Section 48: Report on site selection process

Volume 3: Western site appendices A to H
Thames Tideway Tunnel
Section 48: Report on site selection process

List of volumes

Volume 1: Main report

Volume 2: General appendices:
1. Site selection methodology paper (Summer 2011)
2. Site selection background technical paper (Summer 2011)

Volume 3: Western site appendices A to H (this document)

Volume 4: Central site appendices J to Q

Volume 5: Eastern site appendices R to W
# Thames Tideway Tunnel

## Section 48: Report on site selection process

### Volume 3: Western site appendices A to H

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List of abbreviations

CSO  combined sewer overflow
EU   European Union
PS   pumping station
SR   storm relief
STW  sewage treatment works
TBM  tunnel boring machine
UK   United Kingdom
Introduction to Volume 3: Western sites

1.1.1 This volume sets out the site selection process that was followed to identify the most suitable CSO and main tunnel sites in the western section of the main tunnel. Each appendix contains the following sections:
   a. Section 1 – Introduction
   b. Section 2 – Assessment prior to phase one consultation
   c. Section 3 – Assessment prior to phase two consultation
   d. Section 4 – Review prior to Section 48 publicity.

1.1.2 This volume includes the following Appendices:
   a. Appendix A – Acton Storm Tanks
   b. Appendix B – Hammersmith Pumping Station
   c. Appendix C – Barn Elms
   d. Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)
   e. Appendix E – Dormay Street (formerly Bell Lane Creek)
   f. Appendix F – King George’s Park
   g. Appendix G – Carnwath Road Riverside
   h. Appendix H – Falconbrook Pumping Station (formerly Bridge’s Court Car Park).
Appendix A – Acton Storm Tanks

A.1 Introduction

A.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the Acton Storm Tanks CSO and to construct the western sections of the main tunnel prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

A.1.2 Table A.1 summarises the most suitable CSO and main tunnel sites to construct the western sections of the main tunnel at each phase of the project.

Table A.1 Summary of the sites identified as most suitable to intercept the CSO and to construct the western sections of the main tunnel at each phase of the project

<table>
<thead>
<tr>
<th>Phase one consultation site and use</th>
<th>Site: Acton Storm Tanks – CSO site</th>
<th>Use: To intercept Acton Storm Relief CSO and receive the connection tunnel from Hammersmith Pumping Station.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site and use</td>
<td>Site: Acton Storm Tanks – CSO and main tunnel reception site</td>
<td>Use: To intercept Acton Storm Relief CSO and receive the main tunnel from Carnwath Road Riverside. (NB: The connection tunnel was replaced by the extension at the western end of the main tunnel)</td>
</tr>
<tr>
<td>Section 48 publicity site and use</td>
<td>Site: Acton Storm Tanks – CSO and main tunnel reception site</td>
<td>Use: To intercept Acton Storm Relief CSO and receive the main tunnel from Carnwath Road Riverside.</td>
</tr>
</tbody>
</table>

A.1.3 This appendix is structured as follows:

a. Section A.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b. Section A.2 provides details of how we identified our preferred site for phase one consultation.

c. Section A.3 provides details of the back-check assessments and reasons why we changed our site for phase two consultation.

d. Sections A.4 and A.5 provide details of the post phase two consultation scheme review and confirmation the proposed CSO site for Section 48 publicity.
Appendix A – Acton Storm Tanks

**Type of site**

A.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the Acton Storm Relief CSO, and connect it to the main tunnel.

A.1.5 We also needed to identify a series of suitable sites to allow us to build the main tunnel. The main tunnel would transfer the collected overflows to the Abbey Mills Pumping Station where they would be transferred to Beckton Sewage Treatment Works via the Lee Tunnel (under construction).

A.1.6 Larger sites are required where a TBM would be inserted into the ground (known as main tunnel drive sites). This type of site would need to be able to handle all the materials excavated by the TBM as it constructs that section of the tunnel. Smaller sites are required to remove the TBM from the ground at the end of a tunnel drive (known as main tunnel reception sites).

A.1.7 However, the Acton Storm Relief CSO is not near the river and there are no alternative methods of dealing with the excavated material, which means that we would have to rely solely on high-volume road transport. Therefore, we only considered sites for main tunnel reception purposes. For a smaller diameter connection tunnel, it was possible to consider both drive and reception options as the amounts of excavated material would be significantly less.

A.1.8 A more detailed description of the different types of site required to construct and operate the project and the size requirements of these sites can be found in the *Site selection background technical paper* (see Volume 2).

A.1.9 Further discussions on tunnelling strategy options at difference stages of the project are set out in Volume 1, Main report (also see the cross-references in the next section).

**Site selection process**

A.1.10 The *Site selection methodology paper* recognises the vital complementary relationship between the site selection process and engineering design developments. Accordingly, as the site selection process progressed it became increasingly important to weigh sites against engineering requirements. A fundamental consideration was the need to identify sufficient sites, in the right locations, to enable the project to be built.

A.1.11 All potential sites were identified in accordance with our *Site selection methodology paper*, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). CSO sites also need to be as close to the existing sewer line as we followed a localised optioneering approach to identify suitable sites practicable; therefore we took a localised optioneering approach to identify potential sites. The CSO and main tunnel sites went through an increasingly detailed level of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement. All
the assessments that were carried out were based on the information available at the time and the related stage in the project’s development.

A.1.12 Below is a brief summary of how the *Site selection methodology paper* was applied at each stage of the project along with appropriate cross-references to sections in this appendix and to other volumes of this report.

A.1.13 Prior to phase one consultation we applied our sieving multidisciplinary approach to all the assessments set out in the *Site selection methodology paper*, which are also briefly outlined below (see A.2.2). A summary of all the assessments and the preferred phase one consultation site and use is presented in Section A.2. In additional there is a more detailed discussion of the connection tunnel options and comparisons for all routes and at this stage of the project in Volume 1, Main report, Section 4.

A.1.14 Following phase one consultation and prior to phase two consultation, we reviewed comments and decided that Acton Storm Tanks should remain our preferred CSO site. However, due to further developments in the project, changes to main tunnel sites and the tunnelling strategy for the western tunnel sections, we decided to carry out a ‘back-check’ in relation to main tunnel sites in a newly created Zone S0 (see Section A.3 and Figure A.1 below). This back-check involved a repeat of each relevant stage of our site selection process to reconsider which sites would be most suitable to construct the main tunnel, including a re-examination of main tunnel drive options in order to identify the preferred main tunnel site and use. This utilised the same multidisciplinary approach that was followed prior to phase one consultation. The results of this back-check are presented in Section A.3 and superseded all previous assessments undertaken prior to phase one consultation (described in Section A.2). There is a more detailed discussion of the tunnelling options for the main tunnel and comparisons at this stage of the project in Volume 1, Main report, Sections 6.3 to 6.6.

A.1.15 Following phase two consultation and prior to Section 48 publicity, the *Site selection methodology paper* required a review of the scheme. The review confirmed that Acton Storm Tanks should be our proposed CSO site. The review also involved re-checking the choice of most suitable main tunnel site, the western section drive options and site uses on the proposed route. The review is presented in Sections A.4 and A.5. This was done to confirm the proposed CSO and main tunnel site for Section 48 publicity. A more detailed discussion of the tunnelling options for the main tunnel and comparisons at this stage of the project can be found in Volume 1, Main report, Sections 7.3 to 7.6.

A.2 Phase one consultation preferred main tunnel site: Site selection process

Introduction

A.2.1 Section A.2 explains how the *Site selection methodology paper* was implemented in order to arrive at the preferred main tunnel site to intercept
the Acton Storm Tanks CSO and construct a connection tunnel to the main tunnel for phase one consultation.

A.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; a multidisciplinary optioneering workshop to identify the preferred CSO site for phase one consultation (also see Volume 1, Main report, Section 4 for pre-phase one consultation discussion of connection tunnel options).

A.2.3 This stage took place from Spring 2009 to Summer 2010.

A.2.4 The assessments described in Section A.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic representation of the process and all of the assessments have been superseded by Section A.3.

Assessment of the long list sites

A.2.5 The long list of potential sites to intercept the Acton Storm Relief CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

A.2.6 In total 28 sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

A.2.7 Table A.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

Table A.2 Long List to Draft Short List for the interception of the Acton Storm Relief CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01XA</td>
<td>Foreshore of Chiswick Eyot</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C01XB</td>
<td>Chiswick Eyot</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C01XC</td>
<td>Shoreline and river between</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C01XD</td>
<td>Riverside gardens of river front properties</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The gardens are part of the residential curtilage.</td>
</tr>
<tr>
<td>C01XE</td>
<td>Private gardens backing large river front properties</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The gardens are part of the residential curtilage.</td>
</tr>
<tr>
<td>C01XF</td>
<td>Chiswick Maternity Hospital (derelict)</td>
<td><strong>Recommendation</strong>: To draft short list.</td>
</tr>
<tr>
<td>C01XG</td>
<td>Gardens backing river front properties</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The gardens are part of the residential curtilage.</td>
</tr>
<tr>
<td>C01XH</td>
<td>British Grove South</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The site is small and difficult to access. It also comprises residential curtilage.</td>
</tr>
<tr>
<td>C01XJ</td>
<td>Netheravon Road South from Great Western Road (A4) to area fronting Chiswick Maternity Hospital</td>
<td><strong>Recommendation</strong>: To draft short list.</td>
</tr>
<tr>
<td>C01 XK</td>
<td>Junction of British Grove and Netheravon Road</td>
<td><strong>Recommendation</strong>: To draft short list.</td>
</tr>
<tr>
<td>C01XL</td>
<td>Green area between Great Western Road and Netheravon Road South</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The engineering connection to the sewer would be long and difficult.</td>
</tr>
<tr>
<td>C01XM</td>
<td>Gardens to houses between Netheravon Road and Airedale Avenue</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: Access to the site is poor and the site includes residential curtilage.</td>
</tr>
<tr>
<td>C01XN</td>
<td>Homefield Recreation Ground</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The engineering connection to the sewer is would be long and difficult.</td>
</tr>
<tr>
<td>C01XP</td>
<td>Tree and grass area including footpath/verge fronting Great Western Road, with part of Berestede Road</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The engineering connection to the sewer is would be long and difficult.</td>
</tr>
<tr>
<td>C01XQ</td>
<td>Park within St Peters Square</td>
<td><strong>Recommendation</strong>: Not to draft short list. <strong>Rationale</strong>: The engineering connection to the sewer is would be long and difficult.</td>
</tr>
<tr>
<td>C01XR</td>
<td>Part Beverley Road, part area behind residences</td>
<td><strong>Recommendation</strong>: To draft short list.</td>
</tr>
</tbody>
</table>
## Site ID | Site name/description | Recommendation and rationale
--- | --- | ---
C01XS | Tree/grass gardens fronting Prebend Gardens | **Recommendation:** Not to draft short list.  
**Rationale:** Access to the site is poor.
C01XT | Car park at south end of Welstead Way | **Recommendation:** To draft short list.
C01XU | Grassed area fronting Stamford Brook Road | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer is would be long and difficult.
C01XV | Park fronting Stamford Brook Road | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer is would be long and difficult.
C01XW | Grassed area fronting Stamford Brook Road | **Recommendation:** To draft short list.
C01XX | Car parking area to block of flats adjacent Goldhawk Road | **Recommendation:** Not to draft short list.  
**Rationale:** The site is highly restrictive with a long and difficult engineering connection to the sewer. It also includes residential curtilage.
C01XY | Wendall Park | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer is would be long and difficult.
C01XZ | Grassed area between the rear gardens of houses on Woodstock Road and the high rise blocks of flats behind | **Recommendation:** Not to draft short list.  
**Rationale:** The work conditions on the site would be highly restrictive and the site has poor access.
C01YA | Area to the south west of the boundary wall of Acton Storm Tanks | **Recommendation:** Not to draft short list.  
**Rationale:** The site is too narrow and has poor access.
C01YB | Areas in front of block of flats on Warple Way | **Recommendation:** Not to draft short list.  
**Rationale:** The site is too narrow and has poor access.
C01YC | Area of Acton Storm Tanks | **Recommendation:** To draft short list.
C01YD | Airedale Avenue South cul de sac | **Recommendation:** Not to draft short list.  
**Rationale:** The site is small with constrained access and a long and difficult engineering connection to the sewer. It also comprises residential curtilage.

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site and are reproduced here to ensure consistency across documentation.

A.2.8 Of the 28 sites identified, ten were assessed as potentially suitable and passed to the draft short list and 18 sites were eliminated as unsuitable.
Assessment of the draft short list sites

A.2.9 The ten draft short list sites identified for further assessment at the next stage were:

- a. C01XA: Foreshore of Chiswick Eyot
- b. C01XB: Chiswick Eyot
- c. C01XC: Shoreline and river between land and Chiswick Eyot
- d. C01XF: Chiswick Maternity Hospital (derelict)
- e. C01XJ: Netheravon Road South from Great Western Road (A4) to area fronting Chiswick Maternity Hospital
- f. C01XK: Junction of British Grove and Netheravon Road
- g. C01XR: Part Beverley Road, part area behind residences
- h. C01XT: Car park at south end of Welstead Way
- i. C01XW: Grassed area fronting Stamford Brook Road
- j. C01YC: Area of Acton Storm Tanks.

A.2.10 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

A.2.11 At this stage we also consulted with each of the London boroughs and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

A.2.12 Table A.3 below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.

Table A.3 Draft short list to final short list for the interception of the Acton Storm Relief CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01XA</td>
<td>Foreshore of Chiswick Eyot</td>
<td><strong>Recommendation:</strong> Not to short list.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Rationale:</strong> Preliminary consultations with statutory consultees raised significant concerns over the use of this site.</td>
</tr>
<tr>
<td>C01XB</td>
<td>Chiswick Eyot</td>
<td><strong>Recommendation:</strong> Not to short list.</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Rationale:</strong> Preliminary consultations with statutory consultees raised significant concerns over the use of this site.</td>
</tr>
<tr>
<td>C01XC</td>
<td>Shoreline and river between land and Chiswick Eyot</td>
<td><strong>Recommendation:</strong> Not to short list. <strong>Rationale:</strong> Preliminary consultations with statutory consultees raised significant concerns over the use of this site.</td>
</tr>
<tr>
<td>C01XF</td>
<td>Chiswick Maternity Hospital (derelict)</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C01XJ   | Netheravon Road South from Great Western Road (A4) to area fronting Chiswick Maternity Hospital | **Recommendation:** Not to short list. **Rationale:**  
- Engineering – The site is small and the shape would make work difficult. Also, the shaft level would be above ground so there would be no possibility of locating it in a public road.  
- Transport – There would likely be access issues.  
- Property – This is a difficult site and would require replacement of access to properties possibly require us to take gardens. |
| C01XR   | Part Beverley Road, part area behind residences                                         | **Recommendation:** Not to short list. **Rationale:**  
- Engineering – It is a small and narrow site with a restricted working area. The access route is potentially unsuitable for heavy goods vehicles due to the need to use narrow residential roads with parking on either side.  
- Community – There would be a significant impact on residential amenity, including the use of residential gardens and the residential road network, which might result in adverse impacts community cohesion. |
| C01XT   | Car park at south end of Welstead Way                                                  | **Recommendation:** Retain on short list.                                                   |
| C01XW   | Grassed area fronting Stamford Brook Road                                              | **Recommendation:** Not to short list. **Rationale:**                                       |
Appendix A – Acton Storm Tanks

### Site ID | Site name/description | Recommendation and rationale
--- | --- | ---
 | | • Engineering – The site is constrained particularly in terms of features (substation and electricity cables).
• Community – Concerns regarding the significant impact on community considerations due to a large number of sensitive receptors, which would result in potential health and equality impacts. A church and open space adjacent to the proposed site might also be affected.

| C01YC | Area of Acton Storm Tanks | **Recommendation:** Retain on short list. |

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site and are reproduced here to ensure consistency across documentation.

A.2.13 Of the ten sites on the raft short list, three were assessed as potentially suitable and passed to the final short list, while seven sites did not proceed to the final short list.

**Assessment of the final short list of sites**

A.2.14 The three sites identified for inclusion on the final short list and assessment at the next stage were:

a. C01XF: Chiswick Maternity Hospital (derelict)
b. C01XT: Car park at south end of Welstead Way
c. C01YC: Area of Acton Storm Tanks.

A.2.15 A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment of the suitability of each site, having regard to engineering, planning, environment, community and property considerations. At this stage in the process sites were assessed in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline using technical knowledge and professional judgement as appropriate and assessed as **suitable, less suitable or not suitable** from that discipline’s perspective.

A.2.16 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**Site C01XF: Former Chiswick Maternity Hospital (derelict)**

A.2.17 Site C01XF comprises the former Chiswick Maternity Hospital, known as Chiswick Lodge, situated on Netheravon Road South, Chiswick, in the London Borough of Hounslow.

A.2.18 The site extends between Netheravon Road to the north and Chiswick Mall to the south. The surrounding area is characterised by residential properties that front onto Chiswick Mall and face the River Thames.
A.2.19 **Engineering:** The site was considered *suitable* as a CSO interception site as there were no restrictions in terms of access and working area and no major utilities that run through the site.

A.2.20 **Planning:** On balance, the site was assessed as *less suitable* as a CSO site. The site is subject to a number of planning and environmental designations including a conservation area and listed buildings. The current status and implementation timescales for the redevelopment of the site required further investigation and on-going monitoring.

A.2.21 **Environment:** Overall, the site was assessed as *suitable* as a CSO site. The site was considered *suitable* from the perspectives of transport, archaeology, townscape, water resources, ecology and flood risk. However, the site was considered *less suitable* from the perspectives of built heritage, air quality, noise and land quality. Various mitigation measures would be required.

A.2.22 **Socio-economic and community:** From a community impacts perspective, the site was assessed as *suitable* as a CSO site. We recognised that there might be impacts on adjacent residential properties and mitigation would be required.

A.2.23 **Property:** The site was assessed as *suitable* from a property perspective as it is a brownfield site and likely to have a resale value, which would offset the cost of acquisition. There was also a low prospect of offsite compensation being required.

**Site C01XT: Car park at south end of Welstead Way**

A.2.24 Site C01XT would be located in a public car park at the southern end of Welstead Way, Chiswick, in the London Borough of Hounslow.

A.2.25 The site is roughly rectangular in shape and located approximately 200m south of Bath Road/Brook Road. The site is bounded by the rear gardens of residential dwellings to the east, north and west, and by the elevated London Underground District Line to the south.

A.2.26 **Engineering:** The site was considered *suitable* as a CSO interception site as it is of a sufficient size and the sewer runs beneath the site, which would allow all works to be contained in one area.

A.2.27 **Planning:** On balance, the site was assessed as *less suitable* as a CSO site. The proposal site is enclosed by residential properties along three site boundaries, with short separation distances between the properties and the construction works.

A.2.28 **Environment:** Overall, the site was assessed as *suitable* as a CSO site. The site was considered *suitable* from the perspectives of transport, archaeology, built heritage and townscape, water resources (hydrogeology and surface water), ecology, flood risk and land quality. However, the site was considered *less suitable* from the perspectives of air quality and noise. Various mitigation measures would be required.

A.2.29 **Socio-economic and community:** From a community impacts perspective, the site was assessed as *less suitable* as a CSO site. We recognised that there might be impacts on residential properties adjacent...
to the site and appropriate mitigation would be required for noise and visual disruption.

A.2.30 **Property**: The site was assessed as **suitable** from a property perspective. Site acquisition costs were likely to be acceptable, although owner of the land was not known at this stage. It was also unlikely that there would be disturbance compensation claims.

**Site C01YC: Acton Storm Tanks**

A.2.31 Site C01YC is located on land within the curtilage of a Thames Water pumping station and storm water storage tanks fronting Warple Way, Acton, in the London Borough of Ealing. The site is currently open land and forms part of the landscaped area of the pumping station, situated at the southernmost tip of the pumping station site.

A.2.32 The site is bounded to the north by Canham Road and industrial units. The east and southeast of the site are bounded by Warple Way and residential properties. The site is bounded to the southwest and west by further dwellings along Greenend Road.

A.2.33 **Engineering**: The site was considered **suitable** as a CSO interception site as it is large enough to fit all the site facilities, access is reasonable and the land is owned by Thames Water. It should be noted, however, that this site is a considerable distance from the river.

A.2.34 **Planning**: On balance, the site was assessed as **suitable** as a CSO site. Although the site is near residential properties, appropriate mitigation could reduce any impact on amenity.

A.2.35 **Environment**: Overall, the site was assessed as **suitable** as a CSO site. The site was considered **suitable** from the perspectives of transport, archaeology, built heritage, townscape, water resources, flood risk, and ecology. However, the site was considered **less suitable** from the perspectives of air quality, noise and land quality. Various mitigation measures would be required.

A.2.36 **Socio-economic and community**: From a community impacts perspective, the site was assessed as **suitable** as a CSO site. We recognised that there might be impacts on residents in the housing development to the east and southeast of the site and appropriate mitigation would be required for noise and other types of disruption.

A.2.37 **Property**: The site was assessed as **suitable** from a property perspective as the land is owned by Thames Water.

**Phase one consultation preferred site**

A.2.38 Following the completion of the site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

A.2.39 Of the three shortlisted sites, **Acton Storm Tanks (C01YC)** was identified as the preferred CSO site to intercept the Acton Storm Tanks CSO for a number of reasons, which are summarised below:
a. The building on site C01XF had been derelict for a considerable period of time but site activities, including partial demolition, earthworks and foundation construction commenced in Spring 2010. We therefore considered that, as redevelopment of the site had started, the Former Maternity Hospital, Netheravon Road South site should be considered unavailable as a possible worksite for the interception of the local CSO.

b. The remaining two shortlisted sites would provide a suitably sized construction area to enable efficient working.

c. C01YC would provide a suitable clear area of land and we considered that there was less of a risk of it becoming unavailable due to changes of use or redevelopment. Furthermore, the site is within an existing operational site owned by Thames Water. The environmental impact of using C01YC was assessed as low. The key consideration was mitigation of noise and dust impacts on the adjacent residential properties.

d. C01XT is bounded by residential dwellings along three sides and we considered that work at this site would subject adjacent properties to some air quality, noise and vibration impacts during construction. Access to the site would be via a relatively narrow residential carriageway and potentially disturb the community and disrupt traffic.

A.3 Phase two consultation preferred main tunnel site: Scheme development and site selection

Introduction

A.3.1 Section A.3 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO and main tunnel site to intercept the Acton Storm Relief CSO and to receive the western end of the main tunnel for phase two consultation.

A.3.2 Following phase one consultation, we reviewed the phase one consultation comments and there was no new information; therefore we decided that Acton Storm Tanks would remain our preferred CSO interception site.

A.3.3 We also carried out a back-check on the use of Acton Storm Tanks and the site selection process comprised: a review other comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; a back-check exercise to identify main tunnel sites in the newly created main tunnel Zone S0 (see Section A.3 and Figure A.1 below) followed by the assessment process outlined in A.2.2, including preparation of a new Engineering options report (Summer 2011) with revised tunnelling drive options; a multidisciplinary optioneering workshop to consider the detailed contents of the site suitability report for each shortlisted site and the Engineering options report; comparison of sites to identify the preferred main tunnel reception site for phase two consultation (also see Volume 1, Main report, Sections 6.3 to 6.6 for the pre-phase two consultation discussion of tunnelling drive options).
A.3.4 This stage took place from Winter 2010 to Autumn 2011.

A.3.5 The assessments described in Section A.3 were based on the information available at the time and the related stage in the project’s development.

**Phase one consultation responses**

A.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

A.3.7 The main issues and concerns raised during phase one consultation in relation to the Acton Storm Tanks site can be summarised as follows:

- a. impact on residential amenity during construction
- b. existing odour problems on the site
- c. increased congestion and alternative access arrangements should be explored
- d. impact on the conservation area
- e. impact of subsidence on buildings and structures
- f. the whole site requires improvement
- g. impact of odour on completion of the works.

A.3.8 The main comments received in support of the preferred site included:

- a. The land is already in Thames Water’s ownership.
- b. The site has an existing utility purpose and facilities, so will have the least impact on surrounding area.
- c. The proposed design for after-use of the site is acceptable.
- d. The site as it currently exists is unappealing and the proposals provide an opportunity to significantly improve the area.
- e. The site is large enough and feasible in all other respects.

A.3.9 More detail on the consultation responses in relation to this site and our response to the comments received are provided in the *Report on phase one consultation*.

A.3.10 Having taken all comments received during phase one consultation into account, we still believed that Acton Storm Tanks was the most appropriate CSO site because the site is of adequate size, on the line of the existing sewer and located in an existing Thames Water operational site. We recognised the concerns that were raised, including the impact on residential amenity and traffic congestion and took them into account in developing the project further, including measures to minimise potential impacts.

**Back-check process**

A.3.11 The tunnelling strategy proposed during phase one consultation utilised the Acton Storm Tanks site to intercept the local CSO and connect it to the main tunnel via a connection tunnel to the Hammersmith Pumping Station.
site. It was proposed that this connection tunnel would be driven from the Hammersmith Pumping Station site and the site at Acton Storm Tanks would be used to receive the TBM that would create this connection tunnel.

A.3.12 Design development identified that a larger diameter connection tunnel was required to connect the Acton Storm Tanks CSO to the main tunnel than originally anticipated at phase one consultation. The Acton Storm Tanks site is also large enough to potentially be suitable as a main tunnel site.

A.3.13 In addition to the design development of our tunnelling strategy, a significant planning constraint was identified in relation to the use of the Hammersmith Pumping Station site (S33HF) as a main tunnel reception site and to drive the connection tunnel to Acton Storm Tanks in the shape of a new planning application for the site. The Hammersmith Pumping Station site already had planning permission for a mixed-use development. However, the site was then purchased and the new landowner submitted a revised planning application for a major residential development for the whole of the site, including the area identified as our preferred site at phase one consultation. In addition, the London Borough of Hammersmith and Fulham’s emerging Local Development Framework reallocated the site from offices to residential use. This new planning application and the revised allocation increased the acquisition complexities and potential cost of the site. All these factors significantly increased the risk that the Hammersmith Pumping Station site would not be available to be used as proposed at phase one consultation.

A.3.14 Extensive negotiations with the owner of the Hammersmith Pumping Station site resulted in a change in our proposed use of the site as it became clear that the only viable option was to use the site to intercept the local CSO (known as the Hammersmith Pumping Station CSO). Further details can be found in Appendix B.

A.3.15 As a result of the changes to the tunnelling strategy and other engineering considerations, as well as the planning and property issues at Hammersmith Pumping Station, we began a review of the tunnelling strategy for the western end of the tunnel to address the possibility of extending the main tunnel to Acton Storm Tanks.

A.3.16 A back-check (as set out in the Site selection methodology paper) was therefore undertaken to identify sites in the Acton area that could potentially be used as a main tunnel site for the western end of the main tunnel.

A.3.17 In developing the tunnelling strategy for phase one consultation, the final shortlisted main tunnel sites were grouped geographically into ‘zones’, and tunnel drive options were identified with an illustration of how the sites in the various zones could be connected to construct the main tunnel. These tunnel drive options defined the tunnelling direction between zones and the type of site (either main tunnel drive or reception site) required in a zone.
A.3.18 The need for a new main tunnel site in the Acton area for the western end of the main tunnel required us to create a new zone, Zone S0, as shown on Figure A.1. Once we had identified a short list of suitable sites in Zone S0, we could consider the tunnel drive options utilising this new zone.

Figure A.1 Revised main tunnel zones including Zone S0

![Revised main tunnel zones including Zone S0](image)

**Engineering assumptions**

A.3.19 As part of the back-check process, the engineering assumptions that had been used during the initial phase of site selection for main tunnel sites were reviewed to see if any of the design developments or new technical information altered any of the original assumptions.

A.3.20 The outcome of this review was that for Zones S0 to S4 (which cover the majority of the section of the tunnel that must be constructed predominantly in London Clay), the size of construction site required for a main tunnel drive shaft was reduced from 18,000 m² to 15,000 m². This important change allowed the back-check process to review sites that were previously considered too small for a main tunnel drive shaft site. At the same time, the size of site required for a double drive shaft site (i.e., tunnelling in two directions simultaneously from one shaft) was adjusted to 20,000 m².

A.3.21 The following section outlines the results of each stage of the back-check process.

**Assessment of the back-check long list**

A.3.22 As Zone S0 was newly identified there was no original long list of sites that were suitable for main tunnel sites in this zone. However, the Acton Storm Tanks site identified at phase one consultation was found to be large enough to support a main tunnel site, so this was reviewed alongside the
newly identified sites. The scoping exercise found that we needed to assess the following six sites:

a. S01EG: Acton Storm Tanks
b. S02EG: Commercial Units, Stanley Gardens
c. S03EG: Acton Park Industrial Estate
d. S04EG: Industrial Units, Allied Way
e. S05EG: Southfields Park
f. S88HF: Wendall Park – new site (also C01XY).

A.3.23 The back-check long list sites were then assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2 of the Site selection methodology paper.

A.3.24 Table A.4 below summarises the outcome of the back-check assessment of the back-check long list of sites. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained did not pass to the back-check draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.

A.3.25 We then determined how the size of the sites that were retained at this stage would be assessed under the Table 2.3 assessment. For some sites this included examining neighbouring sites to see whether they could be used together. We concluded for all the Zone S0 sites that, due to distance from the river and the navigational constraints of being upstream of Hammersmith Bridge, these sites could not be considered as a main tunnel drive site.

Table A.4 Long list to draft short list for main tunnel sites in Zone S0 (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01EG</td>
<td>Acton Storm Tanks</td>
<td><strong>Recommendation:</strong> To draft short list as a main tunnel reception site</td>
</tr>
<tr>
<td>S02EG</td>
<td>Commercial Units, Stanley Gardens</td>
<td><strong>Recommendation:</strong> To draft short list as a main tunnel reception site.</td>
</tr>
<tr>
<td>S03EG</td>
<td>Acton Park Industrial Estate</td>
<td><strong>Recommendation:</strong> To draft short list as a main tunnel reception site.</td>
</tr>
<tr>
<td>S04EG</td>
<td>Industrial Units, Allied Way</td>
<td><strong>Recommendation:</strong> To draft short list as a main tunnel reception site.</td>
</tr>
<tr>
<td>S05EG</td>
<td>Southfields Park</td>
<td><strong>Recommendation:</strong> To draft short list as a main tunnel reception site.</td>
</tr>
</tbody>
</table>
Appendix A – Acton Storm Tanks

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### Site ID | Site name/description | Recommendation and rationale
--- | --- | ---
S88HF | Wendall Park | **Recommendation**: To draft short list as a main tunnel reception site.

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

A.3.26 Of the six sites identified, all six were assessed as potentially suitable for a main tunnel reception site and passed to the draft short list.

**Assessment of the back-check draft short list sites**

A.3.27 The back-check draft shortlisted sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper*.

A.3.28 Table A.5 below summarises the outcome of the back-check assessment of the draft short list. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the back-check short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the back-check short list for more detailed assessment.

#### Table A.5 Draft short list to final short list for main tunnel sites in Zone S0 (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01EG</td>
<td>Acton Storm Tanks</td>
<td><strong>Recommendation</strong>: Retain on short list as a main tunnel reception site.</td>
</tr>
<tr>
<td>S02EG</td>
<td>Commercial Units, Stanley Gardens</td>
<td><strong>Recommendation</strong>: Retain on short list as a main tunnel reception site.</td>
</tr>
<tr>
<td>S03EG</td>
<td>Acton Park Industrial Estate</td>
<td><strong>Recommendation</strong>: Retain on short list as a main tunnel reception site.</td>
</tr>
<tr>
<td>S04EG</td>
<td>Industrial Units, Allied Way</td>
<td><strong>Recommendation</strong>: Retain on short list as a main tunnel reception site.</td>
</tr>
</tbody>
</table>
| S05EG | Southfields Park | **Recommendation**: Not to final short list. **Rationale**:  
- Planning/Environment – There were a number of constraints that related to this site, particularly concerns regarding the impact on open space (a priority site for playground provision in relation to child density and improving access to nature areas), the impact on the conservation area, and access issues. It should also be noted that other brownfield sites are...
<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
</table>
| S05EG   | Southfields Park     | **Recommendation:** Not to final short list.  
**Rationale:**  
- **Planning/Environment** – There were a number of constraints that related to this site, particularly concerns regarding the impact on open space (a priority site for playground provision in relation to child density and improving access to nature areas), the impact on the conservation area, and access issues. It should also be noted that other brownfield sites are potentially available.  
- **Community** – Temporary loss of over half of the recreation facilities (tennis courts, playground and nature area). The tennis courts are run by a group that encourages local level tennis in parks. All these factors might have an adverse impact on health and equality considerations. |
| S88HF   | Wendall Park         | **Recommendation:** Not to final short list.  
**Rationale:**  
- **Planning/Environment** – There were a number of constraints that related to this site, particularly concerns regarding the impact on open space (a priority site for playground provision in relation to child density and improving access to nature areas), the impact on the conservation area, and access issues. It should also be noted that other brownfield sites are potentially available.  
- **Community** – There are a number of sensitive receptors in close proximity such as a church, vicarage and school. There would be a temporary loss of this... |
Appendix A – Acton Storm Tanks

### Section 48: Report on site selection process

#### Volume 3: Western site

#### Appendices A to H

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>park. All of these might in turn have an adverse impact on community cohesion, health and equality considerations.</td>
</tr>
</tbody>
</table>

**NB.** The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

A.3.29 Of the six sites on the draft short list, four were assessed as potentially suitable and passed to the final short list. The remaining two sites were eliminated as unsuitable.

**Assessment of the back-check final short list sites**

A.3.30 Following the back-check, the final shortlisted sites identified for assessment at the next stage were:

- a. S01EG/C01YC: Acton Storm Tanks
- b. S02EG/C01YC: Commercial Units, Stanley Gardens
- c. S03EG/C01YC: Acton Park Industrial Estate
- d. S04EG/C01YC: Industrial Units, Allied Way.

A.3.31 All of the above sites were assessed in combination with our preferred CSO interception site at Acton Storm Tanks (C01YC).

**S01EG/C01YC: Acton Storm Tanks**

A.3.32 The site boundary for S01EG is slightly bigger than site C01YC in order to allow a CSO interception and main tunnel site option. A summary of the disciplines’ assessments is provided below.

A.3.33 **Engineering**: The site was considered **suitable** as a main tunnel reception site as it is large enough to accommodate all the site facilities, access is reasonable and the land is owned by Thames Water.

A.3.34 **Planning**: On balance, the site was assessed as **less suitable** for use as a main tunnel reception site as it is located in very close proximity to adjacent residential properties. However, the site could become **suitable** with appropriate mitigation to reduce any impacts on residential amenity.

A.3.35 **Environment**: Overall, the site was assessed as **suitable** for use as a main tunnel reception site. The site was considered **suitable** from the perspectives of transport, archaeology, built heritage, townscape, water resources, flood risk, and ecology. However, the site was considered **less suitable** from the perspectives of air quality, noise and land quality. Various mitigation measures would be required.

A.3.36 **Socio-economic and community**: From a community impacts perspective, the site was assessed as **less suitable** as main tunnel reception site as it was likely that there would be significant impacts on residential property adjacent to the site. Appropriate mitigation would be required for noise and visual disruption.

A.3.37 **Property**: The site was considered **suitable** as a main tunnel reception site as it would only use Thames Water land.
S02EG/C01YC: Commercial Units, Stanley Gardens

A.3.38 This site is located in an industrial area. This site was assessed as a main tunnel reception site and to intercept the Acton Storm Relief CSO at Acton Storm Tanks (C01YC). A summary of the disciplines’ assessments is provided below.

A.3.39 **Engineering:** This site was considered **suitable.** The site is of sufficient size to fit all the site facilities for efficient working and has suitable access. The site requires the demolition of a number of existing structures that currently occupy the site prior to commencing the main works.

A.3.40 **Planning:** On balance, the site was assessed as **less suitable** as a main tunnel reception site as it is located in very close proximity to adjacent residential properties. However, the site could become **suitable** with appropriate mitigation to reduce any impacts on residential amenity.

A.3.41 **Environment:** Overall, the site was assessed as **suitable** as a main tunnel reception site. The site was considered **suitable** from the perspectives of transport, archaeology, built heritage, townscape, water resources (hydrogeology and surface water), ecology, flood risk and noise. However, the site was considered **less suitable** from the perspectives of air quality and land quality.

A.3.42 **Socio-economic and community:** From a community impacts perspective, the site was assessed as **less suitable** as a main tunnel reception site. It was unlikely that there would be a substantial or long-term impact on the local community. However, a number of businesses might need to be relocated on a temporary or permanent basis. Furthermore, noise and visual disruption would be experienced during construction by residential properties in close proximity to the east.

A.3.43 **Property:** The site was considered **less suitable** as a main tunnel reception site as a number of business operations would be displaced.

S03EG/C01YC: Acton Park Industrial Estate

A.3.44 This site is located in an industrial area. It was assessed as a main tunnel reception site and to intercept the Acton Storm Relief CSO at Acton Storm Tanks (C01YC). A summary of the disciplines’ assessments is provided below.

A.3.45 **Engineering:** This site was considered **suitable** as a main tunnel reception site. The site is of sufficient size to fit all the facilities for efficient working and has suitable access. The site requires the demolition of a number of existing structures that currently occupy the site prior to commencing the main works.

A.3.46 **Planning:** On balance, the site was assessed as **less suitable** as a main tunnel reception site. The site is within or in proximity to a number of planning and environmental policy designated areas and sensitive uses such as residential properties, community facilities and public open spaces. Further investigation would be required to determine whether the temporary loss of designated employment land and the relocation of a number of existing businesses would be acceptable. Appropriate
mitigation to protect the amenity of residential dwellings and other sensitive community uses from construction impacts would be required.

A.3.47 **Environment**: Overall, the site was assessed as **suitable** as a main tunnel reception site. The site was considered **suitable** from the perspectives of transport, archaeology, built heritage, townscape, water resources (hydrogeology and surface water), ecology, flood risk, air quality and noise. However, the site was considered **less suitable** from the perspectives of land quality.

A.3.48 **Socio-economic and community**: From a community impacts perspective, the site was assessed as **less suitable** as a main tunnel reception site. The use of the site appeared likely to require the demolition of around five commercial units, which could affect owners, employees and the local community. A number of other business premises and residential properties in proximity to the site might also be affected by works in this area. There are also a number of residential properties in close proximity to the proposed CSO interception works.

A.3.49 Appropriate mitigation would be required for noise and visual disruption during construction to reduce the potential impacts on the neighbouring commercial and residential properties.

A.3.50 **Property**: The site was considered **less suitable** as a main tunnel reception site. A large number of business occupiers would be displaced. Furthermore, the site adjoins residential properties.

**S04EG/C01YC: Industrial Units, Allied Way**

A.3.51 This site is located in an industrial area. It was assessed as a main tunnel reception site and to intercept the Acton Storm Relief CSO at Acton Storm Tanks (C01YC). A summary of the disciplines’ assessments is provided below.

A.3.52 **Engineering**: The site was considered **less suitable** as a main tunnel reception site. The site is of sufficient size to fit all the facilities for efficient working and has suitable access. However, due to the distance from C01YC and the nature of existing development between both sites, construction of the tunnelled connection culvert would be complex and likely need to be deep, which would lead to deeper CSO and main tunnel shafts. This would increase the amount of excavated material to be removed from the site and lengthen the construction programme.

A.3.53 **Planning**: On balance, the site was assessed as **less suitable** as a main tunnel reception site as the site. The site is within or in proximity to a number of planning and environmental policy designated areas and sensitive uses, such as residential properties and community facilities. Further investigation would be required to determine whether the temporary loss of designated employment land and the relocation of a number of existing businesses would be acceptable. Appropriate mitigation to protect the amenity of residential dwellings and other sensitive community uses from construction impacts would be required and we recognised that this might be particularly challenging at this site, given the proximity and number of sensitive receptors.
A.3.54 **Environment**: Overall, the site was assessed as *suitable* as a main tunnel reception site. The site was considered *suitable* from the perspectives of transport, archaeology, built heritage, townscapae, water resources (hydrogeology and surface water), flood risk and ecology. However, the site was considered *less suitable* from the perspectives of air quality, noise and land quality.

A.3.55 **Socio-economic and community**: From a community impacts perspective, the site was assessed as *less suitable* as a main tunnel reception site. Residential properties are located in close proximity to the proposed works, which would likely be directly affected. Furthermore, several businesses would likely be required to relocate during construction and operations.

A.3.56 **Property**: The site was considered *less suitable* as a main tunnel reception site. A large number of business occupiers would be displaced. Furthermore, the site adjoins residential properties on three sides.

**Phase two consultation preferred site**

A.3.57 Following the completion of the back-check site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites in main tunnel Zone S0 and the CSO interception at Acton Storm Tanks (C01YC).

A.3.58 This workshop took into account the findings of the back-check site suitability reports and the feedback received during phase one consultation. On the basis of the assessments described above and professional judgement, it was agreed by all disciplines that site S01EG/C01YC: Acton Storm Tanks should become the preferred phase two consultation site as a combined main tunnel reception site and to intercept the Acton Storm Relief CSO. This meant that we believed it to be the most appropriate site, subject to further engagement with stakeholders and further design development to verify this conclusion prior to phase two consultation.

A.3.59 Figure A.2 shows the shortlisted sites at phase two consultation to intercept Acton Storm Relief CSO and main tunnel reception.
In summary, Acton Storm Tanks (S01EG/C01YC) was identified as the preferred site for the following reasons (in no particular order):

a. Use of this site would not result in the loss of existing businesses, which would be the case for the three other shortlisted sites.

b. It was already necessary to use this site for the interception of the CSO.

c. Use of the site as a main tunnel reception site was assessed as suitable by the engineering, planning, environment and property disciplines.

d. Use of the site as a main tunnel reception site was considered potentially suitable by the community discipline, with appropriate mitigation measures to reduce impacts on the local area.

e. Detailed transport management arrangements would be made to manage construction vehicle movements.

f. It would maximise the use of Thames Water-owned land for construction works.

g. It is located in an existing Thames Water site.

h. There might be an opportunity to decommission the existing tanks.

It should be noted that the previous proposal to use this site only to intercept the Acton Storm Relief CSO with a smaller connection tunnel to the main tunnel was no longer a viable solution to meet the aims of the project.
A.3.62 In addition to identifying a suitable site in Zone S0, the back-check process reviewed main tunnel sites in Zones S1 to S4 and the overall tunnelling strategy. The options for these zones were reviewed at the same multidisciplinary workshop as the Acton Street site.

A.3.63 This process identified S87HF: Carnwath Road Riverside as the preferred main tunnel site in Zones S1 to S4 (see Appendix G for full details).

A.3.64 In reviewing the tunnelling strategy and drive options, it was agreed by all disciplines that S01EG should be used as a reception site for the main tunnel, meaning a TBM would be removed from the shaft at this site after constructing the western sections of the main tunnel.

A.3.65 The above points were based on the information available at the time and the related stage in the project’s development. The points therefore comprise a historic representation of the process prior to phase two consultation.

**Confirmation of the preferred site for phase two consultation**

A.3.66 A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that that **S01EG/C01YC: Acton Storm Tanks should remain the preferred site to intercept the Acton Storm Relief CSO and receive the western end of the main tunnel for phase two consultation**. Figure A.3 below illustrates the preferred sites and the tunnelling strategy for the construction of the western section of the main tunnel.
Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

### Post phase two consultation: Review of main tunnel sites

#### Introduction to the review

Section A.4 explains how we implemented the requirement in the *Site selection methodology paper* to review the scheme following phase two consultation.

The scheme review at this stage of the site selection process also comprised: a review of comments from phase two consultation related to Acton Storm Tanks as a CSO site and the main tunnel sites and tunnelling options associated with Zone S0 for the western sections of the main tunnel set out in the *Engineering options report* (Spring 2012); consideration of any ongoing scheme design and/or new technical information; multidisciplinary workshops and reviews to identify the most suitable main tunnel site in Zone S0 for Section 48 publicity.

This stage took place from Spring 2012 to Summer 2012.

#### Summary of phase two consultation responses

Details of the consultation responses related to this site and our responses are provided in the *Report on phase two consultation*. The main feedback relevant to site selection can be summarised as follows:
a. reasons for selecting this preferred site are flawed/questionable; the site has only been chosen because it is owned by Thames Water for the associated cost benefits, rather than as the best site from a technical point of view

b. the scale of effects on the local area and community resulting from the selection of this site is unacceptable/has not been properly considered

c. alternative drive strategies were suggested for the western section of the main tunnel

d. alternative site suggestions included Acton Park Industrial Estate and Barn Elms.

A.4.5 The main comments received in support of the site included:

a. support use of this site, including changing the use since phase one consultation

b. the site is more suitable than any shortlisted or alternative site.

A.4.6 We recognise the concerns that have been raised, including potential impact on the local community, and we will take this into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

A.4.7 Due to suggested alternative drive options, we reviewed our tunnelling strategy and prepared a revised Engineering options report (Spring 2012), which concluded that the suggested alternatives would not add any new drive options, so the potentially feasible main tunnel drive options remained the same as those in the Engineering options report (Summer 2011) prior to phase two consultation.

A.4.8 Having taken all comments received during phase two consultation into account, we still believe S01EG/C01YC: Acton Storm Tanks site is the most suitable site to intercept Acton Storm Relief CSO and to receive the main tunnel from Carnwath Road Riverside.

Any changes in circumstances or new information

A.4.9 No new information relevant to site selection was raised at phase two consultation or received from other sources.

A.4.10 Given that there are no changes in circumstances or new information with relevance to site selection, we still believe S01EG/C01YC: Acton Storm Tanks site is the most suitable site to intercept Acton Storm Relief CSO and to receive the main tunnel from Carnwath Road Riverside.

Summary of main tunnel drive options

A.4.11 We re-reviewed main tunnel drive options and we still believe S01EG/C01YC: Acton Storm Tanks is the most suitable site in main tunnel Zone S0 Acton. As noted in paragraph A.4.8 above, the drive options did not change, so main tunnel comparisons in Volume 1, Main report, Section 6.6 remains valid.
Main rationale for the selection of the CSO and main tunnel reception site for Section 48 publicity

A.4.12 The main reasons for confirming S01EG/C01YC: Acton Storm Tanks as the most suitable CSO and main tunnel reception site at the western end of the main tunnel are summarised below (in no particular order):

a. S01EG/C01YC is large enough to accommodate all of the proposed works.

b. We would only need one site to intercept the CSO and receive the main tunnel on S01EG/C01YC unlike the other shortlisted sites.

c. Use of S01EG/C01YC would avoid the disruption and loss of a place of worship.

d. Use of S01EG/C01YC would avoid the disruption and loss of existing businesses within the ‘The Vale’ – a designated major employment location unlike the other shortlisted sites.

e. Use of S01EG/C01YC would minimise demolition arisings and excavated material and thereby reduce the transportation impact on the highway network.

f. Use of S01EG/C01YC provides an opportunity to decommission the existing storm tanks.

g. It would make use of an operational Thames Water site.

A.5 Confirmation of the proposed CSO site and main tunnel reception site for Section 48 publicity

A.5.1 The post phase two consultation review described above in Section A.4 confirmed S01EG/C01YC: Acton Storm Tanks site is the most suitable site to intercept Acton Storm Relief CSO and to receive the main tunnel from Carnwath Road Riverside.

A.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Appendix B – Hammersmith Pumping Station

B.1 Introduction

B.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the Hammersmith Pumping Station CSO prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

B.1.2 Table B.1 summarises the sites identified as most suitable to intercept the Ranelagh CSO at each phase of the process up to Section 48 publicity.

Table B.1 Summary of the sites identified as most suitable to intercept the Hammersmith Pumping Station CSO at each phase of the project

<table>
<thead>
<tr>
<th>Phase one consultation site:</th>
<th>Hammersmith Pumping Station (adjacent to Hammersmith Pumping Station, Chancellors Road)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Hammersmith Pumping Station (adjacent to Hammersmith Pumping Station, Distillery Road)</td>
</tr>
<tr>
<td>Section 48 publicity site:</td>
<td>Hammersmith Pumping Station (adjacent to Hammersmith Pumping Station, Distillery Road)</td>
</tr>
</tbody>
</table>

B.1.3 This appendix is structured as follows:

a. Section B.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b. Section B.2 provides details of how we identified our preferred site for phase one consultation.

c. Section B.3 provides details of the back-check assessments and reasons why we changed our site for phase two consultation.

d. Sections B.4 and B.5 provide details of the post phase two consultation scheme review and confirmation the proposed CSO site for Section 48 publicity.

Type of site

B.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the Hammersmith Pumping Station CSO, and connect it to the main tunnel.

Site selection process

B.1.5 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced
with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). CSO sites also need to be as close to the existing sewer as we followed a localised optioneering approach to identify suitable sites practicable; therefore we took a localised optioneering approach to identify potential sites. The sites went through increasingly detailed levels of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement.

B.1.6 Prior to phase one consultation we applied our multidisciplinary sieving approach to all the assessments set out in the Site selection methodology paper, which are also briefly outlined below (see B.2.2).

B.1.7 Following phase one consultation, we reviewed the sites and decided to carry out a ‘back-check’ in order to review the preferred and shortlisted sites prior to phase two consultation. This back-check involved a repeat of each relevant stage of our site selection process to reconsider which site would be the most suitable CSO site (see Volume 1, Main report, Sections 6.3 to 6.8 for further discussion on changes to the main tunnel and drive options and Appendix A - Acton Storm Tanks¹). The back-check utilised the same multidisciplinary approach that was followed prior to phase one consultation. The results of this back-check superseded all previous assessments undertaken prior to phase one consultation and reported in B.2, except where noted (see Section B.3).

B.1.8 Following phase two consultation, we conducted a review of the scheme in accordance with the Site selection methodology paper. The review of CSO sites involved re-checking the choices of sites identified as most suitable to intercept each CSO associated with the proposed route and the proposed CSO sites for Section 48 publicity (see Section B.4).

B.2 Phase one consultation preferred CSO site: Site selection process

Introduction

B.2.1 Section B.2 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase one consultation.

B.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Hammersmith Pumping Station CSO and to consider the main and connection tunnel options for phase one consultation (see Volume 1, Main report, Sections 4.9 to 4.12 and Section 4.13 or 4.14 for

¹ At this stage the main tunnel and connection tunnel considerations were no longer relevant to the Hammersmith Pumping Station CSO, so references are only provided for additional informational.
discussion on main tunnel options and CSO connection tunnel options, respectively).

B.2.3 A plan that shows all the sites considered for the interception of the Hammersmith Pumping Station CSO and how they progressed through the site selection process can be found in Annex B.1.

B.2.4 This stage took place from Spring 2009 to Summer 2010.

B.2.5 The assessments described in Section B.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic representation of the process and all of the assessments have been superseded, except for some of site suitability report summaries (also see Sections B.3.31 to B.3.36).

Assessment of the long list sites

B.2.6 The long list of potential sites to intercept the Hammersmith Pumping Station CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

B.2.7 In total, 11 sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

B.2.8 Table B.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

Table B.2 Long list to draft short list for the interception of the Hammersmith Pumping Station CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C04XA</td>
<td>Foreshore, adjacent to Chancellors Wharf</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C04XB</td>
<td>Paved area fronting river wall</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The site is thin and working conditions would likely be restrictive.</td>
</tr>
</tbody>
</table>
Appendix B – Hammersmith Pumping Station

Site ID | Site name/description | Recommendation and rationale
---|---|---
C04XC | Vacant lot adjacent to the river | **Recommendation:** Not to draft short list. **Rationale:** The engineering connection to the sewer would be long and difficult.
C04XD | Parking area between offices | **Recommendation:** Not to draft short list. **Rationale:** The site is thin and working conditions would likely be restrictive.
C04XE | Crisp Road | **Recommendation:** Not to draft short list. **Rationale:** The site is too thin and too small.
C04 XF | Adjacent to Hammersmith Pumping Station, Chancellors Road | **Recommendation:** Not to draft short list. **Rationale:** The site is too small to accommodate a drop shaft and interception chamber.
C04XG | Frank Banfield Park | **Recommendation:** To draft short list.
C04XH | Old (abandoned) Pumping Station | **Recommendation:** Not to draft short list. **Rationale:** The works area is very restricted and the engineering connection to the sewer would be long and difficult.
C04XJ | Adjacent to Hammersmith Pumping Station, Chancellors Road | **Recommendation:** To draft short list.
C04XL | Part development site to south east of pumping station inlet | **Recommendation:** To draft short list.
C04XM | Part development site to north east of pumping station inlet | **Recommendation:** To draft short list.

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

B.2.9 Of the 11 sites identified, five were assessed as potentially suitable and passed to the draft short list and six sites were eliminated as unsuitable.

**Assessment of the draft short list sites**

B.2.10 The five draft short list sites identified for further assessment at the next stage were:

a. C04XA: Foreshore, adjacent to Chancellors Wharf
b. C04XG: Frank Banfield Park
c. C04XJ: Adjacent to Hammersmith Pumping Station, Chancellors Road
d. C04XL: Near Hammersmith Pumping Station off Distillery Road
e. C04XM: Adjacent to Hammersmith Pumping Station off Distillery Road.

B.2.11 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

B.2.12 At this stage, we also consulted with each of the London local authorities along the preferred route and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

B.2.13 Table B.3 below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment.

Table B.3 Draft short list to final short list for the interception of the Hammersmith Pumping Station CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C04XA</td>
<td>Foreshore, adjacent to Chancellors Wharf</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XG</td>
<td>Frank Banfield Park</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XJ</td>
<td>Hammersmith Pumping Station (off Chancellors Road)</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XL</td>
<td>Near Hammersmith Pumping Station off Distillery Road</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XM</td>
<td>Adjacent to Hammersmith Pumping Station off Distillery Road</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
</tbody>
</table>

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

B.2.14 All five sites on the draft short list were assessed as potentially suitable and passed to the final short list.

**Assessment of the final short list sites**

B.2.15 The five sites identified for inclusion on the final short list and assessment at the next stage were:

a. C04XA: Foreshore, adjacent to Chancellors Wharf
b. C04XG: Frank Banfield Park

c. C04XJ: Hammersmith Pumping Station (off Chancellors Road)

d. C04XL: Near Hammersmith Pumping Station off Distillery Road

e. C04XM: Adjacent to Hammersmith Pumping Station off Distillery Road.

B.2.16 A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment of the suitability of each site, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline using technical knowledge and professional judgement as appropriate and assessed as suitable, less suitable or not suitable from that discipline’s perspective.

B.2.17 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**C04XA: Foreshore, adjacent to Chancellors Wharf**

B.2.18 Site C04XA is situated on the foreshore of the River Thames in the London Borough of Hammersmith and Fulham. The site is located directly adjacent to properties located on Chancellors Wharf and could be accessed via Chancellors Road.

B.2.19 A paved open space and public walkway separates Chancellors Wharf from the foreshore. The surrounding area is characterised by a range of land uses, including residential, leisure, light industrial, warehousing and office developments. The nearest residential properties are at Chancellors Wharf.

B.2.20 **Engineering:** The site was assessed as less suitable as a CSO site because it has poor access and is relatively small. However, being on the foreshore, its size could be increased.

B.2.21 **Planning:** On balance, the site was assessed as less suitable as a site to intercept this CSO because of the proximity to residential dwellings and the site was subject to several policy designations. With mitigation, these impacts could be reduced.

B.2.22 **Environment:** Overall, the site was assessed as less suitable as a CSO site. The site was considered likely to be suitable from the perspectives of archaeology, built heritage, and hydrogeology. However, the site was considered less suitable from the perspectives of transport, townscape, surface water, flood risk, ecology, air quality, noise, and land quality, although these impacts could be reduced by mitigation.

B.2.23 **Socio-economic and community:** The site was assessed as less suitable for use a CSO site due to impacts on residential properties and users of the Thames Path and shore-side open space.

B.2.24 **Property:** The site was assessed as suitable as a CSO site as there was likely to be an acceptable acquisition cost subject to an agreement with the Crown or the Port of London Authority.
C04XG: Frank Banfield Park

B.2.25 Site C04XG is situated on an area of public open space known as Frank Banfield Park in the London Borough of Hammersmith and Fulham. The park has grassed amenity areas, paths and play areas.

B.2.26 The surrounding area is predominantly characterised by residential properties with a mix of other uses, including offices and commercial space. The eastern boundary of the park is Fulham Palace Road, which contains a number of residences and businesses. Charing Cross Hospital is located to the southeast.

B.2.27 **Engineering:** The site was considered **suitable** as a CSO site because it has good access and could accommodate all the site requirements. However, the site is situated more than 200m from the river.

B.2.28 **Planning:** On balance, the site was assessed as less **suitable** to intercept this CSO because the site was subject to several policy designations and is located within a conservation area. Furthermore, use of the site would result in the temporary loss of public open space and impacts on residential dwellings. Substantial mitigation would be required to reduce these impacts.

B.2.29 **Environment:** Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, built heritage, water resources, ecology, and flood risk. However, the site was considered less **suitable** from the perspective of townscape, air quality, noise and land quality, although these impacts could be reduced by mitigation.

B.2.30 **Socio-economic and community:** The site was assessed as less **suitable** for use as a CSO site due to the impacts on Frank Banfield Park, specifically a play area and neighbouring residential properties. Permanent impacts might also result from structures and hardstanding associated with the proposed operations.

B.2.31 **Property:** The site was assessed as **suitable** as a CSO site as the acquisition cost was likely to be acceptable. However, there was an acquisition risk due to its status as a park.

C04XJ: Hammersmith Pumping Station (off Chancellors Road)

B.2.32 Site C04XJ is situated within a vacant former industrial site known as Hammersmith Embankment, in the London Borough of Hammersmith and Fulham.

B.2.33 The site is bounded to the north by Chancellors Road, directly in front of its junction with Crisp Road, and to the east by an existing Thames Water pumping station. The surrounding area is predominantly residential but includes a mix of other uses and the pumping station.

B.2.34 **Engineering:** The site was considered **suitable** as a CSO site because it has good access and could accommodate all the site requirements. However, the site is situated more than 200m from the river.

B.2.35 **Planning:** On balance, the site was assessed as **suitable** to intercept this CSO. The site was subject to several policy designations. Furthermore,
use of the site would impact on residential amenity. However, with appropriate mitigation, impacts could be reduced.

**B.2.36 Environment:** Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, water resources, ecology, built heritage and townscape. However, the site was considered **less suitable** from the perspectives of flood risk, air quality, noise and land quality, although these impacts could be reduced by appropriate mitigation.

**B.2.37 Socio-economic and community:** The site was assessed as **suitable** for use as a CSO site as the site was unlikely to have a significant impact on the local community as it is brownfield. Although construction related impacts might be experienced by adjacent residences and businesses, they could be reduced through appropriate mitigation.

**B.2.38 Property:** The site was assessed as **suitable** as a CSO site. However, this could change to **less suitable** if a proposed development on the site commences.

**C04XL: Near Hammersmith Pumping Station off Distillery Road**

**B.2.39** Site C04XL is situated within a vacant former industrial site known as Hammersmith Embankment, in the London Borough of Hammersmith and Fulham.

**B.2.40** The site is bounded to the north by Chancellors Road, and adjoins the southeast corner of an existing Thames Water pumping station. The surrounding area is predominantly residential, with Frank Banfield Park to the east and the River Thames to the west.

**B.2.41 Engineering:** The site was assessed as **suitable** as a CSO site because it has good access and is an adequate size.

**B.2.42 Planning:** On balance, the site was assessed as **suitable** as a site to intercept this CSO. The site was subject to several planning and environmental policy designations. However, with appropriate mitigation, any impacts could be reduced.

**B.2.43 Environment:** Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, water resources, ecology, flood risk, built heritage and townscape. However, the site was considered **less suitable** from the perspectives of air quality, noise and land quality although these impacts could be reduced by appropriate mitigation.

**B.2.44 Socio-economic and community:** The site was assessed as **less suitable** as a CSO site due to the proximity of Frank Banfield Park. Construction related impacts might be felt by adjacent residences and businesses but these could be reduced through appropriate mitigation.

**B.2.45 Property:** The site was assessed as **suitable** as a CSO site. However, this could change to **less suitable** if a proposed development on the site commences.
**C04XM: Adjacent to Hammersmith Pumping Station off Distillery Road**

B.2.46 Site C04XJ is situated within a vacant former industrial site known as Hammersmith Embankment, in the London Borough of Hammersmith and Fulham.

B.2.47 The site is bounded to the north by Chancellors Road, and adjoins the eastern boundary of an existing Thames Water pumping station. The surrounding area is predominantly residential, with Frank Banfield Park to the east and the River Thames to the west.

B.2.48 **Engineering:** The site was considered **suitable** as a CSO site because it has good access and is adequate in size.

B.2.49 **Planning:** On balance, the site was assessed as **suitable** as a site to intercept this CSO. The site was subject to several planning and environmental policy designations. Furthermore, there are a number of residential properties in proximity. However, with appropriate mitigation, any impacts could be reduced.

B.2.50 **Environment:** Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of archaeology, water resources, ecology, flood risk, and land quality. However, the site was considered **less suitable** from the perspectives of transport, built heritage, townscape, air quality and noise, although these impacts could be reduced by appropriate mitigation.

B.2.51 **Socio-economic and community:** The site was assessed as **less suitable** as a CSO site due to the proximity of Frank Banfield Park. Impacts might be experienced by adjacent residences and businesses but these impacts might be reduced through appropriate mitigation.

B.2.52 **Property:** The site was assessed as **suitable** as a CSO site. However, this might change to **less suitable** if a proposed development on the site commences.

**Phase one consultation preferred site**

B.2.53 Following the completion of the site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

B.2.54 Of the five shortlisted sites, land adjacent to Hammersmith Pumping Station off Chancellors Road (C04XJ) was identified as the preferred site for a number of reasons, which are summarised in no particular order below:

a. C04XA is located adjacent to a number of elevated residential and business properties that front the river. This site was considered to be less suitable by the engineering, planning, environment and community disciplines. In addition, the site did not have suitable vehicle access from the public highway network. The use of site C04XG would cause significant impacts on the local community and
the loss of high amenity open space. Furthermore, both of these sites would not accord with the Hammersmith and Fulham Unitary Development Plan and emerging Core Strategy policy. For these reasons, both sites were considered not suitable.

b. The vacant area of land surrounding and extending to the south of the pumping station, on which the remaining three sites are located, was identified as suitable for a main tunnel site (site S33HF). The location of a shaft on sites C04XL or C04XM would force the alignment of the main tunnel to cross much of this site and sterilise a greater part for future development than a shaft on site C04XJ.

c. C04XM has a number of live, large diameter sewers under the ground which made planning a large shaft and interception chambers complex, and also required part use of Distillery Road, which would need to be closed for an extended period. C04XL does not abut the existing Hammersmith Pumping Station site and would lead to greater fragmentation of the vacant land.

d. Site C04XJ has sufficient space and would allow the permanent structures to be located in close proximity to the existing pumping station. The site has good access and its size and location would allow all works to be conducted off the carriageway to reduce disruption.

e. Site C04XJ is primarily opposite business premises and it is located further away from residential dwellings than the other sites. It would be an extension of the pumping station, which would ease operational access and maintenance.

B.2.55 C04XJ was therefore identified as the preferred site for the interception of flows from the Hammersmith Pumping Station CSO. As noted above, the Hammersmith Pumping Station site had also been identified during the site selection process as suitable as a main tunnel site for the construction of the main tunnel. The preferred tunnelling strategy that was developed for phase one consultation proposed to use the Hammersmith Pumping Station site to receive a TBM that would ‘drive’ the main tunnel from a site at Barn Elms Sports Centre playing fields.

B.2.56 The selection of site C04XJ for the interception of the local CSO would allow the construction area required for the CSO interception to be incorporated with that required for the construction of the main tunnel site, which would reduce the total number of sites required.

B.3 **Phase two consultation preferred CSO site: Scheme development and site selection**

**Introduction**

B.3.1 Section B.3 explains how the *Site selection methodology paper* was implemented in order to arrive at the preferred CSO site for phase two consultation.
B.3.2 Following phase one consultation, the site selection process comprised: a review of comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; completion of a back-check exercise to review the sites listed in Section B.2 along with any potential new sites or a combination of sites using the assessment process outlined in B.2.2; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Hammersmith Pumping Station CSO for phase two consultation.

B.3.3 A plan that shows all the sites considered for the interception of the Hammersmith Pumping Station CSO and how they progressed through the site selection process can be found in Annex B.2.

B.3.4 This stage took place from Winter 2010 to Autumn 2011.

B.3.5 The assessments described in Section B.3 were based on the information available at the time and the related stage in the project’s development.

Phase one consultation responses

B.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

B.3.7 The main issues and concerns raised during phase one consultation in relation to the combined Hammersmith Pumping Station site (which encompassed both a main tunnel shaft site and interception of the local CSO) can be summarised as follows in no particular order:

a. impact on the planned development and regeneration of the site  
b. proximity to Frank Banfield Park and access to the Thames Path  
c. disruption to residential areas and businesses  
d. impact on traffic congestion and access to the site  
e. use of the river  
f. design and visual impact of permanent structures.

B.3.8 The main comments received in support of the preferred site included:

a. good and logical choice for the function and the most obvious site  
b. best site with regard to noise and traffic issues  
c. the only viable option because it minimises disruption and inconvenience and uses a derelict site that has been empty for many years.

B.3.9 More detail on the consultation responses in relation to this site and our response to the comments received are provided in the Report on phase one consultation.

B.3.10 Having taken all comments received into account, we still believed that Hammersmith Pumping Station was the most appropriate site to connect the local CSO to the main tunnel. Compared to the other shortlisted sites, Hammersmith Pumping Station would have more limited impact on the
residential properties to the north side of Chancellors Road, reduce the potential impact on Frank Banfield Park and offer good access.

B.3.11 However, due to the emergence of plans for the redevelopment of the vacant land on which we proposed to develop our worksite and additional engineering design work, we began a review of our tunnelling strategy for the construction of the western section of the main tunnel and a review of whether a main tunnel site was required at Hammersmith Pumping Station.

**Back-check process**

B.3.12 When the preferred site was selected for phase one consultation, we acknowledged that the use of the vacant land adjacent to the Hammersmith Pumping Station for a main tunnel site was potentially high risk if the status of the site changed (ie, if proposals for redeveloping the site were brought forward).

B.3.13 Additional engineering design work was carried out on the connection tunnel between the Hammersmith Pumping Station site and Acton Storm Tanks to look at matters such as the size of the tunnel and its hydraulic requirements and performance. The review found that the connection tunnel needed to be larger than initially proposed in order to meet the flow and storage requirements. It also identified the possibility of using the Hammersmith Pumping Station only to intercept the local CSO.

B.3.14 Developers subsequently included an area of the site in a residential planning application. The developers were amenable to working with us to accommodate a smaller CSO site and construct the CSO shaft within their development plans. In principle, it was likely that this application would accord with the expected reallocation of this site from office to residential use in the London Borough of Hammersmith and Fulham’s emerging local development framework (LDF).

B.3.15 Due to the evolving engineering design, new planning policy context and revised residential planning application for the site, we began a back-check (as stated in our **Site selection methodology paper**) to review our selection of Hammersmith Pumping Station (off Chancellors Road – C04XJ) as our preferred site to intercept the Hammersmith Pumping Station CSO.

B.3.16 The back-check involved a targeted repeat of each relevant stage of our site selection process to reconsider which site would be most suitable to intercept the Hammersmith Pumping Station CSO. The results of each stage of the back-check process are outlined below.

**Assessment of the back-check long list**

B.3.17 The original long list of sites for Hammersmith Pumping Station CSO comprised 11 sites (see Table B.2). These sites were reviewed along with any new sites identified in the back-checking exercise (ie, a reassessment to establish whether there had been any changes of circumstances or if any new information had emerged).
B.3.18 All sites on the original long list were put on the back-check long list for this CSO. In addition, the following new sites were added to the back-check long list:

a. C04XN: Hammersmith Pumping Station off Distillery Road (new site incorporating sites C04XL and C04XM)
b. C04XP: Thames Water Depot and Hammersmith Pumping Station, Chancellors Road (new site which incorporated site C04XH and part of C04XM).

B.3.19 Sites C04XH, C04XL and C04XM were subsequently withdrawn and replaced by the new sites detailed above.

B.3.20 It should be noted that we also considered alternative sites suggested by consultees; however, none of these were located within a suitable distance to intercept this CSO.

B.3.21 The back-check long list sites were assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2 of the Site selection methodology paper.

B.3.22 Table B.4 below summarises the outcome of the back-check assessment of the back-check long list of sites. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the back-check draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

Table B.4 Long list to draft short list for the interception of the Hammersmith Pumping Station CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C04XA</td>
<td>Foreshore, adjacent to Chancellor's Wharf</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C04XB</td>
<td>Paved area fronting river wall</td>
<td>Recommendation: Not to draft short list.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rationale: The site is thin and working conditions were likely to be restrictive.</td>
</tr>
<tr>
<td>C04XC</td>
<td>Vacant lot adjacent to the river</td>
<td>Recommendation: Not to draft short list.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rationale: The engineering connection to the sewer would be long and difficult.</td>
</tr>
<tr>
<td>C04XD</td>
<td>Parking area between offices</td>
<td>Recommendation: Not to draft short list.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rationale: The site is thin and working conditions were likely to be restrictive.</td>
</tr>
<tr>
<td>C04XE</td>
<td>Crisp Road</td>
<td>Recommendation: Not to draft short list.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rationale: The site is too thin and too</td>
</tr>
</tbody>
</table>
Appendix B – Hammersmith Pumping Station

Section 48: Report on site selection process
Volume 3: Western site appendices A to H

### Site Selection Process for the Interception of the Hammersmith Pumping Station CSO

#### Site ID | Site name/description | Recommendation and rationale
--- | --- | ---
 | | small.
 C04XF | Adjacent to Hammersmith Pumping Station, Chancellor's Road | **Recommendation:** To draft short list to be considered with C04XJ.
 C04XG | Frank Banfield Park | **Recommendation:** To draft short list.
 C04XJ | Hammersmith Pumping Station (off Chancellor's Road) | **Recommendation:** To draft short list to be considered with C04XF.
 C04XN | Hammersmith Pumping Station (off Distillery Road) | **Recommendation:** To draft short list.
 C04XP | Thames Water Depot and Pumping Station, Chancellor's Road | **Recommendation:** To draft short list.

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

B.3.23 Of the ten sites identified, six were assessed as potentially suitable and passed to the draft short list and four sites did not. C04XJ and C04XF were combined, which left five potentially suitable sites in total.

**Assessment of the back-check draft short list sites**

B.3.24 The five back-check draft shortlisted sites were further assessed by the engineering, planning, environment, and community and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper*.

B.3.25 Table B.5 below summarises the outcome of the back-check assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the back-check short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment.

B.3.26 The main rationale for excluding these sites at this stage is summarised in Table B.5.

**Table B.5 Draft short list to final short list for the interception of the Hammersmith Pumping Station CSO (Table 2.3 assessment)**

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C04XA</td>
<td>Foreshore, adjacent to Chancellors Wharf</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>C04XG</td>
<td>Frank Banfield Park</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XJ/</td>
<td>Hammersmith Pumping Station (off Chancellors Road)</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C04XN</td>
<td>Hammersmith Pumping Station (off Distillery Road)</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C04XP</td>
<td>TW Depot and Pumping Station, Chancellors Road</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
</tbody>
</table>

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

B.3.27 All five sites on the back-check draft short list were assessed as potentially suitable and passed to the final short list.

**Assessment of the back-check final short list sites**

B.3.28 The five back-check final shortlisted sites identified for assessment at the next stage were:

a. C04XA: Foreshore, adjacent to Chancellors Wharf
b. C04XG: Frank Banfield Park
c. C04XJ/C04XF: Adjacent to Hammersmith Pumping Station (off Chancellors Road)
d. C04XN: Hammersmith Pumping Station (off Distillery Road)
e. C04XP: TW Depot and Pumping Station, Chancellors Road.

B.3.29 Site suitability reports were prepared for the new back-check final short list sites and the site suitability reports for the phase one shortlisted sites were re-evaluated.

**C04XA: Foreshore, adjacent to Chancellors Wharf**

B.3.30 All discipline recommendations remained unchanged (see Sections B.2.17 to B.2.23).

**C04XG: Frank Banfield Park**

B.3.31 There would likely be high acquisition costs if replacement land were required. Therefore, the property recommendation became **less suitable**.

B.3.32 All other discipline recommendations remained unchanged (see Sections B.2.24 to B.2.30).
C04XJ/C04XF: Adjacent to Hammersmith Pumping Station (off Chancellors Road)

B.3.33 Because these two sites adjoin each other, we reviewed the conclusions from the original C04XJ site suitability report and considered that they would be valid for the combined site.

B.3.34 If development commenced, the site might no longer be available, which represents a risk to the project. Furthermore, if our works prejudiced development, it was likely that acquisition costs would increase significantly. Therefore, the property recommendation became less suitable.

B.3.35 All other discipline recommendations remained unchanged (see Sections B.2.31 to B.2.37).

C04XN: Hammersmith Pumping Station (off Distillery Road)

B.3.36 Site C04XN is enclosed by a vacant former industrial site known as Hammersmith Embankment, located in the London Borough of Hammersmith and Fulham.

B.3.37 The surrounding area is predominantly residential with Frank Banfield Park to the east and the River Thames to the west. The site is bounded to the north by Chancellors Road and is immediately adjacent to the eastern boundary of an existing Thames Water pumping station.

B.3.38 **Engineering:** The site was assessed as suitable as a CSO site because it was an adequate size and posed no known unique technical or health and safety issues. The site would have reasonable separation from third party assets and reasonable access by road during construction.

B.3.39 **Planning:** On balance, the site was considered suitable as a site to intercept this CSO. The site was within several planning and environmental policy designated areas. However, appropriate mitigation should minimise potential conflict with these policies. There would be impacts on residential amenity but it is likely that they could be reduced by appropriate mitigation. Further negotiations with the land owner were required in order to agree the use of the site for the temporary and permanent works and to phase the redevelopment proposals.

B.3.40 **Environment:** Overall, the site was assessed as suitable as a CSO site. The site was considered likely to be suitable from the perspectives of transport, archaeology, built heritage, townscape, water resources (hydrogeology and surface water), ecology and flood risk. However, the site was considered less suitable from the perspectives of air quality, noise and land quality although these impacts could be reduced by appropriate mitigation.

B.3.41 **Socio-economic and community:** The site was assessed as less suitable for use as a CSO site due to the proximity of Frank Banfield Park, a valuable area of community open space. The area was identified as reasonably quiet and there could be construction noise impacts on the park and on residential properties opposite the site.
B.3.42 **Property:** The site was assessed as **less suitable** as a CSO site. The site was in private ownership and no procedural difficulty in acquiring the land in its current state was anticipated. Furthermore, the acquisition cost was likely to be high but acceptable. However, if development commenced, the site might no longer be available, which represents a risk to the project. Furthermore, if works prejudiced development, acquisition costs would likely increase significantly.

**C04XP: TW Depot and Pumping Station, Chancellors Road**

B.3.43 Site C04XP was made up of the existing Thames Water depot and Hammersmith Pumping Station sites, both in the London Borough of Hammersmith and Fulham.

B.3.44 The depot site is fully enclosed by residential properties on all sides. The existing Hammersmith Pumping Station site is bound by Chancellors Road to the north and by a vacant former industrial site known as Hammersmith Embankment to the east, west and south.

B.3.45 The assessment considered two site layout options:


b. Option 2: CSO layout with drop shaft in Chancellors Road and adjoining pumping station land.

B.3.46 **Engineering:** Option 1 was assessed as **less suitable** as a CSO site. The construction works would be in close proximity to existing critical main sewers and existing residential and light industrial buildings.

B.3.47 Option 2 was also assessed as **less suitable** as a CSO site. This was due to the very close proximity of existing critical utilities and would require closure of Chancellors Road to enable access to the shaft.

B.3.48 **Planning:** On balance, both options were assessed as **not suitable** as a site to intercept this CSO. The construction works were likely to have a direct impact on a large number of existing residents and it was unlikely that mitigation measures to protect the amenity of the residences would be acceptable.

B.3.49 **Environment:** Overall, Option 1 was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, water resources (hydrogeology and surface water), flood risk and ecology. However, the site was considered **less suitable** from the perspectives of built heritage, townscape, air quality, noise and land quality, although these impacts could be reduced by appropriate mitigation.

B.3.50 Overall, Option 2 was assessed as **less suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of archaeology, water resources (surface water and hydrogeology), flood risk and ecology. However, the site was considered **less suitable** from the perspectives of transport, built heritage, townscape, air quality, noise and land quality.

B.3.51 **Socio-economic and community:** Both options were assessed as **not suitable** as a CSO site. It was likely that construction works would directly impact on a number of residential properties and, given their close
proximity to the site, effective mitigation could be difficult to achieve. Furthermore, Option 1 was in close proximity to two playgrounds and Option 2 required a large amount of construction work on the public highway.

B.3.52 **Property:** Option 1 was considered **suitable** as a CSO site. The site was primarily within Thames Water-owned land; therefore acquisition costs would be low. Furthermore, there was less potential for Section 10 compensation claims, if access were maintained to all properties. However, there was a greater potential for discretionary purchase costs as the shaft would be located close to and be surrounded by residential properties.

B.3.53 Option 2 was considered **suitable** as a CSO site. The site was primarily within Thames Water-owned land; therefore acquisition costs would be low. Furthermore, discretionary purchase costs were likely to be lower due to the shaft being located further from high-density residential properties. However, the greater disruption to Chancellors Road increased the possibility of Section 10 compensation claims. There were also slightly increased procedural difficulties associated with acquiring rights to work in the road compared to Option 1.

**Phase two consultation preferred site**

B.3.54 Following the completion of the back-check process, we held a multidisciplinary workshop to compare the original preferred site (Hammersmith Pumping Station off Chancellors Road – C04XJ) and the shortlisted sites with the new sites identified via the back-check.

B.3.55 This workshop took into account the findings of all the site suitability reports, new information and the feedback received during phase one consultation. On the basis of the assessments described above and professional judgement, it was agreed by all disciplines that C04XN: **Hammersmith Pumping Station (off Distillery Road) should become the recommended phase two consultation preferred site for the interception of the Hammersmith Pumping Station CSO.** This meant that we believed it to be the most appropriate site, subject to further engagement with stakeholders and further design development to verify this conclusion prior to phase two consultation. For the purposes of phase two consultation and beyond, the site was referred to as Hammersmith Pumping Station.

B.3.56 In summary, C04XN: Hammersmith Pumping Station was identified as the most suitable site for the following reasons (in no particular order):

a. The site is within the footprint of the phase one consultation construction layout plan, but much smaller as it is only needed to intercept the CSO. Due to the advanced stages of the proposal for a major residential development at this site, we concluded that the larger site required for a main tunnel reception site would not be available and therefore pose a significant risk to the project if it were selected as a main tunnel site.

b. Technically, it was a suitable location to intercept this CSO.
c. The location of the CSO fitted in with the developer’s proposed redevelopment of the site and the work programmes could be coordinated.

d. Construction works in this location would have less impact on existing residential dwellings than the other shortlisted sites, especially C04XP.

e. It has good road access.

f. The site could be directly connected with the pumping station and the works could be co-ordinated between the two sites.

g. Use of this site would require a short connection tunnel to connect the intercepted CSO to the main tunnel following an alignment agreed with the developer.

B.3.57 The above points were based on the information available at the time and the related stage in the project’s development. The points therefore comprise a historic representation of the process prior to phase two consultation.

Confirmation of the preferred site for phase two consultation

B.3.58 A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that C04XN: Hammersmith Pumping Station (off Distillery Road) should become the phase two consultation preferred site for the interception of the Hammersmith Pumping Station CSO.

B.3.59 Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

B.4 Post phase two consultation: Review of CSO sites

Introduction to the review

B.4.1 Section B.4 explains how we implemented the requirement in the Site selection methodology paper to review the scheme following phase two consultation and prior to Section 48 publicity.

B.4.2 This stage of the site selection process comprised: a review of comments from phase two consultation; consideration of any ongoing scheme design and/or new technical information; multidisciplinary workshops and reviews to identify the proposed CSO site for Section 48 publicity.

B.4.3 A plan that shows all the sites considered for the interception of the Hammersmith Pumping Station CSO and how they progressed through the site selection process can be found in Annex B.1.

B.4.4 This stage took place from Spring 2012 to Summer 2012.

Summary of phase two consultation responses

B.4.5 Details of the consultation feedback related to this site and our responses are provided in the Report on phase two consultation. All phase two
consultation comments were reviewed and taken into account in the development of our proposed project. The main feedback relevant to site selection can be summarised as follows:

a. other more suitable alternative sites are available in the local area/alternative sites have not been properly explored, including St Paul’s Playing Fields across the River Thames

b. site selection should avoid sites in residential or densely populated areas

c. alternative site suggestions included further upstream and south of the River Thames.

B.4.6 The main comments received in support of the preferred site included:

a. support for the use of the preferred site; in particular the use of a land-based site owned by Thames Water

b. the site is more suitable than any shortlisted or alternative site because it is brownfield; it is already an operational site and is available for development

c. qualified support for the preferred site subject to appropriate assessment, mitigation and demonstration that it is necessary.

B.4.7 We recognise the concerns that have been raised, including impact upon residential property, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

B.4.8 Having taken all comments received during phase two consultation into account, we still believe C04XN: Hammersmith Pumping Station (off Distillery Road) is the most suitable site to intercept the Hammersmith Pumping Station CSO.

Any changes in circumstances or new information

B.4.9 A hybrid planning application (reference: 2011/00407/COMB) for a mixed use, residential-led development on the Hammersmith Embankment site (known as ‘Fulham Reach’) was approved on 23 December 2011, and subsequent non-material amendments (ref: 2012/01198/NMAT) were approved on 9 May 2012. It covered the area around the Hammersmith Pumping Station site. Construction of the first phase of the development (which had full consent) is now underway. This included Block A and a large two-storey showroom. The location of the CSO fitted in with the developer’s proposed redevelopment of the site and the work programmes were able to be coordinated.

B.4.10 Having considered this new information, we still believe C04XN: Hammersmith Pumping Station (off Distillery Road) is the most suitable site to intercept the Hammersmith Pumping Station CSO.
Main rationale for the selection of the CSO site for Section 48 publicity

B.4.11 In summary, Hammersmith Pumping Station (off Distillery Road – C04XN) was identified as the most suitable CSO site in no particular order for the following reasons (in no particular order):

a. There are no significant technical challenges compared to other sites and a reduced risk of utility clashes.

b. The site benefits from the shielding effect of the existing pump station, which would provide mitigation for local residents and the shaft is located further from existing residential dwellings than the other shortlisted sites.

c. The site allows for the interception of the CSO upstream of the storm pumps.

d. The site allows us to sufficiently coordinate the construction of the CSO works with the adjacent residential development to suit the project and the third party developer. The third party developer and Thames Water are producing an agreement that reflects the proposed coordination.

e. A short connection tunnel to the main tunnel in the river could be accommodated within the planned public realm corridor in the Hammersmith Embankment development so that the route would run under fewer buildings.

f. The proposed development around the Hammersmith Pumping Station was approved and construction is underway, which justifies the use of the site as a CSO only site because there would be insufficient space to accommodate a main tunnel site.

g. The site falls within the ‘Hammersmith Embankment former office’ site in Core Strategy Policy HTC3. The policy recognised that part of this site would also be required to accommodate construction and permanent works for the project within the scheme layout and programme. Our site has been coordinated with the above-mentioned development to ensure that both schemes could be delivered.

h. The site makes use of a brownfield site and some Thames Water land.

i. The site is technically in a suitable location to intercept this CSO because it is of adequate size and posed no known unique technical or health and safety issues. The site would have reasonable separation from third party assets and reasonable access by road during construction.

j. The site benefits from direct access to a public highway.

B.5 Confirmation of the proposed CSO site for Section 48 publicity

B.5.1 The post phase two consultation review described above in Section B.4 confirmed C04XN: Hammersmith Pumping Station (off Distillery Road)
as the proposed site to intercept the Hammersmith Pumping Station CSO for Section 48 publicity.

B.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Annex B.1
Appendix C – Barn Elms

C.1 Introduction

C.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the West Putney Storm Relief CSO prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

C.1.2 Table C.1 summarises the sites identified as most suitable to intercept the West Putney Storm Relief CSO at each phase of the project.

Table C.1 Summary of the sites identified as most suitable to intercept the West Putney Storm Relief CSO at each phase of the project

<table>
<thead>
<tr>
<th>Phase one consultation site:</th>
<th>Barn Elms – combined main tunnel and CSO site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Barn Elms – CSO site only</td>
</tr>
<tr>
<td></td>
<td>(Preferred main tunnel site changed to Carnwath Road Riverside – see Appendix G )</td>
</tr>
<tr>
<td>Section 48 publicity site:</td>
<td>Barn Elms – CSO site only</td>
</tr>
</tbody>
</table>

C.1.3 This appendix is structured as follows:

a. Section A.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b. Section C.2 provides details of how we identified our preferred site for phase one consultation.

c. Section C.3 provides details of the back-check assessments and reasons why we changed our preferred site for phase two consultation.

d. Sections C.4 and C.5 provide details of the post phase two consultation scheme review and confirmation of the proposed CSO site for Section 48 publicity.

Type of site

C.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the West Putney Storm Relief CSO, and connect it to the main tunnel.

Site selection process

C.1.5 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding...
concentrated residential sites and World Heritage Sites). CSO sites also need to be as close to the existing sewer as we followed a localised optioneering approach to identify suitable sites practicable; therefore we took a localised optioneering approach to identify potential sites. The sites went through increasingly detailed levels of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement.

C.1.6 Prior to phase one consultation we applied our multidisciplinary sieving approach to all the assessments to identify a CSO site as defined in the *Site selection methodology paper*, which are also briefly outlined below (see C.2.2). Also we carried out assessments to identify main tunnel sites for the western section of the main tunnel (between Hammersmith Bridge and Albert Bridge), which included a larger Barn Elms site (see Appendix G for details related to main tunnel sites and summaries of tunnelling options and Volume 1, Main report, Sections 4.9 to 4.12 for further discussion of main tunnel drive options related to the western section of the main tunnel for all routes).

C.1.7 Following phase one consultation, we reviewed comments and decided that Barn Elms should remain our preferred CSO interception site. However, due to other changes to the western section of the main tunnel, sites and tunnelling options, we decided to carry out a ‘back-check’ on potential main tunnel sites in the western section of the main tunnel (see Appendix G for details of the back-check related to main tunnel sites and also see Volume 1, Main report, Sections 6.3 to 6.6 for main tunnel drive options related to the western section of the main tunnel for the Abbey Mills route, but would also apply to all routes).

C.1.8 Following phase two consultation, we conducted a review of the scheme in accordance with the *Site selection methodology paper*. The review of CSO sites involved re-checking the choices of sites identified as most suitable to intercept each CSO associated with the proposed route and proposed CSO sites for Section 48 publicity (see Section 4). The scheme review was also carried out for the main tunnel sites for the western section of the main tunnel, which can be found in Appendix G and see also Volume 1, Main report, Sections 7.3 to 7.6 for drive options related to the western section of the main tunnel for the Abbey Mills route, but would also apply to all routes.

C.2 Phase one consultation preferred CSO site: Site selection process

**Introduction**

C.2.1 Section C.2 explains how the *Site selection methodology paper* was implemented in order to arrive at the preferred CSO site for phase one consultation.

C.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the
long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the West Putney Storm Relief CSO for phase one consultation.

C.2.3 A plan that shows all the sites considered for the interception of the West Putney Storm Relief CSO and how they progressed through the site selection process can be found in Annex C.1.

C.2.4 This stage took place from Spring 2009 to Summer 2010.

C.2.5 The assessments described in Section C.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic representation of the process and all of the assessments have been superseded, except the site suitability report summaries.

**Assessment of the long list sites**

C.2.6 The long list of potential sites to intercept the West Putney Storm Relief CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

C.2.7 In total, 16 sites were included on the long list. The sites were assessed having regard to the high-level considerations set out in Table 2.2 of the *Site selection methodology paper* (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

C.2.8 Table C.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C05XA</td>
<td>Foreshore</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C05XB</td>
<td>Woodland area between Embankment and Barn Elms</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>C05XC</td>
<td>Outfall</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The site is too small with poor access and is not viable for connection to the sewer.</td>
</tr>
<tr>
<td>C05XD</td>
<td>Boat repair, off Putney Embankment</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XE</td>
<td>Leaders Gardens, Putney Embankment</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XF</td>
<td>Car parking area behind block of flats in Horne Way</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The site is small and too narrow.</td>
</tr>
<tr>
<td>C05XG</td>
<td>Area fronting block of flats in Horne Way</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XH</td>
<td>Area fronting blocks of flats in Horne Way</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XJ</td>
<td>Area fronting blocks of flats in Barn Elms Park</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The site is too narrow and the engineering connection to the sewer would be long and difficult.</td>
</tr>
<tr>
<td>C05XK</td>
<td>Area fronting blocks of flats in Horne Way</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XL</td>
<td>Area fronting flats between Floss Street and Horne Way</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The site is too narrow.</td>
</tr>
<tr>
<td>C05XM</td>
<td>Area fronting blocks of flats in Horne Way</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XN</td>
<td>Area fronting block of flats in Commondale</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XP</td>
<td>Area fronting block of flats in Commondale</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XQ</td>
<td>Barn Elms (corner of recreation area)</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C05XR</td>
<td>Area fronting block of flats in Commondale</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
</tbody>
</table>

NB: The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

C.2.9 Of the 16 sites identified, 12 were assessed as potentially suitable and passed to the draft short list and four sites were eliminated as unsuitable.
Assessment of the draft short list sites

C.2.10 The 12 Draft Short List sites identified for further assessment at the next stage were:

a. C05XA: Foreshore, adjacent to Barn Elms
b. C05XB: Woodland Area between Embankment and Barn Elms
c. C05XD: Boat repair, off Putney Embankment
d. C05XE: Leaders Gardens, Putney Embankment
e. C05XG: Area fronting block of flats in Horne Way
f. C05XH: Area fronting blocks of flats in Horne Way
g. C05XK: Area fronting blocks of flats in Horne Way
h. C05XM: Area fronting blocks of flats in Horne Way
i. C05XN: Area fronting block of flats in Commondale
j. C05XP: Area fronting block of flats in Commondale
k. C05XQ: Barn Elms (corner of recreation area)
l. CO5XR: Area fronting block of flats in Commondale.

C.2.11 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

C.2.12 At this stage, we also consulted with each of the London local authorities along the preferred route and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

C.2.13 Table C.3 below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.

Table C.3 Draft short list to final short list for the interception of the West Putney Storm Relief CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C05XA</td>
<td>Foreshore, adjacent to Barn Elms</td>
<td><strong>Recommendation</strong>: Retain on short list</td>
</tr>
<tr>
<td>C05XB</td>
<td>Woodland Area between</td>
<td><strong>Recommendation</strong>: Not to short list.</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------</td>
<td>------------------------------</td>
</tr>
</tbody>
</table>
|         | Embankment and Barn Elms. | **Rationale:**  
|         |                       | • Engineering – There would be various access issues to the site during and post construction.  
|         |                       | • Community – There could be impacts on a number of sensitive receptors around the site. |
| C05XD  | Boat repair, off Putney Embankment | **Recommendation:** Retain on short list. |
| C05XE  | Leaders Gardens, Putney Embankment | **Recommendation:** Retain on short list. |
| C05XG  | Area fronting block of flats in Horne Way | **Recommendation:** Not to short list. **Rationale:**  
|         |                       | • Engineering – The site is restricted by its shape and is a long distance from river (180m) therefore a long connection tunnel would be required. |
| C05XH  | Area fronting blocks of flats in Horne Way | **Recommendation:** Not to short list. **Rationale:**  
|         |                       | • Engineering – The site is a long distance from the river (200m) therefore a long connection tunnel would be required.  
|         |                       | • Community – The site is situated adjacent to residential flats. |
| C05XK  | Area fronting blocks of flats in Horne Way | **Recommendation:** Not to short list. **Rationale:**  
|         |                       | • Engineering – The site is a long distance from the river (270m) therefore a long connection tunnel would be required.  
|         |                       | • Community – Use of the site would result in the temporary loss of a playground on the site and there would be a cumulative impact on a number of sensitive receptors. |
| C05XM  | Area fronting blocks of flats in Horne Way | **Recommendation:** Not to short list. **Rationale:**  
|         |                       | • Engineering – The site is a long distance to river (300m) therefore a long connection tunnel would be required.  
<p>|         |                       | • Community – There would be impact on |</p>
<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>local amenity and users of this open space.</td>
</tr>
</tbody>
</table>
| C05XN   | Area fronting block of flats in Commondale | **Recommendation:** Not to short list.  
**Rationale:**  
- Engineering – The site has poor access.  
- Planning/Environment – There would be a cumulative impact on designations, especially on Metropolitan Open Land, public open space and amenity of the adjacent block of flats.  
- Community – There would be an impact on high density residential and community facilities located around the site. |
| C05XP   | Area fronting block of flats in Commondale | **Recommendation:** Not to short list.  
**Rationale:**  
- Engineering – The site has poor access.  
- Planning/Environment – There would be a cumulative impact on a number of designations, especially Metropolitan Open Land, open space and the amenity of adjacent block of flats.  
- Community – There would be a cumulative impact on a large combination of sensitive receptors. |
| C05XQ   | Barn Elms (corner of recreation area) | **Recommendation:** Retain on short list. |
| C05XR   | Area fronting block of flats in Commondale | **Recommendation:** Not to short list.  
**Rationale:**  
- Engineering – The site is located a long distance from the river (450m) therefore a long connection tunnel would be required.  
- Planning/Environment – There would likely be a cumulative impact on designations, especially Metropolitan Open Land, open space and the amenity of residential properties, a hospital, a public house and a common.  
- Community – There would be a cumulative impact on a large combination of sensitive receptors. |
NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

C.2.14 Of the 12 sites on the draft short list, four were assessed as potentially suitable and passed to the final short list, and eight sites did not proceed to the final short list.

Assessment of the final short list sites

C.2.15 The four sites identified for inclusion on the final short list and assessment at the next stage were:

a. C05XA: Foreshore, adjacent to Barn Elms
b. C05XD: Boat repair, off Putney Embankment
c. C05XE: Leaders Gardens, Putney Embankment
d. C05XQ: Barn Elms (corner of recreation area).

C.2.16 A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment of the suitability of each site, having regard to engineering, planning, environment, and community and property considerations. At this stage in the process sites were assessed in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline using technical knowledge and professional judgement as appropriate and assessed as either suitable, less suitable or not suitable from that discipline’s perspective.

C.2.17 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

C05XA: Foreshore, adjacent to Barn Elms

C.2.18 Site C05XA is located in the River Thames foreshore in the London Borough of Richmond on Thames, close to its boundary with the London Borough of Wandsworth.

C.2.19 The surrounding area is predominantly characterised by large expanses of protected public open space, river-based sports and leisure facilities and, at a distance, residential properties. The site is bounded by the Thames Path and Barn Elms School Sports Centre playing fields to the west. Community facilities are in close proximity.

C.2.20 Engineering: This site was assessed as suitable as a CSO site because, as it is a foreshore site, it would be reasonably unrestricted in shape and size and would be in close proximity to the main tunnel. Access to the site was, however, likely to be very difficult and would require significant proprietary works to provide vehicle access and create a temporary work site. An interception chamber and pipework would need to be constructed outside the site boundary. The site would also be located in close proximity to a high pressure gas main that is laid in a tunnel beneath the River Thames.

C.2.21 Planning: On balance, the site was assessed as suitable as a CSO site as although the site is subject to a number of direct and adjacent policy designations, the designated sites should not be unacceptably impacted on.
C.2.22 **Environment**: Overall, the site was assessed as *suitable* as a CSO site. The site was considered *suitable* from the perspectives of archaeology, built heritage, hydrogeology, air quality, noise, and land quality. However, the site was considered *less suitable* from the perspectives of transport, townscape, surface water resources, ecology, and flood risk. Various mitigation measures would be required.

C.2.23 **Socio-economic and community**: The site was considered *suitable* as a CSO site if appropriate mitigation were provided. It is likely that users of the Thames Path, the sea cadet premises and the scout hut would experience disruption. However, mitigation would reduce these impacts to acceptable levels.

C.2.24 **Property**: The site was assessed as *suitable* from a property perspective as the acquisition costs were likely to be acceptable.

**C05XD: Boat Repair, off Putney Embankment**

C.2.25 Site C05XA is used for boat repairs and by the Wandsworth, Chelsea and Fulham Sea Cadet Unit. It is located in the London Borough of Wandsworth, close to its boundary with the London Borough of Richmond on Thames.

C.2.26 The surrounding area is predominantly characterised by large expanses of protected public open space, river-based sports and leisure facilities and, at a distance, residential properties. The site is bounded by the Thames Path and River Thames and to the north and west by Beverley Brook. Along the southern site boundary is Leaders Gardens, an area of protected open space.

C.2.27 **Engineering**: This site was assessed as *suitable* as a CSO site because it is an adequate size and would have some level of vehicular access. It would also be in close proximity to the river and the assumed alignment of the main tunnel. However, the interception chamber and connection culvert would be outside the site boundary and the connecting culvert would need to pass beneath Beverley Brook. A number of buildings that currently occupy part of the site would need to be demolished as part of the site enabling works.

C.2.28 **Planning**: On balance, the site was considered *suitable* as a CSO site as although the site is subject to a number of direct and adjacent policy designations, the designated sites should not be unacceptably impacted on. However, temporary provision of the Sea Cadets premises and river-based recreation facilitations that operate on the site needed to be considered. Impacts on the conservation area also required consideration.

C.2.29 **Environment**: Overall, the site was assessed as *less suitable* as a CSO site. The site was considered *suitable* from the perspectives of hydrogeology, ecology, air quality, noise and townscape. However, the site was considered *less suitable* from the perspectives of archaeology, built heritage, transport, surface water resources, land quality and flood risk.
C.2.30 **Socio-economic and community:** The site was considered less suitable as a CSO site. It was likely that users of the Thames Path, the Sea Cadet premises and the boat repair yard business would experience disruption. There would also be noise disturbance to the adjacent Leaders Gardens, the residential properties and the Barn Elms Schools sports centre opposite the site.

C.2.31 **Property:** The site was assessed as suitable from a property perspective as the acquisition costs were likely to be acceptable, although compensation claims for disturbance might arise.

**C05XE: Leaders Gardens, Putney Embankment**

C.2.32 Site C05XE is a public open space known as Leaders Gardens, situated in the London Borough of Wandsworth, close to its boundary with the London Borough of Richmond on Thames. The surrounding area is predominantly characterised by large expanses of protected public open space, river-based sports and leisure facilities and residential properties.

C.2.33 The site is bounded by the Thames Path and River Thames to the east, in close proximity to the existing sea cadet facility to the north, and bounded by Beverley Brook to the northwest. To the south, the site is bounded by Festing Road and residential properties on Stockhurst Close and Ashlone Road.

C.2.34 **Engineering:** This site was assessed as suitable as a CSO site because it is an adequate size and has reasonable (though potentially very long) vehicular access. However, the interception chamber and connection culvert would be outside the site boundary and the connecting culvert would need to pass beneath Beverley Brook.

C.2.35 **Planning:** On balance, the site was considered less suitable as a CSO site as it is covered by a number of planning and environmental designations. Of these, open space and the potential impacts on the conservation area were most significant. There would also be impacts on residential and community facilities.

C.2.36 **Environment:** Overall, the site was assessed as less suitable as a CSO site. The site was considered suitable from the perspective of hydrogeology. However, the site was considered less suitable from the perspectives of transport, archaeology, built heritage, townscape, surface water resources, ecology, air quality, noise, land quality and flood risk.

C.2.37 **Socio-economic and community:** The site was considered less suitable as a CSO site. Use of the site would cause the temporary loss of a section of the gardens and would be likely to affect local residents and other open space users. The Sea Cadet premises adjacent to the site might be affected by the use of the site, as might the local residents and the Barn Elms sports centre grounds opposite the site.

C.2.38 **Property:** The site was assessed as suitable from a property perspective as the acquisition costs were likely to be acceptable.
Appendix C – Barn Elms

C05XQ: Barn Elms (corner of recreation area)

C.2.39 Site C05XQ is situated within the Barn Elms Schools Sports Centre playing fields in the London Borough of Richmond on Thames, close to its boundary with the London Borough of Wandsworth. The surrounding area is predominantly characterised by large expanses of protected public open space, river-based sports and leisure facilities and there are residential properties located approximately 55m to the south.

C.2.40 The site is bounded to the north and west by the wider Barn Elms Sports Centre playing fields, and beyond that by the London Wetland Centre. Beverley Brook borders the south and east of the site. Further to the south, beyond Beverley Brook, are residential properties.

C.2.41 Engineering: This site was assessed as suitable as a CSO site because it is large and level, which would allow safe and efficient working. Interception of the CSO pipework would be conducted within the site boundary.

C.2.42 Planning: On balance, the site was considered suitable as a CSO site. The site is covered by a number of planning and environmental designations but there is unlikely to be an unacceptable impact on these designations. These included a recreational area and Metropolitan Open Land. However, given the extensive nature of the recreational grounds this was not considered significant.

C.2.43 Environment: Overall, the site was assessed as suitable as a CSO site. The site was considered suitable from the perspectives of transport, hydrogeology, air quality, noise, built heritage, townscape and land quality. However, the site was considered less suitable from the perspectives of archaeology, surface water, ecology and flood risk. Various mitigation measures would be required.

C.2.44 Socio-economic and community: The site was considered less suitable as a CSO site. Use of the site would result in the temporary loss of open space, which would affect local residents and other users of the sports ground. Furthermore, impacts might be experienced by residential development, the Sea Cadet centre and Leaders Gardens to the south.

C.2.45 Property: The site was assessed as suitable from a property perspective as the acquisition costs were likely to be acceptable.

Phase one consultation preferred site

C.2.46 Following the completion of the site suitability report, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

C.2.47 Of the four shortlisted sites, Barn Elms (corner of recreational area – C05XQ) was identified as the preferred site for a number of reasons, which are summarised in no particular order below:

a. Site C05XA would require mitigation to overcome issues in relation to transport, townscape, flood risk and surface water, ecology and the
Appendix C – Barn Elms

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Thames Path. Further environmental concerns included potential archaeological, ecology and land quality concerns, in addition to impacts on amenity. In engineering terms, the site would also require considerable enabling works to create a vehicle access and a temporary worksite. The site would also be in close proximity to a high pressure gas main. On balance, this site was considered more constrained than C05XQ.

b. Site C05XD would necessitate the relocation of the boat repair business and demolition of the Sea Cadet building. This would require the identification and provision of an alternative facility to maintain the river-based recreational facilities that operate from the site. Planning and environmental concerns would also lead to conflict with relevant planning policies.

c. Likewise, use of site C05XE would also potentially lead to conflict with Wandsworth’s planning policies as it would result in the temporary loss of a park and garden area and was judged to have a greater detrimental impact on the local community, residents and other users. As a result, both sites C05XD and C05XE were considered less suitable than C05XQ.

d. Site C05XQ is currently used as a sports field (Barn Elms Schools Sports Centre) and is a good-sized, flat site that would allow safe, efficient working and would require fewer enabling works to create a temporary work site compared with the other site options. Use of the site would offer a separation distance from Leaders Gardens and adjacent residential properties. In conjunction with appropriate mitigation measures, this would reduce the potential impacts of construction noise and dust on the surrounding community.

e. Established trees along Beverley Brook would also provide screening of views from the gardens and adjacent properties to reduce the impact on the visual amenity of the area. The temporary loss of public open space, relative to the overall size of the Barn Elms Sports Fields, would be less and have a reduced impact compared to site C05XE.

f. Site C05XQ would allow for good vehicular access directly to the strategic road network via a dedicated temporary construction access road. This could either follow the route of the existing access road to the boathouse around the perimeter of the sports fields, or follow a new route adjacent to Beverley Brook, directly to Rocks Lane. The Rocks Lane access would avoid the safety risks and general disturbance associated with routing construction traffic in front of changing facilities and through either narrow residential streets or the Putney Embankment, if sites C05XD or C05XE were promoted.

g. Site C05XQ would allow all works for the drop shaft and interception chamber construction to be carried out within the sports field site. This was preferred to the other sites, which would require external interception works outside the CSO drop shaft site area. Sites C05XA and C05XD would require interception works in close proximity to the Beverley Brook flood barrier, and sites C05XE and C05XD would also
require the construction of interception pipework beneath the Beverley Brook watercourse.

C.2.48 In summary, we concluded that site C05XQ could be developed in accordance with planning policy. Although it required the use of open space within an area designated as Metropolitan Open Land, this would be temporary and leave a large area of the open space unaffected and available for use by the public. Therefore, the proposed use would be in accordance with the policies of the Richmond Unitary Development Plan and Core Strategy.

C.2.49 The Barn Elms Schools Sports Centre playing field area was also identified during the site selection process as suitable as a shaft site for the construction of the main tunnel. The preferred tunnelling strategy that was developed for phase one consultation proposed a shaft on the Barn Elms site to lower a TBM into the ground to ‘drive’ the main tunnel to sites at Hammersmith Pumping Station to the west, and Tideway Walk to the east.

C.2.50 The selection of site C05XQ for the interception of the local CSO would allow the construction area required for the CSO interception to be incorporated with the area required for the construction of the main tunnel shaft, which would reduce the number of sites required.

C.3 Phase two consultation preferred CSO site: Scheme development and site selection

Introduction

C.3.1 Section B.3 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase two consultation.

C.3.2 Following phase one consultation, we reviewed the phase one consultation comments and there was no new information; therefore we decided that Barn Elms would remain our preferred CSO interception site. However, due to other changes to the western section of the main tunnel, sites and tunnelling options, we decided to carry out a back-check on potential main tunnel sites in the western section (see Appendix G for details of the back-check related to main tunnel sites and also see Volume 1, Main report, Sections 6.3 to 6.6 for main tunnel drive options related to the western section of the main tunnel).

C.3.3 A plan that shows all the sites considered for the interception of the West Putney Storm Relief CSO and how they progressed through the site selection process can be found in Annex C.2.

C.3.4 This stage took place from Winter 2010 to Autumn 2011.

C.3.5 The assessments described in Section C.3 were based on the information available at the time and the related stage in the project’s development.
Phase one consultation responses

C.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

C.3.7 The main issues and concerns raised during phase one consultation in relation to the combined Barn Elms site (which encompassed both a main tunnel drive site and interception of the local CSO) can be summarised as follows in no particular order:

a. further justification needs to be provided as to why this site was selected, including why brownfield alternatives and solutions that split the drive site and CSO site have not been explored
b. disruption to water-based recreation, including the Oxford versus Cambridge Boat Race and other major river events
c. impact of the loss of green space, playing pitches and Metropolitan Open Land
d. impact on community fundraising to upgrade the site
e. access should not be disrupted along footpaths, including the Thames Path
f. impact of increased congestion caused by heavy goods vehicles and concern regarding proposed access routes
g. impact on the environment and the tranquillity, biodiversity and wildlife of the area.

C.3.8 The main comments received in support of the combined preferred site included:

a. the best choice for the location of a site, in comparison to alternatives consulted on that would cause more disruption to the local community
b. the site is advantageous because two activities can be combined on one site
c. although the sports fields would be affected, many would remain
d. the location of site by the river allows excavated materials to be transported by barge
e. obvious choice, given the large amount of land
f. least impact on the historic environment as it combines both requirements in a single location.

C.3.9 More details on the consultation responses relating to the combined Barn Elms site and our response to the comments received are provided in the Report on phase one consultation.

C.3.10 Having taken all the comments received during phase one consultation into account, we still believed that Barn Elms was the most appropriate site to intercept the West Putney Storm Relief CSO and connect it to the main tunnel. However, we did look at alternatives for the main tunnel site (see paragraph C.3.3).
Appendix C – Barn Elms

**Back-check process**

**C.3.11** As a result of the feedback we received during phase one consultation and a review of the size of sites required for main tunnel shafts, we began a back-check (as set out in the *Site selection methodology paper*) to review our selection of S17RD: Barn Elms as a preferred main tunnel drive site.

**C.3.12** The result of the back-check assessment was that the preferred main tunnel drive site was changed from S17RD: Barn Elms to S87HF: Carnwath Road Riverside (see Appendix G, Carnwath Road Riverside for full details of the process and our rationale for identifying Carnwath Road Riverside as our phase two preferred main tunnel drive site).

**C.3.13** However, due to the requirement for a site to intercept the West Putney Storm Relief CSO to be located within reasonable proximity to the sewer, the previously identified site at Barn Elms (C05XQ) remained our preferred site to intercept the CSO as it still provided the best option as outlined in our assessment in Section C.2.

**Confirmation of the preferred site for phase two consultation**

**C.3.14** A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that **C05XQ: Barn Elms (corner of recreation area) should remain the preferred site for the interception of the West Putney Storm Relief CSO for phase two consultation.**

**C.3.15** Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

**C.4 Post phase two consultation: Review of CSO sites**

**Introduction to the review**

**C.4.1** Section C.4 explains how we implemented the requirement in the *Site selection methodology paper* to review the scheme following phase two consultation and prior to Section 48 publicity.

**C.4.2** This stage of the site selection process comprised: a review of comments from phase two consultation; consideration of any ongoing scheme design and/or new technical information; multidisciplinary workshops and reviews to identify the proposed CSO site for Section 48 publicity.

**C.4.3** A plan that shows all the sites considered for the interception of the West Putney Storm Relief CSO and how they progressed through the site selection process can be found in Annex C.1.

**C.4.4** This stage took place from Spring 2012 to Summer 2012.

**Summary of phase two consultation responses**

**C.4.5** Details of the consultation feedback related to this site and our responses are provided in the *Report on phase two consultation*. All phase two consultation comments were reviewed and taken into account in the
development of our proposed project. The main feedback relevant to site selection can be summarised as follows:

a. object to use of the site/consider that the site is unsuitable
b. should use/consider an alternative site/there are other more suitable alternative sites in the local area
c. not clear that the West Putney Storm Relief CSO needs to be connected to the main tunnel
d. should not use greenfield sites/avoid sites in close proximity to sensitive receptors including the London Wetlands Centre, sites of special scientific interest (SSSIs), primary schools and social housing; the use of brownfield sites should be prioritized
e. alternative site suggestions included Carnwath Road Riverside or alternative brownfield sites.

C.4.6 The main comments received in support of the site included:

a. support for the use of the site
b. support for the changes to the proposed use of the preferred site since phase one consultation; it would have less impact on the riverside and reduce the potential impacts on above-ground heritage assets, notable views and the community
c. the site is a suitable size and/or has sufficient capacity to accommodate the proposals
d. support for changes to the extent of the preferred site since phase one consultation, in particular the move to locate this site away from the River Thames, resulting in a reduced impacts on the Thames environment
e. site should also be selected as a main tunnel drive site.

C.4.7 We recognise the concerns that have been raised, including loss of greenfield land, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

C.4.8 Having taken all comments received during phase two consultation into account, we still believe C05XQ: Barn Elms is the most suitable site to intercept the West Putney Storm Relief CSO.

Any changes in circumstances or new information

C.4.9 We identified an additional access route option through further consultation with Wandsworth Borough Council, in addition to the three options previously considered. The four potential access routes to the site were subsequently reviewed taking into consideration phase two consultation comments and other new information

Back-check of Barn Elms access

C.4.10 A limited back-check was carried out of the four potential access routes to Barn Elms (C05XQ) and took into consideration phase two consultation
Appendix C – Barn Elms

comments and new information. The access routes options are illustrated in Figure C.1.

**Figure C.1 C05XQ: Barn Elms access route options**

C.4.11 The four access route options were as follows:

a. **Option 1**: Rocks Lane: A new access road would be constructed to access the site from Rocks Lane. The road would utilise the existing vehicle access off Rocks Lane in the southwest corner of Barn Elms Playing Fields. The access road would then pass along the southern region of the sports ground, approximately parallel to the Beverley Brook watercourse. The route of Option 1 would pass to the south of the existing running track and continue parallel to the watercourse to the location of the construction site.

b. **Option 2**: Queen Elizabeth Walk (across the playing fields): An access road would need to be constructed to access the site from Queen Elizabeth Walk. The access road would follow the boundary of the southern edge of the sports centre car park and follow the existing road through the site to the boathouse to minimise disruption to the playing fields. The final section of the access road would be constructed from the boathouse and follow the eastern boundary of the site. Queen Elizabeth Walk is subject to traffic calming measures, and this might need to be modified in order to improve access.

c. **Option 3**: Mill Hill Road (across Lower Putney Common): A new access from Mill Hill Road would need to be created and a temporary haul road constructed north across Putney Lower Common to Beverley Brook. The road would then cross over the brook via a temporary bridge before turning east and running parallel to the brook to the construction site (as in the Option 1 alignment).

d. **Option 4**: Queen Elizabeth Walk (adjacent to the Thames Path): A new access route would be constructed along the northern and
eastern perimeters of the Barn Elms Schools Playing Fields. Vehicles would access along the adopted traffic-calmed public highway of Queen Elizabeth Walk before passing through a narrow section of private road that currently serves the playing fields. This section of private road would be shared between construction vehicles and third parties. Suitable traffic management, typically vehicle marshalling and banksmen, would be required along this section. The remainder of the construction access route would be fenced or hoarded to provide a dedicated or segregated access route. Option 4 would require the demolition of an existing changing room facility and the provision of temporary or new alternative changing room facilities. It would also require the removal of a number of track and field facilities.

C.4.12 The four access options to Barn Elms (C05XQ) are compared below in no particular order.

C.4.13 Option 1 would be a dedicated access route and minimise any potential conflict between construction vehicles and third parties. It would, however, require the formation of a new vehicle access and the temporary relocation of bus stop on Rocks Lane.

C.4.14 Option 1 would avoid conflict with other users of the playing field, use of a traffic-calmed road and the bus route on Queen Elizabeth Walk (to the London Wetland Centre).

C.4.15 Option 1 appeared likely to have least impact of the four options on the local community. It would avoid impact on the sensitive users of Queen Elizabeth Walk, including children, the main entrance to the sports centre, adjacent residential properties and London Wetland Centre. It would also keep heavy goods vehicles away from the Thames Path, which links to Queen Elizabeth Walk along the edge of the sports fields. The main community impact appeared likely to be on the residential properties on Rocks Lane where the road exits the sports fields.

C.4.16 For Option 2, the majority of the access route could be fenced and segregated away from playing field users. Shared access sections would require vehicle marshalling to avoid conflict. The section of the access route along the private road is quite narrow and wouldn’t allow two way vehicle movements. Vehicle marshalling would be required along this section. The access route would require demolition of existing changing room facilities and the provision of temporary or new facilities before site set up and CSO shaft works could commence.

C.4.17 Option 4 also included the demolition of changing room facilities, and track and field facilities. The cost of replacing these facilities within Barn Elms was taken into consideration as one of the factors for Option 4. The estimated acquisition cost for Option 4 was higher than for Option 2. Therefore, with regard to risk and cost, Option 2 was preferred option.

C.4.18 Access Options 2 and 4 didn’t include any Common land with restrictions against alienation and therefore it might be possible to acquire either without exercising compulsory purchase powers, which would avoid special parliamentary procedure.
C.4.19 For Option 3, the access via Mill Hill Road would provide a dedicated access route to the construction site and enable segregation from the adjacent third parties. The route would, however, have to cross numerous footpaths within Putney Lower Common that might need to be bridged over the access road if a closure could not be agreed. Tree clearance on either side of Beverley Brook would be required to facilitate construction of the temporary bridge across the watercourse.

C.4.20 For Option 3, in addition to passing through open space there was an added complexity and risk because it also passed through common land. Option 1 also passed through a smaller area of common land. In relation to this aspect, Options 2 and 4 had less risk.

C.4.21 Options 1 and 4 both presented different considerations, benefits and constraints. From a planning perspective, Option 4 was marginally preferable for two key reasons: it could be used for both construction and permanent access and would therefore only be constructed once, and it wouldn’t involve any post-construction restoration.

C.4.22 Option 4 would require construction vehicles and a number of third parties to share the existing access, but would not navigate through the existing sports centre car park and would avoid the segregation of a number of playing fields proposed in Option 2.

C.4.23 Option 4 would, however, involve the demolition and replacement of an existing changing room building and require replacement of three existing track and field facilities. However, there was an opportunity to create suitable access arrangements, replace recreational changing room facilities and relocate these facilities to improve the relationship with the sport pitches. These details would require agreement and negotiation with the London Borough of Wandsworth and London Borough of Richmond on Thames.

C.4.24 Taking into account all the disciplines’ views, we recognised that the benefits of Option 4 made it the most suitable access route. Therefore, Option 4 - Queen Elizabeth Walk (adjacent to the Thames Path) was the proposed construction and operational access to the Barn Elms (C05XQ) site.

Summary of post phase two targeted consultation responses

C.4.25 Following the limit back-check of the four access options to Barn Elms, we took the decision to hold a targeted consultation in Summer 2012 as part of our scheme review, in order to request specific feedback on the potential alternative preferred access option (Option 4).

C.4.26 All comments received in relation to the Barn Elms site during the targeted consultation were reviewed at a workshop. Having taken all comments received during post phase two targeted consultation into account, we still believe C05XQ: Barn Elms with construction and operational access from Queen Elizabeth Walk (Option 4) is the most suitable site to intercept the West Putney Storm Relief CSO.
C.4.27 We recognise however that concerns that have been raised, including impact on Queen Elizabeth Walk, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

**Main rationale for the selection of the CSO site for Section 48 publicity**

C.4.28 In summary, C05XQ: Barn Elms was identified as the most suitable CSO site with construction and operational access from Queen Elizabeth Walk (Option 4) for the following reasons (in no particular order):

a. Site C05XQ is of sufficient size to facilitate safe, efficient working. The site is level and would require limited enabling works to form a temporary work site. The existing CSO pipework that requires interception is located within the site boundary. The site would allow good vehicular access via Queen Elizabeth Walk (Option 4).

b. Site C05XQ allows the direct interception of the CSO and avoids having to construct pipes beneath the high pressure gas main.

c. Use of site C05XQ would not result in the loss or relocation of land in employment use for business, which is a key aim of Core Strategy Policy 19. The site offers sufficient separation distance from Leaders Gardens and adjacent residential properties, which protects residential amenity to a greater degree than other site options. Although it required the use of playing fields within an area designated as Metropolitan Open Land, this would be temporary and leave a large area of the playing fields unaffected, and the facilities would be managed and available for use by the public.

d. Site C05XQ is undeveloped open space and discussions with the owners indicated it might be possible to agree temporary acquisition of the site, in which case a special parliamentary procedure or replacement land would not be required. Access Option 4 would retain the same land ownership, which would reduce the complexity of acquisition. We acknowledged that Option 4 would involve the demolition of an existing changing room; however, there is an opportunity to provide new recreational facilities on the grounds to provide a mutually beneficial outcome.

C.4.29 Barn Elms (C05XQ) remains the most suitable site to intercept the West Putney Storm Relief CSO (also see Appendix G for more information about main tunnel drive site at S87HF: Carnwath Road Riverside).

C.5 **Confirmation of the proposed CSO site for Section 48 publicity**

C.5.1 The post phase two consultation review described above in Section C.4 confirmed **C05XQ: Barn Elms as the proposed site to intercept the West Putney Storm Relief CSO** with construction and operational access from Queen Elizabeth Walk for Section 48 publicity.
C.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Annex C.1
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

D.1 Introduction

D.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the Putney Bridge CSO prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

D.1.2 Table D.1 summarises the sites identified as most suitable to intercept the Putney Bridge CSO at each phase of the project.

Table D.1 Summary of the sites identified as most suitable to intercept Putney Bridge CSO at each phase of the project

<table>
<thead>
<tr>
<th>Phase one consultation site:</th>
<th>Putney Bridge Foreshore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Putney Bridge Foreshore</td>
</tr>
<tr>
<td>Section 48 publicity site:</td>
<td>Putney Embankment Foreshore</td>
</tr>
</tbody>
</table>

D.1.3 This appendix is structured as follows:

a. Section D.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b. Section D.2 provides details of how we identified our preferred site for phase one consultation.

c. Section D.3 provides details of the back-check assessments and reasons why we changed our preferred site for phase two consultation.

d. Sections D.4 and D.5 provide details of the post phase two consultation scheme review and confirmation of the most suitable CSO site at Section 48 publicity.

Type of site

D.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the Putney Bridge CSO, and connect it to the main tunnel.

Site selection process

D.1.5 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). CSO sites also need to be as close to the existing sewer as we followed a localised optioneering approach to identify suitable sites practicable; therefore we
took a localised optioneering approach to identify potential sites. The sites went through increasingly detailed levels of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement.

D.1.6 Prior to phase one consultation we applied our multidisciplinary sieving approach to all the assessments set out in the Site selection methodology paper, which are also briefly outlined below (see D.2.2).

D.1.7 Following phase one consultation, we reviewed the sites and decided there was no need to carry out a ‘back-check’ but we did carry out a general review of the preferred and shortlisted sites prior to phase two consultation.

D.1.8 Following phase two consultation, we conducted a review of the scheme in accordance with the Site selection methodology paper. The review of CSO sites involved re-checking the choice of most suitable CSO site for each CSO to be intercepted associated with the proposed route and proposed CSO sites for Section 48. The results of this review supersede all previous assessments undertaken prior to phase one consultation and reported in D.2.

D.2 Phase one consultation preferred CSO site: Site selection process

Introduction

D.2.1 Section D.2 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase one consultation.

D.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept Putney Bridge CSO for phase one consultation.

D.2.3 A plan that shows all the sites considered for the interception of the Putney Bridge CSO prior to phase one consultation and how they progressed through the site selection process can be found in Annex D.1.

D.2.4 This stage took place from Spring 2009 to Summer 2010.

D.2.5 The assessments described in Section H.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic representation of the process and all of the assessments have been superseded (see Section D.4).
Assessment of the long list sites

D.2.6 The long list of potential sites to intercept the Putney Bridge CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

D.2.7 In total, nine sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

D.2.8 Table D.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

Table D.2 Long list to draft short list for the interception of the Putney Bridge CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C06XA</td>
<td>Foreshore (adjacent to Putney Bridge and St Mary’s Church)</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C06XB</td>
<td>Foreshore (adjacent to Putney Bridge and Lower Richmond Road)</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C06XC</td>
<td>Foreshore (junction of Lower Richmond Road and The Embankment)</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
</tbody>
</table>
| C06XD   | Kenilworth Mount Court | **Recommendation:** Not to draft short list.  
**Rationale:** Acquisition costs would likely be high. |
| C06XE   | Gardens to flats to west of Waterman Street | **Recommendation:** Not to draft short list.  
**Rationale:** The site is too narrow and acquisition costs would likely be high. |
| C06XF   | Thames Place | **Recommendation:** To draft short list. |
| C06XG   | Gardens to flats fronting Lower Richmond Road | **Recommendation:** Not to draft short list.  
**Rationale:** The site is too narrow and |
### Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

#### Section 48: Report on site selection process

#### Volume 3: Western site appendices A to H

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C06XH</td>
<td>Gardens/parking to residences adjacent Welmar Street</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The engineering connection to the sewer would be long and difficult.</td>
</tr>
<tr>
<td>C06XJ</td>
<td>Foreshore (end of Brewhouse Lane)</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
</tbody>
</table>

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary. Sites in the Foreshore are flexible and here relate to information that was known at pre-phase two of the project.

D.2.9 Of the nine sites identified, five were assessed as potentially suitable and passed to the draft short list and four sites were eliminated as unsuitable.

**Assessment of the draft short list sites**

D.2.10 The five Draft Short List sites identified for further assessment at the next stage were:

a. C06XA: Foreshore (adjacent to Putney Bridge and St Mary’s Church)

b. C06XB: Foreshore (adjacent to Putney Bridge and Lower Richmond Road)

c. C06XC: Foreshore (junction of Lower Richmond Road and The Embankment)

d. C06XF: Thames Place

e. C06XJ: Foreshore (end of Brewhouse Lane).

D.2.11 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper* (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

D.2.12 At this stage, we also consulted with each of the directly affected London local authorities along the preferred route and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

D.2.13 Table D.3 below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.
Table D.3 Draft short list to final short list for the interception of the Putney Bridge CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C06XA</td>
<td>Foreshore (adjacent to Putney Bridge and St Mary’s Church)</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
<tr>
<td>C06XB</td>
<td>Foreshore (adjacent to Putney Bridge and Lower Richmond Road)</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
<tr>
<td>C06XC</td>
<td>Foreshore (junction of Lower Richmond Road and The Embankment)</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C06XF    | Thames Place | **Recommendation:** Not to draft short list. **Rationale:**
  - Engineering – The site is too small to be a suitable working site. The arrangement is also undesirable as the shaft would lie within a public highway. The steep gradient of the carriageway at this location would hamper construction activities and make operational access to the completed shaft very difficult.
  - Community – The site is located near a significant number of sensitive receptors. Furthermore, disruption to the junction could impact on community health, general well-being and cohesion. |
| C06XJ    | Foreshore (end of Brewhouse Lane) | **Recommendation:** Retain on short list. |

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary. Sites in the Foreshore are flexible and here relate to information that was known at pre-phase two of the project.

D.2.14 Of the five sites on the draft short list, four were assessed as potentially suitable and passed to the final short list and one site did not.

**Assessment of the final short list of sites**

D.2.15 The four sites identified for inclusion on the final short list and assessment at the next stage were:

a. C06XA: Foreshore (adjacent to Putney Bridge and St Mary’s Church)

b. C06XB: Foreshore (adjacent to Putney Bridge and Lower Richmond Road)

c. C06XC: Foreshore (junction of Lower Richmond Road and Putney Embankment)
d. C06XJ: Foreshore (end of Brewhouse Lane).

D.2.16 A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment the suitability of each site, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline using technical knowledge and professional judgement as appropriate and assessed as suitable, less suitable or not suitable from that discipline’s perspective.

D.2.17 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**C06XA: Foreshore (adjacent to Putney Bridge and St Mary’s Church)**

D.2.18 C06XA is situated on the foreshore of the River Thames to the east of Putney Bridge in the London Borough of Wandsworth.

D.2.19 The site is located adjacent to the Grade II* listed St Mary’s Church, the Boathouse public house and the pedestrianised riverside walkway.

D.2.20 **Engineering**: Assessed the site as suitable because it is unrestricted in size and shape. However, access to the site would be limited.

D.2.21 **Planning**: On balance, the site was assessed as less suitable to intercept this CSO. A number of sensitive planning and environmental designations related to this site and its prominent location. There were also sensitive heritage issues associated with the proximity of the listed St Mary’s Church and Putney Bridge. The construction works would be likely to impact on the visual amenity of the surrounding area and mitigation to protect amenity from construction impacts might be difficult.

D.2.22 **Environment**: Overall, the site was assessed as less suitable as a CSO site and further investigation would be required into whether the impacts could be adequately mitigated. The site was considered likely to be suitable from the perspectives of transport, archaeology, hydrogeology, land quality and air quality. However, the site was considered less suitable from the perspectives of ecology, noise, surface water, flood risk, built heritage and townscape.

D.2.23 **Socio-economic and community**: Assessed the site as less suitable as a CSO site. It would be likely to cause some disturbance to several adjacent and nearby sensitive receptors including a nursery, church and the residential and commercial properties at Putney Wharf Tower. Although mitigation might be possible to minimise disturbance, the proximity of the receptors would make this difficult.

D.2.24 **Property**: Assessed the site as suitable as a CSO site. Although the site is Crown land and could not be acquired by compulsory purchase, it is not a developed site and the acquisition costs would be acceptable.

**C06XB: Foreshore (adjacent to Putney Bridge and Lower Richmond Road)**

D.2.25 C06XB is situated on the foreshore of the River Thames to the west of Putney Bridge in the London Borough of Wandsworth.
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

D.2.26 Lower Richmond Road (B306) forms the southern boundary of the site, beyond which are a number of residential properties. A slipway is positioned along the western boundary and a restaurant is located further along the embankment to the west of the site.

D.2.27 **Engineering**: The site was assessed as **less suitable** for the interception of the CSO because of its close proximity to Putney Bridge and because it might affect the public jetty and Putney slipway, which could be lost once the permanent works are complete. However, the site could be modified to suit actual circumstances and there is reasonable vehicular access and no known underground apparatus.

D.2.28 **Planning**: On balance, the site was assessed as **less suitable** to intercept this CSO. A number of sensitive planning designations relate to this site and its prominent location. While it is likely that there would be limited impact on residents or the commercial high street, mitigation would likely be required to avoid potential adverse impacts on visual amenity both during and after construction.

D.2.29 **Environment**: Overall, the site was assessed as **suitable** as a CSO site although mitigation would be required. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, hydrogeology, land quality, built heritage and townscape. However, the site was considered **less suitable** from the perspectives of surface water, ecology, flood risk, air quality and noise.

D.2.30 **Socio-economic and community**: Assessed the site as **suitable** as a CSO site. It would likely cause some disturbance to several adjacent and nearby sensitive receptors, including residential and commercial premises. However, no community facilities exist directly adjacent and the impacts might be mitigable. Impacts on the slipway and jetty would depend on the extent to which it would be temporarily or permanently lost or affected by after-use structures. Impacts would also depend on the preferred site access.

D.2.31 **Property**: Assessed the site as **suitable** as a CSO site. The site is Crown land and cannot be acquired by compulsory purchase; a special parliamentary procedure might be required. However, it is not a developed site and the acquisition costs should be acceptable.

**C06XC: Foreshore (junction of Lower Richmond Road and Putney Embankment)**

D.2.32 C06XC is situated on the foreshore of the River Thames to the west of Putney Bridge in the London Borough of Wandsworth.

D.2.33 Lower Richmond Road forms the southern boundary of the site, beyond which are a number of residential properties. A slipway is positioned along the eastern boundary and the Embankment road is to the west of the site.

D.2.34 **Engineering**: The site was assessed as **less suitable** for the interception of the CSO because of its close proximity to Putney Bridge. However, the site could be modified to suit actual circumstances as it is relatively unrestricted in size and shape.
D.2.35 **Planning:** On balance, the site was assessed as **less suitable** to intercept this CSO. A number of sensitive environmental and planning designations related to this site. Mitigation would likely be required to avoid potentially adverse impacts on a conservation area, listed buildings, adjacent residential properties and a restaurant. Furthermore, alternative access to the river would need to be provided during construction.

D.2.36 **Environment:** Overall, the site was assessed as **less suitable** as a CSO site and further investigation would be required into whether the impacts could be adequately mitigated. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, hydrogeology, land quality and built heritage. However, the site was considered **less suitable** from the perspectives of townscape, surface water, ecology, flood risk, air quality and noise.

D.2.37 **Socio-economic and community:** The site was assessed as **less suitable** as a CSO site. It would likely cause some disturbance to several adjacent and nearby sensitive receptors, particularly the bars and restaurants located on the Embankment and the residential and commercial properties on Lower Richmond Road. Severe disruption to the slipway, riverside walk and cycle path would be likely as they all lie within the site boundary. The cumulative impact on community receptors and the community value of the area would likely be considerable. This would be further complicated by the fact that the site is located at a road junction.

D.2.38 **Property:** The site was assessed as **suitable** as a CSO site. The site is Crown land and cannot be acquired by compulsory purchase; a special parliamentary procedure might be required. However, it is not a developed site and the acquisition costs should be acceptable.

**C06XJ: Foreshore (end of Brewhouse Lane)**

D.2.39 **C06XJ** is situated on the foreshore of the River Thames to the east of Putney Bridge in the London Borough of Wandsworth.

D.2.40 **Engineering:** The site was assessed as **suitable** because it is unrestricted in size and shape and there were no known underground services.

D.2.41 **Planning:** On balance, the site was assessed as **less suitable** to intercept this CSO. A number of sensitive planning and environmental designations related to this site and its prominent location. There were also sensitive heritage issues associated with the proximity of the Grade II* listed St Mary’s Church and Grade II listed Putney Bridge. The site is adjacent to residential dwellings and commercial uses, and mitigation would be required in order to reduce construction impacts on these receptors. The construction works would also likely impact on the visual amenity of the surrounding area and mitigation to protect amenity from construction impacts might be difficult.
D.2.43 **Environment:** Overall, the site was assessed as **less suitable** as a CSO site, and further investigation would be required into whether the impacts could be adequately mitigated. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, hydrogeology, land quality and air quality. However, the site was considered **less suitable** from the perspectives of ecology, noise, surface water, flood risk, built heritage and townscape.

D.2.44 **Socio-economic and community:** Assessed the site as **less suitable** as a CSO site. Its use would likely cause some disturbance to several adjacent and nearby sensitive receptors including a public house, nursery, church and several residential and commercial properties. Use of the site would also likely disturb people using the pedestrianised area and outdoor seating to the east of Putney Wharf Tower, which would require mitigation.

D.2.45 **Property:** Assessed the site as **suitable** as a CSO site. Although the site is Crown land and could not be acquired by compulsory purchase, it is not a developed site and the acquisition costs would be acceptable.

**Phase one consultation preferred site**

D.2.46 Following the completion of the site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

D.2.47 Of the four shortlisted sites, the foreshore, adjacent to Putney Bridge and Lower Richmond Road (C06XB) was identified as the preferred site for the reasons summarised in no particular order below:

a. It should be noted that due to the location of the existing CSO within the southern supporting arch of Putney Bridge, works would be required beneath and against the bridge structure for all site options. This has the potential to cause adverse impacts on the Grade II listed structure. However, careful design and construction practices could be employed to mitigate these impacts. It was considered that the interception chamber was not a differentiating factor between the four shortlisted sites.

b. The two sites to the east of the bridge (C06XA and C06XJ) would cause greater adverse effects on the multiple sensitive receptors adjacent to these sites. These included St Mary’s Church, a Grade II* listed building, which would be impacted on both in appearance and setting. Furthermore, disruption might affect users of the church, including the children’s nursery group. The adjacent Putney Wharf Tower development and the Boathouse public house, which are in close proximity, would also experience severe disruption and construction-related impacts. These sites were considered likely to conflict significantly with policies of the Wandsworth Unitary Development Plan and its recently adopted Core Strategy Local Development Framework.
c. Sites C06XB and C06XC lie to the west of the bridge and away from the receptors outlined above. Both of these sites do, however, have potentially difficult site access issues. While access to the local road network is possible, limitations on the size of vehicles accessing the site might be necessary due to space constraints. However, vehicle access is poorer for the two eastern sites as there is no direct access off the public highway. The sites would require passage of construction vehicles along the restricted width of Brewhouse Lane and across the pedestrianised area, which currently form part of the Thames Path.

d. Site C06XB is likely to be separated from the nearby bars and restaurants of the Embankment and the residences along Lower Richmond Road to a greater extent, and it is also at a lower level, which would increase the shielding effect. Furthermore, at this site the construction works would likely have less of an impact on the users of the Thames Path.

e. C06XB also has a greater degree of separation between the Putney Bridge Pier to the west compared to C06XC, which would limit the impact on vessel movements and navigation to and from the pier.

D.2.48 Because foreshore sites are flexible, having completed the assessments above, we undertook further design development on the construction layout of our preferred foreshore site. At phase one consultation, we presented a construction area that covered both C06XB and C06XC and the layout addressed the identified constraints.

D.3 Phase two consultation preferred CSO site: Scheme development and site selection

Introduction

D.3.1 Section D.3 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase two consultation.

D.3.2 Following phase one consultation, the site selection process comprised: a review of comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept Putney Bridge CSO for phase two consultation.

D.3.3 A plan that shows all the sites considered for the interception of the Putney Bridge CSO prior to phase two consultation and how they progressed through the site selection process can be found in Annex D.2.

D.3.4 This stage took place from Winter 2010 to Autumn 2011.

D.3.5 The assessments described in Section D.3 were based on the information available at the time and the related stage in the project’s development.
Phase one consultation responses

D.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

D.3.7 The main issues and concerns raised during phase one consultation in relation to the Putney Bridge Foreshore site included:

a. visual impacts, odour and noise from the ventilation column
b. impact on the natural environment and loss of open space, particularly the loss of Waterman’s Green during construction
c. impact on local residents and the construction impact on local amenity
d. impact on views and heritage features, including Putney Bridge
e. impact on the historic slipway
f. impact of construction on the riverside area and recreational activities associated with the river.

D.3.8 The main comments received in support of the preferred site included:

a. it is the most appropriate of the sites consulted on
b. it is a logical site and is the closest upstream location to the CSO
c. the site will reduce the construction impact on residential and businesses premises and the users of the Thames Path.

D.3.9 More details on the consultation responses in relation to this site and our response to the comments received are provided in the Report on phase one consultation.

Phase two consultation preferred site

D.3.10 Having taken all comments received during phase one consultation into account, we still considered C06XB/C06XC: Putney Bridge Foreshore the most suitable site to intercept the Putney Bridge CSO. This was because this site would have a more limited impact on the nearest residential and business premises and the users of the Thames Path. It is also located at a sufficient distance from the Grade II listed Putney Bridge and Grade II* listed St Mary’s Church, which would limit the potential for construction activities to have a long-term impact on the historic structures.

D.3.11 We recognised the concerns that were raised, including the impact on the natural environment and existing views and heritage, and took them into account in developing the project further, including measures to minimise any significant potential impacts.

D.3.12 The above points were based on the information available at the time and the related stage in the project’s development. The points therefore comprise a historic representation of the process prior to phase two consultation.
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

Confirmation of the preferred site for phase two consultation

D.3.13 A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that C06XB/C06XC: Putney Bridge Foreshore should remain the preferred site for the interception of the Putney Bridge CSO for phase two consultation.

D.3.14 Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

D.4 Post phase two consultation: Review of CSO sites

Introduction to the review

D.4.1 Section D.4 explains how we implemented the requirement in the Site selection methodology paper to review the scheme following phase two consultation and prior to Section 48 publicity.

D.4.2 This stage of the site selection process comprised: a review of comments from phase two consultation; consideration of any ongoing scheme design and/or new technical information; back-check process, multidisciplinary workshops and reviews to identify the proposed CSO site for Section 48 publicity.

D.4.3 A plan that shows all the sites considered for the interception of the Putney Bridge CSO post phase two consultation can be found in Annex D.1.

D.4.4 This stage took place from Spring 2012 to Summer 2012.

Summary of phase two consultation responses and new information

D.4.5 Details of the consultation feedback related to this site and our responses are provided in the Report on phase two consultation. All phase two consultation comments were reviewed and taken into account in the development of our proposed project. The main feedback relevant to site selection can be summarised as follows:

a. opposition in principle to the use of any foreshore structures along the tidal Thames as this is likely to lead to a number of detrimental effects on flood risk management, biodiversity and recreation

b. concerns that the scale of effects on the local area and community resulting from the selection of this site is unacceptable/has not been properly considered

c. site selection should avoid sites adjacent to or containing heritage assets

d. do not support changes to the extent of the preferred site since phase one consultation/do not support the specific location of the site

e. query why shortlisted sites were not identified
f. alternative sites suggested included foreshore adjacent to Putney Bridge and St Mary’s Church and Carnwath Road Riverside (NB the later site is not a feasible site to intercept Putney Bridge CSO).

D.4.6 The main comments received in support of the site included:

- a. support for the use of the preferred site, which is the most suitable location
- b. the preferred site is more suitable than any alternative or shortlisted site as it would cause less disruption to the local area and has better access
- c. support for changes to the extent of the preferred site since phase one consultation.

D.4.7 These comments were taken into account in the review of the comparisons of shortlisted sites and justification for the proposed CSO site set out below.

Any changes in circumstances or new information

D.4.8 An application for Listed Building Consent (reference no. 2012/1998) associated with the development of a restaurant in the vaults below No. 4 and No. 6 Lower Richmond Road was submitted. The application was registered on 16 April 2012 and is currently pending. The area is adjacent to the Putney Bridge Foreshore site (C06XB/C06XC).

Back-check of Putney Bridge CSO sites

D.4.9 After considering the phase two consultation comments and other new information, we considered that there was a need to investigate potential further amendments to our preferred phase two site at Putney Bridge Foreshore. This was due to the specific nature of the foreshore sites for this particular CSO, the location of the CSO under the first arch of Putney Bridge on the south side of the river, consideration of the location of the drop shaft, and engineering and sensitive design consideration in relation to the historic environment. This lead to a back-check of all the potential sites to intercept Putney Bridge CSO. This was taken into account in the development of our proposed scheme.

D.4.10 The post phase two consultation back-check sites can be found in Annex D.1.

D.4.11 The original long list for the Putney Bridge CSO comprised seven sites (see Table D.1). The sites were reviewed along with the revised sites described below. We considered alternative sites that were suggested in phase two consultation comments and re-checked whether there were any other feasible sites that we should consider. No new sites were identified.

D.4.12 All sites on the original long list were put on the review long list for this CSO, except for C06XF and C06XG, which were retired as the review determined that these sites were too small.

D.4.13 Due to the flexible nature of foreshore sites, to be consistent with other foreshore sites and to more accurately reflect what was presented at phase one and phase two consultation, we re-organised our internal site
referencing in order to add a new area of foreshore that had not previously been covered. The following sites were subsequently updated and added to the review long list:

a. C06XK: Putney Embankment Foreshore – this site previously overlapped part of C06XB and C06XC, but a new area was added to the west of C06XC to enable us to test putting the drop shaft further from Putney Bridge and closer to Putney Pier.

b. C06XL: Lower Richmond Road Foreshore – this site previously overlapped part of C06XB and C06XC but was revised to test locating the drop shaft closer to Putney Bridge.

c. C06XM: Putney Wharf Road Foreshore – this site previously overlapped C06XA and C06XJ.

D.4.14 Therefore, sites C06XB and C06XC were both withdrawn and replaced with C06XK and C06XL. C06XA and C06XJ were also withdrawn and replaced with C06XM, which roughly covered the same area. It should be noted that the sizes of these foreshore sites were consistent with the areas we presented at phase one and two consultation. This internal re-organisation of the foreshore sites was done to clarify and update the areas that were reassessed and to make them consistent with each other. It did not materially alter our approach to the foreshore sites and improved the assessment audit trail.

D.4.15 The review of the potential group of six sites listed above was put on the long list for this CSO. The long list sites were then assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2 of the Site selection methodology paper.

D.4.16 Table D.4 below summarises the outcome of the back-check of the revised long list of sites. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained did not pass to the draft short list for more detailed assessment.

Table D.4 Long list to draft short list for the interception of the Putney Bridge CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C06XD</td>
<td>Kenilworth Mount Court</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> Acquisition costs would likely be high.</td>
</tr>
<tr>
<td>C06XE</td>
<td>Gardens to flats to west of Waterman Street</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The site is too narrow and acquisition costs would likely be high.</td>
</tr>
<tr>
<td>C06XH</td>
<td>Gardens/parking to residences</td>
<td><strong>Recommendation:</strong> Not to draft short list.</td>
</tr>
</tbody>
</table>
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

Section 48: Report on site selection process

Volume 3: Western site appendices A to H

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>adjacent Welmar Street</td>
<td>Rationale: The engineering connection to the sewer would be long and difficult.</td>
<td></td>
</tr>
<tr>
<td>C06XX</td>
<td>Putney Embankment Foreshore</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C06XL</td>
<td>Lower Richmond Road Foreshore</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C06XM</td>
<td>Putney Wharf Foreshore</td>
<td>Recommendation: To draft short list.</td>
</tr>
</tbody>
</table>

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary. Sites in the Foreshore are flexible and relate to information known at post-phase two of the project.

D.4.17 Of the six sites identified, only the three foreshore sites were assessed as potentially suitable and passed to the draft short list and three land-based sites were eliminated as unsuitable.

**Review of the back-check Draft Short List sites**

D.4.18 The three back-check draft shortlisted sites identified for further assessment at the next stage were:

- a. C06XX: Putney Embankment Foreshore
- b. C06XL: Lower Richmond Road Foreshore
- c. C06XM: Putney Wharf Foreshore.

D.4.19 These sites were assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper*.

D.4.20 Table D.5 overleaf summarises the outcome of the back-check reviewed assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. At this stage, there were no reasons to exclude any of the foreshore sites.

**Table D.5 Draft short list to final short list for the interception of the Putney Bridge CSO (Table 2.3 assessment)**

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C06XX</td>
<td>Putney Embankment Foreshore</td>
<td>Recommendation: Retain on short list.</td>
</tr>
<tr>
<td>C06XL</td>
<td>Lower Richmond Road Foreshore</td>
<td>Recommendation: Retain on short list.</td>
</tr>
<tr>
<td>C06XM</td>
<td>Putney Wharf Foreshore</td>
<td>Recommendation: Retain on short list.</td>
</tr>
</tbody>
</table>
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary. Sites in the Foreshore are flexible and relate to information known at post-phase two of the project.

D.4.21 All three foreshore sites on the back-check draft short list were assessed as potentially suitable and passed to the final short list for further review.

**Review of the Final Short List sites**

D.4.22 The three back-check sites identified for inclusion on the final short list and assessment at the next stage were:

a. C06XK: Putney Embankment Foreshore
b. C06XL: Lower Richmond Road Foreshore
c. C06XM: Putney Wharf Foreshore.

D.4.23 A site suitability report was prepared for the reviewed final shortlisted sites. A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below, which supersedes all the reports in Section D.2.

**C06XK: Putney Embankment Foreshore**

D.4.24 C06XK is situated on the foreshore of the River Thames to the west of Putney Bridge in the London Borough of Wandsworth.

D.4.25 Lower Richmond Road forms the southern boundary of the site, beyond which are a number of residential properties. A slipway is positioned along the eastern boundary and the Embankment road is to the west of the site.

D.4.26 **Engineering:** The site was assessed as less suitable for the interception of the CSO because it is within the 100m exclusion zone from Putney Bridge and is adjacent to Putney Pier and the Putney draw dock/slipway. However, being in the foreshore, the site could be modified to suit actual requirements. There is reasonable vehicular access and no known underground services. The slipway might need to be protected during the construction stage and potentially modified in the permanent phase.

D.4.27 **Planning:** On balance, the site was assessed as less suitable to intercept this CSO. A number of planning and environmental designations related to this site. Mitigation would be required to reduce potential impacts on the conservation area, nearby listed buildings, Star & Garter residential properties, the houseboats at Putney Pier and the Thai Square restaurant. In addition, continued or alternative public access to the river during the construction works would require further investigation.

D.4.28 **Environment:** Overall, the site was assessed as less suitable as a CSO site and further investigation would be required into whether the impacts could be adequately mitigated. Based on current information, the site was suitable from the perspectives of transport, archaeology, water resources (hydrogeology), built heritage and townscape and land quality. The site was considered less suitable from the perspectives of water resources (surface water), ecology, flood risk, and air quality.

D.4.29 **Socio-economic and community**: The site was assessed as less suitable as a CSO site. It appeared likely that it would affect the
houseboats at Putney Pier (one of which is likely to require temporary relocation), a restaurant and bar located on the Embankment directly opposite the proposed shaft. It also appeared likely that it would impact on residential properties located opposite on Lower Richmond Road, a number of which would overlook the site; however, the position of the site might slightly reduce the impact on these properties. There would be a temporary impact on the slipway, but it appeared that this could be mitigated by the provision of a temporary alternative slipway in the vicinity. There would also likely be impacts on users of Putney Pier, which is located adjacent to the site to the north west. Finally, use of the site, and particularly the access, appeared likely to affect the adjacent footpath and cycleway. Further consideration of appropriate mitigation measures would be required.

D.4.30 **Property:** The site was assessed as suitable as a CSO site and it was recommended that early discussions be held with the Port of London Authority to establish on what grounds acquisition could be agreed.

**C06XL: Lower Richmond Road Foreshore**

D.4.31 C06XL is situated on the foreshore of the River Thames to the west of Putney Bridge in the London Borough of Wandsworth.

D.4.32 Lower Richmond Road (B306) forms the southern boundary of the site, beyond which are a number of residential properties. A slipway is positioned along the western boundary and a restaurant is located further along the Embankment to the west of the site.

D.4.33 **Engineering:** The site was assessed as less suitable for the interception of the CSO because it is within the 100m exclusion zone from Putney Bridge and is directly adjacent to the public slipway. The site is also located in close proximity to Putney Pier. However, as it is in the foreshore, the site could be modified to suit actual requirements. There is reasonable vehicular access and no known underground services. The slipway would need to be demolished to enable the permanent works to be constructed. The construction methodology for the connection culvert to the outfall would need to be finalised separately (notably for work close to an abutment under Putney Bridge).

D.4.34 **Planning:** On balance, the site was assessed as less suitable to intercept this CSO. A number of planning and environmental designations related to this site. Mitigation would be required to reduce potential impacts on the conservation area, nearby listed buildings and the historic slipway, as well as the houseboats at Putney Pier, residential properties and the Thai Square restaurant. In addition, continued or alternative public access to the river during the construction works required further consideration.

D.4.35 **Environment:** Overall, the site was assessed as less suitable as a CSO site and mitigation would be required. The site was considered likely to be suitable from the perspectives of transport, archaeology, built heritage and townscape, water resources (hydrogeology) and land quality. However, the site was considered less suitable from the perspectives of water resources (surface water), ecology, flood risk, air quality and noise.
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

D.4.36 **Socio-economic and community:** Assessed the site as **less suitable** as a CSO site. It appeared likely that using this site would impact on residential properties located opposite on Lower Richmond Road, a number of which would overlook the site, and the houseboats at Putney Pier. It also appeared likely that it would affect the Thai Square restaurant and bar located on the Embankment directly opposite the proposed shaft. Use of the site would impact on the existing slipway but it appeared that this could be mitigated via the provision of a temporary replacement slipway in the vicinity. It did not appear likely that use of the site would impact on the use of Putney Pier, which is located to the north west of the site. Using the site, and particularly the access, appeared likely to affect the adjacent footpath and cycleway. Further consideration of appropriate mitigation measures would be required.

D.4.37 **Property:** Assessed the site as **suitable** as a CSO site and recommended that early discussions be held with the Port of London Authority to establish on what grounds acquisition could be agreed.

**C06XM: Putney Wharf Foreshore**

D.4.38 C06XM is situated on the foreshore of the River Thames to the east of Putney Bridge in the London Borough of Wandsworth.

D.4.39 The site is located adjacent to the Grade II* listed St Mary’s Church, the Boathouse public house and the pedestrianised riverside walkway.

D.4.40 **Engineering:** Assessed the site as **suitable** because, as it is located on the foreshore, it would be relatively unrestricted in size and shape. Access, however, would be somewhat restricted as vehicles could not access the site directly from the public highway. Construction traffic would need to pass across a pedestrianised area that currently forms part of the Thames Path. The proximity to Putney Bridge was potentially a concern. The construction methodology for the culvert to the existing CSO under Putney Bridge would require works close to the bridge.

D.4.41 **Planning:** On balance, the site was assessed as **less suitable** to intercept this CSO. There were a number of sensitive planning and environmental designations that related to this site. There were sensitive heritage issues as the site is located within a conservation area and in close proximity to the listed St Mary’s Church and Putney Bridge. The construction works would likely impact on the visual amenity of the surrounding area and mitigation to protect amenity from construction impacts might be difficult.

D.4.42 **Environment:** Overall, the site was assessed as **less suitable** as a CSO site. Further investigation would be required into whether the impacts could be adequately mitigated. The site was considered **suitable** from the perspectives of transport, archaeology, water resources (hydrogeology) and land quality.

D.4.43 Based on current information, the site was **less suitable** from the perspectives of built heritage and townscape, water resources (surface water), flood risk, ecology, air quality and noise.
Appendix D – Putney Embankment Foreshore (formerly Putney Bridge Foreshore)

D.4.44 **Socio-economic and community:** Assessed the site as less suitable as a CSO site. Its use would likely cause disturbance to several adjacent and nearby sensitive receptors including a nursery, church and the residential and commercial properties in the high density Putney Wharf Tower, which is directly opposite and overlooks the site. The potential disturbance to people using the Thames Path in this location, the pedestrianised area and outdoor seating to the east of the Putney Wharf Tower would likely be greater, considering the proposed access route. While it might be possible to mitigate and minimise disturbance, the proximity of the receptors would make this difficult.

D.4.45 **Property:** Assessed the site as less suitable as a CSO site due to risk of discretionary purchase costs and recommended that early discussions be held with the PLA to establish on what grounds acquisition could be agreed.

**Comparison of back-check shortlisted sites for the Putney Bridge CSO**

D.4.46 Following the back-check of all the Putney Bridge CSO, we reviewed and compared all the shortlisted sites for this CSO.

D.4.47 The final list of shortlisted sites and a summary of the points that distinguished them are outlined below in no particular order:

a. C06XK: Putney Embankment Foreshore
b. C06XL: Lower Richmond Road Foreshore
c. C06XM: Putney Wharf Foreshore.

D.4.48 Due to the location of the CSO within the southern supporting arch of Putney Bridge, works would be required beneath and against the bridge structure for all site options. We acknowledge that this has the potential to adversely impact on this Grade II listed structure; however, we considered that careful design and construction practices could be employed to mitigate these impacts.

D.4.49 All the foreshore sites were judged suitable in principle, but we preferred to avoid foreshore sites where other viable land-based sites were available for a number of reasons. However, due to the built-up nature of the surrounding area and the location of this particular CSO, there were no viable land-based sites.

D.4.50 All sites would require the CSO flows to be intercepted beneath the southern shore arch of Putney Bridge. Therefore, we did not consider this to be a differentiating factor between the three shortlisted sites.

D.4.51 Sites C06XK and C06XL are located in close proximity to Putney Pier with C06XK being almost adjacent. Site C06XM would provide greater separation between the working area and the pier, which would minimise the impact of the works on vessel movements and navigation.

D.4.52 The two sites located west of Putney Bridge (C06XK and C06XL) would facilitate access directly off the public highway. Site C06XM does not have direct access off a carriageway and construction vehicles would be
required to cross a pedestrianised area of third-party land that also forms part of the Thames Path.

D.4.53 Both sites C06XK and C06XL are located adjacent to a public draw dock/slipway structure. This would need to be demolished if site C06XL were developed, whereas it might be possible to retain it if C06XK were used. Both sites C04XM and C06XL would require the provision of a temporary slipway to maintain access to the river during the construction phase.

D.4.54 The greater separation between C06XK and the existing CSO overflow location would require a longer connection culvert than site C06XL.

D.4.55 C06XM (east of the bridge) would have greater adverse effects on the multiple sensitive receptors adjacent to these sites, including St Mary’s Church, a Grade II* listed building, which would be impacted on both in terms of appearance and setting.

D.4.56 It was judged that C06XM would disrupt more sensitive receptors and equality groups, such as users of the church and the children’s nursery group. Furthermore, the adjacent Putney Wharf Tower and nearby Boathouse public house would experience more direct disruption than if C06XL or C06XK were used. Also, as access to the site for construction vehicles would need to be via the narrow Brewhouse Lane, the residential properties and businesses in the vicinity would experience more construction related impacts than from site C06XL.

D.4.57 Site C06XK is located further from the Grade II listed Putney Bridge than site C06XL, which would reduce the impact on the setting of the permanent features of this asset.

D.4.58 From a property perspective, C06XM was considered least preferred of the final short list of sites, as it is closest to residential properties and entailed a greater compensation risk.

D.4.59 We concluded that C06XM was the least suitable of the three options because it would have a greater impact on sensitive receptors and the access arrangements are subject to more issues and risks than the other two sites.

D.4.60 C06XK and C06XL were similar in many respects, given that they are immediately adjacent to each other; however, C06XK was considered more suitable because it is located further from Putney Bridge and would potentially avoid having a direct impact on the historic slipway.

**Summary of post phase two targeted consultation responses**

D.4.61 Following the back-check, we took the decision to hold a targeted consultation in Summer 2012, as part of our scheme review process, in order to request specific feedback on changes to our preferred phase two consultation site Putney Bridge Foreshore, which has now been renamed Putney Embankment Foreshore (C06XK).

D.4.62 All comments received in relation to the Putney Bridge Foreshore site during the targeted consultation were reviewed at a workshop. Having
taken all comments received into account, we still believe C06XK: Putney Embankment Foreshore is the most suitable site to intercept the Putney Bridge CSO.

**Main rationale for the selection of the CSO site for Section 48**

**D.4.63** In summary, Putney Embankment Foreshore was identified as the most suitable CSO site for the following reasons (in no particular order):

- e. C06XK would be less likely affect nearby residential properties and other sensitive receptors and have a lower risk of compensation payments than the other two sites.
- f. C06XK has better direct access off the public highway and the existing historic public slipway/drawdock would be protected during construction period.
- g. C06XK is located further from the Grade II listed Putney Bridge and Grade II* listed St Mary’s Church, which would reduce the impact on the setting of the permanent features of these historic assets.
- h. The location of this site has a better relationship with the historic slipway and the new position of permanent structure avoids visual and operational conflicts with the slipway. The permanent structure is closer to the University Boat Race starting line, so there is an opportunity to use it as public space during the annual race and other key river events.
- i. Whilst the potential effects of foreshore sites are recognised, the construction of the tunnel would deliver improvements to river wide and local water quality, which would result in positive effects on river ecology, including habitat improvements and reduce fish kills. We will continue to seek to minimise the effects of our proposals.

**D.4.64** As a post site selection mitigation matter we will provide a temporary slipway to ensure access to the river is maintained during the construction phase. As part of the detailed design, we will seek to minimise any significant potential impacts.

**D.4.65** We recognise the concerns that have been raised and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

**D.5** **Confirmation of the proposed CSO site for Section 48 publicity**

**D.5.1** The post phase two consultation back-check and review described above in Section D.4 confirmed C06XK: **Putney Embankment Foreshore as the proposed site to intercept the Putney Bridge CSO for Section 48 publicity.**

**D.5.2** Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in
response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Appendix E– Dormay Street (formerly Bell Lane Creek)

E.1 Introduction

E.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the Frogmore Storm Relief – Bell Lane Creek CSO prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

E.1.2 Table E.1 summarises the sites identified as most suitable to intercept the Frogmore Storm Relief – Bell Lane Creek CSO at each phase of the project.

Table E.1 Summary of the sites identified as most suitable to intercept the Frogmore Storm Relief – Bell Lane Creek CSO at each phase of the project

<table>
<thead>
<tr>
<th>Phase one consultation site:</th>
<th>Bell Lane Creek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Dormay Street</td>
</tr>
<tr>
<td>Section 48 publicity site:</td>
<td>Dormay Street</td>
</tr>
</tbody>
</table>

E.1.3 This appendix is structured as follows:

a. Section E.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b. Section E.2 provides details of how we identified our preferred site for phase one consultation.

c. Section E.3 provides details of the back-check assessments and reasons why we changed our preferred site for phase two consultation.

d. Sections E.4 and E.5 provide details of the post phase two consultation scheme review and confirmation of the proposed CSO site for Section 48 publicity.

Type of site

E.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the Frogmore Storm Relief – Bell Lane Creek CSO, and connect it to the main tunnel.

Site selection process

E.1.5 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). CSO sites also
need to be as close to the existing sewer as we followed a localised optioneering approach to identify suitable sites practicable; therefore we took a localised optioneering approach to identify potential sites. The sites went through increasingly detailed levels of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement.

E.1.6 Prior to phase one consultation we applied our multidisciplinary sieving approach to all the assessments set out in the Site selection methodology paper, which are also briefly outlined below (see E.2.2). Further, a long connection tunnel is required to connect this CSO to the main tunnel (see Volume 1, Main report, Section 4 for further discussion on CSO connection tunnel options).

E.1.7 Following phase one consultation, we reviewed the sites and decided to carry out a ‘back-check’ in order to review the preferred and shortlisted sites prior to phase two consultation. This back-check involved a repeat of each relevant stage of our site selection process to reconsider which site would be the most suitable CSO site and connection tunnel option (see Volume 1, Main report, Section 6.8 for further discussion on CSO connection tunnel options). The back-check utilised the same multidisciplinary approach that we followed prior to phase one consultation. The results of this back-check superseded all previous assessments undertaken prior to phase one consultation and reported in E.2, except where noted (see Section E.3).

E.1.8 Following phase two consultation, we conducted a review of the scheme in accordance with the Site selection methodology paper. The review of CSO sites involved re-checking the choices of sites identified as most suitable to intercept each CSO associated with the proposed route and proposed CSO sites for Section 48 publicity (see Section E.4).

E.2 Phase one consultation preferred CSO site: Site selection process

Introduction

E.2.1 Section E.2 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase one consultation.

E.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Frogmore Storm Relief – Bell Lane Creek CSO and to consider the connection tunnel options for phase one consultation (see Volume 1, Main report, Section 4 for discussion on CSO connection tunnel options).
Appendix E – Dormay Street (formerly Bell Lane Creek)

E.2.3 A plan that shows all the sites considered for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO and how they progressed through the site selection process can be found in Annex E.1.

E.2.4 This stage took place from Spring 2009 to Summer 2010.

E.2.5 The assessments described in Section E.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic representation of the process and all of the assessments have been superseded, except for some of site suitability report summaries (also see Section E.3.28 to E.3.32).

Assessment of the long list sites

E.2.6 The long list of potential sites to intercept the Frogmore Storm Relief – Bell Lane Creek CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

E.2.7 In total, 15 sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

E.2.8 Table E.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

Table E.2 Long list to draft short list for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C07AA</td>
<td>Bell Lane Creek Foreshore</td>
<td><strong>Recommendation:</strong> Not to draft short list.  <strong>Rationale:</strong> Access is poor and use of this site would effectively close off the creek.</td>
</tr>
<tr>
<td>C07AB</td>
<td>London Borough of Wandsworth Maintenance Depot, Dormay Street</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C07AC</td>
<td>Area on islet adjacent to Bell Lane Creek</td>
<td><strong>Recommendation:</strong> Not to draft shortlist.  <strong>Rationale:</strong> Access is poor and the</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>engineering connection to the sewer would be long and difficult.</td>
</tr>
</tbody>
</table>
| C07AD  | Area of land to the east of the Causeway                  | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AE  | Parking area for self-drive vans off Armoury Way          | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AF  | Bell Lane Creek                                          | **Recommendation:** To draft short list.                                                    |
| C07AG  | Small business                                            | **Recommendation:** To draft short list.                                                    |
| C07AH  | Additional land for London Borough of Wandsworth Maintenance Depot | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AJ  | Parking area for development off Frogmore                | **Recommendation:** To draft short list.                                                    |
| C07AK  | Parking area for development off Frogmore                | **Recommendation:** Not to draft short list.  
**Rationale:** Very restricted works area.                                                 |
| C07AL  | Garden area to blocks of flats fronting Armoury Way and Wandsworth Plain. | **Recommendation:** Not to draft short list.  
**Rationale:** Access is poor.                                                             |
| C07AM  | Parking area for film studios                             | **Recommendation:** To draft short list.                                                    |
| C07AN  | Small business off Armoury Way                           | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult.       |
| C07AP  | Waste facility, Smugglers Way                            | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult.       |
| C07AQ  | Parking area to Oddbins Wine Merchants                   | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult.       |

**NB.** The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

**E.2.9** Of the 15 sites identified, five were assessed as potentially suitable and passed to the draft short list and ten sites were eliminated as unsuitable.

**Assessment of the draft short list sites**

**E.2.10** The five draft short list sites identified for further assessment at the next stage were:

a. **C07AB:** London Borough of Wandsworth maintenance depot, Dormay Street
b. C07AF: Bell Lane Creek  
c. C07AG: Small business (between Dormay Street and Frogmore)  
d. C07AJ: Parking area for development off Frogmore  

E.2.11 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

E.2.12 At this stage, we also consulted with each of the London local authorities along the preferred route and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

E.2.13 Table E.3 below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.

Table E.3 Draft short list to final short list for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C07AB</td>
<td>London Borough of Wandsworth Maintenance Depot, Dormay Street</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
<tr>
<td>C07AF</td>
<td>Bell Lane Creek</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C07AG   | Small business        | **Recommendation:** Not to short list.  
**Rationale:**  
- Engineering – The works area is very restricted for the engineering work required.  
- Community – There would be a potential impact on the local economy from relocating the three businesses on site and an impact on surrounding businesses and residential properties in close proximity. |
| C07AJ   | Parking area for development off Frogmore | **Recommendation:** Not to short list.  
**Rationale:** |
### Site ID | Site name/description | Recommendation and rationale
--- | --- | ---
 |  | • Engineering – The engineering connection to sewer is potentially very difficult.  
• Community – The site is densely surrounded by residential properties and there is a primary school nearby.  
C07AM | Parking area for film studios | **Recommendation:** Not to short list.  
**Rationale:**  
• Community – There would be an impact on local residents from loss of parking and on residential properties in the vicinity.  
• Property – There is a lack of alternative car parking facilities in the vicinity and the acquisition cost if site is developed could be high.

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

#### E.2.14
Of the five sites on the draft short list, two were assessed as potentially suitable and passed to the final short list and three sites did not.

**Assessment of the final short list sites**

#### E.2.15
The two sites identified for inclusion on the final short list and assessment at the next stage were:

a. C07AB: London Borough of Wandsworth Maintenance Depot, Dormay Street  
b. C07AF: Bell Lane Creek.

#### E.2.16
A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment the suitability of each site, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed in isolation, with no comparison to other sites or regard to tunnelling strategy. Sites were assessed by each discipline as **suitable**, **less suitable** or **not suitable** from that discipline’s perspective.

#### E.2.17
A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**C07AB: London Borough of Wandsworth maintenance depot, Dormay Street**

#### E.2.18
Site C07AB forms part of the Frogmore Complex, an industrial estate that comprises various industrial units and associated loading/unloading and parking areas in the London Borough of Wandsworth.

#### E.2.19
The site is presently used by the London Borough of Wandsworth Council as a maintenance depot. From consultation with the London Borough of
Wandsworth, we understood that the depot is in 24-hour use by a large number of employees and provides storage, workshops and parking for council vehicles, including emergency response vehicles.

E.2.20 **Engineering**: Assessed the site as **suitable** because it has good vehicle access and is of adequate size. The works to intercept the sewer could also be undertaken in close proximity to the line of the sewer.

E.2.21 **Planning**: On balance, the site was assessed as **suitable** to intercept this CSO. Use of the site was considered unlikely to have an unacceptable impact on residential amenity and appropriate mitigation should reduce potential impacts on the identified heritage designations. The site is within an established employment area and the loss of existing employment uses would require policy justification. There might be a requirement to relocate existing business facilities, which would require further investigation.

E.2.22 **Environment**: Overall, the site was assessed as **suitable** as a CSO site, although mitigation might be required. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, water resources (hydrogeology and surface water), flood risk, ecology, air quality, noise, built heritage and townscape.

E.2.23 The site was, however, considered **less suitable** from the perspective of land quality due to the high risk of contaminated land which might require remediation and/or measures to ensure that no contaminants are mobilised.

E.2.24 **Socio-economic and community**: Assessed the site as **suitable** as a CSO site. It would likely have some impact on the site’s current use as a maintenance depot, but this should be manageable. It appeared unlikely that the adjacent industrial buildings would be greatly affected by the use of the site. No potential sensitive receptors were identified in close proximity to the site.

E.2.25 **Property**: Assessed the site as **suitable** as a CSO site. The site is owned by the council and therefore acquisition might be subject to a ministerial procedure. Acquisition would also result in business disturbance to the existing depot operations, but temporary relocation should be possible.

**C07AF: Bell Lane Creek**

E.2.26 Site C07AF forms part of the Frogmore Complex, an industrial estate that comprises various industrial units and associated loading/unloading and parking areas. The site is presently used by a private business (Panorama Antennas) in the London Borough of Wandsworth.

E.2.27 **Engineering**: Assessed the site as **suitable** for the interception of the CSO as the site is an adequate size and has good vehicle access. The works to intercept the sewer could also be undertaken in close proximity to the line of the sewer. However, use of the site would require demolition of the existing two-storey building.

E.2.28 **Planning**: On balance, the site was assessed as **suitable** as a CSO site. It was unlikely that it would have an unacceptable impact on residential amenity and appropriate mitigation should reduce potential impacts on the
identified heritage designations. The site is within an established employment area and the loss of existing employment uses would require policy justification. Existing businesses might need to be located, which would require further investigation.

E.2.29 **Environment:** Overall, the site was assessed as **suitable** as a CSO site. However, mitigation would be required. The site was considered **suitable** from the perspectives of transport, archaeology, water resources (hydrogeology and surface water), ecology, flood risk, built heritage and townscape. The site was considered **less suitable** from the perspectives of air quality, noise and land quality.

E.2.30 **Socio-economic and community:** From a community impacts perspective, the site was assessed as **suitable** as a CSO site. We recognised that use of the site might impact on the operations of Panorama Antennas, which might have financial implications for the business owners and employees concerned. The three-storey residential dwellings on Frogmore to the west of the site might experience a level of disruption that would require mitigation.

E.2.31 **Property:** Assessed the site as **suitable** as a CSO site. Acquisition costs could be significant but acceptable. However, use of the site would result in significant business disturbance and increased acquisition costs if existing businesses could not be relocated without severe disruption.

**Phase one consultation preferred site**

E.2.32 Following the completion of the site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

E.2.33 Of the two shortlisted sites, Bell Lane Creek (C07AF) was identified as the preferred site for the reasons summarised in no particular order below:

a. Both sites were judged to be suitable from the perspectives of all disciplines. However, various operational considerations, described below, led to C07AF being identified as the preferred site at phase one consultation.

b. Site C07AF would require the relocation and demolition of the existing business, after which it would provide a suitably sized, flat worksite that would allow cost-effective and safe construction. Use of this site would avoid displacing the adjacent existing maintenance depot that occupies site C07AB, which is in use 24 hours per day.

c. The London Borough of Wandsworth advised that the services that operate from the maintenance depot (C07AB) were of significant local importance and could not be maintained with the reduced depot area proposed during the construction period. The use of C07AB would require the relocation of a number of local authority operations, as well as the removal and relocation of the local authority’s underground fuel storage tanks.
d. The council depot site (C07AB) is further away from residential noise and dust receptors, which would minimise detrimental construction impacts on the surrounding community, but at C07AF it might be possible to position noisy construction plant towards the east of the site to minimise the impact on the residential properties in Frogmore.

e. Both sites are close to the strategic road network, with access via Dormay Street or Frogmore.

f. C07AF would provide a more suitable location for future Thames Water maintenance activities, which could be on land owned and managed by Thames Water and accessed directly from the public highway. The maintenance depot would be less suitable as it would not be accessible directly off the public highway and is within a gated security compound operated by the local authority. Thames Water operations would potentially disrupt the depot operations.

g. There would be challenges and significant property issues associated with the use of either site but, on balance, it was considered that relocating the existing business from C07AF would be more feasible and commercially viable than relocating the local authority operations and associated infrastructure from C07AB.

E.2.34 C07AF was therefore identified as the preferred site for the interception of flows from the CS07A Frogmore Storm Relief – Bell Lane Creek CSO.

E.2.35 We also considered different strategies as to how to connect site C07AF to the main tunnel. We decided to drive a short connection tunnel from site C07AF to the main tunnel and to sequentially drive another connection tunnel from site C07AF to intercept the Frogmore Storm Relief – Buckhold Road CSO (CS07B) further inland (see Section 6.8 in the Main report for the discussion on the drive options for the Frogmore connection tunnel).

E.3 Phase two consultation preferred CSO site: Scheme development and site selection

Introduction

E.3.1 Section E.3 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase two consultation.

E.3.2 Following phase one consultation, the site selection process comprised: a review of comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; completion of a back-check exercise to review the sites listed in Section E.2 along with any potential new sites or a combination of sites using the assessment process outlined in E.2.2; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Frogmore Storm Relief – Bell Lane Creek CSO and to consider the connection tunnel options for phase two consultation (see Volume 1, Main report, Section 6.8 for further discussion on CSO connection tunnel options).
E.3.3 A plan that shows all the sites considered for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO and how they progressed through the site selection process can be found in Annex E.2.

E.3.4 This stage took place from Winter 2010 to Autumn 2011.

E.3.5 The assessments described in Section E.3 were based on the information available at the time and the related stage in the project’s development.

**Phase one consultation responses**

E.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

E.3.7 The main issues and concerns raised during phase one consultation in relation to the Bell Lane Creek site related to the impact on local businesses and employment through the loss of an existing factory. This included opposition from the current occupier of site, Panorama Antennas, which expressed concern about loss of business and the implications of relocating to a different site. Other issues raised included:

   a. impact on residential amenity
   b. impact on existing heritage features
   c. access to the site
   d. impact of odour and noise.

E.3.8 The main comments received in support of the preferred site included:

   a. Thames Water has been transparent in weighing up the pros and cons of each site.
   b. The site can be used for other uses following the completion of works.

E.3.9 More details on the consultation responses in relation to this site and our response to the comments received are provided in the *Report on phase one consultation*.

**Back-check process**

E.3.10 Since phase one consultation began, a site has been put up for sale on Dormay Street that is in close proximity to the existing local CSO. This provided us with another feasible site to intercept the CSO.

E.3.11 Due to the availability of a new site and the feedback we received during phase one consultation outlined above, we began a back-check (as defined in the *Site selection methodology paper*) to review our selection of C07AF as our preferred site.

E.3.12 This back-check involved a targeted repeat of each relevant stage of our site selection process to reconsider which site would be most suitable to intercept the Frogmore Storm Relief – Bell Lane Creek CSO. The results of each stage of the back-check process are outlined below.
Assessment of the back-check long list

E.3.13 The original long list of sites for the Frogmore Storm Relief – Bell Lane Creek CSO comprised 15 sites (see Table E.1). These sites were reviewed along with any new sites identified in the back-checking exercise (ie, a re-assessment to establish whether there had been any change of circumstances or if any new information had emerged).

E.3.14 All sites on the original long list for this CSO were put on the back-check long list. In addition, the new site C07AR/CL008 – Dormay Street was added to the back-check long list.

E.3.15 It should be noted we also considered alternative sites suggested by consultees; however, none of these sites were located within a suitable distance to intercept this CSO.

E.3.16 The back-check long list sites were assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2.

E.3.17 The table below summarises the outcome of the back-check assessment of the back-check long list of sites. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next phase of assessment. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained did not pass to the back-check draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

E.3.18 As can be seen below, all sites were assessed as less constrained and therefore progressed to the back-check draft short list.

Table E.2 Long list to draft short list for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C07AA</td>
<td>Bell Lane Creek Foreshore</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> Access is poor and use of this site would effectively close off the creek.</td>
</tr>
<tr>
<td>C07AB</td>
<td>London Borough of Wandsworth Maintenance Depot, Dormay Street</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
<tr>
<td>C07AC</td>
<td>Area on islet adjacent to Bell Lane Creek</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The access to the site is poor and the engineering connection to the sewer would be long and difficult.</td>
</tr>
<tr>
<td>C07AD</td>
<td>Area of land to the east of the Causeway</td>
<td><strong>Recommendation:</strong> Not to draft short list. <strong>Rationale:</strong> The engineering connection to the sewer would be long and difficult.</td>
</tr>
</tbody>
</table>
### Appendix E – Dormay Street (formerly Bell Lane Creek)

#### Section 48: Report on site selection process

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
</table>
| C07AE   | Parking area for self-drive vans off Armoury Way | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AF   | Bell Lane Creek       | **Recommendation:** To draft short list. |
| C07AG   | Small business        | **Recommendation:** Not to draft short list.  
**Rationale:** The site is small and thin. |
| C07AH   | Additional land for London Borough of Wandsworth Maintenance Depot | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AJ   | Parking area for development off Frogmore | **Recommendation:** To draft short list. |
| C07AK   | Parking area for development off Frogmore | **Recommendation:** Not to draft short list.  
**Rationale:** The works area is very restricted. |
| C07AL   | Garden area to blocks of flats fronting Armoury Way and Wandsworth Plain. | **Recommendation:** Not to draft short list.  
**Rationale:** Access to the site is poor. |
| C07AM   | Parking area for film studios | **Recommendation:** To draft short list. |
| C07AN   | Small business off Armoury Way | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AP   | Waste facility, Smugglers Way | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AQ   | Parking area to Oddbins Wine Merchants | **Recommendation:** Not to draft short list.  
**Rationale:** The engineering connection to the sewer would be long and difficult. |
| C07AR/CL008 | Dormay Street | **Recommendation:** To draft short list. |

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

E.3.19 Of the 16 back-check long list sites, five were assessed as potentially suitable and passed to the back-check draft short list. Eleven sites were eliminated as unsuitable.

**Assessment of the back-check draft short list sites**

E.3.20 The five back-check draft shortlisted sites were further assessed by the engineering, planning, environment, community, and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper*.

E.3.21 The table below summarises the outcome of the back-check assessment of the draft short list of sites. Sites that were assessed as the least
constrained in light of the Table 2.3 considerations were retained on the back-check short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the back-check short list for more detailed assessment.

E.3.22 The main rationale for excluding these sites at this stage is summarised below.

**Table E.3 Draft short list to final short list for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO (Table 2.3 assessment)**

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C07AB</td>
<td>London Borough of Wandsworth Maintenance Depot, Dormay Street</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
<tr>
<td>C07AF</td>
<td>Bell Lane Creek</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C07AJ       | Parking area for development off Frogmore          | **Recommendation:** Not to short list. **Rationale:**  
|              |                                                   | • Engineering – The connection between the site and interception chamber is very difficult and might not be feasible.  
|              |                                                   | • Community – The site is densely surrounded by and overlooked by residential properties. Operations might adversely affect health and general community well-being and cohesion. The is a primary school nearby. |
| C07AM       | Parking for film studios (Armory Way)              | **Recommendation:** Not to short list. **Rationale:**  
|              |                                                   | • Planning/Environment – The planning history suggests that this will be a major redevelopment site, so availability of the site is in question.  
|              |                                                   | • Property – The potential redevelopment of this site would substantially increase the potential cost of the site and raise an acquisition risk.  
|              |                                                   | • Community – Concerned about the level of disruption. |
| C07AR/CL008 | Dormay Street                                       | **Recommendation:** Retain on short list.           |

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.
E.3.23 Of the five sites on the back-check draft short list, three were assessed as potentially suitable and passed to the final short list and two sites did not.

**Assessment of the back-check final short list sites**

E.3.24 The three back-check final shortlisted sites identified for assessment at the next stage were:

a. C07AB: London Borough of Wandsworth Maintenance Depot, Dormay Street  
b. C07AF: Bell Lane Creek  
c. C07AR/CL008: Dormay Street.

E.3.25 A site suitability report was prepared for the new back-check final short list site and the site suitability reports for the phase one shortlisted sites were re-evaluated.

E.3.26 Objections from the landowners of sites C07AB and C07AF during phase one consultation were also considered for these sites. In summary, there was strong opposition to the use of these sites due to the impact on the depot and existing business, which together employ a large number of people.

**C07AB: London Borough of Wandsworth Maintenance Depot, Dormay Street**

E.3.27 While a number of development plan documents were adopted since the site suitability report was completed, the updated policies did not impact on the final assessment decisions. The planning recommendation, therefore, remained **suitable**.

E.3.28 All other discipline recommendations remained unchanged (see E.2.17 to E.2.24).

**C07AF: Bell Lane Creek**

E.3.29 While a number of development plan documents were adopted since the site suitability report was completed, the updated policies did not impact on the final assessment decisions. The planning recommendation, therefore, remained **suitable**.

E.3.30 There would likely be high acquisition costs if replacement land were required. Therefore, the property recommendation became **less suitable**.

E.3.31 All other discipline recommendations remained unchanged (see E.2.25 to E.2.29).

**C07AR/CL008: Dormay Street**

E.3.32 The proposed site forms part of the Frogmore Complex, an industrial estate that comprises various industrial units and associated loading/areas and car parking. The site is presently occupied by Keltbray Ltd, a specialist demolition and civil engineering contractor.

E.3.33 The site area also includes a second site across Bell Lane Creek on the Causeway (CL008). This is used as a street cleansing operations centre and a vehicle storage depot. The site has sufficient area for core tunnelling facilities and provided the opportunity to consider using this site
to drive a connection to the main tunnel to the north and the Frogmore Storm Relief – Buckhold Road CSO site to the south.

E.3.34 **Engineering:** Assessed as suitable as a CSO and connection tunnel drive site as the site is of sufficient size to construct the shaft and has adequate vehicle access. The site is also within a short distance of the sewer to be intercepted. The three existing warehouse buildings on the site would likely require demolition.

E.3.35 **Planning:** On balance, the site was assessed as suitable as a CSO and connection tunnel drive site. The proposed site was unlikely to have an unacceptable impact on residential amenity, and appropriate mitigation should reduce potential impacts on the identified heritage designations. The site is within an established employment area, however we did not envisage any conflict with the policy since the project would create employment opportunities during construction and the site could be returned to an employment use on completion of the works.

E.3.36 **Environment:** Overall, the site was assessed as suitable as a CSO and connection tunnel drive site. The site was considered suitable from the perspectives of transport, archaeology, townscape, water resources (surface water and hydrogeology), ecology and noise. However, the site was considered less suitable from the perspectives of built heritage, flood risk, air quality and land quality.

E.3.37 **Socio-economic and community:** From a community impacts perspective, the site was assessed as suitable as a CSO and connection tunnel drive site. Any potential impacts on the Crane public house and adjoining residential properties could be mitigated. Use of the site might add to congestion on Dormay Street and the surrounding streets, therefore appropriate traffic management measures might be needed. Apart from this, it was unlikely that there would be any impacts on sensitive receptors from a community impacts perspective.

E.3.38 **Property:** Assessed the site as suitable as a CSO and connection tunnel drive site from a property perspective as it is primarily in Thames Water ownership or could be leased. Furthermore, acquisition costs were likely to be low.

**Phase two consultation preferred site**

E.3.39 Following the completion of the back-check process, we held a multidisciplinary workshop to compare the three shortlisted sites: Bell Lane Creek (phase one preferred site – C07AF), London Borough of Wandsworth maintenance depot (C07AB) and Dormay Street (C07AR).

E.3.40 This workshop took into account the findings of all the site suitability reports and the feedback received during phase one consultation. On the basis of the assessments described above and professional judgement, it was agreed by all disciplines that Dormay Street (C07AR/CL008) should become the recommended phase two consultation preferred site for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO and to drive the long connection tunnel to St George’s Park (C07BF) and another connection tunnel to Carnwath Road Riverside (S87HF).
in order to connect both these CSOs to the main tunnel. This meant that we believed it to be the most appropriate site, subject to further engagement with stakeholders and further design development to verify this conclusion prior to phase two consultation.

E.3.41 In summary, Dormay Street (C07AR/CL008) was identified as the most suitable site for the following reasons (in no particular order):

a. The site would result in less impact on existing businesses than the other two shortlisted sites (C07AF and C07AB).

b. It would make use of a brownfield site with few constraints.

c. Thames Water owns part of the site and the remainder could be leased.

E.3.42 In conjunction with the identification of Dormay Street (C07AR/CL008) as the preferred site for phase two consultation, we proposed to drive a short connection tunnel from Dormay Street to our preferred site at King George’s Park (C07BF) to intercept the Frogmore Storm Relief – Buckhold Road CSO. We would then drive a second connection tunnel from Dormay Street to Carnwath Road Riverside (S87HF) in order to connect both CSOs to the main tunnel.

E.3.43 The above points were based on the information available at the time and the related stage in the project’s development. The points therefore comprise a historic representation of the process prior to phase two consultation.

Confirmation of the preferred site for phase two consultation

E.3.44 A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that C07AR/CL008: Dormay Street should become the phase two consultation preferred site to intercept the Frogmore Storm Relief – Bell Lane Creek CSO and to drive the long connection tunnel to St George’s Park (C07BF) and another connection tunnel to Carnwath Road Riverside (S87HF) in order to connect both these CSO to the main tunnel.

E.3.45 Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

E.4 Post phase two consultation: Review of CSO sites

Introduction to the review

E.4.1 Section E.4 explains how we implemented the requirement in the Site selection methodology paper to review the scheme following phase two consultation and prior to Section 48 publicity.

E.4.2 This stage of the site selection process comprised: a review of comments from phase two consultation; consideration of any ongoing scheme design
and/or new technical information; multidisciplinary workshops and reviews to identify the proposed CSO site for Section 48 publicity.

E.4.3 A plan that shows all the sites considered for the interception of the Frogmore Storm Relief – Bell Lane Creek CSO and how they progressed through the site selection process can be found in Annex E.1.

E.4.4 This stage took place from Spring 2012 to Summer 2012.

Summary of phase two consultation responses

E.4.5 Details of the consultation feedback related to this site and our responses are provided in the Report on phase two consultation. All phase two consultation comments were reviewed and taken into account in the development of our proposed project. The main feedback relevant to site selection can be summarised as follows:

a. one of the shortlisted sites is more suitable
b. qualified support for shortlisted London Borough of Wandsworth Depot (C07AB)
c. slightly greater archaeological potential than the preferred site, but will otherwise have a similar impact on heritage assets.

E.4.6 The main comments received in support of the site included:

a. support for the identification of a new preferred site since phase one consultation/the preferred site is more suitable than the site put forward at phase one consultation
b. support for the use of site/Dormay Street is the most suitable site
c. qualified support subject to suitable arrangements with the London Borough of Wandsworth to manage the impacts on the council depot.

E.4.7 We recognise the concerns that have been raised, including preferences for alternative sites and archaeological impact, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

E.4.8 Having taken all comments received during phase two consultation into account, we still believe Dormay Street is the most suitable CSO site.

Any changes in circumstances or new information

E.4.9 No new information in relation to site selection was raised at phase two consultation or from other sources.

E.4.10 Given that there are no changes in circumstances or new information with relevance to site selection, we still believe Dormay Street is the most suitable CSO site.

Main rationale for the selection of the CSO site for Section 48 publicity

E.4.11 In summary, Dormay Street (C07AR/CL008) was identified as the most suitable CSO site for the following reasons (in no particular order):
a. Use of C07AR/CL008 would have least impact on local businesses and employment.
b. C07AR/CL008 would not displace the operational council maintenance depot that provides locally important services.
c. Heavy goods vehicles would use a temporary bridge over Bell Lane Creek between C07AR and CL008, so this would minimise vehicle movement along the Causeway, which has weight restrictions. This means the majority of vehicle movements would remain internal to the site.
d. It would make use of an available brownfield site with few constraints.
e. The site is primarily in Thames Water’s ownership and an agreement is in place to lease the land outside of Thames Water’s ownership. Therefore, acquisition risk has been mitigated and costs will be low.

E.4.12 In addition to the interception of the Frogmore Storm Relief - Bell Lane Creek CSO, this site would also be used to drive the long connection tunnel to St George’s Park (C07BF) and another connection tunnel to Carnwath Road Riverside (S87HF) in order to connect both these CSOs to the main tunnel.

E.5 Confirmation of the proposed CSO site for Section 48 publicity

E.5.1 The post phase two consultation review described above in Section E.4 confirmed **C07AR/CL008: Dormay Street as the proposed site for Section 48 publicity to intercept the Frogmore Storm Relief – Bell Lane Creek CSO and to drive the long connection tunnel to St George’s Park (C07BF) and another connection tunnel to Carnwath Road Riverside (S87HF) in order to connect both these CSO to the main tunnel.**

E.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Appendix F – King George’s Park

F.1 Introduction

F.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the Frogmore Storm Relief – Buckhold Road CSO prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

F.1.2 Table F.1 summarises the sites identified as the most suitable to intercept the Frogmore Storm Relief – Buckhold Road CSO at each phase of the project.

Table F.1 Summary of the sites identified as most suitable to intercept the Frogmore Storm Relief – Buckhold Road CSO at each phase of the project

| Phase one consultation site: | King George’s Park |
| Phase two consultation site: | King George’s Park |
| Section 48 publicity site:    | King George’s Park |

F.1.3 This appendix is structured as follows:

a) Section F.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b) Section F.2 provides details of how we identified our preferred site for phase one consultation.

c) Section F.3 provides details of the back-check assessments and reasons why we changed our preferred site for phase two consultation.

d) Sections K.4 and K.5 provide details of the post phase two consultation scheme review and confirmation of the proposed CSO site for Section 48 publicity.

Type of site

F.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the Frogmore Storm Relief – Buckhold Road CSO, and connect it to the main tunnel.

Site selection process

F.1.5 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). CSO sites also need to be as close to the existing sewer as we followed a localised
optioneering approach to identify suitable sites practicable; therefore we took a localised optioneering approach to identify potential sites. The sites went through increasingly detailed levels of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement.

F.1.6 Prior to phase one consultation we applied our multidisciplinary sieving approach to all the assessments set out in the Site selection methodology paper, which are also briefly outlined below (see Section F.2). A long connection tunnel is also required to connect this CSO to the main tunnel (see Volume 1, Main report, Section 4 for further discussion on CSO connection tunnel options).

F.1.7 Following phase one consultation, we reviewed the sites and decided there was no need to carry out a ‘back-check’ but we did carry out a general review of the preferred and shortlisted sites prior to phase two consultation (see Section F.3). The long connection tunnel remained a requirement to connect this CSO to the main tunnel.

F.1.8 Following phase two consultation, we conducted a review of the scheme in accordance with the Site selection methodology paper. The review of CSO sites involved re-checking the choices of sites identified as most suitable to intercept each CSO associated with the proposed route and proposed CSO sites (see Section F.4), and in this case, the long connection tunnel option to connect this CSO to the main tunnel, for Section 48 publicity

F.2 Phase one consultation preferred CSO site: Site selection process

Introduction

F.2.1 Section F.2 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase one consultation.

F.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Frogmore Storm Relief – Buckhold Road CSO for phase one consultation.

F.2.3 A plan that shows all the sites considered for the interception of the Frogmore Storm Relief – Buckhold Road CSO and how they progressed through the site selection process can be found in Annex F.1.

F.2.4 This stage took place from Spring 2009 to Summer 2010.

F.2.5 The assessments described in Section F.2 were based on the information available at the time and the related stage in the project’s development.
Assessment of the long list sites

F.2.6 The long list of potential sites to intercept the Frogmore Storm Relief – Buckhold Road CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

F.2.7 In total, nine sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

F.2.8 Table F.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the draft short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised in the table below.

Table F.2 Long list to draft short list for the interception of the Frogmore Storm Relief – Buckhold Road CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C07BA</td>
<td>Gardens to properties fronting Buckhold Rd</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C07BB</td>
<td>Car parking to development fronting Brook Rd</td>
<td>Recommendation: Not to draft short list. Rationale: Small site, restrictive working.</td>
</tr>
<tr>
<td>C07BC</td>
<td>Parking area fronting building</td>
<td>Recommendation: Not to draft short list. Rationale: Small site, restrictive working.</td>
</tr>
<tr>
<td>C07BD</td>
<td>Parking to rear of properties fronting Buckhold Rd (off Broomhill Rd)</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C07BE</td>
<td>Playground of school</td>
<td>Recommendation: Not to draft short list. Rationale: The engineering connection between shaft and interception chamber would be long and difficult.</td>
</tr>
<tr>
<td>C07BF</td>
<td>King George’s Park</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C07BG</td>
<td>Parking area behind scout hall (Buckhold Road)</td>
<td>Recommendation: To draft short list.</td>
</tr>
</tbody>
</table>
### Site selection process

**Appendix F**

#### Section 48: Report on site selection process

**Volume 3: Western site appendices A to H**

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C07BH</td>
<td>Car hire business (Buckhold Road)</td>
<td><strong>Recommendation:</strong> To draft short list.</td>
</tr>
</tbody>
</table>
| C07BJ   | Parking area fronting small business (Buckhold Road) | **Recommendation:** Not to draft short list.  
**Rationale:** Small site, restrictive working. |

**NB.** The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

**F.2.9** Of the nine sites identified, five were assessed as potentially suitable and passed to the draft short list, and four sites were eliminated as unsuitable.

**Assessment of the draft short list sites**

**F.2.10** The five draft short list sites identified for further assessment at the next stage were:

a. C07BA: Gardens to properties fronting Buckhold Road
b. C07BD: Parking to rear of properties fronting Buckhold Rd (off Broomhill Rd)
c. C07BF: King George’s Park
d. C07BG: Parking area behind Scout Hall (Buckhold Road)
e. C07BH: Car hire business (Buckhold Road).

**F.2.11** These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper* (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

**F.2.12** At this stage, we also consulted with each of the directly affected London local authorities along the preferred route and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

**F.2.13** Table F.3 below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.
Table F.3 Draft short list to final short list for the interception of the Frogmore Storm Relief – Buckhold Road CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
</table>
| C07BA   | Gardens to properties fronting Buckhold Road | **Recommendation:** Not to short list.  
**Rationale:**  
- Engineering – The steep gradient would severely hinder working.  
- Community – There would be a loss of private gardens and an impact on residential area. |
| C07BD   | Parking to rear of properties fronting Buckhold Rd (off Broomhill Rd) | **Recommendation:** Retain on short list. |
| C07BF   | King George’s Park | **Recommendation:** Retain on short list. |
| C07BG   | Parking area behind Scout Hall (Buckhold Road) | **Recommendation:** Not to short list.  
**Rationale:**  
- Community – It would require removal and loss of the Scout Hut community facility. |
| C07BH   | Car hire business (Buckhold Road) | **Recommendation:** Not to short list.  
**Rationale:**  
- Engineering – The engineering connection to sewer is potentially long and difficult given the narrow constrained site.  
- Community – Established business would be lost. |

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

F.2.14 Of the five sites on the draft short list, two were assessed as potentially suitable and passed to the final short list, and three sites did not proceed.

Assessment of the final short list sites

F.2.15 The two sites identified for inclusion on the final short list and assessment at the next stage were:

a. C07BD: Parking to rear of properties fronting Buckhold Rd (off Broomhill Rd)

b. C07BF: King George’s Park.

F.2.16 A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment of the suitability of each site, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed
in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline using technical knowledge and professional judgement as appropriate and assessed as **suitable**, **less suitable** or **not suitable** from that discipline’s perspective.

F.2.17 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**C07BD: Parking to rear of properties fronting Buckhold Rd (off Broomhill Rd)**

F.2.18 The proposed site would occupy the car park of 1–60 Park View Court, in the London Borough of Wandsworth. Park View Court consists of residential flats situated at the junction of Broomhill Road and Buckhold Road. Access to the car park is taken from Broomhill Road opposite the semi-detached dwellings at 9–24 Broomhill Road. The area is generally mixed, with Wandsworth Town Centre located 150m to the north.

F.2.19 **Engineering**: This site was assessed as **less suitable** as a CSO site as it would be some distance away from the interception chamber and the proposed route for the connection culvert to the drop shaft would run under the main road for approximately 85m. The shaft would be in very close proximity to residential buildings. However, the site has good vehicular access and is an adequate size.

F.2.20 **Planning**: On balance, the site was considered **not suitable** as a CSO site. It is located very close to residential properties and would likely have a detrimental impact on residential amenity, which would be very difficult to mitigate. The site would also result in the loss of residents’ car parking, and it would likely be difficult to provide alternative facilities within the locality.

F.2.21 **Environment**: Overall, the site was considered **suitable** as a CSO site. The site was **suitable** from the perspectives of transport, archaeology, built heritage and townscape, hydrogeology, ecology and flood risk. The site was considered **less suitable** from the perspectives of surface water, air quality, noise and land quality, and further investigation of possible mitigation measures would be required.

F.2.22 **Socio-economic and community**: From a community impacts perspective, it appeared **less suitable** as a CSO site. Use of the site appeared likely to impact on residents of Park View Court due to disturbance from works and the loss of the car parking.

F.2.23 The site is adjacent to and opposite more residential dwellings, as well as the Wandsworth Business Village and West Hill Primary School. It appeared likely that they would also be affected by disruption.

F.2.24 **Property**: This site was considered **suitable** as a CSO site. Acquisition costs were considered likely to be acceptable and the site is relatively undeveloped. However, the loss of parking and the execution of the works would create a significant amount of disruption for the occupiers of the adjoining flats.
C07BF: King George’s Park

F.2.25 Site C07BF would occupy the northern tip of King George’s Park, adjacent to the entrance from Buckhold Road at the junction with Neville Gill Close, in the London Borough of Wandsworth.

F.2.26 There is a mix of land uses in the vicinity, with Wandsworth Town Centre located 100m to the north and Southside Shopping Centre to the east of the park beyond Neville Gill Close. The nearest residential properties are located approximately 30m from the working area and are separated by Buckhold Road.

F.2.27 **Engineering**: This site would be **suitable** as a CSO site as it has good access and is an adequate size. The storm relief sewer is in close proximity to the drop shaft, which would allow the interception chamber and connection culvert to the drop shaft to be situated within the same site. No demolition would be required. The site is approximately 1km from the river and the connection from the drop shaft to the main tunnel would run under buildings. However, this cannot be improved due to the location of the outfall.

F.2.28 **Planning**: The site was considered **suitable** as a CSO site. However, potential impacts on residential amenity and loss of open space in a deficient area would require appropriate mitigation. Further consideration should also be given to the detailed layout of the work areas, reinstating the working areas post construction and integrating the after-use structures into the park.

F.2.29 **Environment**: Overall, the site was considered **suitable** as a CSO site, although mitigation would be required. The site was judged **suitable** from the perspectives of transport, archaeology, built heritage, water resources (groundwater), flood risk, noise and land quality. The site was considered **less suitable** from the perspectives of townscape, ecology, surface water and air quality. Overall, the site was considered **suitable**, subject to further investigation of whether ecology, surface water and air quality impacts could be adequately mitigated.

F.2.30 **Socio-economic and community**: This site was considered **suitable** for a CSO site. Use of the site would result in the temporary loss of the northernmost tip of the park. The remainder would be available for public use, although the children’s nursery and play area, the bowling green and other facilities might face some disturbance. It appeared possible, however, that potential impacts on park users and the surrounding properties could be mitigated. During the works, this might include measures to limit noise and visual disturbance.

F.2.31 The permanent hardstanding and associated after-use features might restrict the reinstatement of that area of the park after the works have finished.

F.2.32 **Property**: This site was considered **suitable** as a CSO site. The site is undeveloped and acquisition costs should be acceptable. Acquiring the site might, however, require a special parliamentary procedure.
Phase one consultation preferred site

F.2.33 Following the completion of the site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

F.2.34 Of the two shortlisted sites, King George’s Park (CO7BF) was identified as the preferred site for the following reasons (in no particular order):

a. Site CO7BF (King George’s Park) is a level site of suitable size that was judged suitable by all disciplines. Although the site would occupy public open space, the section of the park occupied during the construction period would be a relatively small proportion of the overall park area, which was therefore judged to be acceptable. The site has good access for both construction and operations, and the location of pipework means that all works would be contained within the park. The proposed location of the drop shaft would be further away from residential properties than at alternative shortlisted site C07BD (car park off Broomhill Road). It was judged that site C07BF would facilitate an effective construction layout for which appropriate mitigation measures could be provided.

b. Site C07BD was judged not suitable by planning and less suitable by the engineering and community disciplines. The site was assessed as suitable by the environment and property disciplines. Access would be along a narrow residential road. As the existing pipework is not located beneath the site, it would be necessary to construct an interception chamber at the junction of Broomhill Road and Buckhold Road, as well as a connection culvert, which would cause significant disruption. Deep and disruptive excavations would be required along the residential road. The drop shaft would have to be in closer proximity to residential properties than at the alternative site. It was considered that the close proximity of the construction site to residential properties would harm residential amenity and impact on the adjacent conservation area. The loss of car parking facilities was also of concern.

F.2.35 In addition to the CSO interception at King George’s Park (CO7BF), this site would also receive the long connection tunnel from Bell Lane Creek (C07AF).

F.3 Phase two consultation preferred CSO site: Scheme development and site selection

Introduction

F.3.1 Section F.3 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase two consultation.
F.3.2 Following phase one consultation, the site selection process comprised: a review of comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Frogmore Storm Relief – Buckhold Road CSO and to consider the connection tunnel options for phase two consultation (see Volume 1, Main report, Section 6.8 for further discussion on CSO connection tunnel options).

F.3.3 A plan that shows all the sites considered for the interception of the Frogmore Storm Relief – Buckhold Road CSO and how they progressed through the site selection process can be found in Annex F.1.

F.3.4 This stage took place from Winter 2010 to Autumn 2011.

F.3.5 The assessments described in Section F.3 were based on the information available at the time and the related stage in the project’s development.

**Phase one consultation responses**

F.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

F.3.7 The main issues and concerns raised during phase one consultation in relation to the King George’s Park site included (in no particular order):

a. impact of the loss of amenity space on sports and recreation activity and the impact on Metropolitan Open Land

b. impact of the loss of green space, local wildlife and trees

c. impact of congestion on local roads

d. temporary and permanent access should be from Neville Gill Close rather than Buckhold Road.

F.3.8 The main comments received in support of the preferred site included:

a. most appropriate location as it offers the least disruptive and most cost-effective solution

b. more suitable than the shortlisted site

c. the landscaping proposals are good and will enhance the park.

F.3.9 More details on the consultation responses in relation to this site and our response to the comments received are provided in the *Report on phase one consultation*.

**Phase two consultation preferred site**

F.3.10 Having taken all comments received during phase one consultation into account, we still believed that **King George’s Park (C07BF) was the most suitable site to intercept the Frogmore Storm Relief – Buckhold Road CSO**. We believed that this site was the most appropriate when compared to the alternatives as its use appeared likely to have less impact on local residents and avoid the need for potential disruption and the loss of private parking. We recognised the concerns that were raised,
including the loss of green and amenity space and the impact on sports and recreational activity, and took them into account in developing the project further, including measures to minimise potential impacts.

F.3.11 The above points were based on the information available at the time and the related stage in the project’s development. The points therefore comprise a historic representation of the process prior to phase two consultation.

**Confirmation of the preferred site for phase two consultation**

F.3.12 A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that King George’s Park (C07BF) should remain the phase two consultation preferred site to intercept the Frogmore Storm Relief – Buckhold Road CSO and receive the long connection tunnel from Dormay Street (C07AR/CL008).

F.3.13 Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

**F.4 Post phase two consultation: Review of CSO sites**

**Introduction to the review**

F.4.1 Section F.4 explains how we implemented the requirement in the Site selection methodology paper to review the scheme following phase two consultation and prior to Section 48 publicity.

F.4.2 This stage of the site selection process comprised: a review of comments from phase two consultation; consideration of any ongoing scheme design and/or new technical information; and multidisciplinary workshops to identify the proposed CSO site for Section 48 publicity.

F.4.3 A plan that shows all the sites considered for the interception of the Frogmore Storm Relief – Buckhold Road CSO and how they progressed through the site selection process can be found in Annex F.1.

F.4.4 This stage took place from Spring 2012 to Summer 2012.

**Summary of phase two consultation responses**

F.4.5 Details of the consultation feedback related to this site and our responses are provided in the Report on phase two consultation. All phase two consultation comments were reviewed and taken into account in the development of our proposed project. The main feedback relevant to site selection can be summarised as follows:

a. object to the use of the site/consider that site is unsuitable
b. query why shortlisted sites were not identified
c. site selection should use/prioritise brownfield sites/avoid greenfield sites and avoid sites in residential and/or densely populated areas
d. alternative site suggestions included Kimber Road playing fields and Dormay Street.

F.4.6 The main comments received in support of the preferred site included:

a. support for the use of the site/consider that King George’s Park is the most suitable site and reception site

b. support for changes to the extent of the preferred site since phase one consultation; the construction impact on the park has been reduced.

F.4.7 We recognise the concerns that have been raised, including preferences for alternative sites and archaeological impact, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

F.4.8 Having taken all comments received during phase two consultation into account, we still believe C07BF: King George’s Park is the most suitable CSO site.

Any changes in circumstances or new information

F.4.9 No new information in relation to site selection was raised at phase two consultation or from other sources which would lead us to change our conclusion that C07BF: King George’s Park is the most suitable CSO site.

Main rationale for the selection of the CSO site for Section 48 publicity

F.4.10 In summary, C07BF: King George’s Park was identified as the most suitable CSO site for the following reasons (in no particular order):

a. The site and the proposed location of the drop shaft are further away from residential properties in comparison to the other shortlisted site.

b. It would avoid the need for significant works in Broomhill Road and Buckhold Road and would not involve the loss of car parking in the area.

c. It would have good access during the construction and operational phases, and the location of the pipework means that all works would be contained within the site.

d. While the use of this site would mean the temporary loss of a section of King Georges Park, the majority of the park would remain in use.

e. There would be no impact on the Wandsworth Town Conservation Area.

F.4.11 In addition to the interception of the Frogmore Storm Relief – Buckhold Road CSO, this site would also be used to receive the long connection tunnel from Dormay Street in order to connect this CSO to the main tunnel.
F.5 Confirmation of the proposed CSO site for Section 48 publicity

F.5.1 The post phase two consultation review described above in Section F.4 confirmed **C07BF: King George’s Park as the proposed site to intercept the Frogmore Storm Relief – Buckhold Road CSO and receive the connection tunnel from Dormay Street (C07AR/CL008) for Section 48 publicity.**

F.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Annex F.1
Appendix G – Carnwath Road Riverside (formerly Barn Elms)

G.1 Introduction

G.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site for constructing the western sections of the main tunnel prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

G.1.2 Table G.1 summarises the sites identified as most suitable to construct the western sections of the main tunnel at each phase of the project.

<table>
<thead>
<tr>
<th>Phase one consultation site and use</th>
<th>Site: Barn Elms – combined CSO and main tunnel site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use:</strong></td>
<td>To drive a short section of the main tunnel to Hammersmith Pumping Station; drive the main tunnel to Tideway Walk; intercept West Putney Storm Relief CSO.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase two consultation site and use</th>
<th>Site: Carnwath Road Riverside</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use:</strong></td>
<td>To drive the main tunnel to Acton Storm Tanks and to receive the Frogmore connection tunnel, which is how the CSOs at the Dormay Street and King George’s Park sites would be connected to the main tunnel.</td>
</tr>
<tr>
<td>(NB: Barn Elms would be used to intercept the West Putney Storm Relief CSO – see Appendix C)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 48 publicity site and use</th>
<th>Site: Carnwath Road Riverside</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use:</strong></td>
<td>To drive the main tunnel to Acton Storm Tanks and to receive the Frogmore connection tunnel, which is how the CSOs at the Dormay Street and King George’s Park sites would be connected to the main tunnel.</td>
</tr>
<tr>
<td>(NB: Barn Elms would be used to intercept the West Putney Storm Relief CSO – see Appendix C)</td>
<td></td>
</tr>
</tbody>
</table>

G.1.3 This appendix is structured as follows:

a. Section G.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project

b. Section G.2 provides details of how we identified our preferred site for phase one consultation

c. Section G.3 provides details of the back-check assessments and reasons why we changed our site for phase two consultation

d. Sections G.4 and G.5 provide details of the post phase two consultation scheme review and confirmation of the proposed main tunnel site for Section 48 publicity.
Type of site

G.1.4 We needed to identify a series of suitable sites to allow us to build the main tunnel. The main tunnel would transfer the collected overflows to the Abbey Mills Pumping Station, which would then be transferred via the Lee Tunnel (under construction) to Beckton Sewage Treatment Works.

G.1.5 Larger sites are required where a TBM would be inserted into the ground (known as main tunnel drive sites). This type of site would need to handle all the materials excavated by the TBM as it constructs that section of the tunnel. Smaller sites are required to remove the TBM from the ground at the end of a tunnel drive (known as main tunnel reception/intermediate sites). A more detailed description of the different types and sizes of site required to construct and operate the project can be found in the Site selection background technical paper.

G.1.6 We determined whether a site would be a main tunnel drive or main tunnel reception/intermediate site (i.e., use of the site) by considering the tunnelling drive options (see Volume 1, Main report).

Site selection process

G.1.7 The Site selection methodology paper recognises the vital complementary relationship between the site selection process and engineering design developments. Accordingly, as the site selection process progressed it was increasingly important to compare sites against engineering requirements. A fundamental consideration was the need to identify enough sites in the right locations to enable the project to be built.

G.1.8 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). The main tunnel sites went through an increasingly detailed level of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement. All the assessments that were carried out were based on the information available at the time and the related stage in the project’s development.

G.1.9 Below is a brief summary of how the Site selection methodology paper was applied at each stage of the project with cross-references to sections of this appendix and other volumes of this report where appropriate.

G.1.10 Prior to phase one consultation we applied our sieving multidisciplinary approach to all the assessments set out in the Site selection methodology paper, which are also briefly outlined below (see G.2.2). A summary of all the assessments and the preferred phase one consultation site and use is presented in Section G.2. In additional there is a more detailed discussion of the tunnelling options for the main tunnel and comparisons for all routes and at this stage of the project in Volume 1, Main report, Section 4).

G.1.11 Following phase one consultation and prior to phase two consultation, we reviewed the sites and decided to carry out a ‘back-check’ (as set out in the Site selection methodology paper) in order to review the preferred and
Following phase two consultation and prior to Section 48 publicity, the Site selection methodology paper required a review of the scheme. The review of main tunnel sites involved re-checking the choices of most suitable main tunnel site, drive options and site use on the proposed route, which are presented in Sections G.4 and G.5. This was carried out to confirm the proposed main tunnel site for Section 48 publicity.

G.2 Phase one consultation preferred main tunnel site: Site selection process

Introduction

G.2.1 Section G.2 explains how the Site selection methodology paper was implemented in order to arrive at the preferred main tunnel site for the western sections of the tunnel route for phase one consultation.

G.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; preparation of the Engineering options report (Spring 2010) with the tunnelling drive options; a multidisciplinary optioneering workshop to consider the detailed contents of the site suitability report for each shortlisted site and the Engineering options report; comparison of sites to identify the preferred main tunnel site and use (drive or reception/intermediate) for phase one consultation (see Volume 1, Main report, Section 4 for the pre-phase one consultation discussion of tunnelling drive options).

G.2.3 This stage took place from Spring 2009 to Summer 2010.

G.2.4 The assessments described in Section G.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic representation of the process and all of the assessments have been superseded (see Section G.3).
Assessment of the long list sites

G.2.5 The long list of potential main tunnel sites for the western sections of the tunnel route was created by conducting a desktop survey of the land in the London boroughs of Hounslow, Hammersmith and Fulham, Richmond upon Thames, Wandsworth and the Royal Borough of Kensington and Chelsea.

G.2.6 In total, 200 sites were included on the long list as potential main tunnel sites. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological) community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

G.2.7 Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites were ultimately judged suitable as main tunnel shaft sites, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained were not retained on the draft short list for more detailed assessment.

G.2.8 We then determined how the size of the sites that were retained at this stage would be assessed under the Table 2.3 assessment. For some sites, this included examining neighbouring sites to see if they could be used together. Full details of these assessments are provided in the Table 2.2 assessment and the accompanying plans.

G.2.9 Of the 200 sites identified on the long list of potentially suitable sites for main tunnel shafts at the western end of the tunnel route, 29 were assessed as potentially suitable and passed to the draft short list, and 171 sites were eliminated as unsuitable.

Assessment of the draft short list sites

G.2.10 The 29 draft short list sites identified as potentially suitable at Table 2.2 were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

G.2.11 At this stage, we also consulted with each of the London boroughs and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

G.2.12 As with the Table 2.2 assessment, sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set
out at Table 2.3. Sites judged to be more constrained were not retained on the short list for more detailed assessment. Full details are provided in the Table 2.3 assessment and the accompanying plans.

G.2.13 Of the 29 sites on the draft short list, one was assessed as potentially suitable as a main tunnel drive or reception shaft site, and eight were assessed as suitable for main tunnel reception/intermediate shaft sites. All of these sites passed to the final short list but the remaining 20 sites did not.

**Assessment of the final short list sites**

G.2.14 The nine final shortlisted sites retained for more detailed assessment as potential main tunnel shaft sites were:

**Suitable for use as a main tunnel drive or reception/intermediate site:**

a. S17RD: Barn Elms.

**Suitable as main tunnel reception/intermediate sites only:**

b. S13RD: St Paul’s School playing fields

c. S33HF: Vacant land and Thames Water Hammersmith Pumping Station, Chancellors Road

d. S18WH: Feathers Wharf, The Causeway

e. S69HF: Whiffin Wharf and Hurlingham Wharf, Carnwath Road

f. S70HF: Carnwath Road Industrial Estate, Carnwath Road

g. S72HF: Fulham Depot, next to Wandsworth Bridge, off Townmead Road

h. S76HF: Imperial Wharf, Imperial Crescent/Townmead Road – construction site

i. S08KC: Foreshore, Chelsea Wharf.

G.2.15 A site suitability report (SSR) was prepared for each of these final shortlisted sites. These reports contained an assessment the suitability of each site, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline, using technical knowledge and professional judgement as appropriate, and assessed as **suitable**, **less suitable** or **not suitable** from that discipline’s perspective.

G.2.16 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**S17RD: Barn Elms**

G.2.17 Site S17RD forms part of the Barn Elms Sports Centre, off Queen Elizabeth Walk. The site is situated in the eastern-most area of the London Borough of Richmond upon Thames, and adjoins the London Borough of Wandsworth along its southern boundary.
G.2.18 **Engineering**: Assessed the site as **suitable** as a main tunnel drive site. This was predominantly due to the good size and access to the river and the local road network.

G.2.19 **Planning**: Assessed the site as **suitable**. There was a series of planning designations that were applicable to the site. However, we judged that the potential impacts or conflicts with planning policy could be mitigated and that the opportunity to combine a main tunnel shaft site with work to connect the local CSO, known as the West Putney Storm Relief CSO, at this site could result in more effective and efficient use of the land due to the need for only one construction site in this area rather than two.

G.2.20 **Environment**: Overall, the site was assessed as **suitable**. The site was considered likely to be **suitable** from the perspectives of transport, hydrology, surface water, built heritage, townscape, flood risk, noise, air quality and land quality. However, the site was **less suitable** from the perspectives of ecology and archaeology.

G.2.21 **Socio-economic and community**: Assessed the site as **suitable** as a main tunnel drive site. Potential impacts on the local community were highlighted, in particular, the impact of works on people living in local residential properties, recreational river users, users of the Scout Hut and boat club and the temporary loss of a portion of the playing fields, especially given the apparently high usage by local clubs. The general amenity value of the site was also recognised.

G.2.22 **Property**: Assessed the site as **suitable** as a main tunnel drive site.

**S13RD: St Paul’s School playing fields**

G.2.23 Site S13RD occupies the playing fields of St Paul’s School to the east of the school complex in the London Borough of Richmond. The site is bounded to the north by the River Thames and to the east by the Castelnau main road. St Paul’s School is to the west of the site. The area is primarily residential in character, with residential properties to the east and south.

G.2.24 **Engineering**: Assessed the site as **suitable** as a main tunnel reception/intermediate site. The site is large and had no constraints in terms of demolition or third-party assets. Temporary and permanent access was possible and both the site and the shaft could be positioned to minimise the impacts of the tunnel on Wandsworth Bridge.

G.2.25 **Planning**: Assessed the site as **less suitable** as a main tunnel reception/intermediate site. Use of the site would result in the loss of a school playing field and an area of Metropolitan Open Land for a lengthy period of time, some of it permanently. Impacts on residential amenity could be restricted by locating the construction works to maximise separation distances to sensitive receptors. The significance of the proposed school redevelopment and improvements of the playing fields were uncertain at this stage and required further consideration. Visual impacts on the Castelnau Conservation Area were also likely.

G.2.26 **Environment**: Overall, the site was assessed as **suitable** as a main tunnel reception/intermediate site. The site was considered likely to be
suitable from the perspectives of archaeology, water resources, ecology, flood risk and air quality. However, the site was less suitable from the perspectives of transport, built heritage, townscape, noise and land quality. Mitigation would need to be considered for effects on noise, air quality, land quality and built heritage and townscape.

G.2.27 Socio-economic and community: Assessed the site as less suitable as a main tunnel reception/intermediate site. Use of the site would result in the temporary loss of playing fields for St Paul’s School and potential disruption to schooling due to noise, dust and vibration produced during construction. It appeared likely that there would also be impacts on local residents, as well as traffic and pedestrian movements, including users of the Thames Path.

G.2.28 Property: Assessed the site as suitable as a main tunnel reception/intermediate site as the site is undeveloped and there would likely be acceptable acquisition costs. However, we needed to make early contact with St Paul’s school.

S33HF: Vacant land and Thames Water Hammersmith Pumping Station, Chancellors Road

G.2.29 S33HF is located on a vacant former industrial site known as Hammersmith Embankment, located in the London Borough of Hammersmith and Fulham, approximately 250m downstream of the Hammersmith Bridge. The site is rectangular in shape and contains hard surfaced areas with areas of vegetation. It also contains a Thames Water pumping station.

G.2.30 The site is bounded by the River Thames to the west, by Chancellors Road to the north, by Distillery Road to the east and by Winslow Road to the south. The surrounding area is predominately residential but includes a mix of other uses.

G.2.31 Engineering: Assessed the site as suitable as a main tunnel reception/intermediate site as it is of sufficient size and has good access possibilities. Any tunnel diversion from the river would likely be minimal because the site is adjacent to the river. Furthermore, it was unlikely that third-party assets would be affected by the construction.

G.2.32 Planning: Assessed the site as suitable. There were relatively few planning designations that applied to the site, and we considered that with appropriate mitigation measures, these designations were unlikely to be unacceptably impacted on. If the existing approved redevelopment went ahead, that could present a constraint to the use, but this would be subject to further discussions with the site owner and the council. Potential impacts on residential amenity should be considered further, including the potential to relocate construction works within the site to increase the separation distance between the works and the front facades of dwellings.

G.2.33 Environment: Overall, the site was assessed as suitable as a main tunnel reception/intermediate site. The site was considered likely to be suitable from the perspectives of transport, archaeology, built heritage and townscape, water resources, and ecology. However, the site was
less suitable from the perspectives of flood risk, noise and land quality, and adequate mitigation measures would need to be provided.

G.2.34 Socio-economic and community: Assessed the site as suitable as a main tunnel reception/intermediate site. Use of the site would potentially cause disruption to residential properties in the vicinity but mitigation measures should reduce these impacts. It appeared unlikely that there would be any impact on Frank Banfield Park. There might be impacts on the local economy due to the presence of local businesses in the works area. The connection culvert might also cause disruption to a public footpath.

G.2.35 Property: Assessed the site as suitable as a main tunnel reception/intermediate site in terms of cost, if it were acquired before development commenced. The site is adjacent to a Thames Water facility and is currently undeveloped. However, if development commenced before acquisition, costs were likely to be very high and acquisition might not have been possible.

S18WH: Feathers Wharf, The Causeway

G.2.36 Site S18WH is located on the foreshore of the River Thames in the London Borough of Wandsworth. The site is bounded by the River Thames to the north, Cory Environmental Western Riverside Solid Waste Transfer Station (WTS) including a significant new building under construction to the east, The Causeway to the south, and mud flats to the west. A channel leading to the Thames runs along the western boundary of the site (the River Wandle).

G.2.37 Engineering: Assessed the site as less suitable as a main tunnel reception/intermediate site as the site is narrow and would have overhead working height restrictions due to third-party assets.

G.2.38 Planning: Assessed the site as suitable as a main tunnel reception/intermediate site. There were a number of planning and environmental designations that related to the site but we considered that, with appropriate mitigation measures, these designations were unlikely to be unacceptably impacted on. A potential mixed-use development that was to be located on the site might pose a constraint to works. The site works could be located to increase separation distance to the riverside walk and cycle routes.

G.2.39 Environment: Overall, the site was assessed as suitable as a main tunnel reception/intermediate site, with or without a CSO connection. The site was considered likely to be suitable from the perspectives of transport, built heritage, townscape, water resources, ecology, flood risk, noise and air quality. However, the site was less suitable from the perspectives of archaeology and land quality. Adequate mitigation measures for archaeology and land quality would need to be provided.

G.2.40 Socio-economic and community: Assessed the site as suitable as a main tunnel reception/intermediate site as it was unlikely to have unacceptable impacts on the local community. Mitigation might be required to reduce impacts on the Thames Path. A storage area for the
adjacent waste transfer facility would also need to be accommodated on site or temporarily relocated.

G.2.41 **Property:** Assessed the site as **suitable** as a main tunnel reception/intermediate site. However, dialogue with the landowners needed to take place in order to assess the potential impacts on the neighbouring waste transfer facility. If the impacts would be minimal, the acquisition costs should be acceptable. Resistance to the proposal might cause difficult negotiations in the context of Special Land procedures.

**S69HF: Whiffin Wharf and Hurlingham Wharf, Carnwath Road**

G.2.42 Site S69HF is known as Whiffin Wharf and Hurlingham Wharf, located in the London Borough of Hammersmith and Fulham. The site is relatively flat, derelict, currently vacant, and comprised of hardstanding. The surrounding area is characterised by a mix of industrial uses and residential properties.

G.2.43 **Engineering:** Assessed the site as **suitable** as main tunnel reception/intermediate site, as the site is an adequate size and has good road access. It is also a vacant industrial site with hardstanding, which would simplify set-up.

G.2.44 **Planning:** Assessed the site as **suitable** as a main tunnel reception/intermediate site. There are a number of onsite and adjacent sensitive receptors, such as a conservation area, a site of metropolitan importance for nature conservation (the River Thames), and residential properties. Moving some site activities to the east of the site adjacent to Carnwath Road Industrial Estate would increase the separation distance between residential properties and the construction works. Furthermore, reduced site working hours would limit impacts on adjacent designations.

G.2.45 **Environment:** Overall, the site was assessed as **suitable** as a main tunnel reception/intermediate site. The site was considered likely to be suitable from the perspectives of transport, built heritage, townscape, water resources, ecology, flood risk and air quality. However, the site was less suitable from the perspectives of archaeology, noise and land quality. Site suitability depended on whether archaeology, noise and land quality impacts could be adequately mitigated.

G.2.46 **Socio-economic and community:** Assessed the site as **suitable** as a main tunnel reception/intermediate site. As the site is vacant land, it appeared likely that the use of the site would have a limited impact on the local community. The greatest potential for a negative impact appeared to be noise for the residents adjacent to and overlooking the site to the west. It would be important to consider mitigating any disruption to the Thames Path, which runs around the site on the west, north and east borders.

G.2.47 **Property:** Assessed the site as **suitable** as a main tunnel reception/intermediate site as the site is undeveloped and acquisition costs would likely be acceptable. However, the site was likely to be redeveloped at some point, which could make acquisition costs unacceptable.
### S70HF: Carnwath Road Industrial Estate, Carnwath Road

**G.2.48** Site S70HF is known as Carnwath Road Industrial Estate, located in the London Borough of Hammersmith and Fulham. The existing access to the site is from Carnwath Road. The site is an established industrial estate, with a number of light industrial/businesses in current operation. The surrounding area is characterised by a mix of industrial uses and residential properties.

**G.2.49** **Engineering:** Assessed the site as suitable as a main tunnel reception/intermediate site as the site is an adequate size and has good road access. There would also be enough room to avoid a proposed National Grid cable tunnel.

**G.2.50** **Planning:** Assessed the site as suitable as a main tunnel reception/intermediate site. There are a number of onsite and adjacent sensitive receptors, such as a conservation area, a site of metropolitan importance for nature conservation (the River Thames), and residential properties. The proposed layout at this time would allow sufficient separation distance between residential properties and the construction works. Mitigation to reduce impacts on the conservation area might also be required.

**G.2.51** **Environment:** Overall, the site was assessed as suitable as a main tunnel reception/intermediate site. The site was considered likely to be suitable from the perspectives of transport, archaeology, built heritage, townscape, water resources, ecology, and air quality. However, the site was less suitable from the perspectives of noise, flood risk and land quality. Site suitability would depend on whether noise, flood risk and land quality impacts could be adequately mitigated.

**G.2.52** **Socio-economic and community:** Assessed the site as less suitable as a main tunnel reception/intermediate site. Use of the site would result in an adverse impact on the businesses currently using the site. Noise and visual impacts on households in the overlooking high-density residential properties might need to be mitigated. Works might also result in diversion of the Thames Path.

**G.2.53** **Property:** Assessed the site as suitable as a main tunnel reception/intermediate site as acquisition costs would likely be acceptable. However, eight businesses would need to be temporarily or permanently displaced, which would incur compensation claims for disturbance.

### S72HF: Fulham Depot, next to Wandsworth Bridge, off Townmead Road

**G.2.54** Site S72WF covers sites known as Swedish Wharf, Comely Wharf and Albert Wharf, located in the London Borough of Hammersmith and Fulham. The existing access to the site is from Townmead Road and Wandsworth Bridge.

**G.2.55** The site is covered in a mix of industrial buildings, warehouses, a motor car auction business and a company known as Fuel Oils Ltd and its associated oil tanks. The surrounding area is characterised by a mix of large warehouses, retail units, a supermarket and residential properties.
G.2.56 **Engineering**: Assessed the site as **suitable** as a main tunnel reception/intermediate site because it is an adequate size and has good vehicular access.

G.2.57 **Planning**: The site was considered **suitable** as a main tunnel reception site. There are a number of onsite and adjacent sensitive receptors, such as a conservation area, a nature conservation area, and residential properties. However, the proposed construction layout should provide sufficient separation between the site and residential properties and, combined with other mitigation measures, the impact on residential amenity should not be unacceptable.

G.2.58 **Environment**: Overall, the site was assessed as **suitable** as a main tunnel reception site, although mitigation would be required. The site was considered likely to be **suitable** from the perspectives of transport, archaeology, built heritage, townscape, water resources, ecology, air quality and flood risk. However, the site was **less suitable** from the perspectives of noise and land quality. Mitigation required might include erecting noise barriers and remediating any contamination within the site.

G.2.59 **Socio-economic and community**: Assessed the site as **suitable** as a main tunnel reception/intermediate site, although mitigation for loss of business activity might be required. Apart from this, it was likely that use of the site would have a limited impact on the local community as there are few potential sensitive receptors in the immediate vicinity. However, noise mitigation would be required to reduce impacts on residential receptors to the north.

G.2.60 **Property**: Assessed the site as **suitable** as a main tunnel reception/intermediate site. The acquisition costs of using this site should not be unacceptable. However, it would result in the loss of at least two businesses.

**S76HF: Imperial Wharf, Imperial Crescent/Townmead Road – construction site**

G.2.61 Site S76HF comprises public open space to the south of Imperial Wharf located in the London Borough of Hammersmith and Fulham. The site comprises a new park associated with a recently completed, high-density residential development known as Imperial Wharf. The surrounding area is largely residential.

G.2.62 **Engineering**: Assessed the site as **suitable** as a main tunnel reception/intermediate site because it is a large area with good road access and would not require any demolition.

G.2.63 **Planning**: Assessed the site as **less suitable** as a main tunnel reception/intermediate site. There are a number of onsite and adjacent sensitive receptors, such as public open space, a conservation area, a nature conservation area and residential properties. Arrangement of the works away from the residential properties would increase separation distance and, combined with mitigation, could reduce the effects on these receptors and create a link from Townmead Road through the site to the river front. Loss of public open space might be a concern as the site is located in an area with a public open space deficiency.
Appendix G – Carnwath Road Riverside (formerly Barn Elms)

G.2.64 **Environment:** Overall, the site was assessed as **less suitable** as a main tunnel reception/intermediate site. The site was considered likely to be **suitable** from the perspectives of transport, water resources, ecology and flood risk. However, the site was **less suitable** from the perspectives of archaeology, built heritage, townscape, air quality, noise, and land quality. Site suitability would depend on whether these impacts could be adequately mitigated.

G.2.65 **Socio-economic and community:** Assessed the site as **not suitable** as a main tunnel reception/intermediate site. It appeared likely that use of the site would cause significant disruption to the high-density residential developments to the north, south and west. Imperial Wharf residents and the wider local community also stand to lose part of the riverside landscaped open green space temporarily.

G.2.66 **Property:** Assessed the site as **suitable** as a main tunnel reception site as the site is undeveloped and acquisition costs would likely be acceptable.

**S08KC: Foreshore, Chelsea Wharf**

G.2.67 Site S08KC is situated on the foreshore of the River Thames in the Royal Borough of Kensington and Chelsea.

G.2.68 To the northwest of the site is a recycling centre. Further to the north is a newly built five-storey residential building. To the southwest is the now disused Lots Road Power Station, which is likely to be redeveloped. The site is bordered on the east, south and west by the River Thames.

G.2.69 **Engineering:** The site was assessed as **suitable** as a main tunnel reception/intermediate site because it is relatively unrestricted in size and shape, in good proximity to the main tunnel. The site also has good access through Cremorne Gardens or by river.

G.2.70 **Planning:** On balance, the site was assessed as **less suitable** as a main tunnel reception/intermediate site. This is due to the visual impacts and loss of amenity to both Cremorne Gardens and nearby residential receptors with limited scope for mitigation. Access through the gardens might also result in loss of open space.

G.2.71 **Environment:** Overall, the site was assessed as **less suitable** as a main tunnel reception/intermediate site. The site was considered likely to be **suitable** from the perspectives of transport, water resources (groundwater), land quality and air quality. However, the site was considered **less suitable** from the perspectives of archaeology, built heritage and townscape, surface water, ecology, noise and flood risk. Substantial mitigation would be required to limit the impacts of using this site, particularly the considerable heritage and ecological risks associated with the foreshore in this location.

G.2.72 **Socio-economic and community:** The site was assessed as **suitable** as a main tunnel reception site. There would be impacts associated with access through Cremorne Gardens both during and after construction and construction impacts on both the gardens and the nearby residential
development. There would also be disruption to the recycling centre and its pier facility.

G.2.73 **Property:** The site was assessed as **suitable** as a main tunnel reception/intermediate site. As an undeveloped site, the acquisition cost would likely be acceptable. However, a special ministerial procedure might be required.

**Identification of the preferred site**

G.2.74 Consideration of the main tunnel sites up until short list stage principally focussed on each as an individual site in isolation from the assessment of tunnel drive and alignment options (i.e., how the tunnel would be constructed and the route it would take). However, due to the nature of the scheme, it was necessary to select a package of main tunnel sites, having regard to how they would work in combination and in relation to the tunnel alignment and CSO connections.

G.2.75 The *Engineering options report* (Spring 2010) describes the process of identifying the tunnelling options, taking into account engineering requirements. The main points are summarised below.

G.2.76 The engineering team considered possible drive options – the combination of ways in which the tunnel could be constructed by ‘driving’ between combinations of shortlisted main tunnel sites – paying particular attention to changes in ground conditions and the requirement for different types of tunnelling machines, as well as construction risks and timescales.

G.2.77 To manage the total number of combinations of tunnel drive and reception site options that together make up a ‘drive option’, the available shortlisted main tunnel sites were grouped together in zones. The zones were based on the geographical locations of the sites along the line of the River Thames and numbered and named for convenient referencing, as illustrated in Figure G.1 below.

**Figure G.2 Location of site zones**

G.2.78 Our preferred route for the main tunnel runs from west London to Abbey Mills Pumping Station and involves Zones S1 to S7 and Zone S11. Zones S8 to S10 were only required for the previously considered River Thames
and Rotherhithe routes, which did not become our preferred option and are not considered further in this appendix.

G.2.79 Multidisciplinary workshops were held to identify the most suitable main tunnel shortlisted site within each zone, taking into account the conclusions reached in the site suitability reports, as described above.

G.2.80 The following sites were identified as the most suitable for Zones S1 to S4, which make up the western section of the main tunnel:

a. Zone S1 – S33HF: Hammersmith Pumping Station (suitable as a main tunnel reception/intermediate site only)

b. Zone S2 – S17RD: Barn Elms (suitable as either a main tunnel drive or reception/intermediate site)

c. Zones S3 and S4: only contained sites identified as suitable for reception/intermediate sites. Because a main tunnel drive site was required in Zone S5 due to the change in geology in this location and restrictions in the tunnel drive length, no reception/intermediate sites were required in Zones S3 and S4 to support the tunnel drive options.

G.2.81 A series of comparisons were then made to determine how best to use the potential sites identified across all the zones to construct the main tunnel.

G.2.82 The changes in geology and restrictions in the tunnel drive length made it desirable to have a main tunnel site in Zone S5 and change the type of TBM used. To support the tunnelling strategy for the eastern end of the tunnel, site S79WH with S80WH: Tideway Walk was identified in Zone S5 as a main tunnel drive site. It was concluded that a main tunnel drive site would be required in Zones S1 to S4 in order to construct the western section of the tunnel. The alternative would have been to use site S79WH with S80WH: Tideway Walk as a double drive site (ie, to construct the tunnel concurrently both east and west) and this site was assessed as not suitable for this use.

G.2.83 Zone S2 was identified as the only suitable location for a main tunnel site to drive the main tunnel to Zones S1 and S5 because no suitable main tunnel drive sites were identified in Zones S1, S3 or S4. However, the two drives from Zone S2 would be completed sequentially using a single TBM.

G.2.84 A main tunnel reception site was therefore required in Zone S1 to receive the TBM.

G.2.85 S17RD: Barn Elms had been identified as suitable as a main tunnel drive site, and the suitability of this site was further reviewed at a subsequent multidisciplinary workshop to review all our preferred sites.

G.2.86 The site at Barn Elms was confirmed as our preferred main tunnel site from which to construct the western sections of the main tunnel for a number of reasons, which are summarised below.

a. The site was considered suitable as a main site from the point of view of all disciplines: engineering, planning, environment, community and property.

b. This site offered the opportunity to combine the requirements of the main tunnel drive site with the interception of the West Putney Storm
Relief CSO. The CSO drop shaft could be incorporated into the main tunnel drive shaft, which would eliminate a separate CSO drop shaft and a further connection tunnel to the West Putney Storm Relief CSO.

c. S17RD is a very large area and the required working area would only occupy the south-eastern corner of the site, adjacent to the river. Jetty access would need to allow for the maintenance of the Thames Path, which runs along the eastern boundary of the site.

d. It was considered that the existing site constraints could be addressed adequately by positioning the site activities appropriately and providing suitable construction mitigation to reduce the impact on the surroundings. Among other things, it was important to consider the impact of any floodlighting on residential areas and to position works accordingly. We also needed to consider further the most appropriate access route. In particular, we judged that we could achieve conformity with the *Richmond on Thames Unitary Development Plan* policies ENV1 and ENV11, which relate to Metropolitan Open Land and open space, as use would predominantly be temporary, appropriate mitigation could be provided to reduce potential impacts on views and openness, and construction activities could be confined within a relatively small part of a much larger site.

G.2.87 S17RD was therefore identified as the preferred main tunnel site in Zones S1 to S4 from which to construct the western end of the main tunnel. The site would also be used to connect the West Putney Storm Relief Sewer to the main tunnel.

G.2.88 At the same time, and by following the same process, site S33HF: Hammersmith Pumping Station was identified as a preferred reception site for the main tunnel in Zone S1, and S79WH with S80WH: Tideway Walk as a preferred reception site for the western section of the main tunnel in Zone S5. A more detailed discussion of the tunnelling options for the main tunnel and comparisons for all routes and at this stage of the project can be found in Volume 1, Main report, Section 4.

**G.3 Phase two consultation preferred main tunnel site: Scheme development and site selection**

G.3.1 Section G.3 explains how the *Site selection methodology paper* was implemented in order to arrive at the preferred main tunnel site for the western sections of the tunnel route for phase two consultation.

G.3.2 Following phase one consultation and prior to phase two consultation, the site selection process comprised: a review of comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; a back-check exercise to review the sites listed in Section G.2 along with any potential new sites or a combination of sites; application of the assessment process outlined in G.2.2, including the preparation of a new *Engineering options report* (Summer 2011) with revised tunnelling drive options; a multidisciplinary optioneering workshop to consider the detailed contents of the site suitability report for each shortlisted site and the *Engineering options report*; and comparison of
sites to identify the preferred main tunnel site and use (drive or reception/intermediate) for phase two consultation (also see Volume 1, Main report, Sections 6.3 to 6.6 for the pre-phase two consultation discussion of tunnelling drive options).

G.3.3 This stage took place from Winter 2010 to Autumn 2011. The assessments described in Section G.3 were based on the information available at the time and the related stage in the project’s development.

**Phase one consultation responses**

G.3.4 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

G.3.5 The main issues and concerns raised during phase one consultation in relation to the preferred main tunnel drive site S17RD: Barn Elms are summarised below.

G.3.6 The main issues raised included:

a. further justification requested as to how the site was selected, including why brownfield alternatives and solutions that split the drive site and CSO site were not explored

b. disruption to water-based recreation, including the Oxford versus Cambridge boat race and other major river events

c. impact of the loss of green space, playing pitches and Metropolitan Open Land

d. impact on community fundraising for upgrade of the site

e. access should not be disrupted along footpaths, including the Thames Path

f. impact of increased congestion from heavy good vehicles and concern regarding proposed access routes

g. impact on the environment, the tranquillity, biodiversity and wildlife in the area.

G.3.7 The main comments received in support included:

a. It is the best choice for the location of the site in comparison to alternatives consulted on, which would cause more disruption to the community.

b. The site is advantageous because two activities can be combined in one site. Although sports fields would be affected, many would remain the same.

c. The location of the site by the river allows materials and excavated material to be transported by barges.

d. It is the obvious choice, given the large amount of land.

e. It would have the least impact on the historic environment as it combines both requirements in a single location.
Appendix G – Carnwath Road Riverside (formerly Barn Elms)

G.3.8 More details on the consultation responses in relation to this site, and our response to the comments received, are provided in the *Report on phase one consultation* including interim engagement feedback.

**Back-check process**

G.3.9 The back-check involved a targeted repeat of each relevant stage of our site selection process (as set out in the *Site selection methodology paper*) to reconsider which site would be the most suitable main tunnel drive site between Zones S1 to S4.

G.3.10 In response to the feedback we received during phase one consultation, a number of engineering design developments and new technical information that became available, we undertook a back-check to review our selection of S17RD: Barn Elms as our preferred site. The design developments and changes in circumstances are described below.

G.3.11 The main factors that triggered the back-check process were as follows:

a. In reviewing potential sites, we were aware that the London Borough of Hammersmith and Fulham had changed the designation of our preferred site Hammersmith Pumping Station site from mixed use to residential. Also, the developers had submitted a new planning application for a residential development on this vacant and cleared site, except for the Hammersmith Pumping Station itself. Planning permission was likely to be granted and construction to start before the end of 2011. We therefore determined that there was a high risk of not being able to obtain an area at our preferred site that would be large enough to accommodate a main tunnel reception site, drive a connection tunnel to Acton Storm Tanks (to connect the Acton CSO to the main tunnel) and intercept Hammersmith Pumping Station CSO. We therefore needed to review potential main tunnel sites between Hammersmith Bridge and Albert Bridge (main tunnel Zones S1 to S4, see Figure G.2 overleaf).

b. Design developments and further modelling work found that the long connection tunnel proposed between the Acton Storm Tanks and Hammersmith Pumping Station sites would need to be a similar width to the main tunnel. We therefore decided to extend the main tunnel to Acton Storm Tanks. This potentially altered our tunnelling options for the western section of the main tunnel.

c. Technical studies of barge movements at Barn Elms confirmed that only 350tonne barges could be used. This would create additional health and safety risks for river users and logistical issues due to the short tidal window.

d. We considered various consultees’ comments on the impacts of the proposed use of the Barn Elms site as a main tunnel drive site, the engineering assumptions on which site selection decisions were based, and the tunnelling strategy for the western section of the main tunnel.

G.3.12 The above factors led to a review of the potential sites and tunnelling strategy for the western end of the tunnel. This also resulted in the
creation of a new zone, Zone S0, to address the extension of the main tunnel to Acton Storm Tanks (see Figure G.2 overleaf).

**Figure G.3 Revised main tunnel shaft zones including Zone S0**

**Engineering assumptions**

G.3.13 As part of the back-check process, the engineering assumptions from the initial phase of site selection were reviewed to see if any of the design developments or new technical information altered the original assumptions.

G.3.14 The outcome of this review was that the size of construction site required for a main tunnel drive shaft in Zones S0 to S4 (which covered the majority of the section of the tunnel that must be constructed predominantly in London Clay) was reduced from 18,000m² to 15,000m². This important change allowed the back-check process to review sites that were previously considered too small for main tunnel drive shaft sites. At the same time, the size of site required for a double drive shaft site (ie, tunnelling in two directions simultaneously from one shaft) was adjusted to 20,000m² (see Section 4.4 of the *Site selection background technical paper* (Summer 2011)).

G.3.15 The following section outlines the results of each stage of the back-check process.

**Assessment of the back-check long list**

G.3.16 The original long list of main tunnel drive sites in Zones S1 to S4 comprised 200 sites. These sites were reviewed alongside any newly identified sites to determine the ‘scope’ of the back-checking exercise (ie, which sites would be reassessed as a result of the relevant changes of circumstances or new information that had emerged). The scoping exercise found that we needed to reassess the following eight sites:

- a. S17RD: Barn Elms
- b. S72HF: Fulham Depot, next to Wandsworth Bridge
- c. S73HF: Townmead Road
d. S76HF: Imperial Wharf

e. S87HF: Carnwath Road Riverside – new site that combined two previous sites: S69HF and S70HF (the site emerged as a result of new information regarding site size – see Section G.3.14)

f. S17WH: Land between Osiers Road, Enterprise Way and Bell Lane Creek

g. S18WH: Feathers Wharf, The Causeway

h. S08KC: Foreshore, Chelsea Wharf

i. S09KC: Foreshore, Cheyne Wharf.

G.3.17 All the other sites on the original long list were scoped out as there had been no change in circumstances to necessitate a reappraisal.

G.3.18 In the case of S33HF: Vacant land and Thames Water Hammersmith Pumping Station, Chancellors Road, our monitoring revealed that this site was no longer available as a main tunnel site. Therefore, we did not include it in our back-check process.

G.3.19 The potential group of sites listed above was put on the back-check long list. It should be noted that at this stage, we also considered alternative sites suggested by consultees. However, besides the sites listed above, none were judged to be feasible, mainly due to size and/or location.

G.3.20 The back-check long list sites were then assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2 of the Site selection methodology paper.

G.3.21 Table G.2 below summarises the outcome of the back-check assessment of the back-check long list of sites. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained did not pass to the back-check draft short list for more detailed assessment.

Table G.2 Long list to draft short list for main tunnel sites in Zones 1 to 4 (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>S17RD</td>
<td>Barn Elms</td>
<td>Recommendation: To draft short list as a main tunnel site and main tunnel reception/intermediate site.</td>
</tr>
<tr>
<td>S72HF</td>
<td>Fulham Depot, next to Wandsworth Bridge</td>
<td>Recommendation: To draft short list as a split main tunnel site with S73HF and a main tunnel reception/intermediate site.</td>
</tr>
<tr>
<td>S73HF</td>
<td>Townmead Road</td>
<td>Recommendation: To draft short list as a split main tunnel site with S72HF and a main tunnel reception/intermediate site.</td>
</tr>
</tbody>
</table>
### Site ID | Site name/description | Recommendation
--- | --- | ---
S76HF | Imperial Park | **Recommendation:** To draft short list as a main tunnel site and main tunnel reception/intermediate site.
S87HF | Carnwath Road Riverside | **Recommendation:** To draft short list as a main tunnel site and main tunnel reception/intermediate site.
S17WH | Land between Osiers Road, Enterprise Way and Bell Lane Creek | **Recommendation:** To draft short list as a main tunnel site, a split main tunnel site with S18WH and a main tunnel reception/intermediate site.
S18WH | Feathers Wharf, The Causeway | **Recommendation:** To draft short list as a split main tunnel site with S17WH and a main tunnel reception/intermediate site.
S08KC | Foreshore, Chelsea Wharf | **Recommendation:** To draft short list as a split main tunnel site with S09KC and a main tunnel reception/intermediate site.
S09KC | Foreshore, Cheyne Wharf | **Recommendation:** To draft short list as a main tunnel site and a main tunnel reception/intermediate site.

NB: The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

G.3.22 All of the eight sites identified were assessed as potentially suitable and passed to the draft short list. None were eliminated as unsuitable.

**Assessment of the back-check draft short list sites**

G.3.23 The eight back-check draft shortlisted sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the *Site selection methodology paper*.

G.3.24 Table G.3 below summarises the outcome of the back-check assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the back-check short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the back-check short list for more detailed assessment.

G.3.25 The main rationale for excluding these sites at this stage is summarised below.
Table G.3 Draft short list to final short list for main tunnel sites in Zones 1 to 4 (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>S17RD</td>
<td>Barn Elms</td>
<td><strong>Recommendation:</strong> Retain on short list as a main tunnel site and main tunnel reception/intermediate site.</td>
</tr>
<tr>
<td>S72HF</td>
<td>Fulham Depot, next to Wandsworth Bridge</td>
<td><strong>Recommendation:</strong> Retain on short list as a main tunnel reception/intermediate site.</td>
</tr>
</tbody>
</table>
| S72HF with S73HF | Fulham Depot, next to Wandsworth Bridge           | **Recommendation:** Not to short list. **Rationale:**  
  *Property – The combined acquisition costs with S73HF were likely to be significant, especially since the value of any planning permissions would be based on residential and supermarket uses.* |
| S73HF     | Townmead Road                                      | **Recommendation:** Not to short list. **Rationale:**  
  *Property – The acquisition costs were likely to be significant, especially since the value of any planning permissions would be based on residential and supermarket uses.* |
| S76HF     | Imperial Park, Imperial Crescent/Townmead Road     | **Recommendation:** Not to short list. **Rationale:**  
  *Planning/Environment – Use of the site would conflict with numerous planning designations of borough-wide importance, including Imperial Wharf Open Space.  
  *Community – Potential impact on a high density residential area and community cohesion due to the loss of open space.* |
| S87HF     | Carnwath Road Riverside                            | **Recommendation:** Retain on short list as a main tunnel site and main tunnel reception/intermediate site. |
| S17WH     | Land between Osiers Road, Enterprise Way and Bell Lane Creek | **Recommendation:** Not to short list. **Rationale:**  
  *Planning/Environment – Construction of a high-density residential development has started on the site.  
  *Property – The site is not available as* |
<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>development has started.</td>
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<td></td>
<td></td>
<td>• Community – Use of the site would have a large impact on high rise flats.</td>
</tr>
<tr>
<td>S18WH</td>
<td>Feathers Wharf, the Causeway</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| S18WH with S17WH | Feathers Wharf, The Causeway | **Recommendation:** Not to short list.  
**Rationale:**  
• Planning/Environment – Construction of a high density residential development has started on S17WH.  
• Property – The site is not available as development has started on S17WH.  
• Community – Use of the site would have a large impact on high rise flats on S17WH. |
| S08KC with S09KC | Foreshore, Chelsea Wharf | **Recommendation:** Not to short list for consideration as a split main tunnel site with S09KC  
**Rationale:**  
• Engineering – Access to these sites is problematic.  
• Property – There were several disadvantages associated with site S09KC that made the split site with S08KC unsuitable on grounds of acquisition cost and likely complexity, as well as residential moorings for up to 60 houseboats.  
• Community – Use of these sites was likely to have numerous impacts on community cohesion, health and well-being, and equality considerations, particularly in relation to the large existing houseboat community on site. |
| S08KC   | Foreshore, Chelsea Wharf | **Recommendation:** Not to short list for consideration as a main tunnel reception/intermediate site  
**Rationale:**  
• Engineering – Access is very constrained and alternatives (eg, Cremorne Gardens, canoe club or adjacent buildings) were unlikely to be acceptable. |
<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
</table>
| S09KC   | Foreshore, Cheyne Wharf | **Recommendation:** Not to short list for consideration as a main tunnel site or a main tunnel reception/intermediate site.  
**Rationale:**  
- **Property** – There were several disadvantages and the site was considered unsuitable on grounds of acquisition cost and likely complexity, as well as residential moorings on the site for up to 60 houseboats.  
- **Community** – Use of S09KC was likely to have numerous impacts on community cohesion, health and well-being, and equality considerations particularly in relation to the existing houseboat community on the site. |

**NB.** The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

G.3.26 Of the eight sites on the back-check draft short list, four were assessed as potentially suitable and passed to the final short list and four sites did not.

**Assessment of the back-check final short list sites**

G.3.27 Following the back-check, the four final shortlisted sites identified for assessment at the next stage were as follows:

Sites identified as suitable for main tunnel drive or reception/intermediate sites:

a. S17RD: Barn Elms  
b. S87HF: Carnwath Road Riverside.

Sites identified as suitable for reception/intermediate sites only:

a. S18WH: Feathers Wharf  

G.3.28 For some of the sites listed above, the construction layouts considered at phase one were still applicable for consideration at phase two. The site suitability reports produced for these sites were therefore re-evaluated to consider whether any new information would have a bearing on any of the
disciplines’ recommendations and previous assessments (now superseded) in Section 2. We conducted a new assessment of the sites for which we proposed new configurations and new sites.

**S18WH: Feathers Wharf**

**G.3.29** Site S18WH is located in the foreshore of the River Thames, in the London Borough of Wandsworth. The site is bounded by the River Thames to the north, Cory Environmental Western Riverside Solid Waste Transfer Station (WTS) (including a significant new building under construction) to the east, The Causeway to the south, and mud flats to the west. A channel leading to the Thames runs along the western boundary of the site (the River Wandle).

**G.3.30** **Engineering**: Assessed the site as suitable as a reception/intermediate site as it is flat, cleared, and has good road links to the TLRN. However the existing road to access the site, The Causeway, might pass under a railway bridge with height restrictions. Also the site is narrow and would require careful management to ensure safety during construction.

**G.3.31** **Planning**: Assessed the site as suitable as a main tunnel reception site. There were a number of planning and environmental designations that related to the site but we considered that, with appropriate mitigation measures, it was unlikely that these designations would be unacceptably impacted on. The site is allocated in the London Borough of Wandsworth’s emerging SSAD for mixed-use residential. The project works would be contradictory to this allocation, however the use of the site would be temporary and the layout of permanent structures configured so as not to prejudice the future development potential of the site. The site is adjacent to the Western Riverside Transfer Station, a safeguarded wharf, and works would not conflict with operations and barge movements. The recent planning approvals for the use of Feather’s Wharf for the new civic amenity facility would have a construction timetable likely to be compatible with the project.

**G.3.32** **Environment**: Overall, the site was assessed as suitable as a main tunnel reception/intermediate site, with or without a CSO connection. The site was considered likely to be suitable from the perspectives of transport, built heritage, townscape, water resources, ecology, flood risk, noise and air quality. However, the site was less suitable from the perspectives of archaeology and land quality. Adequate mitigation measures for archaeology and land quality would need to be provided.

**G.3.33** **Socio-economic and community**: Assessed the site as suitable as a main tunnel reception/intermediate site as it was unlikely that it would have unacceptable impacts on the local community. Mitigation might be required to reduce impacts on the Thames Path. A storage area for the adjacent waste transfer facility would also need to be accommodated on site or temporarily relocated.

**G.3.34** **Property**: Assessed the site as suitable as a main tunnel reception/intermediate site. However, dialogue with the landowners needed to take place in order to assess the potential impacts on the neighbouring waste transfer facility. If the impacts were likely to be
minimal, the acquisition costs should be acceptable. Resistance to the proposal might cause difficult negotiations in the context of Special Land procedures.

**S72WH: Fulham Depot**

G.3.35 Site S72WF covers sites known as Swedish Wharf, Comely Wharf and Albert Wharf, located in the London Borough of Hammersmith and Fulham. The existing access to the site is from Townmead Road and Wandsworth Bridge.

G.3.36 The site is covered in a mix of industrial buildings, warehouses, a motor car auction business and a company known as Fuel Oils Ltd and its associated oil tanks. The surrounding area is characterised by a mix of large warehouses, retail units, a supermarket and residential properties.

G.3.37 **Engineering**: Assessed the site as suitable as a main tunnel reception/intermediate site because it is an adequate size and has good vehicular access.

G.3.38 **Planning**: The site was considered suitable as a main tunnel reception site. There are a number of onsite and adjacent sensitive receptors, such as a conservation area, a nature conservation area, and residential properties. A new planning application and the Hammersmith and Fulham Core Strategy have now been adopted. However, the proposed construction layout should provide sufficient separation between the site and residential properties and, combined with other mitigation measures, the impact on residential amenity should not be unacceptable.

G.3.39 **Environment**: Overall, the site was assessed as suitable as a main tunnel reception/intermediate site, although mitigation would be required. The site was considered likely to be suitable from the perspectives of transport, archaeology, built heritage, townscape, water resources, ecology, air quality and flood risk. However, the site was less suitable from the perspectives of noise and land quality. Mitigation measures might include erecting noise barriers and remediating any contamination within the site.

G.3.40 **Socio-economic and community**: Assessed the site as suitable as a main tunnel reception/intermediate site, although mitigation against loss of business activity might be required. Apart from this, use of the site was likely to have a limited impact on the local community as there are few potential sensitive receptors in its immediate vicinity. However, noise mitigation would be required to reduce impacts on residential receptors to the north.

G.3.41 **Property**: Assessed the site as suitable as a main tunnel reception/intermediate site. The acquisition costs of using this site should not be unacceptable. However, use of the site would result in the loss of at least two businesses including one that uses specialist plant and machinery.

**S17RD: Barn Elms**

G.3.42 At phase one consultation, we considered a worksite in the corner of Barn Elms playing fields at the outlet of Beverly Brook into the River Thames.
However, as part of the back-check process, we revised the site area for the SSR assessments and elongated the worksite so that it would have less impact on the adjacent playing fields, and moved the worksite further north adjacent to the Boat House to be further away from the residential area around Horne Way. We also assessed three access options to the site from 1) Rocks Lane, 2) Queen Elizabeth Walk and 3) Mill Hill Road (across Lower Putney Common and over Beverley Brook). All disciplines except property, (although this was marginal), thought that the most suitable access to the worksite was from Rocks Lane. This would involve a dedicated access route to the construction site which would enable segregation from the adjacent third-parties and be safer than the other two access route options.

G.3.43 The site was assessed as a single and double main tunnel drive site and a reception/intermediate site. All site options also included the interception of the West Putney Storm Relief CSO, which is located in the corner of Barn Elms near the outlet of Beverley Brook into the River Thames.

G.3.44 **Engineering**: Assessed the site as suitable for a main tunnel reception/intermediate site and a single or double main tunnel drive site with the preferred access option 1 off Rocks Lane. The site is a suitable size and could accommodate the increased size requirements associated with a double drive main tunnel site. It is also clear and predominantly level, and minimal enabling works would be required.

G.3.45 For the purposes of a main tunnel drive site, there is suitable river frontage to build jetty and wharfage facilities in the River Thames to deliver materials and remove excavated material by river. However, barge movements are restricted in this area of the River Thames.

G.3.46 **Planning**: Assessed the site as suitable for a main tunnel reception site and a single main tunnel drive site. A series of planning designations was applicable to the site. In view of all the potential constraints and the potential for mitigation of potential impacts or conflicts with policy, this site was considered suitable for use. The recommendation was subject to successful mitigation of the constraints identified. There might be additional disruption to recreational river users and the residential receptors to the south for a single drive site. However, use of the site in this way would result in more effective and efficient use of land, and the need for only one site for both construction and interception works instead of two.

G.3.47 The site was considered less suitable as a double drive main tunnel site. Increased traffic movement associated with removal of excavated materials for a double drive and the resulting impacts on the amenity of the surrounding area were a particular concern, as well as potential visual impacts resulting from the triple stacking of office and welfare facilities.

G.3.48 **Environment**: Overall, the site was considered suitable as a reception/intermediate, single or double main tunnel site. However, mitigation would be required.
Based on current information, the site was considered **suitable from** the perspectives of transport, hydrogeology, built heritage, townscape, noise, air quality (for access options 1 and 2) and land quality.

The site was considered **less suitable** from the perspectives of archaeology, ecology, surface water, and flood risk and air quality (for access option 3).

Overall, the site was considered **suitable** with access from Rocks Lane, subject to further investigation of whether effects on archaeology, ecology, surface water, flood risk and air quality could all be adequately mitigated.

**Socio-economic and community:** Assessed the site as **suitable** for a main tunnel reception/intermediate site, but **less suitable** as a main tunnel single or double drive site. The main tunnel drive site option would require increased levels of construction activity and a larger site. There would be a temporary loss of sports fields, disruption to the users and operations of the Boat House, Sailing Club, Thames Path and recreational river users.

In general, it was likely that this site had an important amenity value to neighbouring residential users and a value to the local community as a sports facility and area of open space. We recognised that the river in the area is of high value to recreational users. The current ambient noise level is generally low, except during the core flight times to Heathrow airport, so residential areas near the site and across the river and the Barnes Wetlands Centre would experience increased noise from the works, especially from site set-up and tunnelling activities.

Access option 1 (Rocks Lane) appeared likely to have the least impact on the local community, although efforts would need to be made to minimise the impact of additional traffic past the residential properties on this road and the impact of the new access route on the sports fields and users.

**Property:** Assessed the site as **less suitable** for a single and double main tunnel drive site. While the site is undeveloped, the provision of replacement land was likely to result in high acquisition costs and to be extremely difficult. Therefore, a special parliamentary procedure might be required, which could cause delays to the project. There was significant public and political opposition to the use of the site as a main tunnel site, which was likely to increase the acquisition risk. Furthermore, the boat house buildings would need to be demolished and reinstated, which could disrupt these operations. There was also considerable potential for discretionary purchase costs.

The site was **suitable** for a main tunnel reception/intermediate site. Acquisition costs for the small site layout were likely to be acceptable and the boat house and sailing club buildings were not required.

**S87HF: Carnwath Road Riverside**

Site S87HF is located adjacent to the River Thames in the London Borough of Hammersmith and Fulham. The site incorporates Hurlingham Wharf as well as Whiffin Wharf to the west and the Carnwath Road Industrial Estate to the east, which contains a number of two-storey industrial, warehouse and retail units.
The surrounding area is characterised by a mix of land uses. Immediately to the north of the site along Carnwath Road is the Piper Building, a large, mixed-use building with high-density residential properties, including car parking on the corner with Peterborough Road. To the north of the site are residential properties within Philpot Square. A four-storey residential block and a Currys superstore are located immediately adjacent to the site to the east. Situated to the west of the site are three- to four-storey high residential properties overlooking the site and the River Thames.

The site was assessed as a main tunnel drive site and main tunnel reception/intermediate site.

**Engineering**: Assessed the site as **suitable** as a main tunnel drive and reception/intermediate site. The site is a suitable size with sufficient proportions to enable efficient working. It is level and predominately clear, and minimal enabling works would be required for the demolition of the light industrial units.

**Planning**: This site was considered suitable as an intermediate/site and a main tunnel drive site. Hurlingham Wharf is designated as a safeguarded wharf and is currently vacant. Temporary use of this site, including the waterborne transport of construction materials (for the main drive site), would be consistent with extant local policy and regional planning guidance. The Carnwath Road Riverside sites are subject to a number of planning policy designations and the shaft location and layout of the permanent structures would need particular consideration, especially with regards to the wider conservation area and regeneration area. However, none of these designations were deemed significant enough to preclude the use of the site. Of most concern was the potential adverse impact on residential amenity, particularly to the adjacent residential properties to the west and east, but we considered that these impacts could be reduced with appropriate mitigation measures.

**Environment**: Overall, the site was assessed as **suitable** as a main tunnel drive and reception/intermediate site. The site was considered likely to be **suitable** from the perspectives of transport, built heritage, townscape, water resources (hydrogeology) and ecology. In the case of the reception/intermediate option, it was also **suitable** from the perspectives of water resources (surface water) and flood risk. However, the site was **less suitable** from the perspectives of archaeology, air quality, noise and land quality. In the case of the single drive option, it was also **less suitable** from the perspectives of water resources (surface water) and flood risk.

**Socio-economic and community**: Assessed the site as **less suitable** as a main tunnel drive and reception/intermediate site. This was due to the potentially adverse impact on the businesses operating from premises located on the eastern section of the site and the residential properties located to the west, north and east of the site and the general vicinity. While these impacts would likely be lower for a reception/intermediate site, this would likely be partially offset by the increased road transport impacts of not utilising river transport.
Appendix G – Carnwath Road Riverside (formerly Barn Elms)

Section 48: Report on site selection process
Volume 3: Western site appendices A to H

G.3.64 **Property:** Assessed the site as **less suitable** as a main tunnel drive and reception/intermediate site. The site is partially vacant, however large acquisition costs would be likely and businesses in Carnwath Road Industrial Estate would need to be relocated or extinguished.

**Phase two consultation preferred site**

G.3.65 Following the completion of the back-check process, we held a multidisciplinary workshop to choose the most suitable sites in main tunnel Zones S1 to S4 (see Volume 1, Main report, Section 6, Table 6.1). No shortlisted sites were identified within Zones S1 and S4. In Zones S2 and S3, for each type of use (ie main tunnel drive or reception/intermediate), we considered sites from the shortlisted sites and drive options in the *Engineering options report* (Summer 2011) to determine the preferred site. This workshop took into account the site suitability report findings, drive options, feedback received during phase one consultation during and interim engagement.

G.3.66 As S01EG/C01YC: Acton Storm Tanks, the preferred site in Zone S0, was found to be suitable only as a main tunnel reception site (see Appendix A), a main tunnel drive site had to be identified in Zones S1 to S4 to construct the western sections of the main tunnel.

G.3.67 In Zone S2 Barn Elms (S17RD) was the most suitable main tunnel drive and reception site. In Zone S3 Carnwath Road Riverside (S87HF) was the most suitable main tunnel site and Feathers Wharf (S18WH) was the most suitable main tunnel reception site over S72HF: Fulham Depot. This meant that a main tunnel drive site was required in either Zone S2 or Zone S3.

G.3.68 The sites of all types (main tunnel drive or reception/intermediate) in Zones S2 and S3 were then combined in main tunnel drive options (see Volume 1, Main report, Section 6, Table 6.2). It was then necessary to compare drive options of all types in Zones S2 and S3 to determine the site and use.

G.3.69 Figure G.3 overleaf shows the location of all the shortlisted sites in Zones S2 and S3 that could potentially be used in tunnelling strategies for the construction of the western section of the main tunnel.
G.3.70 We considered and compared the western drive options at a workshop and took into account the site suitability report findings and the feedback received during phase one consultation.

G.3.71 On the basis of the assessments described above and professional judgement, it was agreed by all disciplines that **S87HF: Carnwath Road Riverside should become the recommended phase two preferred main tunnel drive site**. This meant that we believed it to be the most appropriate site, subject to further engagement with stakeholders and further design development to verify this conclusion prior to phase two consultation.

G.3.72 In summary, S87HF: Carnwath Road Riverside was identified as the most suitable site for the following reasons (in no particular order):

a. Carnwath Road Riverside is a brownfield site whereas Barn Elms is a greenfield site.

b. The site has better river access via the existing safeguarded wharf than at Barn Elms. This would allow much larger barges (800 to 1000 tonne rather than 350 tonne) to be used to remove excavated materials and deliver construction materials to site. Use of larger barges also has associated cost and environmental benefits.

c. There would be much less conflict with the recreational users of the River Thames than at Barn Elms.

d. Carnwath Road Riverside has better existing road access and links to the strategic road network. In contrast, at Barn Elms we would need to construct lengthy temporary access roads across the playing fields to local roads that are congested at peak times.
e. Use of Carnwath Road Riverside would avoid disrupting the Thames Path at Barn Elms. The Thames Path is already diverted around the site at Carnwath Road Riverside.

f. Use of this site would have less impact on the natural and built environment in terms of planning policies and designations than would likely be the case at Barn Elms.

g. Use of this site presented less programme risk and would likely have lower construction costs. Enabling works could also be carried out more easily, especially as there is an existing energy supply on site.

h. This site would have a higher resale land value, whereas the Barn Elms site would have higher site set-up costs and no resale value.

G.3.73 However, use of Carnwath Road Riverside would mean that a small CSO site would still be required at Barn Elms to intercept the West Putney Storm Relief and connect it to the main tunnel (see Appendix C).

G.3.74 The Carnwath Road Riverside site is also closer to residential properties than the proposed phase one site at Barn Elms, so additional mitigation would be required to reduce the potential impacts of construction activities.

G.3.75 As detailed above, the back-check process also identified a main tunnel reception site at Acton Storm Tanks (see Appendix A). The suitability of this site was reviewed at the same multidisciplinary workshop as the Carnwath Road Riverside site and it was subsequently confirmed as the phase two preferred site to intercept the Acton Storm Tanks CSO and receive the main tunnel driven from the Carnwath Road Riverside site.

G.3.76 In addition, the preferred main tunnel shaft site identified at phase one consultation in Zone S5 (S79WH with S80WH: Tideway Walk) became unavailable, so a further back-check was undertaken to identify potential alternative sites in this zone. This process identified S72WH/S93WH: Kirtling Street (with Cringle Street) as our phase two preferred site for a main tunnel shaft in Zone S5 (see Volume 4, Central appendices, Appendix L – Kirtling Street). In reviewing the drive options, it was agreed by all disciplines to drive the main tunnel from S72WH/S93WH: Kirtling Street (with Cringle Street) to S87HF: Carnwath Road Riverside and to receive the Frogmore connection tunnel from Dormay Street (see Appendix E).

G.3.77 Overall it was agreed that S87HF: Carnwath Road Riverside should become the recommended phase two preferred main tunnel drive site. Figure G.4 overleaf shows the preferred sites and the tunnelling strategy for the construction of the western section of the main tunnel.
The above points were based on the information available at the time and the related stage in the project’s development. The points therefore comprise a historic representation of the process prior to phase two consultation.

**Confirmation of the preferred site for phase two consultation**

A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that **S87HF: Carnwath Road Riverside would become the phase two consultation preferred site to construct the western sections of the main tunnel** to drive the main tunnel to S01EG/C01YC: Acton Storm Tanks and to receive the Frogmore connection tunnel from C07AR + CL008: Dormay Street.

Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.
Appendix G – Carnwath Road Riverside (formerly Barn Elms)

G.4  Post phase two consultation: Review of main tunnel sites

Introduction to the review

G.4.1  Section G.4 explains how we implemented the requirement in the Site selection methodology paper to review the scheme following phase two consultation and prior to Section 48 publicity.

G.4.2  The scheme review at this stage of the site selection process comprised: a review of comments from phase two consultation related to main tunnel sites and tunnelling options associated with Zones S1 to S4 for the western sections of the main tunnel as set out in the Engineering options report (Spring 2012); consideration of any ongoing scheme design and/or new technical information; multidisciplinary workshops and reviews to identify the proposed main tunnel site and use for Section 48 publicity.

G.4.3  This stage took place from Spring 2012 to Summer 2012.

Summary of phase two consultation responses

G.4.4  Details of the consultation responses related to this site and our responses are provided in the Report on phase two consultation. The main feedback relevant to site selection can be summarised as follows:

a. object to the use of the site/the site is unsuitable

b. should use/consider an alternative site. Site selection should avoid densely populated or residential areas; the site is close to sensitive receptors, including schools and nurseries, and commercially established areas

c. selection of this preferred site has been poorly justified/inadequately explained or is flawed/questionable. Reasons included: the impact of use of this site has been underestimated and it would cost too much

d. the scale of effects on the local area and community resulting from the selection of this site is unacceptable

e. the preferred site put forward at phase one consultation, Barn Elms, is more suitable as it would have less impact on the local area and would enable CSO interception and tunnelling activities to be undertaken at the same site. The reasons for changing the preferred site since phase one consultation are unclear

f. the site is too small and does not have sufficient capacity to accommodate the proposals

g. site selection has been influenced by pressure from politicians, celebrities and Non-Governmental Organisations

h. alternative drive strategies were suggested for the western section of the main tunnel

i. alternative site suggestions included Barn Elms and Kirtling Street/Battersea Power Station/Nine Elms/Battersea.

G.4.5  The main comments received in support of the site included:
a. support for the use of the preferred site
b. support for the identification of a new preferred site since phase one consultation/the preferred site is more suitable than the site put forward at phase one consultation
c. it is a brownfield site that is vacant/derelict/available for redevelopment.

G.4.6 We recognise the concerns that have been raised, including impact on the local environment and site specific matters, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

G.4.7 Due to suggested alternative drive options, we reviewed our tunnelling strategy and prepared a revised Engineering options report (Spring 2012), which concluded that the suggested alternatives would not add any new drive options, so the potentially feasible main tunnel drive options remained the same as those in the Engineering options report (Summer 2011) prior to phase two consultation.

G.4.8 Having taken all comments received during phase two consultation into account, we still believe S87HF:Carnwath Road Riverside is the most suitable drive main tunnel site to construct the western sections of the main tunnel.

Any changes in circumstances or new information

G.4.9 Planning permission was granted (application reference: 2010/01792/FUL) for the redevelopment of a new concrete plant in February 2012, including the erection of a replacement concrete plant, aggregate storage facility, transfer building and conveyors at RMC House 15 Townmead Road. This permission covers part of site S72HF: Fulham Depot.

G.4.10 Planning permission was granted (application reference: 2010/02481/FUL) for mixed use redevelopment including a supermarket, residential dwellings, cafés and bars and a training centre at 51 Townmead Road. This permission is adjacent to the east of site S72HF: Fulham Depot.

G.4.11 Having considered this new information, we still believe S87HF:Carnwath Road Riverside is the most suitable drive main tunnel site to construct the western sections of the main tunnel.

Summary of tunnelling drive options

G.4.12 We re-reviewed the tunnelling drive options and we still believe S87HF: Carnwath Road Riverside is the most suitable site in main tunnel Zone S3 Wandsworth Bridge. As noted in paragraph G.4.7 above, the drive options did not change, but we still reviewed the drive options and the main tunnel comparisons in Volume 1, Main report, Section 6.6. We concluded S87HF: Carnwath Road Riverside remains the most suitable site to drive the main tunnel to Acton Storm Tanks, receive the main tunnel from Kirtling Street and receive the Frogmore connection tunnel from Dormay Street.
Main rationale for the selection of the main tunnel site for Section 48 publicity

G.4.13 In summary, S87HF: Carnwath Road Riverside was identified as the most suitable drive main tunnel site to construct the western sections of the main tunnel for the following reasons (in no particular order):

a. It is a brownfield site and would not result in the loss of undeveloped, open land.

b. Part of the site is a safeguarded wharf and we would make use of this area in a way that would be an appropriate temporary use of the safeguarded wharf allocation. The presence of wharves at this site, combined with the width of the River Thames at this point, would allow the use of larger barges to remove material excavated during construction of the main tunnel.

c. Although the use of the site could delay any future redevelopment of the parts of the site that are not safeguarded as a wharf as part of residential-led regeneration aspirations, the use of the site would be temporary and insignificant in the context of the overall developable land available. It would not interfere with meeting the housing targets identified in adopted local and regional plans.

d. Use of the site at Carnwath Road Riverside is likely to have much less conflict with recreational users of the River Thames than use of the site at Barn Elms.

e. The Carnwath Road Riverside site has better direct access to the public road network and links to the strategic road network than the Barn Elms site where there would be a need to construct an access across the playing fields.

f. Use of the Carnwath Road Riverside site would have less impact on the natural and built environment in terms of planning policies and designations whereas using Barn Elms as a main tunnel drive site would affect MOL, the site is adjacent to a SSSI (Wetland Centre), would affect Barn Elms Playing Fields and would require the demolition and relocation of a local community boating facility.

g. A special parliamentary procedure would not be required to secure the site.

h. Use of the Carnwath Road Riverside site would be less disruptive to users of the Thames Path, which is already diverted around the site.

i. A significant proportion of the site is undeveloped and only a limited number of occupiers would need to be relocated.

j. The use of the site would leave a legacy of a public open space in an area deficient in access to local parks.
G.5 Confirmation of the proposed main tunnel site for Section 48 publicity

G.5.1 The post phase two consultation review described above in Section G.4 confirmed S87HF: Carnwath Road Riverside as a main tunnel site that would be used to drive the main tunnel to Acton Storm Tanks, receive the main tunnel from Kirtling Street and receive the Frogmore connection tunnel from Dormay Street.

G.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Appendix H – Falconbrook Pumping Station (formerly Bridges Court Car Park)

H.1 Introduction

H.1.1 This appendix sets out the site selection process that was followed to identify the most suitable site to intercept the Falconbrook Pumping Station CSO prior to the following stages of the project: phase one consultation, phase two consultation and Section 48 publicity.

H.1.2 Table H.1 summarises the sites identified as most suitable to intercept the Falconbrook Pumping Station CSO at each phase of the project.

Table H.1 Summary of the sites identified as most suitable to intercept the Falconbrook Pumping Station CSO at each phase of the project

<table>
<thead>
<tr>
<th>Phase one consultation site:</th>
<th>Bridges Court Car Park</th>
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<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Falconbrook Pumping Station</td>
</tr>
<tr>
<td>Section 48 publicity site:</td>
<td>Falconbrook Pumping Station</td>
</tr>
</tbody>
</table>

H.1.3 This appendix is structured as follows:

a) Section H.1 the remainder of this section provides details of the type of site needed and a brief summary of how the Site selection methodology paper was applied at each stage of the project.

b) Section H.2 provides details of how we identified our preferred site for phase one consultation.

c) Section H.3 provides details of the back-check assessments and reasons why we changed our preferred site for phase two consultation.

d) Sections H.4 and H.5 provide details of the post phase two consultation scheme review and confirmation of the proposed CSO site for Section 48 publicity.

Type of site

H.1.4 We need a site to intercept the local combined sewer overflow (CSO), known as the Falconbrook Pumping Station CSO, and connect it to the main tunnel.

Site selection process

H.1.5 All potential sites were identified in accordance with our Site selection methodology paper, which involved a ‘sieving’ approach that commenced with identifying all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites). CSO sites also need to be as close to the existing sewer as practicable; therefore we took
a localised optioneering approach to identify potential sites. The sites went through increasingly detailed levels of assessment. All of the assessments were informed by a multidisciplinary approach that took into account engineering, planning, environmental, community and property considerations and professional judgement.

H.1.6 Prior to phase one consultation we applied our multidisciplinary sieving approach to all the assessments set out in the Site selection methodology paper, which are also briefly outlined below (see H.2.2).

H.1.7 Following phase one consultation, we reviewed the sites and decided to carry out a ‘back-check’ in order to review the preferred and shortlisted sites prior to phase two consultation. This back-check involved a repeat of each relevant stage of our site selection process to reconsider which site would be the most suitable CSO site. The back-check utilised the same multidisciplinary approach that was followed prior to phase one consultation. The results of this back-check superseded all previous assessments undertaken prior to phase one consultation and reported in H.2, except where noted (see Sections H.3.28 to H.3.36).

H.1.8 Following phase two consultation, we conducted a review of the scheme in accordance with the Site selection methodology paper. The review of CSO sites involved re-checking the choices of sites identified as most suitable to intercept each CSO associated with the proposed route and proposed CSO for Section 48 (see Section 4).

H.2 Phase one consultation preferred CSO site: Site selection process

Introduction

H.2.1 Section H.2 explains how the Site selection methodology paper was implemented in order to arrive at the preferred CSO site for phase one consultation.

H.2.2 Prior to phase one consultation, the site selection process comprised: identification of sites for inclusion on a long list; assessment of sites on the long list to create a draft short list of sites (Table 2.2); assessment of the draft shortlisted sites to create a final short list of sites (Table 2.3); preparation of detailed site suitability reports for each final shortlisted site; and a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept the Falconbrook Pumping Station CSO for phase one consultation.

H.2.3 A plan that shows all the sites considered for the interception of the Falconbrook Pumping Station CSO prior to phase one consultation and how they progressed through the site selection process can be found in Annex H.1.

H.2.4 This stage took place from Spring 2009 to Summer 2010.

H.2.5 The assessments described in Section H.2 were based on the information available at the time and the related stage in the project’s development. The assessments in this section therefore comprise a historic
representation of the process and all of the assessments have been superseded, except for some of site suitability report summaries (see Section H.3.28 to H.3.36).

Assessment of the long list sites

H.2.6 The long list of potential sites to intercept the Falconbrook Pumping Station CSO was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

H.2.7 In total, seven sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the Site selection methodology paper (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological), and community and property (neighbouring land uses, site use, Special Land/Crown land and acquisition costs) considerations.

H.2.8 Table H.2 below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the interception of this CSO. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained did not pass to the draft short list.

Table H.2 Long list to draft short list for the interception of the Falconbrook Pumping Station CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C09XA</td>
<td>Foreshore, near London Heliport, Lombard Road</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XB</td>
<td>Forecourt for Volkswagen salesroom</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XC</td>
<td>Bridges Court Car Park</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XD</td>
<td>York Gardens, adjacent to York Road</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XE</td>
<td>York Gardens, adjacent to Pennethorne House</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XF</td>
<td>York Gardens, adjacent to Community Centre</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XG</td>
<td>Area to west of Pumping Station</td>
<td>Recommendation: To draft short list.</td>
</tr>
</tbody>
</table>

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

H.2.9 All of the seven sites identified were assessed as potentially suitable and passed to the draft short list.
Assessment of the draft short list sites

H.2.10 The seven draft short list sites identified for assessment at the next stage were:

a. C09XA: Foreshore, near London Heliport, Lombard Road
b. C09XB: Forecourt for Volkswagen salesroom
c. C09XC: Bridges Court Car Park
d. C09XD: York Gardens, adjacent York Road
e. C09XE: York Gardens, adjacent to Pennethorne House
f. C09XF: York Gardens, adjacent to Community Centre
g. C09XG: Area to west of Pumping Station.

H.2.11 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and the assessments undertaken at long list stage but focussed on more detailed local considerations.

H.2.12 At this stage, we also consulted with each of the London local authorities along the preferred route and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of the sites for the short list.

H.2.13 Table H.3 summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the short list for more detailed assessment. The main rationale for excluding these sites at this stage is summarised below.

Table H.3 Draft short list to final short for the interception of the Falconbrook Pumping Station CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C09XA</td>
<td>Foreshore, near London Heliport, Lombard Road</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C09XB   | Forecourt for Volkswagen salesroom | **Recommendation:** Not to short list.  
**Rationale:**  
- Property – The operational area was likely to obstruct the car showroom’s business, which might result in substantial compensation.  
- Community – The site is situated opposite community facilities which... |
### Table of Site Recommendations and Rationales

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site Name/Description</th>
<th>Recommendation and Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C09XC</td>
<td>Bridge Court Car Park</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
<tr>
<td>C09XD</td>
<td>York Gardens, adjacent to York Road</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
<tr>
<td>C09XE</td>
<td>York Gardens, adjacent to Pennethorne House</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C09XF   | York Gardens, adjacent to Community Centre | **Recommendation:** Not to short list. **Rationale:**  
  - Transportation – The site access is very constrained. This might require use of smaller vehicles and additional vehicle movements might cause more disruption.  
  - Community – There are a number of sensitive receptors in close proximity and it might also affect several community buildings in the park and a block of flats. |
| C09XG   | Area to west of Pumping Station | **Recommendation:** Not to short list. **Rationale:**  
  - Engineering – The site is unfeasible due to concerns over technical viability.  
  - Community – There are a number of sensitive receptors in close proximity and use of the site might affect several community buildings in the park. |

**NB:** The site ID and site name description were used as an internal mechanism to record and describe the site but could be updated as necessary.

**H.2.14** Of the seven sites on the draft short list, four were assessed as potentially suitable and passed to the final short list, and three sites did not. Further details of all sites shortlisted at this stage of the site selection process can be found in the *Shortlisted sites report.*

**Assessment of the final short list of sites**

**H.2.15** The four sites identified for inclusion on the final short list and assessment at the next stage were:

a. C09XA: Foreshore, near London Heliport, Lombard Road

b. C09XC: Bridges Court Car Park
c. C09XD: York Gardens, adjacent York Road  
d. C09XE: York Gardens, adjacent to Pennethorne House.

H.2.16 A site suitability report was prepared for each of the final shortlisted sites. These reports contained an assessment the suitability of each site, having regard to engineering, planning, environment, and community and property considerations. At this stage in the process, sites were assessed in isolation with no comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline using technical knowledge and professional judgement as appropriate, and assessed as suitable, less suitable or not suitable from that discipline’s perspective.

H.2.17 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

**C09XA: Foreshore, near London Heliport, Lombard Road**

H.2.18 Site C09XA is situated on the foreshore of the River Thames in the London Borough of Wandsworth. The site is located at the end of Bridges Court, which links to York Way (A3205).

H.2.19 To the north of the site is a helipad, and a multi-use development, known as Bridges Wharf, was recently constructed to the east of the site. This is partly a residential development. Furthermore, to the south and west are additional residential developments that overlook the site.

H.2.20 **Engineering:** This site was assessed as less suitable as a CSO site because of the access difficulties, both for construction and operations.

H.2.21 **Planning:** On balance, the site was assessed as suitable as a site to intercept this CSO. The site was subject to several policy designations. Furthermore, use of the site would impact on residential amenity. However, with appropriate mitigation, any impacts could be reduced.

H.2.22 **Environment:** Overall, the site was assessed as less suitable as a CSO site. The site was considered likely to be suitable from the perspectives of transport, archaeology, water resources, ecology, built heritage and townscape. However, the site was considered less suitable from the perspectives of flood risk, air quality, noise and land quality, although these impacts could be reduced by appropriate mitigation.

H.2.23 **Socio-economic and community:** The site was assessed as suitable as a CSO site as it was unlikely to have a great impact on the local community as it is located on the foreshore. Although impacts might be felt by adjacent residences and businesses, they could be reduced through appropriate mitigation.

H.2.24 **Property:** The site was assessed as suitable as a CSO site but the requirement for a special ministerial procedure might cause delays.

**C09XC: Bridges Court Car Park**

H.2.25 Site C09XC is situated in Bridges Court Car Park in Battersea, in the London Borough of Wandsworth. The site is surrounded by multiple businesses and residential properties.
H.2.26 To the north of the site is a multi-use development known as Bridges Wharf. This is predominately a residential mixed-used development. Beyond this is London Heliport. There is a further residential development to the south. To the west is the Thames Path and offices associated with Bridges Wharf while to the east is vacant land occupied by some businesses.

H.2.27 **Engineering**: This site was assessed as suitable as a CSO site because it is an adequate size with good access and would require no demolition. Furthermore, the interception chamber and connection culvert to the drop shaft would both be within the site and therefore require no additional consideration.

H.2.28 **Planning**: On balance, the site was assessed as less suitable as a site to intercept this CSO. The site is within close proximity to residential properties and any adverse impacts would require mitigation. Furthermore, residents’ parking would be lost.

H.2.29 **Environment**: Overall, the site was assessed as suitable as a CSO site. The site was considered likely to be suitable from the perspectives of archaeology, built heritage and townscape, water resources, flood risk, noise and ecology. However, the site was considered less suitable from the perspectives of transport, air quality and land quality although these impacts could be reduced by appropriate mitigation.

H.2.30 **Socio-economic and community**: The site was assessed as suitable as a CSO site. However, its use is likely to have a number of impacts on the local community that would need to be mitigated. The temporary loss of the car parking and the potential long-term reduction in the site size (due to the scale of the after-use structures required onsite) would likely affect the local businesses and residents that use the site. It might be difficult to provide additional car parking facilities for surrounding businesses and any residential users in the heavily built-up local area, as the site is adjacent to a main road.

H.2.31 Local residential properties overlooking the site would also likely be affected by visual and noise disturbance. Mitigation would be likely to involve noise reduction measures.

H.2.32 **Property**: The site was assessed as suitable as a CSO site as acquisition costs were unlikely to be high. However, some parking would be lost permanently.

**C09XD: York Gardens, adjacent York Road**

H.2.33 Site C09XD is situated within an area of public space in the London Borough of Wandsworth. Ninety per cent of the site lies in York Gardens, and the remainder extends into an area of children’s playground.

H.2.34 The site is bounded to the north and west by York Road, a dual carriageway, which is lined with trees that act as screening. To the east and north east are primarily residential developments. To the south is Falconbrook Pumping Station, with additional open space beyond.

H.2.35 **Engineering**: This site was assessed as suitable as a CSO site because it is an adequate size and offers good access.
H.2.36 **Planning:** On balance, the site was assessed as **less suitable** to intercept this CSO as it falls within a number of planning designations. Open space and trees would require re-provision, and visual and amenity impacts would be experienced by the adjacent children’s centre.

H.2.37 **Environment:** Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of transport, air quality, archaeology, noise, land quality, hydrogeology, flood risk and ecology. However, appropriate mitigation measures would be required to reduce adverse impacts.

H.2.38 **Socio-economic and community:** The site was assessed as **less suitable** as a CSO site as open space would be lost. Furthermore, use of the site would impact on the playground and children’s centre adjacent to the east and south. York Gardens library and the community centre would also likely experience adverse effects.

H.2.39 **Property:** The site was assessed as **suitable** as a CSO site but the possible requirement for a special ministerial procedure could cause delays.

**C09XE: York Gardens, adjacent to Pennethorne House**

H.2.40 Site C09XE is situated in an area of public space known as York Gardens, in the London Borough of Wandsworth.

H.2.41 To the northeast of the site are primarily residential developments. To the north and northwest are York Gardens Children’s Centre and playground and additional park. To the west is Falconbrook Pumping Station, and to the south is a library and additional open space.

H.2.42 **Engineering:** This site was considered **suitable** as a CSO site because it is an adequate size with good access.

H.2.43 **Planning:** On balance, the site was assessed as **less suitable** as a site to intercept this CSO as it would result in the loss of protected open space and severance of the park. Mitigation would be required to reduce impacts, although this might be difficult due to the proximity of residential properties.

H.2.44 **Environment:** Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of archaeology, built heritage and townscape, ecology, transport, water resources and flood risk. There is potential for noise and air quality impacts on residential properties. However, appropriate mitigation measures could be implemented to reduce adverse impacts.

H.2.45 **Socio-economic and community:** The site was assessed as **less suitable** for use a CSO site as there would be a loss of open space and permanent hardstanding once construction is complete. Mitigation would be required to restrict impacts on the gardens. Furthermore, use of the site would impact on the playground and children’s centre adjacent to the north and northwest. Adjacent residential developments and the York Gardens library and community centre would also experience adverse effects.
Property: The site was assessed as suitable as a CSO site but a special ministerial procedure, should it be required, might cause delays.

Phase one consultation preferred site

Following the completion of the site suitability reports, we held a multidisciplinary workshop to compare the suitability of each of the shortlisted sites based on the site suitability report assessments and to make a recommendation as to which site should be identified as the preferred site.

Of the four shortlisted sites, Bridges Court Car Park (C09XC) was identified as the preferred site for the following reasons:

a. We preferred to avoid the foreshore (C09XA) in favour of land-based alternatives, as it is less suitable from an engineering, planning and environment point of view. Road access would be constrained by the recent residential development and would only be suitable for light vehicles and pedestrians needing to cross third-party land. Construction activities and permanent works would have visual, noise and dust impacts on residential developments that would be difficult to mitigate. Environmental concerns included potential archaeological, surface water, ecology and land quality issues, in addition to impacts on amenity. These issues would contravene Wandsworth Unitary Development Plan policies.

b. In engineering terms, sites C09XC, C09XD and C09XE were all potentially suitable; however C09XC offered a number of advantages. The site has better access for large heavy goods vehicles, which would result in fewer vehicles and would not require a temporary access arrangement as with the other two sites. C09XC is also unconstrained and could facilitate all construction requirements within the site boundary with a shorter connection to the main tunnel. C09XD is constrained in terms of shape and C09XE would have operational access restrictions due to its proximity to Falconbrook Pumping Station.

c. In planning terms, sites C09XC, C09XD and C09XE all had some constraints and were less suitable. All the sites were considered suitable from the environmental and property points of view. However, the use of C09XC would sterilise part of the site for potential development, which might impact on the acquisition cost of the site.

d. In community terms, sites C09XD and C09XE were considered less suitable than C09XC because they would have much greater impact on the surrounding community, including the loss of mature trees and open space, and noise, dust and visual disturbance on community facilities and residential developments. These impacts would likely contravene Wandsworth Unitary Development Plan policies.
**H.3 Phase two consultation preferred CSO site: Scheme development and site selection**

**Introduction**

H.3.1 Section H.3 explains how the *Site selection methodology paper* was implemented in order to arrive at the preferred CSO site for phase two consultation.

H.3.2 Following phase one consultation, the site selection process comprised: a review of comments from phase one consultation; consideration of any ongoing scheme design and/or any new information received; completion of a back-check exercise to review the sites listed in Section H.2 along with any potential new sites or a combination of sites using the assessment process outlined in H.2.2; and a multidisciplinary optioneering workshop to identify the preferred CSO site to intercept Falconbrook Pumping Station CSO for phase two consultation.

H.3.3 A plan that shows all the sites considered for the interception of the Falconbrook Pumping Station CSO prior to phase one consultation and how they progressed through the site selection process can be found in Annex H.2.

H.3.4 This stage took place from Winter 2010 to Autumn 2011.

H.3.5 The assessments described in Section H.3 were based on the information available at the time and the related stage in the project’s development.

**Phase one consultation responses**

H.3.6 As part of the site selection methodology, all feedback received during phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

H.3.7 The main issues and concerns raised during phase one consultation in relation to the Bridges Court Car Park site included (in no particular order):

- a. impact on residential amenity
- b. impact on local businesses
- c. impact on redevelopment proposals for the site
- d. loss of car parking
- e. visual impact of proposals after construction.

H.3.8 The main comments received in support of the preferred site included:

- a. It is the most appropriate site for the works to take place.
- b. It is an appropriate site – glad that proximity to residential properties has been the primary consideration.

H.3.9 More details on the consultation responses in relation to this site and our responses to the comments received are provided in the *Report on phase one consultation*. 
H.3.10 Several respondents indicated that the shortlisted sites, in particular York Gardens, would be more appropriate, and they suggested this area would be further from residential properties and offer better site access.

**Back-check process**

H.3.11 As a result of engineering development, the strong opposition from both the local community and the landowner in relation to our use of the preferred site and the desire to use Thames Water land where possible, we decided to investigate the viability of using Falconbrook Pumping Station itself as a site in combination with a neighbouring shortlisted site.

H.3.12 As a result, we began a back-check (as defined in the *Site selection methodology paper*) to review our selection of Bridges Court Car Park as our preferred site.

H.3.13 This back-check involved a targeted repeat of each relevant stage of our site selection process to reconsider which site would be most suitable to intercept the Falconbrook Pumping Station CSO. The results of each stage of the back-check process are outlined below.

**Assessment of the back-check long list**

H.3.14 The original long list for Falconbrook Pumping Station CSO comprised seven sites (see Table H.1). These sites were reviewed along with any new sites identified in the back-checking exercise (ie, a re-assessment to establish whether there had been any changes of circumstances or if any new information had emerged).

H.3.15 All sites on the original long list were put on the back-check long list for this CSO. In addition, a new site C09XH: Falconbrook Pumping Station was added to the back-check long list. Half of this site was previously considered too small and at an earlier design stage the area around the pumping station was considered unfeasible. However, further technical studies since phase one concluded that the pumping station area, combined with the disused toilet block would create a feasible, larger site to intercept this CSO.

H.3.16 Sites C09XF and C09XG were withdrawn as they were replaced by the new site C09XH.

H.3.17 It should be noted that alternative sites suggested by consultees were also considered. However, none of these sites were located within a suitable distance to intercept this CSO.

H.3.18 The potential group of sites listed above was put on the back-check long list for this CSO. The back-check long list sites were then assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2 of the *Site selection methodology paper*.

H.3.19 Table H.4 below summarises the outcome of the back-check assessment of the back-check long list of sites. Sites that were assessed as the least constrained in light of the Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites were ultimately judged suitable, but rather that no significant constraints were
identified in relation to the high-level considerations in Table 2.2. Sites that were judged to be more constrained did not pass to the back-check draft short list for more detailed assessment.

Table H.4 Long list to draft short list for the interception of the Falconbrook Pumping Station CSO (Table 2.2 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C09XA</td>
<td>Foreshore, near London Heliport, Lombard Road</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XB</td>
<td>Forecourt for Volkswagen salesroom</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XC</td>
<td>Bridges Court Car Park</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XD</td>
<td>York Gardens, adjacent York Road</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XE</td>
<td>York Gardens, adjacent to Pennethorne House</td>
<td>Recommendation: To draft short list.</td>
</tr>
<tr>
<td>C09XF</td>
<td>York Gardens, adjacent to Community Centre</td>
<td>Withdrawn</td>
</tr>
<tr>
<td>C09XH</td>
<td>Falconbrook Pumping Station</td>
<td>Recommendation: To draft short list.</td>
</tr>
</tbody>
</table>

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

H.3.20 Of the seven sites identified, all seven were assessed as potentially suitable and passed to the draft short list.

Assessment of the back-check draft short list sites

H.3.21 The eight back-check draft shortlisted sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the Site selection methodology paper.

H.3.22 Table H.5 below summarises the outcome of the back-check assessment of the draft short list of sites. Sites that were assessed as the least constrained in light of the Table 2.3 considerations were retained on the back-check short list to pass to the next stage of assessment. This did not necessarily mean that a site was ultimately judged suitable, but rather that no significant constraints were identified in relation to the considerations set out at Table 2.3. Sites that were judged to be more constrained were not retained on the back-check short list for more detailed assessment.

H.3.23 The main rationale for excluding these sites at this stage is summarised below.
Table H.5 Draft short list to final short for the interception of the Falconbrook Pumping Station CSO (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
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<tbody>
<tr>
<td>C09XA</td>
<td>Foreshore, near London Heliport, Lombard Road</td>
<td><strong>Recommendation:</strong> Retain on short list.</td>
</tr>
</tbody>
</table>
| C09XB   | Forecourt for Volkswagen salesroom           | **Recommendation:** Not to short list. **Rationale:**
|         |                                               | • Property – The operational area was likely to obstruct business, which might result in substantial compensation.  
|         |                                               | • Community – The site is situated opposite community facilities that might be affected. It might also affect the car dealership, which in turn could have an adverse impact on the local economy.  |
| C09XC   | Bridges Court Car Park                        | **Recommendation:** Retain on short list.      |
| C09XD   | York Gardens, adjacent York Road              | **Recommendation:** Retain on short list.      |
| C09XE   | York Gardens, adjacent to Pennethorne House   | **Recommendation:** Retain on short list.      |
| C09XH   | Falconbrook Pumping Station                   | **Recommendation:** To draft short list.       |

NB. The site ID and site name/description were used as an internal mechanism to record and describe the site but could be updated as necessary.

H.3.24 Of the seven sites on the draft short list, five were assessed as potentially suitable and passed to the final short list, and two sites did not.

**Assessment of the back-check final short list sites**

H.3.25 The five back-check final shortlisted sites identified for assessment at the next stage were:

a. C09XA: Foreshore, near London Heliport, Lombard Road  
b. C09XC: Bridges Court Car Park  
c. C09XD: York Gardens, adjacent York Road  
d. C09XE: York Gardens, adjacent to Pennethorne House  
e. C09XH: Falconbrook Pumping Station.

H.3.26 We prepared a site suitability report for the new back-check final shortlisted site and re-evaluated the site suitability reports for the phase one shortlisted sites.

**C09XA: Foreshore, near London Heliport, Lombard Road**

H.3.27 A number of development plan documents were adopted since the site suitability report was completed; however, the updated policies did not
impact on the final assessment decisions. The planning recommendation, therefore, remained suitable.

H.3.28 All other discipline recommendations remained unchanged (see H.2.17 to H.2.23).

**C09XC: Bridges Court Car Park**

H.3.29 A number of development plan documents were adopted since the site suitability report was completed; however, the updated policies did not impact on the final assessment decisions. The planning recommendation, therefore, remained suitable.

H.3.30 There would be a potential impact on the surrounding residential developments and therefore the recommendation changed to **less suitable**.

H.3.31 All other discipline recommendations remained unchanged (see H.2.24 to H.2.26 and H.2.28 to H.2.31).

**C09XD: York Gardens, adjacent York Road**

H.3.32 A number of development plan documents were adopted since the site suitability report was completed; however, the updated policies did not impact on the final assessment decisions. The planning recommendation, therefore, remained suitable.

H.3.33 All other discipline recommendations remained unchanged (see H.2.32 to H.2.38).

**C09XE: York Gardens, adjacent to Pennethorne House**

H.3.34 A number of development plan documents were adopted since the site suitability report was completed; however, the updated policies didn’t impact on the final assessment decisions. The planning recommendation, therefore, remained suitable.

H.3.35 All other discipline recommendations remained unchanged see H.2.39 to H.2.45).

**C09XH: Falconbrook Pumping Station**

H.3.36 Site C09XH is situated in grounds predominately dominated by the existing Thames Water Falconbrook Pumping Station, which is located off York Road in the London Borough of Wandsworth.

H.3.37 The site is set within York Gardens, with a children’s centre and playground to the north and a library and community centre to the south. The busy A3205 York Road borders the site to the west.

H.3.38 **Engineering:** This site was assessed as **less suitable** as a CSO site because, while it is an adequate size, there was increased engineering complexity and significant access constraints.

H.3.39 **Planning:** On balance, the site was assessed as **suitable** as a site to intercept this CSO, if sufficient mitigation measures were employed to avoid unacceptable impacts on designated sites and sensitive receptors. Impacts on designations and sensitive receptors would be greater if
access could not be achieved via York Road as it would instead be via residential roads.

H.3.40 **Environment**: Overall, the site was assessed as **suitable** as a CSO site. The site was considered likely to be **suitable** from the perspectives of transport (if access were achievable from York Road), archaeology, built heritage and townscape, water resources (surface water and hydrogeology), flood risk, ecology and noise. The site was considered to be **less suitable** from the perspectives of air quality and land quality. However, appropriate mitigation measures could be implemented to reduce adverse impacts.

H.3.41 **Socio-economic and community**: The site was assessed as **less suitable** as a CSO site due to the potential impact on the community centre, library, children’s centre, adventure playground and residential properties.

H.3.42 **Property**: The site was assessed as **suitable** as a CSO site because it is mainly in Thames Water ownership and the acquisition cost for the remainder would likely be low.

**Phase two consultation preferred site**

H.3.43 Following the completion of the back-check process, we held a multidisciplinary workshop to compare the original preferred site (C09XC) and shortlisted sites (C09XA, C09XD, C09XE and C09XH).

H.3.44 This workshop took into account the findings of all the site suitability reports and the feedback received during phase one consultation. On the basis of the assessments described above and professional judgement, it was agreed by all disciplines that **Falconbrook Pumping Station (C09XH) should become the recommended phase two consultation preferred site for the interception of the Falconbrook Pumping Station CSO**. This meant that we believed it to be the most appropriate site, subject to further engagement with stakeholders and further design development to verify this conclusion prior to phase two consultation.

H.3.45 In summary, Falconbrook Pumping Station (C09XH) was identified as the most suitable site for the following reasons (in no particular order):

a. There is greater clarification regarding the technical feasibility of intercepting the CSO at this site.

b. It is possible to mitigate impact on the park and adjacent sensitive receptors.

c. On balance, there would be less disruption to the wider local community in comparison to C09XC.

d. It avoids risk of potentially losing the previous site to development.

e. The site is owned by Thames Water and we preferred to use Thames Water-owned land over land owned by third-parties, where feasible and available.

H.3.46 A short connection tunnel would need to be constructed from this site to connect the CSO to the main tunnel.
The above points were based on the information available at the time and the related stage in the project's development. The points therefore comprise a historic representation of the process prior to phase two consultation.

**Confirmation of the preferred site for phase two consultation**

A final preferred sites workshop was held in Summer 2011 to verify the choice of preferred sites and consider any outcomes of further engagement and scheme development. The conclusion was that *Falconbrook Pumping Station should become the phase two consultation preferred site for the interception of the Falconbrook Pumping Station CSO.*

Phase two consultation provided an opportunity for the public to comment on our revised preferred site and scheme for the project.

**Post phase two consultation: Review of CSO sites**

**Introduction to the review**

Section H.4 explains how we implemented the requirement in the *Site selection methodology paper* to review the scheme following phase two consultation and prior to Section 48 publicity.

This stage of the site selection process comprised: a review of comments from phase two consultation; consideration of any ongoing scheme design and/or new technical information; and multidisciplinary workshops and reviews to identify the proposed CSO site for Section 48 publicity.

A plan that shows all the sites considered for the interception of the Falconbrook Pumping Station CSO prior to phase one consultation and how they progressed through the site selection process can be found in Annex H.3.

This stage took place from Spring 2012 to Summer 2012.

**Summary of phase two consultation responses**

Details of the consultation feedback related to this site and our responses are provided in the *Report on phase two consultation.* All phase two consultation comments were reviewed and taken into account in the development of our proposed scheme. The main feedback relevant to site selection can be summarised as follows:

a. The reasons for changing the preferred site since phase one consultation are unclear; greater weight has been given to the interests of potential future residents of the King's Court site than the of existing residents and users of York Gardens, the library and children's centre.

b. Two of the shortlisted sites are more appropriate: Bridges Court Car Park is the most suitable, followed by the Foreshore, near London Heliport.
c. Site selection should avoid sites close to sensitive receptors, including York Gardens library and York Gardens adventure playground.

d. Alternative site suggestions included Bridges Court Car Park and Foreshore, near London Heliport, Lombard Road.

H.4.6 The main comments received in support of the preferred site included:

a. Support for the identification of a new preferred site since phase one consultation: the preferred site is more suitable because it has fewer impacts and enables the redevelopment of Bridges Court Car Park.

b. Agree that the Falconbrook Pumping Station CSO needs to be intercepted, and that the Falconbrook Pumping Station site is a suitable location from which to do so.

c. The site is already an operational Thames Water site/is owned by Thames Water.

d. There will be no/minimal negative long-term effects on the local area.

H.4.7 We recognise the concerns that have been raised, including impact upon sensitive receptors and preferences for alternative sites, and will take these into account when developing the project further, including measures which can be put in place to minimise any significant potential impacts.

H.4.8 Having taken all comments received during phase two consultation into account, we still believe C09XH: Falconbrook Pumping Station is the most suitable site to intercept the Falconbrook Pumping Station CSO.

Any changes in circumstances or new information

H.4.9 A planning application (reference: 2011/2950) covering the entirety of site C09XC for the demolition of existing buildings at 100 and 110 York Road and redevelopment of site to provide a mixed residential/commercial scheme was refused in March 2012. A new/revised application (reference: 2012/1444) was submitted later the same month for the demolition of existing buildings at 100 and 110 York Road and redevelopment of site to provide a mixed residential/commercial scheme.

H.4.10 Whilst C09XB was not a shortlisted site (eliminated at Table 2.3 assessment), it is currently being marketed for sale. It is being marketed as a high density development site incorporating a new premises for the car dealership. This site is likely to result in high acquisition costs (potentially deferring high density residential development and car dealership compensation claim) and high acquisition risk, should planning permission be granted and development commence on site. On this basis this site would still not be a shortlisted site. Whereas C09XH: Falconbrook Pumping Station would utilise primarily Thames Water owned land, therefore mitigating planning, acquisition cost and risk.

H.4.11 Having considered this new information, we still believe C09XH: Falconbrook Pumping Station is the most suitable site to intercept the Falconbrook Pumping Station CSO.
Main rationale for the selection of the CSO site for Section 48 publicity

H.4.12 In summary, Falconbrook Pumping Station was identified as the most suitable CSO site for the following reasons (in no particular order):

a. On balance, we considered that the site would have less of an impact on residential amenity compared to the other shortlisted sites, and temporary construction impacts on the neighbouring community uses could be reduced with appropriate mitigation.

b. It would incorporate previously developed Thames Water operational land and under-used areas of previously developed land between the pumping station and the community centre.

c. The site could provide the opportunity to locate some of the permanent above-ground structures and control facilities within the existing pumping station site.

d. The site could increase the operational flexibility of the main tunnel and potential allow for a design that meets and betters the requirements outlined in the Needs Report.

e. Use of the site presents an opportunity to regenerate and rehabilitate redundant lands within the curtilage of Thames Water land.

f. During construction, the site layout would be arranged so that access to the York Gardens library, community centre and adventure playground would be maintained.

g. It has good access off York Road.

h. Most of the site is owned by Thames Water.

H.5 Confirmation of the proposed CSO site for Section 48 publicity

H.5.1 The post phase two consultation review described above in Section H.4 confirmed C09XH: Falconbrook Pumping Station as the proposed site to intercept the Falconbrook Pumping Station CSO for Section 48 publicity.

H.5.2 Section 48 publicity provides an opportunity for the public to comment on the proposed sites and the project as a whole. Comments received in response to Section 48 publicity will be reviewed and taken into consideration prior to submission of the proposed application.
Annex H.1
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>combined sewer overflow (CSO)</td>
<td>A structure, or series of structures, designed to allow spillage of excess wastewater from a combined sewer under increased rainfall conditions. Flows may discharge by gravity or by pumping.</td>
</tr>
<tr>
<td>connection culvert</td>
<td>A covered channel structure that connects an interception chamber to a drop shaft.</td>
</tr>
<tr>
<td>connection tunnel</td>
<td>A tunnel that connects a drop shaft to the main tunnel.</td>
</tr>
<tr>
<td>CSO site</td>
<td>A site that contains the CSO interception chambers, connection culverts and the drop shaft from which the connection tunnel is built. Each site needs to provide enough space for all construction related activities, which vary depending on the diameter of the shafts and the method of tunnel construction.</td>
</tr>
<tr>
<td>drive site</td>
<td>A main tunnel site containing the shaft from which the tunnel boring machine is ‘driven’ forward, ie, starts from. Excavated material is removed from and segments are fed into the tunnel via the shaft at the drive site.</td>
</tr>
<tr>
<td>drop shaft</td>
<td>A vertical, circular structure that connects a connection culvert to a connection tunnel. This is used to drop flow down to the main tunnel level.</td>
</tr>
<tr>
<td>intermediate site</td>
<td>A site that contains the intermediate shafts from which the construction of the main tunnel is supported by activities such as secondary lining. Each site needs to provide enough space for all construction related activities, which vary depending on whether the concrete for the secondary lining is made on the site or made elsewhere and delivered to the site by lorries.</td>
</tr>
<tr>
<td>Lee Tunnel</td>
<td>The Lee Tunnel comprises a storage and transfer tunnel from Abbey Mills Pumping Station to Beckton STW and the interception of the Abbey Mills CSO.</td>
</tr>
<tr>
<td>main tunnel</td>
<td>The tunnel from Abbey Mills to Acton Storm Tanks.</td>
</tr>
<tr>
<td>main tunnel site</td>
<td>A site from which the main tunnel is built. Each site needs to provide enough space for all construction related activities, which vary depending on the type of tunnel boring machine used and whether the site is a drive site, a double drive site or a reception site.</td>
</tr>
<tr>
<td>mitigation measures</td>
<td>Actions proposed to moderate adverse impacts and to enhance beneficial impacts arising from the whole or specific elements of the development.</td>
</tr>
<tr>
<td>pumping station</td>
<td>A vertical, circular structure that has pumps located at the bottom. This is used to lift storm water flows up to the sewage treatment works.</td>
</tr>
<tr>
<td>receptors</td>
<td>People (both individually and communally) and the socio-economic systems they support.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>reception site</td>
<td>A main tunnel site that contains the shaft from which the tunnel boring machine is ‘received’, ie, ends up. The tunnel boring machine is removed from the tunnel via the shaft at this reception site.</td>
</tr>
<tr>
<td>sewage or wastewater</td>
<td>Waterborne wastes from domestic uses of water, derived from households, trade and industry.</td>
</tr>
<tr>
<td>sewerage</td>
<td>A system of pipes for the collection and transportation of domestic and industrial wastewater.</td>
</tr>
<tr>
<td>shaft</td>
<td>Duct/pipe/vertical tunnel.</td>
</tr>
<tr>
<td>storm water</td>
<td>Rainwater that funnels into sewers to be mixed with sewage and is either treated at sewage works or overflows into rivers.</td>
</tr>
</tbody>
</table>
| Thames Tideway Tunnel project     | The Thames Tideway Tunnel project comprises a main tunnel, running from west to east London that is integrated with the existing sewerage system via connection tunnels in order to control 34 ‘unsatisfactory’ CSOs. These tunnels store and transfer the intercepted flows to Beckton STW. The project consists of two main elements:  
   - Works to design, construct and maintain the main tunnel, which provides the majority of the storage capacity and enables transfer of combined sewage to Beckton STW in east London.  
   - Works to control and intercept combined sewage overflows unsatisfactory CSOs and transfer them into the main tunnel. This includes connection tunnels to link intercepted CSOs to the main tunnel. |
| Tideway                           | The tidal area of the River Thames (ie, from Teddington to the Thames Estuary).                                                              |
| tunnel alignment                  | The horizontal and vertical route of the proposed tunnels, including connection tunnels and main tunnel sites.                                 |
| tunnel boring machine             | A machine with a circular cross-section that is used to excavate tunnels through a variety of ground conditions.                              |
For further information or to comment on our proposals please see our website: www.thamestunnelconsultation.co.uk

It is very important that you understand the information we have provided. If you need further information in another language, braille, large print or audio format please contact us on 0800 0721 086.