Autumn 2011

Site suitability report
C32XZ

Deptford Church Street
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
C32XZ

Deptford Church Street
# Thames Tunnel

## Site suitability report C32XZ

### List of contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Purpose and structure of the report</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Background</td>
<td>1</td>
</tr>
<tr>
<td>1.3 Consultation</td>
<td>2</td>
</tr>
<tr>
<td>2 Site information</td>
<td>2</td>
</tr>
<tr>
<td>2.1 Site and surroundings</td>
<td>2</td>
</tr>
<tr>
<td>2.2 Type of site</td>
<td>3</td>
</tr>
<tr>
<td>3 Proposed use of site – construction phase</td>
<td>4</td>
</tr>
<tr>
<td>4 Proposed use of site – operational phase</td>
<td>5</td>
</tr>
<tr>
<td>4.1 Introduction</td>
<td>5</td>
</tr>
<tr>
<td>4.2 Restoration and after-use</td>
<td>5</td>
</tr>
<tr>
<td>5 Engineering assessment</td>
<td>5</td>
</tr>
<tr>
<td>5.1 Access</td>
<td>5</td>
</tr>
<tr>
<td>5.2 Construction works considerations</td>
<td>6</td>
</tr>
<tr>
<td>5.3 Permanent works considerations</td>
<td>6</td>
</tr>
<tr>
<td>5.4 Health and safety</td>
<td>6</td>
</tr>
<tr>
<td>6 Planning assessment</td>
<td>7</td>
</tr>
<tr>
<td>6.1 Introduction</td>
<td>7</td>
</tr>
<tr>
<td>6.2 Planning applications and permissions</td>
<td>7</td>
</tr>
<tr>
<td>6.3 Planning context</td>
<td>7</td>
</tr>
<tr>
<td>6.4 Planning comments</td>
<td>8</td>
</tr>
<tr>
<td>7 Environmental appraisal</td>
<td>9</td>
</tr>
<tr>
<td>7.1 Introduction</td>
<td>9</td>
</tr>
<tr>
<td>7.2 Transport</td>
<td>9</td>
</tr>
<tr>
<td>7.3 Archaeology</td>
<td>10</td>
</tr>
<tr>
<td>7.4 Built heritage and townscape</td>
<td>10</td>
</tr>
<tr>
<td>7.5 Water resources – hydrogeology and surface water</td>
<td>10</td>
</tr>
<tr>
<td>7.6 Ecology</td>
<td>11</td>
</tr>
<tr>
<td>7.7 Flood risk</td>
<td>11</td>
</tr>
<tr>
<td>7.8 Air quality</td>
<td>11</td>
</tr>
</tbody>
</table>
7.9 Noise .......................................................................................................................... 11
7.10 Land quality ............................................................................................................... 11
8 Socio-economic and community assessment ............................................................... 12
  8.1 Introduction .................................................................................................................. 12
  8.2 Socio-economic profile ............................................................................................... 12
  8.3 Issues and impacts ....................................................................................................... 13
9 Property assessment ......................................................................................................... 13
  9.1 Introduction .................................................................................................................. 13
  9.2 Crown land and special land comments ................................................................. 13
  9.3 Land to be acquired ..................................................................................................... 14
  9.4 Property valuation comments .................................................................................. 14
  9.5 Disturbance compensation comments ................................................................ 15
  9.6 Discretionary purchase costs comments ............................................................... 15
  9.7 Offsite statutory compensation comments ............................................................. 15
  9.8 Site acquisition cost assessment ............................................................................. 15
10 Site conclusions by discipline ......................................................................................... 15
  10.1 Introduction ................................................................................................................ 15
  10.2 Engineering ................................................................................................................ 15
  10.3 Planning ........................................................................................................................ 15
  10.4 Environment ............................................................................................................... 16
  10.5 Socio-economic and community .......................................................................... 16
  10.6 Property .................................................................................................................... 17
Appendices .......................................................................................................................... 19
  Appendix 1 – Sources of information
  Appendix 2 – Site location plan
  Appendix 3 – Planning and environment plans
  Appendix 4 – Photographs of the site and surroundings
  Appendix 5 – Transport plan
  Appendix 6 – Services and geology plan
  Appendix 7 – Construction phase layout
  Appendix 8 – Operational phase layout
  Appendix 9 – Environmental appraisal tables
List of tables

Table 3.1  Construction phase data.......................................................................................... 4 
Table 4.1  Operational phase data .......................................................................................... 5 

List of abbreviations

AOD  above Ordnance Datum 
BAP  biodiversity action plan 
BT  British Telecom 
CPO  compulsory purchase order 
CSO  combined sewer overflow 
DLR  Docklands Light Railway 
EA  Environment Agency 
GLA  Greater London Authority 
HGV  heavy goods vehicle 
LNR  local nature reserve 
LPA  local planning authority 
LU  London Underground 
m  metre/metres 
MOL  Metropolitan Open Land 
ONS  Office of National Statistics 
ORN  Olympic Route Network 
PLA  Port of London Authority 
POS  public open space 
PTAL  public transport accessibility level 
SAM  scheduled ancient monument 
SINC  site of importance for nature conservation 
SNCI  site(s) of nature conservation importance 
SSR  site suitability report 
SSSI  site(s) of special scientific interest 
SUDS  sustainable urban drainage systems 
TfL  Transport for London 
TD  tunnel datum
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLRN</td>
<td>Transport for London Road Network</td>
</tr>
<tr>
<td>TPA</td>
<td>Thames Policy Area</td>
</tr>
<tr>
<td>UDP</td>
<td>unitary development plan</td>
</tr>
<tr>
<td>UXO</td>
<td>unexploded ordnance</td>
</tr>
</tbody>
</table>
1 Introduction

1.1 Purpose and structure of the report

1.1.1 The Site selection methodology paper (May 2009 and revised August 2011)\(^a\) outlines the process to be used to create the preferred list of main tunnel 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. Whether a consideration is relevant to the assessment of a site will depend on available information and professional judgement.

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 and this level of information is considered to be appropriate to this stage of assessment.

1.1.3 The Site selection background technical paper provides information on the requirements for different types of sites, 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, which relates to main tunnel and connection tunnel options. 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). The outcomes are reported in the Phase two scheme development report.

1.2 Background

1.2.1 The process for selecting sites is set out in the Site selection methodology paper. All sites have previously passed through the following parts of Stage 1:

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

\(^a\) The amendments made in August 2011 do not change the site selection methodology process. The amendments only related to the introduction of a second phase of consultation (paragraphs 2.3.13-2.4.15) and minor factual updates.
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 main tunnel (and CSO) sites – site data, site visits, site suitability reports, engineering options report and optioneering workshops that are reported in the Phase two scheme development report.

1.2.3 The Site selection methodology paper also contains a provision for a back-check process in paragraph 2.5.6 that states:

“If any sites for any of the main tunnel sites or intermediate sites (or CSO site) are eliminated for any reason, if there are significant changes of circumstances in relation to existing sites or combinations of sites, if new or replacement sites are required or found or if the engineering design develops in unexpected ways then a targeted repeat of stages 1-3 will need to be undertaken in order to fill in any site gaps.”

1.3 Consultation

1.3.1 Thames Water’s approach to engagement and consultation for the Thames Tunnel project is outlined in the Statement of Community Consultation and the accompanying Community Consultation Strategy. Thames Water has engaged regularly with all potentially affected London local authorities, other stakeholders and interested parties on sites and the project.

1.3.2 Phase one consultation has been completed for all the preferred and shortlisted sites along with the three main tunnel route options. The analysis of the consultation responses is set out in the Report on phase one consultation and Interim engagement report. Any relevant site comments were considered at the post phase one consultation optioneering workshops. The outcomes of these workshops are reported in the Phase two scheme development report. After the workshops, engagement on sites has continued with key stakeholders, and the engineering design for sites has also continued in parallel. In autumn 2011, phase two consultation will provide another opportunity for people to comment on sites.

2 Site information

2.1 Site and surroundings

2.1.1 This site is one of the back-check shortlisted sites for the Deptford Storm Relief 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 Site C32XZ is located approximately 1km south of the River Thames and 300m west of Deptford Creek within the London Borough of Lewisham. A site location plan is attached as Appendix 2.

2.1.3 The site is bounded by Deptford High Street (A2209) to the east, Coffey Street to the north, and Crossfield Street to the south. To the north of Coffey Street lies St Paul’s Church and Churchyard. The closest
residential properties lie approximately 50m to the east of the site, on Bronze Street, and a school, St Joseph’s RC Primary School, is located some 55m to the southwest of the site. The elevated North Kent Railway Line passes in an east–west direction around 40m to the south of the proposed site.

2.1.4 The proposed site is located within the St Paul’s Conservation Area. There are a number of listed buildings and structures in the vicinity, including the Grade I St Paul’s Church.

2.1.5 The proposed site falls within a number of other designated areas within the London Borough of Lewisham Unitary Development Plan and Core Strategy, including an area of archaeological priority, a nature conservation site of local importance, and public open space. All the mapped designations, where data was available, are shown on the planning and environment plans in Appendix 3.

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

2.1.7 There is no point of vehicular access to the site at present, but access would be possible from Coffey Street and Crossfield Street off Deptford High Street, which in turn provides direct links to the TLRN A2 to the south (0.5km), and the A200 (0.2km) to the north. The nearest railway station is Deptford Rail (0.2km), with the nearest Docklands Light Railway station being Deptford Bridge (0.5km) to the south, and the nearest London Underground station being New Cross, some 0.8km to the southwest of the proposed site. A number of preliminary transport plans for the site are attached as Appendix 5.

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

- St Paul’s Church (Grade I listed) borders the site to the north. The walls of the former graveyard to the Old Baptist Chapter and southeast angle of St Pauls Church, and the walls and railings to the north and east of the Churchyard are Grade II listed structures.

- The elevated North Kent Railway Line (Grade II listed) to the south.

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

2.1.10 Information on the geology specific to this site can be found within the services and geology plan which is in Appendix 6. The plan shows that the shaft would be founded in the Chalk.

2.2 Type of site

2.2.1 The site C32XZ is being considered as:

- a CSO site to intercept the Deptford Storm Relief CSO (CS32X).
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 Photographs of typical activities associated with the CSO 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).

3.1.4 To enable construction of the CSO interception chamber and connection culvert at this site, phased two-lane closures of Deptford Church Street would be required. As the road is a dual carriageway, single lane traffic in each direction would be maintained by removing part of the central reservation. Pedestrians would be diverted to the opposite footway. Since the existing sewer is located on the western side of Deptford Church Street, the phased lane closures would not have to move across the full width of the road. The preliminary assessment of the traffic management which would be required is indicated on the temporary traffic management plan in Appendix 5.

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

<table>
<thead>
<tr>
<th>Table 3.1 Construction phase data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
</tr>
<tr>
<td>Length of construction period</td>
</tr>
<tr>
<td>Likely working hours, ie, (night/day/weekend)</td>
</tr>
<tr>
<td>Working days</td>
</tr>
<tr>
<td>Primary means of transporting excavated material away from site</td>
</tr>
<tr>
<td>Primary means of transporting materials to site</td>
</tr>
</tbody>
</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 underground infrastructure at this site would likely comprise an interception chamber, double flap valve chamber and a drop shaft with access openings.

4.1.4 The above-ground infrastructure would likely comprise a ventilation column and electrical kiosk.

4.1.5 The top structure to the shaft is envisaged to be finished to a minimum level of 104.5m tunnel datum (TD) (4.5mAOD) and since the mean ground level of this site would 106mTD (6mAOD), the top structures would be flush with ground level. The top structure is to provide access and egress into the drop shaft.

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

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

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.

5 Engineering assessment

5.1 Access

5.1.1 This section should be read in conjunction with Section 7.2.
5.1.2 During the construction phase, one-way flow of vehicles would be through the construction site, with access from Coffey Street and Crossfield Street. Both of these streets are off the A2209 (Deptford Church St). Operational site access would be from Coffey Street or Crossfield Street.

5.1.3 The A2209 is 500m from the TLRN (A2). There is a 4.8m height restriction on the A2209 between the site and the A2.

5.1.4 A rail facility would be located approximately 1km from the site. The route to the rail link would be constrained with a 3.7m height restriction on Edward St, which is traffic calmed. However, rail access is not considered to be a significant factor for CSO sites.

5.1.5 Deptford Railway Station would be 300m from the site and could provide access for construction personnel.

5.1.6 The site would be inland, with no direct access to the river, although river access and jetty/wharfage facilities are not a requirement for CSO sites.

5.2 Construction works considerations

5.2.1 The site would be within a grassed area bounded by Coffey Street, Crossfield Street and Deptford Church Street. No demolition of buildings would be required but an old wall would need to be removed.

5.2.2 The interception chamber would be located on top of the existing sewer, which runs under the carriageway of Deptford Church St on the western side of the central reservation. Construction of this interception chamber and the connection culvert would require partial closure of Deptford Church St, but one-lane working in each direction would be maintained.

5.2.3 Data available on third-party assets and significant utilities shows that the main items of concern are the church to the north of the site and the railway arches to the south of the site. Construction methods would be adopted, as appropriate, to mitigate potential settlement of these assets.

5.2.4 It is likely that the proposed works can be constructed within the overall construction programme.

5.3 Permanent works considerations

5.3.1 The top structures to the drop shaft and flap valve chambers would be flush with existing 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 Lewisham online planning applications database did not identify any planning applications submitted within the last five years applicable to the site. However, a planning application granted in 2009 was found for the demolition of the hall and the construction of a new building at St Josephs RC Primary School, to the southwest of the site. A number of historic applications were found relating to St Paul's Church, on the opposite side of Coffey Street from the site.

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 plan for the borough. The development plan comprises the saved policies from the Lewisham Unitary Development Plan, adopted July 2004, the Lewisham Core Strategy, adopted June 2011 and the London Plan 2011.

6.3.2 The proposed site is located within the St Paul’s Conservation Area and there are four listed buildings and structures in the vicinity of the proposed site. St Paul’s Church is a Grade I listed building. The walls of the former graveyard to the Old Baptist Chapter and southeast angle of St Pauls Church, and the walls and railings to the north and east of the Churchyard are Grade II listed structures. The elevated North Kent Railway Line to the south is Grade II listed. The proposed site lies wholly within an area of archaeological priority. Core Strategy Policy 16 states the council will ensure that the value and significance of the borough's heritage assets, which include conservation areas, listed buildings and locally listed buildings and structures, archaeological remains, and historic parks and gardens, will continue to be monitored and conserved. Core Strategy Policy 15 requires that development conserves and enhances the borough’s heritage assets and the significance of their settings. Conservation areas will be protected from inappropriate built development

6.3.3 St Paul’s Church, to the north of the proposed site, is identified in the UDP as an important local landmark. Development which obscures existing views of local landmarks will be resisted. Core Strategy Policy 17 states that local views, landmarks and panoramas identified on the Proposals
Map will be managed to ensure that new development does not impede or detract from local views or obscure local landmarks.

6.3.4 Core Strategy Spatial Policy 1, Core Strategy Policy 12 and Unitary Development Plan Policy OS7, Other Open Space – the site lies within St Paul’s Churchyard and Crossfield Open Space, which is designated as a site of nature conservation importance (site of local importance).

6.3.5 Core Strategy Spatial Policy 1 states that open space, including Metropolitan Open Land and sites of importance for nature conservation, will be protected, and a net gain of open space across the borough will be sought, particularly through onsite provision. These provisions are amplified in Core Strategy Policy 12, which also seeks to improve accessibility to open space, protect trees and preserve and enhance local biodiversity and geological conservation interests.

6.3.6 Unitary Development Plan Policy OS7 states the council will resist the loss of both POS or UGS and any development that would adversely affect its amenity, open character or appearance though inappropriate scale. The council may make an exception to this where development is ancillary to open space, where it facilitates access to open space and where provision can be made nearby for replacement open space of equal or better quality and size.

6.3.7 The site lies within an area identified in the Unitary Development Plan as deficient in open space. While Policy OS8 on this matter has not been saved, it is likely that the area will still be considered deficient in open space by the council and this will be reflected and reinforced in future policies. It is also therefore likely that the council will resist the loss of, and seek enhancements to, open space within such areas.

6.3.8 The closest dwellings to the site are to the east, off Bronze Way, and to the northeast, off Berthon Street. There is also a primary school to the south of the site, off Crossfield Street. Policy HSG 4, Residential amenity, states that the council will seek to improve and safeguard the character and amenities of residential areas throughout the borough, to protect existing community facilities and open spaces and to ban lorries.

6.4 Planning comments

6.4.1 A number of planning designations are applicable to the site and adjoining areas. These designations and the policies relating to them have been identified and described in Section 6.3. Of these, those relating to heritage, open space and nature conservation are of most relevance to the proposed development.

6.4.2 The site falls within a designated archaeological priority zone and the St. Paul’s Conservation Area. St Paul’s Church itself is a Grade I listed building and there are two other listed structures in the churchyard, all within 100m of the proposed site. St Paul’s Church is also identified in the UDP as an important local landmark. These heritage constraints are therefore significant. The council will resist development within a conservation area which has a negative impact on the character or appearance of that area. The council requires that development
conserves and enhances the borough’s heritage assets and the significance of their settings. Further appraisal of the archaeological potential on the site is provided in Section 7 of this report.

6.4.3 The site is designated as open space and lies within an area of public open space deficiency, and would therefore conflict with the aims of Core Strategy Spatial Policy 1, Core Strategy Policy 12 and Unitary Development Plan Policy OS7. There is potential to reduce the loss of open space during construction through amending the site boundary, however there are still likely to be negative impacts on amenity value of the remaining open space. The local planning authority (LPA) may require the reprovision of open space of equal or better quality and size within the surrounding area to avoid the loss of public open space in an area of deficiency. The temporary use for construction would also be a mitigating factor, depending on the reinstatement and amount and type of any permanent development on the site.

6.4.4 The site is also designated as a nature conservation site of local importance and, as such, in line with Core Strategy Spatial Policy 1 and Policy 12, the LPA will require development proposals to be accompanied by an environmental appraisal, including methods of mitigation and proposals for compensation. The LPA may impose planning conditions to protect and enhance nature conservation on site or may require new habitat provision nearby.

6.4.5 The site is approximately 56m from the front facade of the nearest residential properties in Congars House on Bronze Street. Some mitigation may be required to protect residential amenity in line with development plan policy. Construction working hours are also likely to require control, in accordance with working hours normally operated in residential areas.

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 In highway terms, the site is considered to be less suitable as a CSO site, as it will require the removal of a large amount of on-street parking bays and traffic calming to enable access to the site. Traffic management will be required on Deptford Church Street to construct the interception chamber (also see Appendix 5 – Transport plan). The route to the TLRN (A2) is possible via Creek Road, and then Norman Road and Greenwich High Road, but constrained. The route from the TLRN to the site features a height restriction.

7.2.2 The route to the nearest rail link contains additional restrictions in the form of on-street parking, speed cushions, and bridges with height and width restrictions. However, rail transport is unlikely to be feasible due to the small quantities 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. Some parking could be provided on site for the workforce, with limited additional parking available on surrounding roads. There is reasonable potential for the workforce to use public transport to access the site.

7.3 **Archaeology**

7.3.1 This site is considered to be suitable as a CSO site from an archaeological perspective. Although it is possible that the site has the potential for archaeological remains associated with St Paul’s Church to the north of the site, including burials associated with the church, this cannot be confirmed on the basis of the evidence available at this stage.

7.3.2 If present, remains may include post-medieval burials which may have originally extended southwards into the site. Should desk-based research show burials to be present, they may be considered a constraint on development. However, the remediation of post-medieval human remains is regularly undertaken to facilitate development and may be acceptable, subject to a sufficiently detailed desk assessment and agreement of a written scheme of work. A burial licence would also probably be required. However, the work is likely to be costly and require a substantial period of time to undertake. There is also the possibility that earlier remains dating to the medieval period may be present as the general area was quite intensively occupied during this time. Further work is required to ascertain the extent of the St Paul’s graveyard in the vicinity of the site.

7.4 **Built heritage and townscape**

7.4.1 In terms of built heritage and townscape, the site is considered less suitable as a CSO site. There is the potential for direct impacts on an open space within St Paul’s Conservation Area. In addition to this, the proposals are likely to have an indirect impact on two listed buildings and one conservation area. Mitigation may be possible in the form of a high-quality scheme design and/or screening.

7.4.2 There is also potential for adverse impacts on views from surrounding areas, including residential properties, and on the character of the amenity space. The site would also potentially indirectly impact the character of adjoining amenity open space. Mitigation in the form of a high-quality scheme design, screening and landscape treatment of the site, would partly reduce the adverse impacts on the local townscape character.

7.5 **Water resources – hydrogeology and surface water**

7.5.1 In terms of hydrogeology, this site is considered to be less suitable as a CSO site because the drop shaft is to be constructed in Chalk (principal aquifer, previously called major aquifer) and the site lies within the source protection zone (SPZ 3) of one EA licensed abstraction from the Chalk. Dewatering of the Chalk, Thanet Sand and superficial deposits will be required. The Chalk piezometric head is likely to be approximately 44m above the base of construction and should be taken into account in the engineering design.
7.5.2 In terms of surface water resources, this site is considered to be suitable as a CSO site because there is no direct pathway to the nearby surface water receptors for pollution.

7.6 **Ecology**

7.6.1 In ecology terms, the site is considered less suitable as a CSO site due to the potential temporary and permanent loss of a site of nature conservation importance (SNCI). The permanent loss of part of the SNCI is likely to require compensatory provision within the local area. Basic ecological surveys would be required.

7.7 **Flood risk**

7.7.1 In flood risk terms, the site is considered to be suitable as a CSO site. The site is defended from flooding from the Thames Tideway and Deptford Creek, and there is likely to be space for surface SUDS, while infiltration SUDS may be suitable, given the underlying geology of the site. However, controls on quality of runoff will be applied, owing to the presence of a total catchment source protection zone underlying the site.

7.8 **Air quality**

7.8.1 In terms of air quality, this site is considered to be less suitable for use as a CSO site. There are residential properties in close proximity to the site, therefore there is potential for fugitive emissions of dust during construction to have a perceptible impact at these properties. 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. This can be somewhat mitigated by minimising the movement of HGVs during peak hours.

7.9 **Noise**

7.9.1 From a noise perspective, this site is considered to be suitable as a CSO site, due to the distance between the site and residential properties located on Deptford High Street and at Congers House on Bronze Street. The number of vehicles associated with the construction phase and the proposed access route has the potential to result in an adverse noise impact due to the close proximity of residential receptors and the Sir Joseph’s Catholic Primary School to the proposed haulage routes.

7.10 **Land quality**

7.10.1 The site is considered suitable as a CSO site with respect to land quality, as previous uses appear to have been limited to residential housing and soft landscaping, and the distance and nature of potentially contaminating activities in the vicinity of the site are unlikely to have resulted in significant contamination of the site.
8 Socio-economic and community assessment

8.1 Introduction
8.1.1 The socio-economic and community assessment builds on the advantages and disadvantages reported in Table 2.3 and covers the following areas:
  - Socio-economic profile
  - Socio-economic and community issues and impacts.

8.2 Socio-economic profile
8.2.1 The site is located near the borders of the London boroughs of Greenwich and Lewisham. Within Lewisham, it falls along the boundary of Evelyn and New Cross wards, but wholly within Evelyn ward. Statistics from the Office of National Statistics (ONS) 2001 Census data show the following indicators for Evelyn Ward, in comparison to the rest of Lewisham, London and England as a whole:
  - Evelyn ward has 6,000 dwellings with 14,512 inhabitants. The average age of the population is 30.7 years.
  - The ward has a relatively high proportion of economically inactive people who look after their homes, are permanently sick or disabled or have other reasons for economic inactivity. It also has a high rate of unemployed people at 8.1%, as compared to 5.6% for the borough, 4.4% for London and 3.5% for England.
  - Correspondingly, the percentage of people with no qualifications is a few percentage points higher than Lewisham, London and England at 29%, while the proportion of people with Level 4 or higher qualifications is relatively low by the same comparators.
  - Local authority housing tenant households in the ward form 58% of the population, which is more than double the proportion of such households in the borough, and more than three times the London figure. Housing association homes also form a relatively high proportion.
  - A majority of the population consider themselves to be Christian. The Muslim population of the ward, at 7%, is relatively higher than Lewisham and England averages, but is comparable to the London average.
8.2.2 These statistics show that the ward has a relatively high concentration of vulnerable people in terms of health and disability, as well as socio-economic status. A more mixed ethnic profile than the rest of the borough indicates the existence of pockets of black and minority ethic (BAME) households in the ward. Low skill levels and high unemployment figures may mean that construction jobs would be more welcome to residents of this area than others.
8.3 **Issues and impacts**

8.3.1 Use of the site will result in the temporary loss of an area of public open space in this residential area. Construction works in this location appears likely to cause some disruption to St Paul’s Church and St Josephs Catholic Primary School, which are both in close proximity to the site. The nearest residential properties are located to the east of the site on Bronze Street, but the majority do not overlook the site.

8.3.2 The need to close a section of Deptford Church Street to intercept the sewer appears likely to affect traffic flow in the area, which could impact on local residents.

8.3.3 Given the residential nature of the area, community safety issues, especially for children and vulnerable adults, may arise in relation to the construction site itself and the associated construction traffic on residential scale streets.

8.3.4 There appear to be no negative impacts from the operational phase from a community impacts perspective, and there is potential for the site to be improved and to provide a more usable space for the local community.

9 **Property assessment**

9.1 **Introduction**

9.1.1 This report builds on the advantages and disadvantages in Table 2.3 and the assessment provides more up-to-date information.

9.1.2 The site is open space and was originally owned by the London Borough of Lewisham and the Greater London Council. Referencing advice indicates that when the Greater London Council was dissolved, its land was transferred to the London Borough of Lewisham.

9.2 **Crown land and special land comments**

9.2.1 The land is open space and may be classified as special land under S.131 of the *Planning Act 2008*. If this is the case, and if an acquisition cannot be agreed with the owner, a special parliamentary procedure may be needed after the order is confirmed. As the whole order would be subject to the special parliamentary procedure, not just the acquisition of this site, the project could be delayed by a minimum period of several months in the best case. In the worst case, the order might be rejected by Parliament, which could delay the project for a much longer period and even result in the order failing, although this is considered unlikely.

9.2.2 The S.131 special parliamentary procedure may not be required if exchange land is provided. Therefore, the provision of exchange land should be included in the order, although it is likely to be difficult to identify an appropriate replacement. Alternatively, where temporary works powers only are required, this would not amount to land acquisition and the issue would not arise.

9.2.3 Contact should be made with the owner as soon as possible to establish if an acquisition can be agreed.
9.3 **Land to be acquired**

9.3.1 The compensation assessment for the site assumes that the worksite and access to it will be acquired temporarily via the acquisition of new rights for the period of the works stated in the engineering section above. The worksite includes an existing brick wall to be acquired for the period of the works.

9.3.2 A smaller area within the worksite would need to be acquired permanently for operational purposes. This area is located in the northeast part of the site.

9.3.3 A small area outside of the temporary working area will need to be acquired permanently to accommodate the permanent hardstanding.

9.3.4 The works phase and operational phase will require the acquisition of subsoil for the connection culvert.

9.3.5 Rights of way or easements to enable access from Coffey Street will also need to be acquired.

9.4 **Property valuation comments**

9.4.1 The planning history confirms that there are no development proposals for this site.

9.4.2 Compensation for the acquisition of new rights is normally based on the diminution in value to the land caused by the acquisition. Compensation for the permanent acquisition of land is normally based on market value. However, compensation for the permanent acquisition of unusual types of property, where there is no general market, can be assessed on the basis of the cost of equivalent reinstatement at a new site, but there must be a genuine intention to reinstate.

9.4.3 If compensation is assessed on a diminution in value basis for the new rights (temporary occupation during works, access rights during works, access rights for operational purposes) and on a market value basis for the permanent acquisition, the costs are likely to be relatively low and therefore acceptable.

9.4.4 If compensation is assessed on an equivalent reinstatement basis, the acquisition costs would be significantly higher, but still acceptable.

9.4.5 Although finding replacement land may be difficult, compensation has been assessed on a temporary equivalent reinstatement basis in order to be prudent and to take account of the possible need to provide replacement land.

9.4.6 The temporary worksite land will be reinstated, following the construction phase, as a part of the engineering works. Therefore, reinstatement costs are not included in the compensation assessment.

9.4.7 The cost of reinstating the existing brick wall has been included in the estimate.
9.5 Disturbance compensation comments
9.5.1 The site is open space, which does not appear to be used exclusively by any party. Therefore, the disturbance costs are likely to be low.

9.6 Discretionary purchase costs comments
9.6.1 Works on the site will be limited to 12-hour working, Monday to Saturday. Therefore, it is unlikely that there will be any significant discretionary purchase costs.

9.7 Offsite statutory compensation comments
9.7.1 There should be limited potential for offsite statutory compensation under S.10 of the Compulsory Purchase Act 1965, as there is unlikely to be any physical interference with public or private property rights.
9.7.2 There should also be limited potential for claims under the Land Compensation Act 1973 Part 1, as the completed works are unlikely to cause a diminution in value to property.

9.8 Site acquisition cost assessment
9.8.1 The statutory acquisition costs are likely to be acceptable for both options.
9.8.2 We assess the site to be suitable and preferred, and would encourage dialogue with the owner at an early stage to establish if it would be prepared to agree to the acquisition and on what terms.

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 This site is suitable as a CSO site. The site would be close to the existing storm relief sewer and would have access to Deptford Church Street.

10.3 Planning
10.3.1 On balance, the site is considered less suitable as a CSO site.
10.3.2 There are a number of sensitive planning designations and policy constraints relating to this site. The site is within a conservation area, in proximity to a number of listed buildings and a local landmark. It is within designated open space and a nature conservation site of local importance. Construction activities and permanent after-use structures would need to be sensitively designed and mitigated so as to avoid significant policy conflicts.
10.4 **Environment**

10.4.1 Overall, the site is considered to be **less suitable** as a CSO site.

10.4.2 The site is considered **suitable** from the perspectives of archaeology, flood risk, surface water resources, noise and land quality.

10.4.3 The site is considered **less suitable** from the perspective of transport, built heritage, townscape, hydrogeology, ecology and air quality.

10.4.4 Overall, the site is considered **less suitable** and further investigation will be required as to whether transport, archaeology, built heritage, townscape, hydrogeology, ecology and air quality impacts could all be adequately mitigated. Likely mitigation considerations would include:

- **Transport** – further investigation into the likely feasibility and acceptability of removing a large amount of on-street parking bays and traffic calming to enable access to the site, as well as traffic management on Deptford Church Street to construct the interception chamber and the potential to overcome constraints identified on the route from/to the TLRN.

- **Archaeology** – further studies would be required to determine whether a disused burial ground associated with St Paul’s Church may have once extended southwards into the site. If confirmed, the likely presence of burial grounds within the site would require detailed desk assessment and agreement of a written scheme of work, and would be likely to require a burial licence.

- **Built heritage and townscape** – further investigation to determine the acceptability of impacts on an open space within St Paul’s Conservation Area and on the setting of heritage receptors in the vicinity, as well as impact on trees in the conservation area. The site would require a high-quality scheme design, screening, and landscape treatment to minimise adverse impacts on the local townscape character.

- **Hydrogeology** – mitigation may be required as construction of the drop shaft will take place within the source protection zone (SPZ 3) of one EA licensed abstraction and dewatering may affect water users.

- **Ecology** – further investigation to determine the acceptability of impacts to a site of nature conservation interest. The permanent loss of part of the SNCI is likely to require compensatory habitat provision within the local area.

- **Air quality** – measures to ensure dust at the closest receptors is adequately mitigated.

10.5 **Socio-economic and community**

10.5.1 The use of the site is **less suitable** from a community impacts perspective.

10.5.2 Use of the site will result in the temporary loss of an area of open space which may have a value to the local community. It also appears likely that
there will be some noise and visual disruption to St Paul’s Church and St Joseph’s Catholic Primary School, although the potential to impact on the surrounding residential properties appears limited.

10.5.3 After the construction work is complete, there is the potential for the site to be improved and to provide a more usable space for the local community.

10.6 Property

10.6.1 The advantages of the site are as follows:

- Site acquisition costs are likely to be acceptable if assessed on a diminution in value basis or on the basis of providing temporary replacement land.
- Special parliamentary procedure risk can be mitigated by ongoing negotiations with the owner to establish on what terms an acquisition may be acceptable

10.6.2 The disadvantages of the site are as follows:

- If acquisition cannot be agreed and replacement land cannot be provided, the order may need to pass through a special parliamentary procedure.

10.6.3 Overall, the site is considered suitable as a CSO site.
Appendices
Appendix 1 – Sources of information

Engineering

- Traffic Management and Access Roads/Rail – URS Scott Wilson
- Access River – BMT Isis
- Services (Utilities) and Third Party Assets – Thames Tunnel and utility companies
- Geology – British Geological Society and Thames Tunnel
- Construction and Operational Layout Template – Thames Tunnel
- Site selection background technical paper – Thames Tunnel

Planning

- London Borough of Lewisham online planning applications database
  - *Lewisham Core Strategy*, adopted June 2011
  - *The London Plan*, adopted July 2011
  - Saved policies within the *Greenwich Unitary Development Plan*, adopted in 2006

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
- Cycle Routes – www.sustrans.org.uk and Local Cycling Guides 1-14
- Design Manual for Roads and Bridge TD 42/95, Highways Agency

Archaeology

- Historic Environment data from Greater London Archaeology Advisory Service (GLAAS)
- National Monuments Record – for some additional information regarding registered historic parks and gardens
• London Archaeological Archive and Research Centre (LAARC)
• Local authority websites
• Bing maps

**Built heritage and townscape**
• Local authority lists of Locally Listed Buildings
• National Monuments Record – for some additional information regarding registered historic parks and gardens
• Unitary development plan and DPDs
• Local authority websites
• Bing maps

**Water resources – hydrogeology and surface water**
• Local authority details of unlicensed abstractors
• Environment Agency abstraction licence details
• Environment Agency groundwater levels and contour maps (2009-11)
• Environment Agency water quality (surface water and groundwater)
• Environment Agency Groundwater Source Protection Zones
• Environment Agency Flood Map – www.environment-agency.gov.uk
• Envirocheck
• British Geological Survey (BGS) logs
• BGS 1:50,000 Geological Sheets – Solid and Drift Editions (England and Wales)
• BGS Geology of London – Special Memoir for 1:50,000 Geological sheets 256 (North London), 257 (Romford), 270 (South London) and 271 (Dartford) (England and Wales)
• Crossrail (2005) – Assessment of Water Impacts Technical Report: Appendix C – Baseline Data. Figure C.4: Extent of Saline Intrusion based on 177 mg/l *5mmol/l Isochlor

**Ecology**
• Thames Estuary Partnership (2002) Tidal Thames Habitat Action Plan
• London Biodiversity Action Plan – www.lbp.org.uk
• Multi-Agency Geographic Information for the Countryside (MAGIC) – www.magic.gov.uk - statutory designated sites
• London Wildweb – wildweb.london.gov.uk - non-statutory site of importance for nature conservation
• Black redstart distribution in London – www.blackredstarts.org.uk/pages.html
• 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**

• Environment Agency Flood Map – www.environment-agency.gov.uk
• Environment Agency National Flood and Coastal Defence Database
• Envirocheck

**Air quality**

• Local authority websites
• London Air Quality Network – www.londonair.org.uk
• Defra UK-AIR, air quality information resource – www.airquality.co.uk
• Defra Air Quality Management Areas – http://aqma.defra.gov.uk
• Defra Local Air Quality Management – http://laqm.defra.gov.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
• Envirocheck Data Sheets provided as a GIS Database
• British Geological Survey (BGS) logs

**Socio-economic and community**

• Statistics from the Office of National Statistics 2001 Census data

**Property**

• Multimap
• Valuation Office Agency (VOA) website
• Land Registry information provided by Mouchel
- London Borough of Hammersmith and Fulham online planning applications database
- Multimap
Appendix 2 – Site location plan
This is an indicative working draft plan which has been produced for the purpose of confidential discussions only. Accordingly, the draft plan must not be copied, distributed or shown to any third party without the express written permission of Thames Water Utilities Limited. It provides an indication of sites that, following discussions with local authorities and other stakeholders, may be confirmed as being on the shortlist of construction sites for the proposed Thames Tunnel. Inclusion of a site on this draft plan should not be taken to mean that such site will be selected as a construction site to form part of the Thames Tunnel scheme.
Appendix 3 – Planning and environment plans
This is an indicative working draft plan which has been produced for the purpose of confidential discussions only. Accordingly, the draft plan must not be copied, distributed or shown to any third party without the express written permission of Thames Water Utilities Limited. It provides an indication of sites that, following discussions with local authorities and other stakeholders, may be confirmed as being on the shortlist of construction sites for the proposed Thames Tunnel. Inclusion of a site on this draft plan should not be taken to mean that such site will be selected as a construction site to form part of the Thames Tunnel scheme.
This is an indicative working draft plan which has been produced for the purpose of confidential discussions only. Accordingly, the draft plan must not be copied, distributed or shown to any third party without the express written permission of Thames Water Utilities Limited. It provides an indication of sites that, following discussions with local authorities and other stakeholders, may be confirmed as being on the shortlist of construction sites for the proposed Thames Tunnel. Inclusion of a site on this draft plan should not be taken to mean that such site will be selected as a construction site to form part of the Thames Tunnel scheme.
This is an indicative working draft plan which has been produced for the purpose of confidential discussions only. Accordingly, the draft plan must not be copied, distributed or shown to any third party without the express written permission of Thames Water Utilities Limited. It provides an indication of sites that, following discussions with local authorities and other stakeholders, may be confirmed as being on the shortlist of construction sites for the proposed Thames Tunnel. Inclusion of a site on this draft plan should not be taken to mean that such site will be selected as a construction site to form part of the Thames Tunnel scheme.
Appendix 4 – Photographs of the site and surroundings
This is an indicative working draft plan which has been produced for the purpose of confidential discussions only. Accordingly, the draft plan must not be copied, distributed or shown to any third party without the express written permission of Thames Water Utilities Limited. It provides an indication of sites that, following discussions with local authorities and other stakeholders, may be confirmed as being on the shortlist of construction sites for the proposed Thames Tunnel. Inclusion of a site on this draft plan should not be taken to mean that such site will be selected as a construction site to form part of the Thames Tunnel scheme.
View looking south down Deptford Church Street with the site across the other side of the road.

View looking across the site from the north-western corner towards the east. Coffey Street runs along the left hand side of this photograph.
View looking south across the eastern side of the site from Coffey Street.

View along Coffey Street to the north of the site with St Paul's Church on the left of the photograph.
View towards the western side of the site from Coffey Street to the north with St Joseph's RC Primary School in the background.
Appendix 5 – Transport plan
This is an indicative working draft plan which has been produced for the purpose of confidential discussions only. Accordingly, the draft plan must not be copied, distributed or shown to any third party without the express written permission of Thames Water Utilities Limited. It provides an indication of sites that, following discussions with local authorities and other stakeholders, may be confirmed as being on the shortlist of construction sites for the proposed Thames Tunnel. Inclusion of a site on this draft plan should not be taken to mean that such site will be selected as a construction site to form part of the Thames Tunnel scheme.
Appendix 6 – Services and geology plan
Appendix 7 – Construction phase layout
THAMES TUNNEL SCHEME.
SELECTED AS A CONSTRUCTION SITE TO FORM PART OF THE THAMES TUNNEL. SHOULD NOT BE TAKEN TO MEAN THAT SUCH SITE WILL BE INCLUDED ON THIS DRAFT PLAN SHORTLIST OF CONSTRUCTION SITES FOR THE PROPOSED STAKEHOLDERS, MAY BE CONFIRMED AS BEING ON THE FOLLOWING DISCUSSIONS WITH LOCAL AUTHORITIES AND OTHER LIMITED. IT PROVIDES AN INDICATION OF SITES THAT, EXPRESS WRITTEN PERMISSION OF THAMES WATER UTILITIES DISTRIBUTED OR SHOWN TO ANY THIRD PARTY WITHOUT THE RIGHT 2011. ALL RIGHTS RESERVED ORDNANCE SURVEY LICENCE ON BEHALF OF HMSO. © CROWN COPYRIGHT AND DATABASE MAPPING REPRODUCED BY PERMISSION OF ORDNANCE SURVEY BASED ON PRELIMINARY ASSESSMENT. INDICATIVE CONSTRUCTION PHASE ARRANGEMENT. DISCLAIMER: THIS DRAWING SITE SUITABILITY REPORT FOR INFORMATION

COFFEY STREET

CROSSFIELD STREET

RESOLUTION WAY

THAMES WATER UTILITIES

CONSTRUCTION PHASE LAYOUT

C32XZ - CSO

C32XZ - DEPTFORD CHURCH STREET

C32XZ - CSO

100-DL-PNC-C32XZ-172002
Appendix 8 – Operational phase layout
THAMES TUNNEL SCHEME.
SELECTED AS A CONSTRUCTION SITE TO FORM PART OF THE THAMES TUNNEL. SHOULD NOT BE TAKEN TO MEAN THAT SUCH SITE WILL BE INCLUDED ON THIS DRAFT PLAN SHORTLIST OF CONSTRUCTION SITES FOR THE PROPOSED STAKEHOLDERS, MAY BE CONFIRMED AS BEING ON THE FOLLOWING DISCUSSIONS WITH LOCAL AUTHORITIES AND OTHER STAKEHOLDERS.

LIMITED. IT PROVIDES AN INDICATION OF SITES THAT, EXPRESS WRITTEN PERMISSION OF THAMES WATER UTILITIES MUST NOT BE COPIED, PRODUCED FOR THE PURPOSE OF CONFIDENTIAL DISCUSSIONS. THIS IS AN INDICATIVE WORKING DRAFT PLAN WHICH HAS BEEN DISTRIBUTED OR SHOWN TO ANY THIRD PARTY WITHOUT THE RIGHT 2011. ALL RIGHTS RESERVED ORDNANCE SURVEY LICENCE ON BEHALF OF HMSO. © CROWN COPYRIGHT AND DATABASE MAPPING REPRODUCED BY PERMISSION OF ORDNANCE SURVEY

THIS DRAWING
SITE SUITABILITY REPORT
100-DL-PNC-C32XZ-172003

OPERATIONAL PHASE LAYOUT
THAMES WATER UTILITIES
GREENWICH - CS32X - DEPTFORD SR

COFFEY STREET
CROSSFIELD STREET
RESOLUTION WAY

DRAWN BY:

LOCATION: e:\async working dir\pw-ttp_pdf_svc_2\dms04460\100-DL-PNC-C32XZ-172003.dgn

DATE: 02/11/2011

SHEET SIZE: 2000mm x 1200mm

SCALE: 1:250

Thames Water Utilities Ltd 2008

Paddington, London W2 1AF
37 North Wharf Road, The Point, 7th Floor,
## Appendix 9 – Environmental appraisal tables

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to road network</td>
<td>The construction site will be accessed from Crossfield Street with egress onto Coffey Street. To enable access/egress, on-street parking on Crossfield Street and Coffey Street will require removal. Coffey Street features traffic calming which will require removal to enable access. Crossfield Street is subject to a 30mph speed limit while Coffey Street is subject to a 20mph speed limit. Visibility from the site egress appears to be adequate in both directions, providing parking is removed. Access to the TLRN (A2) is constrained due to Deptford Church Street being a dual carriageway. This results in construction traffic having to turn left out of Coffey Street away from the A2. The route would therefore require construction traffic to use Creek Road, Norman Road and Greenwich High Road. There is a rail bridge over Deptford Church Street with a vehicular height restriction of 4.8m. The traffic calming on Coffey Street will require removal to enable construction vehicle egress from the site. Distance 0.6km from the TLRN (A2) to site. Distance from site to TLRN (A2) 1.8 km. A preliminary transport access plan is attached as Appendix 5.</td>
<td>Conclusion: Access route is possible subject to the removal of on-street parking on both Crossfield Street and Coffey Street, as well as traffic calming on Coffey Street. Access route to the TLRN (A2) encounters the constraints identified above, as well as a rail bridge with a height restriction.</td>
</tr>
<tr>
<td>Access to river</td>
<td>The site is located some distance from the river, although river access is not essential as excavated material will be transported away by road.</td>
<td>The site is located some distance from the river, although river access is not essential as excavated material will be transported away by road.</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>Access to rail</td>
<td>Use of rail is unlikely to be feasible due to the small quantities of excavated material produced by a CSO site. Access to East London Line Depot via Deptford Church Street, A200 Creek Road/Evelyn Street, Abinger Grove, Arklow Road, Edward Street and Milton Court Road. Constraints on route include those identified on Crossfield Street and Coffey Street as well as on-street parking and speed cushions along Abinger Grove, Arklow Road and Edward Street, which are residential streets. Milton Court Road also contains speed humps which require removal. Route to rail runs under a rail bridge on Arklow Road, which is subject to a width restriction of 7ft and a height restriction of 12’ 3”, and a further two rail bridges on Edward Street with 12’1” height restrictions. The East London Line Depot has the potential to be used during the day, although significant use constraints and issues with loading would exist. Distance is 1.5km from site to rail access and 2km from rail access to site.</td>
<td>Route to East London Line Depot contains many constraints and is less suitable. The route runs under height restricted bridges on Arklow Road and Edward Street, and through the residential area on Abinger Grove, Arklow Road, Edward Street and Milton Court Road. Route also contains on-street parking throughout residential areas and several traffic calming measures which will require removal. The East London Line Depot has the potential to be used during the day, however significant constraints and issues with loading exist.</td>
</tr>
<tr>
<td>Parking</td>
<td>Some parking could be provided on site for workforce. Limited alternative parking is available on surrounding roads. Large amounts of on-street parking spaces will be displaced by the site access due to the requirement to remove all parking on Crossfield Road and Coffey Street to enable access for HGVs.</td>
<td>Some parking could be provided on site for workforce, with limited alternative parking available on surrounding roads. Large amounts of on-street parking spaces will be displaced by site access. Alternative parking may need to be found for these spaces.</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>Public transport accessibility</td>
<td>PTAL 3-4 (medium) as identified within Table 2.3.</td>
<td>Reasonable potential for workforce to access the site via public transport.</td>
</tr>
<tr>
<td>Traffic management</td>
<td>Parking on both Crossfield Street and Coffey Street, as well as traffic calming on Coffey Street, will require removal to enable access to the site. The interception chamber for the site is located on Deptford Church Street. Construction of this interception chamber will require some traffic management. A preliminary transport management plan is attached as Appendix 5.</td>
<td>Parking on both Crossfield Street and Coffey Street, as well as traffic calming on Coffey Street, will require removal to enable access to the site. The interception chamber for the site is located on Deptford Church Street. Construction of this interception chamber will require some traffic management.</td>
</tr>
</tbody>
</table>

### Summary:

The site is considered to be less suitable as a CSO site in highway terms, as it will require the removal of a large amount of on-street parking bays and traffic calming to enable access to the site. Traffic management will be required on Deptford Church Street to construct the interception chamber. The route to the TLRN (A2) is possible, although constrained, via Creek Road and then Norman Road and Greenwich High Road. The route from the TLRN to the site features a height restriction.

The route to the nearest rail link contains additional restrictions in the form of on-street parking, speed cushions and bridges with height and width restrictions. However, rail transport is unlikely to be feasible due to the small quantities 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. Some parking could be provided on site for the workforce, with limited additional parking available on surrounding roads. There is reasonable potential for the workforce to use public transport to access the site.
<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 located within the Lewisham Archaeological Priority Areas (APAs).</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>Summary of historical uses</td>
<td>The historic mapping shows St Paul’s Church (c 1730) to the north of the site, where it remains to the present day. Until recently, terraced housing was shown running alongside Crossfield Street to the south. In 1920, the immediate surroundings of the church were labelled as a ‘recreation ground’ and the site itself was a small park. In 1895, the 1920s recreation ground surrounding the church was labelled as ‘Graveyard Disused’. A large, sub-triangular structure, probably a monument, and ‘The Rectory’ were located on the northern side of Coffey Street to the north of the site. The site itself contains features suggesting a formally laid out park. These include a fountain and a pump. The 19th century mapping shows an inn facing Church Street, approximately where the interception chamber is proposed. This is also labelled ‘Hall’ on the late 19th century maps. This park was replaced by terraced housing in the later 19th century which has, in turn, been removed in recent times.</td>
<td>A programme of detailed desk-based research will be required to determine the extent of potential archaeological remains. This may be followed by geophysical survey and trial trench evaluation.</td>
</tr>
<tr>
<td>Potential receptors of very high or high value with the potential to be directly affected</td>
<td>There are no known receptors recorded within the NMR or GLSMR within the site. Until proven otherwise, it is prudent to assume the possibility that burials associated with St Paul’s Church (Monument MLO90172) may exist within the site. While the earliest mapping available (1895) shows the site as a park, it is possible that the original graveyard extended to the</td>
<td>A programme of detailed desk-based research will be required to determine the extent of potential archaeological remains. This may be followed by geophysical survey and trial trench evaluation.</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>south to include the current site. Further research is therefore required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Potential receptors of medium value with the potential to be directly affected</strong></td>
<td>There are no known receptors recorded in the NMR or GLSRM within the site. Below-ground remains associated with the former park of 19th century date located in the southern area of the site may still exist, although subsequent terraced housing is likely to have destroyed or greatly disturbed any features. Equally, there may be slight potential for remains of medieval date within the site. Although 650m from the Thames, the general area of Deptford was already settled during the medieval period. Desk-based research including geotechnical monitoring may show that any potential features have been removed by later development.</td>
<td>As above.</td>
</tr>
<tr>
<td><strong>Other receptors with the potential to be directly affected</strong></td>
<td>None identified at this stage.</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Extent of existing disturbance (if known)</strong></td>
<td>Considerable as a result of terraced housing constructed in the late 19th century on the majority of the site. The housing is likely to comprise cellaring which may have disturbed any earlier remains.</td>
<td></td>
</tr>
<tr>
<td><strong>Potential issues</strong></td>
<td>Possible preservation of medieval remains in the general location.</td>
<td>A detailed desk-based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
</tbody>
</table>
### Site suitability report C32XZ – Appendix 9

#### Archaeology

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary:</strong> This site is considered to be suitable as a CSO site from an archaeological perspective. Although it is possible that the site has the potential for archaeological remains associated with St Paul’s Church to the north of the site, including burials associated with the church, this cannot be confirmed on the basis of the evidence available at this stage. If present, remains may include post-medieval burials which may have originally extended south into the site. Should desk-based research show burials to be present, they may be considered a constraint on development. However, the remediation of post-medieval human remains is regularly undertaken to facilitate development and may be acceptable, subject to a sufficiently detailed desk assessment and agreement of a written scheme of work. A burial licence would also probably be required. However, the work is likely to be costly and require a substantial period of time to undertake. There is also the possibility that earlier remains dating to the medieval period may be present as the general area was quite intensively occupied during this time. Further work is required to ascertain the extent of the St Paul’s graveyard in the vicinity of the site.</td>
<td></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>Designations including conservation areas, including trees</td>
<td><strong>Listed buildings</strong>&lt;br&gt;34-40 Albury Street, Grade II*: 140m&lt;br&gt;Church of St Paul, Grade A: 30m&lt;br&gt;13-45 Albury Street, Grade II: 170m&lt;br&gt;Railway Viaduct Deptford, Grade II: 10m&lt;br&gt;Ramp At Deptford Railway Station, Grade II: 130m&lt;br&gt;Walls of former graveyard to old Baptist chapel (now demolished) and southeast angle of St Paul's churchyard, Grade II: 40m&lt;br&gt;Walls and railings to north and east of St Paul’s churchyard, Grade II: 80m&lt;br&gt;Rachel McMillan Nursery, McMillan Street, Grade II: 220m&lt;br&gt;Memorial To Margaret McMillan At Rachel McMillan Nursery School, McMillan Street, Grade II: 230m</td>
<td>In the case of listed buildings and conservation areas, 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 would be required to further determine the likely impact of the development and to inform more detailed mitigation proposals.</td>
</tr>
<tr>
<td>Locally listed buildings</td>
<td>There are no locally listed buildings within 250m of C32XZ</td>
<td></td>
</tr>
<tr>
<td>Conservation areas</td>
<td>St Paul’s: 0m&lt;br&gt;Deptford High Street: 10m</td>
<td></td>
</tr>
<tr>
<td>Registered historic parks and gardens</td>
<td>There are no registered historic parks and gardens located within 250m of C32XZ.</td>
<td></td>
</tr>
</tbody>
</table>
### 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><strong>Locally listed parks and gardens</strong>&lt;br&gt;There are no locally listed parks and gardens within 250m of C32XZ.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential receptors of medium to very high importance with the potential to be <strong>directly</strong> affected&lt;br&gt;There is potential for St Paul's Conservation Area to be directly affected by the proposals.</td>
<td>Mitigation in the form of a high-quality and sensitive scheme design and/or screening would be required to ensure that the development preserves or enhances the character or appearance of the conservation area.</td>
<td></td>
</tr>
<tr>
<td>Other receptors of lesser importance with the potential to be <strong>directly</strong> affected&lt;br&gt;Not applicable.</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Potential receptors of medium to very high importance with the potential to be <strong>indirectly</strong> affected&lt;br&gt;Within 250m of the study area, there is one Grade II*, seven Grade II, and one Grade A listed buildings, and one conservation area (Deptford High Street) that may be indirectly affected by the proposals.</td>
<td>Of the receptors identified, two listed buildings (Grade A Church of St Paul and Grade II Railway Viaduct) and one conservation area (Deptford High Street) are within the potential visual envelope of the site and may have their settings and/or views to and from them impacted on as a result of the proposed development. Mitigation in the form of a high-quality scheme design and/or screening would be required to minimise any adverse impact.</td>
<td></td>
</tr>
<tr>
<td>Other receptors of lesser importance with the potential to be <strong>indirectly</strong> affected&lt;br&gt;Not applicable.</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>
## 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>Sensitive landscape character areas likely to be affected, including trees and TPOs</td>
<td>A sensitive site of amenity open space located within St Pauls Church Conservation Area, and set in a context of further amenity open space, mixed residential areas and setting of Deptford Church. Site is surrounded by railings and low wooden fence with amenity grass, mature trees and brick wall crossing the site. To the south and west of the site are a mix of institutional (St Joseph’s School), small industrial units (in the arches of the railway viaduct) and residential. Further open space and residential areas are located to the east and north. St Paul’s Church is located immediately to the north of the site, and is an important local landmark, surrounded by brick walls that extend onto the site. Loss of mature trees protected by conservation area status and brick wall will increase the openness of site. The presence and operation of machinery, materials stores and buildings would result in temporary adverse direct impacts on the character of the site and the surrounding streetscape. Temporary adverse indirect impacts would potentially be experienced by surrounding areas. Permanent elements would have the potential to adversely impact on the character of the site and the streetscape of surrounding streets.</td>
<td>Retention of trees where possible and protection in accordance with BS 5837. Mitigation in the form of a high-quality scheme design and avoiding the removal of existing plantings, where possible, would be required to minimise any adverse impact. Introduction of a landscape scheme to include appropriate surface treatments and planting to replace lost vegetation, enhance the character of the site and relate to the existing streetscape character of surrounding streets. The current indicative proposals would potentially impact the character of the amenity open space which it occupies and the adjacent streetscapes. They would indirectly impact the character of the adjoining areas, especially the setting of St Paul’s Church.</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>Potential views likely to be affected</td>
<td>During construction, views of cranes to and from St Paul’s Conservation Area, the Grade A listed Church of St Paul, and Grade II listed railway viaduct may be impacted upon. A strategic view corridor crosses the eastern part of the site, and has the potential to be affected. Open views are available from neighbouring streets of amenity grass with occasional mature trees. Partially interrupted views are available from residential areas to the east and St Joseph’s School to the west. Raised open views are also available from travellers using the railway immediately south of the site. Distant interrupted views of the tree canopies on site are available from south of the site adjacent to Wavelengths Leisure Centre. The trees on site form part of an important tree-lined view along Deptford Church Street (A2209). Visual receptors in the south and east view the site in the foreground, with St Paul’s Church visible beyond. During construction, the loss of trees would increase openness of existing views, result in loss of views of tree canopies in distant views and interrupt the tree-lined view along Deptford Church Street. Tall structures, such as cranes used for construction, would interrupt the open views and create an industrial outlook for all existing views.</td>
<td>During construction, the use of hoardings and appropriate lighting would reduce visual impact of construction activities from surrounding streets but would interrupt existing open views. The design and layout of the site should be given careful consideration to avoid/minimise interruption of a strategic view corridor and to minimise impact on views of St Paul’s Church. Introduction of landscape scheme to replace loss vegetation and screen permanent structures would reduce potential impact on views. The design of the finished appearance of the top structure and ventilation column will require careful consideration. This site is considered less suitable from a townscape perspective, as the proposals would potentially result in an adverse visual impact on views from surrounding streets and overlooking residences and school. The replacement of amenity open space and mature trees with industrial structures have the potential to impact on a strategic view, the visual setting of St Paul’s Church and local views.</td>
</tr>
</tbody>
</table>
## 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>During operation, views of top structure and ventilation column to and from the adjacent conservation area, and listed buildings may be a consideration. Permanent elements would be visible from surrounding areas including overlooking residences, St Joseph's School and the railway. The elements would also partly interrupt views of St Paul's Church when viewed from the south.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Particular considerations on sites where new permanent structures are required</strong></td>
<td>Permanent structures at C32XZ would potentially have a direct impact on St Paul's Conservation Area and potential indirect impacts on the Grade A listed Church of St Paul, the Grade II listed railway viaduct and Deptford High Street Conservation Area. Permanent structures at C32XZ have the potential to directly impact on the townscape character and local views. Careful consideration would need to be given to the location and appearance of any above-ground structures in the scheme design. Some form of screening and landscape treatment for the site would be required.</td>
<td>Any permanent structures would need to be of a high-quality design and/or screened to preserve or enhance the appearance of St Paul's Conservation Area and the adjacent Deptford High Street Conservation Area, and to ensure there are no setting issues with the identified listed structures. Any permanent structures would need to be of a high-quality design and/or screened and landscaped in order that any direct impacts on the local townscape character and local views could be mitigated.</td>
</tr>
<tr>
<td><strong>Potential issues</strong></td>
<td>The development would potentially result in a direct impact on St Paul's Conservation Area and could result in indirect impacts on two listed buildings (including the Grade A Church of St Paul), and one conservation</td>
<td>The scheme design would need to be of a sufficiently high quality and may need to incorporate some screening in order that potential direct and indirect impacts of the development upon numerous built</td>
</tr>
</tbody>
</table>
### 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>area. There is, however, the potential to mitigate adverse impacts through a high-quality scheme design and/or screening. Construction and operation of the development would potentially result in adverse impacts on the local townscape character and local views. There is potential to partly mitigate adverse impacts through a high-quality scheme design and/or screening and landscape treatment.</td>
<td>heritage receptors are reduced. Particular attention will need to be paid to the relationship of C32XZ to St Paul’s Conservation Area in order to ensure that the character or appearance of the conservation area is preserved and enhanced by the development. The scheme design would need to be of a high quality and incorporate screening and landscape treatment to partly mitigate the potential adverse impact on the local townscape character and local views.</td>
<td></td>
</tr>
</tbody>
</table>

**Summary:** In terms of built heritage and townscape, the site is considered less suitable as a CSO site. There is potential for direct impacts on an open space within St Paul’s Conservation Area. In addition to this, the proposals are likely to have an indirect impact on two listed buildings and one conservation area. Mitigation may be possible in the form of a high-quality scheme design and/or screening.

There is also potential for adverse impacts on views from surrounding areas including residential properties, and on the character of the amenity space. The site would also indirectly impact the character of adjoining amenity open space. Mitigation in the form of a high-quality scheme design, screening and landscape treatment of the site, would partly reduce the adverse impacts on the local townscape character.
### Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
</table>
| Hydrogeological conditions (groundwater and surface water) From BGS Geological Model, giving average ground condition profile. Local near surface conditions may vary, particularly within the river. | **Geology (thickness)**  
- Superficial geology and made ground (8m)  
- Thanet Sand (13m)  
- Chalk (to beyond the depth of shaft)  

**Hydrogeology**  
- Piezometric level in Chalk aquifer: ~ -4mAOD (~10mbgl) from EA Jan 08 water level contouring  

**Groundwater monitoring location**  
- EA hydrometry sites: TQ37-268 – 1.8km northwest of the site (water levels to Nov 2007)  
  TQ37-254A, BL, BU – 450m east of the site (water levels to May 2009)  

The drop shaft will be constructed to an invert level of approximately 54mbgl, therefore the shaft will be founded in the Chalk. Piezometric head\(^{(1)}\) in Chalk will be approximately 44m 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  
- Located in a source protection zone (SPZ 3) defined by EA  

**EA licensed groundwater abstractions and details**  
- One public water supply borehole within 2km radius  

Licence numbers:  
28/39/43/0019 (12 boreholes)  

Location:  
900m southeast of the site  

Operator:  
Thames Water Utilities Ltd  

Abstracted aquifer:  
Chalk  

A simple volumetric approach has been used to calculate the 400 days travel times of the abstraction borehole. A conservative mean annual recharge of 100mm/year was used to calculate a radius for licensed abstraction boreholes as follows:  
Public water supply abstraction borehole defined by EA.  

Licensed abstraction boreholes  
1. 126m  
2. 690m  

The shaft is located within the catchment |
## Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstraction quantity (annual): 12,775,000m³</td>
<td>• Two licensed abstraction borehole within 2km radius</td>
<td>area of the source protection zone (SPZ 3) of a public water supply abstraction (28/39/43/0019) as defined by EA.</td>
</tr>
</tbody>
</table>

License numbers:
1. 28/39/44/0039 (1 borehole)
2. 28/39/42/0043 (1 borehole)

Locations:
1. 1.2km northeast of the site
2. 1.85km west of the site

Operator:
1. Trustees of National Maritime Museum
2. National Grid Co Plc

Abstracted aquifer unit:
1. Chalk
2. Chalk

Abstraction purposes:
1. Private water supply (general use)
2. Industrial, commercial and public services (non-evaporative cooling)

Abstraction quantity (annual):
1. 20,000m³
2. 598,980m³

**Unlicensed groundwater abstractions and details**
• No abstraction borehole within 1km radius
# Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole locations and depths</td>
<td>There are 12 historical records of water wells within 1km radius. Depth range: 8.9 – 201.78m</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Potential impacts on surface water features</td>
<td>The site is located approximately 270m west of the Deptford Creek and approximately 530m from the Thames. It is considered that there is no direct pathway to either receptor due to the presence of defences on both watercourses and because of the distances from site to receptor. The only pollution risk is through site drainage.</td>
<td>Work needs to be undertaken in consideration of Pollution Prevention Guidelines – PPG1, PPG5 and PPS23 with respect to site drainage.</td>
</tr>
<tr>
<td>Potential impacts on groundwater (resources and quality)</td>
<td>An impact on groundwater is likely since the drop shaft is to be constructed in Chalk (major aquifer) overlain by Thanet Sand and superficial deposits (minor aquifer) which will need to be dewatered.</td>
<td>See below (Likely types of mitigation measures that will be required).</td>
</tr>
<tr>
<td>Likely types of mitigation measures that would be required</td>
<td>Mitigation may be required as construction of the drop shaft will take place within the source protection zone (SPZ 3) of one EA licensed abstraction and dewatering may affect water users.</td>
<td>Possible provision of alternative groundwater supply.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>The drop shaft to be excavated in Chalk below the piezometric head, therefore dewatering of the Chalk, Thanet Sand and superficial deposits would be required. Possible saline intrusion caused by dewatering.</td>
<td>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. Dewatering to be kept to a minimum.</td>
</tr>
</tbody>
</table>
### Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary:</strong> In terms of hydrogeology, this site is considered to be less suitable as a CSO site because the drop shaft is to be constructed in Chalk (principal aquifer, previously called major aquifer) and the site lies within the source protection zone (SPZ 3) of one EA licensed abstraction from the Chalk. Dewatering of the Chalk, Thanet Sand and superficial deposits will be required. The Chalk piezometric head is likely to be approximately 44m above the base of construction and should be taken into account in the engineering design. In terms of surface water resources, this site is considered to be suitable as a CSO site because there is no direct pathway to the nearby surface water receptors for pollution.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Piezometric head is a specific measurement of water pressure above a datum.
### Ecology

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statutory designations</strong></td>
<td>Sue Godfrey Nature Park LNR is within 50m of the site.</td>
<td>None required.</td>
</tr>
<tr>
<td></td>
<td>Mudchute Park Farm LNR is within 1,600m of the site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brookmill Road LNR is within 1000m of the site.</td>
<td></td>
</tr>
<tr>
<td><strong>Non-statutory designated wildlife sites</strong></td>
<td>The site is designated as a site of nature conservation importance (SNCI).</td>
<td>The permanent loss of part of the SNCI is likely to require compensatory provision within the local area.</td>
</tr>
<tr>
<td></td>
<td>Site is approximately 500m from River Thames and Tidal Tributaries SMI.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Twinkle Park SLINC is within 600m of the site.</td>
<td></td>
</tr>
<tr>
<td><strong>BAP priority habitats</strong></td>
<td>The site comprises the London BAP habitat, ‘Parks, squares and amenity grassland’.</td>
<td>The loss of amenity grassland is likely to require compensatory provision.</td>
</tr>
<tr>
<td><strong>Protected or otherwise notable species within the study area</strong></td>
<td>There is a low possibility that the mature trees on site may be used by roosting bats. Mature trees within the site have the potential to be used by common nesting birds. No direct impact on aquatic receptors.</td>
<td>If bat roosts were found to be present, mitigation would be required, possibly including offsite provision. If mature scrub or trees are to be removed between March and September (the period when birds are likely to be nesting), an ecologist will need to confirm the absence of nesting birds prior to clearance.</td>
</tr>
<tr>
<td><strong>Potential issues</strong></td>
<td>No further issues identified at this stage.</td>
<td>No further issues identified at this stage.</td>
</tr>
</tbody>
</table>

**Summary:** In ecology terms, the site is considered less suitable as a CSO site due to the potential temporary and permanent loss of a site of nature conservation importance. The permanent loss of part of the SNCI is likely to require compensatory provision within the local area. Basic ecological surveys would be required.
### Flood risk assessment

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flood risk zone</strong></td>
<td>The majority of the site is located in Flood Zone 2 (one in 1,000-year event) as a result of potential flooding from the Deptford Creek; however, the south-western corner of the site bordering Deptford Church Street and Crossfield Street is also in Flood Zone 3 (one in 100-year event). The site benefits from defences to the one in 1,000-year standard. Therefore, flood risk to the site is a residual risk based on a breach or overtopping of the defences.</td>
<td>An FRA would be required to assess the residual risk of flooding to the site (small and sites).</td>
</tr>
<tr>
<td><strong>Assessment of conditions for SUDS</strong></td>
<td>There is likely to be space on site for SUDS and the site is existing brownfield so runoff attenuation requirements will be less under PPS25. The superficial geology is likely to be permeable and hence infiltration SUDS are likely to be feasible; however, the site is over the total catchment area of a source protection zone for a groundwater abstraction and hence limitations on the types of runoff suitable for infiltration will apply.</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Potential issues</strong></td>
<td>No further issues identified at this stage.</td>
<td>No further issues identified at this stage.</td>
</tr>
</tbody>
</table>

**Summary:** In flood risk terms, the site is considered to be suitable as a CSO site. The site is defended from flooding from the Thames Tideway and Deptford Creek and there is likely to be space for surface SUDS, while infiltration SUDS may be suitable, given the underlying geology of the site. However, controls on quality of runoff will be applied, owing to the presence of a total catchment source protection zone underlying the site.
## Air quality

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AQMA</strong></td>
<td>The air quality objectives for NO₂ are exceeded on major roads in vicinity of site. The site is within an air quality management area declared for NO₂ and PM₁₀.</td>
<td>There is a need for more site specific data.</td>
</tr>
<tr>
<td><strong>Sensitive receptors</strong></td>
<td>There are residential properties along Deptford Church Street (A2209) and the A2. The nearest residential properties are within 50m of the proposed site at Congers House.</td>
<td>There are relevant air quality sensitive receptors present along the route the construction traffic is likely to take and close to the proposed construction works.</td>
</tr>
<tr>
<td><strong>Existing traffic issues</strong></td>
<td>The main traffic issue in this area is exhaust emissions from vehicles along the A2209, A200 and A2 corridors.</td>
<td>Additional vehicle emissions have a low potential to interfere with local air quality action plan policies.</td>
</tr>
<tr>
<td><strong>Existing sources of significant air pollutants</strong></td>
<td>See above.</td>
<td>See above.</td>
</tr>
<tr>
<td><strong>Notable gaps in existing air quality monitoring</strong></td>
<td>There is no data at likely access to A2209 and the nearest existing data indicates existing exceedance of AQLV.</td>
<td>Collect a minimum of six months' diffusion tube data at site access to A2209, A2 or other point of access to major road network.</td>
</tr>
<tr>
<td><strong>Potential issues</strong></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 considered to be less suitable for use as a CSO site from an air quality perspective. There are residential properties in close proximity to the site, therefore there is potential for fugitive emissions of dust during construction to have a perceptible impact at these properties. 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. This can be somewhat mitigated by minimising the movement of HGVs during peak hours.
### Noise

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</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 levels of less than 50 dB $L_{Aeq}$ at Sir Joseph’s Catholic Primary School and residential dwellings on Deptford High Street. These properties are likely to experience relatively low daytime and night-time noise levels as they are positioned further away from the A2209. The maps indicated daytime levels of 63 to 69 dB $L_{Aeq}$ and night-time noise levels of less than 55 to 60 dB $L_{Aeq}$ at residential properties at Congers House on Bronze Street. The residential properties facing the site are likely to experience relatively moderate daytime and night-time noise levels due to their proximity to the A2209 to the west of the site. 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 in close proximity to the south-western boundary of the site. Sensitive receptors to the west, including the Sir Joseph’s Catholic School and residential properties on Deptford High Street, consist of between one and four storeys. The school is located approximately 13m from the south-western site boundary. Residential dwellings to the east of the site at Congers House, Bronze Street, consist of five-storey residential dwellings. These are located approximately 50 metres from the eastern site boundary.</td>
<td>Not applicable.</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>Noise</td>
<td>There are a number of sensitive receptors adjacent to the site access route, including the Sir Joseph’s Catholic Primary School on Crossfield Street and the A2209 which could be affected by HGV traffic.</td>
<td></td>
</tr>
<tr>
<td>Existing traffic issues</td>
<td>Local road traffic on the A2209, coupled with more distant road traffic on the A200 to the north, will contribute to the local noise climate of the area.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Existing sources of significant noise emissions</td>
<td>Local road traffic on the A2209, coupled with more distant road traffic on the A200 to the north, will contribute to the local noise climate of the area. A railway lies close to properties on Bronze Street and also the Sir Joseph’s Catholic Primary School.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>Construction: The construction period is estimated at two years and working hours will be 12 hours per day (7am to 7pm), Monday to Saturday. This has the potential to result in adverse noise impacts to the sensitive receptors surrounding the site and, in particular, at Sir Joseph’s Catholic Primary School, residential properties on Deptford High Street and residential dwellings at Congers House on Bronze Street. The vehicle movements have the potential to result in adverse noise impacts along the length of Crossfield Street and Coffey Street, and also along the A2209 Deptford Church Street, the A200 Creek Road, the B208 Norman Road and the A206 Greenwich High Road. The immediate site area is fairly small and, while the shaft location</td>
<td>Adherence to the good site practices given in BS5228. Siting of noisy equipment and construction activities as far as is practicable from sensitive receptors. Provision of site boundary noise fences.</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></td>
<td>may be fixed, ancillary plant should be sited as far as is practicable from surrounding sensitive receptors. Situating plant in the northern area of 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 residential receptors to the proposed shaft location are at a distance of approximately 50m and it is unlikely that vibration levels will result in minor cosmetic damage during shaft sinking, however vibration levels may give rise to annoyance. Vibration from tunnelling should be considered on a case-by-case basis at particular sensitive locations.</td>
<td></td>
</tr>
<tr>
<td>Operation:</td>
<td>With appropriate attenuation (if 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 considered to be suitable due to the distance between the site and residential properties located on Deptford High Street and at Congers House on Bronze Street. The number of vehicles associated with the construction phase and the proposed access route has the potential to result in an adverse noise impact due to the close proximity of residential receptors and Sir Joseph’s Catholic Primary School to the proposed haulage routes.
## Land quality

<table>
<thead>
<tr>
<th>Site location</th>
<th>Grid reference: 537338, 177408</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current site use</td>
<td>Open space</td>
</tr>
<tr>
<td>Topography</td>
<td>Relatively flat</td>
</tr>
<tr>
<td>Field evidence of contamination (ie, visual/olfactory)</td>
<td>None identified at this stage</td>
</tr>
</tbody>
</table>
| Current surrounding land use (immediately adjacent to site) | North: St Paul’s Church and residential  
East: Deptford Church Street, open space, residential  
South: St Joseph’s School, railway line, small industrial units (in the arches of the railway viaduct)  
West: St Joseph’s School and residential |

## Geological and hydrogeological information

| Geological strata | • Superficial geology and made ground (5m)  
• Lambeth Group (2m)  
• Thanet Sand (16m)  
• Chalk |
| Underlying aquifer classes | Secondary aquifer: River terrace deposits, Lambeth Group, Thanet Sand  
Principal aquifer: Chalk |
| Groundwater vulnerability/Soil classification (High/Intermediate/Low/Not applicable) | River terrace deposits – secondary aquifer  
High leaching potential of soils (U) |
| Source protection zone details | Located in a source protection zone (SPZ 3) defined by the Environment Agency |
| Surface water receptor | Deptford Creek (270m east) |

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

<table>
<thead>
<tr>
<th>Historical potentially contaminating activities (based on mapping data)</th>
<th>On site</th>
</tr>
</thead>
</table>
| • The western and central region of the site comprises open space while the eastern area is occupied by unknown buildings (possibly residential), 1868-1882  
• Residential housing across the whole site, 1909-1972  
• Residential properties are no longer present, site land use comprises public open space/soft landscaping, 1976-present |
## Land quality

### Off site
- Railway lines (closest 10m south), 1868-present
- Sack factory (32m south), 1947-1972
- Pottery (35m northeast), 1909-1972
- Historical building plans list asbestos (36m south), 1961
- Depot (50m south), 1909-1972
- Tanks – contents unknown (closest located 51m south), 1952-1971
- Historical building plans list gas use (53m south), 1943-1951
- Electrical substation (closest located 55m southeast), 1983
- Historical building plans list an above-ground fuel tank (57m south), 1958
- Colour works (90m northeast), 1868-1882
- Timber yard (102m northeast), 1947-1972
- Deptford Station (110m southwest), 1868-present
- Boiler works (138m west), 1947-1972
- Chemical manufacturing – general (152m southeast), 1882
- Oil, petroleum and gas refining and storage (156m southeast), 1898
- Soap works (165m southwest), 1947-1972
- Engineering works (173m west), 1947-1972
- Laundry (183m southeast), 1909-1920
- Warehouses (200m east), present
- Rag and metal warehouses (203m southeast), 1947-1972
- Works (209m southeast), 1972-1988
- Wharf (215m east), 1972-1977
- Wharf – asphalt and paving (215m east), 1947-1972
- Road haulage (221m northeast), 1995
- Soap works (225m northeast), 1868-1882
- Depot (225m northeast), 1909-1920
- Oil refinery (226m southeast), 1947-1972
- Wharf (227m east), 1909-1920
- Asphalt and paving works (236m east), 1909-1920
- Depot (241m northeast), 1972-1996
<table>
<thead>
<tr>
<th>Land quality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollution incidents to controlled waters</td>
<td>None</td>
</tr>
<tr>
<td>Landfill sites</td>
<td>None</td>
</tr>
<tr>
<td>Other waste sites</td>
<td>One registered waste transfer site</td>
</tr>
<tr>
<td></td>
<td>• Silverchem Services, site exempt from license, very small ((\leq)10,000 tonnes p/a), 203m southeast</td>
</tr>
<tr>
<td>Registered radioactive substances</td>
<td>None</td>
</tr>
<tr>
<td>Fuel stations/depots</td>
<td>None</td>
</tr>
<tr>
<td>Contemporary trade directory entries</td>
<td>Twelve</td>
</tr>
<tr>
<td></td>
<td>• Freight forwarders, active (3m south)</td>
</tr>
<tr>
<td></td>
<td>• Boilers – services, replacements and repairs, active (15m south)</td>
</tr>
<tr>
<td></td>
<td>• Garage services, active (15m south)</td>
</tr>
<tr>
<td></td>
<td>• Refrigeration equipment, active (21m south)</td>
</tr>
<tr>
<td></td>
<td>• Printers, active (42m south)</td>
</tr>
<tr>
<td></td>
<td>• Car body repairs, inactive (51m south)</td>
</tr>
<tr>
<td></td>
<td>• Carpet curtain and upholstery cleaners, inactive (56m east)</td>
</tr>
<tr>
<td></td>
<td>• Garage services, inactive (58m south)</td>
</tr>
<tr>
<td></td>
<td>• Garage services, active (58m northwest)</td>
</tr>
<tr>
<td></td>
<td>• Car breakers and dismantlers, inactive (60m south)</td>
</tr>
<tr>
<td></td>
<td>• Furniture – repairing and restoration, active (68m south)</td>
</tr>
<tr>
<td></td>
<td>• Garage services, inactive (72m south)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site classification based on above information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Distance and direction to site</td>
</tr>
<tr>
<td>Potential site contaminants derived from surface sources (eg, contaminants in made ground)</td>
<td>1) Some potential for made ground from potential filling operations during development</td>
</tr>
<tr>
<td>Potential site contaminants derived from offsite sources and transported to site</td>
<td>1) Railway lines</td>
</tr>
<tr>
<td></td>
<td>2) Garage services</td>
</tr>
</tbody>
</table>
### Land quality

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

| Contamination category | Category 1 – assessed as low risk |

**Summary:** The site is considered suitable as a CSO site with respect to land quality, as previous uses appear to have been limited to residential housing and soft landscaping, and the distance and nature of potentially contaminating activities in the vicinity of the site are unlikely to have resulted in significant contamination of the site.

**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
Visit: www.thamestidewaytunnel.co.uk
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