Spring 2010

Site Suitability Report
C31XK

Car park, corner of Grove Street and Plough Way
Please note:

Further details are provided in the Final Report on Site Selection Process (doc ref: 7.05) that can be found on the Thames Tideway Tunnel section of the Planning Inspectorate’s web site.
Site Suitability Report
C31XK

Car park, corner of Grove Street and Plough Way
# THAMES TUNNEL

## SITE SUITABILITY REPORT C31XK

### LIST OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1</td>
<td>Purpose and structure of the report</td>
<td>1</td>
</tr>
<tr>
<td>1.2</td>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>1.3</td>
<td>Consultation</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>SITE INFORMATION</td>
<td>1</td>
</tr>
<tr>
<td>2.1</td>
<td>Site and surroundings</td>
<td>2</td>
</tr>
<tr>
<td>2.2</td>
<td>Type of site</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>PROPOSED USE OF SITE – CONSTRUCTION PHASE</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>PROPOSED USE OF SITE – OPERATIONAL PHASE</td>
<td>3</td>
</tr>
<tr>
<td>4.1</td>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>4.2</td>
<td>Restoration and after-use</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>ENGINEERING ASSESSMENT</td>
<td>4</td>
</tr>
<tr>
<td>5.1</td>
<td>Access</td>
<td>4</td>
</tr>
<tr>
<td>5.2</td>
<td>Construction works considerations</td>
<td>5</td>
</tr>
<tr>
<td>5.3</td>
<td>Permanent works considerations</td>
<td>5</td>
</tr>
<tr>
<td>5.4</td>
<td>Health and safety</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>PLANNING ASSESSMENT</td>
<td>5</td>
</tr>
<tr>
<td>6.1</td>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>6.2</td>
<td>Planning applications and permissions</td>
<td>5</td>
</tr>
<tr>
<td>6.3</td>
<td>Planning context</td>
<td>6</td>
</tr>
<tr>
<td>6.4</td>
<td>Consultation comments</td>
<td>7</td>
</tr>
<tr>
<td>6.5</td>
<td>Planning comments</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>ENVIRONMENTAL APPRAISAL</td>
<td>8</td>
</tr>
<tr>
<td>7.1</td>
<td>Introduction</td>
<td>8</td>
</tr>
<tr>
<td>7.2</td>
<td>Transport</td>
<td>8</td>
</tr>
<tr>
<td>7.3</td>
<td>Archaeology</td>
<td>9</td>
</tr>
<tr>
<td>7.4</td>
<td>Built heritage and townscape</td>
<td>9</td>
</tr>
<tr>
<td>7.5</td>
<td>Water resources – hydrogeology and surface water</td>
<td>9</td>
</tr>
<tr>
<td>7.6</td>
<td>Ecology</td>
<td>9</td>
</tr>
<tr>
<td>7.7</td>
<td>Flood risk</td>
<td>9</td>
</tr>
<tr>
<td>7.8</td>
<td>Air quality</td>
<td>9</td>
</tr>
<tr>
<td>7.9</td>
<td>Noise</td>
<td>10</td>
</tr>
<tr>
<td>7.10</td>
<td>Land quality</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>SOCIO-ECONOMIC AND COMMUNITY ASSESSMENT</td>
<td>10</td>
</tr>
<tr>
<td>8.1</td>
<td>Socio-economic profile</td>
<td>10</td>
</tr>
<tr>
<td>8.2</td>
<td>Issues and impacts</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>PROPERTY ASSESSMENT</td>
<td>11</td>
</tr>
<tr>
<td>9.1</td>
<td>Introduction</td>
<td>11</td>
</tr>
<tr>
<td>9.2</td>
<td>Crown Land and Special Land comments</td>
<td>11</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td></td>
</tr>
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<td>scheduled ancient monument</td>
<td></td>
</tr>
<tr>
<td>SINC</td>
<td>site of importance for nature conservation</td>
<td></td>
</tr>
<tr>
<td>SNCI</td>
<td>site(s) of nature conservation importance</td>
<td></td>
</tr>
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<td>SSR</td>
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<td></td>
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<td>SSSI</td>
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<td></td>
</tr>
<tr>
<td>SuDS</td>
<td>sustainable urban drainage systems</td>
<td></td>
</tr>
<tr>
<td>TfL</td>
<td>Transport for London</td>
<td></td>
</tr>
<tr>
<td>TD</td>
<td>tunnel datum</td>
<td></td>
</tr>
<tr>
<td>TLRN</td>
<td>Transport for London Road Network</td>
<td></td>
</tr>
<tr>
<td>TPA</td>
<td>Thames Policy Area</td>
<td></td>
</tr>
<tr>
<td>UDP</td>
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</tbody>
</table>
1 INTRODUCTION

1.1 Purpose and structure of the report

1.1.1 The Site Selection Methodology (May 2009) paper (paragraphs 2.3.29 - 2.3.34) outlines the process to be used to create the preferred list of shaft sites, and this process also applies to CSO sites. Paragraph 2.3.31 lists the type of general considerations that will be addressed in each site suitability report, but they depend on the relevance to the site and professional judgement made in the assessments.

1.1.2 This report was prepared through the assessment of information from the perspective of a number of technical disciplines: Engineering, Planning, Environment, Property and Community. The reports have been prepared on the basis of the information listed in Appendix 1 - Sources of Information, and this level of information is considered to be appropriate to the current stage.

1.1.3 The Background Technical Paper provides information on the requirements for different site types, their sizes and typical activities/facilities within the sites.

1.1.4 Each site suitability report considers a particular site on its own merits. In addition, an engineering options report was produced. Information from both of these reports will feed into the technical assessment of how well the site may fit in with tunnel design options, ensuring combinations of sites spread across the length of the tunnel route provide a reasonable spatial distribution of sites (that will best assist with the construction of the tunnel, operation and maintenance). This is considered in the Preferred Scheme Report.

1.2 Background

1.2.1 The process for selecting sites is set out in the Site Selection Methodology (May 2009) paper. All sites have previously passed through the following parts of Stage 1:

- Part 1A - Creation of the long list of potential shaft (and CSO) sites
- Part 1B - Creation of a short list of potential shaft (and CSO) sites
  - Table 2.2: Long list of shaft (and CSO) sites - an assessment against set considerations and values
  - Table 2.3: Draft short list of shaft (and CSO) sites - assessment against a list of detailed considerations
  - Workshops to consider each site to arrive at a short list of sites.

1.2.2 The final part of Stage 1 includes this report. The following is an overall summary of all elements that apply to all the sites on the final short list:

- Part 1C - Creation of the Preferred List of shaft (and CSO) sites - site data, site visits, site suitability reports, engineering options report and optioneering workshops that will result in the Preferred Scheme Report.

1.3 Consultation

1.3.1 The Thames Water project team held meetings with London local authorities, statutory and other stakeholders to review the provisional short list of shaft and CSO sites. All general and site specific comments can be found in a separate report titled Consultation on the Short List of Sites: Consultation Feedback Report. These comments were considered to help determine the final short list of sites, but they were also considered at the optioneering workshops.

1.3.2 Further meetings were held with London local authorities, statutory and other stakeholders between January and March 2010. Comments are included in this report.
2 SITE INFORMATION

2.1 Site and surroundings

2.1.1 This site is one of the shortlisted sites for Earl Pumping Station CSO. This section provides an overview of all the site information that will be used by one or more disciplines to assess the site in sections 3 to 9 of this report.

2.1.2 The site C31XK is a car park adjacent to a two-storey commercial building, with access from Plough Way. The site, known as Marine Wharf, is located in the London Borough of Lewisham but to the north, lies adjacent to the boundary of the London Borough of Southwark, to the north. A site location plan is attached as Appendix 2.

2.1.3 The limited number of cars present would appear to indicate that the adjacent commercial building is only partly occupied. The car park area is fully made ground with drainage. There is no landscaping nor are there trees onsite, but there is planting beyond the site boundary fence to the western and southern boundaries.

2.1.4 The commercial building lies to the eastern side of the proposed site. Open land lies to the west of the site, which is made ground (building foundation) and appears to have previously been a commercial site. Part of a deconstructed commercial building is still present on the site. Parts of the adjacent site bordering the proposed site are planted areas. There is a ‘To Let’ sign at the adjacent site entrance.

2.1.5 The area around the site is predominantly residential. Plough Way, a single-lane carriageway, lies to the north of the site and separates the site from two-storey townhouses.

2.1.6 An open grassed area lies to the south of the site, with three- to four-storey housing and a parking area beyond. These properties are located about 20m from the southern boundary of the site.

2.1.7 The site is within a number of Lewisham Unitary Development Plan (2004) designated areas, including the Thameside Policy Area and an archaeological priority area. All the mapped designations are shown on the planning and environment plans in Appendix 3.

2.1.8 Photographs of the site and surroundings, together with an aerial photograph of the site, are attached as Appendix 4.

2.1.9 The site is 0.7km from the TLRN (A200), with road access to the site along Plough Way. The route passes over one bridge. There is a rail facility at New Cross, 1.5km from the site. The route to the rail link is constrained and may pass under two bridges with height restrictions of 4.8m. The nearest rail station is New Cross, 2.0km from the site. There are no existing wharfage/jetty facilities at the site – it is approximately 300m from the river (although it has direct access to the river front along Plough Way/St George’s Square). A transport plan for the site is attached as Appendix 5.

2.1.10 Third-party assets and significant utilities are listed below and are shown on the services and geology plan in Appendix 6:

- Large, one- to two-storey building outside the south-western edge of the site (maximum clearance to the proposed shaft location approximately 40m)
- Large, two-storey building outside the eastern edge of the useable part of the site (maximum clearance to the proposed shaft location approximately 40m)
- Well at the outer western part of the site, potentially inside the site
- Earl Storm Sewer through the northern edge of the site. CSO connection is to this sewer.

2.1.11 The locations of other third-party assets, such as BT and fibre optic communication cables, are to be confirmed by further studies and utility searches and may not be shown on the services and geology plan.

2.1.12 Information on the geology specific to this site can be found within the services and geology plan, which is in Appendix 6. This plan shows that the shaft would be founded in the Chalk.
2.2 Type of site

2.2.1 The site C31XK is being considered as a CSO site to intercept the Earl Pumping Station CSO.

3 PROPOSED USE OF SITE – CONSTRUCTION PHASE

3.1.1 The proposed construction phase layouts for the CSO site are located in Appendix 7 – Construction Phase Layout, and are based on a preliminary assessment.

3.1.2 The construction phase layout drawings are illustrative and show:
- the layout as a CSO site
- potential access point.

3.1.3 These drawings provide initial preliminary schematic layouts that have not been optimised. If the site proceeds to the next stage as a preferred site, construction phase layouts would be optimised to minimise impacts.

3.1.4 Photographs of typical activities associated with the CSO site construction phase are provided in Appendix 7. Potential above ground construction features include:
- approximately 3m high hoarding around the site boundary
- welfare facilities, temporary structures, approximately 3m high
- grout plant, approximately 3m to 5m high, including silos
- mobile crane, approximately 30m high (maximum and not for full construction duration).

3.1.5 To enable the construction of the CSO connection culvert (if undertaken as open cut), phased single lane closures of Plough Way will be required, operating under temporary traffic signal control. Pedestrians would be diverted to the opposite footway for each phase. During the second phase, Transom Close private road would also require closure. This would involve the loss of associated private parking. A bus stop would require relocation. A preliminary assessment of the traffic management which would be required is indicated on the temporary traffic management plan in Appendix 5.

3.1.6 Preliminary data associated with the construction phase are provided in Table 3.1.

<table>
<thead>
<tr>
<th>Activity</th>
<th>CSO site</th>
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<tr>
<td>Length of construction period</td>
<td>0.5 to 2 years</td>
</tr>
<tr>
<td>Likely working hours, ie, (night/day/weekend)</td>
<td>12 hrs from 7am to 7pm</td>
</tr>
<tr>
<td>Working days</td>
<td>Mon to Sat</td>
</tr>
<tr>
<td>Primary means of transporting excavated material away from site</td>
<td>Road</td>
</tr>
<tr>
<td>Primary means of transporting materials to site</td>
<td>Road</td>
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</table>

4 PROPOSED USE OF SITE – OPERATIONAL PHASE

4.1 Introduction

4.1.1 The indicative operational phase layout for the CSO site is located in Appendix 8 – Operational Phase Layout, and is based on a preliminary assessment.

4.1.2 The generic elevations of structures shown on the operational phase layout are located in Appendix 8 and provide an illustration of typical examples of the permanent structures which are applicable to CSO sites.
4.1.3 The above ground infrastructure at this site is likely to comprise a ventilation column 10m\textsuperscript{a} high and 3m diameter, a ventilation building 5m x 15m x 5m high and a 20m x 10m top structure with openings. The top structure is to provide access and egress into the main shaft and flap valve chamber.

4.1.4 The top structures are envisaged to be finished at a level of 107m\textsuperscript{b} tunnel datum (TD) (7m AOD), and since the ground level mean value at this site is 104m TD (4m AOD), the top structures would be raised to approximately 3m above the current ground level. For further information on the generic layout of this top structure, refer to Appendix 8.

4.1.5 A hardstanding would be provided to the top structures. The site would not be fenced.

4.1.6 Preliminary data associated with the operational phase are provided in Table 4.1.

| Level of inspections and maintenance and likely working hours, ie, (night/day/weekend) - frequency of visits | 1 daytime visit every six months for electrical/instrument inspection. An additional 1 week maintenance period for tunnel/shaft inspection required per 10 years that could be night/day/weekend working. |
| No of traffic movements | 1 van visit every six months. An additional 1 week period of 2 to 10 movements per day (estimated several vans and 2 cranes) every 10 years. |

4.2 Restoration and after-use

4.2.1 The portion of the site not occupied by the permanent works would be restored to its original condition on completion of the construction works. If any buildings were demolished, these would not be reinstated unless required.

5 ENGINEERING ASSESSMENT

5.1 Access

5.1.1 This section should be read in conjunction with Section 7.2.

Road

5.1.2 The site is 0.7km from the TLRN (A200), with road access to the site along Plough Way. The route may pass over one bridge.

5.1.3 For the construction phase, a one-way through system would be used, with both access and egress direct off Plough Way, the former using the existing access road to the offices/car park.

5.1.4 For the operational phase, there would be a single access to the shaft from Plough Way, using the existing access road to the offices/car park. The interception chamber would be approximately 40m north of the site, in the access road alongside South Dock Marina.

\textsuperscript{a} It was anticipated that the ventilation column at shaft sites would be 10m high when the assessment in this report was undertaken. Although this was subsequently changed to 15m high, the assessment was not revised as it was considered that the difference would not change any discipline's conclusion on the suitability of the site.

\textsuperscript{b} It was anticipated that the elevation of top structures at both CSO and shaft sites would be finished at 107m TD when the assessment in this report was undertaken. Although this was subsequently changed to 104.5m TD, the assessment was not revised as it was considered that the difference would not change any discipline's conclusion on the suitability of the site.
Rail

5.1.5 The nearest rail station is New Cross, 2.0km from the site. The route to the rail link is constrained and may pass under two bridges with height restrictions of 4.8m. However, rail access is not considered to be a significant factor for CSO sites.

River

5.1.6 River access and jetty/wharfage facilities are not a requirement for CSO sites. In addition, the site is approximately 300m from the river, where there are no existing wharfage/jetty facilities.

5.2 Construction works considerations

5.2.1 No demolition is required.

5.2.2 Data available on third-party assets and significant utilities show that the main items in this area of concern are the offices to the east side of the site and possibly the residential buildings to the north of the site. Construction methods would be adopted, as appropriate, to mitigate potential settlement of these assets.

5.2.3 The interception chamber is located in Transom Close, immediately in front of a residence, therefore this is likely to be a difficult construction. The connection culvert runs along Transom Close and across Plough Way so it is possible that this could be undertaken in open cut.

5.3 Permanent works considerations

5.3.1 The top structures to the drop shaft and flap valve chamber would be 2m above ground level.

5.4 Health and safety

5.4.1 There are no unusual health and safety issues associated with this site.

6 PLANNING ASSESSMENT

6.1 Introduction

6.1.1 The planning assessment builds on the advantages and disadvantages reported in Table 2.3 and covers the following areas:

- Planning applications and permissions
- Planning context
- Planning comments.

6.2 Planning applications and permissions

6.2.1 An initial desktop search of the London Borough of Lewisham online planning applications database did not identify any planning applications submitted within the last five years applicable to the site, however, the following application was submitted in 2008 and a decision is still pending: An application for full planning permission (reference DC/08/68907) for the demolition of the existing buildings at the site (Marine Wharf, Plough Way) and construction of seven single- to five-storey buildings, comprising of Use Class B1 office floor space (10,892 square metres), a café (271 square metres), a crèche (270 square metres) and a gym (389 square metres), together with associated landscaping, provision of service areas, refuse stores, 100 cycle spaces and 19 car parking spaces.
6.3 Planning context

6.3.1 The following is a summary of the relevant local planning policies and designations affecting the site and are taken from the current statutory development plans for the boroughs of Lewisham and Southwark. The local plans comprise the policies from the Lewisham Unitary Development Plan, adopted July 2004, and the Southwark Unitary Development Plan, adopted July 2007.

6.3.2 The overarching policies according to the Lewisham UDP are listed below:

6.3.3 The site is within a wider area of archaeological priority.

6.3.4 Policy URB21, Archaeology, states that the council will promote the conservation, protection and enhancement of the archaeological heritage of the borough and its interpretation and presentation to the public.

6.3.5 The site is located within the Thames Policy Area. This is a large designation extending beyond the site across the river.

6.3.6 Policy URB24, Thames Policy Area, states the council will seek a high quality of design, respecting the special character of the river within the designated Thames Policy Area shown on the proposals map. Proposals which involve encroachment into the River Thames and its foreshore will be resisted. Thameside proposals should examine opportunities to retreat the flood defence to increase flood storage, wildlife and aesthetic value and visual connections with the river.

6.3.7 The site is located within a strategic wider viewing corridor (LV7) and a strategic wider viewing corridor.

6.3.8 Policy URB23, Strategic Views, states that in order to protect and enhance the strategic views of St Paul’s Cathedral illustrated on the proposals map, the council will protect and enhance the foreground, background and wider setting of the strategic views of St Paul’s.

6.3.9 The site is adjacent to Development Site 12 to the west, which is included in the council’s proposals in Schedule 1 of the UDP.

6.3.10 Development Site 12, listed in Schedule 1 as ‘St George’s Square/Plough Way Grove Street’ and which is 0.68 hectare in size, is proposed for B1 Employment, hotels and live/work units.

6.3.11 Policy URB1, Development Sites and Key Development Sites, states the council has identified, in the proposals schedule and proposals map, the larger sites which it wishes to see developed. The schedule indicated the uses that the council considers appropriate on these sites. Other uses may also be appropriate and will be considered against the other policies in this plan.

6.3.12 The site is designated as a defined employment area.

6.3.13 Policy EMP1, Land and Premises for Employment Purposes, aims to ensure a satisfactory supply of land and premises for employment uses by protecting, where appropriate, those existing sites and buildings which it considers to be particularly suitable, and by providing or identifying additional sites for new development in suitable locations, including, where appropriate, town centres.

6.3.14 Policy EMP3, Defined Employment Areas, states that the council will grant planning permission for B1, B8 and (where appropriate) B2 uses of the 1987 Use Class Order and will not normally grant planning permission for other uses within the defined employment areas shown on the proposals map.

6.3.15 The site is located in close proximity to residential properties.

6.3.16 Policies HSG4, ENV.PRO9 and ENV.PRO11 all seek to safeguard the amenity of existing residential uses by, among other things, resisting incompatible development and reducing the effects of nuisance, including that arising from noise and pollution.

6.3.17 The overarching policies according to the Southwark UDP are listed below.

6.3.18 The site is adjacent to an urban density zone.
6.3.19 Policy 4.1, *Density of residential development*, states residential density will be expected to comply with the following ranges, taking into account the quantity and impact of any non-residential uses.

6.3.20 The site is partly within the wider Thames Special Policy Area, within which special controls of developments adjacent to the riverside will be imposed, in order to enhance the character of the area and ensure continued and improved access to the river.

6.3.21 Policy 3.29, *Development within the Thames Policy Area*, requires all developments within the Thames Policy Area to reflect the strategic importance of the River Thames and its hinterland, protecting and enhancing the area. Proposals that will have an adverse impact on the River Thames and/or the Thameside area, or adversely impact on the character of the Thameside area, will not be acceptable.

6.3.22 The site is located partly within a wider air quality management area.

6.3.23 Policy 3.6, *Air Quality*, states that planning permission will not be granted for development that would lead to a reduction in air quality.

6.3.24 The site is adjacent to a strategic view – wider consultation zone.

6.3.25 Policy 3.21, *Strategic Views*, seeks to protect and enhance the strategic views of St Paul's Cathedral illustrated on the proposals map. Planning permission will be refused for developments that fail to preserve or enhance the ability to recognise and appreciate St Paul's and/or that are overly intrusive or prominent to the detriment of the view of the cathedral.

6.4 Consultation comments

6.4.1 A series of consultations on the shortlisted sites were held with London local authorities, statutory and other pan-London stakeholders during July to September 2009 and January to March 2010. This section summarises factual comments that have been made by consultees, and which have informed the SSR assessments.

*London Borough of Lewisham*

6.4.2 The council advised that the site is subject to a current planning application for employment development, although it is expected to be withdrawn. The site is designated as a strategic site for mixed use in the LDF. The council stated that the commercial unit is operational as a data recovery centre and that the car park is underused. The council indicated concerns that, although it is expected that one-third of the parking area would be required for the CSO site layout, the area affected could be greater, given the attendant activity, and that this may potentially compromise the commercial unit's viability.

*English Heritage*

6.4.3 No comment.

*Environment Agency*

6.4.4 No comment.

*Port of London Authority*

6.4.5 No comment.

*Transport for London*

6.4.6 No comment.

*Other statutory consultees*

6.4.7 No comment.
6.5 Planning comments

6.5.1 There are several planning designations and policies that are applicable both on and adjacent to the sites. These designations and policies have been identified and described in Section 6.3 and of these designations, those relating to defined employment areas (including those in the site’s planning applications history), the adjacent development site to the west and residential amenity are of most relevance to the proposed development.

6.5.2 The site is designated as a defined employment area. An application for full planning permission (DC/08/68907) for the demolition of the existing buildings and the construction of seven single- to five-storey buildings comprising offices, cafés, a gym and associated parking spaces, was sought in 2008 and is still pending decision. Since the status of the development is uncertain, the use of the site for the Thames Tunnel Project will require further consideration.

6.5.3 The site is adjacent to Development Site 12 to the west, which is included in the council’s proposals in Schedule 1 of the UDP. As before, the status of the development is uncertain at this stage and potential impacts of the Thames Tunnel Project on the adjacent site may require further consideration and potentially mitigation.

6.5.4 The nearest residential properties are located 20m away from the southern boundary of the site. This separation distance may be considered sufficient to safeguard against impacts on residential amenity; however, some mitigation of noise, dust and traffic movements may still be required, in accordance with policies HSG4, ENV.PRO9 and ENV.PRO11. The hours of operation of the construction works may also be restricted to those normally operated within residential areas, which are typically 8am to 6pm during weekdays, 9am to 1pm on Saturdays and not at all on Sundays.

6.5.5 Plant machinery and screening boards required during construction are likely to obscure some local views. This would be contrary to the aims of the Thames Policy designation and would require mitigation.

6.5.6 The site falls within a designated archaeological priority zone. The appropriate level of site investigation should be agreed with the LPA in accordance with Policy URB21. Further appraisal of the archaeological potential on the site is provided in Section 7 of this report.

6.5.7 The site is located directly adjacent to the Southwark Air Quality Management Area. Policy 3.6 seeks to prevent development that would lead to a reduction in air quality. Mitigation would be required to ensure the construction works do not lead to a reduction in air quality within the designated area, in accordance with Policy 3.6. A further assessment on this consideration has been made in Section 7.

7 ENVIRONMENTAL APPRAISAL

7.1 Introduction

7.1.1 The following sections summarise specialist assessments which are provided in Appendix 9 – Environmental Appraisal Tables.

7.2 Transport

7.2.1 The site is less suitable because a new site access would be needed, there would be displacement of a relatively high number of parking spaces (approximately 60) both onsite and offsite, and there would be a need to close and divert Plough Way during construction of the connection culvert. Access to the car park outside the site boundary would need to be maintained and the potential to utilise the remainder of the bays for displaced vehicles requires further investigation. Plough Way would require temporary closure during the construction of the site’s connection culvert, and a diversion route along Grove Street/TLRN (A200) would be required. Access to the private car park on Transom Close would also be restricted during the construction of the connection culvert, although alternative unrestricted parking is available along Plough Way. Potential road access to the TLRN (A200) is possible; however, traffic calming (speed cushions) is present along the route. Access to the old London Bridge rail site is also possible, but would require the removal of a raised
crossing on St James’s Road. A means of transporting material to the railway would also need to be provided. However, rail transport is unlikely to be required due to the small volumes of excavated material produced by a CSO site. The site is remote from the river, although river access is not essential for a CSO site. There is a low possibility for the workforce to utilise public transport to access the site, although some parking could be provided onsite for the workforce and informal parking is available on Plough Way.

7.3 Archaeology

7.3.1 The site is suitable, although further investigations would be necessary to determine the nature and extent of any archaeological receptors and it is possible that archaeological receptors of high or medium value may be present within the site. While no direct evidence has been revealed, peat deposits containing archaeological material may be present at depth. These have been commonly recorded throughout London in a similar proximity to the River Thames. Given the location of the site, and wider evidence for historical occupation along the river, it is a reasonable assumption to suggest that waterlogged remains of archaeological value may be present.

7.4 Built heritage and townscape

7.4.1 This site is suitable, as relatively few potential impacts upon the historic built environment are anticipated. Townscape impacts would be restricted to changes to the setting of three Grade II listed buildings and upon the character of the site and the local streetscape. These impacts could be mitigated through a high-quality scheme design and/or screening and landscaping, and there is the potential for such mitigation to have a positive impact upon the character of the site and local views.

7.5 Water resources – hydrogeology and surface water

7.5.1 In terms of hydrogeology, this site is suitable because although the construction of the drop shaft would take place within Chalk (major aquifer), the site does not lie within the 400-day capture zone of licensed abstractions. No long-term impact on the Chalk aquifer is expected, although temporary dewatering of the Chalk and Thanet Sand would be required during the construction phase. The Chalk piezometric head is likely to be approximately 35m above the base of construction and should be taken into account in the engineering design. The superficial deposits are alluvium, which is classified as a minor aquifer at the shaft site. Limited impact on flow in the shallow aquifer is expected due to sheet piling.

7.5.2 In terms of surface water resources, this site is suitable because it is located behind the flood defences and there is no direct overland route for pollution to either the River Thames or the South Dock. Any risk of pollution can be mitigated with standard techniques.

7.6 Ecology

7.6.1 This site is suitable as no ecological constraints are evident.

7.7 Flood risk

7.7.1 This site is suitable because it is defended from flooding from the River Thames (to the one in 1,000-year flood level) and there is potentially space for surface storage SuDS.

7.8 Air quality

7.8.1 This site is less suitable, as there is potential for fugitive emissions of dust during construction to have a perceptible impact at residential properties in close proximity to the site. These impacts can be minimised with standard dust control measures. There is potential for HGV movements on the local road network to cause localised air quality impacts in areas of already poor air quality, although this can, to some extent, be mitigated by minimising the movement of HGVs during peak hours.
7.9 Noise

7.9.1 This site is less suitable, as the distances between the site and the nearest residential properties are relatively short and therefore adverse noise and vibration impacts are likely. There is also a fairly high density of residential dwellings around the site. The number of vehicles associated with the construction phase is anticipated to be considerably high and is likely to cause an adverse noise impact to properties located on Plough Way. Perimeter hoarding would reduce potential noise impacts but would be relatively ineffective at shielding noise from the upper floor properties at the nearest residential dwellings.

7.10 Land quality

7.10.1 The site is less suitable, based on the medium potential for contamination to have occurred, specifically from the timber yard, railway yard and wharf operations onsite, as well as from offsite activities including the tar works, which may have impacted on shallow groundwater and migrated beneath the site. This potentially poses a risk to construction workers and adjacent human receptors through direct contact and inhalation exposure pathways. Additionally, the potential exists for contaminants to be drawn to the deeper Chalk aquifer and for migration to surface water receptors to occur through shallow groundwater transport. There is potential for unexploded ordnance to be present onsite, as historical information indicates that nearby areas have been cleared of ordnance (dates unknown). It would therefore be prudent for a UXO survey (or equivalent) to be conducted at the site if not done so already.

8 SOCIO-ECONOMIC AND COMMUNITY ASSESSMENT

8.1 Socio-economic profile

8.1.1 The site is within the Surrey Docks ward of Lewisham. Statistics from ONS 2001 Census data show the following indicators for the ward, in comparison to the rest of Lewisham, London and England as a whole:

- Higher rate of economically active, aged people that are full-time employees, with a corresponding lower proportion of unemployed people.
- A higher proportion having achieved Level 4 or 5 educational qualifications and a corresponding high proportion of people in managerial or professional occupations.
- A higher proportion of privately rented households.
- A higher proportion of people aged between 20 and 44.
- A high proportion of people born in the UK and a higher proportion of white British people compared to the borough or London.

8.1.2 These statistics indicate people in this area are mostly highly-educated, working professionals.

8.2 Issues and impacts

8.2.1 Due to the proposed location of the engineering works for a small CSO site, it seems likely that the residential properties opposite the site may be impacted. The location of the interception chamber on Transom Close may lead to temporary road closure and major disruption to local residents. The local residents opposite the site to the north are likely to be affected by the noise and visual disturbance from the site.

8.2.2 There may be an impact on the commercial building due to the loss of car parking spaces, which could affect working practices and impact on employees. The site visit confirmed that only a small number of the spaces in the car park were being used at the time, which indicated that the building may only be partially occupied at present. Therefore, loss of some parking spaces may not have a great impact on the business.
9 PROPERTY ASSESSMENT

9.1 Introduction

9.1.1 The site under consideration for a CSO site is part of a large, hard-surface car park, serving a modern, two-storey office block. The site is situated on Plough Way. To the west of the site is a large, empty plot of land, currently being marketed as available to let and which was formerly occupied by a large warehouse unit (C31XN).

9.1.2 The site and surrounding area was visited by Lambert Smith Hampton on 28th July 2009.

9.1.3 From the land referencing exercise carried out by Mouchel, the site is owned by a private individual and is leased to Quickdrop Limited and Lloyds TSB Bank Plc.

9.1.4 Planning enquiries reveal that an application is currently pending for the proposed site, which is for the demolition of the existing building and the construction of seven single- to five-storey buildings, comprising 10,892 square metres of Use Class B1 floor space (office), a café (71 square metres), a crèche (270 square metres) and a gym (389 square metres), together with associated landscaping, provision of service areas, refuse stores, 100 cycle spaces and 19 car parking spaces.

9.2 Crown Land and Special Land comments

9.2.1 The site appears to be in private ownership and is therefore not either Crown Land or Special Land.

9.3 Land to be acquired

9.3.1 The compensation assessment assumes that the worksite and access to it would be acquired temporarily, via the acquisition of new rights for the period of the works stated in the engineering section above. At the end of the works, a smaller area would need to be acquired permanently.

9.3.2 Based on the engineering drawings included in the appendices to this report, use of the site for a CSO site would require approximately 30% of site C31XK during the construction phase and, after completion of the project, a smaller area of approximately 15m x 15m would be required permanently in the western part of the site, with a permanent access leading from the office car park entrance at Plough Way.

9.3.3 The site is currently accessible from the public highway and no allowance has therefore been made in the assessment of acquisition cost for rights of way or easements.

9.4 Property valuation comments

9.4.1 The market value for this site would be relatively low, given that it is essentially a car park. The 2005 Rating List suggests that the car park forms part of the overall rating assessment for the offices, with an aggregate rateable value of £530,000.

9.4.2 The construction phase drawing includes the current site entrance within the temporary worksite. If possible, the site should be revised to exclude the site entrance, thereby reducing the impact of the works on the remainder of the property.

9.4.3 There is a significant risk that planning permission for the current application would be granted prior to acquisition, potentially increasing the value of the site. Should development commence on the site required for the CSO works prior to acquisition, the costs could rise substantially.

9.4.4 Use of this site would involve the construction of a sewer interception chamber in Transom Close to the north of Plough Way, with a connecting culvert passing beneath another car park on the north side of the road.
9.5 Disturbance compensation comments

9.5.1 The site is currently used as a car park in conjunction with the adjoining offices. Until consultations with the relevant parties have been conducted, it is difficult to establish the operational impact the site may have on the working of the whole site. The current assumption is that the extent of the disturbance would be limited and that any such costs would be not insignificant but acceptable, providing access is maintained to the remainder of the car park.

9.5.2 It may be necessary to secure temporary parking facilities nearby for the occupiers of the building during construction.

9.5.3 The risk of incurring a claim for business extinguishment or relocation is considered to be relatively low.

9.6 Offsite statutory compensation comments

9.6.1 The site is accessed from Plough Way. The access route would need careful consideration and every effort should be made to mitigate the effects of such a major construction site by controlling, as far as possible, noise, dust, lighting, etc. Use of the adjacent public highway would also require careful planning, as Plough Way is the main access road through the surrounding estate.

9.6.2 Provided access is maintained to adjacent properties, the low risk of significant statutory claims arising under Section 10 of the Compulsory Purchase Act 1965 as a direct result of this site being selected is considered to be low, as is the risk of claims being founded under Part 1 of the Land Compensation Act 1973.

9.7 Site acquisition cost assessment

9.7.1 The acquisition cost is considered to be acceptable. Further investigation as to ownership, occupation and use of the site would be necessary in order to establish the disturbance costs element of the compensation payable.

10 SITE CONCLUSIONS BY DISCIPLINE

10.1 Introduction

10.1.1 The conclusions presented in this section are drawn from each discipline’s assessment, and are designed to inform the workshop where a final conclusion on whether the site moves forward as one of the preferred sites or not.

10.2 Engineering

10.2.1 The site is suitable as a CSO site as it would have good road access potential.

10.2.2 Whether a CSO site of this size is appropriate or not for the interception of the Earl Pumping Station CSO would be considered at the next stage, in conjunction with the drive strategy that is developed in the Engineering Options Report.

10.3 Planning

10.3.1 On balance, the site is considered suitable as a CSO site.

10.3.2 It is considered that, with appropriate mitigation to avoid unacceptable impacts on air quality and residential amenity, the site is suitable. The pending decision on the current planning application would require further consideration.

10.4 Environment

10.4.1 Overall, the site is assessed as suitable for use as a CSO site.
10.4.2 The site is **suitable** from the perspectives of built heritage and townscape, archaeology, water resources (hydrogeology and surface water), flood risk and ecology.

10.4.3 The site is considered **less suitable** from the perspectives of transport, air quality, noise and land quality.

10.4.4 Overall, the site is considered **suitable** as a CSO site, subject to further investigation of whether transport, air quality, noise and land quality impacts as well as townscape and hydrogeology impacts can be adequately mitigated. Likely mitigation considerations include the following:

- **Townscape** – a high-quality scheme design and/or screening would be required to protect the character of the area. Integration of a landscape scheme has the potential to enhance the townscape character and local views.
- **Hydrogeology** – dewatering would be required during the construction phase.
- **Transport** – identification of a new site access, displacement of parking spaces and diversion of Plough Way during construction.
- **Air quality** – minimising the movement of HGVs during peak hours may be required to mitigate local air quality impacts.
- **Noise** – perimeter hoarding would reduce potential noise impacts but would be relatively ineffective at shielding noise from the upper floor properties of the nearest dwellings.
- **Land quality** – any required remediation of contamination (at this moderate risk site) and/or measures to ensure no mobilisation of contaminants retained in situ.

10.5 **Socio-economic and community**

10.5.1 This site is **suitable** as a small CSO site.

10.5.2 The use of the site is likely to impact on the residential properties opposite the site, especially through the placement of the interception chamber on Transom Close. Mitigation may involve discussions around ensuring road closure is kept to a minimum and that access to houses is still possible during the works. Discussions around minimising noise levels and reducing working times may also be necessary, due to the proximity of the works to residential development.

10.5.3 The bus stop on Plough Lane may need relocating to prevent problems with access due to buses stopping adjacent to the site, which may be inconvenient to local residents.

10.5.4 The site would lead to the loss of car parking spaces. This may impact on the business and may affect how employees are able to get to work. Mitigation may involve discussions around provision of additional parking and retaining access to the remainder of the car park. Noise minimisation measures may be required, depending on the nature of the business, as the noise may affect employees.

10.6 **Property**

10.6.1 The site is considered **suitable** for use as a CSO site at acceptable acquisition cost, given that it is a car park. It is likely that the provision of, or payment for, alternative parking facilities nearby would be necessary during the project.

10.6.2 Should redevelopment of the site commence prior to acquisition, the assessment could change to **not suitable**, depending on the arrangement of the proposed new buildings on the site.
APPENDICES
APPENDIX 1 – SOURCES OF INFORMATION

Engineering

- Traffic Management and Access Roads/Rail – Scott Wilson
- Access River – BMT
- Third Parties (Shafts/CSOs) – Mott MacDonald and AECOM
- Geology – Thames Water
- Utilities – Thames Water and AECOM
- Construction and Operational Layout Template – London Tideway Tunnels
- Background Technical Paper – London Tideway Tunnels

Planning

- London Borough of Lewisham online planning applications database

Environment

Transport

- Map of Transport for London Road Network (TLRN) - www.tfl.gov.uk
- Bus Route Maps: North-east, north-west, south-west, south-east - www.tfl.gov.uk
- Crossrail Plans - www.crossrail.co.uk/crossrail-bill-documents
- PTAL scores - Obtained from Table 2.3 information
- Thames Path map - www.walklondon.org.uk
- Capital Ring - www.walklondon.org.uk
- The Lea Valley Walk - www.walklondon.org.uk
- Cycle Routes - www.sustrans.org.uk and Local Cycling Guides, 1-14
- Design Manual for Roads and Bridge TD 42/95, Highways Agency

Built heritage and townscape

- Wandsworth List of Locally Listed Buildings
- Hammersmith and Fulham list of Conservation Areas
- Hammersmith and Borough list of Open Spaces
- Greenwich List of Locally Listed Buildings
- Newham List of Locally Listed Buildings
- Westminster Open Spaces Strategy
- Southwark list of Conservation Areas
- National Monuments Record - for some additional information regarding registered historic parks and gardens
- Unitary development plans
- Local authority websites
- Bing maps

**Water resources – hydrogeology and surface water**
- Environment Agency abstraction licence details
- Environment Agency groundwater levels
- Local authority details of unlicensed abstractors
- Envirocheck

**Ecology**
- Richmond upon Thames Habitat Action Plan for the Tidal Thames
- Multi-Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk - statutory designated sites
- London Wildweb - http://wildweb.london.gov.uk - non-statutory site of importance for nature conservation
- National Biodiversity Network - http://searchnbn.net - distribution of protected species
- Google Maps - aerial views of habitat features
- BAP habitats - www.natureonthemap.org.uk
- Priority habitats and species on national and local scales - www.ukbap.org.uk

**Flood risk**
- Envirocheck

**Air quality**
- Local authority websites
- www.londonair.org.uk/london/asp/default.asp?la_id=&showbulletins=&width=1680
- www.airquality.co.uk

**Noise**
- Envirocheck - Identification of receptors
- Promap - Calculation of distances between site and receptors
• Multimap - Aerial photography – www.multimap.co.uk
• Defra noise maps - Identification of existing noise levels

**Land quality**
• Google Maps/Earth
• Site walkover information

**Socio-economic and community**
• Statistics from the Office of National Statistics (ONS) 2001 Census data
• Lewisham Homes - www.lewishamhomes.org.uk/sitemap.html and www.lewishamhomes.org.uk/about-lewisham-homes.html
• Lewisham Strategic Partnership - www.lewishamstrategicpartnership.org.uk/partnerships.asp
• Pepys Community Forum - www.urbandesigncompendium.co.uk/thepepyscommunityforum
• St George’s Square Improvements - www.lewishamhomes.org.uk/editpics/1344-1.pdf

**Property**
• Site visit
• Promap, Ordnance Survey and A-Z mapping
• Multimap/Google Earth aerial/satellite photographs
• Valuation Office Agency rating lists and summary valuations
• Focus and EGi
• Mouchel referencing
APPENDIX 2 – SITE LOCATION PLAN
APPENDIX 2
C31XK SITE
SITE LOCATION PLAN

Legend
- Local Authority Boundary
- Short Listed CSO Sites
- CSO (Directly Controlled)
- Pumping Station

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Map Ref: 101PL-SS-01046
Date: 2009/11/26
Projection: British National Grid
APPENDIX 3 – PLANNING AND ENVIRONMENT PLANS
This plan is a strategic and standardised overview based on an interpretation of GIS policy and designation layers provided by affected London local authorities. Please refer to the text in the SSRs for the full planning and environment assessments.

Map Ref: 103FL-SS-0163
Date: 2009/12/04
Projection: British National Grid

Legend
- Thames Policy Area
- Regeneration Areas
- Protected/Strategic Views
- Proposals Sites
- Defined Employment Area
- Development Sites
- Air Quality Management Area
- Strategic View Wider Consultation Zone
- Areas of Opportunity

CSO (Directly Controlled)
Pumping Station

Area of Main Map

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APPENDIX 4 – PHOTOGRAPHS OF THE SITE AND SURROUNDINGS
View of the existing entrance to the site looking south from Plough Way.

View of the site looking southeast from Plough Way.
APPENDIX 5 – TRANSPORT PLAN
Traffic calming at various points along access route

Title: APPENDIX 5
C31XK SITE
TRANSPORT PLAN

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APPENDIX 6 – SERVICES AND GEOLOGY PLAN
APPENDIX 7 – CONSTRUCTION PHASE LAYOUT
APPENDIX 8 – OPERATIONAL PHASE LAYOUT
VENTILATION COLUMN (CSO)

ELECTRICAL CONTROL KIOSK (CSO)

**NOTE:**
1. **STRUCTURE TO BE PROTECTED BY REMOVABLE HANDRAILS IN THE TEMPORARY CASE.**
2. **POSITION OF COVERS ARE VARIABLE WITHIN 10m FROM THE EDGE OF THE STRUCTURE, AND THE LOCATION IS BASED ON SITE SPECIFIC REQUIREMENT.**
3. **CLADDING OF VENTILATION BUILDING TO SUIT LOCATION AND AESTHETICS.**
4. **ALL TOP STRUCTURES TO HAVE:**
   - ACCESS STAIRS/LADDER
   - TEMPORARY OR PERMANENT HAND RAILING
5. **ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.**

**DIMENSIONAL REPRESENTATION OF THE STRUCTURE ABOVE CSO SHAFTS**

**SCALE 1:20**

**SCALE 1:50**

**SCALE 1:25**

**DATE:**
- 27-11-09

**DRAWN BY:**
- Andy Purdy

**LOCATION:**
- Thames Tideway Tunnel

**LOCATION CODE:**
- N/A

**OS REFERENCE:**
- N/A

**SUMMARY:**
- The Point, 7th Floor, 37 North Wharf Road, Paddington, London W2 1AF

**THAMES WATER UTILITIES LTD 2008**

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**ORDNANCE SURVEY LICENCE NUMBER 100019345**
## APPENDIX 9 – ENVIRONMENTAL APPRAISAL TABLES

<table>
<thead>
<tr>
<th>Transport</th>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to road network</td>
<td>Both temporary construction and permanent site accesses use Plough Way and an existing access for the Marine Wharf car park. The construction egress will also be onto Plough Way approximately 30m to the west of the access and requires construction. The site will displace at least 60 parking bays within the car park. The potential to use the other bays within the remainder of the car park requires further investigation with the owners of Marine Wharf. Access to the remainder of the car park outside the site boundary will need to be maintained. Plough Way will require temporary closure during the construction of the connection culvert for the site’s interception chamber. Approximately 20 parking bays within the private car park for Transom Close will also have restricted access during the construction of the connection culvert. Alternative parking is available along Plough Way which is unrestricted. Plough Way is subject to a 30mph speed limit, contains traffic calming (speed cushions) and is street lit. Visibility splays are achievable to 90m in both directions from the permanent site access and construction site egress. Access to the A200 (TLRN strategic highway network) from Plough Way onto Lower Road and then the A200. The route is traffic calmed with speed cushions along Plough Way. Distance of 1.8km to TLRN. See Transport Access Plan in Appendix 5.</td>
<td>Road access to site possible for HGVs utilising an existing access for a car park. A new construction site egress will require construction. The site will displace approximately 60 parking bays. Further investigation is required as to whether displaced vehicles could use the remainder of the car park. The construction of the connection culvert will temporarily restrict access to the private parking bays in Transom Close. More significantly, Plough Way will require a temporary closure during the construction of the culvert. Access route to the TLRN (A200) is traffic calmed (speed cushions) and passes through a residential area.</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Site considerations</td>
<td>Comments</td>
<td>Mitigation required and conclusions</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------</td>
<td>----------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Access to river</td>
<td>Site is remote from river, although river access not essential for a CSO site as road will be used to transport excavated material.</td>
<td>River access not required. Excavated material will be transported away by road for CSO site.</td>
<td></td>
</tr>
<tr>
<td>Access to rail</td>
<td>Use of rail is unlikely to be required due to the small quantities of excavated material produced by a CSO site. Access to Old London Bridge station site for rail access (approximately 1km southeast of London Bridge station) from TLRN (A200) onto St James’ Road. The route passes through a 20mph zone with traffic calming (speed cushions and raised crossing). The raised crossing will require removal. Old London Bridge station site is likely to have very limited night use being on the main line with no space for sidings on the viaduct. Distance 2.9km to rail access point at old station site.</td>
<td>Route to potential rail link at old London Bridge station site possible requiring the removal of the traffic calming (raised crossing) on St James’ Road. The site is likely to have limited use during the night and a means of transporting material from the construction vehicles to the rail site would need to be provided.</td>
<td></td>
</tr>
<tr>
<td>Parking</td>
<td>Some parking could be provided onsite and informal on street parking is available along Plough Way for the workforce. Site will displace approximately 60 parking bays within Marine Wharf car park. Further investigation into the potential for displaced vehicles to utilise the remainder of the car park is required. Access to the remainder of the car park will need to be maintained. Construction of connection culvert will temporarily restrict access into the private car park for Transom Close. Alternative parking available along Plough Way with no restrictions.</td>
<td>Some parking could be provided onsite and informal on street parking is available along Plough Way for the workforce. Site will displace parking, with alternative on street parking available along Plough Way. Further investigation required into potential to use remainder of the car park for displaced vehicles. Access to the remainder of the car park will need to be maintained.</td>
<td></td>
</tr>
<tr>
<td>Public transport accessibility</td>
<td>PTAL 1-2 (low), as identified within Table 2.3.</td>
<td>Low possibility of workforce being able to use public transport to access the site.</td>
<td></td>
</tr>
<tr>
<td>Traffic Management</td>
<td>Access to the remainder of the car park in Marine Wharf outside the site boundary will need to be</td>
<td>Maintain access to the remainder of Marine Wharf</td>
<td></td>
</tr>
</tbody>
</table>
Transport

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>maintained.</td>
<td>Construction of the site egress for construction phase.</td>
<td>car park.</td>
</tr>
<tr>
<td>Construction of the site egress for construction phase.</td>
<td></td>
<td>Construction of the site egress for construction phase.</td>
</tr>
<tr>
<td>Temporary closure of Plough Way and Transom Close car park for construction of connection culvert. Diversion along Grove Street / TLRN (A200) will be required.</td>
<td>Temporary closure of Plough Way and a section of the private car park. Diversion along Grove Street / TLRN (A200) will be required.</td>
<td>Removal of raised crossing on St James' Road.</td>
</tr>
<tr>
<td>Removal of raised crossing on St James' Road.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary:** The site is less suitable because new site access would be needed, the displacement of a relatively high number of (approx. 60) parking spaces both on and offsite, and the need to close and divert Plough Way during construction of the connection culvert. Access to the area of car park outside the site boundary will need to be maintained and the potential to utilise the remainder of the bays for displaced vehicles requires further investigation. Plough Way will require temporary closure during the construction of the site's connection culvert and a diversion route along Grove Street / TLRN (A200) will be required. Access to the private car park on Transom Close will also be restricted during the construction of the connection culvert although alternative unrestricted parking is available along Plough Way. Potential road access to the TLRN (A200) is possible; however traffic calming (speed cushions) is present along the route. Access to the old London Bridge rail site is also possible, but will require the removal of a raised crossing on St James’ Road. A means of transporting material to the railway would also need to be provided. However, rail transport is unlikely to be required due to the small volumes of excavated material produced by a CSO site. The site is remote from the river, although river access is not essential for a CSO site. There is a low possibility for the workforce to utilise public transport to access the site, however some parking could be provided onsite for the workforce and informal parking is available on Plough Way.
## Archaeology

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designations, including archaeological priority areas</td>
<td>The site is within the Lewisham Archaeological Priority Area (APAS).</td>
<td>N/A</td>
</tr>
<tr>
<td>Summary of historical uses</td>
<td>The 19th century OS maps indicate the east arm of the site to be located in an area of residential terraced housing. The western part of the site is labelled Timber Yard' and later 'Railway Yard'.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Potential receptors of very high or high value with the potential to be directly affected</td>
<td>No archaeological receptors of high value are recorded within the site. This does not preclude the possibility of unrecorded archaeological receptors of High value being present within the site.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Potential receptors of medium value with the potential to be directly affected</td>
<td>No archaeological receptors of high value are recorded within the site. This above information does not preclude the possibility of unrecorded archaeological receptors of medium value being present within the site.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Other receptors with the potential to be directly affected</td>
<td>Construction impact of potential waterlogged deposits containing archaeological remains may cause dewatering. This potential impact should be considered given the sites close proximity to the Thames River.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Extent of existing disturbance (if known)</td>
<td>Construction impact of previous development for the various recent and modern structures may have disturbed earlier remains. Borehole data in the area suggests made ground of 12m, some of which could be archaeological in nature.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>Detailed design proposals, and an outline method statement will be required to enable initial assessment of development impacts, and to inform mitigation proposals. Mitigation methods could include: - Review/production of existing desk based assessments (report exists) - Production of deposits</td>
<td></td>
</tr>
<tr>
<td>Site considerations</td>
<td>Comments</td>
<td>Mitigation required and conclusions</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>model</td>
<td></td>
<td>• Archaeological monitoring of geotechnical investigations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Archaeological evaluation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Archaeological watching brief</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Archaeological excavation.</td>
</tr>
</tbody>
</table>

**Summary:** The site is suitable although further investigations will be necessary to determine the nature and extent of any archaeological receptors and it is possible that archaeological receptors of high or medium value may be present within the site. While no direct evidence has been revealed, peat deposits containing archaeological material may be present at depth. These have been commonly recorded throughout London in a similar proximity to the Thames. Given the location of the site, and wider evidence for historical occupation along the river, it is a reasonable assumption to suggest waterlogged remains of archaeological value may be present.
### Built heritage and townscape

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designations including conservation areas, including trees</td>
<td><strong>Listed Buildings</strong>&lt;br&gt;Parish boundary stone, St George's Wharf, Grade II: 165m&lt;br&gt;South Lock, hydraulic capstans and mooring bollards, South Docks, Grade II: 215m&lt;br&gt;Parish boundary stone, wall and pier, St George's Wharf, Grade II: 105m&lt;br&gt;Swing footbridge over Steelyard Cut, Surrey Docks, Grade II: 245m&lt;br&gt;Colonnade House, Grove Terrace, Grade II: 170m&lt;br&gt;Royal Victoria Yard Entrance, Grove Street, Grade II: 175m&lt;br&gt;4 Cannon Posts in front of the Royal Victoria Yard Entrance, Grove Street, Grade II: 175m&lt;br&gt;The Terrace, Grove Street, Grade II: 210m</td>
<td>In the case of listed buildings and protected views a high quality scheme design and adequate screening for the development may be required as discussed below.&lt;br&gt;A detailed desk-based assessment in conjunction with archaeology work will be required to further inform the likely impact of the development and to determine more detailed mitigation proposals.</td>
</tr>
</tbody>
</table>

**Locally Listed Buildings**<br>The borough of Southwark does not maintain a local list. In contrast, the borough of Lewisham does maintain a local list but it was not available at the time of this assessment.

**Conservation Areas**<br>There are no conservation areas within 250m of C31XK.

**Registered Historic Parks and Gardens**<br>There are no registered historic parks and gardens within 250m of C31XK.

**Locally Listed Parks and Gardens**<br>There are no locally listed parks and gardens within 250m of C31XK.

**Protected Views**<br>C31XK is located 55m away from the 'Greenwich Park'.
<table>
<thead>
<tr>
<th>Site considerations</th>
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</tr>
</thead>
<tbody>
<tr>
<td>protected view (as designated in the London Views Management Framework).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential receptors of medium to very high importance with the potential to be directly affected</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Other receptors of lesser importance with the potential to be directly affected</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Potential receptors of medium to very high importance with the potential to be indirectly affected</td>
<td>There is the potential for 8 Grade II listed buildings and one protected view (Greenwich Park – London Views Management Framework) to be indirectly affected by the development.</td>
<td>Of the 8 Grade II listed buildings which have the potential to be indirectly affected by the development, only 3 (Colonnade House, Grove Street; Royal Victoria Yard Entrance, Grove Street; Cannon Posts in front of the Royal Victoria Yard Entrance, Grove Street) are likely to share a visual relationship with C31XK with views between them and the site along Grove Street. As the development could therefore impact upon the setting of these listed structures mitigation in the form of a high quality scheme design and/or screening is likely to be required. In the case of the other 5 Grade II Listed structures, they do not share a visual relationship with C31XK because of screening provided by existing buildings. These 5 listed structures would therefore not experience any impact as a result of the development and no mitigation would be required. The ‘Greenwich Park’ protected view lies 55m from C31XK and is not intercepted by the site. Development at C31XK would therefore not impact upon this protected view</td>
</tr>
</tbody>
</table>
## Built heritage and townscape

<table>
<thead>
<tr>
<th>Site considerations</th>
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<tbody>
<tr>
<td>Other receptors of lesser importance with the potential to be indirectly affected</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Sensitive landscape character areas likely to be affected, including trees and TPOs</td>
<td>Site in Thameside Policy Area, in Local Open Space Deficiency Area, adjacent to Thames Special Policy Area. Site on parking lot of a commercial development. Plough Way to the north with residential development and South Dock beyond, residential development to the east and south, mix of industrial and residential development to the west. Loss of shrub planting onsite. The presence and operation of machinery, materials stores and buildings would result in temporary, direct adverse impacts on the character of the site and temporary, indirect adverse impacts on neighbouring areas. Permanent elements would result in an adverse impact on the character of the site and the streetscape of Plough Way.</td>
<td>Retention of trees where possible and protection in accordance with BS 5837. Introduction of landscape scheme to include appropriate surface treatments and planting to replace lost vegetation and enhance the character of the site and the streetscape of Plough Way. This site is suitable with appropriate mitigation since although the proposals would have an adverse impact on the character of the site, there could be an opportunity to turn part of the parking lot into green open space that would enhance the character of the site and the streetscape of Plough Way.</td>
</tr>
</tbody>
</table>

<p>| Potential views likely to be affected | The site is adjacent to a Strategic View Wider Consultation Area. Open views from Plough Way, commercial buildings adjacent to the site, residences to the north of Plough Way and in Hockett Close. Partially interrupted views from Grove Street, Carteret Way, residences in Lighter Close, Transom Close and Dunnage Crescent. During construction, views of cranes from the properties listed above, the River, residences on the north bank of the River, and Deptford Park. Permanent elements would mainly be visible from Plough | During construction, the use of hoardings and appropriate lighting would minimise visual impact. The design of the top structure, vent column, and electrical kiosk to be given careful consideration. Planting to screen permanent plant. Integrated landscape scheme to enhance visual amenity and reduce visual impact. This site is suitable with appropriate mitigation since although the proposals would have an adverse impact on visual |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Built heritage and townscape</td>
<td>Way, adjacent commercial buildings and overlooking residences.</td>
<td>amenity, there could be an opportunity to soften the views of part of the parking lot with new planting.</td>
</tr>
<tr>
<td>Particular considerations on sites where new permanent structures are required</td>
<td>Any permanent structures at the site have the potential to result in an impact upon the setting of 3 Grade II listed buildings and upon the character of the site and the local streetscape. The design and location of any permanent structures within the site will need to be given careful consideration and some screening and landscaping during construction and operation may be required.</td>
<td>Any permanent structures would need to be of a high quality design, sensitively located and/or screened in order that any impacts upon 3 Grade II listed structures and upon the character of the site and the local streetscape are minimised.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>Construction and operation of the development could result in an impact upon the setting of 3 Grade II buildings and upon the character of the site and the local streetscape. However, there is the potential to mitigate any adverse impacts through a high quality scheme design and/or screening and landscaping.</td>
<td>The scheme design would need to be of a sufficiently high quality and may need to incorporate some screening in order that indirect impacts of the development upon 3 Grade II listed structures and the character of the site and the local streetscape are minimised.</td>
</tr>
</tbody>
</table>

**Summary:** This site is suitable as relatively few potential impacts upon the historic built environment are anticipated. Townscape impacts would be restricted to changes to the setting of three Grade II listed buildings and upon the character of the site and the local streetscape. These impacts could be mitigated through a high quality scheme design and/or screening and landscaping and there is the potential for such mitigation to have a positive impact upon the character of the site and local views.
## Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
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</tr>
</thead>
</table>
| Hydrogeological conditions (Groundwater and Surface Water) | **Geology (thickness)**  
  - Superficial Geology and Made Ground (12m)  
  - Thanet sand (13m)  
  - Chalk (to beyond the depth of the shaft)  
  **Hydrogeology**  
  - Piezometric Level in Chalk Aquifer: ~ -12m AOD (~17 mgbgl) from EA Jan 08 water level contouring  
  **Groundwater Monitoring Location**  
  - EA Hydrometry Sites:  
    TQ37-268 – 332m west of the site (water levels to Nov 2007)  
    TQ37-276 – 1.54 km northwest of the site (water levels to March 2009)  
  **Watercourses**  
  - Adjacent to River Thames | The drop shaft will be constructed to an invert level of approximately 52.47mbgl therefore the shaft will be founded in the Chalk. Piezometric head\(^{(1)}\) in Chalk will be approximately 35.47m above the base of the construction. Therefore, dewatering would be required and should be considered as part of geotechnical design. |
| SPZs and groundwater users | **SPZ**  
  - Not located in a Source Protection Zone defined by EA  
  **EA Licensed Groundwater Abstractions and Details**  
  - 7 licensed abstraction borehole within 2km radius  
  **Licence Numbers:**  
  1. 28/39/39/0234 (1 borehole)  
  2. 28/39/42/0043 (1 borehole)  
  3. 28/39/42/0048 (3 boreholes)  
  4. 28/39/42/0073 (2 boreholes)  
  **Locations:**  
  1. 1.41km northeast of the site  
  2. 1.6km southwest of the site  
  3. 966m northwest of the site  
  4. 686m northwest of the site  
  **Operator:**  
  1. Britannia Hotels Limited  
  2. National Grid Co Plc  
  3. London Borough Of Southwark  
  4. Harmsworth Quays Printing Limited | A simple volumetric approach has been used to calculate the 400 days travel times of the abstraction borehole. A conservative mean annual recharge of 100 mm/year was used to calculate a radius for licensed abstraction boreholes as follows:  
  1. 250m  
  2. 690m  
  3. 258m  
  4. 203m  
  The shaft is not located within any of these catchment areas. |
## Water resources – hydrogeology and surface water

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<tr>
<th>Site considerations</th>
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</thead>
<tbody>
<tr>
<td><strong>Abstracted Aquifer Unit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abstraction Purposes:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Industrial, commercial and public services (hotels, public houses and conference centres - drinking, cooking, sanitary, washing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Industrial, commercial and public services (non-evaporative cooling)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Amenity (industrial/commercial/energy/public services - make-up or top up water)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Industrial, commercial and public services (paper and printing - process water and drinking, cooking, sanitary, washing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abstraction Quantity (annual):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 78,840m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 598,980m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 83,804m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 52,000m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unlicensed Groundwater Abstractions and Details</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No abstraction borehole within 1km radius inside Tower Hamlet Council Boundary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No abstraction borehole within 1km radius inside Southwark Council Boundary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No abstraction borehole within 1km radius inside Lewisham Council Boundary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>borehole locations and depths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are 6 historical records of water wells within 1km radius. Depth range: 6.09 – 45.72m</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Potential impacts on surface water features</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The site is located approximately 75m southwest of the River Thames and behind the Thames defences. There is no direct overland pathway to the River Thames and standard mitigation would prevent pollution to the River Thames and the nearby South Dock.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>**Potential impacts on groundwater (resources and An impact on groundwater at depth is likely since the drop shaft is to be constructed in Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work needs to be undertaken in consideration of Pollution Prevention Guidelines – PPG1, PPG5 and PPS23.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>See below (likely types of mitigation measures that</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
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</tr>
</thead>
<tbody>
<tr>
<td>quality)</td>
<td>(major aquifer) overlain by Thanet Sand (minor aquifer) which will need to be dewatered. At shallow depth, the shaft is located in Alluvium which is classified as a minor aquifer. Limited impact on shallow aquifer if water is excluded from the excavation by sheet piling.</td>
<td>will be required)</td>
</tr>
</tbody>
</table>

Likely types of mitigation measures that will be required

- Mitigation unlikely to be required as construction of the drop shaft will not take place within the 400 day capture zone of licensed abstractions.  
- Not applicable

Potential issues

- The drop shaft to be excavated in Chalk below the piezometric head, therefore dewatering of the Chalk and Thanet Sand will be required during construction.  
- Limited impact on flow in shallow aquifer.  
- Piezometric head in Chalk to be considered as part of geotechnical design.  
- The issue of the appropriate disposal of discharges from dewatering to be considered.  
- Impact on and mitigation for shallow aquifer will depend on construction design.

**Summary:** In terms of hydrogeology, this site is suitable because although the construction of the drop shaft will take place within Chalk (major aquifer), the site does not lie within the 400 day capture zone of licensed abstractions. No long term impact on the chalk aquifer is expected, although temporary dewatering of the Chalk and Thanet Sand will be required during the construction phase. The chalk piezometric head is likely to be approximately 35m above the base of construction and should be taken into account in the engineering design. The superficial deposits are Alluvium which is classified as a minor aquifer at the shaft site and limited impact on flow in shallow aquifer due to sheet piling.

In terms of surface water resources, this site is suitable because it is located behind the flood defences and there is no direct overland route for pollution to either the River Thames or the South Dock. Any risk of pollution can be mitigated with standard techniques.

(1) Piezometric head is a specific measurement of water pressure above a datum.
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Statutory designations</td>
<td>Sue Godfrey Nature Park Local Nature Reserve (LNR), Mudchute Park Farm LNR and Lavender Pond LNR are within 2km.</td>
<td>None required</td>
</tr>
<tr>
<td>Non-statutory designated wildlife sites</td>
<td>Site is within 200m of River Thames &amp; Tidal Tributaries SMI. CSO is within 100m of Greenland Dock BGII site. CSO is within 100m of Rainsborough Avenue Embankments site of Local Importance for nature conservation.</td>
<td>Care will need to be taken to avoid discharge or run-off into the river. None required</td>
</tr>
<tr>
<td>BAP priority habitats</td>
<td>A small area of London BAP habitat ‘Parks, Squares and Amenity Grassland’ is present onsite.</td>
<td>Loss of parkland habitat may require very limited compensatory provision.</td>
</tr>
<tr>
<td>protected or otherwise notable species within the Study Area</td>
<td>Buildings adjacent to the site may have some potential to support roosting bats. Area is a stronghold for black redstart, but little nesting or foraging opportunities appear to be present. No direct impact on aquatic receptors.</td>
<td>Careful placement of lighting to minimise illumination of surrounding habitat is likely to be required. None required. None required.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>No other issues</td>
<td>No other issues</td>
</tr>
</tbody>
</table>

**Summary:** This site is suitable as no ecological constraints are evident.
<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Risk Zone</td>
<td>Flood Zone 3 (1 in 200 year flood extent) but defended to the 1 in 1000 year flood level. There is a residual risk of a breach for which mitigation would need to be considered as part of the FRA. Sewage transmission infrastructure is considered to be water compatible according to table D.2 of PPS25</td>
<td>A FRA would be required to assess the residual risk of flooding to the site.</td>
</tr>
<tr>
<td>Assessment of conditions for SuDS</td>
<td>There is some space available onsite for SuDS, although the underlying geology is alluvial clay and further investigation would be required as to the suitability of the site for infiltration SuDS.</td>
<td>N/A</td>
</tr>
<tr>
<td>Potential issues</td>
<td>No other issues</td>
<td>No other issues</td>
</tr>
</tbody>
</table>

**Summary:** This site is suitable because it is defended from flooding from the River Thames (to the 1 in 1000 year flood level) and there is potentially space for surface storage SuDS.
### Air quality

<table>
<thead>
<tr>
<th>Site considerations</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AQMA</td>
<td>The air quality objectives for NO\textsubscript{2} are exceeded on major roads in the vicinity of the site.</td>
<td>There is a need for more site specific data.</td>
</tr>
<tr>
<td>Sensitive Receptors</td>
<td>There are residential properties along Lower Road (A200) and the access route to the site. There are residential properties within 25m on Plough Way.</td>
<td>There are relevant air quality sensitive receptors present along the route construction traffic is likely to take and close to the proposed construction works.</td>
</tr>
<tr>
<td>Existing traffic issues</td>
<td>The main traffic issue in this area is exhaust emissions from vehicles along the A200 and A2208 corridors.</td>
<td>Additional vehicle emissions have a moderate potential to interfere with local air quality action plan policies.</td>
</tr>
<tr>
<td>Existing sources of significant air pollutants</td>
<td>See above</td>
<td>See above</td>
</tr>
<tr>
<td>Notable gaps in existing air quality monitoring</td>
<td>There is no data at the likely access to the A200 and the nearest existing data indicates existing AQLV exceeded.</td>
<td>Collect a minimum of 6 months diffusion tube data at site access to the A200 or other point of access to major road network.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>The risk from additional exhaust emissions from construction HGVs is undefined at present. The risk from dust impacts at residential properties is moderate.</td>
<td>Minimise HGV movements on the local road network during the peak hour. Standard dust control measures will minimise the effect of fugitive dust on nearby sensitive receptors.</td>
</tr>
</tbody>
</table>

**Summary:** This site is less suitable as there is potential for fugitive emissions of dust during construction to have a perceptible impact at residential properties in close proximity to the site. These impacts can be minimised with standard dust control measures. There is potential for HGV movements on the local road network to cause localised air quality impacts in areas of already poor air quality although this can to some extent be mitigated by minimising the movement of HGVs during peak hours.
## Noise

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<tr>
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</thead>
<tbody>
<tr>
<td>Noise band level (from Defra noise maps)</td>
<td>Information from Defra noise maps indicates daytime noise levels of less than 58 dB $L_{Aeq}$ and night-time noise levels of less than 50 dB to $L_{Aeq}$ at the nearest residential properties to the site. The residential properties closest to and facing the site are likely to experience relatively low daytime and night-time noise levels due to their distance from any major roads. Noise levels from the Defra noise maps provide an indication of prevailing noise levels only, and will not be employed in any detailed assessments for chosen sites.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Sensitive Receptors</td>
<td>There are sensitive receptors close to the southern and western boundaries of the site. The closest receptors are located on Plough Way. Further residential properties are located on Hockett Close. Sensitive receptors at Plough Way to the north of the site consist of 3 storey residential flats and dwellings. These are located approximately 20m from the temporary working area and 25m from the shaft location. Properties on Hockett Close to the south of the site consist of 3/4 storey residential dwellings and are located approximately 45m from the temporary working area boundary and 60m from the shaft location.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Existing traffic issues</td>
<td>Road traffic on local roads and more distant road traffic on the A200 to the west will contribute to the existing noise climate in the area.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Existing sources of significant noise emissions</td>
<td>Road traffic on local roads and more distant road traffic on the A200 to the west will contribute to the existing noise climate in the area.</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
## Noise

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are no railways or significant industrial noise sources noted in the immediate surrounding area.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Potential issues | Construction:  
The construction period is estimated at up to 2 years and working hours will be 12 hours per day (7am-7pm) Monday to Saturday. This has the potential to result in adverse noise impacts on sensitive receptors surrounding the site.  
The number of HGV movements has the potential to have an adverse impact on a large number of residential receptors located along Plough Road which is assumed to be the haul route to the A200.  
Whilst the shaft location within the site may be fixed, ancillary plant should be sited as far as is practicable from surrounding sensitive receptors. Situating plant central to the site would maximise the distance between them and the nearest sensitive receptors and minimise potential disturbance.  
Proposed 3m site boundary fencing will provide useful noise mitigation to some plant and construction activities.  
Vibration resulting from general construction works is not anticipated to result in an adverse impact. The nearest receptors to the proposed shaft location are at a distance of approximately 25m and it is unlikely that vibration levels will result in minor cosmetic damage during shaft sinking but may give rise to annoyance. Vibration from tunnelling should be considered on a case by case basis at particular sensitive locations.  
Operation:  
With appropriate attenuation (if | Adherence to the good site practices provided in BS5228.  
Siting of noisy equipment and construction activities as far as is practicable from sensitive receptors.  
Provision of site boundary noise fences. |
### Noise

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>necessary), there is no reason why noise from the ventilation column and top chamber should result in adverse noise impacts to nearby sensitive receptors.</td>
<td></td>
</tr>
</tbody>
</table>

**Summary:** This site is less suitable as the distances between the site and the nearest residential properties is relatively short and therefore adverse noise and vibration impacts are likely. There is also a fairly high density of residential dwellings around the site. The number of vehicles associated with the construction phase is anticipated to be relatively high and is likely to cause an adverse noise impact to properties located on Plough Way. Perimeter hoarding will reduce potential noise impacts but will be relatively ineffective at shielding noise from the upper floor properties at the nearest residential dwellings.
### Land quality

<table>
<thead>
<tr>
<th>Site location</th>
<th>Grid Reference: 536475, 178851</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current site use</td>
<td>The site is a car park adjacent to (and serving) a 2 storey commercial building (which the number of cars present would appear to indicate that at the time of the visit (19.6.09) is only part occupied). The area is hard-standing with drainage. There is no planting or trees on the site with invasive species around the site periphery.</td>
</tr>
<tr>
<td>Topography</td>
<td>Site is relatively flat and almost entirely hard standing.</td>
</tr>
<tr>
<td>Field evidence of contamination (ie, visual/olfactory)</td>
<td>None observed</td>
</tr>
</tbody>
</table>
| Current surrounding land use (immediately adjacent to site) | North: Plough Way (2 lane road) lies to the north of the site, beyond which lie 3 storey private townhouses.  
East: The onsite commercial building lies to the east of the proposed area of the site.  
South: An open grassed area lies to the south of the site with 3-4 storey local authority houses and a parking area beyond.  
West: Open land lies to the west of the site which is made ground (building foundation) and appears to have previously been a commercial site. Parts of a deconstructed commercial building were still present on the site at the time of the site visit. Parts of the adjacent site bordering the proposed site are planted areas. |

### Geological and hydrogeological information

| Geological strata¹ | • Superficial Geology and Made Ground (12m)  
• Thanet sand (13m)  
• Chalk (to beyond the depth of the shaft) |
|---------------------|-----------------------------------------------|
| Underlying aquifer classes | Non-Aquifer: London Clay  
Minor Aquifer: River Terrace Deposits, Thanet Sands  
Major Aquifer: Chalk |
| Groundwater vulnerability/Soil classification (High/Intermediate/Low/Not applicable)² | River Terrace Deposits - Minor Aquifer  
High Leaching Potential of Soils (U)² |
| Source Protection Zone details | Not located in a Source Protection Zone defined by EA |
| Surface water receptor | South Dock Marina, (75m north)  
River Thames, (166m east) |

### Relevant information within a 250m radius of the site

| Historical potentially contaminating activities (based on mapping data) | Onsite  
• Timber yard, 1862-1895  
• Railway lines, (west), 1862-1895  
• Residential housing, (east), 1862-1895  
• Railway yard, 1896-1972  
• Wharf operations (transport support and cargo handling), |
## Land quality

<table>
<thead>
<tr>
<th>Year</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-1996</td>
<td>Site is covered with hard standing and used as a car park, present</td>
</tr>
</tbody>
</table>

### Offsite
- Numerous tanks – contents unknown in south/west direction, (closest located 6m south), 1951
- Tar works, (10m south), 1947-1972
- Electrical substation, (closest located 15m west), 1950
- Areas cleared due to enemy action, (15m north), 1953
- Historic building plans list potential fuel tanks, (20m west), 1929
- Timber shed, (23m southwest), 1947-1972
- Warehouse, (30m north), 1947-1996
- Warehouse, (40m north), 1947-1996
- Insulcrete Works (breeze slabs), (50m south), 1947-1972
- Timber shed, (62m southwest), 1947-1972
- Infilled water – dock, (66m southeast), 1949
- Railway lines, (68m south), 1882-1949
- Tar works, (85m west), 1862-1895
- Wharf operations (transport support and cargo handling), (105m northeast), 1947-present
- Bronze works, (107m northeast), 1909-1920
- Infilled water – canal, (127m west), 1949
- Whiting works, (147m southwest), 1909-1972
- Tar works, (150m west), 1862-1898
- Depot, (160m west), present
- Tar works, (175m southwest), 1862-1895
- Whiting works, (175m southwest), 1862-1895
- Sawmill, (175m west), 1896-1898
- Whiting works, (182m southwest), 1896-1972
- Depot, (190m southwest), present
- Works, (194m southwest), 1972-1977
- Works, (200m southwest), present
- Warehouse, (210m north), 1947-1972
- Tar pitch, Naphtha and Creosote works, (225m southwest), 1862-1898
- Asphalt works, (230m west), 1862-1898
- Timber yard, (230m southwest), 1909-1920
- Works, (235m west), present
- Pumping station, (240m west), 1947-present
- Sawmill, (245m southwest), present

### Pollution incidents to controlled waters
Two:
- Unknown sewage, minor incident, (98m north)
- Oils – unknown, significant incident, (195m north)
### Land quality

<table>
<thead>
<tr>
<th>Activity</th>
<th>Distance and direction to site</th>
<th>Contaminants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential site contaminants derived from surface sources (e.g. contaminants in made ground)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Some potential for made ground from potential filling operations during development</td>
<td>1) Onsite and directly adjacent to site</td>
<td>1) Metals, PAHs, TPH</td>
</tr>
<tr>
<td>2) Timber yard</td>
<td>2) Onsite and directly adjacent to site</td>
<td>2) Metals, PAHs, TPH</td>
</tr>
<tr>
<td>3) Railway lines</td>
<td>3) Onsite and directly adjacent to site</td>
<td>3) Metals, TPH, PAHs</td>
</tr>
<tr>
<td>4) Railway yard</td>
<td>4) Onsite and directly adjacent to site</td>
<td>4) Metals, PAHs, TPH</td>
</tr>
<tr>
<td>5) Wharf operations</td>
<td>5) Onsite and directly adjacent to site</td>
<td>5) Metals, PAHs, TPH</td>
</tr>
<tr>
<td><strong>Potential site contaminants derived from offsite sources and transported to site</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Tank – contents unknown</td>
<td>1) 6m south</td>
<td>1) Metals, TPH, PAHs, Solvents</td>
</tr>
<tr>
<td>2) Tar works</td>
<td>2) 10m southeast</td>
<td>2) Metals, TPH, PAHs, Phenols, Sulphur compounds</td>
</tr>
<tr>
<td>3) Electrical substation</td>
<td>3) 15m west</td>
<td>3) PCBs</td>
</tr>
<tr>
<td>4) Potential fuel tanks</td>
<td>4) 20m west</td>
<td>4) Metals, TPH, PAHs</td>
</tr>
<tr>
<td>5) Timber shed</td>
<td>5) 23m southwest</td>
<td>5) Metals, TPH, PAHs</td>
</tr>
<tr>
<td>6) Warehouses</td>
<td>6) Closest located 30m north</td>
<td>6) Metals, TPH, PAHs</td>
</tr>
</tbody>
</table>

### Site classification based on above information

<table>
<thead>
<tr>
<th>Activity</th>
<th>Distance and direction to site</th>
<th>Contaminants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Landfill sites</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old canal filling, (130m west), Ref EAHLD11496</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other waste sites</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Registered Waste Transfer Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swift Waste, license cancelled, small (&gt; 10,000, &lt; 25,000 tonne p/a), no Known restriction on source of waste, (220m west).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Registered radioactive substances</strong></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Fuel stations/Depots</strong></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Contemporary trade directory entries</strong></td>
<td>No data</td>
<td></td>
</tr>
</tbody>
</table>
## Land quality

<table>
<thead>
<tr>
<th>Potential contamination pathways to site (Conceptual Site Model)³</th>
<th>Source 1: A1, A2, A3, B4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Source 2: D6, E1, F7</td>
</tr>
</tbody>
</table>

**Contamination category**  Category 2 – Assessed as Medium Risk

**Summary:** The site is less suitable based on the medium potential for contamination to have occurred, specifically from the timber yard, railway yard and wharf operations onsite, as well as from offsite activities including the tar works which may have impacted on shallow groundwater and migrated beneath the site. This potentially poses a risk to construction workers and adjacent human receptors through direct contact and inhalation exposure pathways. Additionally, the potential exists for contaminants to be drawn to the deeper Chalk aquifer and for migration to surface water receptors to occur through shallow groundwater transport. There is a potential for unexploded ordnance to be present onsite as historical information indicates that nearby areas have been cleared of ordnance (dates unknown). It would therefore be prudent for a UXO survey (or equivalent) to be conducted at the site if not done so already.

**Notes:**

1. From BGS Geological Model giving average ground condition profile. Local near surface conditions may vary, particularly within the river.

2. Soil information for urban areas is based on fewer observations than elsewhere in the country. Therefore a worst case vulnerability (H) is assumed until proven otherwise.

3. Refer to schematic Conceptual Site Model for explanation of site-specific source-pathway-receptors.
Contacts

For information about the Thames Tideway Tunnel

Call: 0800 0721 086 Lines are open 24 hours a day
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Email: info@tidewaytunnels.co.uk

For our language interpretation service call 0800 0721 086

For information in Braille or large print call 0800 0721 086

For information about acceptance of our application and the examination process please contact the Planning Inspectorate.

Call: 0303 444 5000
Visit: http://infrastructure.planningportal.gov.uk