Appendix P – Victoria Embankment Foreshore

P.1 Introduction

P.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 to intercept flows from the Regent Street CSO and connect to the northern Low Level Sewer No.1.

Type of site

P.1.2 We need a work site to control the local combined sewer overflow (CSO), known as Regent Street CSO, by connecting the northern Low Level Sewer No.1 to the main tunnel. To enable the connection to be made the site needs to be as close as possible to the line of these existing sewers.

P.1.3 By diverting the flow from the northern Low Level Sewer No.1 at this site and at Chelsea Embankment Foreshore and Blackfriars Bridge Foreshore we would not need additional sites to intercept the following CSOs: Smith Street, Queen Street, Church Street, Grosvenor Ditch, Kings Scholars Pond, Western Pumping Station, Northumberland Street, Savoy Street, Norfolk Street and Essex Street. This thereby reduces the number of work sites we need along the northern embankment.

Site selection process

P.1.4 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.

P.1.5 A plan showing all the sites considered for the interception of the Regent Street CSO and connection to the northern Low Level Sewer No.1, and how they progressed during the site selection process can be found in Annex P.1.

Preferred site for phase one and phase two consultation

P.1.6 The table below identifies our preferred site to intercept the Regent Street CSO at phase one and phase two consultation. Section P.2 provides details of how we identified our preferred phase one site. Sections P.3 and P.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>Victoria Embankment Foreshore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Victoria Embankment Foreshore</td>
</tr>
</tbody>
</table>
P.2 Site selection up to phase one consultation

Assessment of the long list sites

P.2.1 The long list of potential sites to intercept the Regent Street CSO and northern Low Level Sewer No.1 to divert flows to the main tunnel was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

P.2.2 In total, four 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.

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 the CSO and connection to the northern Low Level Sewer No.1. 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 a site 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 P.1 Long list to draft short list for Regent Street CSO and connect the northern Low Level Sewer No.1 (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>C22XA/CLLAC</td>
<td>Victoria Embankment Foreshore</td>
<td>Recommendation: To draft shortlist</td>
</tr>
<tr>
<td>C22XB</td>
<td>A3211 Victoria Embankment</td>
<td>Recommendation: To draft shortlist</td>
</tr>
<tr>
<td>C22XC/CLLA</td>
<td>Victoria Embankment Gardens</td>
<td>Recommendation: To draft shortlist</td>
</tr>
<tr>
<td>C22XD</td>
<td>Whitehall Place and Whitehall Court</td>
<td>Recommendation: To draft shortlist</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 may be updated if necessary.

P.2.3 Full details are provided in the Table 2.2 assessment tables and accompanying plans.
P.2.4 Of the four sites identified, all were assessed as potentially suitable and passed to the draft short list.

**Assessment of draft short list sites**

P.2.5 The four draft short list sites identified for further assessment at the next stage were:

- C22XA/CLLAC: Victoria Embankment Foreshore
- C22XB: A3211 Victoria Embankment
- C22XC/CLLAD: Victoria Embankment Gardens
- C22XD: Whitehall Place and Whitehall Court.

P.2.6 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.

P.2.7 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 sites for the short list.

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 P.2 Draft short list to final short list for Regent Street CSO and connect the northern Low Level Sewer No.1 (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>C22XA/CLLAC</td>
<td>Victoria Embankment Foreshore</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C22XB</td>
<td>A3211 Victoria Embankment</td>
<td><strong>Recommendation:</strong> Not to final shortlist</td>
</tr>
<tr>
<td></td>
<td><strong>Rationale:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Engineering – The site is heavily constrained by its shape and its location on the road carriageway.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Planning/Environment – There are concerns about disruption to a</td>
<td></td>
</tr>
</tbody>
</table>
### Site ID | Site name/ description | Recommendation and rationale
--- | --- | ---
 |  | | strategic public highway and the impact on planning and environmental designations. Further investigation would be required to use this site.  
• Property – The use of this site is likely to result in issues that may arise from the disruption to a strategic public highway.  
• Community – The site would result in a potential obstruction to the entrance of Victoria Embankment Gardens.  
 | C22XC/CLLAD | Victoria Embankment Gardens | **Recommendation:** Retain on short list
 |  |  | **Recommendation:** Not to final shortlist  
**Rationale:**  
• Engineering – The site is heavily constrained by its shape and its location on the road carriageway.  
• Planning/Environment – Access to properties in the area may be impacted.  
• Property – The closure of Whitehall Place may cause significant disruption to surrounding properties.  
• Community – The site is surrounded by commercial and a number of high-density residential properties and there are a number of other sensitive receptors in the vicinity which may be affected, including the Victoria Embankment Gardens.
 | C22XD | Whitehall Place and Whitehall Court | **Recommendation:** Not to final shortlist  
**Rationale:**  
• Engineering – The site is heavily constrained by its shape and its location on the road carriageway.  
• Planning/Environment – Access to properties in the area may be impacted.  
• Property – The closure of Whitehall Place may cause significant disruption to surrounding properties.  
• Community – The site is surrounded by commercial and a number of high-density residential properties and there are a number of other sensitive receptors in the vicinity which may be affected, including the Victoria Embankment Gardens.

**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.

**P.2.8** Full details are provided in the Table 2.3 assessment tables and accompanying plans.

**P.2.9** Of the four sites on the draft short list, two were assessed as potentially suitable and passed to the final short list, while two sites did not proceed to the final short list.
Assessment of the final short list sites

P.2.10 The two sites identified for inclusion on the final short list and assessment at the next stage were:

- C22XA/CLLAC: Victoria Embankment Foreshore
- C22XC/CLLAD: Victoria Embankment Gardens.

P.2.11 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.

P.2.12 A summary of the conclusions of each discipline’s assessment from the site suitability reports is provided below.

C22XA/CLLAC: Victoria Embankment Foreshore

P.2.13 Site C22XA/CLLAC is situated on the foreshore of the River Thames within the City of Westminster. The site is adjacent to the Hungerford Bridge and Golden Jubilee footbridges. The site area includes two permanently moored vessels. Embankment Pier and a mooring lie to the north of the site and Embankment Station is situated to the northwest.

P.2.14 The west side of the site is bordered by Victoria Embankment (the A3211) and beyond is the Victoria Embankment Gardens.

P.2.15 Engineering: The site was assessed as suitable for use as a CSO site to intercept this CSO because it is relatively unrestricted in size and shape and the site has good road access.

P.2.16 Planning: On balance, the site was assessed as being less suitable for use as a site to intercept this CSO. This is because it is in a prominent and sensitive location for both heritage and nature conservation considerations with limited scope for mitigation.

P.2.17 Environment: Overall, the site was assessed as less suitable for use as a CSO site. The site was considered likely to be suitable from the perspectives of archaeology, land quality, noise and air quality. However, the site was considered less suitable from the perspective of transport, built heritage and townscape, water resources (surface water and hydrogeology), ecology and flood risk.

P.2.18 Socio-economic and community: The site was assessed as less suitable for use as a site use to intercept this CSO. Use of the site will result in the loss of the moorings for the bar-restaurant boats which may significantly affect these businesses, particularly due to the low likelihood of finding a suitable alternative city centre mooring location. Furthermore, it is unlikely these moorings will be able to be reinstated after construction. The Embankment Pier is also likely to be severely disrupted.
P.2.19 Visual and noise disturbance will also impact upon pedestrians along the Victoria Embankment, as well as landmarks in close proximity.

P.2.20 **Property:** Assessed the site as **suitable** for use as a CSO site with an acceptable acquisition cost.

**C22XC/CLLAD: Victoria Embankment Gardens**

P.2.21 The Victoria Embankment Gardens is situated within the City of Westminster. The site is separated from the River Thames by the Victoria Embankment (A3211). The site is within the Victoria Embankment Gardens, a Grade II listed garden, which contains a number of listed features. The gardens are a well maintained public open space with screening to obscure views of the road and River Thames.

P.2.22 **Engineering:** The site was assessed as **less suitable** for use as a CSO site because of significant constraints from existing assets, including the District and Circle line. In addition, use of this site would also require work in the foreshore to make the connection to the northern Low Level Sewer in the Embankment wall; effectively a foreshore site would also be required.

P.2.23 **Planning:** There are a number of onsite and adjacent sensitive receptors, such as a registered Grade II garden, conservation area, listed buildings and residential properties. The site was therefore assessed as being **not suitable** for use as a site to intercept this CSO because of the cumulative effect on both heritage and open space designations, including a significant number of mature trees.

P.2.24 **Environment:** Overall, the site was assessed as **less suitable** for use as a CSO site, given the substantial environmental constraints identified. The site was considered likely to be **suitable** from the perspectives of archaeology, land quality and air quality. However, the site was considered **less suitable** from the perspective of transport, built heritage and townscape, water resources (surface water and hydrogeology), ecology, flood risk and noise.

P.2.25 **Socio-economic and community:** The site was assessed as **not suitable** for use as a site to intercept this CSO. Use of the site appears likely to have substantial adverse effects on the gardens and their users. Necessary permanent hardstanding will make reinstatement difficult after construction is complete. There will also be noise disruption impacts on pedestrians and nearby buildings.

P.2.26 **Property:** The site was assessed as **less suitable** for use for a use to intercept this CSO as there is likely to be a large acquisition cost.

**Identification of the preferred site**

P.2.27 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.
While it is recognised that both sites have considerable challenges to overcome, on balance, **Victoria Embankment Foreshore (C22XA/CLLAC) was identified as the preferred site** for the following reasons:

- In planning terms, the use of both sites will have significant heritage impacts. However, in the case of Victoria Embankment Gardens (C22XC/CLLAD), these impacts were assessed to be greater as they would be difficult to effectively mitigate. Furthermore, use of this site will also cause loss of open space and loss of the last original remaining layout of the gardens. Local and river views are of importance at both sites and would need to be taken into account in the design.

- Conflict with Westminster Core Strategy and saved UDP policies may arise in attempting to relocate the permanent moorings adjacent to Victoria Embankment Foreshore (C22XA/CLLAC).

- Both sites have a number of environmental constraints which would require extensive mitigation. However, on balance, it is considered that the Victoria Embankment Foreshore (C22XA/CLLAC) would be preferred primarily due to the fact that the site is further away from buildings (some listed) than the Victoria Embankment Gardens site (C22XC/CLLAD). The site would therefore have less noise and dust impact from construction on nearby hotel residents and offices, as well as less significant impact on the appearance and setting of the gardens and listed buildings.

- Victoria Embankment Gardens (C22XC/CLLAD) will have a much greater community impact due to the temporary loss of the gardens and permanent impacts associated with hardstanding and maintenance access requirements. The impacts of permanent structures on the foreshore can be mitigated using landscape proposals which are sympathetic to the shore. Furthermore, impacts on pedestrians and vehicles associated with the foreshore site can be mitigated using effective management plans.

- The use of Victoria Embankment Foreshore (C22XA/CLLAC) will allow all the works to be within one site. Furthermore, while the site includes London Underground lines, the shaft can be positioned so that there is minimal impact on them. The use of Victoria Embankment Gardens (C22XC/CLLAD) would require a sewer to be constructed below the District and Circle line, which is fraught with difficulties, including the need to close the District and Circle line to undertake works and associated surveys, and the potential impacts on the structures associated with the railway during the works.

### P.3 Review of site following phase one consultation

#### Phase one consultation feedback

P.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.
The main issues and concerns raised during phase one consultation in relation to the preferred site included:

- impact on the ecology of the foreshore
- impact on the existing heritage within the area
- impact of construction on local residents and businesses, such as the Hispaniola and Tattershall Castle
- impact on boat users navigating the River Thames.

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

Having taken all comments received during phase one consultation into account, we still believe that Victoria Embankment Foreshore is the most appropriate site because we consider that the use of the foreshore is preferable to the temporary loss of, and the permanent effects upon, the Grade II listed Victoria Embankment Gardens. We recognise the concerns that have been raised, particularly with regard to the local built heritage and local businesses, and will take these and other concerns into account when developing the project further, including measures which can be put in place to minimise any potential impacts. We have also looked at whether the ventilation column and associated machinery for this site could be reduced in size or removed altogether.

Site development

Following the selection of Victoria Embankment 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

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.

In particular, we have continually engaged through regular meetings and workshops with officers from the City of Westminster, Transport for London, Port of London Authority, the Environment Agency and English Heritage with respect to developing the design and construction of our works, mitigating our impacts on the river 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 Victoria Embankment Foreshore were observed by the City of Westminster and our pan-London stakeholders.

In addition, we are engaging with affected businesses and property owners in order to mitigate the project’s impact on their interests. We
have also had discussions with the two boat owners (Hispaniola and Tattershall Castle).

**Construction layout**

P.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. A particular factor at this site that has influenced the layout is as follows:

- The cofferdam structure has been located further south along the River Thames foreshore, away from the Golden Jubilee footbridge/Hungerford rail bridge, to minimise the risk of disturbance to the London Underground Bakerloo Line tunnels and reduce the potential for effects on river flow and river services. This also removes the need to move the Hispaniola restaurant ship during construction works.

P.4.6 Further information on the construction logistics and the site layouts for the construction and operational phases can be found in the *Albert Embankment Foreshore site information paper*.

**Design**

P.4.7 Since phase one consultation, we have also progressed the design for the permanent use and look of the Victoria Embankment Foreshore site, taking into account comments made at our phase one consultation and the ongoing engagement with Westminster City Council, the Environment Agency, English Heritage and other technical consultees.

P.4.8 Full details of design development for the Victoria Embankment Foreshore site are provided in the *Design development report*.

**Phase two consultation**

P.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 Victoria Embankment Foreshore will remain the preferred site for the interception of the Regent Street CSO and connection to the northern Low Level Sewer No.1 to the main tunnel.

P.5.2 Phase two consultation will provide an opportunity for the public to comment on our revised arrangement of works at Victoria Embankment and revised preferred scheme for the whole project, before we publicise our proposed application.
Annex P.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.