean, Clean and Green analysis has been used for the Development and is detailed further in the Energy and Sustainability Statement submitted in support of the planning application. The Development is largely in outline; the current Energy Strategy for the Development is that for Phases 1-3, connection will be sought to the Excel heat network. If the connection is found to not be technical feasible or financially viable, it is proposed that Phases 1-3 will utilise standalone boiler systems. The on-site energy centre is expected to be delivered for occupation of development phase 4, circa. Q4 2024 and will serve the rest of the site. The proposed on-site energy centre will include heat pumps and peaking/back-up gas boilers. Furthermore, for energy efficiency measures, the buildings will be specified with high energy efficiency fabrics and services measures, thereby reducing the energy demand	Positive ✓ Negative Neutral Uncertain	<p><u>Mitigation action:</u></p> <p>Connection to the Excel heat network to be reviewed through a planning condition or S106 agreement for the detailed Phase 1 and through a Reserved Matters application for Phases 2 and 3.</p>

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		through passive measures. A Fabric First Approach has been adopted where homes and non-residential areas have been designed to minimise heating demands through efficient design and high performing specification.		

2. Access to Health and Social Care Services and Other Social Infrastructure

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal retain or re-provide existing social infrastructure?	Yes No N/A ✓	The Site currently comprises a variety of industrial/business/dock uses with the majority of the Site being hardstanding. The Site does not support any social infrastructure. The Development will comprise the provision of up to 7,055 sqm (GEA) of community and leisure floorspace, up to 76,147 sqm of public realm and 8,616 sqm of enhanced habitat, Site of Interest for Nature Conservation (SINC) and intertidal habitat along the river wall. The Development will also provide a new local centre and a 4 form-entry primary school. Therefore, the Development will provide social infrastructure to support the new community that it will create.	Positive ✓ Negative Neutral Uncertain	N/A
<u>Does the proposal assess the impact on health and social care services and has local NHS organisations been contacted regarding existing and planned healthcare capacity?</u>	Yes No ✓ N/A	Chapter 15 Population and Human Health of the 2018 ES submitted in support of the planning application assesses the impact on existing healthcare services. The assessment identified that there are five Dental Practices in the study area, three of which are accepting new patients and two that are currently unable to. Additionally, the assessment identified that there are seven GP surgeries within the area and it was found that only one of these has a surplus capacity (207 available patient spaces). The assessment concluded a moderate adverse effect on primary healthcare in the absence of mitigation, as a result of an increase in population by 12,600 when the Development is completed.	Positive Negative ✓ Neutral Uncertain	<u>Mitigation Action:</u> Financial contributions via S106 or the Applicant would consult Newham Clinical Commissioning Group to establish whether a new healthcare facility is required within the proposed 7,055sqm of flexible community and leisure floorspace.

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal include the provision, or replacement of a healthcare facility and does the facility meet NHS requirements?	Yes No ✓ N/A	The Development does not include the provision of a healthcare facility. However, the Development comprises 7,055sqm of community and leisure floorspace which could have the potential to bring forward a healthcare facility within future Reserved Matters applications. If a healthcare facility does come forward, then the Applicant will seek to meet the NHS requirements.	Positive Negative Neutral Uncertain ✓	<p><u>Mitigation Action:</u></p> <p>Financial contributions via S106 or the Applicant would consult Newham Clinical Commissioning Group to establish whether a new healthcare facility is required within the proposed 7,055sqm of flexible community and leisure floorspace.</p>

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
<u>Does the proposal assess the capacity, location and accessibility of other social infrastructure, e.g. primary, secondary and post 19 education needs and community facilities?</u>	Yes No ✓ N/A	Chapter 15 Population and Human Health of the 2018 ES submitted in support of the planning application assesses the capacity, location and accessibility of other social infrastructure within the surrounding area. The Development is anticipated to generate up to 12,600 people. The nearby primary schools have a current capacity of 165 pupils, <u>however the number of available places is not sufficient to accommodate the demand for primary school places arising from the Development.</u> The Development includes the provision of a 4 Form Entry primary school and a nursery which will meet the primary school needs arising from the Development. The nearby secondary schools have a current capacity of 1,666 students. The assessment concluded that the proposed Development will result in a moderate beneficial effect on education across the study area. The Communities Facilities Statement (CFS) submitted in support of the planning application assesses the capacity, location and other social infrastructure within the study area. The CFS acknowledges that new built leisure sites are limited within the study area. The Development includes the provision of D1/D2 floorspace, which may in part be utilised by a health and fitness provider or other leisure operator. Additionally, the CFS considers that residents of the Development could draw on existing library services and utilise existing places of worship within the wider area. Furthermore, the CFS concluded that the needs arising within cultural and civic uses as well as those of the emergency services can be served through the existing respective network.	Positive ✓ Negative Neutral Uncertain	<u>Mitigation Action:</u> Financial contributions via S106.

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal explore opportunities for shared community use and co-location of services?	Yes ✓ No N/A	<p>The Development includes the provision of a new 4 Form Entry primary school and nursery which will provide 840 school places and 104 nursery school places. The new primary school will be located adjacent to the site entrance and be situated opposite the new community centre. The primary school, nursery and community centre have all been located within close proximity to each other, within the 'Riverside Quarter' as well as next to a main entrance to the Site to provide easy accessibility.</p> <p>The proposal explores the co-location of residential and industrial uses in the Employment Floorspace Re-provision Statement submitted in support of the planning application. This statement concluded that there is evidence and market demand for the provision of new industrial floorspace at the Site which would attract a wide range of occupiers and thus, present employment opportunities to the future residents of the Site.</p>	Positive ✓ Negative Neutral Uncertain	<u>Mitigation Action:</u> Financial contributions via S106 for secondary schools.

3. Access to Open Space and Nature

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal retain and enhance existing open and natural spaces?	Yes ✓ No N/A	The Site currently comprises a mixture of industrial/business/dock uses with the majority of the site being hardstanding. The Site includes small areas of grassland within its centre and northern extent. However, these areas have been neglected and have deteriorated in quality. The Development will provide up to 76,147 sqm of public realm and up to 8,616 sqm of enhanced habitat, Site of Interest for Nature Conservation (SINC) and intertidal habitat along the river wall. The Development will include 1km worth of riverside walkways which will include an extension and improvement to the Thames Valley walk.	Positive ✓ Negative Neutral Uncertain	N/A
In areas of deficiency, does the proposal provide new open or natural space, or improve access to existing spaces?	Yes ✓ No N/A	The Site is currently deficient in quality open space as described above. The Development will provide a large, new area of open or natural space in the northern (Leaway Park and SINC, which will form a Conservation Park) and southern extent (Dock Park) of the Site, as well as integrated green corridors and spaces between the proposed buildings. As set out above, the Development will include 1km of riverfront walkways which will comprise an extension and improvement to the Thames Valley walk. The Development has been designed to ensure that these open and natural spaces are easily accessible to future users. Therefore, the total provision of 104,885sqm of communal amenity space will address the deficiency within the site and immediate area and hence ensure that the future residents of the Site have access to a park within 400m of their homes.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal provide a range of play spaces for children and young people?	Yes ✓ No N/A	The Development includes a range of play spaces that range in size which are located across the Site and are accessible to all. These spaces vary from large areas such as the Dock Park in the southern extent of the Site and Leaway Park in the north, to courtyards and pedestrian connections that maintain green connecting corridors throughout the Development. These large spaces will provide formal and informal play space for children and young people to enjoy and promote healthy living.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal provide	Yes ✓	As mentioned previously, the Development incorporates green	Positive ✓	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
links between open and natural spaces and the public realm?	No N/A	pedestrian connections that make the Site permeable and allow the users to access both the Dock Park in the south and Leaway Park in the north. The Development includes a main Avenue which connects Dock Park and Leaway Park and forms the main green corridor within the Site and provides a green link between the two large open and natural spaces. Green pedestrian connections will also be provided in the internal connections throughout the Development. Furthermore, the riverfront walkways will also form as a green link between Dock Park and Leaway Park.	Negative Neutral Uncertain	
Are the open and natural spaces welcoming and safe and accessible for all?	Yes ✓ No N/A	The open and natural spaces will be welcoming, safe and accessible for all. Street lighting will be designed to ensure that anti-social behaviour will be discouraged and provide a safe environment to all. The open spaces have been clearly defined to help organise and create a sense of ownership in which strangers are more likely to stand out and are more easily identifiable. Additionally, landscaping and changes in materials, as far as paving, texture and colour are introduced into spaces to act as psychological barriers which help signal where property is private, or where people shouldn't access. Furthermore, the windows and balconies have been designed so that maximum visibility of the open areas of the Site can be achieved, without having views looking into the buildings.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal set out how new open space will be managed and maintained?	Yes ✓ No N/A	The Development is largely in outline, apart from Phase 1 which is in detail. The Development will provide 76,147 sqm of public realm and up to 8,616 sqm of enhanced habitat, SINC and intertidal habitat along the river wall. This new open space as part of the Development is in the outline element of the application, thus details of how the new open space will be managed and maintained will be developed through future Reserved Matters applications. Chapter 10 Biodiversity of the 2018 ES has identified that a habitat management plan to be secured through planning condition would detail the maintenance mechanisms during the operational period for the intertidal habitat and the soft landscaping areas across the Site.	Positive ✓ Negative Neutral Uncertain	<u>Mitigation Measure:</u> A Habitat Management plan secured through a planning condition. A Lighting Strategy for the sensitive areas of the Site for both the construction and operational phases.

4. Air Quality, Noise and Neighbourhood Amenity

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal minimise construction impacts such as dust, noise, vibration and odours?	Yes ✓ No N/A	<p>The Development has sought to minimise construction impacts such as dust, noise, vibration and odours where possible. The technical chapters of the 2018 ES submitted in support of the Consented Scheme considered the effects of the Development during the demolition and construction phase.</p> <p>The Chapter 7 Noise of the 2018 ES identified that following the implementation of mitigation measures, a negligible effect on sensitive receptors for construction vibration and noise associated with the change in traffic flows due to construction activities.</p> <p>Chapter 8 Air Quality of the 2018 ES concludes that following the implementation of mitigation measures, such as best practice measures to control dust and emissions during the Development would give rise to a minor adverse/negligible effect during the construction phase nt.</p> <p>The mitigation measures include the preparation of a Construction Environment Management Plan (CEMP) which include measures to control dust and noise during the construction phase. The CEMP will stipulate working hours.</p>	Positive ✓ Negative Neutral Uncertain	<p><u>Mitigation Measure:</u></p> <p>CEMP to be secured by a planning condition and implemented throughout the construction phase.</p>
Does the proposal minimise air pollution caused by traffic and energy facilities?	Yes ✓ No N/A	<p>Chapter 8 Air Quality of the 2018 ES assesses the impacts of the Development on the air quality caused by traffic and energy facilities. The assessment identified that the pollutant emissions associated with the on-site energy centres and construction/operational traffic generated by the Development would be slightly beneficial to negligible. Furthermore, site-wide regulated CO₂ emissions will be reduced by at least 35% of residential units and non-residential units as compared to the Greater London Authority Baseline, using energy efficiency measures such as site-wide district heating connection and solar photovoltaic cells.</p>	Positive ✓ Negative Neutral Uncertain	<p><u>Mitigation Measure:</u></p> <p>CEMP to be secured by a planning condition and implemented throughout the construction phase.</p>
Does the proposal minimise	Yes ✓	Chapter 7 Noise of the 2018 ES which is submitted in support	Positive ✓	<u>Mitigation Measure:</u>

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
noise pollution caused by traffic and commercial uses?	No N/A	of the planning application assesses the noise effects generated by the traffic and commercial elements of the Development. The Noise assessment identified a negligible effect from the change in traffic flows during the operational phase. The assessment also concluded that if noise emissions from fixed mechanical plant and equipment are kept to below 10dB, the effect is determined as negligible on surrounding receptors.	Negative Neutral Uncertain	Appropriate conditions will be attached to the planning permission to ensure suitable noise levels from plant associated with the commercial / industrial buildings.

5. Accessibility and Active Travel

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
<u>Does the proposal address the ten Healthy Streets indicators?</u>	Yes ✓ No N/A	<u>The Development encourages the use of travel by foot and bicycle through promotion of key pedestrian routes, facilities to enable cycling (including cycle parking provision) and incentives to promote healthier modal choices with commuting to work.</u>	Positive ✓ Negative Neutral Uncertain	N/A
<u>Does the proposal prioritise and encourage walking, for example through the use of shared spaces?</u>	Yes ✓ No N/A	The Development incorporates a number of pedestrian routes throughout the Site which promote and encourage walking. Six pedestrian points of access onto the Site are proposed which also link up to existing social infrastructure and nearby public transport connections. The Site connection points have been enhanced to maximise the capacity, visibility and enjoyment of the Site entrance points connecting to the broader communities. Additionally, the Development also provides 76,147 sqm of public realm that will include two large parks located in the northern and southern extent of the Site. A riverside walk is also proposed as part of the Development which will line the River Thames alongside enhanced habitat, SINC and intertidal habitat which will be provided in the northern extent of the Site. Therefore, there are opportunities for the future residents of the Site to be encouraged to walk through the shared spaces provided and into the surrounding areas. Pedestrian free, unrestricted movement is encouraged and enhanced across the Site.	Positive ✓ Negative Neutral Uncertain	<u>Recommended Enhancement Action:</u> Travel Plans have been prepared for the commercial and residential elements of the development. The residential Travel Plan welcome pack could include a section on safe walking routes to local parks and green spaces to encourage physical and mental wellbeing.
<u>Does the proposal prioritise and encourage cycling, for example by providing secure cycle parking, showers and cycle lanes?</u>	Yes ✓ No N/A	The Development encourages cycling by providing the infrastructure and connections to do so. There are seven access points onto the Site for cyclists; one in the south-east corner of the Site, four along the eastern boundary of the Site, one in the north-west corner of the Site and one on the western boundary of the Site. The Development will also provide 9,812 cycle parking spaces which will encourage cycling as there will be the provision of safe storage for bikes. Cycle storage areas will be provided on the basement, ground and first floor of the Development. The Development will also incorporate cycle lanes along the main streets and integrated between each section of	Positive ✓ Negative Neutral Uncertain	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		the Development so that residents and users can access all areas of the Site by bike. Additionally, a new cycle path will be provided along the bank of the Thames, along the western boundary of the Site. All lifts within the public realm to access the podium, have been designed to carry oversized trikes, mobility scooters and bicycles.		
Does the proposal connect public realm and internal routes to local and strategic cycle and walking networks?	Yes ✓ No N/A	In addition to the cycle access and lanes described above, which will be provided across the Site, the Development will seek to adjoin and connect these up to the existing local cycle networks. Transport for London (TfL) has proposed a cycle super highway route adjacent to the eastern boundary of the Site. The Development will seek to adjoin the internal routes to the proposed cycle super highway route by TfL, which will provide safe and appropriate cycle lanes to allow the residents and users of the Site to access other parts of London via this route and vice versa. Similarly, the 76,147 sqm of public realm and 8,616 sqm of enhanced habitat that will be provided in the Development will link up to local walking networks which the residents and users of the Site will benefit from. Furthermore, the new riverside walk that is proposed along the western boundary of the Site will also link Lea Park in the north, to Dock Park in the South. The new riverside walk will also be able to be accessed from the residential/commercial/retail elements of the Development.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal include traffic management and calming measures to help reduce and minimise road injuries?	Yes ✓ No N/A	The Construction Logistics Plan submitted with the planning application has provided measures for traffic management to help reduce and minimise road injuries. The Site will have separate pedestrian and vehicular access points, in addition to the provision of clearly-designated walkways within the Site. Also, traffic marshals will be provided at site-entrances who will be responsible for ensuring the protection of pedestrians and other road users when vehicles are arriving/departing from the Site.	Positive Negative Neutral ✓ Uncertain	<u>Mitigation Measure:</u> The success of the Travel Plans should be monitored against clearly defined targets. A Logistics Manager will be appointed and be responsible for the day-to-day organisation and monitoring of

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
				<p>construction logistics for the Site, for the duration of the Construction Phase.</p> <p>If the targets are not being met then measures will be reviewed and amended to step up the effectiveness of the measures. Such measures would need to be agreed with LBN's Travel Plan Officer.</p>
<p>Is the proposal well connected to public transport, local services and facilities?</p>	<p>Yes ✓ No N/A</p>	<p>A new DLR station connecting the Site to Canning Town and the London City Airport is proposed as part of the Development which will allow the users of the Development to access public transport.</p> <p>The Site is already accessed via the existing Dock Road which serves the wider Royal Docks. The Royal Victoria DLR train station is located approximately 230m north-east of the site, with the West Silvertown station located approximately 340m to the south-east of the Site. Additionally, the Site benefits from several existing transport infrastructure facilities, including the elevated A1020 Silvertown Way/Lower Lea Crossing, the elevated Docklands Light Railway (DLR) Woolwich extension, the Jubilee Line and the Emirates Air Line cable car. In addition, the Site is already served by the 474 bus service, with the closest bus stop being located outside the West Silvertown DLR Station, 200m east of the Site. Connections are available to Canning Town station, London City Airport and Manor Park National Rail Station. Furthermore, the Emirates Royal Docks Cable Car (Emirates Air Line) station is located approximately 450m north of the Site, connecting to the Greenwich Peninsula south of the River Thames. All these existing facilities can be accessed from</p>	<p>Positive ✓ Negative Neutral Uncertain</p>	<p>N/A</p>

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		the Site via Dock Road and consequently Silvertown Way. Therefore, the Site is well connected to public transport, local services and facilities.		
Does the proposal seek to reduce car use by reducing car parking provision, supported by the controlled parking zones, car clubs and travel plans measures?	Yes ✓ No N/A	The proposal includes a Travel Plan that sets out a strategy for the residential, workplace and primary school elements of the Development. Once the Development is fully operational, the Site will provide mixed-uses including residential, office, leisure, retail and community facilities which will inherently provide opportunities for people to live and work in the surrounding area, thereby reducing the need to travel distances by car. The Development will be car-free with the exception of accessibility car parking spaces. The restricted car parking on the Site will naturally encourage lower levels of car ownership, as well as encourage residents and employees to use alternate sustainable modes of travel. A Welcome/Introduction Travel Information Pack will be provided for the future residents of the Site to make them aware of the localised patterns of sustainable travel that are on offer to reduce the use of cars. The closest car club bays to the site are located on Hanover Avenue which is located to the south-east of the Site. Due to the scale of the Development, further car club bays will be required within the Site. The exact number and location of these bays for each land use will be investigated further as each Reserved Matters application comes forward and will be secured through S106 agreements.	Positive ✓ Negative Neutral Uncertain	<u>Mitigation Measure:</u> The success of the Travel Plans should be monitored against clearly defined targets. If the targets are not being met then measures will be reviewed and amended to step up the effectiveness of the measures. Such measures would need to be agreed with LBN's Travel Plan Officer.
Does the proposal allow people with mobility problems or a disability to access buildings and places?	Yes ✓ No N/A	All level changes across the Site are accompanied by both step and ramp access to allow those with mobility problems or a disability to access the entirety of the Site. Of the 401 units included in Phase 1 of the Development, 414 (90%) will comply with Part M4(2) standards with wide doorways and circulation space. Phases 2 to 12 are still in outline; however, these phases will ensure to comply with Part M4(2) standards. Pick-up/drop-off will take place on-street outside each block, within 50m of the residential entrances of each block. Lift access is provided from the basement (car parks) to ground floor via the lift cores to be provided in each core of each block on the Site. All cores of the	Positive ✓ Negative Neutral Uncertain	<u>Enhancement Action:</u> Applicant to seek to ensure all future Reserved Matters Applications include accessibility to all buildings and places to allow people with mobility problems to access all parts of the Site.

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		<p>Development will provide a minimum of two lifts each. The employment space provided in Phase 1 will be designed to meet Approved Document Part M (AD Part M), 2015 Edition, Access To and Use of Buildings Volume 2: Buildings Other Than Dwellings, as a minimum. Phases 2 to 12 are in outline currently, however the employment space to be provided in each Phase will seek to provide the same principles as Phase 1.</p>		

6. Crime Reduction and Community Safety

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal incorporate elements to help design out crime?	Yes ✓ No N/A	The design of the Development has incorporated design measures that will assist in deterring anti-social behaviour. Design measures include landscaping and change in materials through paving, texture and colour which act as psychological barriers to prevent access in areas which are private. A careful lighting strategy will be produced to ensure open visibility and prevent anti-social behaviour. Windows will be designed to maximise overlooking, whilst also protecting privacy. The residential elements of the site will have access control on the entry to these blocks to prevent unauthorised access. Access to the car parks will be by control systems to prevent unauthorised access. The Development will carefully consider the location/placement of the retail elements which include bars, restaurants and corner shops of the Development to prevent antisocial behaviour. Furthermore, access throughout the Site has been carefully considered to ensure emergency services can easily access all areas of the Site. Consultation has been undertaken with the Metropolitan Police to ensure that the Development design discourages anti-social behaviour.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal incorporate design techniques to help people feel secure and avoid creating 'gated communities'?	Yes ✓ No N/A	The Development has been carefully designed to ensure that the entirety of the Site is permeable, and users can easily access all elements of the Site. Pedestrianised links and public realm as well as good lighting and signage will limit conflicts between the various uses proposed and prevent the creation of 'gated communities'.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal include attractive, multi-use public spaces and buildings?	Yes ✓ No N/A	The Development includes a range of public spaces and buildings that are attractive and multi-use. The Development is split into character areas, each with a different purpose which have been designed to fit that purpose; the Riverside Quarter, Station Plaza, The Quays, The Wharf, The Boulevard, Parkside, The Landings and Thameside East. In addition to these character areas, the Development also incorporates six Public Realm Character Areas across the Site, each with a different purpose, and have been designed to be attractive and welcoming for users	Positive ✓ Negative Neutral Uncertain	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		of the Site. Therefore, all these distinguished character areas will create a unique setting which offers a range of alternative and rich environments across the Site. The details of each character area are shown within the Design and Access Statement, submitted in support of the planning application.		
Has engagement and consultation been carried out with the local community?	Yes ✓ No N/A	Over the course of the pre-application consultation period, the Applicant and associated consultancy team organised, publicised and staffed public exhibitions, two were held in July 2018 and another two in October 2018. Each of these events provided a chance for the local residents to provide feedback which was then taken into account and evolved the design process for the Development. In addition, a broad variety of channels were used to promote the public consultation events in order to maximise engagement, including press adverts, email invitations to key stakeholders and adjacent neighbours, a flyer drop to 8,485 addresses in the local area, social media posts and a dedicated consultation website. The details of the responses from these events are presented in the Statement of Community Involvement which has been submitted in support of the planning application.	Positive ✓ Negative Neutral Uncertain	<u>Mitigation Action:</u> Continued engagement with the local community through future Reserved Matters applications.

7. Access to Healthy Food

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal facilitate the supply of local food, i.e. allotments, community farms and farmers' markets?	Yes ✓ No N/A	The Development does not include the provision of allotments on the Site. Much of the Development is at the outline stage, therefore details regarding the supply of local food have yet to be determined.	Positive ✓ Negative Neutral Uncertain	<u>Recommended Mitigation Action:</u> Provide residents with a welcome pack that includes details of local Farmers' Markets. The welcome pack could also include details on applying for an allotment.
Is there a range of retail uses, including food stores and smaller affordable shops for social enterprises?	Yes ✓ No N/A	The Development includes up to 7,368sqm (GEA) of flexible retail floorspace (Use Class A1 to A4). At this stage, apart from Phase 1, the Development is in outline, therefore details of the retail uses will be determined when Reserved Matters applications are to be submitted. Flexibility is included in the outline element of the Development such that a range of retail uses could be delivered.	Positive Negative Neutral Uncertain✓	<u>Recommended Enhancement Action:</u> Consider committing some of the proposed commercial floorspace for social enterprises.
Does the proposal avoid contributing towards an over-concentration of hot food takeaways in the local area?	Yes ✓ No N/A	As previously stated, apart from phase 1, the application is all in outline, thus the retail uses are not specifically determined. The Development includes up to 7,368sqm of flexible retail uses (Use Class A1-A4). The masterplan indicates that the provision of retail uses will be located across the Development, specifically in the Riverside Quarter, in the northern extent of the Site. The Development will seek to avoid the over-concentration of hot food takeaways, as shown by the flexible use being applied for. The Development seeks to achieve a vibrant, varied community, which would be accomplished through a mixture of commercial and retail premises rather than a concentration of any one type.	Positive Negative Neutral Uncertain✓	<u>Recommended Mitigation Action:</u> When selecting tenants for commercial floorspace, consider proposed use and potential for adverse effects on health.

8. Access to Work and Training

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal provide access to local employment and training opportunities, including temporary construction and permanent 'end-use' jobs?	Yes ✓ No N/A	<p>The Development has been anticipated to generate an average of 830 full time equivalent workers per month for the build period of May 2020 to February 2031.</p> <p>The Development includes up to 15,000sqm (GEA) of flexible employment floorspace (Classes B1c, B2 and B8), up to 4,441sqm (GEA) of flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8), up to 7,368sqm (GEA) of flexible retail floorspace (Classes A1-A4) and up to 7,055sqm of community and leisure floorspace (Classes D1-D2). The gross employment potential for the completed Development ranges from 604 jobs (low range) to 939 jobs (high range). The number of jobs anticipated to be generated by the completed Development will be permanent 'end-use' jobs. This equates to between 530 to 824 net additional jobs.</p> <p>Further information on the impact the Development will have on local employment opportunities are detailed within Chapter 15 Population and Human Health of the 2018 ES that is submitted in support of the planning application.</p>	Positive ✓ Negative Neutral Uncertain	<p>Recommended Enhancement Action:</p> <p>Commit to sourcing construction workforce from the local area where possible.</p> <p>Consider whether any apprenticeship positions could be provided.</p>
Does the proposal provide childcare facilities?	Yes ✓ No N/A	The Development includes the provision of a nursery which can accommodate 104 nursery-aged children. The Development incorporates 7,055sqm of community and leisure floorspace, which will allow opportunities for childcare facilities to come forward through the design process of the Development and the subsequent Reserved Matters applications.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal include managed and affordable workspace for local businesses?	Yes ✓ No N/A	The Development is mostly in outline, therefore details on managed and affordable workspace for local businesses have not been confirmed yet at this stage of the application. The Development will provide up to 15,000sqm (GEA) of flexible employment floorspace (Classes B1c, B2 and B8), up to 4,441sqm (GEA) of flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8), up to 7,368sqm (GEA) of flexible retail floorspace (Classes A1-A4) and up to 7,055sqm of community and leisure floorspace. Opportunities will be explored through future Reserved Matters applications to provide managed and	Positive Negative Neutral Uncertain✓	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		affordable workspace for local businesses.		
Does the proposal include opportunities for work for local people via local procurement arrangements?	Yes ✓ No N/A	As above, the Development is largely in outline. However, the Development does provide retail floorspace as part of the Development that will provide opportunities for local procurement arrangements to be included as part of the Development. These opportunities will be explored through future Reserved Matters applications.	Positive Negative Neutral Uncertain✓	<u>N/A</u>

9. Social Cohesion and Lifetime Neighbourhoods

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
<u>Does the proposal consider health inequalities by addressing local needs through community engagement?</u>	Yes ✓ No N/A	<u>As stated above, over the course of the pre-application consultation period, the Applicant and associated consultancy team organised, publicised and staffed public exhibitions, two were held in July 2018 and another two in October 2018. Each of these events provided a chance for the local residents to provide feedback which was then taken into account and evolved the design process for the Development. In addition, a broad variety of channels were used to promote the public consultation events in order to maximise engagement, including press adverts, email invitations to key stakeholders and adjacent neighbours, a flyer drop to 8,485 addresses in the local area, social media posts and a dedicated consultation website. The responses from these community engagement events have been incorporated into the design of the Development. The details of the responses from these events are presented in the Statement of Community Involvement which has been submitted in support of the planning application. The DAS sets out the design evolution of the proposals, showcasing how the local needs have been addressed.</u>	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal connect with existing communities, i.e. layout and movement which avoids physical barriers and severance and land uses and spaces which encourage social interaction?	Yes ✓ No N/A	The Development seeks to connect the Site with the existing and established surrounding communities of Canning Town to the north, Silvertown to the east and Poplar to the west. The existing Dock Road will be the main access road for the Site, which also serves the wider Royal Docks area to the east of the Site. The Development has been designed to encourage pedestrian free, unrestricted movement across the Site. The six Site connections that have been proposed along the Site boundaries have been enhanced to maximise capacity, visibility and enjoyment of the Site entrance points to prevent physical barriers and severance between communities and instead encouraging the connection with broader communities. The Development also comprises mixed-uses with employment opportunities, a range of public	Positive ✓ Negative Neutral Uncertain	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		realms and a variety of retail uses that will encourage social interaction within the Site.		
Does the proposal include a mix of uses and a range of community facilities?	Yes ✓ No N/A	The Development includes the provision of up to 7,055sqm of community and leisure floorspace (Classes D1 and D2). The application is currently in outline, apart from Phase 1 (which does not contain the provision of community and leisure floorspace), therefore details of the range of community facilities to be provided will be determined through the design process and through subsequent Reserved Matters applications. However, the Development seeks to provide a mix of uses and a range of community facilities to promote social interaction within the Site and create a sense of an open community.	Positive ✓ Negative Neutral Uncertain	Enhancement Action: Applicant to ensure that community uses include a range of types at Reserved Matters stage.
Does the proposal provide opportunities for the voluntary and community sectors?	Yes ✓ No N/A	The Development incorporates 7,055sqm of community and leisure floorspace. This floorspace is located within Phases 2 to 12, and therefore at the time of writing this assessment, the community element of the proposed Development is still in outline. However, the floorspace provided will allow opportunities for the voluntary and community sectors to come forward when the Development is completed and encourage social interaction within the community and contribute towards sustainable, healthy living.	Positive ✓ Negative Neutral Uncertain	N/A
<u>Does the proposal take into account issues and principles of inclusive and age-friendly design?</u>	Yes No ✓ N/A	Through public exhibitions, the public have been kept up-to-date with the design process and their comments have been incorporated into the design evolution of the Development. Vehicular, pedestrian and cycle access have all been provided to ensure the Site is permeable and accessible to all. Services will be provided within the flexible retail and community and leisure floorspace of the Development. In addition, a Waste Strategy has been produced to ensure waste collection is efficient and regular to promote a clean environment. The Development seeks to provide an attractive built and natural environment across the Site with the provision of a range of attractive open spaces and distinctive character areas. The Development also seeks to ensure the future residents and users of the Site have a healthy well-being by including sustainable measures such as attractive	Positive ✓ Negative Neutral Uncertain	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		open spaces, promoting walking and cycling and the provision of a range of services that promote healthy living. Furthermore, a mixture of housing will be provided to accommodate all needs from first time buyers, to larger families and older people.		

10. Minimising the Use of Resources

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal make best use of existing land?	Yes ✓ No N/A	The Site is currently brownfield. The Development incorporates both residential and non-residential uses which will provide a new community in the area. Elements of the Development will retain the industrial use and provide employment opportunities. With the existing access and public transport services, the Development utilises, and builds on, the existing infrastructure. The Development seeks to enhance biodiversity in the area by creating areas of enhancement, as described above.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal encourage recycling (including building materials)?	Yes ✓ No N/A	The Waste Management strategy for the Development has been based on a generation ratio of 250 litres per dwelling per week. The waste generation assessment has been calculated on plot by plot basis and split between residential and non-residential uses. Storage space requirements have been based on a 30:70 split between mixed recyclables and residual waste. A 25-30% additional capacity for recycling has been added to meet LBN guidance. Both recyclable and residual waste will be stored in large, 1,100 litre bins in all 'front-of-house' bin rooms. It is anticipated that approximately 238 bins for mixed recyclables will be required for the residential elements of the Development. For non-residential waste, 26 bins have been identified to serve the non-residential elements of the Development and it has been assumed that these bins will be collected three times a week. Waste collection will be taken from both lower and ground floor levels. The Waste Management Strategy submitted with the planning application contains more details on the waste strategy for the Development.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal incorporate sustainable design and construction techniques?	Yes ✓ No N/A	A Construction Logistics Plan has been prepared and submitted with the planning application. The Plan sets out how the development meets the planning policy requirements related to sustainable development.	Positive ✓ Negative Neutral Uncertain	N/A

11. Climate Change

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal incorporate renewable energy?	Yes ✓ No N/A	Solar Photovoltaic cells will be located across roofs of the Development. A site-wider exposure study has been conducted across the masterplan to identify solar access to varying solar PV panel orientation and designs. Each roof of the Development has been assessed for the most efficient panel orientation and design based upon the localised shading. Only the highest performing locations for energy generation have been chosen. An indicative total of 1,217 solar PV panels have been for the roofs in Phases 1-11. None have been identified for Phase 12.	Positive ✓ Negative Neutral Uncertain	N/A
Does the proposal ensure that buildings and public spaces are designed to respond to winter and summer temperatures, i.e. ventilation, shading and landscaping?	Yes ✓ No N/A	<p>The majority of the Development is in outline stage of the application process, therefore future Reserved Matters applications will provide the detail on each of the buildings and public spaces. However, the Applicant will seek to ensure that buildings and public spaces are designed to respond to winter and summer temperatures.</p> <p>The Daylight and Sunlight Within The Proposed Dwellings And Sunlight To Proposed Amenity Spaces Report has assessed daylight to all habitable rooms. Phase 1 of the Development will have all rooms with windows will be facing 90 degrees of due south. The assessment revealed that the large majority of rooms tested for the detailed element of the application will satisfy the BRE daylight guidelines for daylight. In addition, the outline element of the Development has been assessed to generally achieve good levels of sunlight, with the main public park amenity spaces receiving excellent levels of sunlight.</p> <p>The Energy and Sustainability Statement that has been submitted in support of the planning application has assessed the Development with regards to temperatures and ventilation. Specifically;</p> <ul style="list-style-type: none"> Residential units will have opening windows and balcony doors to meet purge ventilation requirements in line with Building Regulations Part F; Mechanical ventilation with heat recovery is proposed throughout the Development, which will include a summer by-pass mode to allow for free cooling of the 	Positive Negative Neutral ✓ Uncertain	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		<p>space using external air;</p> <ul style="list-style-type: none"> The majority of residential facades incorporate balconies providing passive solar shading; and Where balconies are not present, additional horizontal shades have been added to reduce unwanted peak solar gains. 		
Does the proposal maintain or enhance biodiversity?	Yes ✓ No N/A	<p>Part of the Thames Wharf SINC will be permanently lost as a result of the Development, but this largely consists of bare ground and scattered scrub/trees. However, the Development will provide new land designated as SINC which will be re-landscaped to create neutral grassland and ruderal vegetation. Thus, the residual impact is considered to minor. Included in the Development is the replacement of the river wall which includes the creation of 4,454sqm new area of intertidal planting which will provide nesting and perching habitats, as well as a vegetated corridor along the river. The Biodiversity Chapter 10 of the 2018 ES submitted in support of this application concluded that this would provide a major beneficial effect for the Development. A Habitat Management Plan will be prepared for the Development to inform the monitoring and management of both the intertidal area and the re-landscaped SINC habitat area.</p>	Positive ✓ Negative Neutral Uncertain	<p><u>Enhancement Action</u> Plant a variety of native species within the site to increase biodiversity.</p> <p>Incorporate features and select planting species to create additional opportunities for nesting habitat, cover and foraging.</p> <p>Incorporate small areas of brownfield habitat.</p>
Does the proposal incorporate sustainable urban drainage techniques?	Yes ✓ No N/A	<p>The Flood Risk Assessment (FRA) and Drainage Strategy has been submitted in support of the planning application which details the sustainable urban drainage (SuDS) techniques that will be incorporated into the Development.</p> <p>The Development is located within Flood Zone 3, with the River Thames adjacent to the western boundary of the Site. The Site already benefits from the existing River Thames flood defences. The Development includes a new river wall along the 1,080m river frontage, raising the flood defence level to 6.2m above ordnance datum. The proposed alignment of the flood defence provides 14,000m³ of additional flood storage and approximately 4,500m² of inter-tidal planted habitat.</p> <p>The proposal will include a range of sustainable urban drainage techniques, which will vary from landscaping features to roof build ups and below ground attenuation. A podium drainage</p>	Positive ✓ Negative Neutral Uncertain	N/A

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		<p>system is proposed for Phase 1 of the Development which is being applied for in detail. This is a multi-layered system that covers the podium deck of a structure which will retain surface water and reduce the volume of runoff by attenuating peak flows. Following the attenuation of surface water via the podium attenuation technique, the water will then discharge via gravity to the Thames Water combined sewer adjacent to the Site within North Woolwich Road.</p> <p>The proposed SuDS features for the Development include:</p> <ul style="list-style-type: none"> • Open water features and swales – a retention basin will be provided to the south of the Development, as well as swales which will collect runoff from the landscaped and impermeable areas; • Bio-retention Strips – proposed on either side of the central spine road through the Development and within the areas of hard landscaping and public realm around the proposed buildings; • Green Roofs – proposed on some of the buildings; and • Below Ground Attenuation – proposed in locations where there is not sufficient space to provide open water features. <p>The FRA and Drainage Strategy has concluded that following the implementation of the above measures, the Development is at low risk of flooding and that the combined surface and foul water discharge rate from the Development to the sewers is significantly lower than the existing combined surface and foul water discharge rate.</p>		

4 CONCLUSIONS

- 4.1 An assessment of the potential health effects of the Development has been undertaken. The HUDU Healthy Urban Planning Checklist has been completed (see Appendix 1) which has helped focus the assessment of effects (set out in Chapter 3) using the HUDU Rapid Health Impact Assessment Tool.
- 4.2 The performance of the Development has been assessed against 11 key health themes:
- Housing quality and design;
 - Access to healthcare services and other social infrastructure;
 - Access to open space and nature;
 - Air quality, noise and neighboured amenity;
 - Accessibility and active travel;
 - Crime reduction and community safety;
 - Access to healthy food;
 - Access to work and training;
 - Social cohesion and lifetime neighbourhoods;
 - Minimising the use of resources; and
 - Climate change.
- 4.3 As shown in the assessment in Chapter 3, the Development was found to have a positive health effect in relation to the majority of the key health themes. The Development has been designed to provide a high quality, attractive and healthy environment for future users.
- 4.4 As part of the design of the Development particular attention has been given to creating a balanced, mixed-use community which meets local housing need and provides employment opportunities. In addition, the Development promotes active and sustainable travel, including a new DLR station, attractive and safe cycling and pedestrian facilities that connect to the wider area. The Development also includes the re-provision of large open spaces that will be enhanced to increase biodiversity in the area, including an area specifically for enhanced habitat and intertidal habitat along the river wall. In addition, the design team have incorporated multi-use open space throughout the public and private areas which will provide a range of beneficial health effects.
- 4.5 The table below sets out potential mitigation and enhancements measures that have been identified.

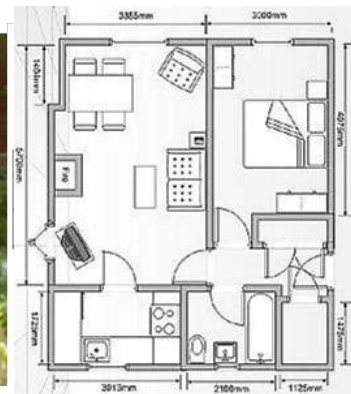
Health Theme	Recommended Mitigation or Enhancement Action
Housing quality and design	<ul style="list-style-type: none"> • Applicant to ensure that housing needs are addressed for older people through future Reserved Matters applications of Phases 2-11; and • Connection to the Excel network to be reviewed through a planning condition or S106 agreement for the detailed Phases 1-3 and through Reserved Matters applications for Phases 4-11.
Access to healthcare services and other social infrastructure	<ul style="list-style-type: none"> • Financial contributions via S106 or the Applicant needs to have discussions with Newham Clinical Commissioning Group to establish whether a new healthcare facility is required within the proposed 7,055sqm of flexible community and leisure floorspace; and • Financial contributions via S106 for secondary schools.
Access to open space and nature	<ul style="list-style-type: none"> • A Habitat Management Plan to be secured through a planning condition; and • A Lighting Strategy for the sensitive areas of the Site for both the construction and operational phases.
Air quality, noise and neighboured amenity	<ul style="list-style-type: none"> • Construction Environment Management Plan to be secured by condition to ensure effective control of noise and air quality emissions during the construction stage; and • Planning conditions to be attached to the permission to ensure plant such as heating and cooling units operate to acceptable standards, on completion of the development.
Accessibility and active travel	<ul style="list-style-type: none"> • In relation to encouraging active travel, The Travel Plans or Residents' Welcome Pack could also include a section on safe walking routes to local parks and green spaces to encourage physical and mental wellbeing; • Monitoring of the Travel Plans to ensure its effectiveness and where measures are not proving successful, review of the proposals; and • If the targets are not being met then measures will be reviewed and amended to step up the effectiveness of the measures. Such measures would need to be agreed with LBN's Travel Plan Officer.
Crime reduction and community safety	<ul style="list-style-type: none"> • Continued engagement with the local community through future Reserved Matters applications.
Access to healthy food	<ul style="list-style-type: none"> • In relation to access to healthy foods, the Residents' Welcome Pack could include details of local Farmers Market; • Consider committing some of the proposed commercial floorspace for social enterprises; and • When selecting tenants for commercial floorspace, consider proposed use and potential for adverse effects on health.
Access to work and training	<ul style="list-style-type: none"> • Commit to sourcing construction workforce from the local area where possible; and • Consider whether any apprenticeship positions could be approved.
Social cohesion and lifetime neighbourhoods	<ul style="list-style-type: none"> • Applicant to ensure that community uses include a range of types at Reserved Matters stage.
Minimising the use of resources and	<ul style="list-style-type: none"> • No mitigation or enhancement measures considered necessary.
Climate change.	<ul style="list-style-type: none"> • Plant a variety of native species within the Site to increase biodiversity; • Incorporate features and select planting species to create additional opportunities for nesting habitat, cover and foraging; and • Incorporate small areas of brownfield habitat.

APPENDIX 1

HUDU HEALTHY URBAN PLANNING CHECKLIST

HUDU Planning for Health

Healthy Urban Planning Checklist



Third Edition
May 2017

Purpose of the checklist

The checklist aims to promote healthy urban planning by ensuring that the health and wellbeing implications of local plans and major planning applications are consistently taken into account. By bringing together planning policy requirements and standards that influence health and wellbeing the checklist seeks to mainstream health into the planning system.

The checklist was originally developed in 2012 by representatives from the six London Olympic and Paralympic Host Boroughs, the local NHS, the NHS London Healthy Urban Development Unit, Greater London Authority and Groundwork London. This third edition has been fully updated to be consistent with [The London Plan](#), the Spatial Development Strategy for London consolidated with alterations since 2011, published in March 2016. This will be referred to simply as the London Plan 2016. From this date, the formal alterations to the London Plan form part of the statutory development plans for London Boroughs.

Who is the checklist for?

The [National Planning Policy Framework \(March 2012\)](#) promotes a collaborative approach to health and planning whereby local planning authorities should work with public health leads and health organisations to understand and take account of the health status and needs of the local population and the barriers to improving health and well-being (paragraph 171). The supporting online [Planning Practice Guidance](#) refers to the use of health impact assessment as a useful tool to assess the impacts of development proposals.

The checklist supports this collaborative approach and encourages different stakeholders to work together to address the health impacts of plans and development proposals. As such, the checklist could be used by:

- Developers, to screen and scope the health impacts of development proposals;
- Planning officers, to help identify and address the health impacts of plans and development proposals;
- Public health and environmental health professionals, to comment and scrutinise plans and development proposals;
- Neighbourhood forums, community groups and housing associations to comment on major planning applications to help foster community engagement

To create and develop healthy and sustainable places and communities, the Marmot Review of Health Inequalities in England '[Fair Society Healthy Lives](#)' recommends that the planning system should be fully integrated with transport, housing, environmental and health policy.

Therefore, the checklist will also be of interest to environmental health officers concerned with environmental impacts and risks, transport planners concerned with promoting active travel and housing officers seeking to ensure that new housing is affordable and accessible.

What is healthy urban planning?

Healthy urban planning aims to promote healthy, successful places for people to live and work in. This can be achieved by providing the homes, jobs and services that people need, reducing environmental risks and delivering well designed buildings and urban spaces which will create the conditions for healthy, active lifestyles. In addition to access to healthcare services, a number of other factors are known to influence a person's health status and lifestyle, including economic, environmental and social conditions. These factors are referred to as the wider or social determinants of health.

Healthy urban planning seeks to highlight and promote the role of planning to influence these social determinants of health. In many ways, planners already 'do' health, by promoting sustainable development and travel, enhancing green spaces, reducing pollution and protecting residential amenity. However, healthy urban planning goes further by explicitly recognising the role of planning and by using health issues as a way to promote good planning and design and raise standards. Poorly planned and designed buildings and spaces could deter healthy lifestyles and exacerbate poor physical and mental health. The principles of healthy urban planning apply to both new development and urban regeneration programmes such as housing estate renewal schemes.

Local authorities are responsible for a number of regulatory functions, which are separate from planning controls, such as building regulations, traffic regulations, environmental protection and a range of licensing regimes. The checklist refers only to planning controls, although other regulatory controls, particularly environmental protection, food premises licensing and traffic regulations are closely related and required in order to achieve a 'healthy' development.

Urban design and healthy urban planning

Healthy urban planning means good planning and high quality urban design. Good design and good planning can help reduce health care costs over time by preventing ill-health from risks attributed to urban planning, including air pollution, road injuries, worklessness and poor housing. Good design also generates financial, social and environmental value. A well designed 'healthy' development will add economic value by increasing sales and lettings of residential units and producing higher returns on investment.

'Active Design' is a key element of healthy urban planning. Design has a crucial role to support activity in buildings and places in response to rising levels of obesity and related chronic diseases. New York City has produced [Active Design Guidelines](#), which provides guidance on creating healthier buildings, streets, and urban spaces. The Guidelines demonstrate that active design will help to reduce energy consumption, increase sustainability, and be cost effective. It is recognised that active design can also address mental health and wellbeing.

Bringing together policy requirements, standards and assessments

The checklist aims to bring together key policy requirements and standards, which influence health and wellbeing to assist the decision-making process. A ‘healthy’ development can be achieved when these requirements and standards are met and exceeded.

The [London Plan 2016](#) provides a strong policy framework for integrating health and spatial planning. It seeks to improve health and address health inequalities by requiring new developments to be designed, constructed and managed in ways that improve health and promote healthy lifestyles to help to reduce health inequalities ([Policy 3.2](#)).

The checklist refers to London Plan policies and standards set out in Mayoral supplementary planning guidance, notably the quality and design standards in the [Housing Supplementary Planning Guidance \(2016\)](#). This guidance updates London housing standards to reflect the implementation of the Government’s new national technical standards. In addition to these standards the checklist also includes good practice standards which seek to ‘raise the bar’ and demonstrate that a development has fully considered health and wellbeing issues.

There are a range of national standards and assessments which when used together constitute healthy urban planning, such as the [Housing - Optional Technical Standards](#), [Lifetime Homes](#) and [Lifetime Neighbourhoods](#), [Building for Life](#) and [Secured by Design](#). These assessments are illustrated in Figure 1.

Figure 1 – Assessments and standards



Much of the information needed to complete the checklist will be contained in documents submitted with a planning application required to validate the application (see Table 1 below). The checklist seeks to bring together existing information and assessments to demonstrate that health, as a material planning consideration, has been addressed.

Table 1 - Planning application information requirements

	Air Quality assessment	Biodiversity and ecology report	Housing Optional Technical Stand's	Design and Access Statement	Flood risk assessment	Landscaping Strategy	Noise impact assessment	Open space assessment	Planning Statement	Regeneration statement	Retail impact assessment	Sustainability statement	Transport Assessment and Travel Plan
Healthy homes			✓	✓					✓	✓		✓	
Active Travel				✓					✓				✓
Healthy environment	✓	✓	✓		✓	✓	✓	✓	✓			✓	
Vibrant neighbourhoods				✓		✓			✓	✓	✓		

The Growth and Infrastructure Act 2013 introduced measures to speed up the planning application process. The amount of information submitted with a planning application has been reduced to a 'reasonable' level and design and access statements are now only required for major applications.

When to use the checklist?

The [Mayor of London's Social Infrastructure Supplementary Planning Guidance \(May 2015\)](#) describes three types of health impact assessment (HIA): a 'full' HIA involves comprehensive analysis of all potential health and wellbeing impacts; a 'rapid' HIA is a less resource intensive process, involving a more focused investigation of health impacts; and a 'desktop' assessment which draws on existing knowledge and evidence, often using published checklists. It suggests that the Healthy Urban Planning Checklist could be used as a 'desktop' assessment tool.

The checklist can be used to ensure that health and wellbeing issues are embedded into local plans, masterplans and major planning applications.

The checklist should be customised for local use to reflect local circumstances and priorities and could be used:

- as part of a Local Plan review to ensure that health and wellbeing issues are identified and addressed
- to screen possible health impacts as part of Health Impact Assessment, Integrated Impact Assessment or Environmental Impact Assessment processes
- to accompany a planning application, subject to local policy guidance and validation requirements
- by internal and external consultees to comment on and scrutinise major development proposals
- to help develop a neighbourhood plan and neighbourhood 'health' projects.

It is important that the use of the tool is monitored and evaluated. The checklist could be periodically reviewed by local health and wellbeing boards and recommendations could outline where further evidence is needed, using the Joint Strategic Needs Assessment or action supported by wider public health initiatives. The [Public Health Outcomes Framework](#) could be used to measure impacts and assess the effectiveness of the checklist. At a local level, the checklist should be updated by local authority planning departments to ensure that the national, regional and local policy and guidance references are up to date.

Neighbourhood planning

Neighbourhood planning was introduced as part of the Localism Act 2011. In London, neighbourhood forums can draw up a neighbourhood development plan. A proportion of Community Infrastructure Levy (CIL) funding can be spent on local community priorities. Therefore, local communities have a greater opportunity to shape local policy and infrastructure priorities and influence development proposals. This checklist could be used to help develop a neighbourhood plan, including identifying possible neighbourhood CIL 'health' projects and as a resource to help community groups comment on a planning application.

The planning application process

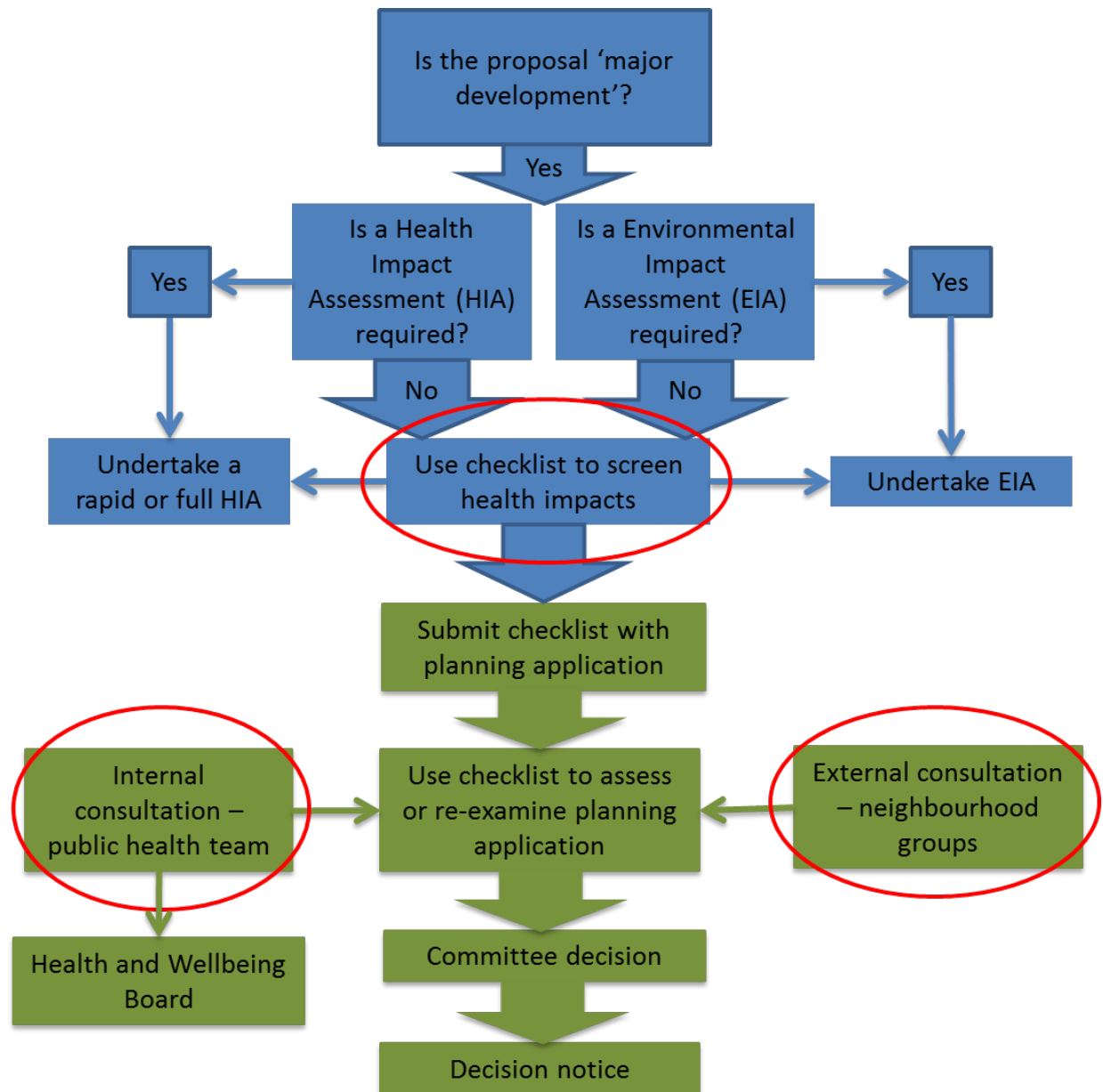
It is intended that the checklist should be applied to major development proposals comprising 10 or more residential units (or a site area of 0.5 hectares or more), or 1,000 square metres or more of non-residential floorspace (or a site area of 1.0 hectares or more). The checklist is most effective when used throughout the lifecycle of a development proposal from pre-application discussions to the determination of a planning application. At the pre-application stage, there is more scope to influence the design, layout and composition of a development proposal.

For large scale development proposals a Health Impact Assessment (HIA) may be required, with a full assessment providing information on health needs and priorities, including

community engagement, and setting out a detailed assessment of health impacts and proposed mitigation and enhancement measures. For large scale development proposals such as strategic planning applications referred to the Mayor of London, it is recommended that other assessment tools, such as the [HUDU Rapid HIA Tool](#) is used.

Figure 2 below illustrates how the checklist could be used as part of the planning application process. Three key areas where the checklist could be used are highlighted.

Figure 2 - the planning application process



How to use the checklist

The checklist is divided into four themes. Each theme contains a number of questions focused on a planning issue. Under each theme there are a number of related health and wellbeing issues many of which are identified in local joint strategic needs assessments and health and wellbeing strategies, such as those related to:

- Obesity and diseases related to physical inactivity and poor diet
- Excess winter deaths
- Air and noise pollution
- Road safety
- Social isolation

Theme	Planning issue	Health and wellbeing issue
1. Healthy housing	<ul style="list-style-type: none"> • Housing design • Accessible housing • Healthy living • Housing mix and affordability 	<ul style="list-style-type: none"> • Lack of living space - overcrowding • Unhealthy living environment – daylight, ventilation, noise • Excess deaths due to cold / overheating • Injuries in the home • Mental illness from social isolation and fear of crime
2. Active travel	<ul style="list-style-type: none"> • Promoting walking and cycling • Safety • Connectivity • Minimising car use 	<ul style="list-style-type: none"> • Physical inactivity, cardiovascular disease and obesity • Road and traffic injuries • Mental illness from social isolation • Noise and air pollution from traffic
3. Healthy environment	<ul style="list-style-type: none"> • Construction • Air quality • Noise • Contaminated land • Open space • Play space • Biodiversity • Local food growing • Flood risk • Overheating 	<ul style="list-style-type: none"> • Disturbance and stress caused by construction activity • Poor air quality - lung and heart disease • Disturbance from noisy activities and uses • Health risks from toxicity of contaminated land • Physical inactivity, cardiovascular disease and obesity • Mental health benefits from access to nature and green space and water • Opportunities for food growing – active lifestyles, healthy diet and tackling food poverty • Excess summer deaths due to overheating
4. Vibrant neighbourhoods	<ul style="list-style-type: none"> • Healthcare services • Education • Access to social infrastructure • Local employment and healthy 	<ul style="list-style-type: none"> • Access to services and health inequalities • Mental illness and poor self-esteem associated with unemployment and poverty • Limited access to healthy food linked to obesity and related diseases • Poor environment leading to physical

Theme	Planning issue	Health and wellbeing issue
	workplaces <ul style="list-style-type: none"> • Access to local food shops • Public buildings and spaces 	inactivity <ul style="list-style-type: none"> • Ill health exacerbated through isolation, lack of social contact and fear of crime

It may be the case that not all the issues and questions will be relevant to a specific plan or development proposal and the user should select and prioritise the issues accordingly. Some issues may be directly related to an individual development, others may be relevant at a neighbourhood level where the cumulative impact of development can contribute to a healthy neighbourhood.

Each section summarises the impact on health. Under each theme, key questions are asked linked to policy requirements and standards. The checklist identifies why each issue is important to health and wellbeing. An appendix providing general policy references and sources of evidence is provided. This should be supplemented with local information.

The checklist aims to ensure a development proposal is as ‘healthy’ as possible, by achieving as many ‘Yes’ ticks and avoiding ‘No’s. A ‘No’ gives a warning that an aspect of a development may need to be reconsidered. Local circumstances may justify why a scheme cannot meet the expected standard.

Where the response to a question is unclear or not known, more information may be required. The checklist can stimulate discussions and negotiations on planning applications, supported by internal and external consultation and supporting information, for example from public health officers.

Note on Code for Sustainable Homes and Lifetime Homes Standards

Following the technical housing standards review, the Government has withdrawn the Code for Sustainable Homes, aside from the management of legacy cases.

Legacy cases are those where residential developments are legally contracted to apply a code policy (e.g. affordable housing funded through the national Affordable Housing Programme 2015 to 2018, or earlier programme), or where planning permission has been granted subject to a condition stipulating discharge of a code level, and developers are not appealing the condition or seeking to have it removed or varied. In these instances, it is possible to continue to conduct code assessments.

Details of the new approach to the setting of technical housing standards in England were announced on 27 March 2015 and a new set of streamlined national technical standards were published. The Code for Sustainable Homes is now no longer Government policy and has been archived.

The Government has also withdrawn the Lifetime Homes concept. However, many local planning policies will continue to require Lifetime Homes standards in new developments. However, as of October 2015, the London Plan will no longer be linked to Lifetime Homes standards. In particular, the requirement in London Plan Policy 3.8 B(c) that ‘all new housing is built to The Lifetime Homes standard’ is replaced by ‘ninety percent of new housing meets Building Regulation requirement M4 (2) “accessible and adaptable dwellings”’. The Healthy Urban Planning Checklist has been updated to include the modified London Plan requirements.

Theme 1: Healthy Housing

Issue	Key questions	Yes /No / Not relevant Comment	Policy requirements and standards	Why is it important
a. Healthy design	Does the proposal meet all the standards for daylight, sound insulation, private space and accessible and adaptable dwellings?		<p>London Plan Policy 5.2 Minimising carbon dioxide emissions and Housing SPG Standard 35: zero carbon residential buildings from 2016 and non-domestic buildings from 2019.</p> <p>Housing SPG Standard 29 on dual aspect and Standard 32 on daylight and sunlight.</p> <p>Housing SPG Standard 4 on communal open space, supported by London Plan Policy 2.18, Standards 1 and 2 on defining good places, and Standard 3 on public open space.</p> <p>Housing SPG Standards 26 and 27 on minimum provision of private (amenity) open space.</p> <p>London Plan Policy 3.8 Housing choice and Housing SPG Standard 11 on access require 90% of new homes meet Building Regulation M4(2) ‘accessible and adaptable dwellings’.</p> <p>Sound insulation and noise - London Plan Policy 7.15 and Housing SPG Standard 30 on noise.</p> <p>Housing SPG Standards 8 and 9 on entrance and approach.</p>	<p>Satisfying these standards can help meet carbon dioxide emissions targets.</p> <p>Good daylight can improve the quality of life and reduce the need for energy to light the home.</p> <p>The provision of an inclusive outdoor space, which is at least partially private, can improve the quality of life.</p> <p>Improved sound insulation can reduce noise disturbance and complaints from neighbours.</p>

Theme 1: Healthy Housing

Issue	Key questions	Yes /No / Not relevant Comment	Policy requirements and standards	Why is it important
b. Accessible housing	<p>Does the proposal provide accessible homes for older or disabled people?</p> <p>Does the proposal ensure that every non-ground floor dwelling is accessible by a lift that can accommodate an ambulance trolley?</p>		<p>London Plan Policy 3.8 and Housing SPG Standard 11 on access require 10 per cent all new housing to be designed to be wheelchair accessible or easily adaptable such that they meet Building Regulation M4(3) 'wheelchair user dwellings'.</p> <p>Housing SPG Standards 15 and 16 relate to the provision of lifts. Good practice standard - the provision of an ISO standard 13 person lift in a configuration which can accommodate a trolley bed (see Department of Health Technical Memorandum 08-02: Lifts).</p>	<p>Accessible and easily adaptable homes can meet the changing needs of current and future occupants.</p> <p>One of the main methods of transportation of immobile patients is by trolley bed. Non-ground floor dwellings should be accessible by a lift that can accommodate an ambulance trolley.</p>
c. Healthy living	<p>Does the proposal provide dwellings with adequate internal space, including sufficient storage space and separate kitchen and living spaces?</p> <p>Does the proposal encourage the use of stairs by ensuring that they are well located, attractive and welcoming?</p>		<p>London Plan Policy 3.5 (Table 3.3 - minimum space standards for new dwellings) and Housing SPG Standard 24 on dwelling space standards.</p> <p>Housing SPG Standard 25 - dwellings should accommodate the furniture, access and activity space requirements relating to the declared level of occupancy.</p> <p>Also, Housing SPG Standard 28 on privacy and Standard 31 on ceiling heights.</p> <p>Housing SPG Standards 12 to 16 relate to shared internal circulation, cores and lifts.</p>	<p>Sufficient space is needed to allow for the preparation and consumption of food away from the living room to avoid the 'TV dinner' effect.</p> <p>Rather than having lifts at the front and staircases at the back of buildings, it is preferable to have them located at the front to encourage people that can to use them.</p>

Theme 1: Healthy Housing

Issue	Key questions	Yes /No / Not relevant Comment	Policy requirements and standards	Why is it important
d. Housing mix and affordability	Does the proposal provide affordable family sized homes?		<p>London Plan Policy 3.8 Housing choice.</p> <p>London Plan Policy 3.11 Affordable housing targets seeks to maximise affordable housing provision and to ensure an average of at least 17,000 more affordable homes per year in London over the term of the London Plan. 60% of the affordable housing provision should be for social and affordable rent and 40% for intermediate rent or sale.</p> <p>The Mayor's Homes for Londoners: Affordable Homes Programme 2016-21 is a £3bn fund to help start building at least 90,000 affordable homes by 2021.</p>	<p>The provision of affordable housing can create mixed and socially inclusive communities. The provision of affordable family sized homes can have a positive impact on the physical and mental health of those living in overcrowded, unsuitable or temporary accommodation.</p> <p>Both affordable and private housing should be designed to a high standard ('tenure blind').</p>

Theme 2: Active Travel

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
a. Promoting walking and cycling	Does the proposal promote cycling and walking through measures in a travel plan, including adequate cycle parking and cycle storage?		London Plan Policy 6.3 (C) Travel plans London Plan Policy 6.9 Cycling. London Plan Policy 6.10 Walking. London Plan - Parking Addendum to Chapter 6 on cycle parking : Table 6.3 Cycle parking minimum standards. Housing SPG Standards 20 and 21 on cycle storage.	A travel plan can address the environmental and health impacts of development by promoting sustainable transport, including walking and cycling. Cycle parking and storage in residential dwellings can encourage cycle participation.
b. Safety	Does the proposal include traffic management and calming measures and safe and well lit pedestrian and cycle crossings and routes?		London Plan Policy 6.9 Cycling. London Plan Policy 6.10 Walking.	Traffic management and calming measures and safe crossings can reduce road accidents involving cyclists and pedestrians and increase levels of walking and cycling.
c. Connectivity	Does the proposal connect public realm and internal routes to local and strategic cycle and walking networks and public transport?		London Plan Policy 6.9 Cycling - Map 6.2 Cycle superhighways . London Plan Policy 6.10 Walking - Map 6.3 Walk London Network . Green Infrastructure: The All London Green Grid SPG (March 2012). Transport for London Legible London . Transport for London Bus Service Planning Guidelines .	Developments should prioritise the access needs of cyclists and pedestrians. Routes should be safe, direct and convenient and barriers and gated communities should be avoided. Developments should be accessible by public transport.

Theme 2: Active Travel

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
d. Minimising car use	Does the proposal seek to minimise car use by reducing car parking provision, supported by the controlled parking zones, car free development and car clubs?		<p>London Plan Policy 6.13 Parking - Table 6.2 Car parking standards (Parking addendum to chapter 6).</p> <p>Housing SPG Standards 17 to 19 on car parking provision.</p>	<p>Space for pedestrians and cyclists should be given priority over commercial and private vehicles. Maximum car parking levels allows for provision to be reduced as far as practicable.</p> <p>Car clubs can be effective in reducing car use and parking demand at new residential developments.</p>

Theme 3: Healthy Environment

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
a. Construction	Does the proposal minimise construction impacts such as dust, noise, vibration and odours?		<p>London Plan Policy 5.3 Sustainable design and construction.</p> <p>London Plan Policy 5.18 Construction, excavation and demolition waste.</p> <p>The Control of Dust and Emissions During Construction and Demolition SPG (July 2014).</p> <p>Housing SPG Standard 34 on environmental performance.</p>	<p>Construction sites can have a negative impact on an area and can be perceived to be unsafe. Construction activity can cause disturbance and stress, which can have an adverse effect on physical and mental health.</p> <p>Mechanisms should be put in place to control hours of construction, vehicle movements and pollution.</p> <p>Community engagement before and during construction can help alleviate fears and concerns.</p>
b. Air quality	Does the proposal minimise air pollution caused by traffic and energy facilities?		<p>London Plan Policy 7.14 Improving air quality.</p> <p>At least 'air quality neutral' - Housing SPG Standard 33 on air quality.</p> <p>London Plan Policy 5.10 Urban greening.</p> <p>London Plan Policy 5.3 Sustainable design and construction.</p>	<p>The long-term impact of poor air quality has been linked to life-shortening lung and heart conditions, cancer and diabetes.</p>

Theme 3: Healthy Environment

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
c. Noise	Does the proposal minimise the impact of noise caused by traffic and commercial uses through insulation, site layout and landscaping?		<p>London Plan Policy 7.15 Reducing and managing noise, improving and enhancing the acoustic environment and promoting appropriate soundscapes.</p> <p>Limit the transmission of noise to sound sensitive rooms - Housing SPG Standard 30 on noise.</p>	Reducing noise pollution helps improve the quality of urban life.
d. Open space	<p>Does the proposal retain or replace existing open space and in areas of deficiency, provide new open or natural space, or improve access to existing spaces?</p> <p>Does the proposal set out how new open space will be managed and maintained?</p>		<p>London Plan Policy 7.1 Lifetime neighbourhoods.</p> <p>London Plan Policy 7.18 Protecting open space and addressing deficiency, Table 7.2 Public open space categorisation.</p> <p>London Plan Policy 7.19 Biodiversity and access to nature.</p> <p>Housing SPG Standards 3 and 4 on communal and public open space.</p>	<p>Access to open space has a positive impact on health and wellbeing. Living close to areas of green space, parks, woodland and other open space can improve physical and mental health regardless of social background.</p> <p>To maintain the quality and usability of open spaces an effective management and maintenance regime should be put in place.</p>

Theme 3: Healthy Environment

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
e. Play space	Does the proposal provide a range of play spaces for children and young people?		<p>London Plan Policy 3.6 Children and young people’s play and informal recreation facilities.</p> <p>Shaping Neighbourhoods: Play and Informal Recreation SPG (Sept 2012) - quantity Benchmark Standard of a minimum of 10 square metres per child regardless of age (4.24) and accessibility to play space Benchmark Standard (Table 4.4).</p> <p>Housing SPG Standard 5 on play space.</p>	<p>Regular participation in physical activity among children and young people is vital for healthy growth and development.</p> <p>The location of play spaces should be accessible by walking and cycling routes that are suitable for children to use.</p>
f. Biodiversity	Does the proposal contribute to nature conservation and biodiversity?		<p>London Plan Policy 7.19 Biodiversity and access to nature. Table 7.3 - London regional Biodiversity Action Plan habitat targets for 2020.</p> <p>Housing SPG Standard 40 on ecology.</p>	<p>Access to nature and biodiversity contributes to mental health and wellbeing.</p> <p>New development can improve existing, or create new, habitats or use design solutions (green roofs, living walls) to enhance biodiversity.</p>
g. Local food growing	Does the proposal provide opportunities for food growing, for example by providing allotments, private and community gardens and green roofs?		<p>London Plan Policy 5.10 Urban greening.</p> <p>London Plan Policy 7.22 Land for food.</p> <p>London Plan Policy 5.11 Green roofs and development site environs.</p>	<p>Providing space for local food growing helps promote more active lifestyles, better diets and social benefits.</p>

Theme 3: Healthy Environment

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
h. Flood risk	Does the proposal reduce surface water flood risk through sustainable urban drainage techniques, including storing rainwater, use of permeable surfaces and green roofs?		<p>London Plan Policy 5.3 Sustainable design and construction.</p> <p>London Plan Policy 5.11 Green roofs and development site environs.</p> <p>London Plan Policy 5.13 Sustainable drainage.</p> <p>Flooding and drainage - Housing SPG Standards 38 and 39.</p>	<p>Flooding can result in risks to physical and mental health. The stress of being flooded and cleaning up can have a significant impact on mental health and wellbeing.</p> <p>It is likely that increasing development densities and building coverage coupled with more frequent extreme weather events will increase urban flood risk.</p>
i. Overheating	Does the design of buildings and spaces avoid internal and external overheating, through use of passive cooling techniques and urban greening?		<p>London Plan Policy 5.3 Sustainable design and construction.</p> <p>London Plan Policy 5.9 Overheating and cooling.</p> <p>London Plan Policy 5.10 Urban greening.</p> <p>London Plan Policy 5.11 Green roofs and development site environs.</p> <p>Overheating - Housing SPG Standards 36.</p>	<p>Climate change with higher average summer temperatures is likely to intensify the urban heat island effect and result in discomfort and excess summer deaths amongst vulnerable people.</p> <p>Urban greening - tree planting, green roofs and walls and soft landscaping can help prevent summer overheating.</p>

Theme 4: Vibrant Neighbourhoods

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
a. Health services	Has the impact on healthcare services been addressed?		<p>London Plan Policy 3.17 Health and social care facilities.</p> <p>NHS London Healthy Urban Development Unit Planning Contributions Tool (the HUDU Model).</p> <p>Social Infrastructure SPG (2015).</p>	Poor access and quality of healthcare services exacerbates ill health, making effective treatment more difficult. The provision of support services and advice on healthy living can prevent ill health.
b. Education	Has the impact on primary, secondary and post-19 education been addressed?		<p>London Plan Policy 3.18 Education facilities.</p>	Access to a range of primary, secondary and post-19 education improves self-esteem, job opportunities and earning capacity.
c. Access to social infrastructure	<p>Does the proposal contribute to new social infrastructure provision that is accessible, affordable and timely?</p> <p>Have opportunities for multi-use and the co-location of services been explored?</p>		<p>London Plan Policy 3.16 Protection and enhancement of social infrastructure.</p> <p>London Plan Policy 7.1 Lifetime neighbourhoods.</p> <p>Social Infrastructure SPG (2015).</p>	<p>Good access to local services is a key element of a lifetime neighbourhood and additional services will be required to support new development. Not doing so will place pressure on existing services.</p> <p>Future social infrastructure requirements are set out in Borough infrastructure plans and developments will be expected to contribute towards additional services and facilities.</p>

Theme 4: Vibrant Neighbourhoods

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
d. Local employment and healthy workplaces	<p>Does the proposal include commercial uses and provide opportunities for local employment and training, including temporary construction and permanent 'end-use' jobs?</p> <p>Does the proposal promote the health and wellbeing of future employees by achieving BREEAM health and wellbeing credits?</p>		<p>London Plan Policy 4.12 Improving opportunities for all and London Plan Policy 8.2 Planning obligations.</p> <p>London Plan Policy 7.1 Lifetime neighbourhoods.</p> <p>Workplace environment - BREEAM health and wellbeing credits.</p>	<p>Unemployment generally leads to poverty, illness and a reduction in personal and social esteem. Employment can aid recovery from physical and mental illnesses.</p> <p>Creating healthier workplaces can reduce ill health and employee sickness absence.</p>
e. Access to local food shops	<p>Does the proposal provide opportunities for local food shops?</p> <p>Does the proposal avoid an over concentration or clustering of hot food takeaways in the local area?</p>		<p>London Plan Policy 4.7 Retail and town centre development.</p> <p>London Plan Policy 4.8 Supporting a successful and diverse retail sector.</p> <p>London Plan Policy 4.9 Small shops.</p> <p>London Plan Policy 7.1 Lifetime neighbourhoods.</p>	<p>A proliferation of hot food takeaways and other outlets selling fast food can harm the vitality and viability of local centres and undermine attempts to promote the consumption of healthy food, particularly in areas close to schools.</p>

Theme 4: Vibrant Neighbourhoods

Issue	Key questions	Yes / No / Not relevant Comment	Policy requirements and standards	Why is it important
f. Public realm	<p>Does the design of the public realm maximise opportunities for social interaction and connect the proposal with neighbouring communities?</p> <p>Does the proposal allow people with mobility problems or a disability to access buildings and places?</p>		<p>London Plan Policy 7.1 Lifetime neighbourhoods.</p> <p>London Plan Policy 7.2 An inclusive environment.</p> <p>London Plan Policy 7.5 Public realm.</p> <p>Shaping Neighbourhoods. Accessible London: Achieving and Inclusive Environment SPG (Oct 2014).</p> <p>Housing SPG Standard 10 on active frontages.</p>	<p>The public realm has an important role to play in promoting walking and cycling, activity and social interaction. It also affects people’s sense of place, security and belonging. It is a key component of a lifetime neighbourhood.</p> <p>Shelter, landscaping, street lighting and seating can make spaces attractive and inviting.</p> <p>Implementing inclusive design principles effectively creates an accessible environment, in particular for disabled and older people.</p>

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Glossary

Amenity (or residential amenity) – is physical external space which is part of the private home and enjoyed by occupiers of the dwelling. The level of enjoyment is also dependent on a number of factors, including daylight/sunlight, air quality, noise and light pollution and visual quality.

Biodiversity – refers to a diverse variety of life (species) in a habitat or ecosystem.

BREEAM - Building Research Establishment Environmental Assessment Methodology is a method of assessing, rating and certifying the sustainability of buildings developed by the Building Research Establishment.

Building Regulations – are standards that apply to most building work with approval required from Building Control Bodies - either the Local Authority or the private sector as an Approved Inspector.

Community Infrastructure Levy (CIL) – is a charge levied on development under the Planning Act 2008 by charging authorities (in London, the boroughs and the Mayor of London) to contribute towards a range of infrastructure, including physical, green and social infrastructure.

Car club - is a service that allows its members to hire a car for short-term use enabling members to have the option of using a car from time to time without having to own one.

Environmental protection - Unitary and district local authorities are responsible for inspections and enforcement duties under the Environmental Protection Act 1990 regarding pollution prevention and control, noise disturbance and contaminated land.

Gated developments - developments that are totally secured from non-residents through the use of controlled access gates.

Green roof or wall - a roof or wall that is intentionally covered with vegetation which can help reduce the causes and effects of climate change locally whilst promoting enhanced biodiversity.

Licensing - Unitary or district local authorities are responsible for a range of licensing regimes, including alcohol, entertainment and food premises under the Licensing Act 2003, gambling premises under the Gambling Act 2005 and houses in multiple occupation under the Housing Act 2004.

Lifetime Neighbourhoods – Lifetime neighbourhoods are places where people are able to live and work in safe, healthy, supportive and inclusive environments with which they are proud to identify. There are numerous design standards and checklists that cover elements of the lifetime neighbourhoods process, including WHO Age Friendly Cities checklist, BREEAM for Communities, and Building for Life.

Pedestrian - refers to a person walking on foot, but also includes those using wheelchairs and mobility scooters.

Planning Obligations (also known as 'Developer Contributions' or 'Section 106 Agreements') are private agreements made between local authorities and developers under section 106 of the Town and Country Planning Act 1990 (as amended). They can be attached to a planning permission to make development acceptable which would otherwise be unacceptable in planning terms. The land itself, rather than the person or organisation that develops the land, is bound by the agreement. Since the introduction of the Community Infrastructure Levy, agreements are focused on site-specific mitigation.

Public realm - the space between and within buildings that is publicly accessible, including streets, squares, forecourts, parks and open spaces.

Social exclusion/isolation - is a term to describe the effect whereby individuals or entire communities of people are excluded or disadvantaged from access to housing, employment, healthcare and civic engagement.

Sustainable Urban Drainage System (SUDS) - used to describe the various approaches that can be used to manage surface water drainage in a way that mimics the natural environment.

Tenure blind residential development - used to promote integration of different tenures in a single development by designing houses for sale and houses built for affordable or social rent so that they are similar in design and appearance so as to mask the tenures. The conviction is that tenure blind design helps social integration without affecting property prices.

Traffic calming - self-enforcing measures designed to encourage driving at speeds appropriate to local conditions, improve the environment and reduce accidents.

Traffic regulations and highway powers - Unitary and county authorities are responsible for traffic regulations regarding parking, speed limits and crossings under the Road Traffic Regulation Act 1984 and powers under the Highways Act 1980 to maintain and ensure safe public use of local highways. Developer contributions towards highway improvements can be secured under section 278 of the Highways Act.

Travel plan - a plan to manage travel to and from a development site or occupied building, to reduce transport impacts and deliver sustainable transport on an on-going basis.

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15-A: HISTORIC ENVIRONMENT ASSESSMENT (HEA) (UPDATED FOR MARCH 2020)



THAMESIDE WEST London E16

London Borough of Newham

Historic environment assessment

April 2020



**Thameside West
Silvertown
London E16**

London Borough of Newham

Historic environment assessment

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2	30/11/2018	Christina Holloway (Archaeology) Thomas Light (Graphics)	–	Christina Holloway	Issue for planning
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- Fig 9 *Ordnance Survey 2nd edition 6":mile map of 1896*
- Fig 10 *Ordnance Survey 3rd edition 6":mile map of 1920*
- Fig 11 *Ordnance Survey 25" mile map of 1964–1968*
- Fig 12 *Ordnance Survey 1:10,000 scale map of 1974*
- Fig 13 *Ordnance Survey 1:10,000 scale map of 1981*
- Fig 14 *Ordnance Survey 1:10,000 scale map of 1999*
- Fig 15 *Typical cross section of new river wall (BuroHappold, Dwg No 035668_W32_01, 21/12/2016, Rev-)*
- Fig 16 *Location of archaeological features relating to the Thames Ironworks shipyard and Victoria Dock entrance lock*
- Fig 17 *Proposed ground level Site layout (Foster + Partners, Site Layout Masterplan Ground Level, dwg 2693 A-SL-011-01-01, Rev 00, 17/02/2020)*
- Fig 18 *Proposed lower ground level Site layout (Foster + Partners, Site Layout Masterplan Lower Ground, dwg 2693 A-SL-011-00-01, Rev 00, 17/02/2020), showing location of Thames Ironworks shipyard features and Victoria Dock entrance lock*

Note: site outlines may appear differently on some figures owing to distortions in historic maps. North is approximate on early maps.

Executive summary

BuroHappold on behalf of Silvertown Homes Limited and GLA Land and Property (the Applicant) has commissioned MOLA (Museum of London Archaeology) to carry out a historic environment assessment in advance of the proposed Thameside West development, Silvertown Way, in the London Borough of Newham (the LPA); National Grid Reference 539184 180528. The hybrid planning application comprises:

1. Detailed planning application for Phase 1 with works to include: The proposed demolition of existing buildings and structures, the erection of buildings, including tall buildings, comprising: 460 401 residential Units (Class C3), 3,608 sqm (GEA) of flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8); 162 230 sqm (GEA) of flexible retail floorspace (Classes A1–A4); a new/altered access road from Dock Road/North Woolwich Road; new streets, open spaces, landscaping and public realm; car, motorcycle and bicycle parking spaces and servicing spaces; and other works incidental to the proposed development.
2. Outline planning application (all matters reserved) for the phased delivery of the balance of the site for the proposed demolition of existing buildings and structures; the erection of buildings, including tall buildings, comprising: a new local centre; a primary school (Class D1); residential and older person units (Class C3); flexible employment floorspace (Classes B1b, B1c, B2 (restricted) and B8); flexible employment floorspace (Classes B1c, B2 and B8); flexible retail floorspace (Classes A1–A4); community and leisure floorspace (Classes D1 and D2); the construction of a new flood defence wall and delivery of ecological habitat adjacent to the River Thames and associated infrastructure; streets, open spaces, landscaping and public realm (including new park and SINC improvements); car, motorcycle and bicycle parking spaces and servicing spaces; utilities including energy centre and electricity substations; and other works incidental to the proposed development.”

Extensive geoarchaeological investigations in and around the Site have provided evidence of past environments, with natural gravels sealed by various soil, marsh and channel deposits, formed from the Mesolithic to early historic periods. An archaeological investigation in the north-west part of the Site in 2010 recorded features associated with the Thames Ironworks and Shipbuilding Company's works, established in the mid-19th century. These included a slipway and remains of buildings.

This desk-based study assesses the impact of the scheme on buried heritage assets (archaeological remains). Above ground heritage assets (historic structures) are not discussed in detail, but they have been noted where they assist in the archaeological interpretation of the Site.

The Site is within the Royal Docks Archaeological Priority Area, and was in marshland away from centres of settlement until its development for industrial use from the mid-19th century onward. Buried heritage assets that may be affected by the proposals comprise:

- **19th and early 20th century features associated with the Thames Ironworks shipyard** have previously been recorded in the north-west of the Site, and further remains, of low or medium significance are assumed to survive, in particular the two large infilled dry docks shown on historic maps. Remains of the south end of the **mid-19th century Victoria Dock entrance lock**, which incorporated early hydraulic machinery, are potentially of medium significance.
- **Truncated footings of late 19th century industrial buildings**, localised and truncated **footings of mid-to-late 19th century houses**, and localised and truncated **remains of the Great Eastern Railway's goods yard** may survive, all of low significance.
- **Palaeoenvironmental remains**, within deeply stratified alluvial deposits in the Site, of low significance. These have potential for evidence of past landscapes and environments, and may also preserve wood and organic sediments which can be dated by radiocarbon, of medium significance. In areas where the top of the sequence has been truncated, the lowest (oldest) levels may still survive intact.

Archaeological and palaeoenvironmental survival is expected to be generally high, although with localised truncation from more recent construction.

Excavation and remediation of the parts of the Site to create a development platform would entirely remove any archaeological and palaeoenvironmental remains within the extent and depth of the work.

The bases of the dry docks and Victoria Dock entrance lock would survive beneath this level, but there would be further localised truncation from piling, and the dry docks would be additionally affected by construction of the new development's lower ground level.

A phased approach to further archaeological investigation could be integrated with the development programme to achieve preservation by record. It should be noted however that ground contaminants may be present which will be a constraint on archaeological work.

An initial archaeological watching brief is recommended on the Operational Development groundworks. This should include provision if necessary, as agreed with the LPA's archaeological advisor, for archaeological direction of the speed of such works to ensure sufficient time for the archaeologists to make records appropriate to the significance of the remains affected, such as those within the area of the former Thames Iron Works, which may require full archaeological excavation. This would ensure that any remains present are not removed without appropriate recording and an assessment of their significance.

Depending on the extent of the areas covered, the results of the watching brief may need to be supplemented by targeted evaluation in order to inform a strategy to understand and where necessary and possible mitigate the impacts of the Masterplan development – in particular, basement construction and piling – on deeper remains unaffected by the Operational Development.

Groundworks in the area of the southern extent of the Victoria Dock entrance lock should be archaeologically monitored as an opportunity to assess its survival and significance, with subsequent mitigation as necessary once the significance and the scale of the impacts are fully understood.

Palaeoenvironmental remains have already been comprehensively studied as part of previous investigations, although no data is currently available for the south-eastern part of the Site. The impact of development here on palaeoenvironmental remains could be mitigated through a limited and targeted programme of geoarchaeological boreholes and sampling.

Each phase of such investigations would be undertaken in accordance with a Written Scheme of Investigation (WSI) approved by the archaeological advisor to the LPA, and could be carried out under archaeological planning conditions.

1 Introduction

1.1 Origin and scope of the report

- 1.1.1 BuroHappold on behalf of Silvertown Homes Limited and GLA Land and Property (the Applicant) has commissioned MOLA (Museum of London Archaeology) to carry out a historic environment assessment (HEA) in advance of the proposed Thameside West development, Silvertown Way, in the London Borough of Newham; National Grid Reference (NGR) 539184 180528: Fig 1. The hybrid planning application comprises:
1. Detailed planning application for Phase 1 with works to include: The proposed demolition of existing buildings and structures, the erection of buildings, including tall buildings, comprising: 460 residential Units (Use Class C3), 3,493 sqm (GEA) of flexible employment floorspace (Use Classes B1b, B1c, B2 (restricted) and B8); 162 sqm (GEA) of flexible retail floorspace (Use Classes A1–A4); a new/altered access road from Dock Road/North Woolwich Road; new streets, open spaces, landscaping and public realm; car, motorcycle and bicycle parking spaces and servicing spaces;; and other works incidental to the proposed development.
 2. Outline planning application (all matters reserved) for the balance of the Site for the proposed demolition of existing buildings and structures; the erection of buildings, including tall buildings, comprising: a new DLR station; a new local centre; a primary school (Use Class D1); residential and older person units (Use Class C3); flexible employment floorspace (Use Classes B1b, B1c, B2 and B8); flexible retail floorspace (Use Classes A1–A4); community and leisure floorspace (Use Classes D1 and D2); the construction of a new flood defence wall and delivery of ecological habitat adjacent to the River Thames; associated infrastructure; streets, open spaces, landscaping and public realm (including new park and SINC improvements); car, motorcycle and bicycle parking spaces and servicing spaces; utilities including energy centre and electricity substations; and other works incidental to the proposed development.
- 1.1.2 This HEA forms an initial stage of investigation of the area of proposed development (hereafter referred to as ‘the Site’) and may be required in relation to the planning process in order that the local planning authority (LPA) can formulate an appropriate response in the light of the impact on any known or possible heritage assets. These are parts of the historic environment which are considered to be significant because of their historic, evidential, aesthetic and/or communal interest.
- 1.1.3 This desk-based study assesses the impact of the scheme on buried heritage assets (archaeological remains). The assessment includes the impact of the Thameside West Operational Development (which received separate planning consent on the 14th September 2018; ref 17/02554/FUL). The main elements of the Operational Development are:
- raising the Site's ground level by using spoil excavated from the construction of the Silvertown Tunnel and spreading it across the Site to create a development platform;
 - raising the flood defence along the River Thames frontage to 6.2m above Ordnance Datum (OD) to meet the Environment Agency's (EA) 2100 flood defence level and enabling the delivery of a new river walkway;
 - re-purposing of temporary jetty pilings; and
 - demolition of some existing buildings.
- 1.1.4 As part of these works, hard-standing will be removed – together with below-ground obstructions to a depth of 3.0m. The development platform behind the flood defence will have a general ground level across the Site east to west similar to 2018 levels, although with two lower terraced levels along the river frontage, behind a new river wall.
- 1.1.5 This report deals solely with the archaeological implications of the development and does not cover possible built heritage issues, except where buried parts of historic fabric are likely to be affected. Above ground assets (i.e., designated and undesignated historic structures and conservation areas) on the Site or in the vicinity that are relevant to the archaeological

interpretation of the Site are however noted in this report, and direct physical impacts upon such assets arising from the development proposals are described. The report does not assess issues in relation to the setting of above ground assets (e.g., visible changes to historic character, or views). Impacts on the significance of above ground assets and their setting are assessed by MOLA in a separate Heritage Statement.

- 1.1.6 The assessment has been carried out in accordance with the requirements of the National Planning Policy Framework (NPPF; MHCLG 2018), regional and local planning policy (see section 9 of this report) and to standards specified by the Chartered Institute for Archaeologists (CIfA Dec 2014a, 2014b), Historic England (EH 2008, HE 2015), and the Greater London Archaeological Advisory Service (GLAAS 2015). Under the 'Copyright, Designs and Patents Act' 1988 MOLA retains the copyright to this document.
- 1.1.7 Note: within the limitations imposed by dealing with historical material and maps, the information in this document is, to the best knowledge of the author and MOLA, correct at the time of writing. Further archaeological investigation, more information about the nature of the present buildings, and/or more detailed proposals for redevelopment may require changes to all or parts of the document.

1.2 Designated heritage assets

- 1.2.1 Historic England's National Heritage List for England (NHL) is a register of all nationally designated (protected) historic buildings and sites in England, such as scheduled monuments, listed buildings and registered parks and gardens. The List does not include any nationally designated heritage assets within the Site. Designated assets in the study area (their locations are shown on Fig 2) comprise:
- Trinity House Buoy Wharf Quay and Orchard Dry Dock (NHL ref 1242315). A Grade II listed mid-19th century wharf, 135m west of the Site boundary;
 - Trinity House Chain Locker and Lighthouse Block (NHL ref 1242382). A Grade II listed mid-19th century lighthouse, 125m west of the Site boundary;
 - the Stothert and Pitt cranes on the north and south sides of Royal Victoria Dock (NHL ref 1393528). Grade II listed early 20th century cranes, the closest being c 160m north-east of the Site boundary;
 - Blackwall Pier and entrance lock to former East India Dock basin (NHL ref 1260086). Grade II listed entrance lock, built c 1803 with later enlargement, 310m south-west of the Site boundary.
- 1.2.2 GLAAS is currently re-assessing archaeological priority areas (APAs) throughout the London boroughs in line with new guidelines to link archaeological sensitivity "tiers" to specific thresholds for triggering archaeological advice and assessment. The London Borough of Newham's APAs were updated in 2014 in line with these guidelines. The Site lies within the, Royal Docks APA, classified as Tier 3 because of its "landscape scale and relatively sparse distribution of known heritage assets combined with topographical potential for preservation and historic industry" (EH, 2014).

1.3 Aims and objectives

- 1.3.1 The aim of the assessment is to:
- identify the presence of any known or potential buried heritage assets that may be affected by the proposals;
 - describe the significance of such assets, as required by national planning policy (see section 9 for planning framework and section 10 for methodology used to determine significance);
 - assess the likely impacts upon the significance of the assets arising from the proposals; and
 - provide recommendations for further assessment where necessary of the historic assets affected, and/or mitigation aimed at reducing or removing completely any adverse impacts upon buried heritage assets and/or their setting.

2 Methodology and sources consulted

2.1 Sources

- 2.1.1 For the purposes of this report, documentary and cartographic sources including results from any archaeological investigations in the Site and the area around it were examined in order to determine the likely nature, extent, preservation and significance of any buried heritage assets that may be present within the Site or its immediate vicinity. This information has been used to determine the potential for previously unrecorded heritage assets of any specific chronological period to be present within the Site.
- 2.1.2 In order to set the Site into its full archaeological and historical context, information was collected on the known historic environment features within a study area extending 500m from the Site boundary, as held by the primary repositories of such information within Greater London. These comprise the Greater London Historic Environment Record (GLHER) and the Museum of London Archaeological Archive (MoL Archaeological Archive). The GLHER is managed by Historic England and includes information from past investigations, local knowledge, find spots, and documentary and cartographic sources. The MoL Archaeological Archive includes a public archive of past investigations and is managed by the Museum of London. The study area was considered through professional judgement to be appropriate to characterise the historic environment of the Site. Occasionally there may be reference to assets beyond this, where appropriate, e.g., where such assets are particularly significant and/or where they contribute to current understanding of the historic environment.
- 2.1.3 In addition, the following sources were consulted for the preparation of the assessment produced by MOLA in 2017 for the Thameside West Operational Development application, and have informed the preparation of the current report:
- MOLA – in-house Geographical Information System (GIS) with statutory designations GIS data, the locations of all ‘key indicators’ of known prehistoric and Roman activity across Greater London, past investigation locations, projected Roman roads; burial grounds from the Holmes burial ground survey of 1896; georeferenced published historic maps; Defence of Britain survey data, in-house archaeological deposit survival archive and archaeological publications;
 - Historic England – information on statutory designations including scheduled monuments and listed buildings, along with identified Heritage at Risk;
 - The London Society Library – published histories and journals;
 - Newham Record Office – historic maps and published histories;
 - Groundsure Landmark – historic Ordnance Survey maps from the first edition (1860–70s) to the present day, and Goad insurance maps;
 - British Geological Survey (BGS) – solid and drift geology digital map; online BGS geological borehole record data;
 - Internet – web-published material including the LPA local plan, and information on conservation areas and locally listed buildings.
- 2.1.4 BuroHappold supplied an existing topographical Site survey, along with architectural drawings (Foster + Partners) and engineering drawings (John McAslan and Partners).
- 2.1.5 A geoarchaeological deposit model produced by Quaternary Scientific (QUEST 2015) for the Silvertown Tunnel scheme EIA has provided data on levels of sub-surface geology.
- 2.1.6 Elliot Wragg of the Thames Discovery Programme (TDP) was consulted regarding the impacts of the proposed development along the foreshore.
- 2.1.7 For the purposes of this report, the Site has not been inspected in detail, but has been viewed from Dock Road, and photographs of the Site have been supplied by BuroHappold. It is easily visible on Google Street View, which shows the current layout and buildings on the Site.

2.2 Methodology

- 2.2.1 Fig 2 shows the location of known historic environment features within the study area. These have been allocated a unique HEA reference number (**HEA 1, 2**, etc), which is listed in a gazetteer at the back of this report and is referred to in the text. Archaeological priority areas are not shown. All distances quoted in the text are approximate (within 10m), and unless otherwise stated are measured from the nearest part of the Site boundary.
- 2.2.2 Section 10 sets out the criteria used to determine the significance of heritage assets. This is based on four values set out in Historic England's *Conservation principles, policies and guidance* (EH 2008), and comprise evidential, historical, aesthetic and communal value. The report assesses the likely presence of such assets within (and beyond) the Site, factors which may have compromised buried asset survival (i.e. present and previous land use), as well as possible significance.
- 2.2.3 Section 11 includes non-archaeological constraints. Section 12 contains a glossary of technical terms. A full bibliography and list of sources consulted may be found in section 13 with a list of existing Site survey data obtained as part of the assessment.

2.3 Consultation

- 2.3.1 The Thameside West development is subject to Environmental Impact Assessment (EIA). During the EIA Scoping process, the LPA consulted GLAAS on whether archaeology should be included in the Environmental Statement (ES). The GLAAS archaeological advisor to the LPA agreed that archaeology could be scoped-out, but noted the likely presence in the centre of the Site of the western entrance lock to the Victoria Dock (constructed in the mid-19th century and which incorporated notable engineering features), as well as remains of the Thames Ironworks shipyard in the north of the Site. GLAAS recommend that the impact of the proposals on these undesignated heritage assets (including dockside and shipyard heritage) should be assessed (GLAAS ref 18/00978/SCOPE, 20th April 2018).

3 The Site: topography and geology

3.1 Site location

- 3.1.1 The Site is south-west of Silvertown Way, London E16 (NGR 539184 180528: Fig 1). The Site area is 18.79 ha, extending west from the junction of Silvertown Way and the Lower Lea Crossing to the River Thames.
- 3.1.2 The Site falls within the historic parish of West Ham and was previously within the county of Essex; it is now under the administration of the Greater London Borough of Newham.
- 3.1.3 The Site is on the north bank of the River Thames, just east of the confluence of the Thames and the River Lea (which here forms Bow Creek).

3.2 Topography

- 3.2.1 Topography can provide an indication of suitability for settlement, and ground levels can indicate whether the ground has been built up or truncated, which can have implications for archaeological survival (see section 5.2).
- 3.2.2 Ground levels on the Site (Fig 3) reflect post-medieval land reclamation and subsequent use for industrial purposes. Levels are highest along the river frontage, ranging from 5.0m above Ordnance Datum (OD), at the south-eastern end to 6.1m OD towards Bow Creek forming a flood defence. This flood defence plateau extends approximately 60m to 100m into the Site.
- 3.2.3 From the landward side, ground levels slope down to 3.0m OD over approximately 60m, and in the vicinity of the elevated Docklands Light Railway (DLR) which crosses the Site, are at 1.4m to 1.9m OD along its route. To the north-east of the DLR, ground levels rise slightly again from 2.8m to 3.5m OD over the next 60m, before dropping sharply down to 1.6m OD on the A1020 Silvertown Way.
- 3.2.4 Groundworks as part of the Silvertown Tunnel and Thameside West Operational Development will result in ground levels of 6.2m OD along the river frontage (although with a lower level of 4.7m OD along the riverside walkway and an outer planted bank sloping from c 3.8m OD to 2.6m OD). Ground level will fall eastwards to 3.2m OD through the centre of the Site, and 1.7m OD to the east of the Silvertown tunnel.

3.3 Geology

- 3.3.1 Geology can provide an indication of suitability for early settlement, and potential depth of remains.
- 3.3.2 The geology of the Site is floodplain alluvium over gravels. Alluvial deposits have potential for palaeoenvironmental remains which can provide evidence of past environments and in some cases of human activity.
- 3.3.3 Adjacent to the Site to the north-east, three phases of archaeological and geoarchaeological investigations by MOLA in 2010 for the Urban Sustainability Centre (site code USC10: **HEA 38**) indicated that the area once formed a major channel thread of the River Lea. The basal deposits consisted of floodplain gravels, deposited during the closing part of the Late Devensian Glaciation (c 18,000–15,000 years ago). A series of finer grained sands and silts overlying the gravels indicate a switch to a lower energy partially braided, multi-threaded channel, possibly in the Late Glacial or Early Holocene period (c 15,000–10,000 years ago), and reflect a change in channel behaviour influenced by climate amelioration. Above the sands was a series of finely laminated clay silts and fine sands interspersed with thin lenses of organics. These were deposited within a wide, single threaded low-energy channel, and the accumulation of organics may relate to episodic channel cut off, which allowed partial vegetation to develop. These deposits are likely to have accumulated between 10 000 to 2000 years ago (i.e. the Mesolithic to Iron Age period). By the Iron Age the effects of relative sea level rise began to influence the area. The freshwater river regime transformed to an estuarine environment, resulting in the deposition of intertidal muds within marginal mudflats and salt marsh. The tidal inundation caused aggradation across the floodplain surface significantly

raising the topography, protecting it from frequent inundation, and allowing some soils to develop supporting periodically flooded grassland.

- 3.3.4 The geoarchaeological deposit model produced by QUEST used data from boreholes (locations on Fig 4) to show the nature and levels of geological deposits across the area of the Silvertown Tunnel proposal (QUEST 2015; Transport for London 2016B,); this was in turn part-based on a MOLA geoarchaeological survey of the Lea Valley (Corcoran *et al*, 2011).
- 3.3.5 The Site lies within the northern extent of the area of the deposit model, and two transects (north–south, and east–west) run through the Site; Fig 4a; Fig 4b). The underlying geology as relevant to archaeology and geoarchaeology can be summarised as:
- the top of natural Gravel across much of the Site is at c –3.0m OD, but varying to +1.0m in the north and to –6.0m OD in the south;
 - peat 0.5m to 3.0m-thick was present in places at –1.0m OD to –3.0m OD;
 - the alluvium is 2.0–5.0m in thickness, with the top of the highest surviving alluvial deposits at +1.0m OD.
- 3.3.6 Overlying the alluvium is made ground, varying in thickness across the Site from approximately 2.0m to 7.0m and probably derived from 19th and 20th century development or demolition.

4 Archaeological and historical background

4.1 Overview of past investigations

- 4.1.1 Archaeological investigations carried out within the Site or including the Site as part of a wider investigation area comprise:
- a watching brief and evaluation by MOLA in 2010 in the central area of the Limmo Peninsula Crossrail Shaft site (site code XRW10: **HEA 1a**);
 - a watching brief by MOLA in 2009 at Instone Wharf (site code XRG09: **HEA 1b**), on trial pits excavated to assess the state of the existing river wall;
 - a geoarchaeological evaluation by MOLA in 2007 at Thames Wharf, Dock Street (side code TWF07: **HEA 1c**);
 - a watching brief by AOC Archaeology in 2011 at the Clyde Wharf and Foreshore for the Thames Cable Car (site code CAC11: **HEA 1d**); and
 - an evaluation by MOLAS (now MOLA) and Pre-Construct Archaeology in 2007 at Dock Road (GLHER ref ELO7446, MLO98598: **HEA 1f**).
- 4.1.2 The geoarchaeological deposit model produced by QUEST (2015) for the Silvertown Tunnel scheme EIA (Fig 4) included the majority of the Site area with the exception of the south-east corner.
- 4.1.3 A geoarchaeological survey and watching brief by MOLA in 2003–4 for the DLR City Airport Extension (site code DLA03: **HEA 9**) also crossed the Site, and recorded natural gravels sealed by various soil, marsh and channel deposits, formed from the Mesolithic to early historic periods. Evidence of woodland and later peat formation was dated to the Neolithic and Bronze Ages respectively. The peat was sealed by thick deposits of waterlaid silt from the Iron Age onwards, a result of sea level rises. The latest identified period probably dated to the late 18th–19th century as the low lying marshy land was reclaimed and built up.
- 4.1.4 One of the geoarchaeological evaluations (**HEA 1c**) recorded early Holocene deposits (i.e., Postglacial, c 10,000 years ago), possibly indicating mudflats, although these had been reworked, probably as a result of their proximity to the confluence of the River Thames and River Lea. Redeposited alluvium was identified, most likely from the excavation of the Royal Victoria Docks.
- 4.1.5 **HEA 1a** comprised one north-west to south-east aligned trench in the west of the Site, and was part of a larger phase of works extending beyond the Site's boundary. The investigations recorded features associated with the 19th century Thames Ironworks and Shipbuilding Company's yard including a slipway and remains of the machine shop and erecting shop. Another watching brief in the Site (**HEA 1b**) recorded made ground deposits comprising brick and fire-brick fragments, coal, clinker, and fragments of wood and iron, as well as iron tie bars and supports for the river wall. The made ground deposits are probably associated with the Thames Ironworks and were sealed by modern concrete. The later watching brief (**HEA 1d**) recorded only alluvial deposits contaminated with petrochemicals.
- 4.1.6 **HEA 1f** included a trench which exposed an alluvial sequence dating to the Bronze Age. Three timber stakes were identified driven into the upper clay deposits, and radiocarbon dated to AD 990–1200.
- 4.1.7 Other investigations within the study area largely comprise a mix of archaeological watching briefs and geoarchaeological evaluations and surveys. These have demonstrated the history of the area as marshland until development in the 19th century, when it became increasingly industrial in character.
- 4.1.8 The results of these investigations, along with other known sites and finds within the study area, are discussed by period, below. The date ranges given are approximate.

4.2 Chronological summary

Prehistoric period (800,000 BC–AD 43)

- 4.2.1 The Lower (800,000–250,000 BC) and Middle (250,000–40,000 BC) Palaeolithic saw alternating warm and cold phases and intermittent perhaps seasonal occupation. During the Upper Palaeolithic (40,000–10,000 BC), after the last glacial maximum, and in particular after around 13,000 BC, further climate warming took place and the environment changed from steppe-tundra to birch and pine woodland. It is probably at this time that Britain first saw continuous occupation. Erosion has removed much of the Palaeolithic land surfaces and finds are typically residual. An evaluation 270m south-east of the Site (**HEA 21**) identified evidence of artefacts indicating human activity (site code HWBC97 archive summary description) within Pleistocene gravels, which broadly correspond to this period. The nature of these artefacts is not noted, but most likely comprised worked flints.
- 4.2.2 The Mesolithic hunter-gatherer communities of the postglacial period (10,000–4000 BC) inhabited a still largely wooded environment. The river valleys would have been favoured in providing a dependable source of food (from hunting and fishing) and water, as well as a means of transport and communication. Evidence of activity is characterised by flint tools rather than structural remains. Although peat deposits dating to the Mesolithic period have been recorded, there are no known artefacts dated to this period within the study area.
- 4.2.3 The Neolithic (4000–2000 BC), Bronze Age (2000–600 BC) and Iron Age (600 BC–AD 43) are traditionally seen as the time of technological change, settled communities and the construction of communal monuments. Farming was established and forest cleared for cultivation. An expanding population put pressure on available resources and necessitated the utilisation of previously marginal land. Evidence for Bronze Age activity comprises the chance finds of a bronze ‘rapier’ and a bronze axe head recovered 450m north-west of the Site in the early 20th century (**HEA 31**).
- 4.2.4 Evidence of the prehistoric landscape is derived largely from geoarchaeological investigations. The survey within the Site (**HEA 1b**) suggests it was within riverside mudflats, its proximity to the Thames and Lea resulted in reworking of the alluvial deposits over time. Evidence of drier woodland, dating provisionally to the Mesolithic period was identified during a watching brief 450m north of the Site (**HEA 9**). The GLHER notes evidence of prehistoric woodland, observed during the construction of the East India Docks 310m west of the Site (**HEA 27**), from which a large elephant tooth was recovered.
- 4.2.5 During the prehistoric period the Site would have been too wet for settlement, but to the north and north-west of the Site the surrounding environment appears to have been drier and covered by woodland. The Site may however have been used for hunting, fowling and fishing, and a source of raw materials such as reeds.

Roman period (AD 43–410)

- 4.2.6 Within approximately a decade of the arrival of the Romans in AD 43, the town of *Londinium* had been established on the north bank of the Thames where the City of London now stands, 6.5km to the west of the Site. It quickly rose to prominence, becoming a major commercial centre and the hub of the Roman road system in Britain. Small settlements, typically located along the major roads, supplied produce to the urban population, and were markets for *Londinium*’s traded and manufactured goods (MoLAS, 2000, 150).
- 4.2.7 During this period, the focus of settlement would have been on the higher gravel to the north. In 1918, quarrying at Newham, 2.0km north-east of the Site, uncovered evidence of a Romano-British enclosure with an associated pottery assemblage (pastscape.org.uk, monument 408192). It is likely that during this period attempts to reclaim the upper areas of marshland were also made. Drainage ditches have been identified in an evaluation 1.0km north of the Site in the vicinity of Cumberland School (site code BKP04), along with evidence of cremation burials.
- 4.2.8 The Site probably remained marsh or mudflats, although it is likely that the area included woodland during this period, as a geoarchaeological evaluation 500m south-east of the Site (**HEA 22**), recorded pollens within buried sediments indicating oak, hazel and alder along the river’s marginal area.

Early medieval (Saxon) period (AD 410–1066)

- 4.2.9 Following the withdrawal of the Roman army from England in the early 5th century AD, *Londinium* was apparently abandoned. Germanic ('Saxon') settlers arrived from mainland Europe, with occupation in the form of small villages and an economy initially based on agriculture. By the end of the 6th century a number of Anglo-Saxon kingdoms had emerged, and as the ruling families adopted Christianity, endowments of land were made to the church. Landed estates (manors) can be identified from the 7th century onwards; some, as Christianity was widely adopted, with a main 'minster' church and other subsidiary churches or chapels. In the 9th and 10th centuries, the Saxon Minster system began to be replaced by local parochial organisation, with formal areas of land centred on settlements served by a parish church.
- 4.2.10 The Site lay within the manor of Hamme, first mentioned in AD 958 when King Edgar granted land to Athelstan of East Anglia. The name refers to an area of low-lying pasture: more than half of the land of the later West Ham parish, in the south and west, lay in marshland below the level of ordinary spring tides (VCH Essex vi, 43–50).
- 4.2.11 The focus of settlement in this period is uncertain, but it probably developed in the vicinity of the later medieval village of West Ham, c 3.0km north of the Site (VCH Essex vi, 43–50).
- 4.2.12 No archaeological finds or features of this period have been recorded in the study area, and the Site was within marshland, probably used for pasture.

Later medieval period (AD 1066–1485)

- 4.2.13 The Site was within the manor of Ham, which is mentioned in *Domesday Book* (AD 1086). By the 12th century, it had become divided into a number of smaller estates. In AD 1135, William de Montfitchet, successor to half of the manor, founded the abbey of Stratford Langthorne in the reclaimed marshes of the Lea valley, c 1.0km to the north-west of the Site, granting to it all his lordship of Ham. This endowment formed the nucleus of the manor of West Ham (VCH Essex vi, 43–50).
- 4.2.14 The Site lay on the edge of the parish of West Ham, c 3.0km south of West Ham village where by the 12th century a parish church has been established (*ibid.*). The manor of Sudbury was formed at this time; its name, 'southern manor house', presumably described its position in relation to West Ham. Documentary sources state that the manor was formed from the land owned by Peverel in West Ham c 1100–1135. The estate was ceded to the Crown and part was given by Henry II to Stratford Langthorne Abbey. The last documented reference to Sudbury, alias Abbey Place, was in 1545 when it was in the possession of the Crown. It is presumed to have been subsequently merged with the manor of West Ham (VCH Essex vi, 72–3). The GLHER notes the Canning Town Manor of Covelees which formed part of the Medieval flood defences. By 1248 the manor extended to beyond 130 acres (GLHER ref MLO25824).
- 4.2.15 It is likely that the marshland was being drained in the later medieval period. This would initially have taken the form of channels dug around parcels of land and the construction of embankments to manage flooding. A major product of the Essex woodland was 'underwood' for 'thatching' such embankments, and posts and branches to trap silts at high tide to facilitate the development of salt marsh (English Nature Character Area Statement 81). The purpose of reclamation was to provide good-quality grazing for livestock, and fertile land for crops; the economic importance of such land is demonstrated by the pattern of inland parishes owning a detached portion of the coastal marshes. Reclamation is likely to have improved the general living environment of those people living near the edge of the marshes on in some cases, on islands of higher ground within the marsh. It typically took place in stages, with successive embankments constructed as more and more of the marshland was reclaimed out from the edge of the higher ground (Rippon 2000, 153–85; Thirsk 2000, 150–66).
- 4.2.16 During the 14th and 15th centuries the area of marshland on which the Site is located became known as the Plaistow Levels, and were reclaimed by Stratford and Barking abbeys but were soon abandoned due to flooding (VCH Essex vi, 93–6). The GLHER notes documentary evidence describing successive phases of flood defences along the Thames foreshore (**HEA 27**). Three timber stakes found during an evaluation at Dock Road Industrial Estate, c 100m west of the Site (**HEA 2**) on the opposite bank of the River Lea may date to this period and could be related to flood defences.
- 4.2.17 The remaining archaeological evidence in the study area for later medieval activity comprises

the chance find of an iron lance or spear tip and a spur, 500m north of the Site (**HEA 34**).

Post-medieval period (AD 1485–present)

- 4.2.18 Chapman and Andre's map of Essex, 1777 (Fig 5) shows the Site in an area of marshland extending to Plaistow approximately 1.2km north of the Site, and 5.0km east to Barking Creek. The map indicates two inlets extending into the Site but little further detail. In the vicinity of what is now Manhattan Wharf, c 1.0km south-east of the Site a gibbet is depicted, suggesting this was a place of execution.
- 4.2.19 For this report, both the 1:10,000 scale (6":mile) and 1:2,500 scale (25":mile) Ordnance Survey maps have been examined, however owing to the size of the Site, the small scale maps are illustrated, except where pertinent details are shown on a larger scale map.
- 4.2.20 The Ordnance Survey 1': mile map of 1850 (Fig 6) shows the foreshore occupied by the wharf of the Northumberland and Durham Coal Company. Prior to the construction of the wharf, coal had to be transported overland and its close proximity to the yards of the Ditchburn and Mare Shipbuilding Company (on the opposite side of Bow Creek near Blackwall) which opened in the 1830s, may have been a contributing factor to their success (Marriott, 2011, 103). In the northern half of the Site are railway lines of the Eastern Counties Railway, which broadly follow the alignment of the later Dock Road and North Woolwich Road. The railway was to connect London to Ipswich via Colchester, and later extended to Norwich. The section that runs through the Site was part of the North Woolwich branch, opened in 1847 (Allen, 1955, 8–9).
- 4.2.21 Between 1847 and 1856, land on the east side of the River Lea was purchased by Charles Mare of C. J. Mare and Company (formerly the Ditchburn and Mare Shipbuilding Company). This allowed the expansion of the business and a new yard with furnaces and rolling mills that could construct vessels of 4,000 tons was established, extending into the north-west part of the Site (*Survey of London* vol 44, 646–655). The company hit financial trouble in 1855, but was maintained by its creditors under a new limited company in 1857, the Thames Ironworks and Shipbuilding and Engineering Company Ltd, the largest shipbuilder on the Thames.
- 4.2.22 The Company launched its most famous vessel, HMS Warrior, in 1860. It was constructed entirely of iron, steam-powered and propelled by a screw propeller, although it retained more traditional elements such as masts, sails and a sailing rig arrangement. It was constructed on the main slip of the yard, on the banks of the River Lea and not in dry dock, within the western 'arm' of the Site. Whilst construction of the vessel made a financial loss for the company owing to its innovative design, it bolstered their reputation as producers of warships for the Admiralty and foreign powers (Harrison, 2015, 44).
- 4.2.23 The mouth and lock of the tidal basin of the Victoria Docks (opened in 1855) crossed the Site (**HEA 1e**): the land between the railway yard and the tidal lock was largely empty at this time, with some smaller industrial buildings along the edge of the lock, and Victoria Dock Pier at the entrance. Although also used by large sailing clipper ships, the Victoria Dock was the first to be designed specifically for steamships, with an entrance and area larger than any of the other docks operating at that time and also incorporating hydraulic machinery to handle the cargo. The entrance lock was 24.4m wide, 99m long and 8.5m deep, with hydraulic machinery to open the lock gates in 1.5 minutes (PortCities website). The prefix "Royal" was granted in 1880.
- 4.2.24 The Ordnance Survey 1st edition 6": mile map of 1873 (Fig 7) shows the layout of the shipyard in the north-west of the Site, with the railway marshalling yard of the Great Eastern Railway Company (formerly Eastern Counties Railway Company) to the east. The 1913 auction plan of the shipyard is reproduced as Fig 8. The most prominent features within the Site are the two dry docks, at the confluence of the Rivers Thames and Lea, but there are also slips along the riverfront to the north. To the north a large building comprised a machine shop, erecting shop, and electrical engineering department and general offices, with ancillary stores adjoining (see cover image). The mouths of the various slips were located within the north-west part of the Site, with the main buildings lying immediately to the north, outside of the Site. The map shows terraced houses in the northern and north-eastern part of the Site, including 'Model Cottages', and a small church.
- 4.2.25 The mouth of the Victoria Dock was crossed by a swing bridge as part of the North Woolwich extension of the Great Eastern Railway line (VCH Essex vi, 43–50). The excavation of the docks and the tidal lock changed much of the topography of the surrounding area, with the

excavated material likely being dumped adjacent to the cuttings, raising the surrounding ground levels (*ibid*).

- 4.2.26 The south-eastern part of the Site contained a manure and chemical works, with wharves lining the foreshore of the Thames.
- 4.2.27 The Ordnance Survey 2nd edition 6":mile map of 1896 (Fig 9) shows little real change in the west of the Site, with the exception of the expansion of the railway sidings, which now occupy the majority of the Site. On the eastern side of the tidal lock, the chemical and manure factories had expanded to cover all of this section of the Site. In the north of the Site, some of the cottages shown on the previous map had been demolished to make room for a cricket ground. The church is no longer marked.
- 4.2.28 By the beginning of the 20th century, orders for new ships had declined, and the Thames Ironworks and Shipbuilding Company yard was forced to shut in 1912. Charles Warner's 1913 auction plan of the shipyard (Fig 8) clearly shows its layout at the time of its closure. The Crossrail excavations (Area 3) took place in the western part of the Site on a roughly north-west to south-east alignment (**HEA 1a**; Fig 2). Remains of a timber slipway and parts of the old river wall were recorded in the west, along with timber and iron remains of the mast house and mould loft shown on Warner's map. To the south-east of these, an area of ground consolidation is noted. In the south-eastern extent of this Site, remains of the north range of the machine shop and erecting building were recorded, including the remains of machine bases and timber posts. It is assumed that the features were completely excavated.
- 4.2.29 The Ordnance Survey 3rd edition 6": mile map of 1920 (Fig 10) shows the layout of the shipyard as unchanged. To the east of the tidal lock, the former chemical and manure plants had been replaced by a smaller industrial building that is labelled on the Ordnance Survey 25":mile map of 1952 (not reproduced) as Union Mills (oil and cake) manufactory.
- 4.2.30 The Silvertown Flyover was constructed in the 1930s to relieved traffic congestion in the area, however the Site itself appears to be unchanged until the mid-20th century. The Ordnance Survey 25":mile map of 1964–1968 (Fig 11) shows that the former industrial buildings of the Thames Ironworks, Shipyard and Engineering Company had been demolished in the west of the Site, although the dry docks and railway sidings were still present. To the east of the tidal lock, the Union Mills oil and cake works buildings had increased in size. In the north of the Site, the terraced houses had been demolished and replaced with light industrial buildings, including a transport depot and workshops, one named the Marine Engineering Works on the 25":mile map of 1969 (not reproduced). This development in the north of the Site appears to have taken place immediately post-war, as the garages of the depot, and minor workshops in the north-west are already visible on the Ordnance Survey 1:2,500 scale map of 1952 (not reproduced).
- 4.2.31 The Royal Victoria Dock's basin was closed in the 1930s but the lock (**HEA 1e**) continued in use until 1957, when it had to be closed pending repairs. The lock was reconstructed in 1963–67 but was closed permanently and filled in a few years later (Royal Docks Trust website). The Thames Ironworks dry docks also appear to have been infilled by the 1970s, since the Ordnance Survey 1:10,000 scale map of 1974 (Fig 12) shows the existing Thames Wharf building occupying the western extent of the Site, in the area formerly occupied by the docks. The number of railway sidings also decreased. To the east of the lock, the Site remained unchanged.
- 4.2.32 The Ordnance Survey 1:10,000 scale map of 1981 (Fig 13) shows that nearly all the remaining railway sidings, with the exception of two, had been removed by this period. The wharf buildings depicted in the previous map had expanded by this period and include what may be a long train shed in the south-west corner of the Site. By the time of the Ordnance Survey 1:10,000 scale map of 1999 (Fig 14) the railway sidings had been removed, and the Lower Lea Crossing completed immediately north of the Site connecting to Silvertown Way and the A13. In the north of the Site, the transport depot and workshops had been cleared. The Site has remained unchanged since, with the exception of the elevated Dockland Light Railway viaduct over the Site, and the construction of the towers for the Emirates Cable Car.

5 Statement of significance

5.1 Introduction

- 5.1.1 The following section discusses historic impacts on the Site which may have compromised archaeological survival from earlier periods, identified primarily from historic maps, and information on the likely depth of deposits.
- 5.1.2 In accordance with the NPPF, this is followed by a statement on the likely potential and significance of buried heritage assets within the Site, derived from current understanding of the baseline conditions, past impacts, and professional judgement.

5.2 Factors affecting archaeological survival

Natural geology

- 5.2.1 Ground level for the purpose of this assessment is the baseline established by the completion of the Silvertown Tunnel and Thameside West Operational Development schemes (Fig 3), i.e. from 6.2m OD along the river frontage, sloping down eastwards to 3.2m OD near the DLR station, and 1.7m OD to the east.
- 5.2.2 Based on the results of the QUEST geoarchaeological deposit model (Transport for London B 2016), the sequence of natural geology within the Site comprises:
- Gravel across much of the Site at c –3.0m OD, but varying to +1.0m in the north and to –6.0m OD in the south;
 - localised peat deposits 0.5m to 3.0m-thick at –1.0m OD to –3.0m OD; i.e. 7.0–9.5m below ground level (bgl);
 - the top of the highest alluvial deposits at +1.0m OD, varying in thickness from 2.0–5.0m.
- 5.2.3 Overlying the alluvium, made ground deposits varying in thickness from 2.0m to 7.0m reflect current and past use, and the made ground may be associated with the shipyard and goods yard. It is likely that towards the riverfront, the upper 1.5 to 2.5m of made ground is modern.

Past impacts

- 5.2.4 Archaeological and palaeoenvironmental survival is expected to be generally high, although with localised truncation. Geoarchaeological deposit modelling shows that alluvium and peats (where present) survive beneath made ground deposits of likely 19th century date, with thick modern made ground deposits towards the riverfront.
- 5.2.5 Construction of the foundations for the existing industrial buildings will have removed remains within their footprint to their formation level; piled foundations will have removed all remains within the footprint of each pile.
- 5.2.6 The DLR and Emirates Cable Car cross the Site; the piles for their columns will have removed any remains within their footprints. In addition, the Silvertown tunnel construction will at its upper levels have removed all archaeological remains within its footprint, likely to include the central part of the Victoria Dock entrance lock.
- 5.2.7 The excavation of the Victoria Dock entrance lock and the dry docks in the north-west of the Site will have removed earlier (probably palaeoenvironmental) remains, but possibly not the earliest (lowest) alluvial deposits. Any surviving parts of the dock and lock structures would themselves be of archaeological interest.
- 5.2.8 It is likely that the foreshore area from Royal Victoria and Albert Dock entrance to Bow Creek has been heavily dredged from the late-19th century onward. A TDP survey at Thames Wharf (TDP 2015) did not identify any foreshore deposits in this area. Any remains of features on the foreshore are likely to have been removed by dredging and possibly by the scouring effect of river traffic.

Likely depth/thickness of archaeological remains

- 5.2.9 Made ground deposits on the Site vary from 3.0m to 7.0m thick: these may contain 19th century remains such as footings of industrial buildings, although it is likely that towards the riverfront the upper levels of made ground are modern. Beneath this, there is the potential for alluvial and peat deposits, which may contain earlier remains low down in the alluvial sequence. Palaeoenvironmental remains are likely to be present in the alluvial deposits down to the level of the Gravel. The depth of the dry docks of the shipyard in the north-west of the Site is not known, but from the photograph published in *The Engineer* in 1895 they may be in excess of 6.0m deep. The Victoria Dock entrance lock across the centre of the Site was originally dug to 8.5m deep.

5.3 Archaeological potential and significance

- 5.3.1 The nature of possible archaeological survival in the area of the proposed development is summarised here, taking into account the levels of natural geology and the level and nature of later disturbance and truncation discussed above.
- 5.3.2 *The Site has a high potential for palaeoenvironmental remains.* Geoarchaeological evaluation and excavation in 2011 in the Site (**HEA 1f**) recorded deeply stratified alluvial deposits with peat horizons. This showed periods of tidal flooding and landscape development from the Bronze Age onwards. Alluvial deposits, such as peats and organic clays, are likely to contain microfossils (e.g. pollen) and floral and faunal macrofossils such as molluscs and occasionally ostracods, seeds, plant fragments and pollen which can be utilised to reconstruct past local environments. Minerogenic deposits such as alluvial silts and clays have the potential for preservation of diatoms that can provide information on the salinity status of the depositional environments that would enhance interpretation of the sedimentary sequence. Wood and organic sediment can be dated by radiocarbon, important for establishing the chronology of the sequence. In areas where the top of the sequence has been truncated, the lowest (oldest) levels may still survive intact. Further palaeoenvironmental remains would be of **low** significance, or **medium** significance if datable peat deposits are present, based on their likely archaeological and historic value in providing evidence of past environments and their potential for human activity.
- 5.3.3 *The Site has a low potential for prehistoric remains.* Past geoarchaeological investigations in the Site indicate that throughout the prehistoric period, it would have been within mudflats adjacent to the confluence of the River Thames and River Lea. This would have been an unattractive environment for human settlement, although activity to use the resources of the wetland environment (such as fowling, fishing or hunting) may have occurred. Any remains of this period are likely to comprise residual artefacts only.
- 5.3.4 *The Site has a low potential for Roman remains.* Other than palaeoenvironmental evidence no Roman remains have been recorded in the study area.
- 5.3.5 *The Site has a low potential for medieval remains.* No previous finds or features of this period have been identified in the study area, and the focus of settlement was some distance to the north on the dry terrace gravels at Plaistow. The marshland of the Site came into use as pasture. The GLHER notes that flood defences were erected along the Thames foreshore in the later medieval period, but evidence of these is likely to have been removed by dredging and the construction of the river wall from the late-19th century onward.
- 5.3.6 *The Site has a high potential for post-medieval remains.* Truncated and fragmented remains of the footings of houses may survive on the east side of Dock Road, of **low** significance. Elsewhere, there is potential in the south of the Site for remains of 19th century industrial buildings, and in the centre of the Site for railway sidings of the Great Eastern Railway goods yard, all of **low** significance based on their archaeological and historic value in providing evidence of past human activity. Remains associated with the Thames Ironworks and Shipbuilding Company's yard in the north-west of the Site have been recorded during past investigations. The two infilled dry docks of the shipyard are likely to be of very solid construction, possibly granite, and surviving to a considerable depth; they are considered to be of **medium** significance. The Victoria Dock entrance lock across the centre of the Site (**HEA 1e**) was 8.5m deep, and therefore although reconstructed in the 20th century is also likely to survive, possibly with evidence of its early hydraulic machinery: such remains would

be of **low** or possibly **medium** significance, depending on their nature and state of survival, based on their archaeological and historic value in providing evidence of past human activity. Fig 16 shows the location of the key 19th century industrial structures in the Site.

6 Impact of proposals

6.1 Proposals potentially affecting buried heritage assets

- 6.1.1 The identification of physical impacts on buried heritage assets within a Site takes into account any activity which would entail ground disturbance, for example site set up works, remediation, landscaping and the construction of new basements and foundations. As it is assumed that the operational (completed development) phase would not entail any ground disturbance there would be no additional archaeological impact and this is not considered further.
- 6.1.2 It is outside the scope of this archaeological report to consider the impact of the proposed development on upstanding structures of historic interest, in the form of physical impacts which would remove, alter, or otherwise change the building fabric, or predicted changes to the historic character and setting of historic buildings and structures within the Site or outside it.

Silvertown Tunnel

- 6.1.3 The construction of the Silvertown Tunnel, a new dual two-lane connection between the Greenwich Peninsula on the south side of the Thames and the Tidal Basin roundabout junction on the A1020 Lower Lea Crossing/Silvertown Way (within the Site) will involve twin tunnel bores under the River Thames, largely below the levels of any archaeological or palaeoenvironmental remains. However, associated site clearance and demolition, removal of obstructions and remediation, excavation of the retained cut, the tunnel-boring machine (TBM) launch chamber and the cut and cover sections of the tunnel on the Silvertown worksite will remove all archaeological and palaeoenvironmental remains within the extent and depth of the ground disturbance.

Thameside West Operational Development

- 6.1.4 The Thameside West Operational Development received separate planning consent on the 14th September 2018 (ref 17/02554/FUL). This includes removal of existing hardstanding (and below ground obstructions to a depth of 3.0m below ground level) which will (in areas not affected by the Silvertown Tunnel works) remove all archaeological and palaeoenvironmental remains within the extent and depth of the ground disturbance (BuroHappold, 2017). Condition 4 attached to the consent requires a programme of archaeological investigation to be agreed in order to protect the archaeological interest of the Site in mitigation for the impacts of the scheme.

Demolition, clearance of obstructions and remediation

- 6.1.5 Works carried out as part of the initial site set up, including the preliminary site strip and demolition, the installation of site fencing and welfare facilities, is assumed for the purposes of this assessment to cause ground disturbance to a maximum depth of 0.5mbgl. This may truncate the footings of post-medieval industrial buildings, including those of the former Thames Ironworks and Shipyard which are likely to be present in made ground levels.
- 6.1.6 Removal of deeper obstructions and capping of the Site to create a future development platform will involve excavation and remediation to a maximum depth of 3.0mbgl. This will remove all archaeological and palaeoenvironmental remains within the extent and depth of the work, although deeply-cut features such as the entrance lock for the Victoria Dock across the centre of the Site, and the dry docks in the north-west of the Site, or earlier remains lower down in the alluvial sequence, are likely to survive beneath the truncation level.
- 6.1.7 Following the cleaning of excavated material on the Site, it would be reinstated on the Site.

Masterplan outline and detailed development phases

- 6.1.8 Buried heritage assets (archaeological and palaeoenvironmental remains) will potentially be affected by those elements of the proposals which involve ground disturbance. These primarily comprise the construction of foundations and other below-ground structures such as basements, and associated infrastructure such as the new/altered access road from Dock Road/North Woolwich Road and other new streets, a new DLR station, and landscaping. The

application also includes the construction of a new flood defence wall and delivery of ecological habitat adjacent to the river.

Demolition, site preparation and preliminary groundworks, construction of new roads

- 6.1.9 Ground disturbance within the levels of modern made ground, or deposits re-worked during the Silvertown Tunnel and Thameside West Operational schemes, will have no impact on archaeological or palaeoenvironmental remains.

New piled foundations

- 6.1.10 The insertion of new piled foundations will remove any palaeoenvironmental remains within each pile footprint. Piled foundations also have the potential to remove within their footprint remains of the two dry docks of the Thames Ironworks shipyard in the north-west of the Site and of the Victoria Dock entrance lock in the centre of the Site, although the potentially solid fabric of these features may be an obstacle to construction. Pile caps and ground beams are unlikely to extend below the depth of modern made ground and will therefore have no archaeological impact.

Excavation for construction of the lower ground level

- 6.1.11 Lower ground level spaces in the southern and central/north-west parts of the Site (Foster + Partners, dwg 2693.A-XX-P-011-00-1000, Design Freeze Issue dated 20/09/2018: Fig 19) will have finished floor levels varying from 2.4m–4.5m OD. Assuming a slab thickness of 0.5m, this will give a formation level of 1.9–4.0m OD, which will further truncate – but in most of the Site not remove entirely – the alluvium and any palaeoenvironmental remains within it.
- 6.1.12 In the northern part of the Site, the remains of the Thames Ironworks dry docks where they are in the footprint of the lower ground floor would be further truncated, but not removed entirely. These structures may however be an obstacle to construction.

New flood defences

- 6.1.13 The new flood defences comprise two terraced levels behind sheet piling along 1.1km of foreshore, set in front of the existing river wall alignment. The front terrace will a planted bank between the mean high water neaps (MHWN) and mean high water springs (MHWS) levels. Behind this, the second terrace will form a public walkway (Fig 15). The new flood defence level would be at 6.2m OD. The construction of the new flood defence wall will involve:
- the removal of obstructions along the foot of existing river wall, and a pilot trench to remove surface obstructions;
 - new percussive or vibration-driven steel sheet piling approximately 0.5m in front of the existing river wall;
 - the installation of ground anchors;
 - removal of fill behind the existing river wall; and
 - cutting down of the existing river wall.
- 6.1.14 Owing to past dredging along the foreshore, it is considered unlikely that any archaeological remains survive at foreshore level, and therefore the insertion of the new flood defences, including any associated works (such as trenching and obstruction removal) is unlikely to have any archaeological impact.
- 6.1.15 As part of the Silvertown Tunnel scheme a temporary jetty facility is proposed for the removal by river of excavated material bulk material provision. As a permanent jetty would be beneficial for the Thameside West Operational Development it has been recognised that the temporary pilings could be reused, and the retention of eight of the 25 temporary piles is proposed. The impact of the construction and removal of the piles has already been assessed as part of the Silvertown Tunnel scheme EIA. The retention of some piles will have no archaeological impact.

Landscaping

- 6.1.16 Hard and soft landscaping will be within the depths of modern made ground and is not likely to have any impact on archaeological or palaeoenvironmental remains.

7 Conclusion and recommendations

- 7.1.1 There are no nationally designated heritage assets within the Site. The Site is within the Royal Docks Tier 3 APA, designated for its “landscape scale and relatively sparse distribution of known heritage assets combined with topographical potential for preservation and historic industry”.
- 7.1.2 Archaeological and palaeoenvironmental survival is expected to be generally high, although with localised truncation. Geoarchaeological investigations show that alluvium and – in places – peats survive beneath made ground deposits of likely 19th century date, with thick modern made ground deposits towards the riverfront.
- 7.1.3 The key archaeological potential of the Site is for remains associated with the Thames Ironworks and Shipbuilding Company’s yard in the north-west of the Site; the two infilled dry docks of the shipyard are likely to survive to a considerable depth, and their fabric may be an obstacle to construction. The infilled Victoria Dock entrance lock across the centre of the Site was 8.5m deep, and therefore although reconstructed in the 20th century is also likely to survive, possibly with evidence of its notable early hydraulic machinery. Other evidence may survive of 19th century industrial buildings, railway sidings of the Great Eastern Railway goods yard, and a small area of terraced houses to the east of Dock Road.
- 7.1.4 Excavation and remediation up to 3.0m in depth of the parts of the Site to create a development platform would entirely remove any archaeological and palaeoenvironmental remains within the extent and depth of the work, and may extend into the upper alluvial deposits. The bases of the dry docks and Victoria Dock entrance lock would survive beneath this level, but there would be further localised truncation from piling, and the dry docks would be additionally affected by construction of the new development’s lower ground level.
- 7.1.5 Table 1 summarises the known or likely buried assets within the Site, their significance, and the impact of the proposed scheme on asset significance.

Table 1: Impact upon heritage assets (prior to mitigation)

Asset	Asset Significance	Impact of proposed scheme
Palaeoenvironmental remains (high potential)	Low or medium	Remediation, piling and basement construction. Significance of asset reduced to negligible in the area of impact; survival of such remains beyond the Site unaffected.
Remains associated with the Thames Ironworks and Shipbuilding Company’s yard in the north-west of the Site, particularly the dry docks (high potential)	Medium (for docks and slips) Low or Medium (for building foundations depending on nature and extent)	Remediation, piling and basement construction. Significance of asset reduced to low or negligible.
Remains of the south end of the Victoria Dock entrance lock (high potential)	Low or medium	
Truncated footings of late 19th century industrial buildings in the south of the Site (moderate potential)	Low	Site clearance, remediation, piling and basement construction. Significance of asset reduced to negligible.
Possible, localised and truncated footings of mid-to-late 19th century houses (moderate potential)	Low	
Possible, localised and truncated remains of railway sidings of the Great Eastern Railway goods yard (high potential)	Low	

- 7.1.6 The Thameside West Operational Development received planning consent on the 14th September 2018 (ref 17/02554/FUL). This includes removal of existing hardstanding (and

below ground obstructions) which will (in areas not affected by the Silvertown Tunnel works) remove all archaeological and palaeoenvironmental remains within the extent and depth of the ground disturbance (BuroHappold, 2017). Condition 4 attached to the consent requires a programme of archaeological investigation to be agreed in order to protect the archaeological interest of the Site in mitigation for the impacts of the scheme.

- 7.1.7 Given that the Masterplan outline and detailed development will also involve ground disturbance with potential to affect archaeological remains, a phased approach to further investigation is recommended, which can be integrated with the development programme to achieve preservation by record. It should be noted however that ground contaminants may be present which will be a constraint on archaeological work.
- 7.1.8 An initial archaeological watching brief is recommended on the Operational Development groundworks. This should include provision if necessary, as agreed with the LPA's archaeological advisor, for archaeological direction of the speed of such works to ensure sufficient time for the archaeologists to make records appropriate to the significance of the remains affected, such as those within the area of the former Thames Iron Works, which may require full archaeological excavation. This would ensure that any remains present are not removed without appropriate recording and an assessment of their significance.
- 7.1.9 Depending on the extent of the areas covered, the results of the watching brief may need to be supplemented by targeted evaluation in order to inform a strategy to understand and where necessary and possible mitigate the impacts of the Masterplan development – in particular, basement construction and piling – on deeper remains unaffected by the Operational Development.
- 7.1.10 Groundworks in the area of the southern extent of the Victoria Dock entrance lock should be archaeologically monitored as an opportunity to assess its survival and significance, with subsequent mitigation as necessary once the significance and the scale of the impacts are fully understood.
- 7.1.11 Palaeoenvironmental remains have already been comprehensively studied as part of previous investigations, although no data is currently available for the south-eastern part of the Site. The impact of development here on palaeoenvironmental remains could be mitigated through a limited and targeted programme of geoarchaeological boreholes and sampling.
- 7.1.12 Each phase of such investigations would be undertaken in accordance with a Written Scheme of Investigation (WSI) approved by the archaeological advisor to the LPA, and could be carried out under archaeological planning conditions.

8 Gazetteer of known historic environment assets

- 8.1.1 The gazetteer lists known historic environment sites and finds within the study area around the Site. The gazetteer should be read in conjunction with Fig 2.
- 8.1.2 The GLHER data contained within this gazetteer was obtained on 19/10/2018 and is the copyright of Historic England 2018. The GLHER data was updated on 02/03/2020 and is the copyright of Historic England 2020.
- 8.1.3 Historic England statutory designations data © Historic England 2020. Contains Ordnance Survey data © Crown copyright and database right 2020. The Historic England GIS Data contained in this material was obtained in November 2019. The most publicly available up to date Historic England GIS Data can be obtained from <http://www.historicengland.org.uk>.

Abbreviations

AOC – AOC Archaeology Group Ltd

ASE – Archaeology South East

DGLA – Department of Greater London Archaeology (Museum of London)

HER – Historic Environment Record

MoLAS – Museum of London Archaeology Service (now MOLA)

NHL – National Heritage List for England (Historic England)

OAU – Oxford Archaeological Unit

PCA – Pre-Construct Archaeology Ltd

QUEST – Quaternary Scientific, University of Reading

TVAS – Thames Valley Archaeological Services Ltd

WA – Wessex Archaeology

HEA No.	Description	Site code/ HER/NHL No.
1	<p>Dock Road, Industrial Site A, West Silvertown <i>Geoarchaeological evaluation, MOLAS & PCA, 2006</i> Geoarchaeological monitoring included boreholes, testpits and window samples and identified deposits which have archaeological potential around 3mbgl and deposits of geoarchaeological potential around 6mbgl. A sequence dating from the Late Neolithic to the Post Medieval period was observed but areas have been disturbed by the construction of the tidal channel leading to Victoria Docks.</p> <p>Silvertown Tunnel, Greenwich and Newham, London <i>Geoarchaeological Deposit Modelling, QUEST</i></p>	<p>TWF07 ELO8732</p> <p>ELO16275</p>
1a	<p>Crossrail: Limmo Peninsula Shaft site <i>Watching brief and Evaluation. MOLA 2010</i> Four phases of archaeological investigation were carried out in the central area of the Crossrail Shaft site, including two large east–west trial trenches and a watching brief on a gas main diversion and on ground reduction. Window sampling revealed natural Pleistocene gravels overlain by possible late Upper Palaeolithic deposits. These were sealed by early Holocene (Mesolithic) gravels and sands which were in turn overlain by prehistoric and historic alluvial deposits, mainly representing fills of the River Lea channel at its confluence with the Thames. The alluvial deposits were sealed by early 19th-century dump layers, identified as consolidation for the establishment of the Thames Ironworks and Ship Building Company in c 1846. Structural remains of the Ironworks (1846–1912) overlay the dump deposits and a brick structure, possibly a small workshop or working platform, was recorded in the northern trench. The southern trench revealed a second brick structure, approximately rectangular in shape with possible flues and numerous sunken chambers. The exact function of these structures is unclear but both appear on the 1869 Ordnance Survey map, and are therefore related to an early phase of the Ironworks. Possible base-plates for machinery were revealed, along with walkways, and working surfaces composed of wooden beams, planks and rammed clinker ground surfaces, all aligned south-east–north-west. These features may represent the floor of a large building seen on the 1869 OS map, or be from a later phase of building expansion as shown on the 1916 Ordnance Survey map. The sequence was completed by 20th-century deposits which had been partially removed during earlier ground reduction work.</p>	<p>XRW10 ELO12882 ELO12883 ELO12884 ELO12885 ELO14979 ELO16081 ELO16049</p>

HEA No.	Description	Site code/ HER/NHL No.
3	<p>Orchard Wharf, Orchard Place <i>Watching Brief. ASE, 2010</i> Natural alluvial foreshore deposits were not observed but were identified on the adjacent river foreshore. Elements of an early 19th century timber revetment wharf were recorded both on the site and the foreshore and the masonry remains of a later 19th century building associated with an iron works were also identified. Finds included a later 19th century anchor.</p> <p>Leamouth South Peninsula, Orchard Place At the time of writing no details available</p>	<p>ORW10 ELO11654</p> <p>ORC16</p>
4	<p>Arrowhead Quay <i>Watching Brief. WA, 2007</i> Partial remains of late 19th-century cellars were found surviving on the site, which otherwise had been severely disturbed.</p> <p>Union Wharf, Orchard Place <i>Evaluation. WA, 2007</i> The evaluation was carried out to provide evidence that the buried dock is not, as is listed, an ashlar-lined structure built in the 1860s, but a reinforced concrete structure built in 1948–49. The evaluation showed that none of the original structure survived.</p>	<p>ARQ07</p> <p>UWF07 ELO17468</p>
5	<p>Crossrail: Limmo Peninsula, Peto Street North <i>Geoarchaeological Watching Brief. MOLA, 2009</i> Four ground investigation trial trenches were excavated by the site contractor, Soil Mechanics Limited, and monitored by an archaeologist.</p> <p><i>Watching Brief, MOLA, 2010</i> No finds or features of archaeological significance were identified</p> <p><i>Evaluation, MOLA, 2010</i> Remains of a brick structure, floor layers and clinker deposits of a Post Medieval date were encountered.</p>	<p>XRI09</p> <p>ELO12883</p> <p>ELO12884</p>
6	<p>Canning Town Station (Limmo site) <i>Geoarchaeological evaluation. OAU, 1991–93</i> The surface of the Thames Gravel varied from –0.43m to –0.38m OD. The lower measurement coincided with the occurrence of peat and organic silts, the surface of the peat at –1.96m OD was clearly eroded, showing that it was the remnant of a more extensive deposit. Two radio-carbon dates for the peat of 3910 +/- 70 Before Present and 4030 +/-60 Before Present have been obtained. Organic sands were overlain by 3.0m of stratified silts and clay silts. Fining-up within these deposits points to a gradual increase in energy levels. Above them, a second unit of clay-silt clearly represents a return to dry conditions, the origin of this unit, whether artificial or natural was not clear during site work. It was overlain by made ground. No archaeological material was recovered.</p>	<p>CWS93 MLO64387 ELO10128 ELO10129</p>
7	<p>Pura Foods, Orchard Place <i>Watching Brief. PCA, 1996</i> Ground and piling works revealed a complex sequence of naturally-deposited alluvium resulting from persistent periodic flooding of the site until its development in the 19th century. No significant archaeological deposits were observed during the excavations, but the ground level was raised by 0.9m late in the 19th century prior to building on the site. This development is also recorded in cartographic and documentary sources.</p>	<p>ORP96 ELO4234 MLO67565 MLO98915</p>
8	<p>Leamouth North, Orchard Place <i>Standing Building Recording. WA, 2004</i> Two buildings were recorded, both dating from the mid-19th century onwards. The south wall of one of the buildings probably represents the oldest part: map evidence suggests that it dates to the mid-19th century and formed part of a complex of buildings that were once used in the processing of oil at Jubilee Wharf. Parts of the building were badly damaged by bombing during World War II; the north and west sides were subsequently demolished. The south wall was retained and incorporated into the present buildings. In contrast, the second building was a well-preserved example of post-1939 timber framed shed with a Belfast Truss roof.</p>	<p>LUN04 ELO7575</p>

HEA No.	Description	Site code/ HER/NHL No.
8 (cont.)	<p>Leamouth North, Orchard Place <i>Evaluation and Excavation. WA, 2007</i> It was found that large tracts of a plate glass factory on the site from 1834 until 1875 (covering 2 hectares at its largest planned extent in 1866), had been demolished down to base footings or completely removed by later development. Traces of elements of the kilns, gas converter and polishing rooms were uncovered. The area of the annealing kilns was more productive, demonstrating the change in range of glass products, the technology used to produce them (from coal fired to gas fired kilns) and the expanse of the factory in the 1840s.</p> <p>Building N, Leamouth North <i>Watching Brief. WA, 2007</i> A series of excavations were monitored during ground investigations, including the exposure of river wall ties, to a depth of 1.–3.0m below the present ground level. All of the deposits observed appeared to be modern in origin and almost certainly represent levelling deposits dumped from the banks of the River Lea (Bow Creek) during the 19th century and later.</p>	<p>LOP07 ELO18131 ELO18549</p> <p>OHP07</p>
9	<p>DLR City Airport Extension <i>Geophysical survey, watching brief. MOLA, 2003/2004</i> A deposit model was produced of the natural and made ground surface topography through North Woolwich. Following the geoarchaeological investigations, trenches revealed natural gravels sealed by various soil, marsh and channel deposits, formed from the Mesolithic to early historic periods. Early land surfaces are provisionally dated to the Mesolithic; woodland and later peat formation is dated to the Neolithic and Bronze Ages respectively. The peat was sealed by thick deposits of waterlaid silt from the Iron Age onwards, a result of sea level rises. The latest identified period probably dated to the late 18th–19th century as the low lying marshy land was reclaimed and built up to provide the current landscape.</p> <p>Canning Town Station <i>Evaluation. OA, 1991</i> Possible post medieval deposits were recorded. The majority of deposits on the site comprised undated environmental deposits of silts and peats.</p>	<p>DLA03 ELO6591 ELO6697</p> <p>HS-SW 91 MLO59193</p>
10	<p>14 Shirley Street <i>Geoarchaeological survey, watching brief. MOLA, 2016</i> A deposit model was produced showing that the site is within the active channel of the Lea / Thames floodplain. Alluvial silts and clays between 1.9m OD and –3.7m OD indicated former tidal mudflats fringed with saltmarsh, deposited from the medieval period onwards, earlier deposits having been scoured away by the river. Evidence of agriculture came from remains of cereals, hemp or hops, and damp grassland in the upper alluvium.</p> <p>Boundary Wall 19th Century boundary wall also noted at the address.</p>	<p>SHY16 ELO17404 ELO19311 MLO107986</p> <p>MLO107986</p>
11	<p>St Luke's Church, Canning Town <i>Evaluation. TVAS, 2007</i> A sequence of naturally deposited alluvial clays and peats were recorded during the evaluation. Radio Carbon dating of the peat occurred and it was identified that the peat accumulation dated to the mid-Neolithic to the mid-Bronze Age. No features of archaeological origin were observed.</p>	<p>LUC07 ELO8699 MLO99444</p>
12	<p>105–107 Tarling Road <i>Geoarchaeological borehole survey. QUEST, 2013</i> Two geoarchaeological boreholes were examined which, when compared with nearby records, revealed a gravel surface that sloped downwards from south-west to north-east, overlain by Holocene alluvial and peat deposits. Results from an adjacent site suggest the peat is likely to date to between the Middle Neolithic and Middle Bronze Age.</p>	<p>TAR13 ELO13523</p>

HEA No.	Description	Site code/ HER/NHL No.
13	<p>Caxton Street North <i>Geoarchaeological evaluation. QUEST, 2014</i> A sequence of River Terrace Gravels was recorded, overlain by Holocene alluvium (including peat) capped by made ground. The surface of the River Terrace Gravels (the Lea Valley Gravel) and the elevation of the peat were consistent with that recorded on sites immediately to the north and north-east. Laboratory based assessment has demonstrated that the peat is consistent both in elevation and age (late Neolithic) with that recorded at the Tarling Road and St Luke's Square sites. Although in terms of general environmental conditions the palaeobotanical record shows similarities with these two sites, the sequence post-dates the early Neolithic elm decline, and no evidence for human activity was recorded. Waterlogged seed preservation was poor, and preservation of the pollen remains is significantly poorer than at the Tarling Road and St Luke's Square sites.</p>	CSN14 ELO16270
13a	<p>Brunel Street <i>Geoarchaeological Survey, QUEST, 2017</i> Further geoarchaeological investigations were carried out on the basis of the deposits identified in HEA 13. The survey comprised of four additional boreholes which identified a sequence of made ground, upper alluvium and lower alluvium. The upper alluvium is considered to date to the Late Prehistoric period.</p>	ELO18098
14	<p>118 Victoria Dock Road <i>Evaluation. WA, 2004</i> Alluvial clays and peats overlying natural sands and gravels were revealed, indicating that the site was wetland and marshland until its drainage and development in the 18th–19th century. Thick modern deposits sealed the site.</p>	VDR04 ELO6896 MLO98302
15	<p>The Pump House, Tidal Basin Road, The Royal Docks <i>Watching brief. PCA, 2014</i> The monitoring of the excavation of twelve test pits recorded a layer of early-to-mid 20th century clinker sealed by modern made ground and topsoil. Natural strata were not reached.</p>	TDB14
16	<p>The Labour Exchange and Tidal Basin Tavern <i>Standing building recording. PCA 2013</i> Building recording was carried out at a former sorting and post office and the public house. Both buildings dated to the beginning of the 1930s, the Tavern built in a neo-Jacobean style with faience dressings to window openings, mouldings, string courses and copings, whilst the post office adopted the neo-Georgian style emblematic of post office buildings of the inter-war period. It was built in brick in an L-shaped plan with the front range, originally accommodating the public office, of two storeys whilst the main range to the rear was a large full height single storey space, formerly used as the main sorting office.</p>	TDL13
17	<p>Landmark Site, Royal Victoria Docks <i>Watching brief. MOLA, 2002</i> River erosion, possibly in the Iron Age, has removed any earlier prehistoric deposits. This erosion could be the result of the confluence of the Rivers Thames and Lea moving west or south-west of its original location, possibly as a result of changes in relative sea level or climatic deterioration. As the river migrated, the site became a boggy area frequently underwater due to flooding, with clay accumulating as the floodwater drained away. This deposition is likely to have happened in the late prehistoric period. The site then became subject to daily tidal inundation, which led to the formation of mudflats, possibly a result of increasing estuarine influence and a rise in sea level. The river level eventually fell and soil formation began, leading to a seasonally flooded marshy soil/grassy pasture. The area would have been suitable for grazing and was probably used as such in the medieval period and later. In the 1850s, upcast from the excavation of the basin for the Victoria Dock was deposited on the site and sealed the pre-Victorian land surface. This re-deposited alluvium was truncated in the 20th century by construction work for the boat yard in the east of the site and the Silvertown Way flyover in the centre and west of the site.</p>	SVY02

HEA No.	Description	Site code/ HER/NHL No.
18	<p>'N', 'O' and 'P' Warehouses, Seagull Lane, Royal Victoria Dock <i>Standing Building Recording. MOLA, 2004</i> A limited record was made of the shell of three (unlisted) warehouses, 'N', 'O' and 'P', before they were refurbished. These were built in 1859 as a single warehouse, called 'K W', on the north side of Victoria Dock (opened 1855), designed, like the dock, by George Bidder. The original building was of brick, apparently on three floors, cast-iron columns between the timber floors, a pitched, timber-framed slated roof, and hoists projecting south from the roof. Ground level to the south was higher than to the north, at 1st-floor level, with a narrow area ventilating the floor below. The dock was retained by earth ramps carrying railway lines, integral to its operations. After fire damage in 1925 the building was enlarged to the north and subdivided into four (lettered 'N', 'O', 'P' and 'Q' from E to W), with ferro-concrete and brick walls. There were no upper floors, goods being moved by travelling cranes inside new warehouses, mounted on the south north walls under a pitched, steel-trussed slated roof. Used to store American tobacco until 1981, the buildings were then converted to other uses and further modified in the 1990s.</p>	NPW04
19	<p>Silvertown Urban Village, Barnwood Court <i>Geophysical Survey. MOLA, 1996</i> Fluvial gravels were overlaid by peat dating to the Neolithic to Iron Age periods. Alluvium above the peat is related to marine transgressions since the Iron Age. This was followed by an ephemeral peat of the medieval period, above which lay upcast from the dock excavations of the 1850s. <i>Borehole Survey, Unknown, 2000</i> Assessment of environmental and sea level changes in London was created using Silvertown, Newnham as a case study site. No further information provided.</p>	BWC96 ELO13959
20	<p>Peruvian Wharf <i>Geoarchaeological survey. QUEST, 2016</i> Fieldwork and deposit modelling showed Shepperton Gravel to be capped by peat and alluvium, overlaid by made ground. Radiocarbon dating of one sequence gave a date for the peat between the early Neolithic and Late Bronze Age.</p>	PWF16 ELO17403
21	<p>Barnwood Court, North Woolwich Road <i>Evaluation. PCA, 1997</i> Twelve pits and two trenches were excavated on this site located to the south of the Royal Victoria Dock. Pleistocene fluvial gravels were recorded between -1.93m OD and -3.2m OD; they contained artefacts indicating human activity in the vicinity of the site during this period. Overlaying them was a sequence of Middle Holocene peat and organic silt/clay formations indicative of a fall in se/river levels in the early Neolithic period (probably related to the Tilbury III marine regression). The peat continued to develop until the Bronze Age and was sealed but river deposited silts formed up to the 19th century. Modern disturbance and ground build up over these deposits was related to the late 19th century construction and subsequent demolition of warehouses and domestic buildings and the 1960s development of Barnwood Court.</p>	HWBC97 ELO3688 MLO71246 MLO71247
22	<p>British Alcan Works (former) <i>Geoarchaeological Evaluation. PCA 1997</i> Sediment samples from a borehole investigation were largely inorganic and homogeneous, appearing to be typically estuarine alluvium with no peat. The diatom assemblages derived from an aquatic environment in continuous contact with the river. Pollen analysis indicated rapid sediment deposition, possibly dating to the Roman or post-Roman period. The pollen indicated a tree and shrub environment dominated by oak, hazel and alder along the river's margins. No evidence of human intervention or presence was detected.</p>	NWW97
23a	<p>Greenwich Peninsula <i>Geoarchaeological Survey, MOLAS, 2002</i> Peat was observed during a geoarchaeological survey at Greenwich Peninsula. The peat has good potential for further investigation and worked flint was observed in one of the test pits Radio Carbon dating places the accumulation of peat around the mid-late Neolithic.</p>	TUA02 ELO2425 MLO78024 MLO77888

HEA No.	Description	Site code/ HER/NHL No.
23b	<p>Greenwich Peninsula, Central East <i>Geoarchaeological Evaluation. QUEST, 2015</i> Borehole samples, deposit modelling and laboratory assessment revealed a sequence of late Devensian Shepperton Gravel overlain by thick Holocene alluvium and peat, on the eastern side of Greenwich Peninsula between the O2 and the Emirates Cable Car. At least three short episodes of peat formation occurred, which were radiocarbon-dated to the late Mesolithic, early Neolithic and Bronze Age.</p>	CTT15
24	<p>Trinity House Buoy Wharf Quay and Orchard Dry Dock <i>Grade II listed</i> Built c 1860. Fine ashlar dressed quay to Thames and return to Bow Creek with river stairs set into riverside wall. The wharf was built to serve all Trinity House lightships, lighthouses and buoys. The dock lies to the west side of the site, ashlar lined, partly filled but retaining iron plated caisson in situ.</p>	1242315
25	<p>Trinity House Chain Locker and Lighthouse Block <i>Grade II listed</i> Brick double gabled lighthouse of c 1860.</p>	1242382
26	<p>Stothert and Pitt cranes on the north and south sides of Royal Victoria Dock <i>Grade II listed</i> Early 20th century cranes.</p>	1393528
27	<p>East India Dock <i>GLHER entry</i> The East India Dock basin was opened in 1806, and was unusual as it had no associated warehouses. A submerged prehistoric forest is noted, revealed during dock construction: a large elephant tooth was recovered.</p>	MLO3835 MLO1650 MLO28287 MLO72846
28	<p>Thames riverfront and foreshore <i>GLHER entry</i> The area has a history of flooding, mentions of flood defences from the 12th century onwards.</p>	MLO3990
29	<p>Thames foreshore <i>GLHER entry</i> Possible causeway or hard noted at Buoy Wharf.</p>	MLO74212
30	<p>Blackwall <i>GLHER entry</i> The possible site of a Roman watchtower.</p>	MLO3893
31	<p>Bow Creek <i>GLHER entry</i> A bronze rapier (Wilburton type) was recovered at Bow Creek during unspecified works in 1929. A socketed Bronze axe head was found near Leamouth Road.</p>	MLO25630 MLO25415
32	<p>Orchard Place <i>GLHER entry</i> A pair of late 19th century timber seasoning sheds are noted on the GLHER.</p>	MLO35 MLO93264
33	<p>River Lea Valley, Canning Town <i>GLHER entry</i> Unspecified works in the area prior to 1902 revealed a human left fibula at 6.1m below ground level.</p>	MLO25425
34	<p>Canning Town <i>GLHER entry</i> A medieval iron lance or spearhead was recovered here prior to 1912. Unknown works recovered a spur with inlaid running scroll pattern.</p>	MLO25427 MLO57245
35	<p>Bow Creek <i>Geoarchaeological Desk-study. Newham Museum Service, 1996</i> A compilation of borehole logs indicated a number of ancient water channels and inlets.</p>	MLO67542
36	<p>Church of St Luke, Jude Street, Canning Town, West Ham <i>Grade II listed</i> 1873–5 by Giles and Gane for Henry Boyd, vicar of neighbouring St Marks from which the new parish was detached.</p>	1253074

HEA No.	Description	Site code/ HER/NHL No.
37	<p>Blackwall Pier and entrance lock to former East India Dock basin <i>Grade II listed</i> Built c 1803 with later enlargement, the entrance lock to Rennie and Walker's East India Dock Basin. Brick faced with ashlar coping to quays, partly timber fended. The lock has now been backed filled up to later 19th century iron plated lock gates but beyond them the quay walls have pairs of grooves cut in ashlar blocks probably for earlier set of gates. The quays and pier retain their complement of bollards and capstans.</p>	1260086
38	<p>Urban Sustainability Centre, Royal Victoria Docks, Silvertown Way <i>Evaluation and excavation. MOLA 2010</i> The initial monitoring of geotechnical ground investigations was followed by a geoarchaeological borehole survey and an archaeological trench excavation. Across the site the depositional sequence was found to be uniform, indicating that the area once formed a major channel thread of the River Lea. The basal deposits consisted of the Shepperton floodplain gravels, deposited during the closing part of the last major cold stage of the Late Devensian Glaciation (c 18,000–15,000 years ago). The gravels were deposited within an expansive 'braid-plain', consisting of raised gravel bars separated by lower lying channel threads. A series of finer grained sands and silts overlying the gravels define a switch to a lower energy partially braided, multi-threaded channel. The deposits may date from the Late Glacial or Early Holocene period (c 15,000–10,000 years ago), and reflect a change in channel behaviour influenced by climate amelioration. Above the sands was a series of finely laminated clay silts and fine sands interspersed with thin lenses of organics. These were deposited within a wide, single threaded low energy fluvial environment. The accumulation of the organics may relate to episodic channel cut off, which allowed partial vegetation to develop in back swamp areas. These deposits are likely to have accumulated between 10 000 to 2000 years ago (i.e. the Mesolithic to Iron Age period). By the Iron Age the effects of relative sea level rise began to influence the site. The freshwater river regime transformed to an estuarine environment, resulting in the deposition of intertidal muds within marginal mudflats and salt marsh. The tidal inundation caused aggradation across the floodplain surface raising up the topography significantly. This protected the site from frequent flooding allowing accretionary alluvial soils to develop at the top of the sediment profile. These soils would have consisted of semi terrestrial grasslands, episodically flooded. The upper made ground predominately consisted of modern demolition rubble and industrial waste. No structures associated with the former industrial use of the dock were revealed.</p>	USC10
39	<p>Site code issued by the Museum of London Archaeological Archive for fieldwork in 2018. No further details available.</p>	NOW18
40	<p>Eastwood Road <i>Geotechnical watching brief, MOLAS, 1997</i> Watching brief on geotechnical test pit observed a levelling dump of gravel which is presumed to be a working yard surface of 19th Century date and a brick culvert. The London clay was observed across all parts of the site but was found to be a little deeper on the northeast corner.</p>	EWR97 ELO3260 MLO71663 MLO71664 MLO71665
41	<p>Crossrail: Victoria Dock portal and customs house station <i>Geoarchaeological survey, MOLA, 2010</i> A series of boreholes were drilled to further understand the underlying geological and geoarchaeological sequence. The results determined that the site had moderate potential for Mesolithic – Bronze Age activity.</p>	ELO14987
42	<p>Victoria Dock Road <i>Evaluation and watching brief, MOLA 2011</i> Three evaluation trenches and a targeted watching brief were undertaken on the western half of the portal by Royal Victoria Dock for Crossrail. The Pleistocene Thames gravels sequence was recorded, which found evidence for a meandering river (possibly early Holocene) with tidal creeks adjacent to it. Wood peat levels were recorded as forming the Neolithic and Early Bronze Age. No archaeological artefacts or structures were recorded.</p>	XSX11 ELO14988

HEA No.	Description	Site code/ HER/NHL No.
43	<p>Victoria Dock <i>Borehole Survey, MOLA, 2010</i> Three boreholes and seven window samples were taken and the survey concluded that there was a high level of palaeoenvironmental potential at the site particularly relating to the Prehistoric-Roman remains. <i>Watching Brief, MOLA, 2011</i> No archaeological features were observed but it was noted that the natural gravels were overlain by a thick peat deposit which in turn was sealed by a thin horizon of alluvial clay.</p>	<p>XRJ09 ELO14989</p> <p>XSX11 ELO14984</p>
44	<p>Silvertown Way [Canning Town Phase 1 - 3] <i>Geoarchaeological Survey, QUEST, 2013</i> A borehole survey was undertaken to determine the nature of ant geoarchaeological deposits which may be impacted by development. The survey identified a peat horizon and it was suggested that the peat may date to the Late Neolithic – Early Bronze Age. <i>Geoarchaeological Survey, QUEST, 2014</i> Two peat horizons were observed in three geoarchaeological boreholes <i>Geoarchaeological Survey, QUEST, 2018</i> Five geotechnical boreholes were monitored as part of a deposit modelling programme for the site. The site occupies an elevated gravel island and alluvial deposits were overlain by made ground deposits reaching up to 2.5m in depth.</p>	<p>CAN13 ELO13794</p> <p>ELO16344</p> <p>ELO18829</p>
45	<p>Appleby Road/Tarling Road/Redland Road: Keir Hardie Recreation Ground Named after Keir Hardie, who was returned as the first truly Labour MP by the constituency of West Ham South in 1892. The site of the recreation ground was covered by housing by the 1860s. The area was badly bombed in World War II and the large post-war Keir Hardie Estate was built in the 1950s, with Keir Hardie Recreation Ground provided as public open space. Surrounded by modern railings, the park has been renovated as part of recent regeneration efforts and has a perimeter path, mature and recently-planted trees, play areas and football pitches (London Gardens Online).</p>	MLO104276
46	<p>Thames Archaeological Survey Record of a riverside stair</p>	A102 2209
47	<p>Thames Archaeological Survey Record of a Causeway. Timber and stone with con</p>	A101 2208
48	<p>Hertsmere Road, Victoria Dock Road, Marsh Wall <i>Geoarchaeological evaluation, MOLA, 2009</i> The work was carried out at three sites (South Quay, Canning Town Flyover and Delta Junction). The evaluation confirmed that deposits of palaeoenvironmental interest exist between about 3.0m OD and –3.0m OD. The deposits preserve evidence for the changing depositional environment in the area since the last deglaciation. Assessment of the borehole core samples suggests that there is good potential for macro- and microfossil preservation. Deposit modelling and assessment of palaeoenvironmental remains shows the following sequence: Shepperton Gravels deposited during the Late Devensian; Early Holocene sands which stabilised to form ephemeral Mesolithic land surfaces; wetland deposits laid down during a period of sea level rise between the Early Neolithic and the Bronze Age; silty clays dominating from the Iron Age onward as grass and herb mudflats formed.</p>	ELO10400
49	<p>West Silvertown Primary School, Boxley Street, West Silvertown London E16 <i>Evaluation, AOC, 1998</i> In all of the pits, the upper metre of material was found to comprise mixed rubble imported to the site following the demolition of the school. In 2 of the pits the rubble directly overlay the alluvium and in 5 of the pits a thick layer of concrete was found to overlay the alluvium. The alluvium comprised stratified deposits of blue-grey clay and dark brown organic peats. In three of the pits the alluvium gave way to a mid-grey coarse sand. The natural alluvium was recorded at c 1m OD. No archaeological finds or deposits were recovered.</p>	BOX98 ELO2853
50	<p>Canning Town Documentary evidence describes the manor or estate of Covelees as "50 acreseloowes in 14th century and as Burnells in 15th century) was formed from one to have formed part of the Medieval flood defences. By 1248 the rights to the estate comprised 130 acres (mainly marsh) in East and West Ham. In 1282 post dissolution estate was enlarged and in 1294 comprised 150acres, 58 acres held of Plaiz.</p>	MLO25824

9 Planning framework

9.1 National Planning Policy Framework

- 9.1.1 The Government issued the *National Planning Policy Framework* (NPPF) in March 2012 (DCLG 2012) and supporting *Planning Practice Guidance* in 2014 (DCLG 2014). The 2012 NPPF was revised and a new NPPF published in July 2018, with minor revisions in February 2019 (MHCLG 2019).

Conserving and enhancing the historic environment

- 9.1.2 The NPPF section concerning “Conserving and enhancing the historic environment” (section 12 of the NPPF 2012) has been replaced by NPPF 2018 Section 16 (unchanged in February 2019), reproduced in full below:

Para 184. Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.

Para 185. Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:

- a) the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;
- b) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- c) the desirability of new development making a positive contribution to local character and distinctiveness; and
- d) opportunities to draw on the contribution made by the historic environment to the character of a place.

Para 186. When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.

Para 187. Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:

- a) assess the significance of heritage assets and the contribution they make to their environment; and
- b) predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.

Para 188. Local planning authorities should make information about the historic environment, gathered as part of policy-making or development management, publicly accessible.

Proposals affecting heritage assets

Para 189. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Para 190. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a

heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.

Para 191. Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision.

Para 192. In determining applications, local planning authorities should take account of:

- a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- c) the desirability of new development making a positive contribution to local character and distinctiveness.

Considering potential impacts

Para 193. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

Para 194. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;
- b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

Para 195. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- a) the nature of the heritage asset prevents all reasonable uses of the site; and
- b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
- d) the harm or loss is outweighed by the benefit of bringing the site back into use.

Para 196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

Para 197. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

Para 198. Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

Para 199. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

Para 200. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.

Para 201. Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive

contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 195 or less than substantial harm under paragraph 196, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.

Para 202. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

9.2 Regional policy

The London Plan

- 9.2.1 The overarching strategies and policies for the whole of the Greater London area are contained within the *London Plan of the Greater London Authority* (GLA March 2016).
- 9.2.2 Policy 7.8 of the adopted (2016) London Plan relates to Heritage Assets and Archaeology:
- A. London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.
 - B. Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.
 - C. Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.
 - D. Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.
 - E. New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.
 - F. Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.
 - G. Boroughs, in consultation with English Heritage [now named Historic England], Natural England and other relevant statutory organisations, should include appropriate policies in their LDFs for identifying, protecting, enhancing and improving access to the historic environment and heritage assets and their settings where appropriate, and to archaeological assets, memorials and historic and natural landscape character within their area.
- 9.2.3 Para. 7.31 supporting Policy 7.8 notes that 'Substantial harm to or loss of a designated heritage asset should be exceptional, with substantial harm to or loss of those assets designated of the highest significance being wholly exceptional. Where a development proposal will lead to less than substantial harm to the significance of a designated asset, this harm should be weighed against the public benefits of the proposal, including securing its optimal viable use. Enabling development that would otherwise not comply with planning policies, but which would secure the future conservation of a heritage asset should be assessed to see if the benefits of departing from those policies outweigh the disbenefits.'
- 9.2.4 It further adds (para. 7.31b) 'Where there is evidence of deliberate neglect of and/or damage to a heritage asset the deteriorated state of that asset should not be taken into account when making a decision on a development proposal'.
- 9.2.5 Para. 7.32 recognises the value of London's heritage: '...where new development uncovers an archaeological site or memorial, these should be preserved and managed on-site. Where this is not possible provision should be made for the investigation, understanding, dissemination and archiving of that asset'.

The Draft New London Plan

- 9.2.6 The current 2016 consolidation Plan is still the adopted Development Plan. However,

consultation on revisions to the Plan was open until 2nd March 2018, and the *Draft New London Plan* is a material consideration in planning decisions Following Examination in Public, a “Consolidated Suggested Changes Version” was published in July 2019 (GLA website, 2020).

9.2.7 Policy HC1 “Heritage conservation and growth” of the *Draft New London Plan* (as set out here incorporating the minor changes published in July 2019) relates to London’s historic environment:

A Boroughs should, in consultation with Historic England, local communities and other statutory and relevant organisations, develop evidence that demonstrates a clear understanding of London’s historic environment. This evidence should be used for identifying, understanding, conserving, and enhancing the historic environment and heritage assets, and improving access to, and interpretation of, the heritage assets, landscapes and archaeology within their area.

B Development Plans and strategies should demonstrate a clear understanding of the historic environment and the heritage values of sites or areas and their relationship with their surroundings. This knowledge should be used to inform the effective integration of London’s heritage in regenerative change by:

- 1) setting out a clear vision that recognises and embeds the role of heritage in place-making
- 2) utilising the heritage significance of a site or area in the planning and design process
- 3) integrating the conservation and enhancement of heritage assets and their settings with innovative and creative contextual architectural responses that contribute to their significance and sense of place
- 4) delivering positive benefits that conserve and enhance the historic environment, as well as contributing to the economic viability, accessibility and environmental quality of a place, and to social wellbeing.

C Development proposals affecting heritage assets, and their settings, should conserve their significance, by being sympathetic to the assets’ significance and appreciation within their surroundings. The cumulative impacts of incremental change from development on heritage assets and their settings, should also be actively managed. Development proposals should avoid harm and identify enhancement opportunities by integrating heritage considerations early on in the design process.

D Development proposals should identify assets of archaeological significance and use this information to avoid harm or minimise it through design and appropriate mitigation. Where applicable, development should make provision for the protection of significant archaeological assets and landscapes. The protection of undesignated heritage assets of archaeological interest equivalent to a scheduled monument should be given equivalent weight to designated heritage assets.

E Where heritage assets have been identified as being At Risk, boroughs should identify specific opportunities for them to contribute to regeneration and place-making, and they should set out strategies for their repair and re-use.

9.2.8 Para 7.1.8 adds ‘Where there is evidence of **deliberate neglect** of and/or damage to a heritage asset to help justify a development proposal, the deteriorated state of that asset should not be taken into account when making a decision on a development proposal’.

9.2.9 Para 7.1.11 adds ‘Developments will be expected to avoid or minimise harm to significant archaeological assets. In some cases, remains can be incorporated into and/or interpreted in new development. The physical assets should, where possible, be made available to the public on-site and opportunities taken to actively present the site’s archaeology. Where the archaeological asset cannot be preserved or managed on-site, appropriate provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset, and must be undertaken by suitably-qualified individuals or organisations.

9.3 Marine licencing

9.3.1 The *Marine Policy Statement 2011* sets the direction for the preparation of marine plans and marine licensing and states the need for marine cultural heritage assets to be protected, conserved, and managed according to their significance.

9.3.2 *The Marine and Coastal Access Act 2009* (MCAA 2009) established a new marine licensing

system which came into force on 6 April 2011. The purpose of marine licensing is to help protect the marine environment including archaeological and historic sites in the UK marine area which is defined in Section 42 as any estuary, river or channel up to the limit of tidal influence and the area below Mean High Water Springs out to the Limit of the UK sector of the continental shelf.

- 9.3.3 The Marine Management Organisation (MMO) carries out licensing and enforcement functions under the MCAA Part 4, on behalf of the Secretary of State. Historic and archaeological sites within the marine environment are recognised as an extremely rich source of knowledge about our past, whether or not they are afforded statutory protection by heritage protection legislation. These sites may include submerged and intertidal prehistoric remains including palaeo-landscapes, shipwrecks and aircraft wrecks, foreshore fish traps, and ports and harbours, as well as the legacy of coastal military defences, all of which contribute to historic landscape and seascape character.
- 9.3.4 MCAA Sections 69 and 115 state that in determining a marine licence application the appropriate licensing authority, which for England is the MMO, 'must have regard to the need to protect the environment', inclusive of 'any site (including any site comprising, or comprising the remains of, any vessel, aircraft or marine structure) which is of historic or archaeological interest'. When undertaking dredging in an area of historic or archaeological interest under Section 66 of the MCAA, (Licensable marine activities) it is likely that a marine licence will be required.

9.4 Local planning policy

- 9.4.1 On 10th December 2018, Newham's Local Plan was formally adopted as part of the borough's Development Plan. In adopting the Local Plan (2018), the London Borough of Newham Local Plan: Core Strategy (adopted January 2012) and Local Plan: Detailed Sites and Policies Development Plan Document (adopted 20 October 2016) have been formally withdrawn..
- 9.4.2 Policy SP5 *Heritage and other Successful Place-making Assets* in the new Local Plan covers the borough's historic environment:

Proposals which address the following strategic principles and spatial strategy and design and technical criteria in their concept, design and implementation will be supported:

1. Strategic principles and spatial strategy

- a. The value of heritage and other assets (natural, cultural, architectural, and infrastructural) which contribute to local character and successful places will be recognised by protection, conservation, and enhancement of the assets and their settings, and where appropriate, cultivation of new ones;
- b. Urban design should recognise the strengths and weaknesses of local character and seek to contribute positively to the composition of the townscape, achieving better integration and enhancement of new and old, natural and built environments, infrastructure and living environments;
- c. Designated and non-designated heritage assets will be conserved and enhanced, with any change to them based on an understanding of the nature of their significance and the contribution of their settings to that significance, seeking to increase their presence and encourage wider appreciation, ownership of, and access to them;
- d. Innovation will be encouraged to realise the value of assets and secure viable, sustainable and appropriate futures for them, particularly where they are underperforming/'at Risk', reconciling this with the sensitivity to change presented by many (see also Policies SC2, SC4, INF6 and INF7);
- e. In addition to heritage assets designated under other regimes – listed buildings, conservation areas [Table 3 below], Scheduled Monuments, Historic Parks and Gardens – the locations listed [in Tables 1 and Table 2 below] are designated as Areas of Townscape Value and Archaeological Priority Areas.

2. Design and technical criteria

- a. Proposals should refer to and draw on the borough's Character Study (which includes details of Areas of Townscape Value) and where relevant, Conservation Area Appraisals and Archaeological Priority Areas to help identify heritage and other assets relevant to their scheme, and strengths and weaknesses of local character; and

b. The relevant consultation and investigation expectations that accompany an APA designation (set out by GLAAS) should be complied with.

- 9.4.3 Regarding the implementation of the policy, supporting paragraph 6.53 states that
Developers will be expected to respond to the various aspects of this policy as appropriate in their Design and Access Statements having analysed the context to their development with reference to the borough's Character Study which includes information about Areas of Townscape Value, and where relevant, Conservation Area Appraisals and Archaeological Priority Areas. This should result in incremental change, including resources to support heritage conservation and enhancement, helping to reduce the number of assets identified as Heritage at Risk.
- 9.4.4 Applying specifically to archaeology, supporting paragraph 6.54a states that:
In relation to archaeological remains, where excavation is unavoidable, the expectation will be that appropriate recording, analysis and dissemination of findings is undertaken.

10 Determining significance

- 10.1.1 'Significance' lies in the value of a heritage asset to this and future generations because of its heritage interest, which may be archaeological, architectural, artistic or historic. Archaeological interest includes an interest in carrying out an expert investigation at some point in the future into the evidence a heritage asset may hold of past human activity, and may apply to standing buildings or structures as well as buried remains. Known and potential heritage assets within the Site and its vicinity have been identified from national and local designations, HER data and expert opinion. The determination of the significance of these assets is based on statutory designation and/or professional judgement against four values (EH 2008):
- *Evidential value*: the potential of the physical remains to yield evidence of past human activity. This might take into account date; rarity; state of preservation; diversity/complexity; contribution to published priorities; supporting documentation; collective value and comparative potential.
 - *Aesthetic value*: this derives from the ways in which people draw sensory and intellectual stimulation from the heritage asset, taking into account what other people have said or written;
 - *Historical value*: the ways in which past people, events and aspects of life can be connected through heritage asset to the present, such a connection often being illustrative or associative;
 - *Communal value*: this derives from the meanings of a heritage asset for the people who know about it, or for whom it figures in their collective experience or memory; communal values are closely bound up with historical, particularly associative, and aesthetic values, along with and educational, social or economic values.
- 10.1.2 Consultation on draft revisions to the original *Conservation Principles* document which set out the four values was open from November 2017 until February 2018. The revisions aim to make them more closely aligned with the terms used in the NPPF (which are also used in designation and planning legislation): i.e. as archaeological, architectural, artistic and historic interest. This is in the interests of consistency, and to support the use of the Conservation Principles in more technical decision-making (HE 2017).
- 10.1.3 Table 2 gives examples of the significance of designated and non-designated heritage assets.

Table 2: Significance of heritage assets

Heritage asset description	Significance
World Heritage Sites Scheduled monuments Grade I and II* listed buildings Historic England Grade I and II* registered parks and gardens Protected Wrecks Heritage assets of national importance	Very high (International/ national)
Historic England Grade II registered parks and gardens Conservation areas Designated historic battlefields Grade II listed buildings Burial grounds Protected heritage landscapes (e.g. ancient woodland or historic hedgerows) Heritage assets of regional or county importance	High (national/ regional/ county)
Heritage assets with a district value or interest for education or cultural appreciation Locally listed buildings	Medium (District)
Heritage assets with a local (i.e. parish) value or interest for education or cultural appreciation	Low (Local)
Historic environment resource with no significant value or interest	Negligible
Heritage assets that have a clear potential, but for which current knowledge is insufficient to allow significance to be determined	Uncertain

- 10.1.4 Unless the nature and exact extent of buried archaeological remains within any given area has been determined through prior investigation, significance is often uncertain.

11 Non-archaeological constraints

- 11.1.1 The Site has been the location of industries which may have resulted in ground contamination. Such contamination may be a constraint to future archaeological investigation.
- 11.1.2 It is anticipated that live services will be present on the Site, the locations of which have not been identified by this archaeological report. Other than this, no other non-archaeological constraints to any archaeological fieldwork have been identified within the Site.
- 11.1.3 Note: the purpose of this section is to highlight to decision makers any relevant non-archaeological constraints identified during the study, that might affect future archaeological field investigation on the Site (should this be recommended). The information has been assembled using only those sources as identified in section 2 and section 13.4, in order to assist forward planning for the project designs, working schemes of investigation and risk assessments that would be needed prior to any such field work. MOLA has used its best endeavours to ensure that the sources used are appropriate for this task but has not independently verified any details. Under the Health & Safety at Work Act 1974 and subsequent regulations, all organisations are required to protect their employees as far as is reasonably practicable by addressing health and safety risks. The contents of this section are intended only to support organisations operating on this Site in fulfilling this obligation and do not comprise a comprehensive risk assessment.

12 Glossary

<i>Alluvium</i>	Sediment laid down by a river. Can range from sands and gravels deposited by fast flowing water and clays that settle out of suspension during overbank flooding. Other deposits found on a valley floor are usually included in the term alluvium (e.g. peat).
<i>Archaeological Priority Area/Zone</i>	Areas of archaeological priority, significance, potential or other title, often designated by the local authority.
<i>Brickearth</i>	A fine-grained silt believed to have accumulated by a mixture of processes (e.g. wind, slope and freeze-thaw) mostly since the Last Glacial Maximum around 17,000BP.
<i>B.P.</i>	Before Present, conventionally taken to be 1950
<i>Bronze Age</i>	2,000–600 BC
<i>Building recording</i>	Recording of historic buildings (by a competent archaeological organisation) is undertaken 'to document buildings, or parts of buildings, which may be lost as a result of demolition, alteration or neglect', amongst other reasons. Four levels of recording are defined by Royal Commission on the Historical Monuments of England (RCHME) and Historic England. Level 1 (basic visual record); Level 2 (descriptive record), Level 3 (analytical record), and Level 4 (comprehensive analytical record)
<i>Built heritage</i>	Upstanding structure of historic interest.
<i>Colluvium</i>	A natural deposit accumulated through the action of rainwash or gravity at the base of a slope.
<i>Conservation area</i>	An area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance. Designation by the local authority often includes controls over the demolition of buildings; strengthened controls over minor development; and special provision for the protection of trees.
<i>Cropmarks</i>	Marks visible from the air in growing crops, caused by moisture variation due to subsurface features of possible archaeological origin (i.e. ditches or buried walls).
<i>Cut-and-cover [trench]</i>	Method of construction in which a trench is excavated down from existing ground level and which is subsequently covered over and/or backfilled.
<i>Cut feature</i>	Archaeological feature such as a pit, ditch or well, which has been cut into the then-existing ground surface.
<i>Devensian</i>	The most recent cold stage (glacial) of the Pleistocene. Spanning the period from c 70,000 years ago until the start of the Holocene (10,000 years ago). Climate fluctuated within the Devensian, as it did in other glacials and interglacials. It is associated with the demise of the Neanderthals and the expansion of modern humans.
<i>Early medieval</i>	AD 410–1066. Also referred to as the Saxon period.
<i>Evaluation (archaeological)</i>	A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area.
<i>Excavation (archaeological)</i>	A programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological remains, retrieves artefacts, ecofacts and other remains within a specified area. The records made and objects gathered are studied and the results published in detail appropriate to the project design.
<i>Findspot</i>	Chance find/antiquarian discovery of artefact. The artefact has no known context, is either residual or indicates an area of archaeological activity.
<i>Geotechnical</i>	Ground investigation, typically in the form of boreholes and/or trial/test pits, carried out for engineering purposes to determine the nature of the subsurface deposits.
<i>Head</i>	Weathered/soliflucted periglacial deposit (i.e. moved downslope through natural processes).
<i>Heritage asset</i>	A building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. Heritage assets are the valued components of the historic environment. They include designated heritage assets and assets identified by the local planning authority (including local listing).
<i>Historic environment assessment</i>	A written document whose purpose is to determine, as far as is reasonably possible from existing records, the nature of the historic environment resource/heritage assets within a specified area.
<i>Historic Environment Record (HER)</i>	Archaeological and built heritage database held and maintained by the County authority. Previously known as the Sites and Monuments Record
<i>Holocene</i>	The most recent epoch (part) of the Quaternary, covering the past 10,000 years during which time a warm interglacial climate has existed. Also referred to as the 'Postglacial' and (in Britain) as the 'Flandrian'.
<i>Iron Age</i>	600 BC–AD 43
<i>Later medieval</i>	AD 1066 – 1500

<i>Last Glacial Maximum</i>	Characterised by the expansion of the last ice sheet to affect the British Isles (around 18,000 years ago), which at its maximum extent covered over two-thirds of the present land area of the country.
<i>Locally listed building</i>	A structure of local architectural and/or historical interest. These are structures that are not included in the Secretary of State's Listing but are considered by the local authority to have architectural and/or historical merit
<i>Listed building</i>	A structure of architectural and/or historical interest. These are included on the Secretary of State's list, which affords statutory protection. These are subdivided into Grades I, II* and II (in descending importance).
<i>Made Ground</i>	Artificial deposit. An archaeologist would differentiate between modern made ground, containing identifiably modern inclusion such as concrete (but not brick or tile), and undated made ground, which may potentially contain deposits of archaeological interest.
<i>Mesolithic</i>	12,000 – 4,000 BC
<i>National Record for the Historic Environment (NRHE)</i>	National database of archaeological sites, finds and events as maintained by Historic England in Swindon. Generally not as comprehensive as the country HER.
<i>Neolithic</i>	4,000 – 2,000 BC
<i>Ordnance Datum (OD)</i>	A vertical datum used by Ordnance Survey as the basis for deriving altitudes on maps.
<i>Palaeo-environmental</i>	Related to past environments, i.e. during the prehistoric and later periods. Such remains can be of archaeological interest, and often consist of organic remains such as pollen and plant macro fossils which can be used to reconstruct the past environment.
<i>Palaeolithic</i>	700,000–12,000 BC
<i>Palaeochannel</i>	A former/ancient watercourse
<i>Peat</i>	A build-up of organic material in waterlogged areas, producing marshes, fens, mires, blanket and raised bogs. Accumulation is due to inhibited decay in anaerobic conditions.
<i>Pleistocene</i>	Geological period pre-dating the Holocene.
<i>Post-medieval</i>	AD 1500–present
<i>Preservation by record</i>	Archaeological mitigation strategy where archaeological remains are fully excavated and recorded archaeologically and the results published. For remains of lesser significance, preservation by record might comprise an archaeological watching brief.
<i>Preservation in situ</i>	Archaeological mitigation strategy where nationally important (whether Scheduled or not) archaeological remains are preserved <i>in situ</i> for future generations, typically through modifications to design proposals to avoid damage or destruction of such remains.
<i>Registered Historic Parks and Gardens</i>	A site may lie within or contain a registered historic park or garden. The register of these in England is compiled and maintained by Historic England.
<i>Residual</i>	When used to describe archaeological artefacts, this means not <i>in situ</i> , i.e. Found outside the context in which it was originally deposited.
<i>Roman</i>	AD 43–410
<i>Scheduled Monument</i>	An ancient monument or archaeological deposits designated by the Secretary of State as a 'Scheduled Ancient Monument' and protected under the Ancient Monuments Act.
<i>Site</i>	The area of proposed development
<i>Site codes</i>	Unique identifying codes allocated to archaeological fieldwork sites, e.g. evaluation, excavation, or watching brief sites.
<i>Study area</i>	Defined area surrounding the proposed development in which archaeological data is collected and analysed in order to set the site into its archaeological and historical context.
<i>Solifluction, Soliflucted</i>	Creeping of soil down a slope during periods of freeze and thaw in periglacial environments. Such material can seal and protect earlier landsurfaces and archaeological deposits which might otherwise not survive later erosion.
<i>Stratigraphy</i>	A term used to define a sequence of visually distinct horizontal layers (strata), one above another, which form the material remains of past cultures.
<i>Truncate</i>	Partially or wholly remove. In archaeological terms remains may have been truncated by previous construction activity.
<i>Watching brief (archaeological)</i>	A formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons.

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- Ordnance Survey 1st edition 6" map (1873).
- Ordnance Survey 2nd edition 6" map (1896).
- Ordnance Survey 3rd edition 6" map (1920).
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- Ordnance Survey 1:10,000 scale maps (1974, 1981, 1999)

Engineering/Architects drawings

Foster + Partners:

Site Layout Masterplan Ground Level, dwg 2693 A-SL-011-01-01, Rev 00, 17/02/2020

Site Layout Masterplan Lower Ground, dwg 2693 A-SL-011-00-01, Rev 00, 17/02/2020

John McAslan + Partners, 2017 *Thames Side West Pre-Application Submission Sections*, rev A

13.4 Available site survey information checklist

Information from client	Available	Format	Obtained
Plan of existing site services (overhead/buried)	not known	NA	N
Levelled site survey as existing (ground and buildings)	Y	CAD	Y
Contamination survey data ground and buildings (inc. asbestos)	not known	NA	N
Geotechnical report	not known	NA	N
Envirocheck report	not known	NA	N
Information obtained from site visit	Carried out	Internal inspection of buildings	
Site inspection	Limited	N	

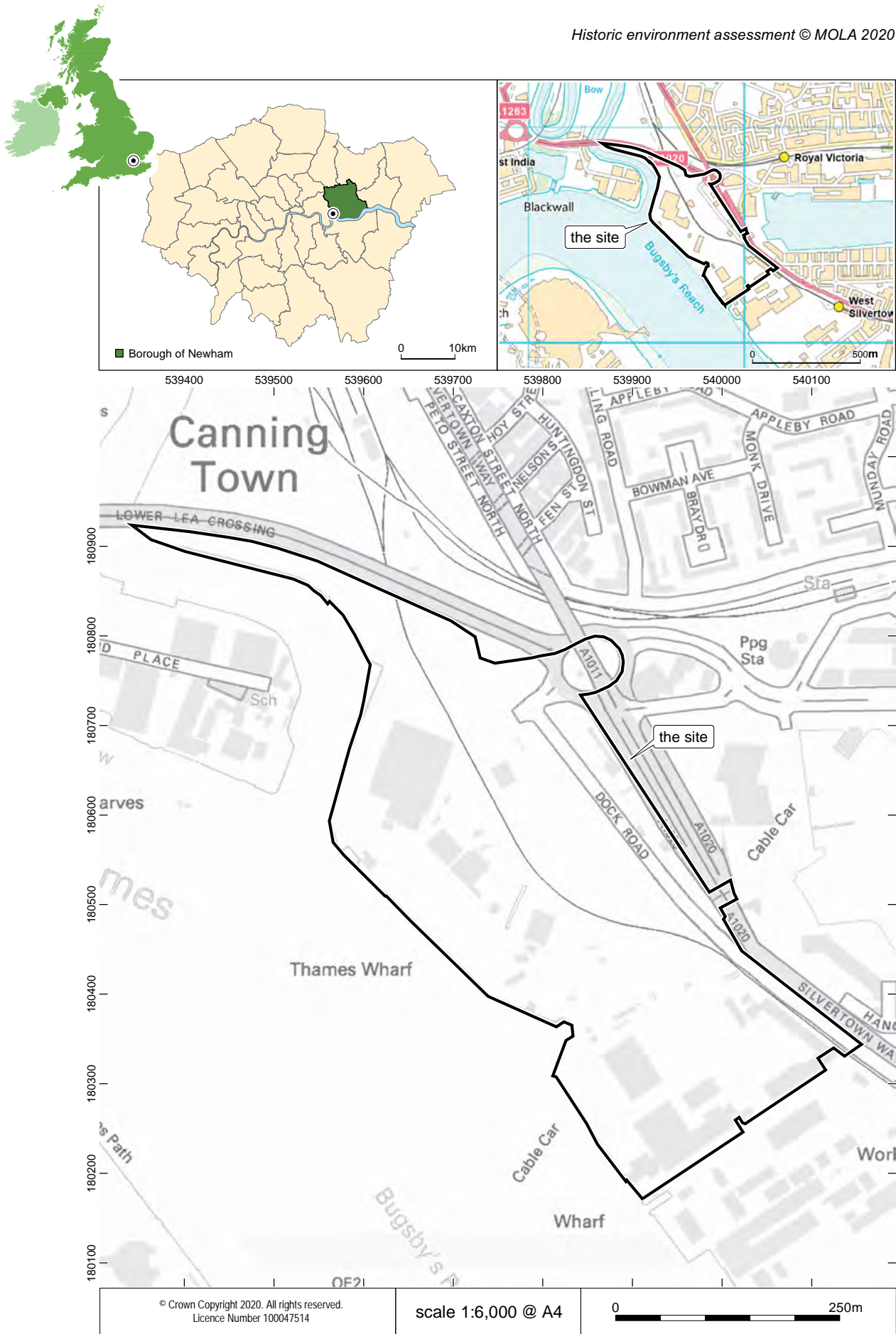


Fig 1 Site location

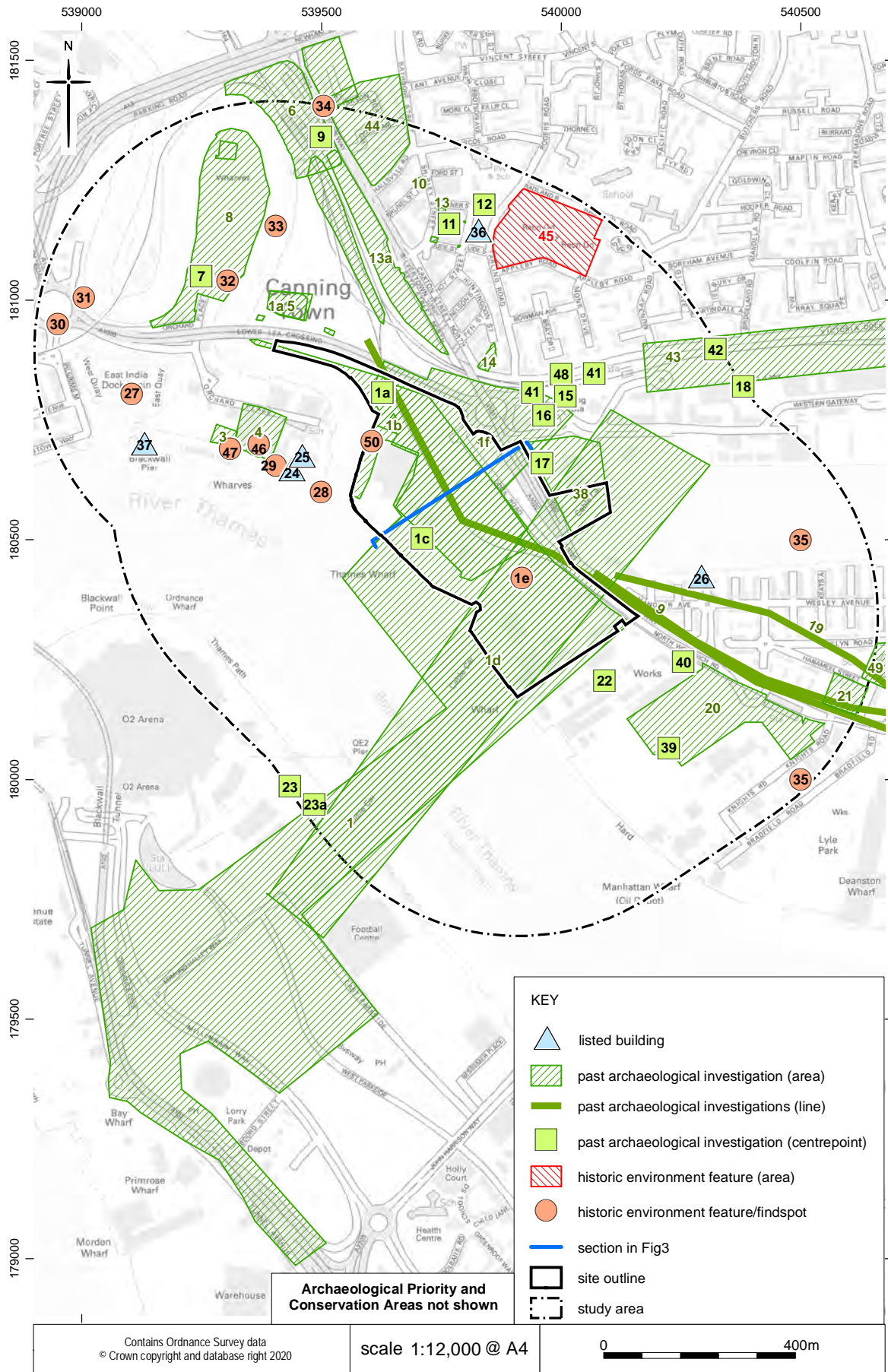


Fig 2 Historic environment features map

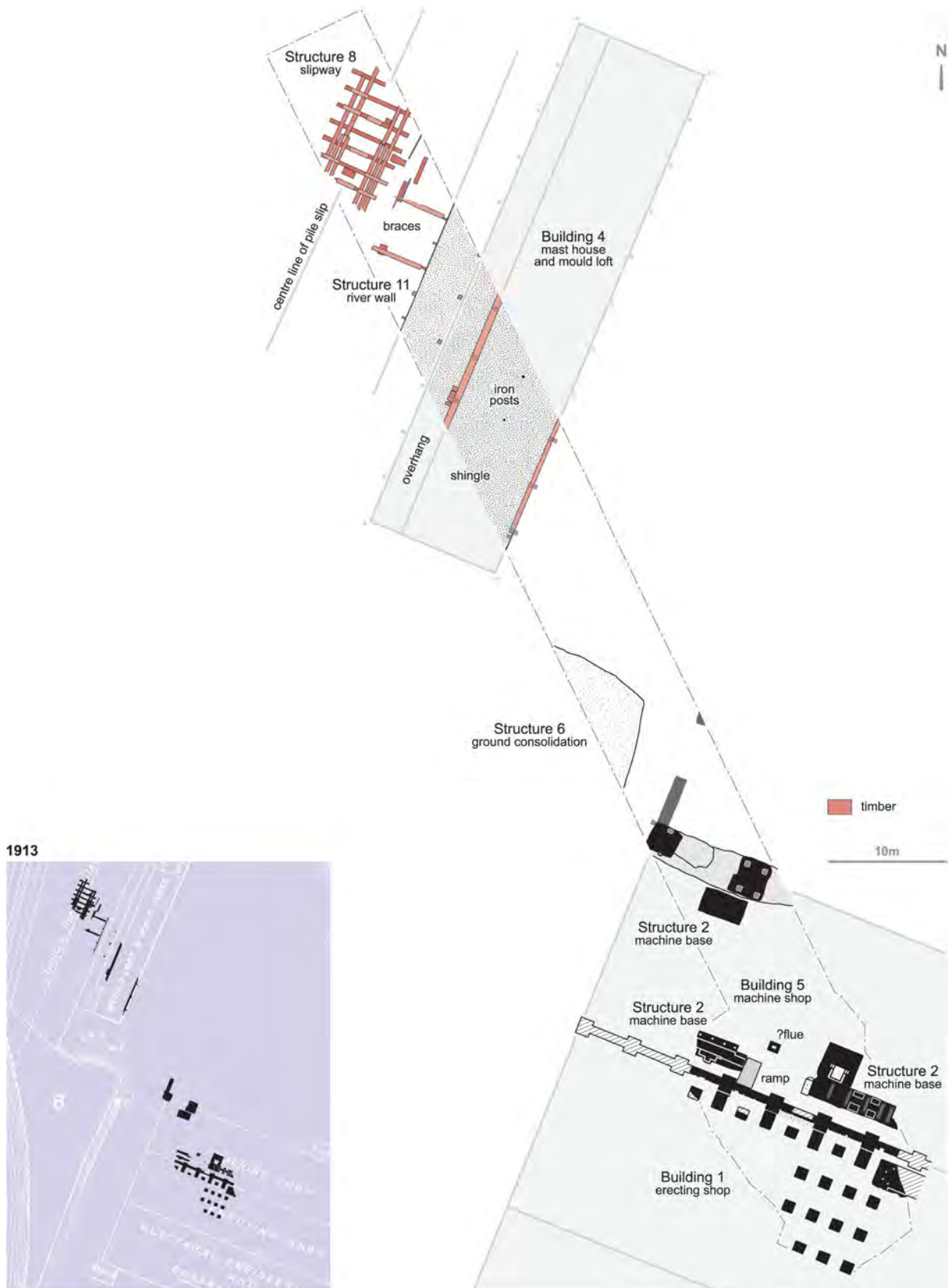


Fig 2a Plan showing key features of the Thames Ironworks and Shipyard uncovered in 2010 investigations in the north-west part of the site (site code XRW10)

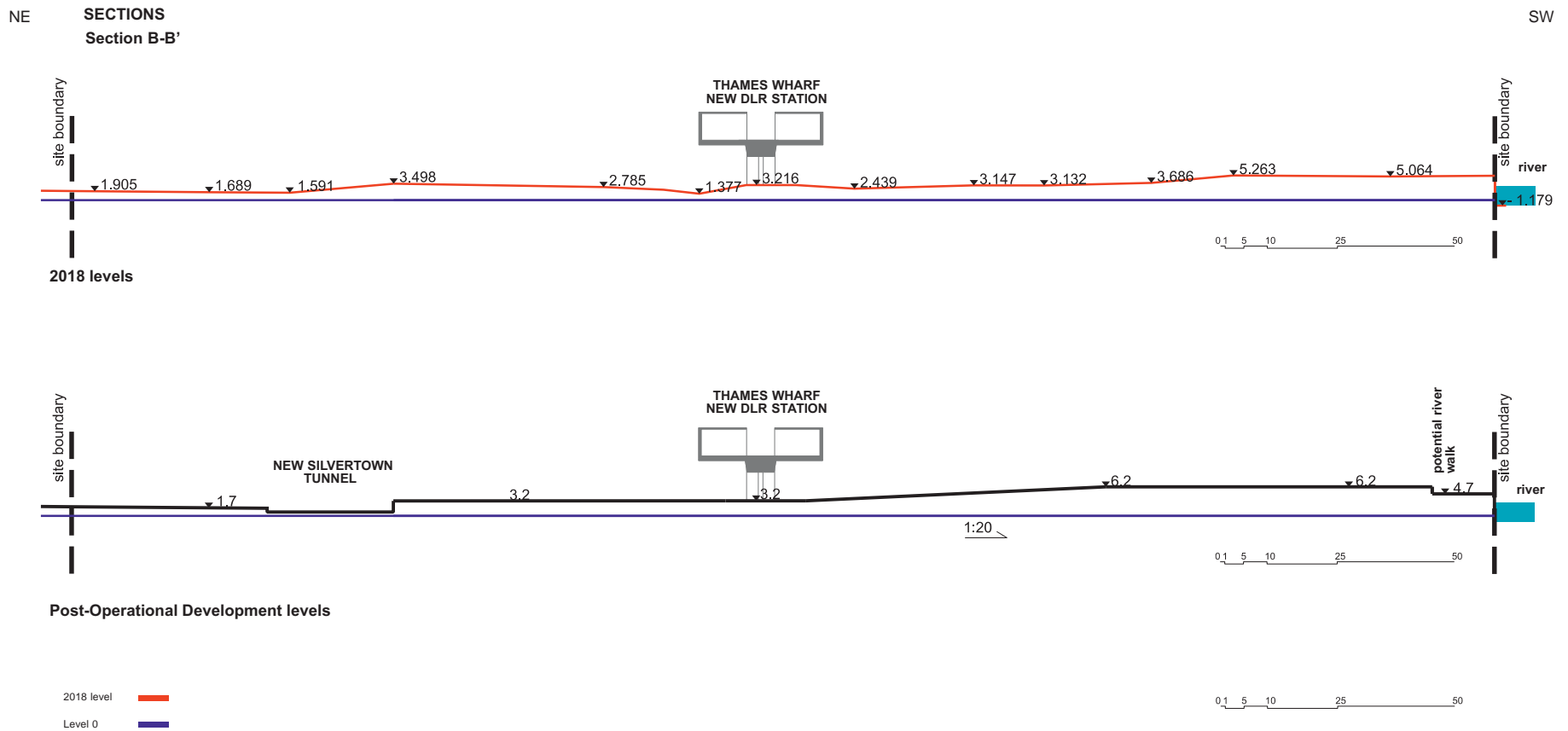
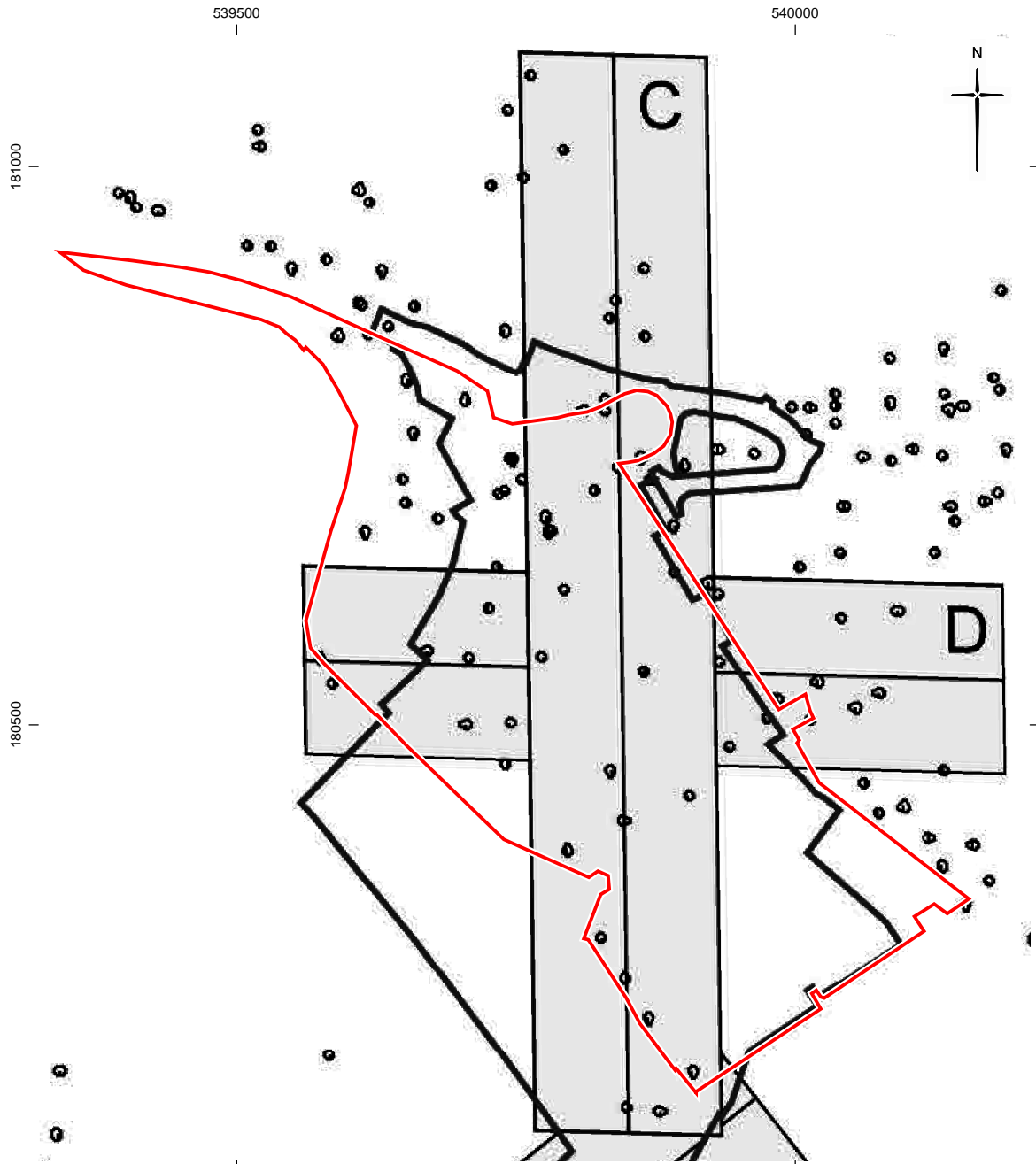


Fig 3 Cross-section through site, showing 2018 ground levels, and comparison with the post Thameside West Operational Development levels (John McAslan + Partners, December 2016)

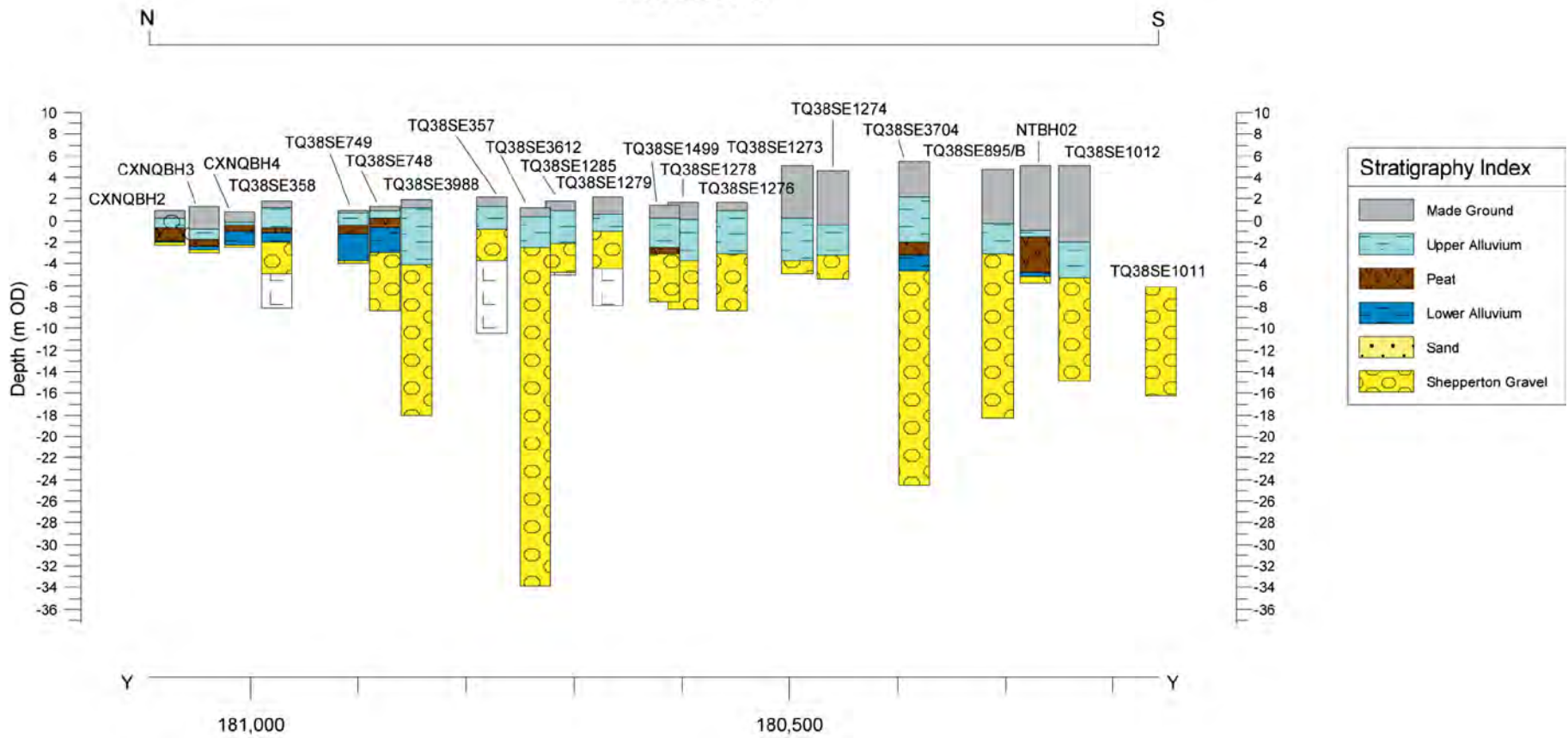


KEY
□ site outline

Contains Ordnance Survey data © Crown copyright and database right 2020	scale 1:6,000 @ A4	0 250m
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Fig 4 Geospatial deposit model transect locations (QUEST 2015)

Transect C



NEMW1218HEA20#04a

Historic environment assessment MOLA 2020

Fig 4a Geotechnical deposit model north-south transect (QUEST 2015)

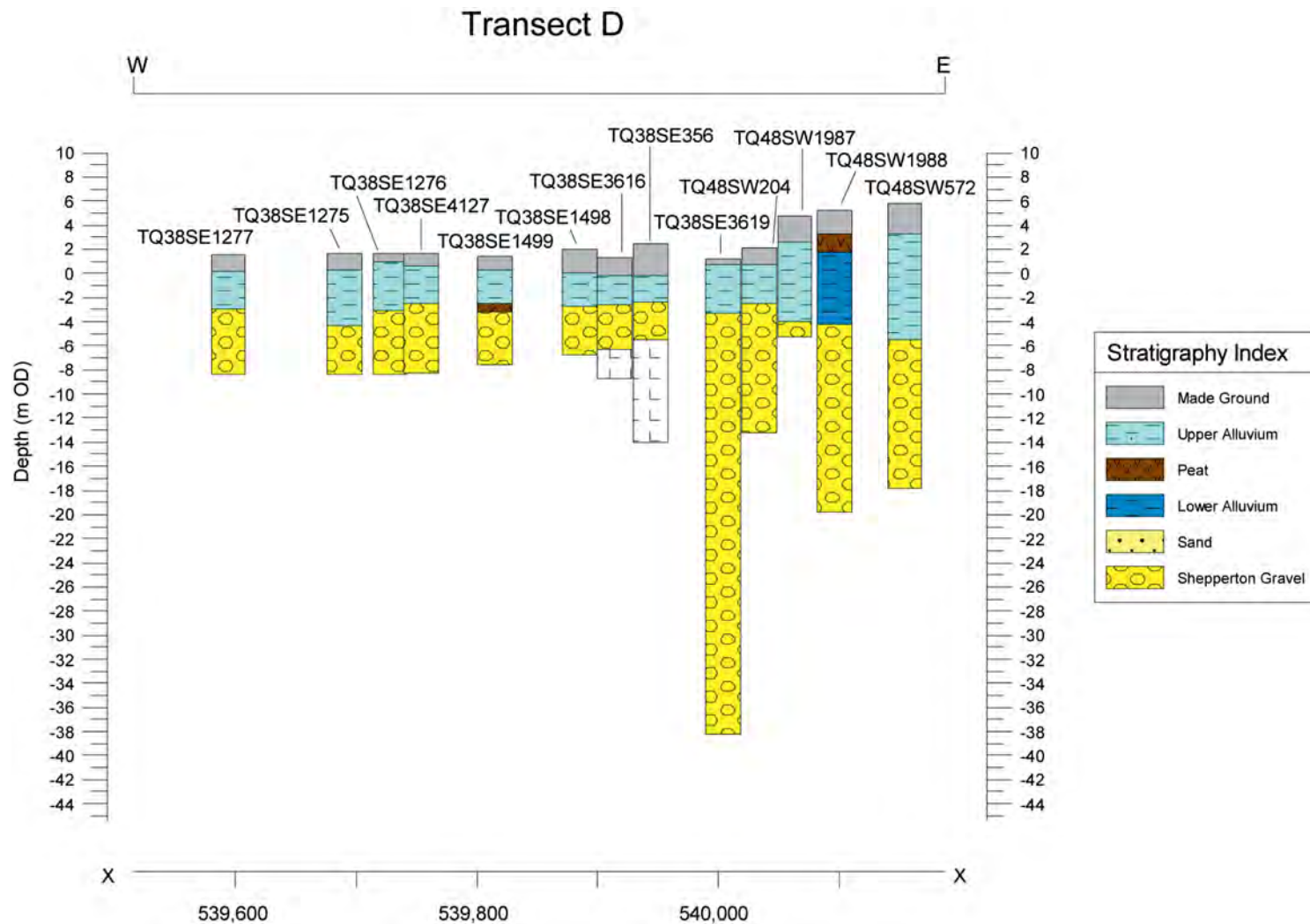


Fig 4b Geotechnical deposit model east–west transect (QUEST 2015)

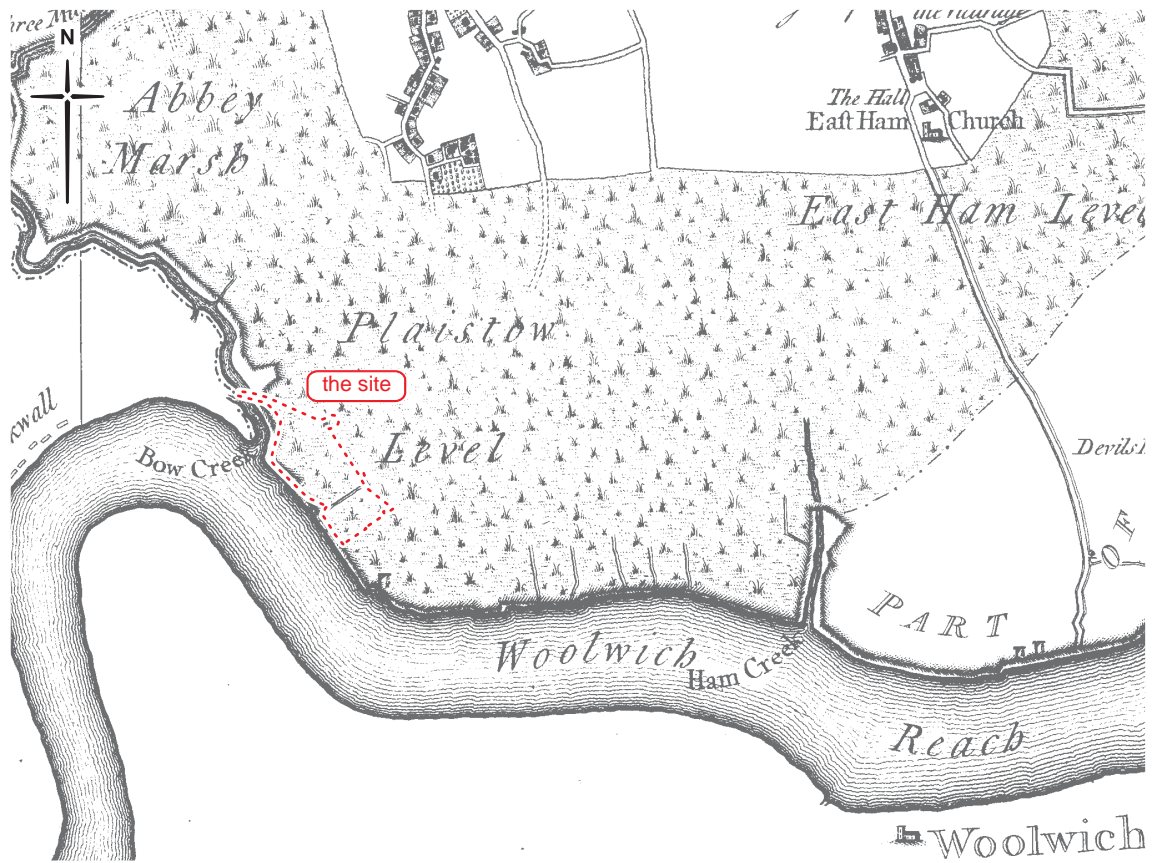


Fig 5 Chapman and Andre's map of 1777

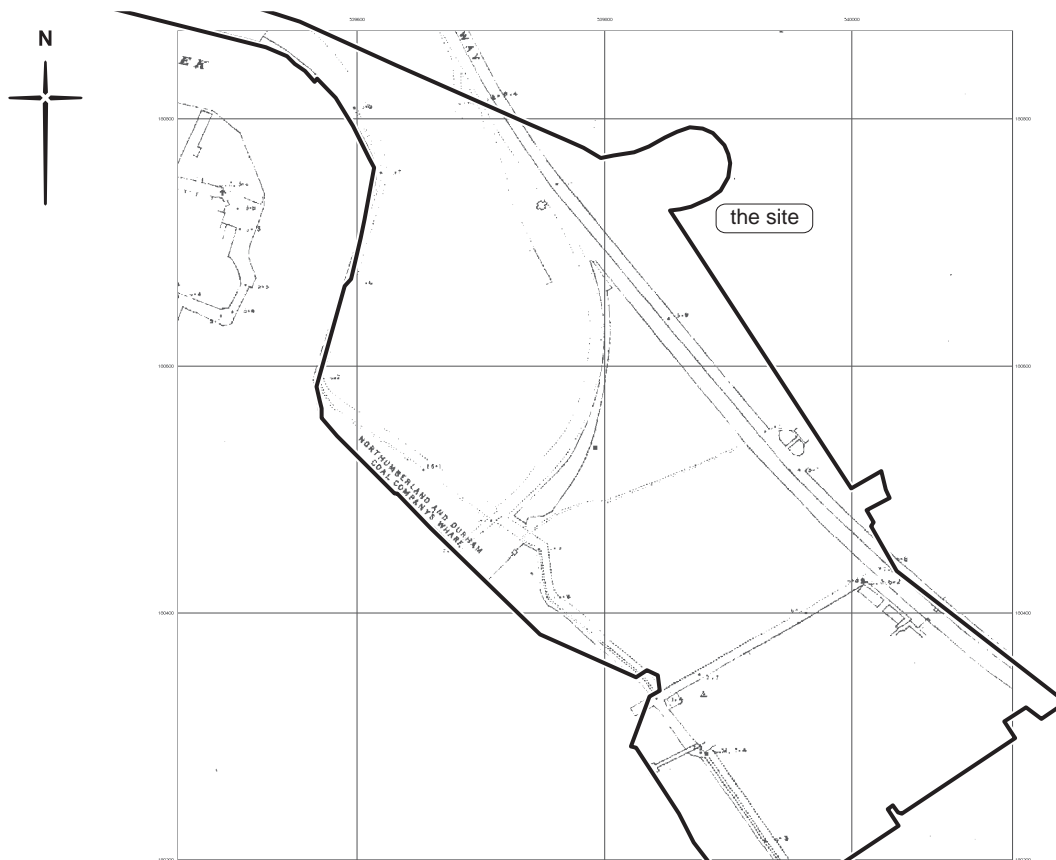


Fig 6 Ordnance Survey 1':mile town plan of 1850 (not to scale)

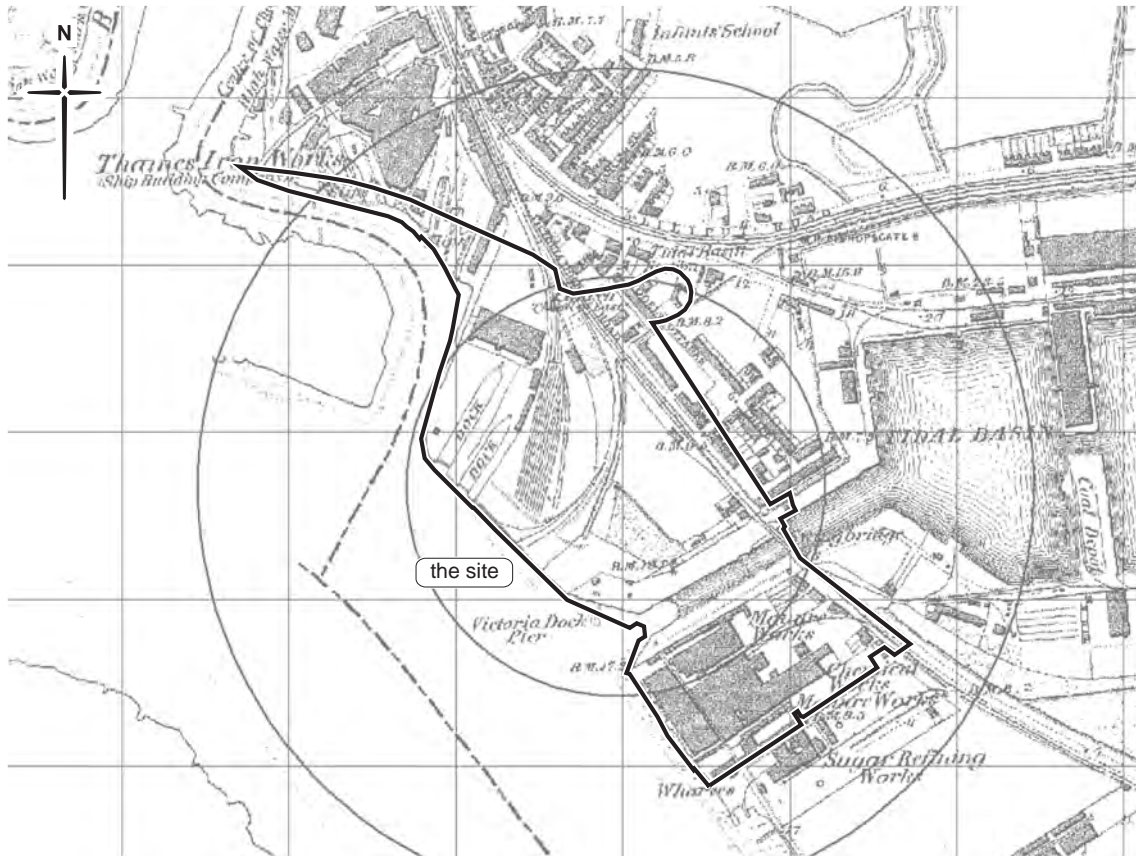


Fig 7 Ordnance Survey 1st edition 6": mile map of 1873 (not to scale)

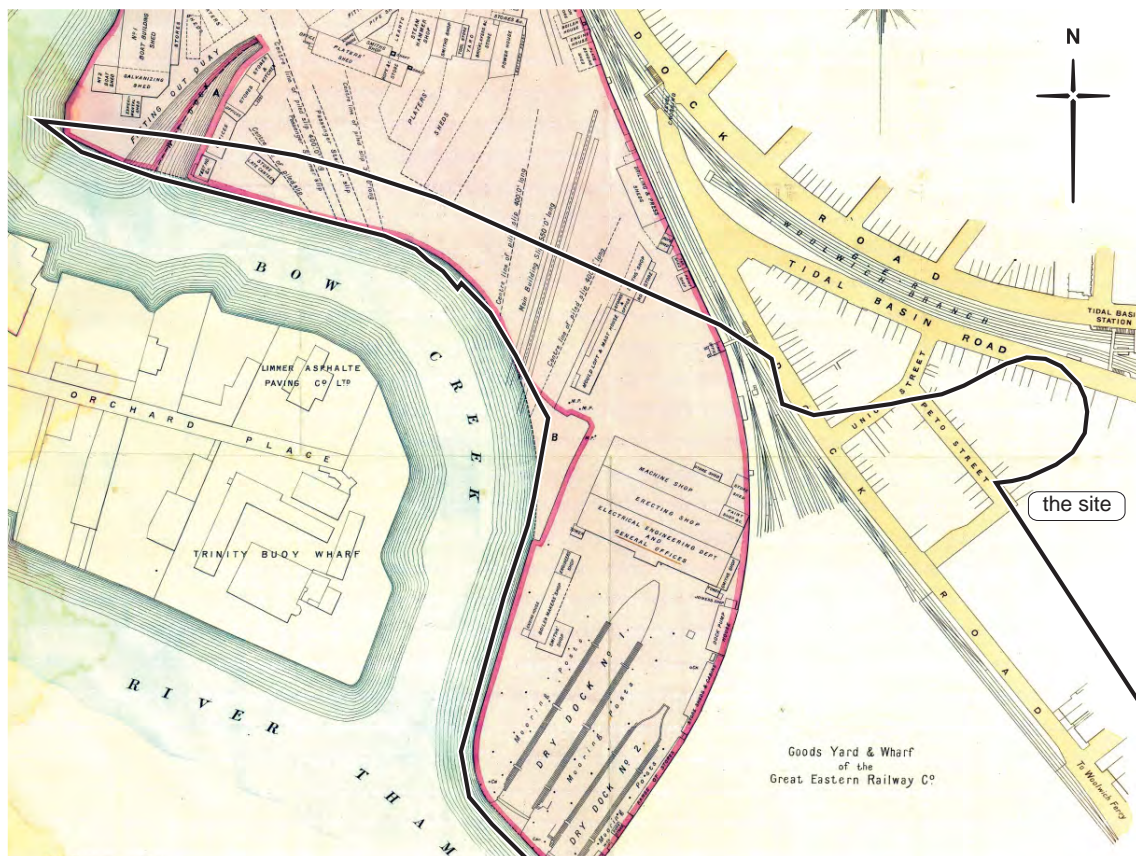


Fig 8 Charles Warner's auction map of the Thames Ironworks and Ship Building Company yard, 1913



Fig 9 Ordnance Survey 2nd edition 6": mile map of 1896 (not to scale)

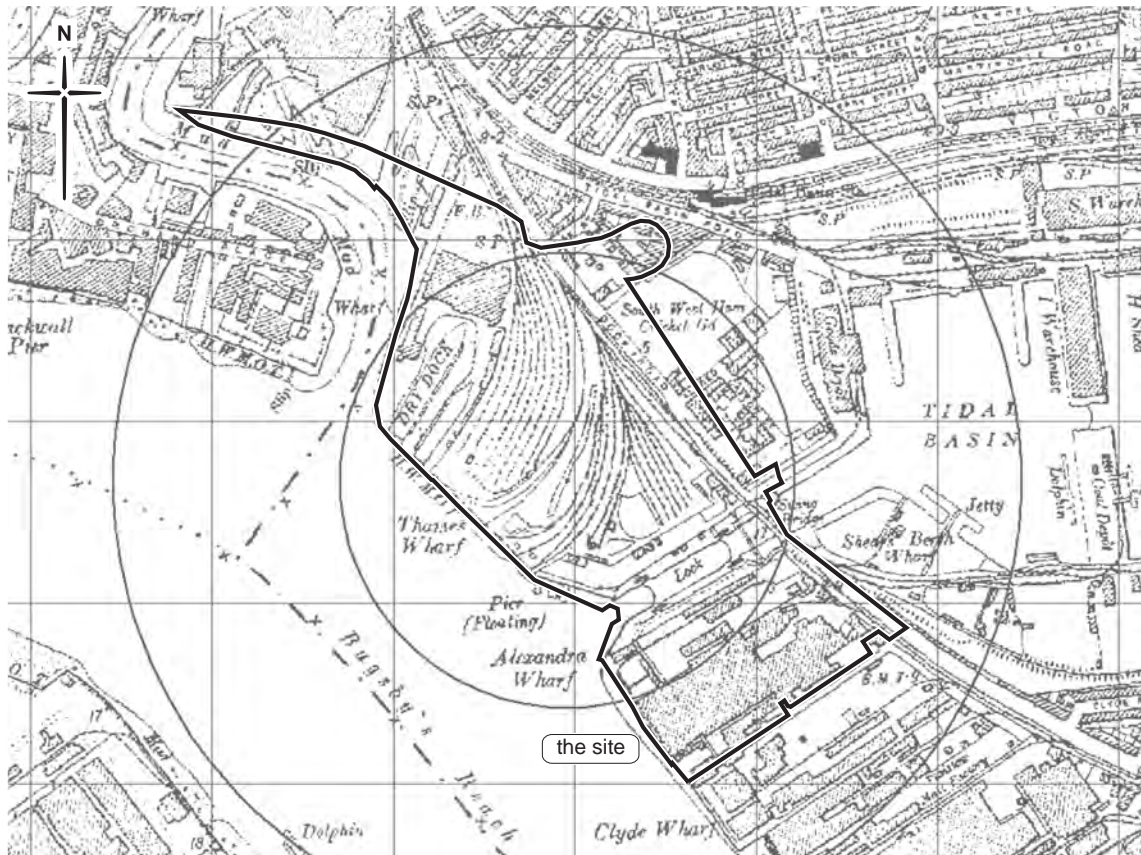


Fig 10 Ordnance Survey 3rd edition 6": mile map of 1920 (not to scale)



Fig 11 Ordnance Survey 25": mile map of 1964–1968 (not to scale)



Fig 12 Ordnance Survey 1:10,000 scale map of 1974 (not to scale)

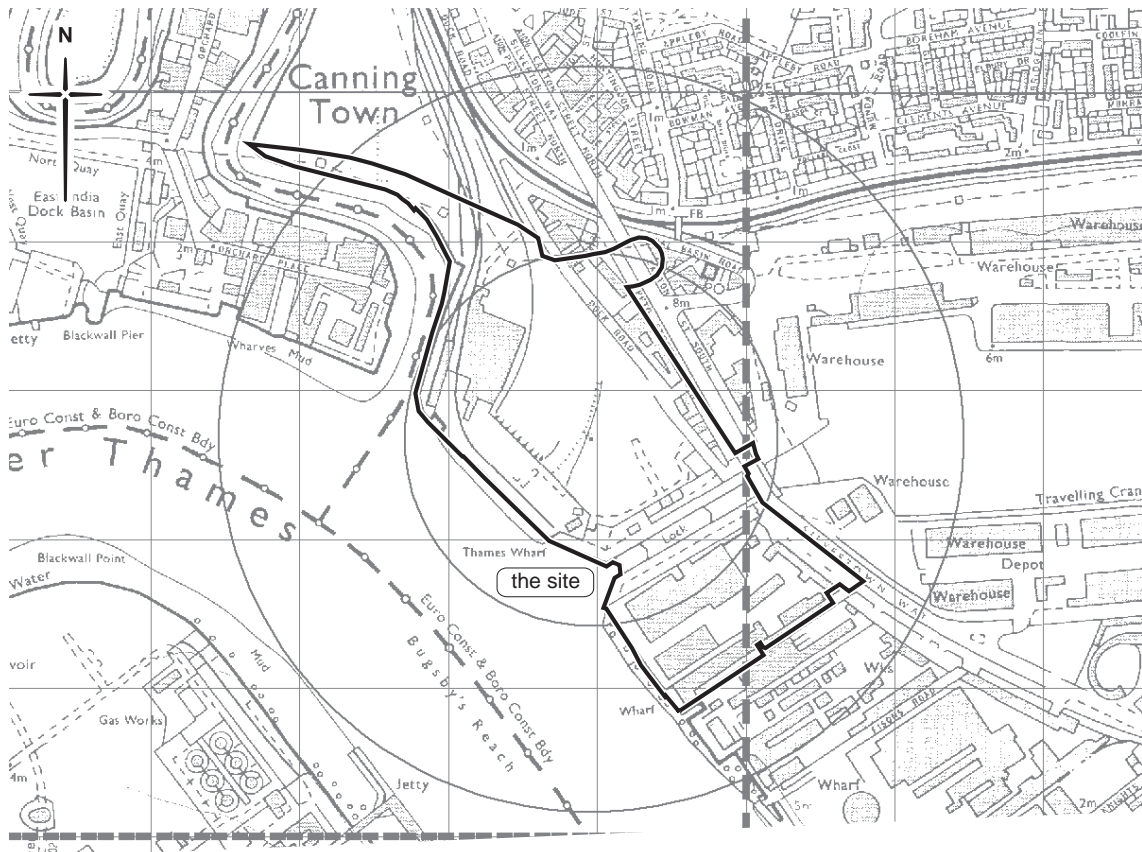


Fig 13 Ordnance Survey 1:10,000 scale map of 1981 (not to scale)

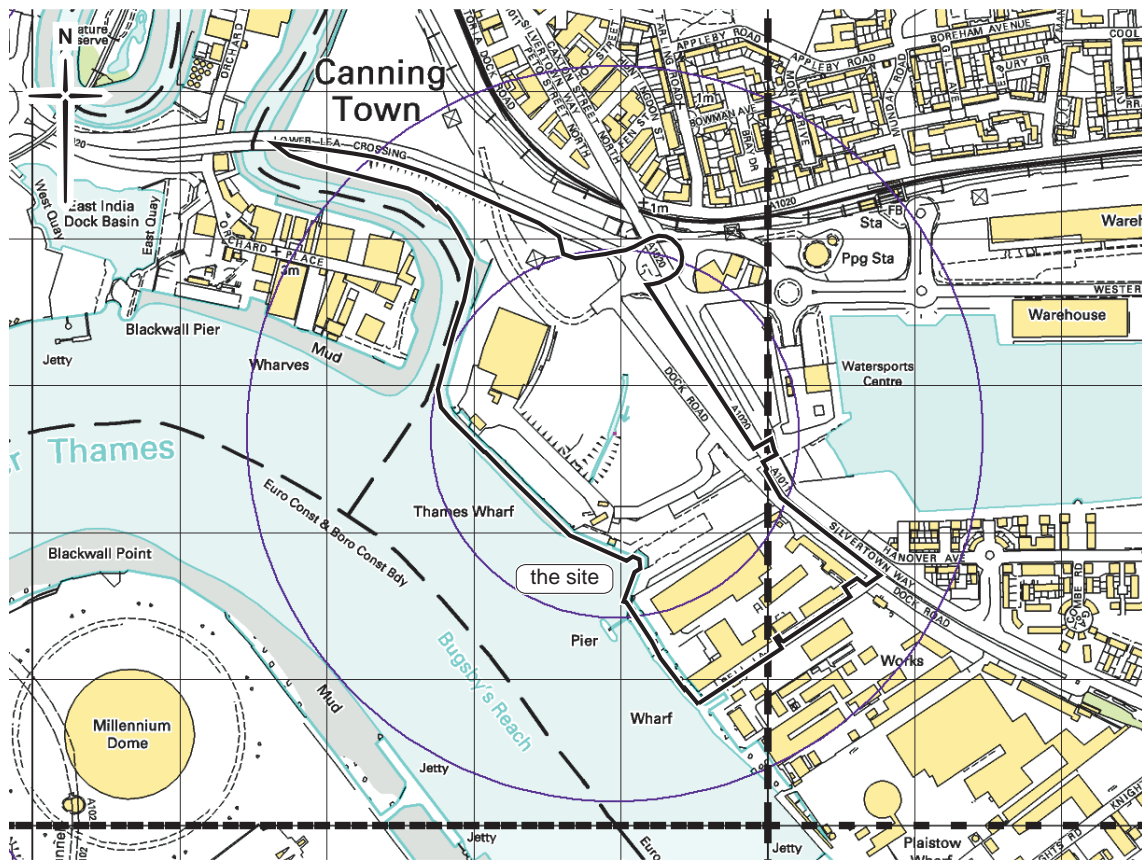
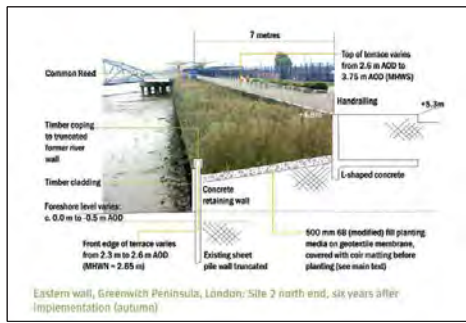
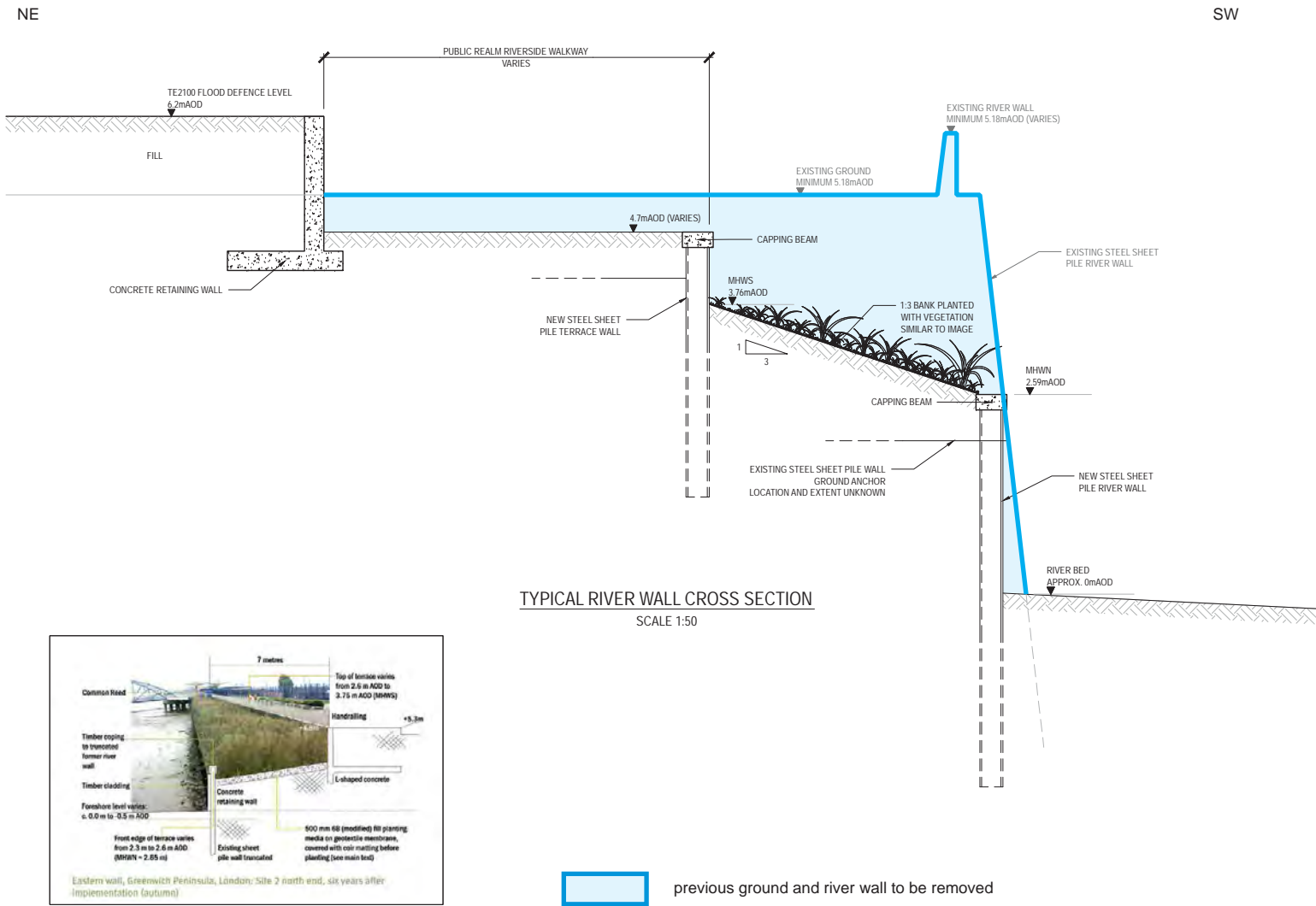


Fig 14 Ordnance Survey 1:10,000 scale map of 1999 (not to scale)



GREENWICH PENINSULA RIVER WALL
NOT TO SCALE

Fig 15 Typical cross section of new river wall (Buro Happold, Drwg No 035668_W32_01, 21/12/2016, Rev-)

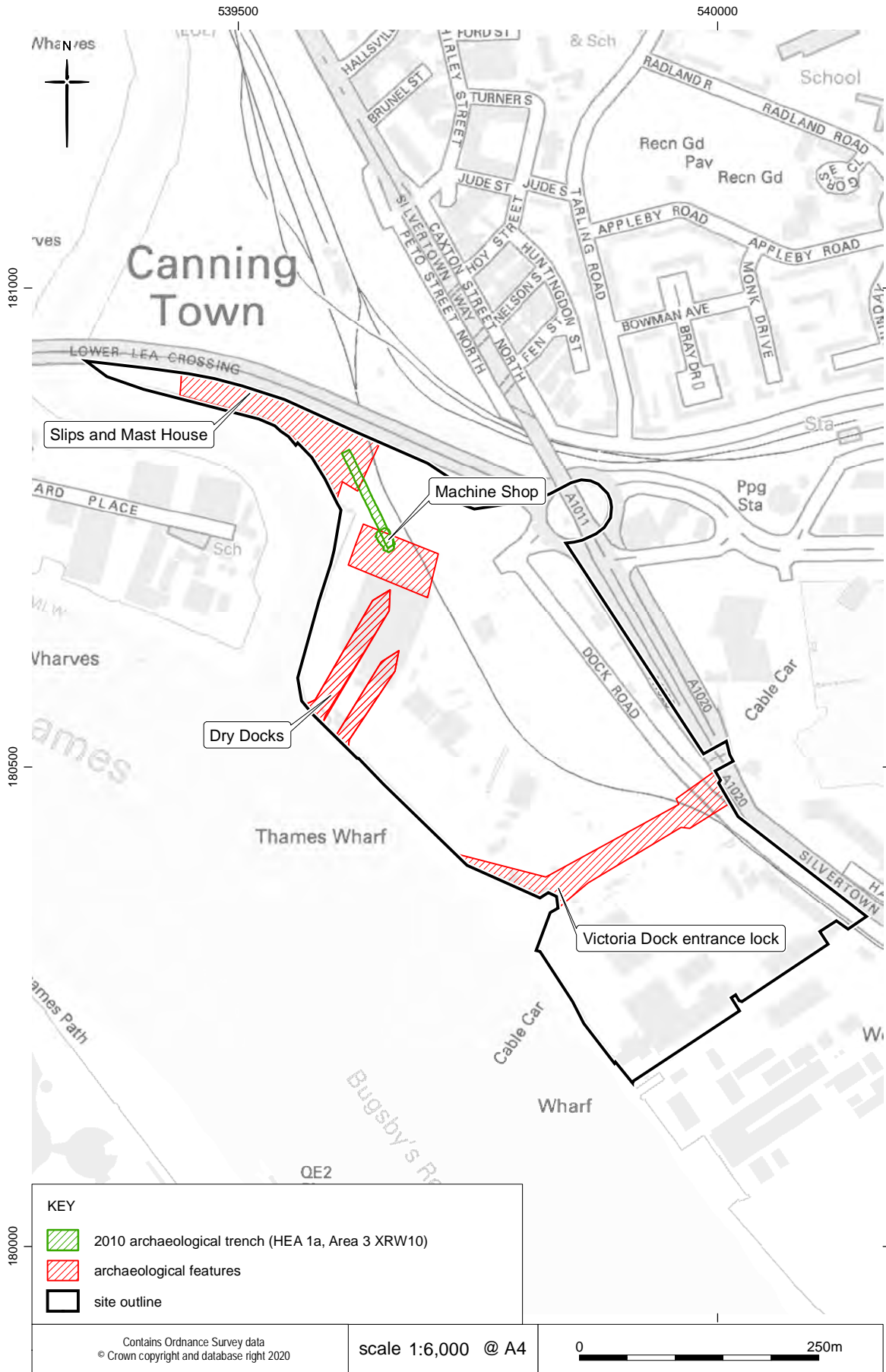


Fig 16 Location of archaeological features relating to the Thames Ironworks shipyard and Victoria Dock entrance lock

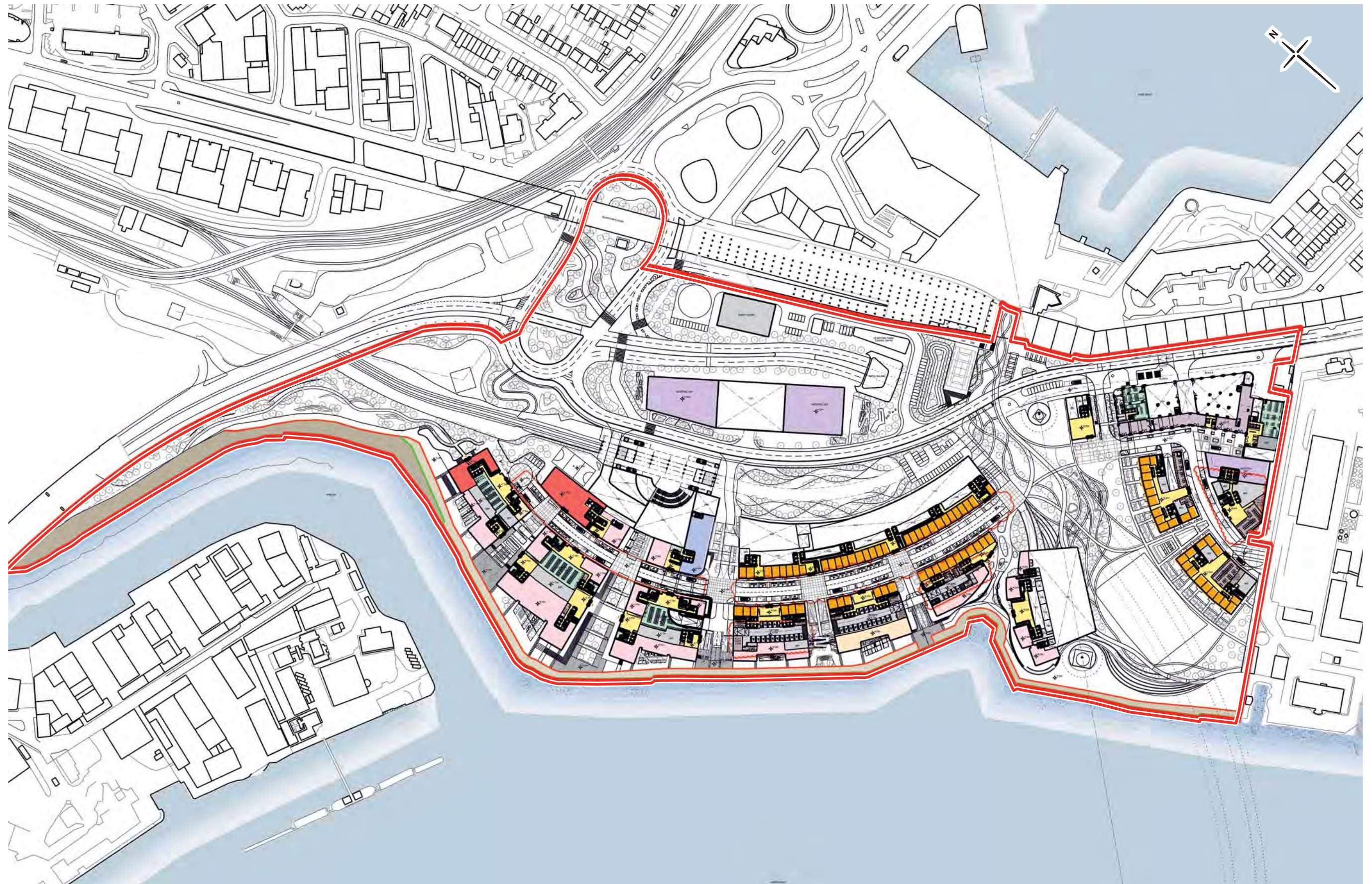


Fig 17 Proposed ground level Site layout (Foster + Partners, Site Layout Masterplan Ground Level, dwg 2693 A-SL-011-01-01, Rev 00, 17/02/2020)

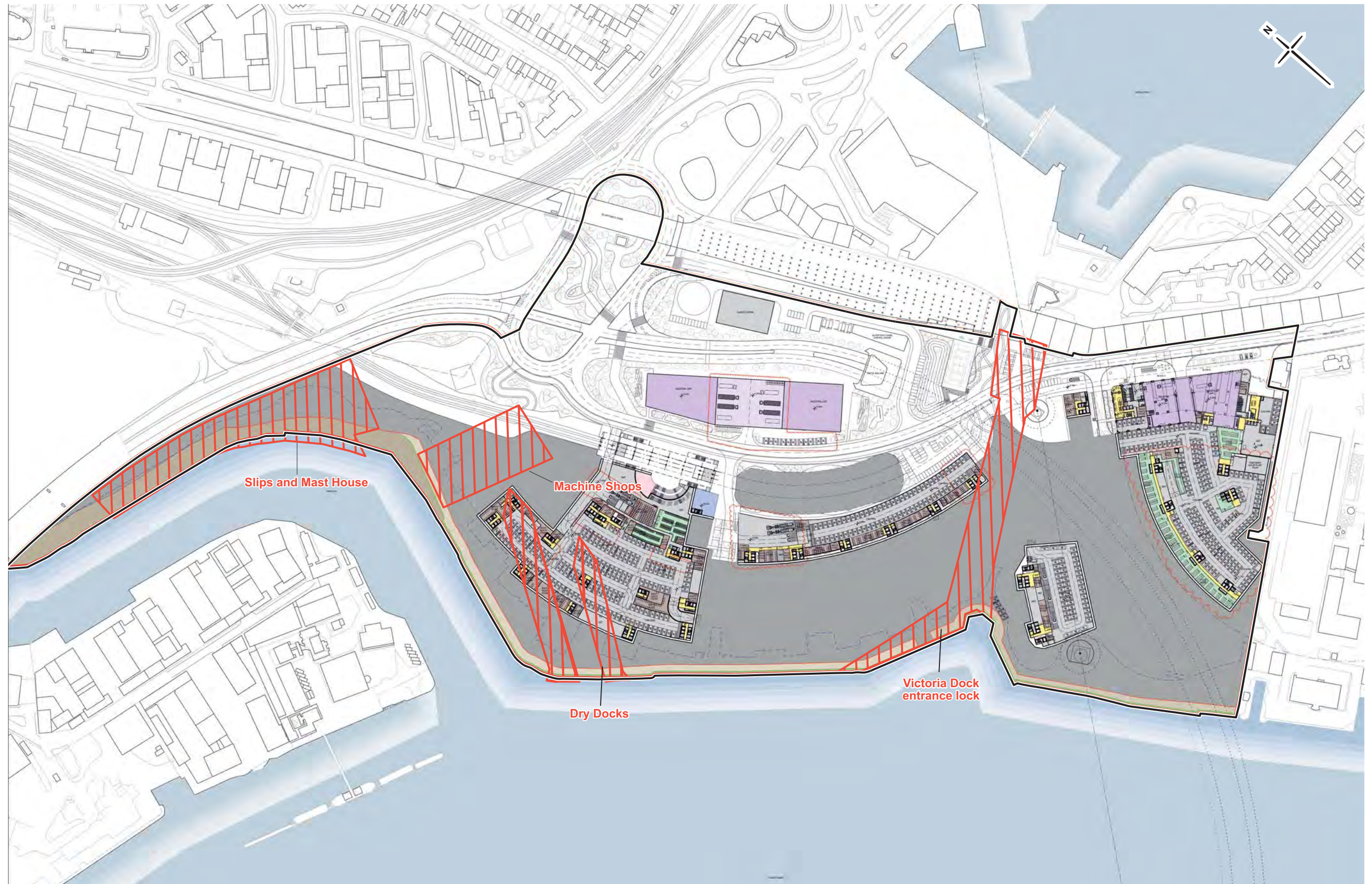
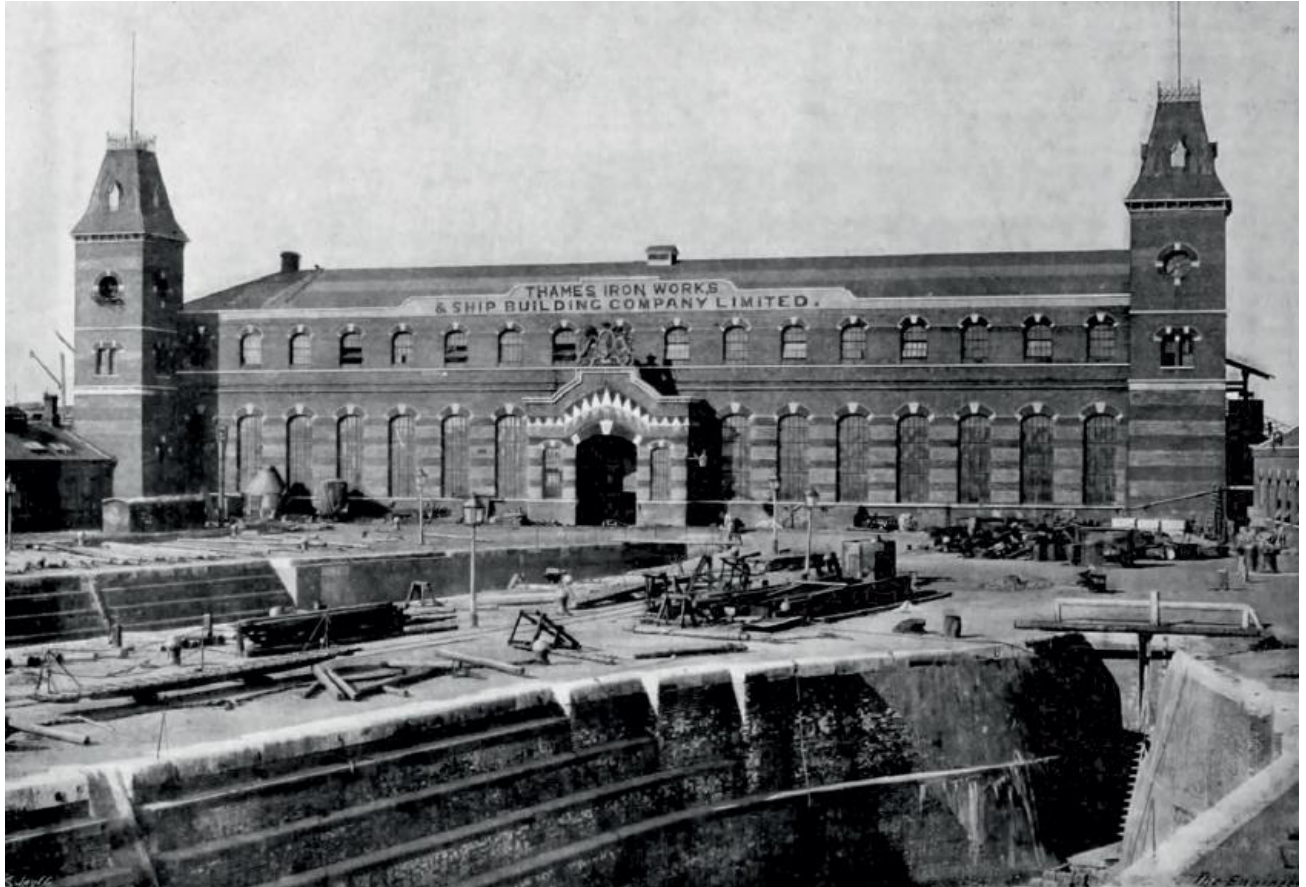


Fig 18 Proposed lower ground level Site layout (Foster + Partners, Site Layout Masterplan Lower Ground, dwg 2693 A-SL-011-00-01, Rev 00, 17/02/2020), showing location of Thames Ironworks shipyard features and Victoria Dock entrance lock

15-B: HISTORIC STATEMENT (UPDATED FOR MARCH 2020)



**Thameside West
Silvertown Way
Newham**

Heritage Statement

NGR 539184 180528

March 2020



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Registered office Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED



**Thameside West
Silvertown Way
Newham**

Heritage Statement

NGR 539184 180528

March 2020

Sign-off history

issue no.	issue date	prepared by	reviewed by	approved by	reason for issue
1	29/11/2018	Alicia Vickers (Built Heritage)	Samuel Abelman Director	Chris Thomas, Director	Draft
2	30/11/2018	Alicia Vickers (Built Heritage)	Samuel Abelman Director	Chris Thomas, Director	Final
3	13/05/2019	Alicia Vickers (Built Heritage)	Samuel Abelman Director	Chris Thomas, Director	Revised
4	15/05/2019	Alicia Vickers (Built Heritage)	Samuel Abelman Director	Chris Thomas, Director	Final
5	03/04/2020	Alicia Vickers (Built Heritage)	Samuel Abelman Director	Chris Thomas, Director	Final

PO code: P18-228



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- Fig 3 Site Context Plan showing location of conservation areas (hatched in purple) (Source: Barton Willmore).*
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- Fig 15 Location of Trinity Buoy Wharf and lighthouse block in relation to the site (Source: Realm—View E).*
- Fig 16 Proposed view from Greenwich Maritime World Heritage Site showing outline of proposed development (Source: Realm—View E).*

Note: site outlines may appear differently on some figures owing to distortions in historic maps. North is approximate on early maps.

Executive summary

BuroHappold on behalf of Silvertown Homes Limited and GLA Land and Property (the Applicant) has commissioned MOLA (Museum of London Archaeology) to produce a heritage statement in advance of the proposed redevelopment of the site known as Thameside West, Silvertown Way, in the London Borough of Newham, National Grid Reference 539184;180528. The hybrid planning application comprises:

1. Detailed planning application for Phase 1 with works to include: The proposed demolition of existing buildings and structures, the erection of buildings, including tall buildings, comprising: 401 residential Units (Use Class C3), 3,608 sqm (GEA) of flexible employment floorspace (Use Classes B1c and B8); 230 sqm (GEA) of flexible retail floorspace (Use Classes A1-A4); a new/altered access road from Dock Road/North Woolwich Road; new streets, open spaces, landscaping and public realm; car, motorcycle and bicycle parking spaces and servicing spaces; and other works incidental to the proposed development.
2. Outline planning application (all matters reserved) for the phased delivery of the balance of the site for the proposed demolition of existing buildings and structures; the erection of buildings, including tall buildings, comprising: a new local centre; a primary school (Use Class D1); residential and older person units (Use Class C3); flexible employment floorspace (Use Classes B1c, B2 and B8); flexible retail floorspace (Use Classes A1-A4); community and leisure floorspace (Use Classes D1 and D2); the construction of a new flood defence wall and delivery of ecological habitat adjacent to the River Thames and associated infrastructure; streets, open spaces, landscaping and public realm (including new park and SINC improvements); car, motorcycle and bicycle parking spaces and servicing spaces; utilities including energy centre and electricity substations; and other works incidental to the proposed development.

The site of Thameside West was originally the site of the Thames Ironworks Shipyard in the 19th and early 20th century.

This baseline statement is submitted as part of a technical appendix to the Environmental Statement (ES). The impact assessment (Section 6) is based on parameter plans. Final and detailed designs have not yet been developed.

This report concerns the effect of the proposed development on the significance and setting of the individual built heritage assets, including those located within the proximity and wider setting. Recommendations are provided where appropriate.

Heritage context of the site

Historic England's National Heritage List for England (NHL) is a register of all nationally designated (protected) historic buildings and sites in England, such as scheduled monuments, listed buildings and registered parks and gardens. The List does not include any nationally designated heritage assets within the Site. There are a three listed buildings in proximity of the Site (their locations are shown on Fig 2), these comprise:

- Trinity House Buoy Wharf Quay and Orchard Dry Dock (NHL ref 1242315). A Grade II listed mid-19th century wharf, 135m west of the Site boundary;
- Trinity House Chain Locker and Lighthouse Block (NHL ref 1242382). A Grade II listed mid-19th century lighthouse, 125m west of the Site boundary;
- The Stothert and Pitt Cranes on the north and south sides of Royal Victoria Dock (NHL ref 1393528). Grade II listed early 20th century cranes, the closest being c 160m north-east of the Site boundary.

This report has the following findings

The site currently makes a neutral (negligible) contribution to the setting of identified key heritage assets. It does not contribute positively to the understanding and/or appreciation of the siting and/or historical, archaeological or architectural context of the heritage assets and is no longer relevant in understanding the context of the identified assets. It is considered that location of the proposed new development on the river frontage will transform the site in a prominent area which is suitably located for a landmark new development and regeneration.

Potential physical impacts

There will be no physical heritage impact as a result of the proposed development.

There is no non-designated built heritage potential on the site. The Carlsberg Tetley building is located in the south east of the site along Silvertown Way. It was constructed in c1964 as part of the former Carlsberg-Tetley company site office. It is not identified on the Local List by the London Borough of Newham. Whilst the building has some interest as a brutalist type building of severe geometric and functional form, there is no longer any association with the remaining brewery or its context. The building is considered to be of low significance and does not meet the threshold for statutory or local listing.

Potential visual (setting) impacts

1. Trinity House Buoy Wharf Quay and Orchard Dry Dock and Trinity House Chain Locker and Lighthouse Block.

The Trinity House Buoy Wharf and Orchard Dock and associated Trinity Chain Locker and Lighthouse Block are appreciated from within their own immediate setting/context, which is defined as the immediate land it is located upon. This land is separated from surrounding development by The Lower Lea Crossing to the north and surrounding water including Bow creek to the east, East India Dock basin to the west and River Thames to the south. The scale and detailing of its brick industrial building and industrial dock structures are appreciated from its immediate setting defined by the surrounding land and light industrial structures. Further, key views are from within the immediate setting and boundary and from the riverside. The dock is also appreciated from its immediate setting and the river.

Due to the proximity and scale of the proposed new development to these assets, there is likely to be a minor adverse heritage impact on their setting. However, it is noted that the immediate setting of the assets, as defined by the surrounding water and the industrial island upon which they are located (and separated from the development site).

2. Stothert and Pitt Cranes

The proposed development will have a neutral impact on the Stothert and Pitt Cranes. Their surround setting of these assets has previously been subject to medium scale urban development along the dock edge, and a number of new approved development schemes will change the wider setting and character of the dock edge.

The proposed new development will therefore appear in the context of contemporary development and at a distance and in the backdrop of the cranes only. The immediate setting and interpretation of these assets will be retained.

The proposed development; however, will have a minor adverse effect as a result of the proposed development and cumulative schemes, which will appear in the backdrop of the cranes to the east (on the southern side of the Royal Victoria Docks) as shown in Figure 14 below.

3. Greenwich Maritime World Heritage Site

Greenwich Maritime World Heritage Site (WHS) is located at a large distance from the site and on the opposite side of the River Thames. The subject site is not located within the boundary or the buffer zone of the WHS. The opposite side of the river from the world heritage site is characterised by the intense large scale development of Canary Wharf, which is a distinctive feature of its wider setting and views. Both to the east and west of Canary Wharf (on the opposite side of the Thames), the area is characterised by tall and contemporary development. This forms a cohesive and consistent skyline within the wider setting of the WHS. The WHS is appreciated from within Greenwich Park, pedestrian and public domain areas and from the River frontage. Surrounding large scale tall development is viewed within the backdrop and wider setting of the site only. The O2 Arena is already visible in the south eastern view from the WHS at a distance. The subject site makes no contribution to the significance or setting of the Greenwich WHS and is at a distance and situated beyond the O2 Arena. The proposed new development will therefore appear as 'more of the same' in the wider context of the WHS and will have a neutral (negligible) heritage impact on the Greenwich Maritime WHS.

Recommendations

A Standing Building Recording of the Carlsberg Tetley Building is recommended.

1 Introduction

1.1 Origin and scope of the report

- 1.1.1 BuroHappold on behalf of Silvertown Homes Limited and GLA Land and Property (the Applicant) has commissioned MOLA (Museum of London Archaeology) to produce a heritage statement in advance of the proposed redevelopment of the
- 1.1.2 This desk-based study assesses the impact of the scheme on built heritage assets (standing buildings). It forms an initial stage of investigation of the area of proposed development (hereafter referred to as the 'site') and may be required in relation to the planning process in order that the local planning authority (LPA) can formulate an appropriate response in light of the impact upon any known or possible heritage assets. These are parts of the historic environment which are considered to be significant because of their historic, evidential, aesthetic and/or communal interest.
- 1.1.3 The assessment has been carried out in accordance with the requirements of the National Planning Policy Framework (NPPF) (DCLG 2012, 2014; see section 10 of this report) and to standards specified by the Chartered Institute for Archaeologists (CifA Dec 2014a, 2014b), Historic England (EH 2008, 2015), and the Greater London Archaeological Advisory Service (GLAAS 2014), and the City of London (CoL 2004). Under the 'Copyright, Designs and Patents Act' 1988 MOLA retains the copyright to this document.
- 1.1.4 Note: within the limitations imposed by dealing with historical material and maps, the information in this document is, to the best knowledge of the author and MOLA, correct at the time of writing. Further archaeological investigation, more information about the nature of the present buildings, and/or more detailed proposals for redevelopment may require changes to all or parts of the document.

1.2 Designated and non-designated heritage assets

- 1.2.1 The Historic England's National Heritage List for England (NHL) is a register of all nationally designated (protected) historic buildings and sites in England, such as scheduled monuments, listed buildings and registered parks and gardens. The List does not include any nationally designated heritage assets within the Site. There are three listed buildings in the vicinity of the site (their locations are shown on Fig 2), these comprise:
- Trinity House Buoy Wharf Quay and Orchard Dry Dock (NHL ref 1242315). A Grade II listed mid-19th century wharf, 135m west of the Site boundary;
 - Trinity House Chain Locker and Lighthouse Block (NHL ref 1242382). A Grade II listed mid-19th century lighthouse, 125m west of the Site boundary;
 - The Stothert and Pitt Cranes on the north and south sides of Royal Victoria Dock (NHL ref 1393528). Grade II listed early 20th century cranes, the closest being c 160m north-east of the Site boundary.

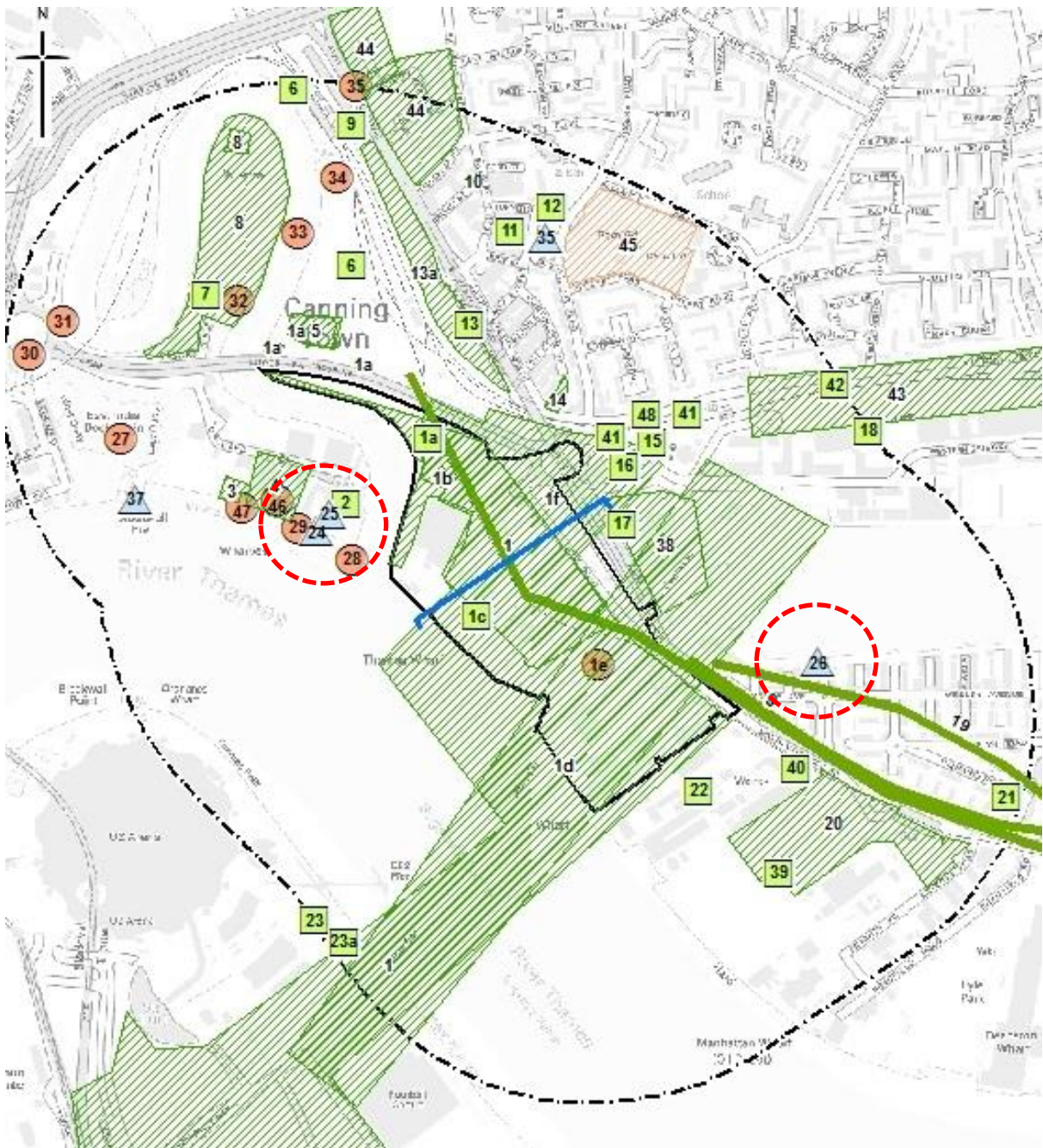


Fig 2: HER Record showing heritage assets extending 500m from the site boundary (Source: Barton Willmore) heritage listed assets are indicated in blue triangles as follows:

- 24: Trinity House Buoy Wharf Quay and Orchard Dry Dock
- 25: Trinity House Chain locker and Lighthouse Block
- 26: Stothert and Pitt cranes on the north and south sides of Royal Victoria Dock

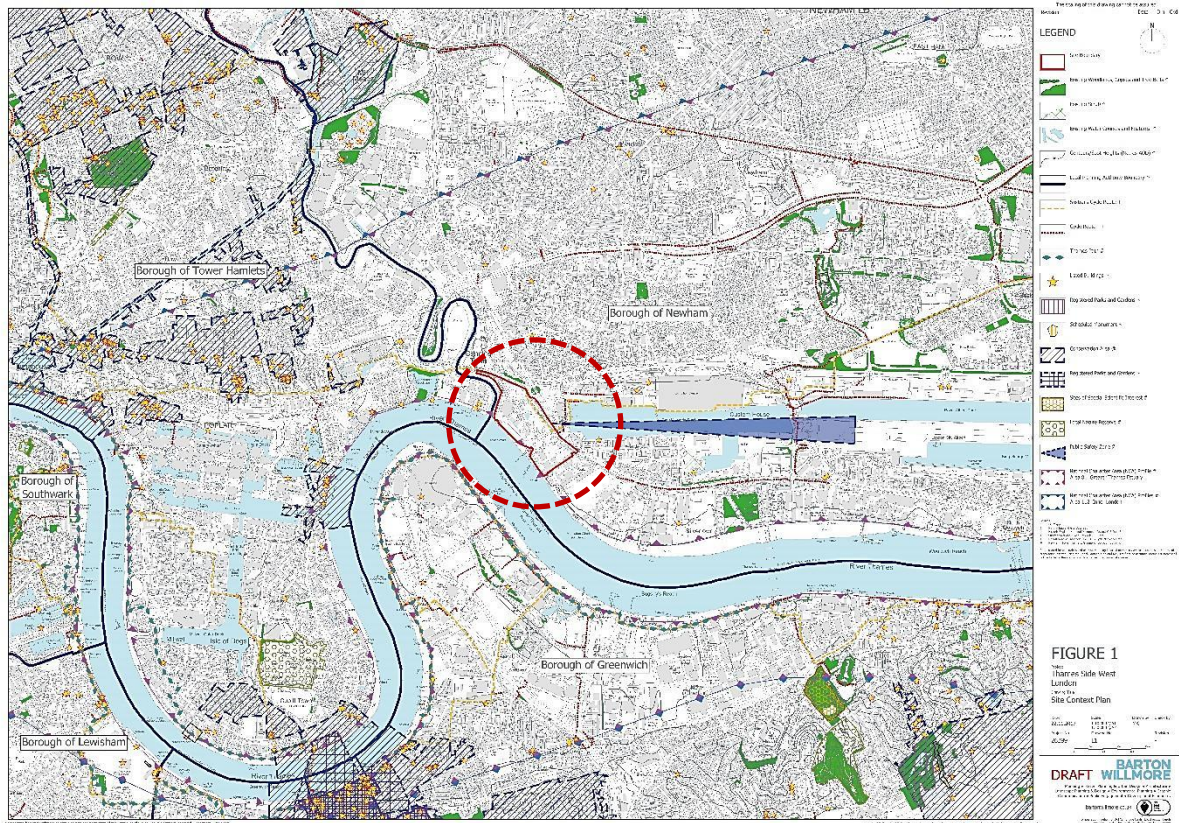


Fig 3: Site context plan showing location of conservation areas (hatched in purple) (Source: Barton Willmore).

1.3 Aims and objectives

1.3.1 The aim of the assessment is to:

- identify the presence of any known or potential built heritage assets that may be affected by the proposals;
- describe the significance of such assets, as required by national planning policy (see Section 2 for planning framework and Section 7 for methodology used to determine significance);
- assess the likely impacts upon the significance of the assets arising from the proposals; and
- provide recommendations for further assessment where necessary of the historic assets affected, and/or mitigation aimed at reducing or removing completely any adverse impacts upon built heritage assets and/or their setting.

1.4 Limitations

1.4.1 Site access was limited.

2 Methodology and sources consulted

2.1 Baseline

- 2.1.1 The baseline for this assessment has been determined primarily through desk-based research into designated and undesignated heritage assets near the site of the proposed development. It has been confirmed and extended by a site visit by a MOLA Built Heritage Consultant.
- 2.1.2 The following are the principal sources consulted:
- MOLA – in-house Geographical Information System (GIS) with statutory designations GIS data, the locations of all key indicators of known prehistoric and Roman activity across Greater London, past investigation locations, projected Roman roads and burial grounds from the Holmes burial ground survey of 1896; georeferenced published historic maps; Defence of Britain survey data, in-house archaeological deposit survival archive; and archaeological publications;.
 - Historic England – information on statutory designations including scheduled monuments and listed buildings, along with identified Heritage at Risk;
 - Groundsure Landmark – historic Ordnance Survey maps from the first edition (1860–70s) to the present day and Goad fire insurance maps;
 - Bedfordshire Archives Service
 - Client-supplied – architectural drawings (para-meter plans only); and
 - Internet - web-published material including LPA local plan, and information on conservation areas and locally listed buildings.

2.2 Significance

- 2.2.1 This assessment considers all structures on or near the site of a proposed development to have potential significance as heritage assets. From this start position, the values and significance of each asset will be determined using criteria set out in Section 9. All structures with a level of significance as heritage assets will be discussed in the report and included as material considerations in the assessment. Structures of negligible value and significance as heritage assets will not be assessed further and will generally be excluded from the report except where there is a need for explanation of their exclusion from the assessment, such as being part of the site.
- 2.2.2 For each built heritage asset to be considered, a description will be provided leading to a statement of significance for that asset. Section 10 sets out the criteria used to determine the significance of heritage assets. This is based on four values set out in Historic England's Conservation Principles, Policies and Guidance (EH 2008), and comprise evidential, historical, aesthetic and communal value. The report assesses the likely presence of such assets within (and beyond) the site, factors which may have compromised buried asset survival (i.e. present and previous land use), as well as possible significance.
- 2.2.3 The significance of the asset is derived from its historical, evidential, communal and aesthetic values, these in turn derived from the building's fabric, design, landscape and history.
- 2.2.4 In the case of Conservation Areas, the significance will be primarily found in their character assessments and those aspects of the historic built environment that make positive contributions to them.

2.3 General Planning Advice 3 (GPA3) *the Setting of Heritage Assets* (Historic England 2015)

- 2.3.1 General Planning Advice 3 (GPA3) *The Setting of Heritage Assets* (Historic England 2015) sets out the broad methodology for assessing the impact of development on the significance of assets. This suggests a staged approach - Step 1 being the identification of assets potentially

affected; Step 2 being to assess whether, how and to what degree the setting makes a contribution to the significance of the heritage asset(s); Step 3 is to assess the effects of the proposed development, whether beneficial or harmful, on that significance; Step 4 is to explore the ways to maximise enhancement and avoid or minimise harm; and Step 5, which is the preserve of the LPA, is to make and document the decision and monitor outcomes.

2.3.2 This report primarily concerns the effect of the proposed scheme on the significance and visual setting of the following:

- Trinity House Buoy Wharf Quay and Orchard Dry Dock (NHL ref 1242315). A Grade II listed mid-19th century wharf, 135m west of the Site boundary;
- Trinity House Chain Locker and Lighthouse Block (NHL ref 1242382). A Grade II listed mid-19th century lighthouse, 125m west of the Site boundary;
- The Stothert and Pitt Cranes on the north and south sides of Royal Victoria Dock (NHL ref 1393528). Grade II listed early 20th century cranes, the closest being c 160m north-east of the Site boundary.

2.3.3 In detail, Step 2 considers:

- a) the physical surroundings of the asset, including its relationship with other heritage assets;
- b) the way the asset is appreciated; and
- c) the asset's associations and patterns of use.

2.3.4 Commentary of the various (relevant) facets of these factors is as follows. The following factors are considered holistically on relation to the identified assets.

1. **The asset's physical surroundings:**

a) Topography

The topography of the site is relatively flat.

b) Other heritage assets (including buildings, structures, landscapes, areas or archaeological remains)

Proximate heritage assets to the site are few and individually located (primarily to the north west and west of the site). These are separated from the site boundary by Intervening built form and water (Bow Creek). The cranes frame the edge of the dockside.

There are few recognised heritage assets in the southern part of the LBN due to the bombing runs that occurred during the Second World War. However, the Hallsville Tavern; the Compressor House on Ruscoe Road; the Flying Angel; the Millennium Mill at Pontoon Dock; and the Harland and Wolff Gates at Lyle Park are all identified as locally listed buildings within the wider setting and study area.

c) Definition, scale and 'grain' of surrounding streetscape, landscape and spaces

The site consists entirely of former industrial land. The surrounding landscape character is mixed comprising former industrial buildings and introduced contemporary new development.

d) Historic materials and surfaces

Brickwork and steel/metal is the predominant building material in the wider area for surviving traditional industrial buildings and structures. Introduced new development has contemporary and mixed materials and surfaces.

e) Openness, enclosure and boundaries

The site has a considerable sense of openness due to the open water setting of the docks. Development along the dockside is more enclosed. Some of the surviving industrial sites on the water's edge are more open.

f) Functional relationships and communications

There is no functional relationship between the site and the surrounding area or wider setting. The cranes on the dock edge are visible from a wide distance.

g) History and degree of change over time

A number of industrial buildings around the dock edge have been demolished over time and the landscape has been subject to existing contemporary residential development.

2. Experience of the asset:

a) *Surrounding landscape and townscape character*

The current character of the area is one that is low-scale and industrial and characterised by the water of the Royal Victoria Docks. However, the Docks have already been subject to significant new redevelopment on the north and western sides. Further, proposed approved new developments around the docks are changing the nature and character of the landscape.

b) *Views from, towards, through, across and including the asset*

Views to the cranes are significant and they are landmark industrial structures in the landscape, visible in views from proximate heritage assets and further afield.

c) *Visual dominance, prominence or role as a focal point*

The cranes are a significant feature on the dockside and wider setting and contribute to the experience of an industrial area/character in the wider area.

d) *Noise, vibration and other nuisances*

The area around the docks is quiet but vibrant.

e) *Degree of interpretation or promotion to the public*

The designated assets remain in their original locations; however, the wider setting of the Royal Victoria Docks has been subject to extensive change with the construction of new contemporary residential developments.

f) *Rarity of comparable survivals of setting*

The site is not rare

- 2.3.5 The new development will be integrated into the landscape. The scale of the proposed redevelopment of the site will likely have neutral-minor adverse impact on proximate heritage assets and the wider setting. (Step 3).
- 2.3.6 Sympathetic design response along the western edge will mitigate any adverse heritage impact (Step 4).
- 2.3.7 Step 5 will be undertaken by the LPA in due course.

2.4 Impact

- 2.4.1 Impacts are those actions associated with the proposed development with potential to alter the significance of a heritage asset through affecting the values that contribute to it.
- 2.4.2 For each built heritage asset, the potential impacts of demolition and construction will be assessed in terms of how they may alter these values and, by extension, significance of each.
- 2.4.3 For conservation areas, the assessment will focus on the preservation and/or enhancement of their historic character.

2.5 Conclusions and Recommendations

- 2.5.1 The built heritage assessment will conclude with a list of impacts, potentially ranging from major adverse to major positive, on built heritage assets in the baseline.
- 2.5.2 This list is primarily intended to inform mitigation, whether through design or ameliorative archaeological recording of assets in advance of their alteration.

3 Policy Baseline

3.1 Introduction

- 3.1.1 There is potential for the proposed development to impact on the significance of designated and undesignated built heritage assets and Conservation Areas. These impacts will likely take the form of demolition or other physical alteration to buildings, demolition and new construction that may alter the setting of designated heritage assets, and demolition and new construction that may affect the character and setting of Conservation Areas.
- 3.1.2 The following lays out the general criteria upon which the proposed development will be assessed.

3.2 Statutory protection

Listed Buildings and Conservation Areas

- 3.2.1 The *Planning (Listed Buildings and Conservation Areas) Act 1990* sets out the legal requirements for the control of development and alterations which affect buildings, including those which are listed or in conservation areas. Buildings which are listed or which lie within a Conservation Area are protected by law. Grade I are buildings of exceptional interest. Grade II* are particularly significant buildings of more than special interest. Grade II are buildings of special interest, which warrant every effort being made to preserve them.
- 3.2.2 The requirements in respect of Listed Buildings (LB) are set out Section 66(1) and (2) of the Act:
- (1) In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.*
- (2)..... a local authority shall have regard to the desirability of preserving features of special architectural or historic interest, and in particular, listed buildings.*
- 3.2.3 The requirements in respect of CAs are set out Section 72(1) of the Act.
- (1) In the exercise, with respect to any buildings or other land in a conservation area.....special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area.*

3.3 National Planning Policy Framework

- 3.3.1 The Government issued the National Planning Policy Framework (NPPF) in March 2012 (DCLG 2012) and supporting Planning Practice Guidance in 2014 (DCLG 2014). The 2012 NPPF was revised and a new NPPF published in July 2018, with minor revisions in February 2019 (MHCLG 2019).

Conserving and enhancing the historic environment

- 3.3.2 The NPPF section concerning “Conserving and enhancing the historic environment” (section 12 of the NPPF 2012) has been replaced by NPPF 2018 Section 16 (unchanged in February 2019), reproduced in full below:
- Para 184.** Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.
- Para 185.** Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:

- a) the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;
- b) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- c) the desirability of new development making a positive contribution to local character and distinctiveness; and
- d) opportunities to draw on the contribution made by the historic environment to the character of a place.

Para 186. When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.

Para 187. Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:

- a) assess the significance of heritage assets and the contribution they make to their environment; and
- b) predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.

Para 188. Local planning authorities should make information about the historic environment, gathered as part of policy-making or development management, publicly accessible.

Proposals affecting heritage assets

Para 189. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Para 190. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.

Para 191. Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision.

Para 192. In determining applications, local planning authorities should take account of:

- a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- c) the desirability of new development making a positive contribution to local character and distinctiveness.

Considering potential impacts

Para 193. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

Para 194. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;
- b) assets of the highest significance, notably scheduled monuments, protected wreck sites,

registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

Para 195. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- a) the nature of the heritage asset prevents all reasonable uses of the site; and
- b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
- d) the harm or loss is outweighed by the benefit of bringing the site back into use.

Para 196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

Para 197. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

Para 198. Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

Para 199. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

Para 200. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.

Para 201. Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 195 or less than substantial harm under paragraph 196, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.

Para 202. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

3.4 Greater London Regional Policy

The London Plan

3.4.1 The overarching strategies and policies for the whole of the Greater London area are contained within the London Plan of the Greater London Authority (GLA March 2016). The current 2016 consolidation Plan is still the adopted Development Plan. The GLA have published their 'intend to publish' version of the Draft London Plan (December 2019). This is now being attributed material weight in the planning process.

A. London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B. Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

C. Development should identify, value, conserve, restore, re-use and incorporate heritage

assets, where appropriate.

D. Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E. New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

F. Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

G. Boroughs, in consultation with English Heritage [now named Historic England], Natural England and other relevant statutory organisations, should include appropriate policies in their LDFs for identifying, protecting, enhancing and improving access to the historic environment and heritage assets and their settings where appropriate, and to archaeological assets, memorials and historic and natural landscape character within their area.

3.4.2 Para. 7.31 A supporting Policy 7.8 notes that 'Substantial harm to or loss of a designated heritage asset should be exceptional, with substantial harm to or loss of those assets designated of the highest significance being wholly exceptional. Where a development proposal will lead to less than substantial harm to the significance of a designated asset, this harm should be weighed against the public benefits of the proposal, including securing its optimal viable use. Enabling development that would otherwise not comply with planning policies, but which would secure the future conservation of a heritage asset should be assessed to see if the benefits of departing from those policies outweigh the disbenefits.'

3.4.3 It further adds (para. 7.31B) 'Where there is evidence of deliberate neglect of and/or damage to a heritage asset the deteriorated state of that asset should not be taken into account when making a decision on a development proposal'. 3.4.4 Para. 7.32 recognises the value of London's heritage: '...where new development uncovers an archaeological site or memorial, these should be preserved and managed on-site. Where this is not possible provision should be made for the investigation, understanding, dissemination and archiving of that asset'.

The Draft New London Plan

3.4.4 The overarching strategies and policies for the whole of the Greater London area are contained within the London Plan of the Greater London Authority (GLA March 2016). The current 2016 consolidation Plan is still the adopted Development Plan. The GLA have published their 'intend to publish' version of the Draft London Plan (December 2019). This is now being attributed material weight in the planning process.

3.4.5 Policy HC1 "Heritage conservation and growth" of the Draft New London Plan (as set out here incorporating the minor changes published in July 2019) relates to London's historic environment:

A. Boroughs should, in consultation with Historic England, local communities and other statutory and relevant organisations, develop evidence that demonstrates a clear understanding of London's historic environment. This evidence should be used for identifying, understanding, conserving, and enhancing the historic environment and heritage assets, and improving access to, and interpretation of, the heritage assets, landscapes and archaeology within their area.

B. Development Plans and strategies should demonstrate a clear understanding of the historic environment and the heritage values of sites or areas and their relationship with their surroundings. This knowledge should be used to inform the effective integration of London's heritage in regenerative change by:

- 1) setting out a clear vision that recognises and embeds the role of heritage in placemaking
- 2) utilising the heritage significance of a site or area in the planning and design process
- 3) integrating the conservation and enhancement of heritage assets and their settings with innovative and creative contextual architectural responses that contribute to their significance and sense of place
- 4) delivering positive benefits that conserve and enhance the historic environment, as well as contributing to the economic viability, accessibility and environmental quality of a place, and to social wellbeing.

C. Development proposals affecting heritage assets, and their settings, should conserve their significance, by being sympathetic to the assets' significance and appreciation within their surroundings. The cumulative impacts of incremental change from development on heritage assets and their settings, should also be actively managed. Development proposals should avoid harm and identify enhancement opportunities by integrating heritage considerations early on in the design process.

D. Development proposals should identify assets of archaeological significance and use this information to avoid harm or minimise it through design and appropriate mitigation.

Where applicable, development should make provision for the protection of significant archaeological assets and landscapes. The protection of undesignated heritage assets of archaeological interest equivalent to a scheduled monument should be given equivalent weight to designated heritage assets.

E. Where heritage assets have been identified as being At Risk, boroughs should identify specific opportunities for them to contribute to regeneration and place-making, and they should set out strategies for their repair and re-use.

- 3.4.6 Para 7.1.8 adds 'Where there is evidence of deliberate neglect of and/or damage to a heritage asset to help justify a development proposal, the deteriorated state of that asset should not be taken into account when making a decision on a development proposal'.
- 3.4.7 Para 7.1.11 adds 'Developments will be expected to avoid or minimise harm to significant archaeological assets. In some cases, remains can be incorporated into and/or interpreted in new development. The physical assets should, where possible, be made available to the public on-site and opportunities taken to actively present the site's archaeology. Where the archaeological asset cannot be preserved or managed on-site, appropriate provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset, and must be undertaken by suitably-qualified individuals or organisations.'
- 3.4.8 Policy HC2, "World Heritage Sites" is as follows:
- A. Boroughs with World Heritage Sites and those that are neighbours to authorities with World Heritage Sites should include policies in their Development Plans that conserve, promote, actively protect and interpret the Outstanding Universal Value of World Heritage Sites, which includes the authenticity and integrity of their attributes and their management.
 - B. Development proposals in World Heritage Sites and their settings, including any buffer zones, should conserve, promote and enhance their Outstanding Universal Value, including the authenticity, integrity and significance of their attributes, and support their management and protection. In particular, they should not compromise the ability to appreciate their Outstanding Universal Value, or the authenticity and integrity of their attributes.
 - C. Development Proposals with the potential to affect World Heritage Sites or their settings should be supported by Heritage Impact Assessments. Where development proposals may contribute to a cumulative impact on a World Heritage Site or its setting, this should be clearly illustrated and assessed in the Heritage Impact Assessment.
 - D. Up-to-date World Heritage Site Management Plans should be used to inform the planmaking process, and when considering planning applications, appropriate weight should be given to implementing the provisions of the World Heritage Site Management Plan

3.5 Local Planning Policy (Newham Council)

- 3.5.1 Newham's Local Plan sets out a vision and framework for development in the Borough. It addresses needs and opportunities across a number of themes, including housing, the economy, community facilities, infrastructure and the environment.
- 3.5.2 Newham's Local Plan is currently under review. The Local Plan Review was submitted to the Planning Inspectorate (PINS) on 28 February 2018. Until this process is finalised, policies contained in the current Local Plan stand.
- 3.5.3 The Local Plan is the starting-point for considering whether planning applications can be approved. Along with the Local plan it forms the Development Plan against which individual proposals are assessed.
- 3.5.4 Detailed heritage policy is set out in various documents:
- g) The Core Strategy 2012 — Policy SP5 'Heritage and other successful place-making assets'.
 - h) The Detailed Sites and Policies Development Plan Document 2016 — Policy SPA5a

'Areas of Townscape Value and Archaeological Priority Areas'.

4 Built Heritage Baseline

4.1 Chronological Summary

The following chronological summary is sourced directly from the Historic Environment Assessment (HEA) prepared for the site and should be read in conjunction with this. This includes the historical mapping referred to in the text below.

Post-Medieval period (AD 1485-present)

- 4.1.1 The marshland of the Plaistow Levels has dominated much of the site's early history. Chapman and Andre's map of Essex, 1777 shows the area of the marshland extending approximately 1.2km north of the site, to the south of Plaistow, and 5km east to Barking Creek. The map shows two inlets extending into the site but little further detail. In the vicinity of what is now Manhattan Wharf, c 1km south-east of the site a gallows is depicted, suggesting this was a place of execution.
- 4.1.2 The earliest development on the site dates to the mid-19th century. The Ordnance Survey 1':mile county series map of 1850 shows the foreshore occupied by the wharf of the Northumberland and Durham Coal Company. This wharf may have dated to the 1830s, as its close proximity to the shipyards of Ditchburn and Mare on the adjacent side of Bow Creek near Blackwall which opened in 1836, could be seen as a contributing factor to the success of the shipyard (Marriott, 2011, 103). Prior to the construction of the wharf, coal had to be transported from the coalfields in the north overland; however the construction of the coal wharf nearby allowed for the cheaper and quicker import of coal. In the north of the site are railway lines of the Eastern Counties Railway, which broadly follows the alignment of the modern Dock Road and North Woolwich Road.
- 4.1.3 The railway was to connect London to Ipswich via Colchester, and later extended to Norwich. It was first proposed in 1835, but construction did not start for two years, until 1837. A description of the route indicates it originated at Shoreditch High Street, extending eastwards through Spitalfields and Mile End, crossing the marshes at Old Ford "a little to the left of Stratford" (Whishaw, 1842, 88–89). The section that runs through the site was part of the North Woolwich branch, opened in 1847 (Allen, 1955, 8–9).
- 4.1.4 Between 1847 and 1856 the land on the Canning Town side of the River Lea was purchased by Charles Mare, of C. J. Mare and Company (formerly the Ditchburn and Mare Shipbuilding Company), a naval architect. This formed the expansion of the former shipyards he shared with his now retired partner Thomas Ditchburn, which were located on the western side of the Lea in the area of Orchard Place, c 245m north-west of the site. A new yard with furnaces and rolling mills that could construct vessels of 4,000 tons was established here and a ferry connected the two sites (Survey of London vol 44, 646–655). The company hit financial trouble in 1855, but was maintained by its creditors under a new limited company in 1857, The Thames Ironworks and Shipbuilding Company Ltd.
- 4.1.5 The Ordnance Survey 1st edition 6": mile map of 1873 clearly shows the layout of the shipyard in the west of the site. Throughout this report, both the 1:10,000 scale (6":mile map) and 1:2,500 scale (25":mile) Ordnance Survey maps have been examined, however owing to the size of the site, the small scale maps have been referenced, except where pertinent details are shown on the larger scale map.
- 4.1.6 The main notable feature is the mouth and lock of the tidal basin of the Royal Victoria Docks, which gives the site its distinct kink along the Thames foreshore. The shipyard was bounded to the east by the wharf and goods yard of the Great Eastern Railway Company (formerly Eastern Counties Railway Company), and a number of railway sidings are shown in the site.
- 4.1.7 By the time of the 1st edition maps, the Thames Ironworks and Shipbuilding Company had already launched its most famous vessel: HMS Warrior (1860). The ship was constructed entirely of iron, steam-powered and propelled by a screw propeller, although it retained more traditional elements such as masts, sails and a sailing rig arrangement. It was constructed on the main slip of the yard, on the banks of the Lea and not in dry dock, within the western 'arm' of the site. Whilst construction of the vessel made a financial loss for the company owing to its innovative design, it bolstered their reputation as producers of warships for the Admiralty and

foreign powers (Harrison, 2015, 44).

- 4.1.8 Charles Warner's map of the shipyard, drawn up in 1913 clearly shows its layout at the time of its closure. The most prominent features are the two dry docks, at the confluence of the Rivers Thames and Lea, to the north of which stood a large building. This comprised three main components; the machine shop, the erecting shop, and electrical engineering department and general offices, with ancillary stores adjoining it. The mouths of the various slips were located within the north-west part of the site, with the main buildings lying immediately to the north, outside of the site.
- 4.1.9 Area 3 of the Crossrail excavations covers the western part of the site on a roughly north-west to south-east alignment (HEA 1a; Fig 2a). The excavations recorded remains of a timber slipway and parts of the old river wall in the west, along with timber and iron remains of the mast house and mould loft shown on Warner's map. To the south-east of these, an area of ground consolidation is noted. In the south-eastern extent of this site, remains of the north range of the machine shop and erecting building were recorded, including the remains of machine bases and timber posts. It is assumed that the features were completely excavated.
- 4.1.10 The land between the railway yard and the tidal lock is largely empty at this time, with some smaller industrial buildings along the edge of the lock, and Victoria Dock Pier at the entrance. In the centre of this part of the site an area of lower ground is noted. This is not labelled but appears on later maps as the "Royal Albert and Victoria Cut", a prominent feature of the site for its history, the cut possibly served as a drainage ditch or an outflow course. The Royal Victoria docks were completed in 1855, and the mouth was crossed by a swing bridge as part of the North Woolwich extension of the Great Eastern Railway line (VCH Essex vi 43–50). The excavation of the docks and the tidal lock changed much of the topography of the surrounding area, with the excavated material likely being dumped adjacent to the cuttings, raising the surrounding ground levels (ibid).
- 4.1.11 To the east of the tidal lock, the site is occupied by large industrial buildings. These are chiefly chemical plants and manure factories. Wharves are depicted lining the foreshore of the Thames. An examination of the Ordnance Survey 1st edition 25": mile map of 1869 (not reproduced) shows a number of cranes lining the foreshore as well.
- 4.1.12 The northern section of the site is occupied by terraced houses during this period. These are arranged in roughly horse-shoe alignments with rear gardens. The 1st edition 25": mile map of 1869 (not reproduced) label these as 'Model Cottages', and are served by a small church.
- 4.1.13 The Ordnance Survey 2nd edition 6": mile map of 1896 shows little real change in the west of the site, with the exception of the expansion of the railway sidings, which now occupy the majority of the site. On the eastern side of the tidal lock, the chemical and manure factories have expanded to cover all of this section of the site. In the north of the site, some of the cottages shown on the previous map have been demolished to make room for a cricket ground. The church is no longer present, although a public house stands close to its former location on the map.
- 4.1.14 The Thames Ironworks and Shipbuilding Company (Thames Ironworks, Shipbuilding and Engineering Company in 1899) was forced to close in 1912, owing to the lack of new orders for ships. The Ordnance Survey 3rd edition 6": mile map of 1920 (Fig 10) shows the layout of the shipyard as unchanged. To the east of the tidal lock, the former chemical and manure plants have been replaced by a smaller industrial building that is labelled on the Ordnance Survey 25" map of 1952 (not reproduced) as Union Mills (oil and cake) manufactory.
- 4.1.15 The site appears to be unchanged until the mid-20th century. The Ordnance Survey 25": mile map of 1964–1968 shows that the former industrial buildings of the Thames Ironworks, Shipyard and Engineering Company have now been demolished in the west of the site, although the dry docks and railway sidings are still present here. To the east of the tidal lock, the Union Mills oil and cake works buildings have increased in size. In the north of the site, the terraced houses have been demolished and replaced with light industrial buildings, including a transport depot and workshops, one named the Marine Engineering Works on the 25": mile map of 1969 (not reproduced). This development in the north of the site appears to have taken place immediately post-war, as the garages of the depot, and minor workshops in the north-west are already visible on the Ordnance Survey 1:2,500 scale map of 1952 (not reproduced).
- 4.1.16 The dry docks appear to have been infilled towards the later part of the 20th century. The Ordnance Survey 1:10,000 scale map of 1974 shows the existing Thames Wharf building

occupying the western extent of the site, in the area formerly occupied by the docks. The number of railway sidings has also decreased. To the east of the lock, the site remains unchanged.

- 4.1.17 The Ordnance Survey 1:10,000 scale map of 1981 shows that nearly all the remaining railway sidings, with the exception of two, have been removed by this period. The wharf buildings depicted in the previous map have expanded by this period and include what may be a long train shed in the south-west corner of the site. By the time of the Ordnance Survey 1:10,000 scale map of 1999 the railway sidings have been removed, and the Lower Lea Crossing completed immediately north of the site connecting to the Silvertown Way and A13. In the north of the site, the transport depot and workshops have been cleared. The site has remained unchanged since, with the exception of the elevated DLR track on the site, and the construction of the towers for the Emirates Cable Car.

4.2 Site description

- 4.2.1 The site comprises approximately 18.79ha of industrial land on the Thames foreshore near Bow Creek.
- 4.2.2 The site lay within open marshland until the mid-19th century when it was developed into a wharf, and later a goods yard for the Great Eastern Railway Company, part of the Thames Ironworks and Shipbuilding Company yard, and chemical plants to the east.
- 4.2.3 The site is characterised by its series of industrial units that are generally three storeys in height arranged around workyards and courtyards that are cluttered with various equipment and materials. Two roads pass through the site, Dock Road and Scarab Close, which are accessed off the A1020, while the elevated Docklands Light Railway (DLR) also passes directly through the centre of the site. Two Emirates Air Line towers and a pylon tower also lie with the site, with some scrub and tree vegetation also present.
- 4.2.4 Following the end of the war, comprehensive redevelopment of large areas of Canning Town, West Ham and North Woolwich progressed, culminating in the provision of large residential areas predominantly two storeys in height. More modern industrial units were constructed within the dockside areas. By the early 1980s the Royal Docks ceased trading, resulting in the clearance of former industry and warehouses, leaving fragments behind of this past land use. Since then, London City Airport was established, and new contemporary building blocks have begun to emerge in the area.
- 4.2.5 North-east of the site the urban fabric is defined by the Royal Docks, which as inferred from the above is fringed by a series of tall, iconic and/or large-scale built forms that help to define the localised sense of place (including the Hoola Towers, the Crystal building and ExCel London). London City Airport lies further to the east. To the immediate south-east of the site the land use predominantly comprises a mix of industrial units of varying scale, interspersed with areas of vacant land as well as Lyle Park. Further to the east there are extensive construction activities ongoing associated with the redevelopment of Minoco Wharf (also known as Royal Wharf), beyond which lies the Thames Barrier Park and the Thames Barrier itself.

4.3 Site Photographs

4.3.1 The following photographs were provided by BurroHappold showing the TSW site in 2014.



Fig 4: View 1



Fig 5: View 2



Fig 6: View 3



Fig 7: View 4



Fig 8: View 5



Fig 9: View 6



Fig 10: View 7



Fig 11: View 8



Fig 12: View 9

5 Proposed Development

5.1 Proposal

The hybrid planning application comprises

- 5.1.1 Detailed planning application for Phase 1 with works to include: The proposed demolition of existing buildings and structures, the erection of buildings, including tall buildings, comprising: 401 residential Units (Use Class C3), 3,608 sqm (GEA) of flexible employment floorspace (Use Classes B1c and B8); 230 sqm (GEA) of flexible retail floorspace (Use Classes A1-A4); a new/altered access road from Dock Road/North Woolwich Road; new streets, open spaces, landscaping and public realm; car, motorcycle and bicycle parking spaces and servicing spaces; and other works incidental to the proposed development.
- 5.1.2 Outline planning application (all matters reserved) for the phased delivery of the balance of the site for the proposed demolition of existing buildings and structures; the erection of buildings, including tall buildings, comprising: a new local centre; a primary school (Use Class D1); residential and older person units (Use Class C3); flexible employment floorspace (Use Classes B1c, B2 and B8); flexible retail floorspace (Use Classes A1-A4); community and leisure floorspace (Use Classes D1 and D2); the construction of a new flood defence wall and delivery of ecological habitat adjacent to the River Thames and associated infrastructure; streets, open spaces, landscaping and public realm (including new park and SINC improvements); car, motorcycle and bicycle parking spaces and servicing spaces; utilities including energy centre and electricity substations; and other works incidental to the proposed development.

6 Potential heritage Impacts

6.1 Potential physical impacts

- 6.1.1 The site does not contain any non-designated or designated built heritage assets.
- 6.1.2 The heritage significance of the Carlsberg Tetley Building is considered to be 'low'.

6.2 Potential visual (setting) impacts

6.2.1 Potential heritage impact on heritage assets located in the wider setting:

- The site is separated from the surrounding townscape by the Silvertown Flyover and transport infrastructure to the north and the River Thames to the south. Bow Creek provides further separation of the site from the land to the east. As such, the development site is appreciated as a relatively isolated area from its surrounds both physically and visually.
- The site forms part of a large open industrial area and does not form part of any cohesive townscape, streetscape or residential area. There is no direct visual relationship between the site and any designated heritage assets within the wider setting.
- The surrounding wider setting has seen intensive development. Immediately opposite the site is the O2 arena which is prominently located on the river frontage at North Greenwich. Further, in the north-east of the site the urban fabric is defined by the Royal Docks, which as inferred from the above is fringed by a series of tall, iconic and/or large-scale built forms that help to define the localised sense of place (including the Hoola Towers, the Crystal building and ExCel London). Further, the north-west of the site comprising the Leamouth Peninsula has been intensively redeveloped for high-rise development and further to the south west, Canary Wharf is occupied extensively with tall buildings and landmark skyscrapers which form a prominent skyline.
- There are few recognised heritage assets in the southern part of the London Borough of Newham due to the Second World War bombing. Further, following the end of the war, comprehensive redevelopment of large areas of Canning Town, West Ham and North Woolwich progressed, culminating in the provision of large residential areas and contemporary new building blocks. There are also extensive areas of land currently undergoing intensive construction activities, which once completed will further amplify the high-rise character of the surroundings.
- The scale of the proposed new development will appear as 'more of the same' in the context of a wider highly varied urban form and townscape character and existence of numerous larger scale developments. With this in mind, any visibility of the proposed development from heritage assets within the wider setting will be neutral/negligible.
- Designated heritage assets within the wider setting are appreciated and experienced within their immediate settings and context and key views to these assets are from their immediate surrounds and streetscapes. The proposed development will not affect the immediate setting/context of these assets.
- The above is considered as sufficient justification to exclude other heritage assets within the 3km study area from further assessment.
- The Silvertown Way flyover creates a clear divide between the site and the surrounding area. There are only three heritage assets located to the south of the transport infrastructure and considered to be in close vicinity of the site.

Overall

- There is unlikely to be any significant visual heritage impact on other assets in the wider setting by virtue of distance, relative disposition, intervening built form, landscape elements and topography.

The potential visual heritage impact on key built heritage assets is outlined below:

- 6.2.2 Key built heritage assets have been considered for further assessment due to their close proximity to the site (within 175m) and their location to the south of the Silvertown Flyover and Lower Lea crossing. These are identified below:
- Trinity House Buoy Wharf Quay and Orchard Dry Dock — Grade II listed mid-19th century wharf, located 135m west of the site.
 - Trinity House Chain Locker and Lighthouse Block — Grade II listed mid-19th century lighthouse, located 125m west of the site.
 - Stothert and Pitt cranes on the north and south sides of Royal Victoria Dock.
- 6.2.3 Potential impacts upon the setting of these assets are considered in terms of any direct visual relationships and/or historic associations between the site and these assets, which could potentially be affected by the proposed development. The Maritime Greenwich World Heritage Site) is also considered due to its very high significance and potential for impact upon its wider setting.

Trinity House Buoy Wharf Quay and Orchard Dry Dock and Trinity House Chain Locker and Lighthouse Block

- The Trinity House Buoy Wharf and Orchard Dock and associated Trinity Chain Locker and Lighthouse Block are appreciated from within their own immediate setting/context, which is defined as the immediate land it is located upon. This land is separated from surrounding development by The Lower Lea Crossing to the north and surrounding water including Bow Creek to the east, East India Dock basin to the west and River Thames to the south. The scale and detailing of its brick industrial building and industrial dock structures are appreciated from its immediate setting defined by the surrounding land and light industrial structures. Further, key views are formed within the immediate setting and boundary and from the riverside. The dock is also appreciated from its immediate setting and the river.
- Apart from location, there is no associated relationship between the subject site and the site of the Trinity Buoy Wharf apart from location. Original buildings associated with the Royal Victoria Docks and Thames Ironworks have been replaced with later industrial structures and since cleared, so there is no longer any surviving historical and visual relationship between the two sites. The wider setting (including the subject site) therefore has little contribution on the significance of these assets.
- These assets are located in close proximity to the development site (on the opposite side of Bow Creek) and to the immediate west of the development site. These assets currently experience a low-scale industrial and waterside setting. Due to the proximity and scale of the proposed new development to these assets, there is likely to be a minor adverse heritage impact on their setting. However, it is noted that the immediate setting of the assets, as defined by the surrounding water and the industrial island upon which they are located (and separated from the development site) will be retained.

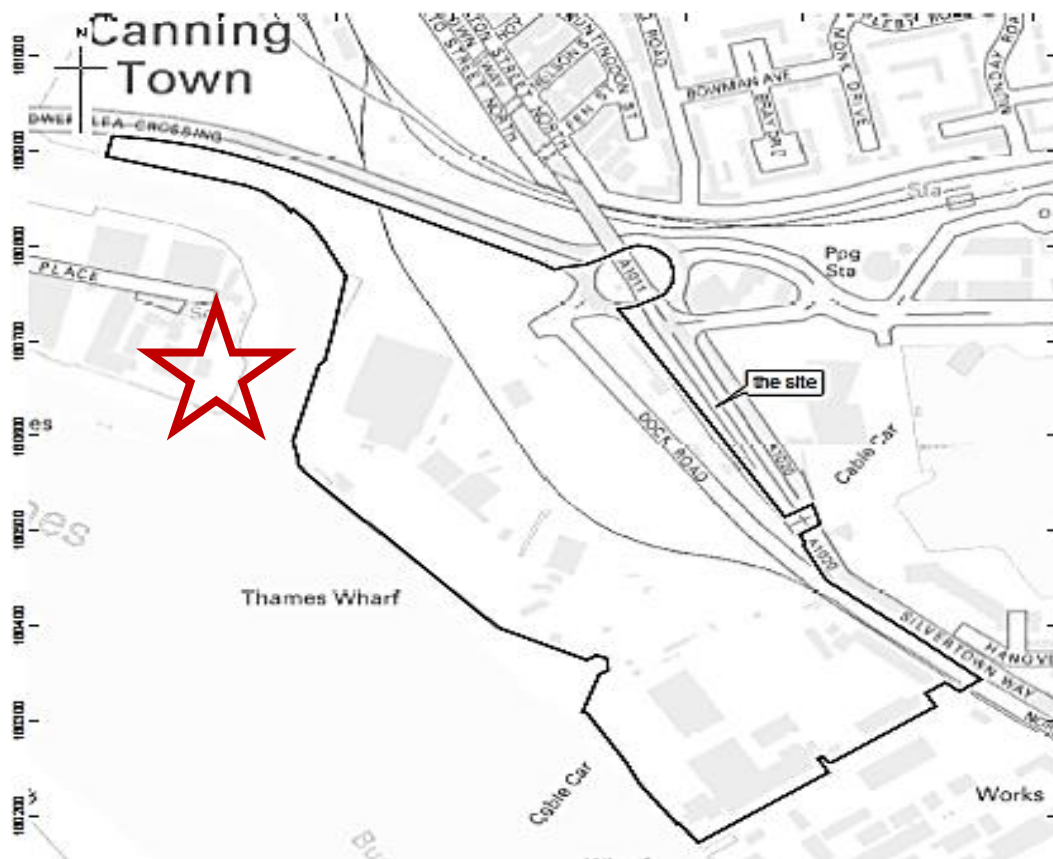


Fig 13: Location of Trinity Buoy Wharf and lighthouse block in relation to the site (Source: Realm—View E)

Stothert and Pitt cranes on the north and south sides of Royal Victoria Dock

- The Stothert and Pitt cranes are fourteen cranes located in pairs along the north and south docksides to the far east of the development site. As discussed above, the Silvertown flyover creates a clear divide between the subject site and land to the north and east. The cranes are appreciated from the water frontage of the docks and from pedestrian walking areas around the dock. The scale of the industrial cranes make these prominent features within the dock and they are particularly prominent from key pedestrian areas around the dock including from Royal Victoria Bridge and The Crystal. The wider setting (including the subject site) therefore has little contribution on the significance of these assets.
- The proposed development will have a neutral impact on the Stothert and Pitt Cranes. Their surround setting of these assets has previously been subject to medium scale urban development along the dock edge, and a number of new approved development schemes are set to change the wider setting and character of the dock edge.
- The proposed new development will therefore appear in the context of contemporary development and at a distance and in the backdrop of the cranes only. The immediate setting and interpretation of these assets will be retained.
- The proposed development; however, will have a minor adverse effect as a result of the proposed development and cumulative schemes, which will appear in the backdrop of the cranes to the east (on the southern side of the Royal Victoria Docks) as shown in Figure 14 below.



Fig 14: Proposed view of the proposed development from Royal Victoria Docks (Source: Realm—View 12 with cumulative schemes)



Fig 15: Proposed view of the proposed development from Royal Victoria Dock (Source: Realm—View E)

Greenwich Maritime World Heritage Site (WHS)

- 6.2.4 The Maritime Greenwich WHS inscribed by UNESCO in 1997. The importance of Maritime Greenwich lies in its royal origins, especially under the British Tudor and Stuart dynasties, and its development from the 17th century as a site of astronomical research related to navigation, and of Royal Naval welfare and education. In a Royal Park setting, its ensemble of buildings including the Queen’s House, the Royal Observatory and the Royal Hospital for Seamen (today the Old Royal Naval College), symbolize English artistic and scientific endeavour in the 17th and 18th centuries, epitomizing the work of architects Inigo Jones (1573–1652), Sir Christopher Wren (1632–1723) and the landscape designer André Le Nôtre (1613–1700).
- 6.2.5 Greenwich Maritime World Heritage Site (WHS) is located at a large distance from the site and on the opposite side of the River Thames. The subject site is not located within the boundary or the buffer zone of the WHS. The opposite side of the river from the world heritage site is characterised by the intense large scale development of Canary Wharf, which is a distinctive feature of its wider setting and views. Both to the east and west of Canary Wharf (on the opposite side of the Thames is characterised by tall and contemporary development. This forms a cohesive and consistent skyline within the wider setting of the WHS. The WHS is appreciated from within Greenwich Park, pedestrian and public domain areas and from the River frontage. Surrounding large scale tall development is viewed within the backdrop and wider setting of the site only. The O2 Arena is already visible in the south eastern view from the WHS at a distance. The subject site makes no contribution to the significance or setting of the Greenwich WHS and is at a distance and situated beyond the O2 Arena.

- 6.2.6 The proposed new development will therefore appear as ‘more of the same’ in the wider context of the WHS and will have a neutral (negligible) heritage impact on the Greenwich Maritime WHS.



Fig 16: Proposed view from Greenwich Maritime World Heritage Site showing outline of proposed development (Source: Realm—View E).

6.3 Conclusion

- 6.3.1 The site currently makes a negligible contribution to the setting of identified key heritage assets. It does not contribute positively to the understanding and/or appreciation of the siting and/or historical, archaeological or architectural context of the heritage assets and is no longer relevant in understanding the context of the identified assets. It is considered that the location of the proposed new development on the river frontage will transform the site in a prominent area which is suitably located for a landmark new development and regeneration.

6.4 Recommended further work

- 6.4.1 A Standing Building Recording of the Carlsberg Tetley Building is recommended.

7 Appendix 1: Determining Significance

7.1.1 'Significance' lies in the value of a heritage asset to this and future generations because of its heritage interest, which may be archaeological, architectural, artistic or historic. Archaeological interest includes an interest in carrying out an expert investigation at some point in the future into the evidence a heritage asset may hold of past human activity, and may apply to standing buildings or structures as well as buried remains. Known and potential heritage assets within the site and its vicinity have been identified from national and local designations, HER data and expert opinion. The determination of the significance of these assets is based on statutory designation and/or professional judgement against four values (EH 2008):

- *Evidential value*: the potential of the physical remains to yield evidence of past human activity. This might take into account date; rarity; state of preservation; diversity/complexity; contribution to published priorities; supporting documentation; collective value and comparative potential.
- *Aesthetic value*: this derives from the ways in which people draw sensory and intellectual stimulation from the heritage asset, taking into account what other people have said or written;
- *Historical value*: the ways in which past people, events and aspects of life can be connected through heritage asset to the present, such a connection often being illustrative or associative;
- *Communal value*: this derives from the meanings of a heritage asset for the people who know about it, or for whom it figures in their collective experience or memory; communal values are closely bound up with historical, particularly associative, and aesthetic values, along with educational, social or economic values.

7.1.2 Table 2 gives examples of the significance of designated and non-designated heritage assets.

Table 2: Significance of heritage assets

Heritage asset description	Significance
World heritage sites Scheduled monuments Grade I and II* listed buildings Historic England Grade I and II* registered parks and gardens Protected Wrecks Heritage assets of national importance	Very high (International/ national)
Historic England Grade II registered parks and gardens Conservation areas Designated historic battlefields Grade II listed buildings Burial grounds Protected heritage landscapes (e.g. ancient woodland or historic hedgerows) Heritage assets of regional or county importance	High (national/ regional/ county)
Heritage assets with a district value or interest for education or cultural appreciation Locally listed buildings	Medium (District)
Heritage assets with a local (ie parish) value or interest for education or cultural appreciation	Low (Local)
Historic environment resource with no significant value or interest	Negligible
Heritage assets that have a clear potential, but for which current knowledge is insufficient to allow significance to be determined	Uncertain

17-A: GENERAL PROJECT INPUTS

APPENDIX 17-A - GENERAL PROJECT INPUTS

A single table has been updated from the original chapter in section 17.2.4.

Calculation area schedule and phase timing

Year built	Residential (phase 1-3)	Industrial (phase 1-3)	Retail (Phase 1-3)	Residential (phase 4+)	Industrial (phase 4+)	Retail (phase 4+)	Education (phase 4+)	Community (phase 4+)
	m ²	m ²	m ²	m ²	m ²	m ²	m ²	m ²
2022	28,359	3,608	230	-	-	-	-	-
2023	33,369	833	-	-	-	-	-	-
2024	28,984	-	1,247	19,597	15,000	-	-	-
2025	-	-	-	23,566	-	414	-	-
2026	-	-	-	29,761	-	-	-	-
2027	-	-	-	36,474	-	457	-	-
2028	-	-	-	32,650	-	1,084	-	-
2029	-	-	-	37,518	-	1,729	-	1,790
2030	-	-	-	38,274	-	2,165	-	-
2031	-	-	-	26,234	-	499	5,265	-
Total (m²)	90,712	4,441	1,477	244,074	15,000	6,348	5,265	1,790