Appendix D – Putney Bridge Foreshore

D.1 Introduction

D.1.1 This appendix sets out the site selection process that we used and our rationale for identifying our preferred phase one and phase two consultation site.

Type of site

D.1.2 We need a worksite to connect the local combined sewer overflow (CSO), known as the Putney Bridge CSO, to the main tunnel. To enable the connection to be made the site needs to be as close as possible to the line of the existing sewer.

Site selection process

D.1.3 All potential worksites have been identified in accordance with our Site selection methodology paper (SSM), which involved a ‘sieving’ approach, commencing with identification of all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites) and passing these sites through increasingly detailed levels of assessment to move from a long list to a draft short list, a final short list and finally a list of preferred sites for phase one consultation.

D.1.4 A plan showing all the sites considered for the interception of the Putney Bridge CSO and how they progressed during the site selection process can be found in Annex D.1.

Preferred site for phase one and phase two consultation

D.1.5 The table below identifies our preferred site to intercept the Putney Bridge CSO at phase one and phase two consultation. Section D.2 provides details of how we identified our preferred phase one site. Sections D.3 and D.4 provide the details of why our preferred site for phase one remains our preferred site for phase two consultation.

<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>
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</tbody>
</table>

D.2 Site selection up to phase one consultation

Assessment of the long list sites

D.2.1 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.2.2 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 SSM (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.2.3 The table 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 which were assessed as being the least constrained when considered against Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites would ultimately be judged as suitable, but that no significant constraints were identified in relation to the high-level considerations addressed at Table 2.2. Sites that were judged to be more constrained were not recommended to be retained on the draft short list for more detailed assessment. The main rationale for the exclusion of these sites at this stage is summarised in the table below.

**Table D.1 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 shortlist</td>
</tr>
<tr>
<td>C06XB</td>
<td>Foreshore (adjacent to Putney Bridge and Lower Richmond Road)</td>
<td><strong>Recommendation:</strong> To draft shortlist</td>
</tr>
<tr>
<td>C06XC</td>
<td>Foreshore (junction of Lower Richmond Road and The Embankment)</td>
<td><strong>Recommendation:</strong> To draft shortlist</td>
</tr>
</tbody>
</table>
| C06XD   | Kenilworth Mount Court | **Recommendation:** Not to draft shortlist  
**Rationale:** Acquisition costs likely to be high |
| C06XE   | Gardens to flats to west of Waterman Street | **Recommendation:** Not to draft shortlist  
**Rationale:** Site is too narrow and acquisition costs likely to be high |
| C06XF   | Thames Place | **Recommendation:** To draft shortlist |
| C06XG   | Gardens to flats fronting Lower Richmond Road | **Recommendation:** Not to draft shortlist  
**Rationale:** Site is too narrow and acquisition costs likely to be high |
Appendix D – Putney Bridge Foreshore

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/ description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
</table>
| C06XH   | Gardens/parking to residences adjacent Welmar Street | **Recommendation:** Not to draft shortlist  
**Rationale:** Engineering connection to sewer long and difficult |
| C06XJ   | Foreshore (end of Brewhouse Lane) | **Recommendation:** To draft shortlist |

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

D.2.4 Full details are provided in the Table 2.2 assessment tables and accompanying plans.

D.2.5 Of the nine sites identified, five were assessed as potentially suitable and passed to the draft short list while four sites were eliminated as being unsuitable.

**Assessment of draft short list sites**

D.2.6 The five draft short list sites identified for further assessment at the next stage were:

- C06XA: Foreshore (adjacent to Putney Bridge and St Mary’s Church)
- C06XB: Foreshore (adjacent to Putney Bridge and Lower Richmond Road)
- C06XC: Foreshore (junction of Lower Richmond Road and The Embankment)
- C06XF: Thames Place
- C06XJ: Foreshore (end of Brewhouse Lane).

D.2.7 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 SSM (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and assessment undertaken at long list stage but focussed on more detailed local considerations.

D.2.8 At this stage, we also consulted with each of the directly affected London local authorities and pan-London stakeholders such as the Environment Agency and English Heritage to seek their views on the suitability of sites for the short list.

D.2.9 The table below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites which were assessed as being the least constrained when considered against 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 would ultimately be judged as suitable, but that no significant constraints were identified in relation to the considerations addressed at Table 2.3. Sites that were judged to be more...
constrained were not recommended to be retained on the short list for more detailed assessment. The main rationale for the exclusion of these sites at this stage is summarised below.

Table D.2 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/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>Recommendation: Retain on short list</td>
</tr>
<tr>
<td>C06XB</td>
<td>Foreshore (adjacent to Putney Bridge and Lower Richmond Road)</td>
<td>Recommendation: Retain on short list</td>
</tr>
<tr>
<td>C06XC</td>
<td>Foreshore (junction of Lower Richmond Road and The Embankment)</td>
<td>Recommendation: Retain on short list</td>
</tr>
</tbody>
</table>
| C06XF   | Thames Place          | Recommendation: Not to draft shortlist  
Rationale:  
• Engineering – The site is too small to be a suitable working site. The arrangement is also unacceptable as the shaft would lie within a public highway.  
• Community – The site is located near to a significant number of sensitive receptors. Furthermore, disruption to the junction could impact on community health, general wellbeing 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 may be updated if necessary.

D.2.10 Full details are provided in the Table 2.3 assessment tables and accompanying plans.

D.2.11 Of the five sites on the draft short list, four were assessed as potentially suitable and passed to the final short list whilst one site did not proceed to the final short list.
Assessment of the final short list sites

D.2.12 The four sites identified for inclusion on the final short list and assessment at the next stage were:

- C06XA: Foreshore (adjacent to Putney Bridge and St Mary’s Church)
- C06XB: Foreshore (adjacent to Putney Bridge and Lower Richmond Road)
- C06XC: Foreshore (junction of Lower Richmond Road and Putney Embankment)
- C06XJ: Foreshore (end of Brewhouse Lane).

D.2.13 A site suitability report (SSR) was prepared for each of the final shortlisted sites. These reports contained an assessment of each site’s suitability, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed in isolation without 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.

D.2.14 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.2.15 C06XA is situated on the foreshore of the River Thames to the east of Putney Bridge, and lies within the London Borough of Wandsworth.

D.2.16 The site is located adjacent to the Grade II* listed St Mary’s Church, the Boathouse public house and the pedestrianised riverside walkway.

D.2.17 **Engineering:** Assessed the site as suitable because it is unrestricted in size and shape. However, access to the site would be limited and its proximity to Putney Bridge is a concern.

D.2.18 **Planning:** On balance, the site was assessed as less suitable for use to intercept this CSO. A number of sensitive planning and environmental designations relate to this site and its prominent location. Furthermore, there are also sensitive heritage issues associated with the proximity of the listed St Mary’s Church and Putney Bridge. The construction works would also be likely to have an impact upon the visual amenity of the surrounding area and mitigation to protect amenity from construction impacts may be difficult.

D.2.19 **Environment:** Overall, the site was assessed as less suitable for use as a CSO site and further investigation would be required as to whether 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 perspective of ecology, noise, surface water, flood risk, built heritage and townscape.
D.2.20 **Socio-economic and community:** Assessed the site as **less suitable** for use as a CSO site. Its use 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. While mitigation may be possible to minimise disturbance, the proximity of the receptors will make this difficult.

D.2.21 **Property:** Assessed the site as **suitable** for use as a CSO site. While the site is Crown Land and cannot be acquired by compulsory purchase, the site is not a developed site and the acquisition costs should be acceptable.

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

D.2.22 C06XB is situated on the foreshore of the River Thames to the west of Putney Bridge, and lies within the London Borough of Wandsworth.

D.2.23 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.2.24 **Engineering:** The site was assessed as **less suitable** for the interception of the CSO because of its proximity to Putney Bridge and because it may affect the public jetty and Putney slipway, which may be lost when the permanent works are completed. However, the site may be modified to suit actual circumstances and there is reasonable vehicular access and no known underground apparatus.

D.2.25 **Planning:** On balance, the site was assessed as **less suitable** for use to intercept this CSO. A number of sensitive planning designations relate to this site and its prominent location. While there is likely to be limited impact on residents or the commercial high street, mitigation is likely to be required to avoid potential adverse impacts on visual amenity both during and after construction.

D.2.26 **Environment:** Overall, the site was assessed as **suitable** for use as a CSO site although mitigation will 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 perspective of surface water, ecology, flood risk, air quality and noise.

D.2.27 **Socio-economic and community:** Assessed the site as **suitable** for use as a CSO site. Its use is likely to cause some disturbance to several adjacent and nearby sensitive receptors, including several residential and commercial premises. However, no community facilities exist directly adjacent and impacts may be mitigable. Impacts upon the slipway and jetty will depend on the extent to which it is temporarily or permanently lost or affected by after-use structures. Impacts will also be dependent on the preferred site access.

D.2.28 **Property:** Assessed the site as **suitable** for use as a CSO site. The site is Crown Land and cannot be acquired by compulsory purchase and a
special parliamentary procedure may be required. However, the site is not a developed site and the acquisition costs should be acceptable.

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

D.2.29 C06XC is situated on the foreshore of the River Thames to the west of Putney Bridge, and lies within the London Borough of Wandsworth.

D.2.30 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.2.31 **Engineering:** The site was assessed as less suitable for the interception of the CSO because of its proximity to Putney Bridge and because it may affect the public jetty and Putney slipway, which may be lost when the permanent works are completed. However, the site may be modified to suit actual circumstances as it is relatively unrestricted in size and shape.

D.2.32 **Planning:** On balance, the site was assessed as less suitable for use to intercept this CSO. A number of sensitive environmental and planning designations relate to this site. Mitigation is likely to be required to avoid potential adverse impacts on a conservation area, listed buildings, adjacent residential properties and a restaurant. Furthermore, alternative access to the river would also need to be provided during construction.

D.2.33 **Environment:** Overall, the site was assessed as less suitable for use as a CSO site and further investigation would be required as to whether 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 perspective of townscape, surface water, ecology, flood risk, air quality and noise.

D.2.34 **Socio-economic and community:** The site was assessed as less suitable for use as a CSO site. Its use is likely to 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 are likely as all lie within the site boundary. The cumulative impact upon community receptors and the community value of the area is likely to be considerable. This will be further complicated by the location of the site at a road junction.

D.2.35 **Property:** The site was assessed as suitable for use as a CSO site. The site is Crown Land and cannot be acquired by compulsory purchase and a special parliamentary procedure may be required. However, the site is not a developed site and the acquisition costs should be acceptable.

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

D.2.36 C06XJ is situated on the foreshore of the River Thames to the east of Putney Bridge, and lies within the London Borough of Wandsworth.
D.2.37 The site is located immediately north of a large public space, the Boathouse public house and residential and commercial properties at Putney Wharf Tower. The Grade II* listed St Mary’s Church and Grade II listed Putney Bridge are also located near to the site.

D.2.38 **Engineering:** The site was assessed as **suitable** because it is unrestricted in size and shape and with no known underground services.

D.2.39 **Planning:** On balance, the site was assessed as **less suitable** for use to intercept this CSO. A number of sensitive planning and environmental designations relate to this site and its prominent location. Furthermore, there are 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 also located adjacent to residential dwellings and commercial uses which would require mitigation to reduce construction impacts on these receptors. The construction works are also likely to have an impact upon the visual amenity of the surrounding area and mitigation to protect amenity from construction impacts may be difficult.

D.2.40 **Environment:** Overall, the site was assessed as **less suitable** for use as a CSO site, and further investigation would be required as to whether 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 perspective of ecology, noise, surface water, flood risk, built heritage and townscape.

D.2.41 **Socio-economic and community:** Assessed the site as **less suitable** for use as a CSO site. Its use is likely to 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 is also likely to cause disturbance to people using the pedestrianised area and outdoor seating to the east of Putney Wharf Tower which will require mitigation.

D.2.42 **Property:** Assessed the site as **suitable** for use as a CSO site. While the site is Crown Land and cannot be acquired by compulsory purchase, the site is not a developed site and the acquisition costs should be acceptable.

**Identification of the preferred site**

D.2.43 Following the completion of the SSRs, a multidisciplinary workshop was held to compare the suitability of each of the shortlisted sites based on the SSR assessments and to make a recommendation on which site should be identified as the preferred site.

D.2.44 From 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 below:

- Due to the location of the CSO within the southern supporting arch of Putney Bridge, works will be required beneath and against the bridge structure for all site options. This has the potential to cause adverse impacts on this Grade II listed structure. However, careful design and construction practices can be employed to mitigate these impacts.
• The two sites to the east of the bridge (C06XA and C06XJ) will cause greater adverse effects on the multiple sensitive receptors adjacent to these sites. These include St Mary’s Church, a Grade II* listed building, which will be impacted upon both in appearance and setting. Furthermore, disruption may affect users of the church, including the children’s nursery group. The adjacent Putney Wharf Tower development and the Boathouse public house in close proximity would also experience severe disruption and construction related impacts. These sites are considered likely to have significant conflict with policies of the Wandsworth Unitary Development Plan and its recently adopted Core Strategy LDF.

• 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 may be necessary due to space constraints. However, vehicle access is poorer for the two eastern sites and would required passage of construction vehicles along the restricted width of Brewhouse Lane/Road and across the pedestrianised area.

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

• C06XB also has a greater degree of separation between itself and the Putney Bridge Pier to the west compared to C06XC, thus limiting the impact on vessel movements and navigation to and from the pier.

D.2.45 After we completed the assessments above, and as foreshore sites are flexible, we did further design development on the construction layout on our preferred foreshore site. At phase one consultation, we showed a construction area that covered both C06XB and C06XC with a layout that addressed various identified constraints.

D.3 Review of site selection following phase one consultation

Phase one consultation feedback

D.3.1 As part of the site selection methodology, all feedback received during the phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

D.3.2 The main issues and concerns raised during phase one consultation in relation to the Putney Bridge Foreshore site included:

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

D.3.3 The main comments received in support of the preferred site included:

• the most appropriate of the sites which were consulted upon
• it is a logical site and has the closest upstream location to the existing CSO
• site will reduce the construction impact on residential and businesses premises and the users of the Thames Path.

D.3.4 More detail on the consultation responses relating to this site and our response to the comments received are provided within the Report on phase one consultation.

D.3.5 Having taken all comments received during phase one consultation into account, we still believe Putney Bridge Foreshore (C06XB/C06XC) is the most suitable site to intercept the Putney Bridge CSO. This is because this site has a more limited impact on the nearest residential and business premises and users of the Thames Path, and is located at a sufficient distance from the Grade II listed Putney Bridge and Grade II* listed St Mary’s Church to limit the potential for construction activities to have a long-term impact on these historic structures.

D.3.6 We recognise the concerns that have been raised, including impact on the natural environment and on existing views and heritage, 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.4 Site development

D.4.1 Following the selection of Putney Bridge Foreshore as our preferred site, further feedback from stakeholders and ongoing scheme development work have contributed to a number of refinements to the site.

Engagement with stakeholders

D.4.2 Engagement with stakeholders has been ongoing and has continued beyond the phase one consultation period. This has resulted in continual development of our proposals to take on board the comments made by stakeholders.

D.4.3 We have also continued to engage with local community and interest groups through regular meetings and workshops. This has provided us with the opportunity to consider stakeholder views during ongoing scheme development.

D.4.4 In particular, we have continually engaged through regular meetings and workshops with officers from the London Borough of Wandsworth, London Thames Gateway Development Corporation, Port of London Authority
(PLA), TfL, the Environment Agency and English Heritage, with respect to developing the design and construction of our works and the scope of our environmental assessments. To ensure our design process is transparent, we undertook a series of design reviews, hosted and chaired by the Design Council CABE (formerly the Commission for Architecture and the Built Environment). The reviews for Putney Bridge Foreshore were attended by the London Borough of Wandsworth and our pan-London stakeholders.

**Construction layout**

D.4.5 In response to stakeholder engagement, phase one consultation responses and scheme development, the construction layout of the site has been altered to minimise impact on the local community and environment and is guided by operational and functional requirements. Particular factors at this site that have influenced the layout are as follows:

- Since phase one consultation, a temporary replacement slipway is now proposed upstream of the site, approximately 300m west of Putney Bridge, to ensure that recreational and commercial river users are not adversely affected during construction.

- Timber hoarding is proposed on Waterman’s Green to limit our worksite to the western part and provide protection from construction for users of Waterman’s Green. The vaults emergency access would be maintained and their use be unaffected should existing planning permissions to convert them into cafés or restaurants be implemented.

- Since phase one consultation, this site has moved further west, away from Putney Bridge, to ensure the listed bridge is protected. Moving the site further west also allows us to minimise the footprint of the permanent works after construction and retain the alignment of the existing slipway.

D.4.6 Further information on the construction logistics and the site layouts for the construction and operational phases can be found in the *Putney Bridge Foreshore site information paper*.

**Design**

D.4.7 Since phase one consultation, we have progressed the design for the permanent use and appearance of the structures at Putney Bridge Foreshore. The design of the permanent proposals follows our scheme-wide principles and has taken into account comments made and ongoing engagement with the London Borough of Wandsworth and other technical consultees.

D.4.8 Full details of design development for the Putney Bridge Foreshore site are provided in the *Design development report*.

**Phase two consultation**

D.5.1 A final preferred sites workshop was held in summer 2011 to verify the choice of preferred sites and to consider any outcomes of further engagement and scheme development. The conclusion reached was that
Putney Bridge Foreshore should remain the phase two consultation preferred site for the interception of the Putney Bridge CSO.

D.5.2 Phase two consultation will provide an opportunity for the public to comment on the further design development and additional information available on our preferred site and revised scheme for the Thames Tunnel project, before we publicise our proposed application.
Annex D.1
This is a working draft plan which has been produced for the purpose of phase two consultation on the Thames Tunnel project. The information shown on the plan is illustrative of what will be required for the purpose of constructing and operating the Thames Tunnel project. The information shown on the plan may change as a result of Thames Water’s consideration of the responses received to phase two consultation and any further design development that is carried out.