

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Heritage Statement

Doc Ref: **5.3**

Appendix H

APFP Regulations 2009: Regulation **5(2)(m)**

Hard copy available in

Box **14** Folder **A**
January 2013

**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

This page intentionally left blank

Thames Tideway Tunnel

Heritage Statement

Appendix H: Victoria Embankment Foreshore

List of contents

	Page number
H.1 Site location and context.....	1
Historical context	2
H.2 Relevant local heritage policy and guidance.....	3
H.3 Description of heritage assets and significance summary	4
Catenary lamp standards.....	7
Sphinx benches	7
Whitehall Conservation Area	7
Tattershall Castle.....	8
Archaeology.....	8
Sir Joseph Bazalgette Memorial	9
Savoy Conservation Area	9
South Bank Conservation Area	9
Victoria Embankment Gardens.....	9
National Liberal Club and Whitehall Place.....	10
Playhouse Theatre	10
Royal Air Force Memorial	10
Palace of Westminster World Heritage Site.....	10
Hispaniola.....	10
Ministry of Defence	11
Significance summary	11
H.4 Description of proposals and required heritage consents.....	12
Temporary construction works.....	12
Permanent above-ground structures	13
Victoria Embankment river wall and associated features	14
Works normally requiring Listed Building Consent	17
Catenary lamp standards.....	17
Sphinx benches	18
Tattershall Castle.....	18

Works normally requiring Listed Building Consent	19
Archaeology.....	19
Hispaniola.....	19
Sir Joseph Bazalgette Memorial	19
Savoy Conservation Area	19
National Liberal Club and Whitehall Place.....	19
Playhouse Theatre	20
Palace of Westminster World Heritage Site.....	20
Ministry of Defence.....	20
H.5 Heritage design considerations.....	20
H.6 Mitigation measures	21
H.7 Assessment of effects	23
Victoria Embankment river wall and associated features	23
Whitehall Conservation Area	23
The National Liberal Club and Whitehall Place.....	24
Sphinx benches and catenary lamp standards.....	24
Tattershall Castle.....	24
Hispaniola.....	24
Sir Joseph Bazalgette Memorial	25
Savoy Conservation Area	25
South Bank Conservation Area	25
Victoria Embankment Gardens.....	25
Royal Air Force Memorial	25
Playhouse Theatre	25
Palace of Westminster World Heritage Site.....	26
Ministry of Defence.....	26
Assessment in relation to policy	26
H.8 Conclusion.....	27

List of figures

	Page number
Figure H.1 View from the Tattershall Castle towards the river wall.....	6
Figure H.2 View south from Hungerford Bridge along Victoria Embankment (standard lens)	8

List of tables

	Page number
Table H.1 Significance of heritage assets at Victoria Embankment Foreshore	11
Table H.2 Drawings relating to heritage assets at Victoria Embankment Foreshore	13
Table H.3 Historic environment: Gazetteer of known heritage assets shown on the historic environment features map	29
Table H.4 List of drawings in order	41

This page intentionally left blank

Appendix H: Victoria Embankment Foreshore

H.1 Site location and context

- H.1.1 The proposed Victoria Embankment Foreshore development site is located within the City of Westminster. It comprises an area of the foreshore of the River Thames and a section of the pavement and carriageway of Victoria Embankment. A permanently moored vessel, the Tattershall Castle (a floating bar and restaurant), and two service moorings lie within the site.
- H.1.2 The site falls within the Whitehall Conservation Area, which comprises a number of listed buildings, other buildings of international importance, and various statues and monuments in a high quality built environment.
- H.1.3 The site also falls within the Lundenwic and Thorney Island Area of Archaeological Priority. A 9th century iron axe was found by chance within the site.
- H.1.4 The River Thames is designated as the River Thames and Tidal Tributaries Site of Importance for Nature Conservation (Metropolitan Importance). The site is considered a functional flood plain (Flood Zone 3b) and falls within the Blue Ribbon Network.
- H.1.5 The section of river wall within the site (the 'listed wall') features Grade II listed 'sphinx' seats, catenary lamp standards and 'sturgeon' lamp standards. These features form part of the Victoria Embankment, which was constructed beside the River Thames between 1864 and 1870 when Sir Joseph Bazalgette's sewerage system was installed. The embankment is characterised by an avenue of mature London Plane trees, which receive a level of protection as part of the Whitehall Conservation Area. Victoria Embankment has high amenity value for Londoners as a recreational area.
- H.1.6 The site also lies within a designated linear view identified in the Mayor's *London View Management Framework* (Linear View 9A: King Henry VIII's Mound, Richmond to St Paul's Cathedral) and in river prospect views from the southern upstream Golden Jubilee footbridge (River Prospect 17A.2: Golden Jubilee/Hungerford Footbridges: upstream) and Jubilee Gardens (River Prospect 21B: Jubilee Gardens and Thames side in front of County Hall). Local views south along Victoria Embankment and from the central roundel in Victoria Embankment Gardens are designated in the City of Westminster's Whitehall Conservation Area Supplementary Planning Guidance.
- H.1.7 The site is bounded to the north, east and south by the River Thames and to the west by Victoria Embankment, the eastern pavement of which forms the Thames Path.
- H.1.8 The area immediately surrounding the site is close to major cultural attractions on both sides of the River Thames and experiences a high volume of both national and international visitors. This area is identified by

the City of Westminster as the Core Central Activities Zone in its Local Development Framework.

- H.1.9 The restaurant ship Hispaniola is moored adjacent to the southern Golden Jubilee footbridge and the Hungerford Rail Bridge to the north. The northern Golden Jubilee footbridge, Embankment Millennium Pier and the Embankment London Underground Station lie beyond. The Golden Jubilee footbridges are a popular river crossing point and awarded landmark quality status in the Whitehall Conservation Area Supplementary Planning Guidance. A Grade II listed memorial to Sir Joseph Bazalgette is located approximately 25m to the north of the site. The edge of the Savoy Conservation Area lies a short distance to the north.
- H.1.10 To the east, on the opposite side of the River Thames (in the London Borough of Lambeth) lie Riverside Walk, Jubilee Gardens and the London Eye. The edge of the South Bank Conservation Area also lies a short distance to the east.
- H.1.11 To the southeast is the Grade II* listed County Hall, which contains a hotel, the London Aquarium and other cultural uses. The site is visible from the South Bank with moored vessels in view and a backdrop of mature London Planes and the Whitehall Court buildings.
- H.1.12 The Palace of Westminster and Westminster Abbey including St Margaret's Church World Heritage Site, Whitehall Stairs, the Grade II listed Royal Air Force memorial and two service moorings lie to the south of the site. The Ministry of Defence and Queen Anne's Steps lie to the southwest/
- H.1.13 Beyond Victoria Embankment to the west lies Whitehall Gardens, a Grade II registered park and garden, which is part of Victoria Embankment Gardens. The closest building to the site is the Grade II* listed Whitehall Court to the west of Whitehall Gardens, which contains residential properties, the National Liberal Club, and the Royal Horse Guards Hotel. Charing Cross Station and the Playhouse Theatre lie to the northwest of the site.

Historical context

- H.1.14 The site lies at the edge of a large delta formed by the confluence of the former Tyburn and Tachbrook tributaries to the River Thames. This river system cut through the older Kempton Park Gravel Terrace to the west and created Thorney Island, which is now home to Westminster Abbey and the Houses of Parliament.
- H.1.15 Due to rising water levels in the late prehistoric period, the site was submerged during the Roman period (AD 43 to 410). The landscape adjacent to the river was rural and made up of open fields. A major Roman road ran approximately 340m to the northwest of the site. There may have been an early ford across the River Thames approximately 430m to the southwest of the site, between Lambeth and Thorney Island, where there is recorded evidence of Roman occupation.
- H.1.16 During the medieval period (AD 410 to 1485), the site lay adjacent to a stretch of riverfront between the settlements at Thorney Island

(approximately 700m to the south), and the trading port of Lundenwic, which is now Aldwych, Strand and Covent Garden (approximately 300m to the north). Westminster Palace, the main London residence of the kings of England, was located approximately 580m to the south. During this period, successive attempts were made to reclaim the low-lying land along the riverfront and to the south of the site. The site itself lay permanently submerged within the channel of the River Thames, approximately 100m from the later medieval embankment.

- H.1.17 During the post-medieval period (AD 1485 to the present day), the site remained within the channel of the River Thames. The adjacent north bank was developed as part of the expanding City of Westminster.
- H.1.18 Victoria Embankment was constructed between 1864 and 1870. Extensive areas of land were reclaimed from the river and the listed wall was set out in its present alignment.
- H.1.19 By the end of the 19th century, the pier immediately to the north of the site was used as a floating fire engine station and by the 1920s as a fire brigade service depot. By the mid-20th century the pier had been replaced with the current permanent structure. The site remained largely unchanged since the late 1940s.

H.2 Relevant local heritage policy and guidance

- H.2.1 As this application for development consent relates to a Nationally Significant Infrastructure Project the NPS is the primary basis for decision making on all planning issues raised by the application. When it comes to assessing the acceptability of the application proposals it is the NPS that sets the relevant criteria to be applied. However, the project has been developed in the knowledge of local planning policies and, particularly, local land use planning designations.
- H.2.2 The City of Westminster's *Local Development Framework* comprises the *Core Strategy Development Plan Document (DPD)* (adopted 19 October 2011) and the saved policies of the 2007 *Unitary Development Plan (UDP)*.
- H.2.3 *Core Strategy Policy CS24 (Heritage)* seeks to conserve the "extensive heritage assets" in Westminster's wider historic environment "including its listed buildings, conservation areas, Westminster's World Heritage Site, its historic parks [...] and open spaces, their setting, and its archaeological heritage".
- H.2.4 *Core Strategy Policy CS27 (Design)* states that: "[d]evelopment must incorporate exemplary standards of sustainable and inclusive urban design and architecture. In the correct context, imaginative modern architecture is encouraged provided that it respects Westminster's heritage and local distinctiveness and enriches its world-class city environment".
- H.2.5 *Core Strategy Policy CS36 (Westminster's Blue Ribbon Network)* states that: "[d]evelopments within the Thames Policy Area will need to

demonstrate that they have particular reference to their riverside location and local architectural references”.

- H.2.6 Saved UDP Policy DES 9 (Conservation Areas) sets out principles “[t]o preserve or enhance the character or appearance of conservation areas and their settings”.
- H.2.7 Saved UDP Policy DES 10 (Listed Buildings) sets out principles “[t]o protect and enhance listed buildings, their settings and those features of special architectural or historic interest that they possess”.
- H.2.8 Saved UDP Policy DES 11 (Scheduled Ancient Monuments; Areas and Sites of Archaeological Priority and Potential) sets out principles “[t]o identify archaeological remains of national and local importance, conserve them in their settings, and provide public access to them. Where new development is proposed on sites of archaeological potential, to ensure adequate archaeological impact assessment, followed by appropriate provision for preservation or investigation, recording, and publication”.
- H.2.9 Saved UDP Policy RIV 1 (Design of Development) seeks “[t]o protect and improve the built environment” and states that: “development proposals will be required to (...) (b) be sensitive to their Thames-side location, the setting of listed buildings and structures, and other prominent landmarks”.
- H.2.10 The City of Westminster’s *Conservation Area Audits* describe the special qualities of each of the conservation areas. In the City of Westminster, 47 conservation areas have adopted Audits, 28 of these have now been adopted as Supplementary Planning Guidance. The Audits for both the Whitehall Conservation Area and the Savoy Conservation Area have been adopted as Supplementary Planning Guidance.

H.3 Description of heritage assets and significance summary

- H.3.1 There are a number of heritage assets within and near the site, as follows, which are described below:
- a. listed buildings and structures that would be physically affected
 - i Bazalgette’s Grade II listed Victoria Embankment river wall
 - ii three catenary lamp standards
 - iii four Grade II listed decorative benches on the pavement of Victoria Embankment
 - b. non-statutorily designated heritage assets within the site that would be physically affected
 - i the Tattershall Castle
 - c. conservation areas that the site lies within
 - i Whitehall Conservation Area
 - d. other heritage assets nearby
 - i the Grade II listed Sir Joseph Bazalgette Memorial

- ii Savoy Conservation Area
- iii South Bank Conservation Area in the London Borough of Lambeth
- iv Victoria Embankment Gardens (Grade II* registered park and garden, which contains numerous listed monuments)
- v Grade II* listed National Liberal Club
- vi Grade II listed Playhouse Theatre
- vii Grade II listed RAF Memorial
- viii Westminster World Heritage Site
- ix the non-statutorily designated Hispaniola
- x the Grade II* listed Ministry of Defence.

H.3.2 These heritage assets are illustrated in the Historic environment features map except for the conservation areas, which are illustrated in the Conservation areas map. The numbering on Figure A.1 refers to the gazetteer in which the heritage assets are described in the *Environmental Statement*, which accompanies the application (Vol 17, Appendix E.1).

Victoria Embankment river wall and associated features

- H.3.3 The Grade II listed Victoria Embankment river wall (refer to the Historic environment features map) was designed by Sir Joseph Bazalgette and constructed between 1864 and 1870. The river wall forms an integral part of the Victoria Embankment project to improve London's infrastructure and public health. As part of the project, land was reclaimed from the River Thames foreshore and an underground railway, mains sewerage, public gardens and a new urban relief road were constructed. The arched structures within the river wall form the original sewer outfall.
- H.3.4 It is constructed of granite-faced battered walls topped with a moulded granite parapet, which is interrupted at intervals by pilasters decorated with bronze Lion's Head mooring rings and 'sturgeon' lamp standards, six of which are within the site. These features are used along the entire river wall and Bazalgette's other embankment walls to give them a unified aesthetic appearance. At present this area is a popular meeting point and pedestrian route that links a number of areas of interest.
- H.3.5 Encroaching into the northern end of the site is an orthogonal projection from the river wall, which originally provided access to a steamer pier within the River Thames. This projection was an intrinsic part of the overall river wall design and is part of the listed structure.
- H.3.6 Figure H.1 shows the view to the northeast from the gangway of the Tattershall Castle towards the river wall. It illustrates a sturgeon lamp standard, a Lion's Head mooring ring, a sphinx bench and two catenary lamp standards.

Figure H.1 View from the Tattershall Castle towards the river wall



Catenary lamp standards

- H.3.7 The site contains seven Grade II listed catenary lamp standards out of a sequence of 34, which runs along either side of the Victoria Embankment roadway. The lamp standards were installed around 1900 as one of the earliest electric street lighting schemes. They feature Art Nouveau decorative elements and have a group value with the sturgeon lamp standards along the river wall parapet, the sphinx benches, and other street furniture along Victoria Embankment, which create a cohesive identity.

Sphinx benches

- H.3.8 There are 21 Grade II listed ornamental sphinx benches along Victoria Embankment, four of which fall within the site. The benches were designed by Lewis and G. F. Vulliamy between 1872 and 1874. The end pieces are predominantly decorated with winged sphinxes, although one features a camel motif. The benches are an important element of the area's street furniture and provide opportunities for Londoners to enjoy the embankment.

Whitehall Conservation Area

- H.3.9 The Whitehall Conservation Area (refer to the Conservation areas map) was designated to safeguard the character of the government precinct centred on Whitehall, and the attractive riverside to the east. The City of Westminster Conservation Area Audit notes that Victoria Embankment area has a particular identity, which derives from the concentration of grand historic governmental and institutional buildings and commemorative monuments. This is complemented by the scale and high-quality of the various gardens, the tree-lined main road and associated street furniture and the sweeping views of the River Thames.
- H.3.10 Whitehall Conservation Area can also be partly seen from the south side of the River Thames, although it is partially obscured by the Tattershall Castle. The view comprises the embankment with its monuments and moored vessels, behind which rise the trees of Victoria Embankment Gardens, the National Liberal Club and Whitehall Place. The view is framed by Hungerford Bridge (refer to the Historic environment features map).

Tattershall Castle

- H.3.11 The Tattershall Castle is moored permanently in the River Thames in the northern part of the site (refer to the Historic environment features map). The vessel was built in 1934 by William Gray and Co. for the London and North Eastern Railway, as a passenger steamer ferry on the River Humber. It is listed on the National Register of Historic Vessels. It was one of the first civilian vessels to be equipped with radar and it also served as a tether barge for barrage balloons and a ferry for troops and munitions during the Second World War. In 1981, it was brought to London and has since been extensively remodelled. Various windows and a bridge were introduced and paddles were removed. The location of the vessel forms only a minor part of its significance.
- H.3.12 Figure H.2 shows the view from Hungerford Bridge along Victoria Embankment to the south towards the Palace of Westminster World Heritage Site. The Tattershall Castle is near the centre of the image.

Figure H.2 View south from Hungerford Bridge along Victoria Embankment (standard lens)



Archaeology

- H.3.13 Before the 1860s, the site lay entirely within the tidal foreshore of the River Thames, which limits its potential for accruing archaeological remains.
- H.3.14 The site has high potential for palaeoenvironmental remains, but low potential for remains from the prehistoric, Roman, early medieval, or late medieval periods. It has moderate potential for post-medieval remains.

- H.3.15 Any potential finds are likely to be of low to medium significance but may include some elements of interest associated with the long history of the River Thames and the construction of Victoria Embankment.

Sir Joseph Bazalgette Memorial

- H.3.16 Approximately 25m to the north of the site is the Grade II listed memorial to Sir Joseph Bazalgette (refer to the Historic environment features map). It was erected in 1890 in the form of a bronze roundel portrait bust and cartouche, within a sculpted white marble aedicule, set in a granite block.
- H.3.17 Sir Joseph Bazalgette was the visionary designer of Victoria Embankment and London's entire sewer system, which contributed to the development of the city's infrastructure and current urban form. The memorial also contributes to the group value of heritage assets within the wider historic environment of the Whitehall Conservation Area.

Savoy Conservation Area

- H.3.18 Further to the north of the site is the Savoy Conservation Area (refer to the Conservation areas map), which includes the Hungerford Bridge, the trees and open space in the northern section of Victoria Embankment Gardens, and the former Shell Mex House, a Grade II listed building. These elements are prominent features in views northwards along the Victoria Embankment. The site falls within the line of these views.

South Bank Conservation Area

- H.3.19 The South Bank Conservation Area (refer to the Conservation areas map) extends from Westminster Bridge to a point opposite Inner Temple Gardens. It is dominated by the mid-20th century South Bank complex and its riverside setting, which makes a strong contribution to its overall significance. There are significant views across the River Thames of the largely Victorian to Edwardian Victoria Embankment townscape.

Victoria Embankment Gardens

- H.3.20 Victoria Embankment Gardens is a Grade II* registered park and garden (refer to the Historic environment features map). It was laid out under Bazalgette's supervision in circa 1874. The gardens comprise two sections that broadly extend both north and south from the Hungerford Rail Bridge.
- H.3.21 The smaller southern section lies adjacent to the site on the opposite side of the busy Victoria Embankment roadway. This section is known as Whitehall Gardens and contains memorials to a number of eminent figures including William Tyndale, Samuel Plimsoll, Gordon of Khartoum, Lord Trenchard, Orde Charles Wingate and the Chindits, which are listed in their own right.
- H.3.22 Victoria Embankment Gardens form an intrinsic part of the original Victoria Embankment scheme and provide significant amenity value for visitors to the area. The gardens are largely inward looking and are screened from the embankment roadway by mature vegetation and trees.

National Liberal Club and Whitehall Place

- H.3.23 The Grade II* listed conjoined National Liberal Club and Whitehall Court mansion blocks (refer to the Historic environment features map) lie approximately 50m to the west of the site, just beyond Whitehall Gardens. The National Liberal Club was designed by A. Waterhouse and constructed between 1884 and 1887. Whitehall Court was designed by T. Archer and A. Green and constructed in 1884.
- H.3.24 The Portland stone buildings were designed in the free French Renaissance style and are richly ornamented with prominent pitched roofs, balconies and chimneystacks. They form a key feature in long views of the riverfront, especially from the opposite bank of the River Thames and along Victoria Embankment, where they rise above the trees of Victoria Embankment Gardens.

Playhouse Theatre

- H.3.25 The Grade II listed Playhouse Theatre was designed by F. Fowler in a restrained and elegant classical design (refer to the Historic environment features map). It was constructed between 1881 and 1882 to the northwest of the site. The interior was reconstructed by Blow and Billerey in 1906.

Royal Air Force Memorial

- H.3.26 The Grade II listed Royal Air Force Memorial was designed by Sir Arthur Blomfield in 1920 (refer to the Historic environment features map). It is located approximately 100m to the south of the site. The memorial has group value when considered with the Grade I listed Ministry of Defence building and the other military memorials nearby. It further contributes to the civic and monumental character of Victoria Embankment.

Palace of Westminster World Heritage Site

- H.3.27 The Palace of Westminster forms part of the Westminster World Heritage Site (refer to the Conservation areas map). It lies over 370m to the south of the site. It is prominent in views from the opposite bank of the River Thames and from the Golden Jubilee Bridge. The Victoria Embankment river wall and its long lines of London Plane trees form part of its setting in views from the north. At present the line of the river wall is obscured in views from the east and northeast by the piers and adjacent moored vessels.

Hispaniola

- H.3.28 The Hispaniola (refer to the Historic environment features map) is moored immediately to the north of the site. Although it is not a registered heritage asset, it has some historical significance. It was built by Yarrow's naval yard at Scotstoun and originally named the Maid of Ashton. It was launched in 1953 as the first of a quartet of passenger vessels ordered to modernise the Clyde fleet of the Caledonian Steam Packet Company.
- H.3.29 In 1973 it was moved to the River Thames and renamed the Hispaniola. In 2002 it was refitted at the George Prior yard in Ipswich and resumed business in its present position as a restaurant.

Ministry of Defence

H.3.30 The grand Edwardian building was built by William Young between 1898 and 1907 (refer to the Historic environment features map). It displays Baroque influences and fronts onto Whitehall, Horse Guards Avenue, and Victoria Embankment Gardens (refer to the Historic environment features map). It is one of the principal late Victorian to Edwardian ministries in Whitehall. Its Horse Guards Avenue elevation features a central triple archway and appears obliquely in views from a small section of from Victoria Embankment, at the end of Horseguards Avenue.

Significance summary

H.3.31 An assessment of the significance of the heritage assets and the potential effects of the proposed works at this site is set out in the *Environmental Statement* (Vol 17). The assessment includes a full statement of significance for built heritage and buried archaeological assets at the site, which is summarised below in Table H.1.

Table H.1 Significance of heritage assets at Victoria Embankment Foreshore

Heritage asset	Heritage significance	Reason for significance
Victoria Embankment river wall	High	Its significance derives from the fact that it is part of the Bazalgette scheme and its evidential value.
Catenary lamp standards	High	Their significance derives from their special historic interest as surviving structures from the early provision of electric street lighting. They enrich the streetscape and are of special artistic interest for their uniqueness, quality and design, which includes civic heraldry and Art-Nouveau elements.
Sphinx benches	High	Their significance derives from the embankment and their contribution to the streetscape.
The Tattershall Castle	Low	Its significance derives from its history, rather than its location.
Whitehall Conservation Area	High	Its significance derives from its aesthetic, evidential, historical and communal values. The conservation area encompasses the focus of government in the UK including Whitehall itself and its grand buildings and monuments. Its river frontage includes a significant number of monuments, listed buildings and the embankment with a uniform line of London plane trees along its riverside pavement. The stretch of the River Thames within the conservation area is part of an internationally recognisable riverscape.
Sir Joseph Bazalgette Memorial	High	It is a prominent memorial to the revolutionary Engineer.
Savoy Conservation Area	High	Its significance derives from the rich history of the area views out of the Whitehall Conservation Area northwards along the embankment, focussed on

Heritage asset	Heritage significance	Reason for significance
		the prominent Art Deco Shell Max Building.
South Bank Conservation Area	High	Its significance derives from its riverside setting, its association with the Festival of Britain, and its 20th century buildings.
Victoria Embankment Gardens	High	Its significance derives from the embankment and the nearby significant memorials. The gardens also contribute strongly to the character of the Whitehall Conservation Area and form the backdrop and setting for the embankment, Whitehall Court and the Liberal Club. It retains its Victorian and Edwardian character.
National Liberal Club and Whitehall Place	High	Their significance derives from their architectural style and quality, and contribution to the setting of the Victoria Embankment.
Playhouse Theatre	High	Its significance derives from architectural and historic value and contribution to the setting of the embankment, in particular the character and appearance of the Whitehall Conservation Area.
Royal Air Force Memorial	High	Its significance derives from its association with the pilots of the RFC/RAF who died in the First World War as well as its historical and architectural merit.
Palace of Westminster World Heritage Site	High	The Palace of Westminster World Heritage Site is of international significance for its outstanding universal value.
The Hispaniola	Low	Its significance is low and derives from associations. It is 50 years old.
Ministry of Defence	High	It is one of the great ministries built at the end of the 19th century.

H.4 Description of proposals and required heritage consents

H.4.1 A summary of the proposed temporary and permanent works at Victoria Embankment Foreshore is set out below.

Temporary construction works

H.4.2 The temporary construction works at this site would involve constructing a CSO drop shaft and associated below-ground infrastructure in the foreshore of the River Thames.

H.4.3 A temporary cofferdam would be constructed around the drop shaft, which would need to be fixed to the listed wall. A campshed could also be located at the southern end of the cofferdam, which would necessitate removing the upper layer of the foreshore.

H.4.4 The works would require the use of cranes and hoardings would be erected around the site.

Permanent above-ground structures

- H.4.5 Post construction, the visible structures on the site would include an orthogonal, approximately symmetrical foreshore structure with a central projection, stepping out into the River Thames. The top of the foreshore structure would form a new area of public space and it would be surrounded by a new section of river wall. Three ventilation columns would sit on the foreshore structure. Two electrical and control kiosks and two amenity buildings, combined with a canopy structure.
- H.4.6 The proposed works for this site are set out in detail in Section 19 of the *Design and Access Statement*, which accompanies the application. The design proposals are set out in the drawings within the *Book of Plans* and were developed in line with the *Design Principles* and the *Code of Construction Practice*, which also accompany the application, to minimise the impact of the proposed works and structures on their surroundings, in line with relevant national, regional and local policies.
- H.4.7 The aspects of the proposed works that would affect the nearby heritage assets are set out below. The proposals that would normally require Listed Building Consent or Conservation Area Consent are also identified.
- H.4.8 Refer to the Historic environment features map and the Conservation areas map and the drawings listed in Table H.2 below. This table sets out the heritage assets at the site and the associated drawings and plans of the proposed works submitted as part of the application, which are provided in A3 format at the end of this appendix. It also provides the status and location of the drawings within the application.

Table H.2 Drawings relating to heritage assets at Victoria Embankment Foreshore

Drawing title	Drawing status
Location plan	For information
As existing site features plan	For information
As existing landscape plan (1 of 2)	For information
As existing landscape plan (2 of 2)	For information
Demolition and site clearance (1 of 2)	For approval
Demolition and site clearance (2 of 2)	For approval
Site works parameter plan	For approval
Proposed overall landscape plan	Indicative save for layout of above ground structures which is illustrative
Proposed landscape plan (1 of 2)	Indicative save for layout of above ground structures which is illustrative
Proposed landscape plan (2 of 2)	For approval
Section A-A	Illustrative

Drawing title	Drawing status
As existing and proposed river elevation	Illustrative
As existing and proposed river elevation-impact on listed structure	Illustrative, save for maximum extent of loss of listed structures, which is for approval
As existing and proposed south elevation	Illustrative
As existing and proposed detailed south elevation	Illustrative
As existing and proposed west elevation	Illustrative
As existing and proposed north elevation	Illustrative
Kiosk design intent drawing	Indicative
Typical river wall design intent (1 of 2)	Indicative
Typical river wall design intent (2 of 2)	Indicative
As existing listed structure interface: Foreshore structure	For information
Proposed listed structure interface: Foreshore structure	Indicative
As existing and proposed listed structure interface weir structure	Indicative
Proposed mooring access details	Illustrative
Construction phase 1: Site set-up	Illustrative
Construction phase 2: Shaft construction and tunnelling	Illustrative
Construction phase 3: Construction of other structures	Illustrative
Construction phase 4: Site demobilisation	Illustrative

The drawings are located in Section 18 of the Book of Plans

Victoria Embankment river wall and associated features

- H.4.9 The Victoria Embankment river wall and associated features form the main focus of the proposals for the construction of a new foreshore structure that would be attached to the listed wall.
- H.4.10 The temporary construction works in relation to the asset are summarised below:
- a. Insertion of the cofferdam (refer to the Mooring access elevation drawing)
 - i The moulded river wall parapet stones where the cofferdam would be connected would be temporarily removed for their protection, and replaced with concrete infill. A seal between the infill and the adjacent listed wall stones would prevent damage to the stones during removal and reinstatement.

- ii A narrow vertical recess would be cut into the listed wall to a shallow depth (up to 300mm) at each end of the worksite immediately to one side of a vertical alignment of perpendicular mortar joints in the listed wall.
 - iii The listed wall would be made good following construction. The temporarily removed parapet stones would be reinstated, and any damage repaired using parts of the parapet stones that would not be reinstated. The slot below the moulded parapet would be made good using stones removed to create the connection between the listed wall and the foreshore structure.
- b. Protection of listed fabric
- i Protective measures would be applied to minimise damage from collisions or abrasions to the historic fabric that would remain *in situ*. The listed fabric would be protected during demolition and construction.
 - ii The protection measures would take the form of physical barriers and working practices set out in Section 12 of the *Code of Construction Practice Part A*, including the requirement for a site-specific heritage management plan. The methods for protection and stone removal would be subject to a DCO requirement (refer to Section H.9).
- c. Removal of significant elements for re-use and demolition (refer to the Demolition and site clearance plans)
- i The elements to be removed and reinstated would first be recorded to facilitate accurate reinstatement.
 - ii The elements would be carefully removed without cutting, where possible.
 - iii The elements, especially the fragile lamp standards, would be lifted from beneath (where possible) to avoid unnecessary strain.
 - iv The elements would be palletted and transported to a secure indoor storage facility during construction.
 - v Prior to reinstatement the elements would be cleaned and refurbished.
 - vi Some of the granite facing and parapet that would be removed permanently would be retained and stored for re-use in repair work to make good any damage to the wall from creating the recess for the cofferdam and elsewhere on the project.
 - vii The river wall parapet to either side of the foreshore structure would be temporarily removed to prevent damage and reinstated towards the end of construction.

H.4.11 The permanent works in relation to the asset relate to the construction of a new foreshore structure and are summarised below:

- a. Permanent demolition and removal of historic fabric (refer to the Demolition and site clearance plan drawings)

- i. In order to construct the foreshore structure and connections, the granite blocks that face the wall would be removed in the area indicated on the Extent of loss of listed river wall drawing. The amount of historic fabric to be removed would be kept to the minimum and less fabric might be removed than indicated on the drawing.
 - ii. The listed river wall parapet adjacent to Embankment Pier would be removed.
 - iii. Three of the 49 sturgeon lamp standards would be permanently removed.
 - iv. The items to be permanently removed, including the lamp standards and the Tattershall Castle mooring, would be re-used where possible on the project.
- b. The foreshore structure's design (refer to the Site works parameter plan, Proposed landscape plan, Section AA, and the As existing and proposed elevations, Kiosk design intent drawing, Typical river wall design inlet: and the Proposed listed structure interface: Foreshore structure)
- i. The foreshore structure would be clad in granite to harmonise with the listed wall. It would also feature three recessed horizontal bands to mark significant tide levels.
 - ii. The cladding would be keyed in to the listed wall and there would be a 'shadow gap' at either end of the foreshore structure to ensure that its design defers to the primacy of the listed wall and its alignment.
 - iii. Vertical timber fenders would be attached to the foreshore structure to harmonize with other structures within the River Thames.
 - iv. The foreshore structure was designed to be orthogonal and approximately symmetrical to harmonise with the other features that step out of the Victoria Embankment river wall.
 - v. The electrical control kiosks would be incorporated into the design of the new river wall.
- d. Removal and relocation of the Tattershall Castle mooring (refer to the Mooring access elevation drawing)
- i. The current access ramp to the Tattershall Castle would be removed, with minimum removal of fixings. Any damage would be made good to match the surrounding historic fabric.
 - ii. The vessel would be reinstated up-river of its current location. The access ramp would span over the river wall parapet with no physical connection to the listed structure

H.4.12 The design principles for the final design of this site include the generic (project-wide) heritage design principles and the site-specific principles set out in Section 4.14 of the *Design Principles*. The site-specific principles

that relate to the significance of the listed wall and associated features include the following:

Reference	Site-specific design principles
VCTEF.01	The new river wall shall be finished in granite blocks to tie in with the existing wall.
VCTEF.02	Replacement trees planted on the embankment shall be semi-mature London Planes. Additional trees shall be planted on the structure to provide shade and improve the microclimate.
VCTEF.08	The electrical and control kiosk(s) and small amenity buildings (to be operated by others) shall be located on the line of the existing river wall.

Works normally requiring Listed Building Consent

H.4.13 The localised demolition and alteration of a section of the listed wall, the construction of the foreshore structure and the works listed below would normally require Listed Building Consent:

- a. construction of the cofferdam
- b. protection of listed fabric
- c. removal of significant elements for re-use
- d. demolition and permanent removal of historic fabric
- e. construction of the foreshore structure
- f. removal and relocation of the Tattershall Castle's access ramp. Detaching the access bridge from the listed wall would normally require Listed Building Consent, as the bridge is attached to a listed building and forms part of the embankment wall's listing.
- g. temporary removal of the catenary lamp standards and sphinx benches.

H.4.14 The works requiring Listed Building Consent include all those set out in H.4.10 to H.4.13 above, including the relevant drawings.

Catenary lamp standards

H.4.15 Three of the 34 lamp standards would be temporarily removed. They would be transported to a secure, controlled storage environment for the duration of the works. They would then be reinstated as existing.

H.4.16 Refer to the Location plan, Demolition and site clearance plans, Site works parameter plan, Proposed landscape plans, and Construction phase 1: Site set-up and Listed structure interface, cofferdam- embankment wall).

H.4.17 The design principles for the final design of this site include the generic (project-wide) heritage design principles and the site-specific principles set out in Section 4.14 of the *Design Principles*. The site-specific principles that relate to the significance of the Catenary lamp standards include the following:

Reference	Site-specific design principles
VCTEF.03	The sturgeon lamp standards shall be reinstated in their current position except where the permanent structure is located in which case their re-use would be agreed with the local authority.
VCTEF.07	The festoon lighting on Victoria Embankment shall be reinstated as far as possible and terminate either side of the structure. New lighting shall be designed in consultation with local authority and English Heritage.

H.4.18 This work would normally require Listed Building Consent.

Sphinx benches

H.4.19 Four of the 21 sphinx benches would be temporarily removed to prevent damage during the construction works.

H.4.20 The pavement surface around the benches would be removed first and lifted whole, if possible, supported from beneath. The benches would then be carefully removed for secure storage for the duration of the works.

H.4.21 Refer to the Location plan, Demolition and site clearance drawing, Site works parameter plan, Proposed landscape plans and Construction phase 1: Site set-up and Listed structure interface: Cofferdam – embankment wall

H.4.22 The site-specific principles that relate to the significance of the Sphinx benches include the following:

Reference	Site-specific design principles
VCTEF.04	The listed (sphinx) benches on the Victoria Embankment shall be reinstated and repositioned to either side of the new foreshore structure. If this is not possible, their re-use would be agreed with the local authority.

H.4.23 This work would normally require Listed Building Consent.

Tattershall Castle

H.4.24 The Tattershall Castle would be temporarily re-located during construction and permanently relocated upstream of its present mooring. The new mooring was carefully chosen to avoid intruding into significant eastward views along Horseguards Avenue. The relocation and protection would be undertaken in accordance with the *CoCP* and the site-specific heritage management plan.

H.4.25 The access bridge would be supported and the connections with the granite wall carefully detached. The wall would be made good with materials that match the surrounding stonework.

H.4.26 The vessel would be reconnected to the new mooring by fixing the access bridge into the embankment pavement. A localised area of pavements would be removed and a new foundation built.

- H.4.27 Refer to the following drawings: Demolition and site clearance plans, Site works parameter plan, Proposed landscape plans, and Mooring access elevation.

Works normally requiring Listed Building Consent

- H.4.28 Detaching the access bridge from the listed wall would normally require Listed Building Consent, as the bridge is attached to a listed building and forms part of the embankment wall's listing.

Archaeology

- H.4.29 The construction of the CSO drop shaft would remove all archaeology within the footprint of the shaft and the temporary cofferdam.
- H.4.30 All alluvial deposits on the foreshore would likely be removed by dredging and water action during the construction of the cofferdam and campshed, therefore it is unlikely that these works would significantly affect the archaeology within the site.
- H.4.31 The effects from modified scour patterns and construction works on the landward side of the listed wall on archaeology would also be insignificant.
- H.4.32 The archaeological considerations at the site would be addressed by means of the procedures set out in the *Overarching Archaeological Written Statement of Investigation*, which accompanies the application. A number of mitigation measures would also be implemented (refer to Section H.6).

Hispaniola

- H.4.33 The Hispaniola would remain *in situ* during construction; the temporary cofferdam would extend around its bow. Its proximity to the site means that there would be temporary changes to its setting.
- H.4.34 No heritage consent would normally be required.

Sir Joseph Bazalgette Memorial

- H.4.35 The construction works would have a significant temporary effect on the setting of the Sir Joseph Bazalgette Memorial. The site hoardings and cranes would remove the view of much of the river wall parapet.
- H.4.36 No heritage consent would normally be required.

Savoy Conservation Area

- H.4.37 Hungerford Bridge would screen much of the Savoy Conservation Area from the site therefore there would be little temporary impact during construction. The proposals would have no permanent physical or appreciable impact on the setting of the conservation area.
- H.4.38 No heritage consent would normally be required.

National Liberal Club and Whitehall Place

- H.4.39 The National Liberal Club and Whitehall Place are well screened from the site by the mature trees and shrubs in the Whitehall Gardens section of the Victoria Embankment Gardens. The temporary construction works and permanent above-ground structures would have minor impacts on their

setting. Views of these buildings from across the River Thames would be maintained.

H.4.40 No heritage consent would normally be required.

Playhouse Theatre

H.4.41 The short southern side of the Playhouse Theatre faces Victoria Embankment; however, it is screened by the mature trees and shrubs in Whitehall Gardens. The effects of the temporary construction works are not likely to be significant. The proposals would have no permanent impact on the setting of the theatre.

H.4.42 No heritage consent would normally be required.

Palace of Westminster World Heritage Site

H.4.43 The construction works and permanent above-ground structures would detract from views of the Palace of Westminster World Heritage Site from the Golden Jubilee Bridge to a small degree; however, there would be no noticeable impact on its setting. The operational foreshore structure would in fact offer additional views towards the World Heritage Site.

H.4.44 Views from the World Heritage Site would be impacted by the temporary construction works to some extent. The views would not be impacted by the permanent above-ground structures, which would be small scale and sited approximately 450m away.

H.4.45 No heritage consent would normally be required.

Ministry of Defence

H.4.46 The construction works and the relocated Tattershall Castle would fall in the setting of building's Victoria Embankment Gardens frontage. The foreshore structure would feature less prominently in the building's setting.

H.4.47 No heritage consent would normally be required.

H.5 Heritage design considerations

H.5.1 As the majority of the infrastructure for the project would be below ground, the key design objective for the permanent above-ground works was to integrate the functional components into the surroundings. The site-specific heritage design objective at Victoria Embankment Foreshore was to successfully integrate the new foreshore structure into a sensitive historic environment, while taking account of existing below-ground infrastructure and nearby heritage assets, conservation areas and the World Heritage Site.

H.5.2 The design evolved to harmonise with the existing Victoria Embankment and its associated heritage assets. The foreshore structure evolved from a triangular shape to an orthogonal shape, which would be more in keeping with the other large scale monuments and stairs, such as Whitehall Stairs and Cleopatra's Needle, that project from the embankment.

H.5.3 In an attempt to reduce the bulk of the foreshore structure, the design team also suggested a circular 'island' structure within the River Thames,

accessed by a bridge from a rectangular projection. However, consultation feedback indicated that the orthogonal, symmetrical structure would be more appropriate to the character of the embankment.

- H.5.4 An important design consideration was to ensure that the foreshore structure remained subordinate to the embankment. This would be achieved by means of the shadow gap at the junction of the foreshore structure and the listed wall. The location of the electrical and control kiosks would also emphasise the line of the river wall. Granite cladding would be used in order to harmonise with the existing listed wall.
- H.5.5 Another important consideration was to minimise the projection into the river. The structure would therefore sit as close to the listed wall as the functional components permit.

H.6 Mitigation measures

- H.6.1 Due to the presence of heritage assets nearby, the National Policy Statement for Waste Water (the 'NPS') requires the proposed development to be based on an understanding of the significance of heritage assets (para. 4.10.11), minimise any impacts on their significance (paras. 4.10.12 - 4.10.14), minimise impacts on their setting (para. 4.10.17), mitigate any negative impacts (para. 4.10.18 to 21), and ensure that the proposals are of a high design quality (Section 3.5). These requirements are reflected in similar policies in the *London Plan 2011*, the *Core Strategy*, and the *Conservation Area Audits*.
- H.6.2 The impact of the permanent foreshore structure would be mitigated by means of the symmetrical, orthogonal design. The materials selected would harmonise with the listed wall. The shadow gap would ensure that the structure remains subordinate to the listed wall.
- H.6.3 The structure would not be monolithic; it would feature recessed horizontal bands to mark significant tide levels and the central projection of the structure would sit lower than the rest of the structure and the embankment. The structure would appear to cascade into the River Thames, a design aspect that echoes the nearby Whitehall Stairs.
- H.6.4 The new area of public space would enable enhanced appreciation of views of the riverscape and better reveal the significance of its heritage assets. It would offer improved views of the Palace of Westminster World Heritage Site, County Hall, the Victoria Embankment river wall, and other notable landmarks and heritage assets. The value of these views would help to mitigate the permanent occupation of this part of the foreshore.
- H.6.5 The ventilation columns would be of a high standard of design and form a new sculptural feature along Victoria Embankment.
- H.6.6 The physical impacts from the temporary cofferdam on the listed wall would be minimised as far as possible. The shallow recesses cut into the masonry during the construction phase would be made good on completion of the works using recovered stones removed to construct the foreshore structure.

- H.6.7 The river wall parapet stones around the cofferdam would be carefully removed, stored securely, and temporarily replaced with concrete infill to avoid works to the historic fabric itself. The amount of stones removed would be the minimum necessary. The stones would be used to make good the wall following construction. Where it is not possible to re-use them at this site, they would be re-used at other project sites (where possible), as set out in the main report.
- H.6.8 Any other elements that might need to be fixed to existing structures would be fixed at the minimum number of points, using the least intrusive methods available, including fixing into mortar joints rather than masonry.
- H.6.9 The other measures to protect the significance of assets during the construction works include the temporary removal and reinstatement of two sphinx benches, three sturgeon lamp standards and three catenary lamp standards. These elements would be photographically recorded prior to removal in accordance with the site-specific design principles. A programme of standing structure recording may also be implemented, as appropriate, to ensure that the significance of these assets can be appreciated by future generations, as required by paras. 4.10.18 of the NPS, and reflected in *London Plan Policy 7.8*.
- H.6.10 The Tattershall Castle would be relocated to one side of the line of Horseguards Avenue so that it would not become a focal point in views along the avenue from the west. The access bridge to the vessel would not be fixed intrusively into the listed river wall. It would span over the parapet and be fixed into the pavement.
- H.6.11 The potential effects on any archaeology would be mitigated by means of a combination of approaches, which would be implemented in accordance with the *Overarching Archaeological Written Scheme of Investigation* and the *Site-specific Archaeological Written Scheme of Investigation*, which accompany the application, in order to satisfy the requirement in para. 4.10.18 of the NPS to record any unavoidable losses. Any significant results of the archaeological works would be disseminated via the usual channels, which would improve the public understanding and appreciation of their significance. This would satisfy the requirements of para. 4.10.18 of the NPS and *London Plan Policy 7.8*.
- H.6.12 For the duration of the construction phase, all heritage assets would be safeguarded by the provisions of the *Code of Construction Practice Part A*, including the requirement for a site-specific heritage management plan. This plan would be prepared by the contractor prior to commencing construction.
- H.6.13 Further site-specific measures are included in the *Code of Construction Practice Part B*, including:
- a. Intrusive structural investigations to the listed river wall beyond the area of proposed fabric removal will be required.
 - b. Existing granite blocks are to be used to make up the joint between new and old river wall sections.

- c. The sturgeon lamp stands will be removed and their reuse sought in accordance with the procedures set out in the Heritage Statement.

H.7 Assessment of effects

- H.7.1 The *Environmental Statement* assesses the effects of the proposals on the historic environment. The assessment below sets out the significant and less significant effects, having regard to the criteria in the NPS.
- H.7.2 A summary of the assessment of effects on the heritage assets, based on the significance of the heritage assets identified in Section H.3, the impacts identified in H.4 above, and the mitigation measures described in H.6 above, is set out below.

Victoria Embankment river wall and associated features

- H.7.3 During the construction phase, there would be temporary major negative effects on the section of listed river wall that would be locally dismantled. This would amount to temporary substantial harm. However, only a small area of the whole listed wall would be affected, and overall the temporary harm would be less than substantial, as its significance would not be substantially diminished.
- H.7.4 The foreshore structure would add another symmetrical granite-faced projecting element to Bazalgette's embankment wall that would complement the monuments and stairs that already feature along the embankment. It was designed to harmonise with the form and materials of the wall and would be subordinate to it. However, the linearity of the embankment wall and the rhythm of the piers and sturgeon lamp standards would be interrupted by the removal of three lamp standards. On balance, the permanent effects would be minor negative, which would represent less than substantial harm to the significance of the embankment.
- H.7.5 The access bridge to the relocated Tattershall Castle would not be physically fixed to the listed fabric. It would therefore have a negligible effect.

Whitehall Conservation Area

- H.7.6 The temporary construction site would affect the setting of the Whitehall Conservation Area, the listed wall, and other heritage assets nearby. The worksite would be visible from the Golden Jubilee Footbridge, Victoria Embankment, and the South Bank Conservation Area. The temporary loss of street furniture and the removal of an area of the roadway would also impact on localised views along the embankment and of the roadway itself.
- H.7.7 However, due to the temporary nature of the works and the fact that the majority of Whitehall Conservation Area is inland, the construction phase works would have a moderate temporary negative effect amounting to less than substantial harm to its significance as a whole.
- H.7.8 The proposals would permanently alter a small section of the Whitehall Conservation Area riverside by introducing a new foreshore structure and

relocating the Tattershall Castle. However, the materials, form and massing of the structures and their integration into the historic environment would help to mitigate the impact of these changes. On balance, the permanent works would have minor negative effects on the significance of the conservation area as a whole, also amounting to less than substantial harm.

The National Liberal Club and Whitehall Place

- H.7.9 The National Liberal Club and Whitehall Place are separated from the site by Victoria Embankment Gardens. Views towards the buildings from across the river would be affected and the works would temporarily alter the buildings' relationship with the embankment wall, although the gardens screen this visual relationship to an extent and the heavy traffic provides a visual break and already detracts from the setting. The negative effects of the construction works on the setting of these buildings would be moderate negative at worst and would therefore constitute less than substantial harm. The relationship of the buildings to their immediate surroundings would be largely preserved.
- H.7.10 The permanent effects would be minor negative as the relationship of the buildings with a small part of the embankment would be affected, also amounting to less than substantial harm.

Sphinx benches and catenary lamp standards

- H.7.11 The temporary removal and reinstatement of four sphinx benches and seven catenary lamps during construction would protect their significance. Their removal and reinstatement would cause moderate temporary negative effects, amounting to less than substantial harm, as the majority of these features would remain in place. On completion of the works the benches and lamps would be reinstated and the long-term effects would be neutral.

Tattershall Castle

- H.7.12 The location of the Tattershall Castle is of little significance. Its relocation would cause minor negative effects on its significance, both during construction and permanently.

Hispaniola

- H.7.13 The temporary construction works would fall within the setting of the vessel, which would be adjacent to the cofferdam. This would change its visual relationship with the embankment. As the vessel is of low significance and would be preserved *in situ*, its significance would not be substantially affected. The effect would therefore be minor negative amounting to less than substantial harm.
- H.7.14 The foreshore structure would also fall within the vessel's setting and create a public space from which to view the vessel. The effect on the setting would therefore be minor negative. This would amount to less than substantial harm. The new views from the foreshore structure would better reveal the vessel's significance, in accordance with para 4.10.17 of the NPS.

Sir Joseph Bazalgette Memorial

- H.7.15 The memorial's setting would be affected by the site hoardings and temporary construction works, which would have a minor negative effect on its significance. The permanent effects would be negligible.

Savoy Conservation Area

- H.7.16 The Savoy Conservation Area is largely screened from the site by the Hungerford Railway Bridge and trees along Victoria Embankment, and the bridges and Embankment Pier on the river. The effects from both the construction and permanent proposals would be negligible.

South Bank Conservation Area

- H.7.17 Views from the South Bank Conservation Area of the embankment across the River Thames, with trees and the large High Victorian and Edwardian buildings rising behind it would be affected by the temporary and permanent works. More of the embankment would be occupied by foreground elements on the river and the linear nature of the river wall would be altered.
- H.7.18 However, the permanent alteration would introduce another formal, symmetrical element to the views of the embankment to complement the river stairs and Cleopatra's Needle. The new public space would provide a platform from which to view the conservation area. The construction works would therefore have a moderate negative effect on the setting of the conservation area and the foreshore structure would have both minor negative and minor positive effects. On balance, the effects would be minor negative. Both the temporary and permanent works would therefore cause less than substantial harm, as the grand sweep of the riverscape would largely be preserved.

Victoria Embankment Gardens

- H.7.19 Both the temporary construction works and the permanent foreshore structure would have minor negative effects on the setting of the gardens.

Royal Air Force Memorial

- H.7.20 The memorial's setting and significance would not be significantly affected by either the temporary or permanent works. At present, there is heavy traffic on Victoria Embankment and the memorial is designed to be seen face-on from the pavement of the embankment. The construction activities would be some distance away.
- H.7.21 Only the relocated Tattershall Castle would affect its setting and would not substantially detract from its significance. Overall, the effects would be negligible.

Playhouse Theatre

- H.7.22 The construction works would have a non-significant negative effect and the operational foreshore structure would have no effect on the significance of the theatre.

Palace of Westminster World Heritage Site

- H.7.23 The temporary construction works and foreshore structure would form a small element of the views to the north from the western end of Westminster Bridge.
- H.7.24 There are also localised views from the western end of the Hungerford Bridge past and over the site towards the Palace of Westminster (refer to Figure H.2). There would be negative effects on these views. The temporary construction works and permanent proposals would therefore have a minor negative effect on the setting of the World Heritage Site as a whole, amounting to less than substantial harm.

Ministry of Defence

- H.7.25 The temporary construction works, especially the relocated Tattershall Castle, would have minor negative effects on the setting of the building. The cofferdam would be some distance along the embankment and would have little impact on views. These effects would amount to less than substantial harm to its setting. Its relationship with the embankment and the river would be largely unaltered and its aspect to Whitehall would not be affected.

Assessment in relation to policy

- H.7.26 An assessment of the proposals in relation to relevant heritage policy is set out below.
- H.7.27 During the temporary construction phase, there would be substantial localised harm to the part of the listed wall that would be demolished. However, only a small area of the wall would be affected, and overall the harm would be less than substantial.
- H.7.28 The harm caused by the construction works at Victoria Embankment Foreshore would generally cause less than substantial harm to the affected heritage assets. This is below the threshold for refusal of consent recommended in the NPS (para. 4.10.14).
- H.7.29 The conservation of the four Sphinx benches and three catenary lamp standards satisfies para. 4.10.12 of the NPS.
- H.7.30 The permanent foreshore structure would generally have minor negative effects on the surrounding heritage assets, including minor harm to the settings of the following:
- a. the Palace of Westminster World Heritage Site as a whole
 - b. the South Bank Conservation Area as a whole
 - c. the Hispaniola
 - d. the National Liberal Club and Whitehall Place
 - e. Victoria Embankment Gardens
 - f. the Whitehall Conservation Area as a whole
 - g. Victoria Embankment.

- H.7.31 The structure would cause negligible harm to the following:
- a. the Savoy Conservation Area as a whole
 - b. listed benches
 - c. listed catenary lamps
 - d. the Sir Joseph Bazalgette Memorial
 - e. the Royal Air Force Memorial.
- H.7.32 The foreshore structure would form another formal, symmetrical element along the embankment to complement the river stairs and Cleopatra's Needle. The new public space and the materials of the structure would harmonise with the Bazalgette embankment. The shadow gap and siting of the electrical and control and amenity kiosks would reinforce the linearity of the embankment.
- H.7.33 The foreshore structure would also provide a platform from which to view the surrounding heritage assets and the historic riverscape and better reveal their significance, in accordance with para 4.10.17 of the NPS. The structure would also make a positive contribution to local character and distinctiveness as required by para. 4.10.12 of the NPS.
- H.7.34 The permanent foreshore structure would therefore provide a public benefit in historic environment terms and would constitute less than substantial harm to the setting of the nearby heritage assets, which satisfies Section 3.5 and paras. 4.10.12, 4.10.14 and 4.10.17 of the NPS, which are reflected in *London Plan* Policies 7.8 and 7.29, *Core Strategy* Policies CS24 and CS27, and saved *UDP* Policies RIV1, DES1, DES9 and DES10.
- H.7.35 The programme of archaeological investigation and recording would deliver public benefits by enabling the significance of any archaeology within the site to be fully understood. Any information gathered would be disseminated via the usual channels, which would add greatly to public appreciation of their significance. These mitigation measures are proportionate to the likely significance of any archaeology. As a result, the impact of the proposals would be acceptable, in line with para. 4.10.18 of the NPS, and as reflected in *London Plan* Policy 7.8, and saved *UDP* Policy DES11.

H.8 Conclusion

- H.8.1 The main potential heritage impact as this site is from the works to the Victoria Embankment river wall and the associated street furniture. Every effort has been made to minimise any harm and as a result, only a small area of the river wall parapet would be permanently removed. The low massing and sympathetic design of the foreshore structure and the new area of public space offering improved views would also help to mitigate harm.
- H.8.2 The character and appearance of the Whitehall Conservation Area could also be affected. However, the design and location of the foreshore structure and the sympathetic alterations to the heritage assets are based

on a thorough understanding of their significance and would render the permanent impact less than substantial. This would meet the criteria of para. 4.10.11 of the NPS.

- H.8.3 The large number of listed features in the vicinity and the nearby Palace of Westminster World Heritage Site would not experience any significant impacts on their settings.
- H.8.4 The unavoidable removal of some materials and potential archaeology in the foreshore would be fully mitigated by a programme of investigation and recording. Information in relation to any archaeological finds would be publicly disseminated. This is acceptable in heritage terms.
- H.8.5 In summary, any potential negative impacts on the fabric and setting of heritage assets within and around the site would be largely temporary and would be minimised by the quality of the design and the various construction management practices. This would be in line with the requirements of the NPS, which are reflected in the *London Plan*, the *Core Strategy*, the *UDP* and the *Conservation Area Audits*. The proposed works would not cause substantial harm to any of the heritage assets.

Gazetteer of known heritage assets

Details of known heritage assets within the assessment area are provided in Table H.3 below as illustrated on the Historic environment features map.

All known heritage assets within the assessment area are referred to by a historic environment assessment (HEA) number. Assets within the site are referred to and labelled in the Historic environment features map with the prefix 1, eg, HEA 1a, 1b, 1c. References to assets outside the site but within the assessment area are referred to numerically from 2 onwards, eg, HEA 2, 3, 4, and 5). The gazetteer also appears within the *Environmental Statement*, Vol 17 Appendix E.1.

Table H.3 Historic environment: Gazetteer of known heritage assets shown on the historic environment features map

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
1A	<p>Thirty-four catenary lamp standards on the Victoria Embankment. Grade II listed.</p> <p>Catenary lamp standards; 32 of c. 1900, by Walter MacFarlane and Company and 2 of c. 1929 by Carron and Company. The majority of the original lamp standards have marks on the base reading 'Walter MacFarlane & Co / Saracen Foundry / Glasgow', but few of these are legible due to many layers of paint. Others are numbered, although there does not appear to be any logical sequence to the numbering. The final pair, at either side of the road, where the Embankment meets Westminster Bridge is marked 'Carron Company / Stirlingshire' and dated 1929.</p>	1392513
1B	<p>The permanently moored Tattershall Castle 'hulk' (a vessel stripped of its fittings and permanently moored or abandoned), as recorded by Seazone. This was built in 1934 by William Gray and Co. for the London and North Eastern Railway, as a passenger steamer ferry on the River Humber, between Kingston upon Hull and New Holland, and served as a tether barge for barrage balloons and a ferry for troops and munitions during the Second World War (National Historic Ships, 2011). It was one of the first civilian vessels to be equipped with radar. By 1971, after the opening of the Humber Bridge its services as a ferry boat were no longer needed and in 1981 she was brought to London. It has since been extensively remodelled, including the introduction of windows, a bridge and removal of paddles. It is listed on the National Register of Historic Vessels Certificate no. 72.</p>	4860000061 48549
1C	<p>Twenty-one bench seats set on Embankment pavement. Grade II listed: 1872–74 designed by Lewis and G F Vulliamy. Cast iron mounted and timber slatted. The seats take the form of long benches with curved backs supported on cast iron brackets, the terminal arm-brackets designed as winged sphinxes, with the exception of the bench opposite the junction with Horse Guards Avenue which has the feature of seated camels instead of sphinxes.</p>	1357348

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	Included in their own right as original street furniture and as part of the Embankment design.	
1D	Embankment river wall, stairs and lamp standards. Grade II listed. Built 1864–70 by Sir Joseph Bazalgette as part of the engineering works to improve London's drainage system with interceptor sewers along both sides of the Thames. The 'dolphin' lamp standards designed by Timothy Butler (most of them dated 1870). Granite retaining walls, cast iron lamp standards. The boldly detailed retaining walls are battered to river with bronze lion heads holding mooring rings and the parapet has a heavy segmental rolled coping with regularly spaced dies surmounted by the ornately designed 'dolphin' (also called 'sturgeon') lamp standards with globe lanterns. At the Westminster Bridge end a similarly detailed wall separates the Embankment proper from the road which rises to bridge level with stone paving and steps between the two levels and a flight of stairs alongside the Boadicea monument. Temple Stairs at the east end has a large boldly channelled semi-circular archway.	1237712
1E	King's Reach. A pontoon recorded by Seazone.	4860000061 48456
1F	The approximate location of the chance find of a 9th century iron axe.	MLO270061 12024
1G	Victoria Embankment: Constructed by Joseph Bazalgette, finished and opened in 1869, a single phase construction including the Grade II listed embankment wall (HEA 1D) and fill behind as far as the historic riverbank. Fill is a single construction of Portland Cement concrete, incorporating a stretch of the Northern Outfall Low Level Sewer, a subway beneath the pavement (containing gas and electricity lines) and the tunnel of the Circle and District lines). The embankment supports a surface roadway, lined with trees planted at 20ft intervals along the pavement beside the river wall. The scheme included a uniform line of London Plane trees along the pavement. The existing trees are varied in age and those within the site are classed as young and middle aged and are possibly replacement to those that were originally planted	---
2	In 1882, c. 100 early medieval silver coins were found near 'Waterloo Railway Bridge', presumed to be Hungerford Bridge as noted on the Greater London Historic Environment Record (GLHER).	MLO26846 114009
3	Northumberland Avenue/Whitehall Place: the site of the medieval St Mary Rounceval Wharf, which in the post-medieval period may have been held by the Crown as part of Whitehall Palace (HEA 10).	MLO364710 81346/01
4	The town house of the Abbot of Bury is documented c. 1200 as close to York Place (later Whitehall Palace, HEA 10), although the Greater London Historic Environment Record (GLHER) locates this point in the Thames channel.	MLO9193 081379

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
5	Scotland Dock which supplied Whitehall Palace (HEA 10) from warehouses, and included a bakery, a small brew house and a buttery, as seen on Fisher's c. 1680 plan of the Palace. It is documented that c. 1531, material for building the dock was collected in the Scotland Yard Area and was protected by a hedge of thorns and stakes. The dock was built in 1532 and was later enlarged and the area of water was roofed over.	MLO556590 81349/22
6	The chance finds of a Bronze Age palstave/axe and spear from the River Thames.	MLO8881 112031 MLO8889 112046
7	Thames Foreshore, adjacent to Hungerford Bridge, SE1. An archaeological evaluation by the Museum of London Archaeology Service (MoLAS, now MOLA) in 1997. An auger survey recorded natural gravels gradually sloping down towards the river, though one of the transects showed a sharp fall, possibly the result of truncation by dredging for the clearance of an entrance to one of the numerous wharves that lined this part of the river in the 18th and 19th century.	TFC97
8	The medieval Whitehall Stairs which provided a public river landing place, with a corresponding right of way through Whitehall Gate and the Palace (HEA 10) to the main road (Whitehall), until the 1860s when they were demolished during the building of the Victoria Embankment.	MLO385510 81349/06
9	The GLHER includes a river embankment wall with six bastions shown on Fisher's c. 1680 plan of Whitehall Palace (HEA 10) running south from Whitehall Stairs (HEA 8). It was c. 18m beyond the earlier river line and c. 90m behind the present embankment. The bastions may have been designed to hold many-windowed turrets, as at other Tudor Palaces at Richmond and Greenwich. See also HEA 11 .	MLO364790 81349/15
10	York Place, Whitehall, later Whitehall Palace. Richard Fitznigel Bishop of London (1189–98) had a house here on Abbey lands. In 1245 it was given to the see of York and became the London house of the Archbishop of York. Building work was recorded in 1298. Greatly extended by Cardinal Wolsey as Archbishop of York 1514–29. Taken by Henry VIII on Wolsey's fall and renamed Whitehall Palace. The Palace buildings as recorded in c. 1680 extended across much of the western part of the assessment area, approximately from modern Northumberland Avenue in the north to Richmond Terrace in the south. Damaged by fire in 1691 and almost entirely burnt down in 1698.	MLO188330 81356
11	Additional GLHER entry for the 16th–17th century river wall associated with Whitehall Palace and possibly originally built for the earlier York Place (see also HEA 9).	MLO370420 81356/06
12	Medieval to post-medieval beer-house of the knights of St John of Jerusalem. In 1530 it passed to the Crown. The site was	MLO9175 081354

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	redeveloped by William, 5th Baron of Craven in 1730.	
13	<p>Thames Foreshore, Jubilee Gardens, SE1. An archaeological evaluation by MoLAS in 1996. Examination of small trial holes along a measured grid indicated that post-medieval aggradation (material deposited on the foreshore by riverine action) overlay alluvial silts of possible medieval date.</p> <p>A record of features on the foreshore south of Hungerford Bridge made by the Thames Archaeological Survey (TAS) in 1999 was reviewed and expanded by the Thames Discovery Programme (TDP), which identified features exposed prior to and during dredging for repairs and strengthening of the Underground line:</p> <ol style="list-style-type: none"> a. Palaeolithic forest remains (A101 and 109) comprising branches and roots in peat/organic clay, and related deposit (A110) comprising a high concentration of shells; b. a possible Palaeolithic timber (A111) represented by a round wood displaying a likely joint and tool marks; c. post-medieval artefact scatter (A107) comprising Delftware kiln material; d. post-medieval mooring block (A108) represented by six or more vertical stakes with metal caps; e. post-medieval unclassified structures (A102 and 103) each comprising a box formed of four vertical timbers with pierced plank sides, and a possible 'door' on one side, possibly fishing or storage related; f. deposit of 19th century date (A105–7) comprising a sequence of organic clays, shelly sands and dumped material; g. layer of aggradations (A112) comprising gravel dumped to fill a dredged area (A104). 	<p>TFJ96</p> <p>FLM05 A101– A112</p>
14	The kitchen of Whitehall Palace (HEA 10). The building works were probably started by Wolsey but accounts of payments suggest that the work was finished by Henry VIII.	MLO364880 81356/04
15	The chapel of York Place which is believed to have been renovated or rebuilt by Wolsey in the early 16th century. Also the site of 'Cromwell House' constructed c. 1722 which incorporated a vaulted undercroft of c. 1530. Cromwell House was demolished in 1913.	MLO364860 81356/02 MLO217312 05034 MLO364850 81356/01
16	A 15th century battlemented parapet, part of Whitehall Palace. In 1665 it was fitted up as a theatre but burnt down in 1698.	MLO364870 81356/03
17	A kitchen of York Place/Whitehall Palace to the north of the great hall, believed to have been built by Wolsey.	MLO364890 81356/05
18	Charing Cross Station, Villiers Street, WC2. An archaeological watching brief by the Museum of London's Department of Greater	CHA87

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	London Archaeology (DGLA) in 1987 recorded good organic preservation in the lower layers, some of which contained quantities of domestic refuse but few dateable artefacts. Evidence of a late or early post-medieval water channel was found along with the remains of a wall of the same period, when the site formed part of the garden of York House.	
19	Medieval Hungerford Stairs. Recorded on the GLHER.	MLO385490 81341/01
20	The 17th century Kings Arms Glasshouse which produced plate glass and looking glasses. Its proprietors included John Gumley (1706–12) and the Vauxhall plate glasshouse (1723).	MLO77753
21	Pembroke House which was built in 1756 on the site of an earlier building of 1729. Demolished in 1913.	MLO219672 05033
22	A 15th century and later watching chamber, privy chamber, presence chamber etc. for the Queen at Whitehall Palace, probably originally part of York Place. Rebuilt in 1688, burnt in 1698, and the shell demolished in 1701.	MLO364740 81349/04
23	The Privy Stairs of Whitehall Palace for the use of the Royal family. There was also a two-storey structure with a shield gallery and balustrade from which pageants could be watched.	MLO364760 81349/07
24	13–14 Buckingham Street, WC2. An archaeological watching brief by DGLA in 1988 produced evidence of the local natural topography and land reclamation.	BKS88
25	The chance find of a Bronze Age 'chisel'-type implement in 1920 between Westminster and Waterloo Bridges.	MLO269401 14031
26	The approximate location of a Roman coin (LON-800382), a medieval buckle (LON-6493D1) and a post-medieval coin (LON-8E19E7) recovered from the banks of the Thames, and recorded by the Portable Antiquities Scheme (PAS).	LON-800382 LON-6493D1 LON-8E19E7
27	Plimsoll Memorial on edge of Embankment Gardens. Grade II listed: 1929 by F. V. Blundstone. Bronze portrait bust on granite pedestal with two bronze supporters and cartouche with inscription.	1274547
28	Memorial to Sir W. S. Gilbert. Grade II listed: Fixed to granite block at Charing Cross Pier. 1914, by George Frampton. Bronze plaque with portrait relief and two small figures of Comedy and Tragedy.	1237829
29	Memorial to Sir J. Bazalgette. Grade II listed. 1890. White marbled pedimented tabernacle in early Renaissance style: fixed to granite block upstream from Hungerford Bridge. The tabernacle contains a bronze portrait bust in roundel and bronze cartouche.	1357347
30	River Thames Dredging (Flood Mitigation 3), north side of Hungerford Bridge on the South Bank, SE1. An archaeological	TDR96

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	watching brief by MoLAS in 1996. Material dredged from the River Thames proved to be modern with only one or two pieces of much abraded earlier pottery.	
31	Statue of Sir James Outram. Grade II listed: 1871, by Matthew Noble. Bronze standing figure on polished granite pedestal with groups of Indian arms and trophies at the corners.	1237908
32	Statue of William Tyndale. Grade II listed: 1884, by Sir Edgar Boehm. Bronze standing figure on Portland stone pedestal.	1357350
33	Queen Mary's steps and fragment of Whitehall Palace. Grade I listed: Reconstructed Tudor Palace wall and north end of terrace and river steps by Sir Christopher Wren 1691–93. Portland stone. The reconstructed Tudor work is part of the base of the corner of the river wall to King Henry VIII's Whitehall Palace. In front of it is the surviving north end of Queen Mary's Terrace with curved flight of steps flanked by ashlar retaining walls of terrace; at the top of the steps, bases of four columns and the doorway sill of the river gate.	1066636
34	Ministry of Defence. Grade I listed: Government offices incorporating 16th century vaulted undercroft and 18th century historic rooms removed and reset from houses formerly on the site. Office building designed 1913 by Vincent Harris but only built after World War II, completed 1959. Portland stone ashlar facing, copper clad roofs.	1278223
35	The National Liberal Club. Grade II* listed: Part of Whitehall Court (HEA 36). 1884–1887, by Alfred Waterhouse. Portland stone, slate roofs.	1066072
36	Whitehall Court. Grade II* listed: Mansion block of flats. 1884 by Thomas Archer and A. Green. Portland stone, slate roofs.	1266894
37	Playhouse Theatre. Grade II listed: 1881–82 by F.H. Fowler as the Royal Avenue Theatre, interior reconstructed 1906–07 by Blow and Billerey. Painted stone, concealed roof. Restrained and elegant classical design. Two storeys.	1356962
38	Statue of General Gordon. Grade II listed: 1887–88, by Hamo Thornycroft. Bronze, over life-size statue of Gordon of Khartoum on Portland stone base with enrichments and two plaques also of bronze.	1066175
39	Statue of Sir Bartle Frere. Grade II listed: 1888, by T. Brock. Bronze standing figure on granite pedestal.	1066176
40	Royal Air Force Memorial Whitehall Stairs. Grade II listed: By Sir R. Blomfield, c. 1920. Portland stone pylon surmounted by gilt bronze eagle.	1066171
41	Hungerford House. Grade II listed.	1237857
42	Unclassified obstruction: concrete underwater structure recorded by acoustic sensor and digitised by Seazone.	6370000011 30826

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
43	As HEA 42.	637000011 30820
44	As HEA 42.	637000011 30823
45	As HEA 42.	637000011 30825
46	As HEA 42.	637000011 30819
47	As HEA 42.	637000011 30822
48	As HEA 42.	637000011 30821
49	King's Reach. Location of a post/pile recorded by Seazone.	486000061 48226
50	As HEA 49.	486000061 47565
51	As HEA 49.	486000061 46856
52	Northumberland Avenue, Westminster. Watching brief in 2006 by MoLAS during the excavation of sewer connection shafts. The earliest recorded deposit in the most easterly of the shafts contained 15th-century material. Two brick-built tunnels were seen running north–south c. 5m below the current ground surface. The tunnels are thought to be the remains of a drainage system or garden feature from Northumberland House (previously Suffolk House). The bricks included examples of possible Tudor type. In a second shaft, a reclamation or garden deposit of probable 17th century date was recorded, above which lay 19th century deposits associated with the construction of a nearby sewer. Brick rubble, possibly associated with the late 19th century demolition of Northumberland House and the construction of Northumberland Avenue, was recorded in a third shaft; later monitoring of this shaft revealed possible Saxon deposits.	NUM06 MLO98853
53	Gateway and railings across south end of street with retaining wall and steps down to Victoria Embankment Gardens. Grade II listed.	1220330
54	King's Reach. Location of a pontoon recorded by Seazone.	486000061 49142
55	Government offices, Ministry of Agriculture Fisheries and Food West Block. Grade II* listed.	1066106
56	Statue of Sir Walter Raleigh. Grade II listed.	1224167
57	Royal United Services Institute. Grade II* listed.	1266924
58	Gwydyr House (Welsh Office). Grade II* listed.	1066107

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
59	Harrington House. Grade II* listed.	1356938
60	1, Great Scotland Yard. Grade II listed.	1357068
61	Ship and Shovel public house. Grade II listed.	1220801
62	War Office (Ministry of Defence). Grade II* listed.	1224143
63	Forecourt railings, gates and guardhouses to Horseguards. Grade I listed.	1267077
64	Whitehall House. Grade II listed.	1066105
65	35, 36, 37, 38 Craven Street. Grade II listed.	1356964 1356965 1066930 1066931
66	Dover House Scottish Office. Grade I listed.	1066101
67	11–12, 13–14, 15 Craven Street. Grade II listed.	1220845 1066962 1066926
68	Victoria Embankment Gardens. Grade II* registered park and garden.	32901
69	Two lamp standards. Grade II listed.	1235175
70	Chance find of a Mesolithic flint axe recorded on the GLHER.	MLO9125 081302
71	Great Scotland Yard, Whitehall. Part of the Tudor and later Whitehall Palace (HEA 10), traditionally a reference to a residence of the kings of Scotland, recorded on the GLHER.	MLO187700 81350
72	Banqueting House (outside). MoLAS watching brief 1994 recorded a partially backfilled brick well apparently shown on Fisher's plan of c. 1680, probably associated with Whitehall Palace. No other archaeological deposits were exposed.	BHW94
73	Horseguards Avenue. Medieval to post-medieval flood defences.	MLO370420 81356/06
74	Richmond Terrace Mews. Evaluation trial trenching by the Inner London Archaeological Unit (ILAU) in 1980 indicated that the vicinity was frequently flooded by the Thames and possibly used as a refuse dump in the late medieval period. A watching brief by the Central Excavation Unit of English Heritage in 1983 during building construction revealed an alder wood baseplate and post set into it at –1.4m OD (98.6 ATD) immediately overlying a peaty deposit, itself resting on alluvial clays. Radiocarbon dating of the timber, if reliable, placed the structure in the Late Bronze Age or early Iron Age. The investigation also confirmed the presence of 15th–16th century dumps, which were overlain by rubble make-up for 17th–18th century structures.	RCH80 CEU259 MLO219660 81462 MLO635390 83097 MLO219640 81461

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
75	St Martin's Lane. Medieval to post-medieval conduit.	MLO187820 81417
76	Sir Walter Raleigh Statue. MoLAS watching brief in 2001. Garden soil, probably of 20th century date, was overlain by make-up and topsoil.	WTI01
77	Ministry of Defence. MoLAS watching brief 2001. Groundworks on either side of Horse Guards Avenue revealed a brick wall (thought to have been part of the Royal Palace of Whitehall) in Tudor-style brick and possibly dating to works by Cardinal Wolsey or Henry VIII. A large fragment of floor tile may have been from one of the central panels in a maiolica mosaic possibly dating to the 1520s. To the west, further walls were thought to be from Pelham House, a private residence on the site in c. 1800 and subsequently 19th-century office buildings.	WIH01
78	Statue of the Duke of Cambridge. Grade II listed.	1066108
79	The medieval York Place, later Whitehall Palace (HEA 10). Archaeological excavations in 1950 and 1960–62 in areas between Whitehall and the river and the Treasury buildings added much information to Fisher's 1680 ground plan and other documentary sources. Fabric from the Tudor palace was incorporated into later treasury buildings. A Neolithic greenstone axe is noted in the GLHER as having come from the 1950's excavation.	MLO188260 81349 MLO3240 081253
80	Post-medieval building range, part of Whitehall Palace.	MLO536180 81349/27
81	Post-medieval building range, part of Whitehall Palace.	MLO536180 81349/27
82	Post-medieval garden, orchard, part of Whitehall Palace.	MLO364780 81349/13
83	Post-medieval cellar, part of Whitehall Palace.	MLO364850 81356/01
84	Post-medieval 'stone gallery' or covered way, part of Whitehall Palace.	MLO483440 81349/12
85	Post-medieval garden, part of Whitehall Palace.	MLO483450 81349/14
86	Belvedere Road, Lambeth. Documentary sources record the location of two post-medieval post mills.	MLO135250 90945
87	11 Buckingham Street. A watching brief by DGLA in 1987. Walls of late medieval or early post-medieval date were recorded.	BKS87
88	South Bank, Lambeth. River Stairs, later known as the King's Arms Stairs. Also the documented site of two docks on ground called The Hopes.	MLO4127 090109 MLO244250 90056

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
89	South Bank, Lambeth. A post-medieval glass works, recorded as being in the possession of the Vauxhall Glasshouse in the early 18th century.	MLO4130 090117
90	The Board of Trade building, Westminster. An aviary recorded here was moved to St James's Park in 1667.	MLO563460 81349/03/00 1
91	Richmond Terrace: landing steps built 1563–5 with an ornamental gate added in 1600–1.	MLO563470 81349/13/00 1
92	Whitehall Gardens: in 1668–9, a gallery (covered way) was built for Whitehall Palace that divided Pebble Court and the Great Court.	MLO564390 81349/14/00 2
93	Millennium Wheel Site (London Eye), Jubilee Gardens, Belvedere Road. MoLAS evaluation and watching brief in 1997. A sequence of gravels was overlain by the sands and silts typical of a floodplain, in turn overlain by organic silty clays indicative of a marsh-like environment, probably Roman. Above alluvial clay was an organic clay deposit, probably Saxon (670–960): the upper levels dated to 1020–1260. A timber conduit was also recorded. Evidence of post-medieval land reclamation, piling, wall, well, ditch and revetment as well as a medieval to post-medieval water channel and causeway were recorded on the GLHER.	JUL97 092702 092723 092725 093280 093281 093282 093278 093279
94	12 Buckingham Street. DGLA watching brief in 1988. Waterlogged deposits were recorded which included the apparent remains of a wattle fence. Animal bone was also recovered. The levels were possibly Saxon, though no dating evidence was found.	BHM88
95	22–25 Northumberland Avenue. A site code was issued in 2001 but ownership of the site changed and the planned fieldwork was not carried out.	NMB01
96	Whitehall Palace. Excavations in 1939. No further information available at present. Work also carried out 1933 to 1936.	WAL39
97	45–51 Whitehall. Inner London Archaeological Unit (ILAU) excavation in 1979 showed that the Taplow Gravels did not extend as far south from Trafalgar Square as this site, which lay on alluvial deposits. Modern buildings had destroyed any later archaeological strata.	WHI79
98	Richmond Terrace balustrade and five lamps on it. Grade II* listed.	1265182
99	Northumberland Avenue. The chance discovery in 1883 of sections of polished deer antler, thought to be Lower Palaeolithic but re-examined in 1987 and assessed as possibly medieval.	MLO129500 81129
100	Women in World War II War Memorial. MoLAS watching brief in 2005. Two large gas mains had truncated most of the stratigraphy, although a small amount of the post-medieval sequence survived,	WWM05

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	containing some animal bone and a small quantity of c. 16th–17th century pottery.	
101	70 Whitehall. MoLAS excavation in 2008. A trench was located in a ground floor room in Dorset House, built in the 18th century but now part of a complex of government buildings that occupies the site of Henry VIII's Whitehall Palace. A remnant of Tudor wall was recorded, along with an 18th century culvert.	WHX08
102	Household Cavalry Museum, Horse Guards. MoLAS watching brief and standing structure recording in 2006. Several red brick foundations and drains that form part of the construction of the present building were revealed, including an earlier yellow brick drain probably from the stable floor of the first Horse Guards c.1663–1750. Evidence was also found of a mixture of timber floor construction methods, reminiscent of those used in 18th century warehouses.	HOG06
103	Statue of the eighth Duke of Devonshire. Grade II listed.	1224271
104	Banqueting House. Grade I listed.	1357353
105	Former Paymaster General's office (The Parliamentary Counsel). Grade II* listed.	1357390
106	Horse Guards. Grade I listed.	1066100
107	Richmond Terrace. Grade II* listed.	1235174
108	Statue of Lord Trenchard. Grade II listed. 1961 by W McMillan. Bronze standing figure of the Air Marshal on Portland stone pedestal with granite steps.	1237902
109	Richmond Terrace east garden wall with pier and urn adjoining number 1. Grade II listed.	1265164
110	13 Buckingham Street. Grade II* listed.	1066366
111	Northumberland House (Victoria Buildings). Grade II listed.	1225350
112	Statue of Field Marshal Earl Haig. Grade II listed.	1066109
113	Victoria Embankment. The Hispaniola 'hulk' as recorded by Seazone. Originally named the Maid of Ashton and launched in 1953 as the first of a quartet of passenger vessels ordered in 1951 to modernise the Clyde fleet of the Caledonian Steam Packet Company. It was built by Yarrow's naval yard at Scotstoun. With the switch to car ferry services, it became redundant and was laid up in 1971. In 1973 it was moved to the Thames and sold to the Yardarm private dining club of London and renamed Hispaniola. In 2002, it was refitted at the George Prior yard in Ipswich and resumed business in its present position as a restaurant.	486000061 49229

This page intentionally left blank

Table H.4 List of drawings in order

Drawing title
Historic environment features map
Conservation areas map
Location plan
As existing site features plan
As existing landscape plan (1 of 2)
As existing landscape plan (2 of 2)
Demolition and site clearance (1 of 2)
Demolition and site clearance (2 of 2)
Site works parameter plan
Proposed overall landscape plan
Proposed landscape plan (1 of 2)
Proposed landscape plan (2 of 2)
Section A-A
As existing and proposed river elevation
As existing and proposed river elevation-impact on listed structure
As existing and proposed south elevation
As existing and proposed detailed south elevation
As existing and proposed west elevation
As existing and proposed north elevation
Kiosk design intent drawing
Typical river wall design intent (1 of 2)
Typical river wall design intent (2 of 2)
As existing listed structure interface: Foreshore structure
Proposed listed structure interface: Foreshore structure
As existing and proposed listed structure interface weir structure
Proposed mooring access details
Construction phase 1: Site set-up
Construction phase 2: Shaft construction and tunnelling
Construction phase 3: Construction of other structures
Construction phase 4: Site demobilisation

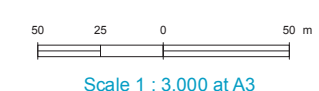
This page is intentionally blank



Key

- Limits of Land to be Acquired or Used
- Local Authority Boundary
- Heritage Feature/Findspot
- Statutorily Listed Building
- Past Investigation
- Past Investigation Area
- Bazalgette sewer
- Registered Park/Garden
- Wreck/Obstruction
- Wreck/Obstruction

The reference number for historic environment features correspond to the descriptions in the 'Gazetteer of known heritage assets' in Environmental Statement Vol. 17 Appendix E.1

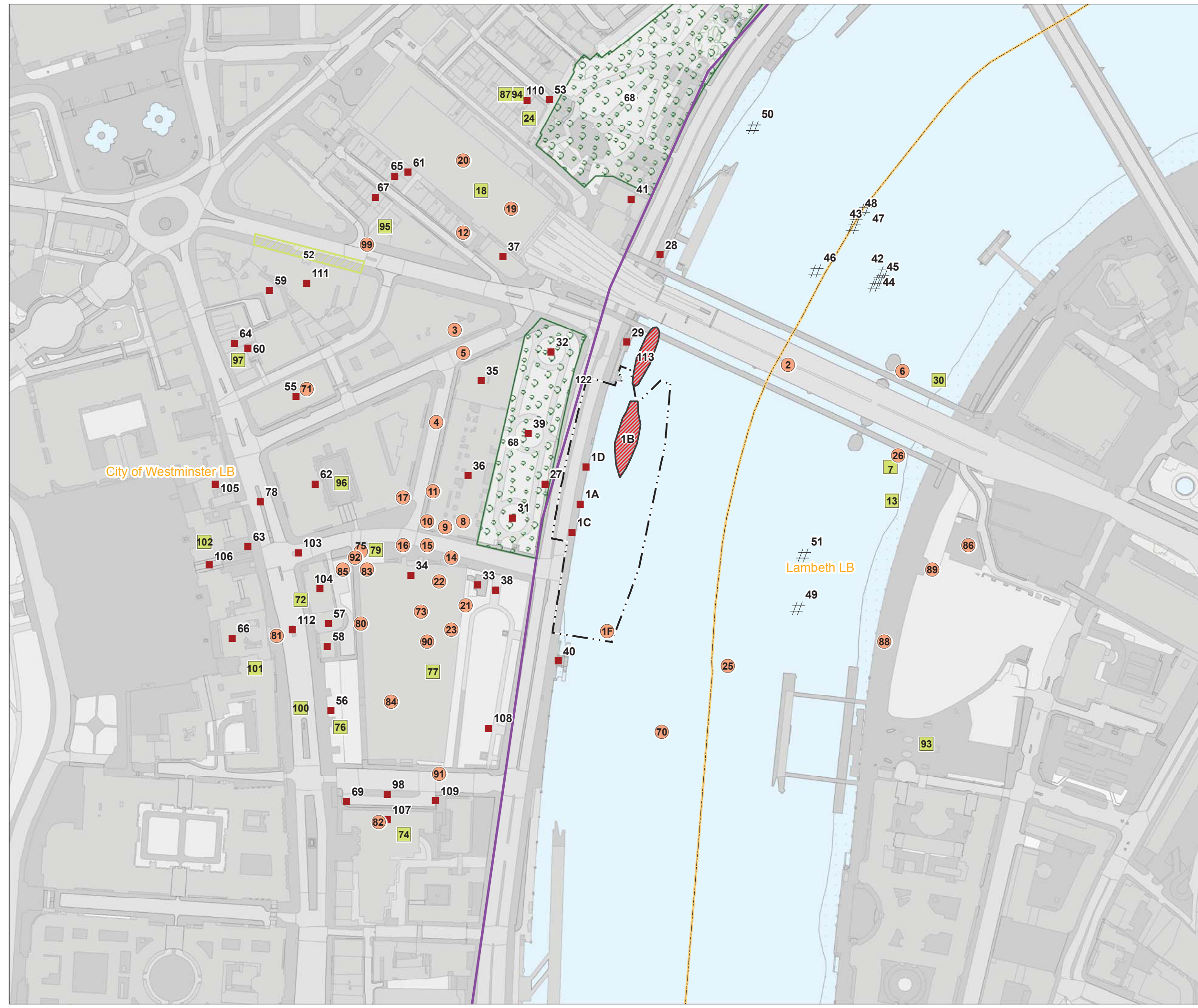


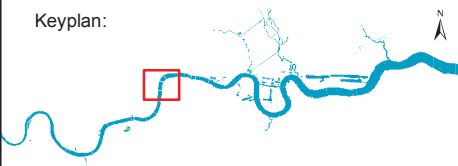
FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

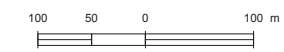
Document Information
Heritage Statement
Historic environment features map

1PL03-HE-65222
January 2013





- Key
- Limits of Land to be Acquired or Used
 - Local Authority Boundary
 - Conservation Area
 - World Heritage Site



Scale 1 : 7,000 at A3

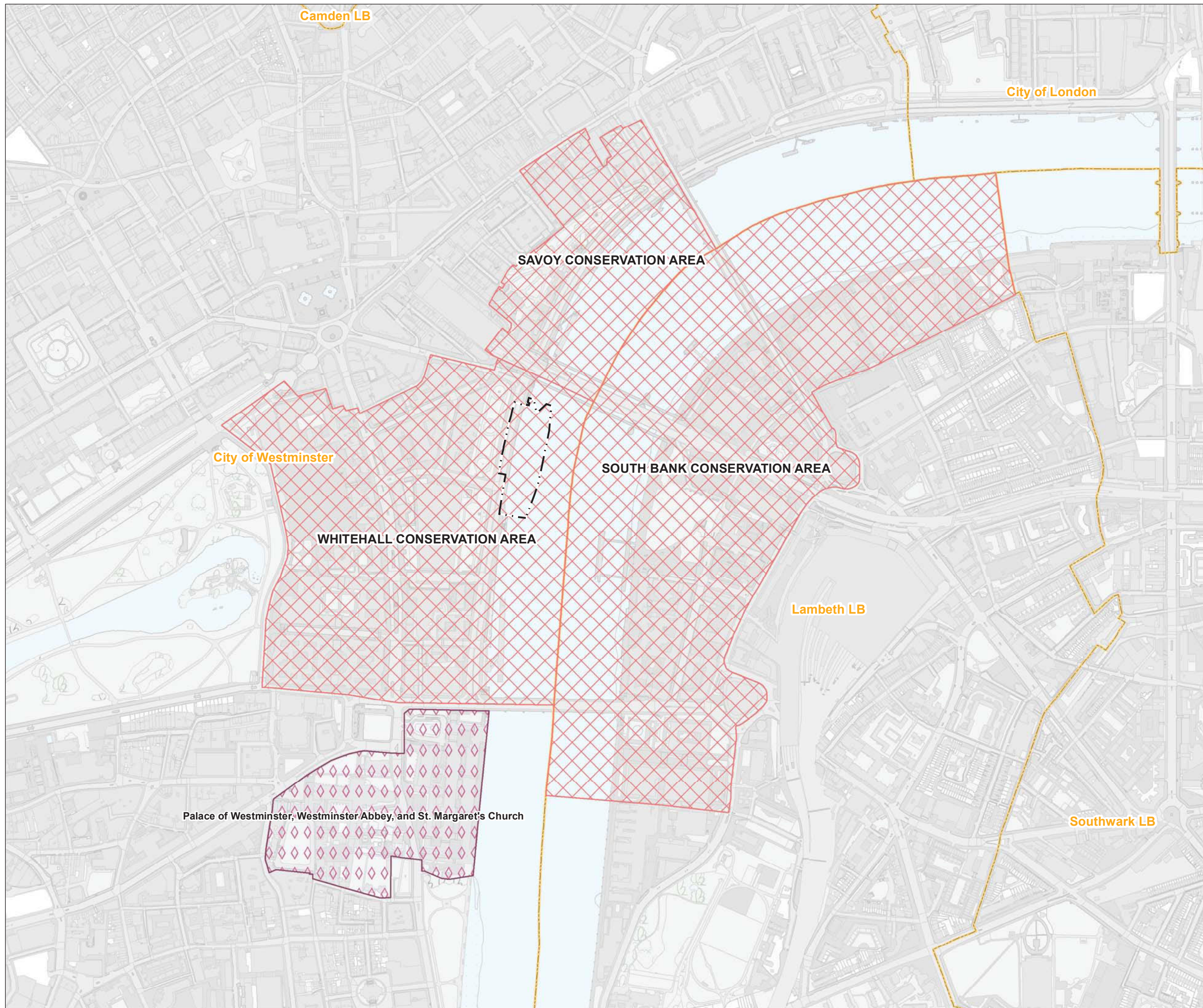
FOR INFORMATION

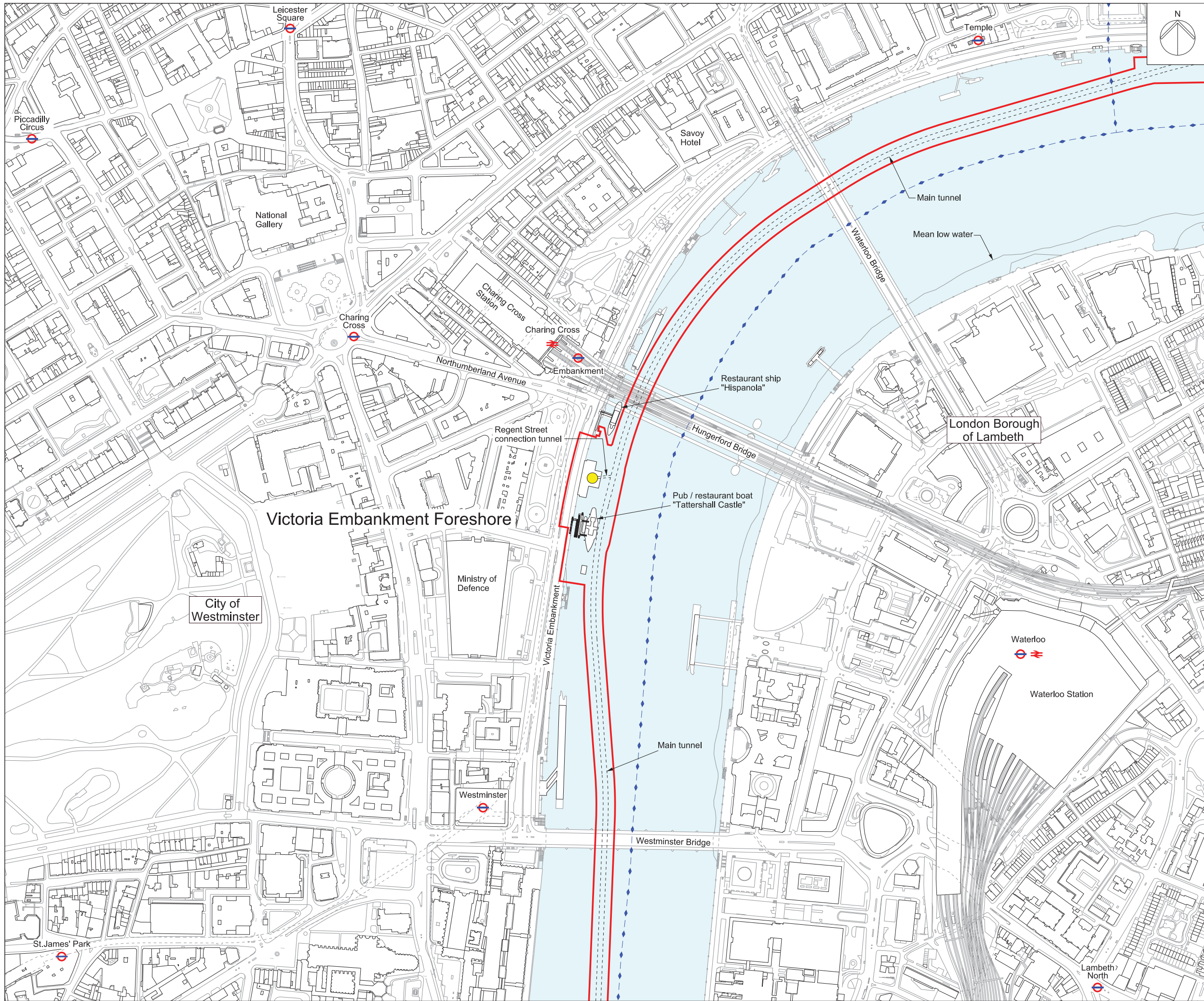
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Heritage Statement
Conservation areas map

PL03-HE-65237
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames





Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

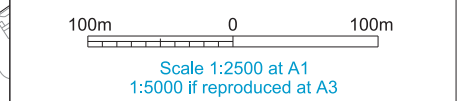


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:
- Local authority boundary
 - Order limits
 - Tunnel
 - Shaft

Notes:

- The alignment of the tunnels are illustrative within limits of deviation.



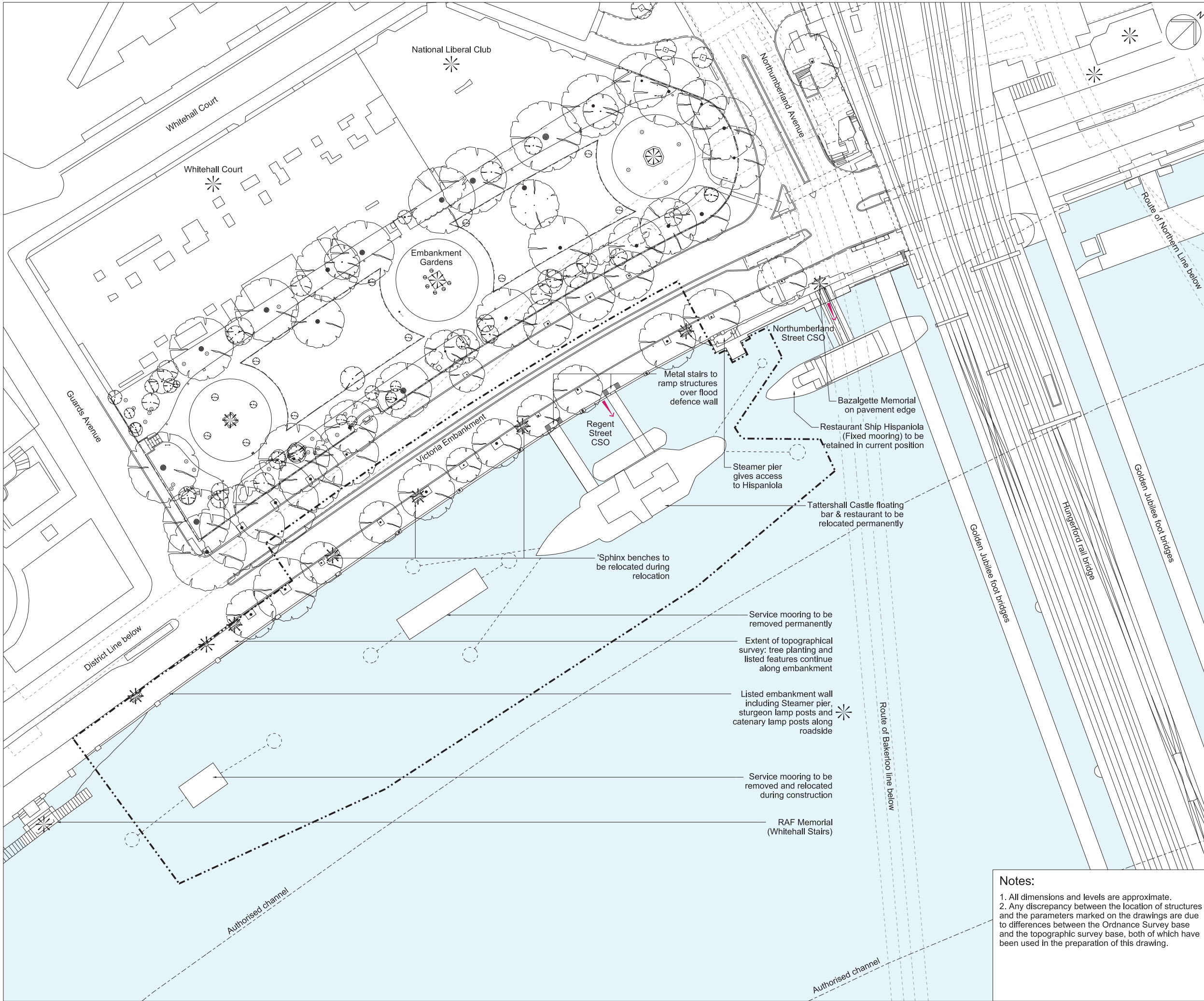
FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Location plan

Book of plans - section 18
DCO-PP-16X-VCTEF-180001
January 2013



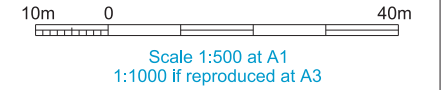


Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Authorised channel
 - * Listed buildings/structures
 - Approximate position of CSO outlet
 - ⊙ Existing trees within surveyed area (trunk sizes vary)



FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

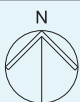
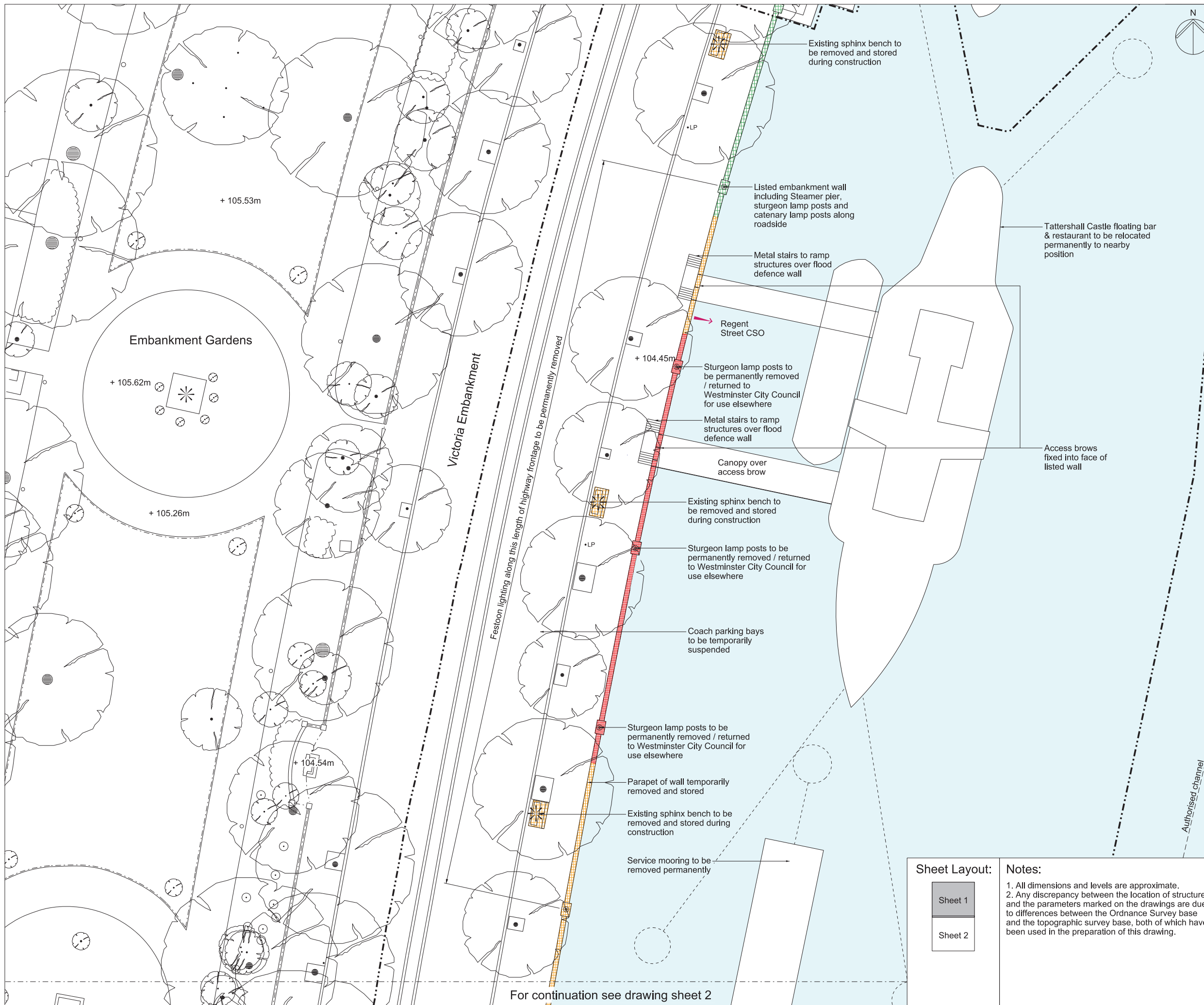
Document Information
Application for Development Consent

As existing
Site features plan
Book of plans - section 18
DCO-PP-16X-VCTEF-180002
January 2013



Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.

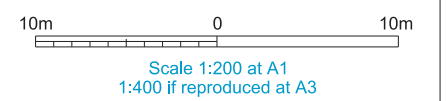


Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Authorised channel
 - + 105.40m Existing levels (shown in metres above tunnel datum)
 - Listed buildings/structures
 - Approximate position of CSO outlet
 - Existing trees within surveyed area (trunk sizes vary)
 - Listed buildings / structures within LLAU
 - Maximum temporary extent of loss of listed buildings / structures
 - Maximum permanent extent of loss of listed buildings / structures

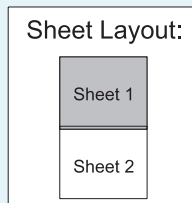


FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent

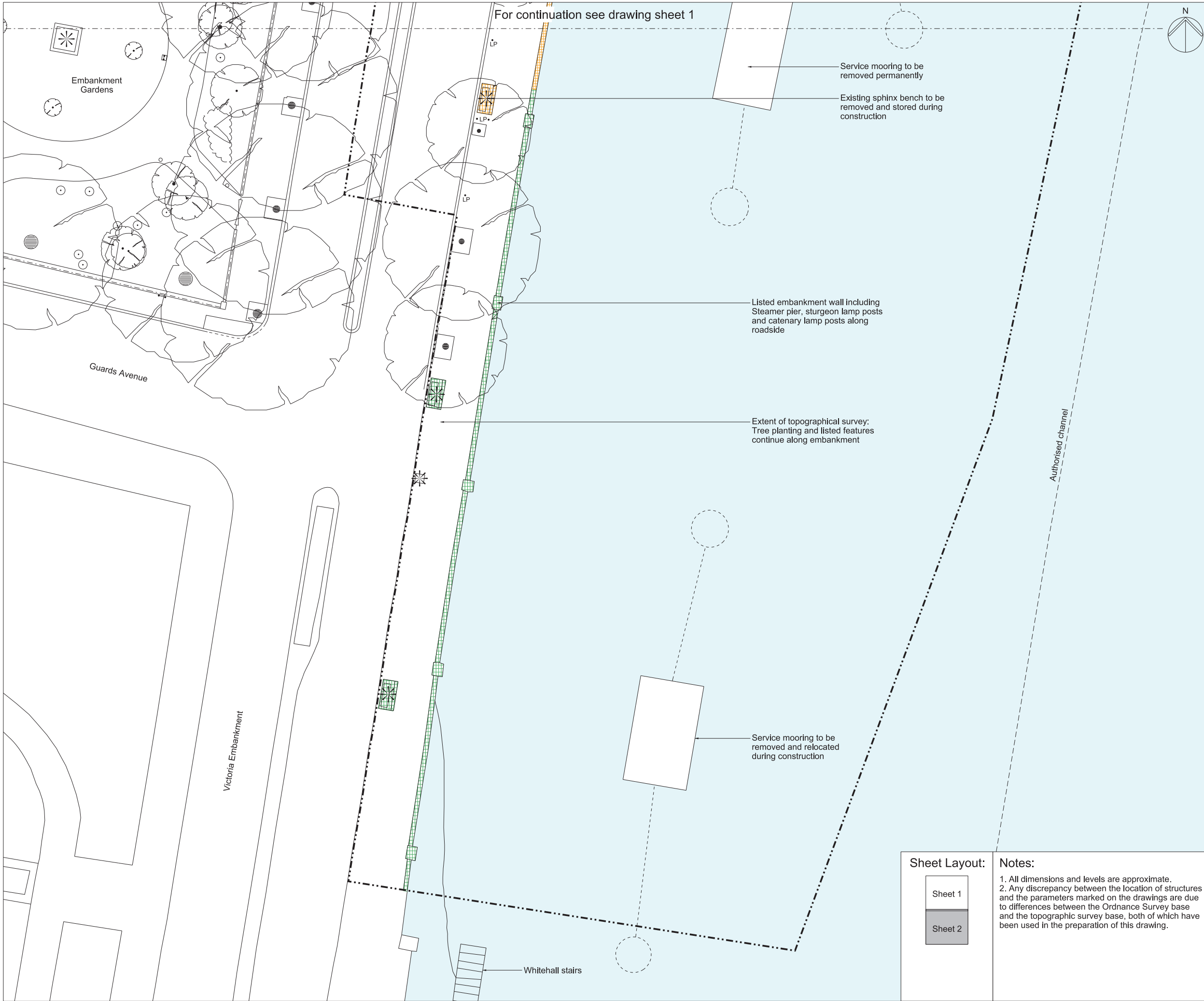
As existing
Landscape plan sheet 1 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180003
January 2013



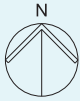
Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.

For continuation see drawing sheet 2



For continuation see drawing sheet 1

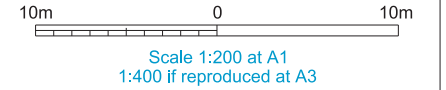


Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Authorised channel
 - Listed buildings/structures
 - Existing trees within surveyed area (trunk sizes vary)
 - Listed buildings / structures within LLAU
 - Maximum temporary extent of loss of listed buildings / structures



FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

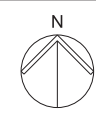
Document Information
Application for Development Consent
As existing
Landscape plan sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180004
January 2013

- Sheet Layout:**
- Sheet 1
 - Sheet 2

Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.





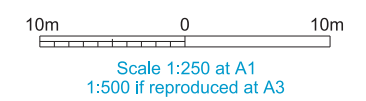
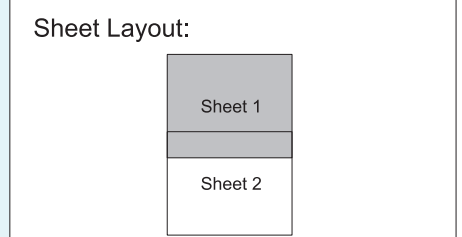
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Trees to be removed
 - Above ground structures to be removed
 - Below ground structures to be removed or infilled
 - Structure to be removed and relocated or reinstated

- Notes:**
1. General activities of site clearance such as removal of hardstanding and foundations, stripping of topsoil and clearance of minor vegetation not shown.
 2. Minor items to be removed (e.g. barriers, bollards etc.) are not shown.
 3. All lamp standards, parapet sections and benches to be carefully removed and stored securely off site until reinstatement.

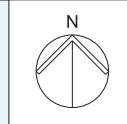
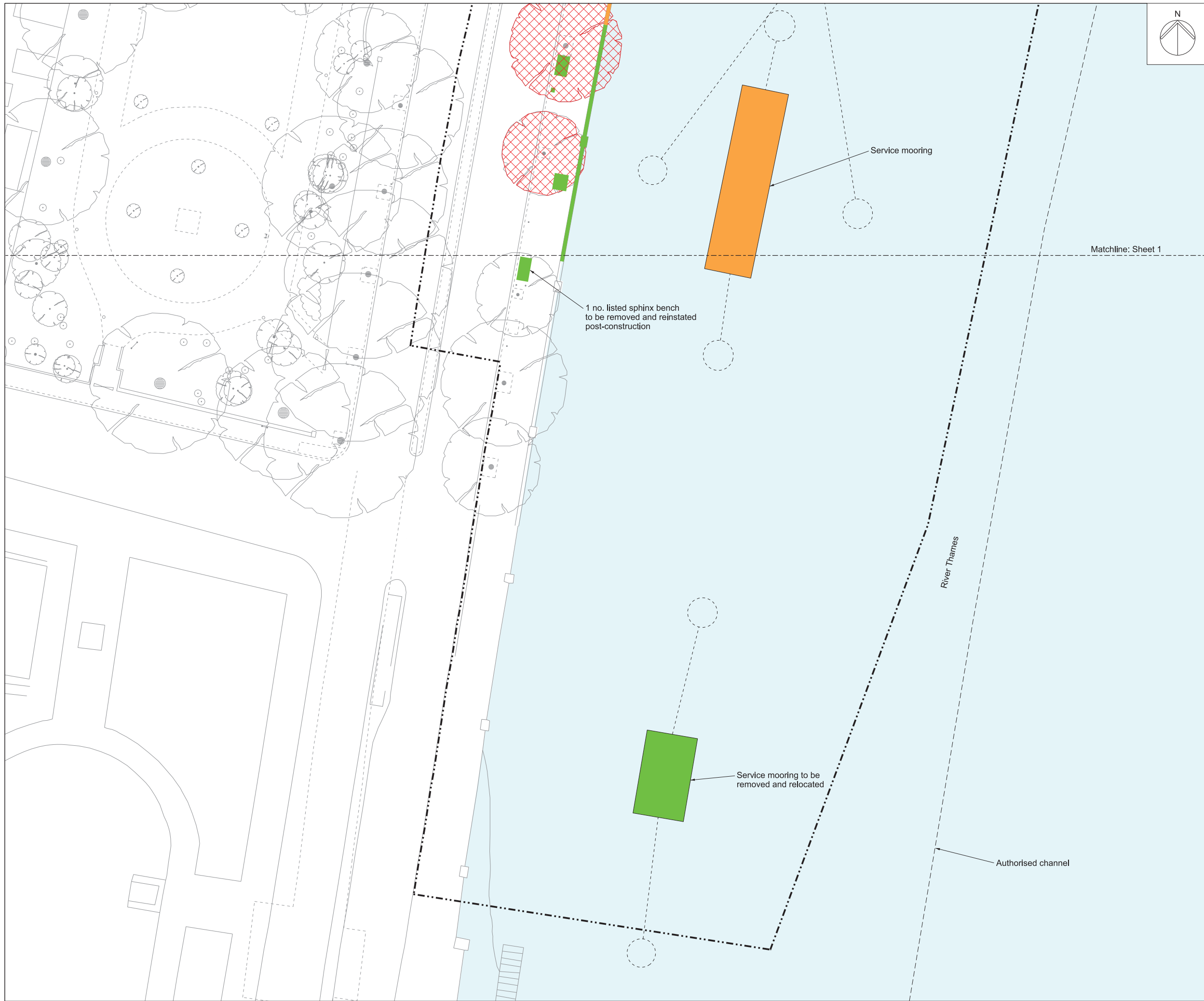


FOR APPROVAL

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Demolition and site clearance
Sheet 1 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180006
January 2013





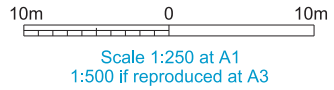
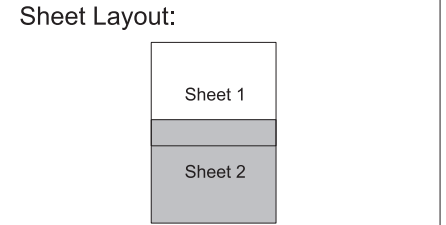
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Trees to be removed
 - Above ground structures to be removed
 - Structure to be removed and relocated or reinstated

- Notes:**
1. General activities of site clearance such as removal of hardstanding and foundations, stripping of topsoil and clearance of minor vegetation not shown.
 2. Minor items to be removed (e.g. barriers, bollards etc.) are not shown.
 3. All lamp standards, parapet sections and benches to be carefully removed and stored securely off site until reinstatement.



FOR APPROVAL

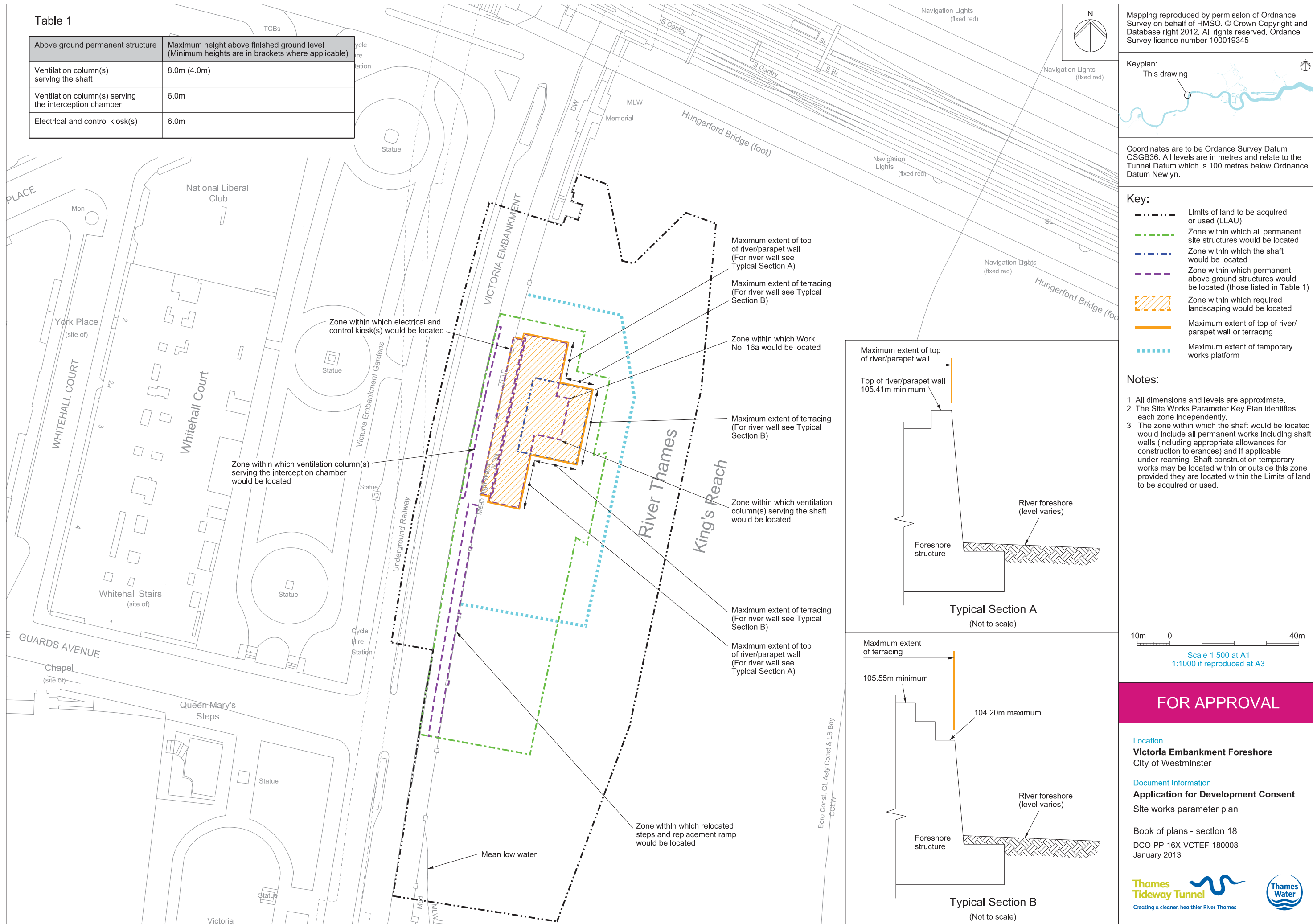
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Demolition and site clearance
Sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180007
January 2013



Table 1

Above ground permanent structure	Maximum height above finished ground level (Minimum heights are in brackets where applicable)
Ventilation column(s) serving the shaft	8.0m (4.0m)
Ventilation column(s) serving the interception chamber	6.0m
Electrical and control kiosk(s)	6.0m



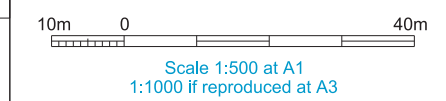
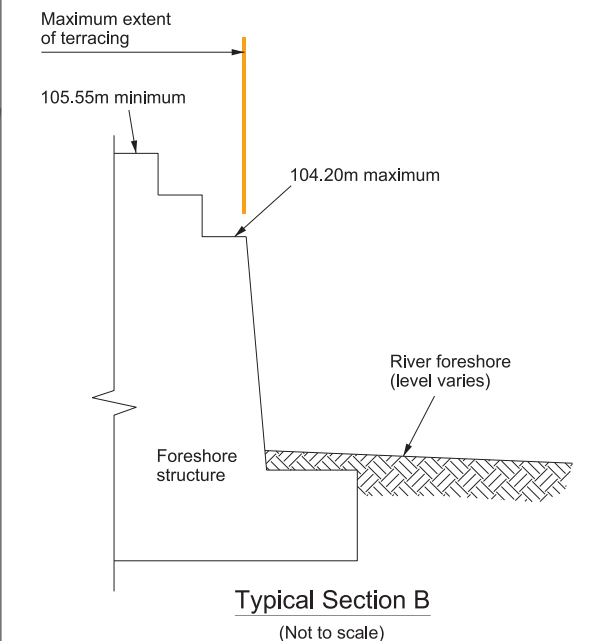
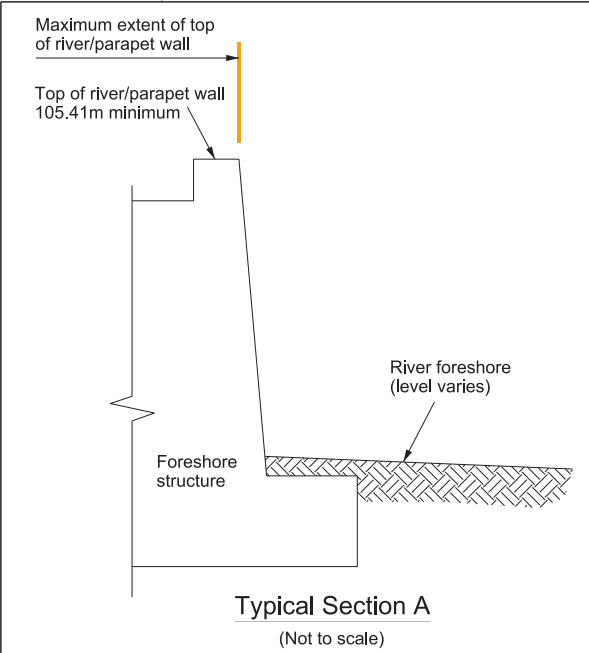
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

Keyplan:
This drawing

Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located (those listed in Table 1)
 - ▨ Zone within which required landscaping would be located
 - Maximum extent of top of river/parapet wall or terracing
 - Maximum extent of temporary works platform

- Notes:**
- All dimensions and levels are approximate.
 - The Site Works Parameter Key Plan identifies each zone independently.
 - The zone within which the shaft would be located would include all permanent works including shaft walls (including appropriate allowances for construction tolerances) and if applicable under-reaming. Shaft construction temporary works may be located within or outside this zone provided they are located within the Limits of land to be acquired or used.



FOR APPROVAL

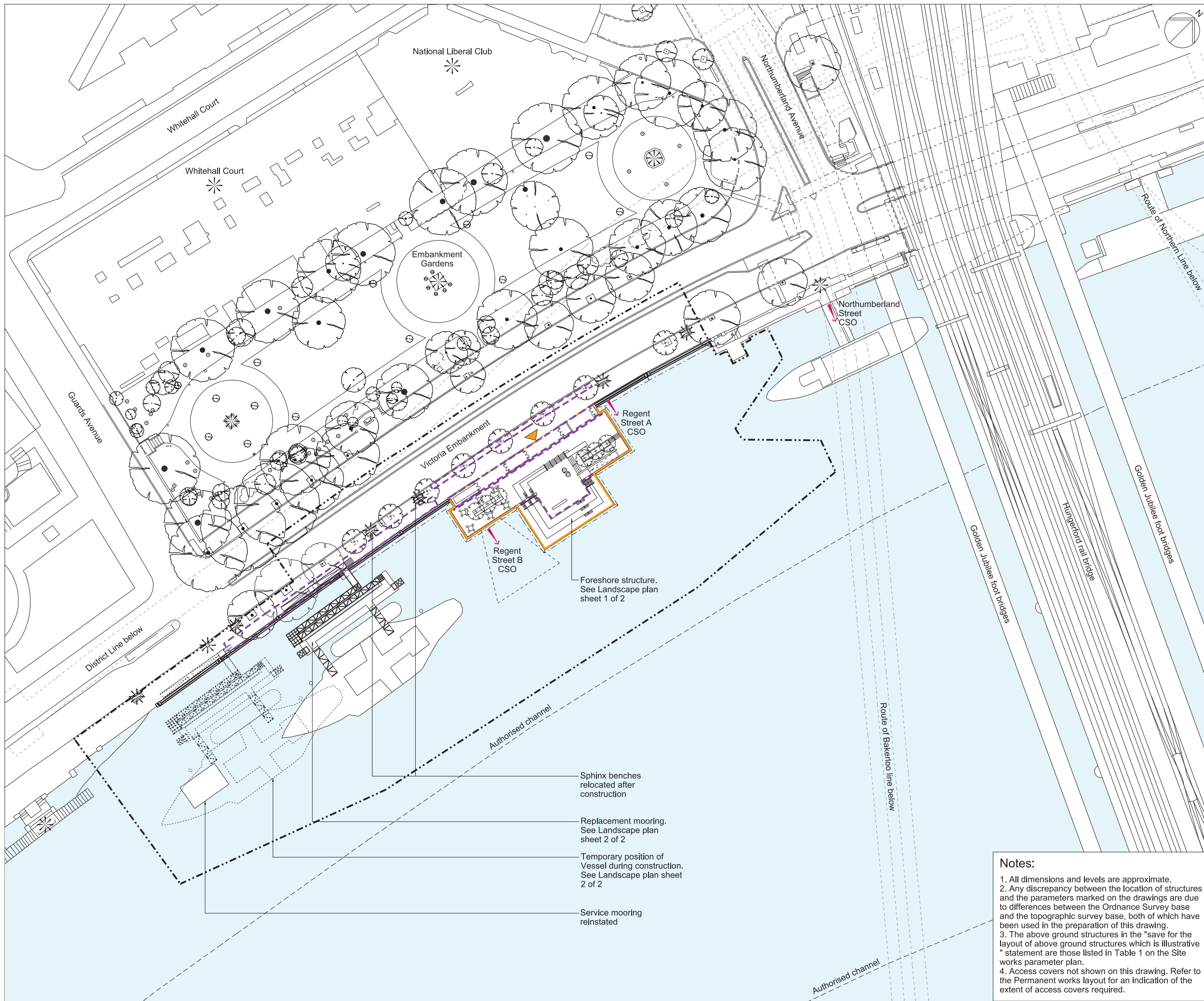
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Site works parameter plan

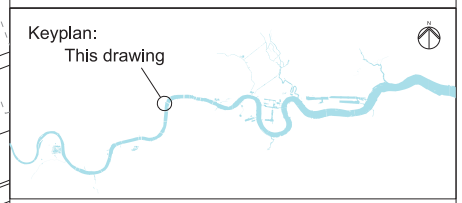
Book of plans - section 18
DCO-PP-16X-VCTEF-180008
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

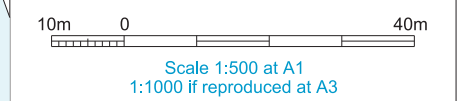


Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which permanent above ground structures would be located
 - Maximum extent of foreshore structure
 - Authorised channel
 - ✱ Listed buildings/structures
 - Approximate position of CSO outlet
 - ⊙ Existing trees within surveyed area (trunk sizes vary)
 - ⊕ Proposed trees
 - ▶ Thames Water access



INDICATIVE
Save for layout of above ground structures which is illustrative

Location
Victoria Embankment Foreshore
City of Westminster

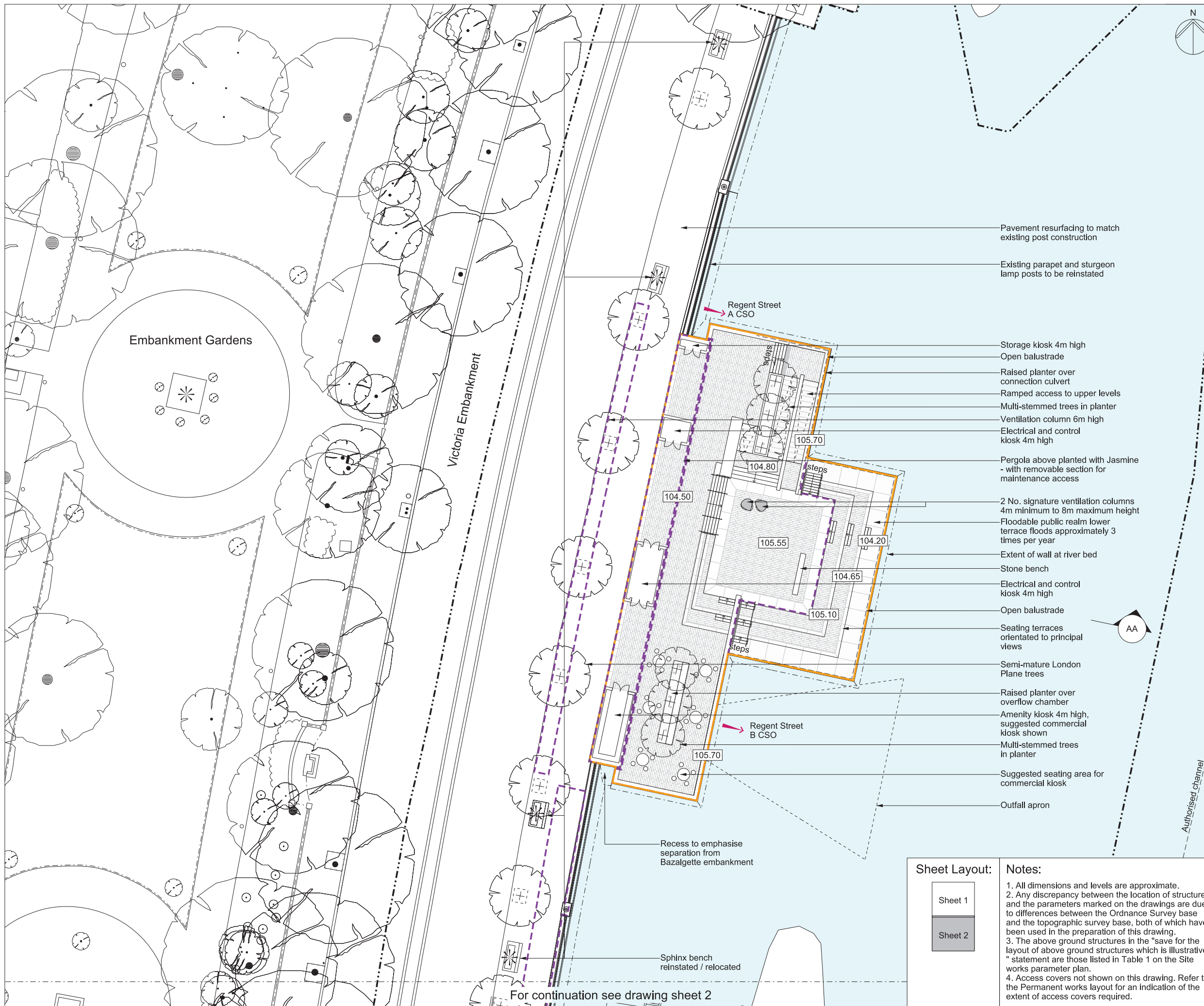
Document Information
Application for Development Consent

Proposed
Site features plan
Book of plans - section 18
DCO-PP-16X-VCTEF-180011
January 2013



Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
3. The above ground structures in the "save for the layout of above ground structures which is illustrative" statement are those listed in Table 1 on the Site works parameter plan.
4. Access covers not shown on this drawing. Refer to the Permanent works layout for an indication of the extent of access covers required.



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which permanent above ground structures would be located
 - Zone within which required landscaping would be located
 - Maximum extent of foreshore structure
 - Authorised channel
 - Proposed levels (shown in metres above tunnel datum)
 - Listed buildings/structures
 - Approximate position of CSO outlet
 - Existing trees within surveyed area (trunk sizes vary)
 - Proposed trees

Pavement resurfacing to match existing post construction

Existing parapet and sturgeon lamp posts to be reinstated

Regent Street A CSO

- Storage kiosk 4m high
- Open balustrade
- Raised planter over connection culvert
- Ramped access to upper levels
- Multi-stemmed trees in planter
- Ventilation column 6m high
- Electrical and control kiosk 4m high

Pergola above planted with Jasmine - with removable section for maintenance access

- 2 No. signature ventilation columns 4m minimum to 8m maximum height
- Floodable public realm lower terrace floods approximately 3 times per year

Extent of wall at river bed

Stone bench

Electrical and control kiosk 4m high

Open balustrade

Seating terraces orientated to principal views

Semi-mature London Plane trees

Raised planter over overflow chamber

Amenity kiosk 4m high, suggested commercial kiosk shown

Multi-stemmed trees in planter

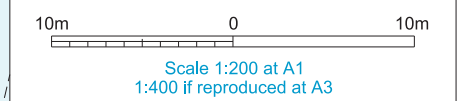
Suggested seating area for commercial kiosk

Outfall apron

Recess to emphasise separation from Bazalgette embankment

Sphinx bench reinstated / relocated

For continuation see drawing sheet 2



INDICATIVE
Save for layout of above ground structures which is illustrative

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent

Proposed
Landscape plan sheet 1 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180012
January 2013

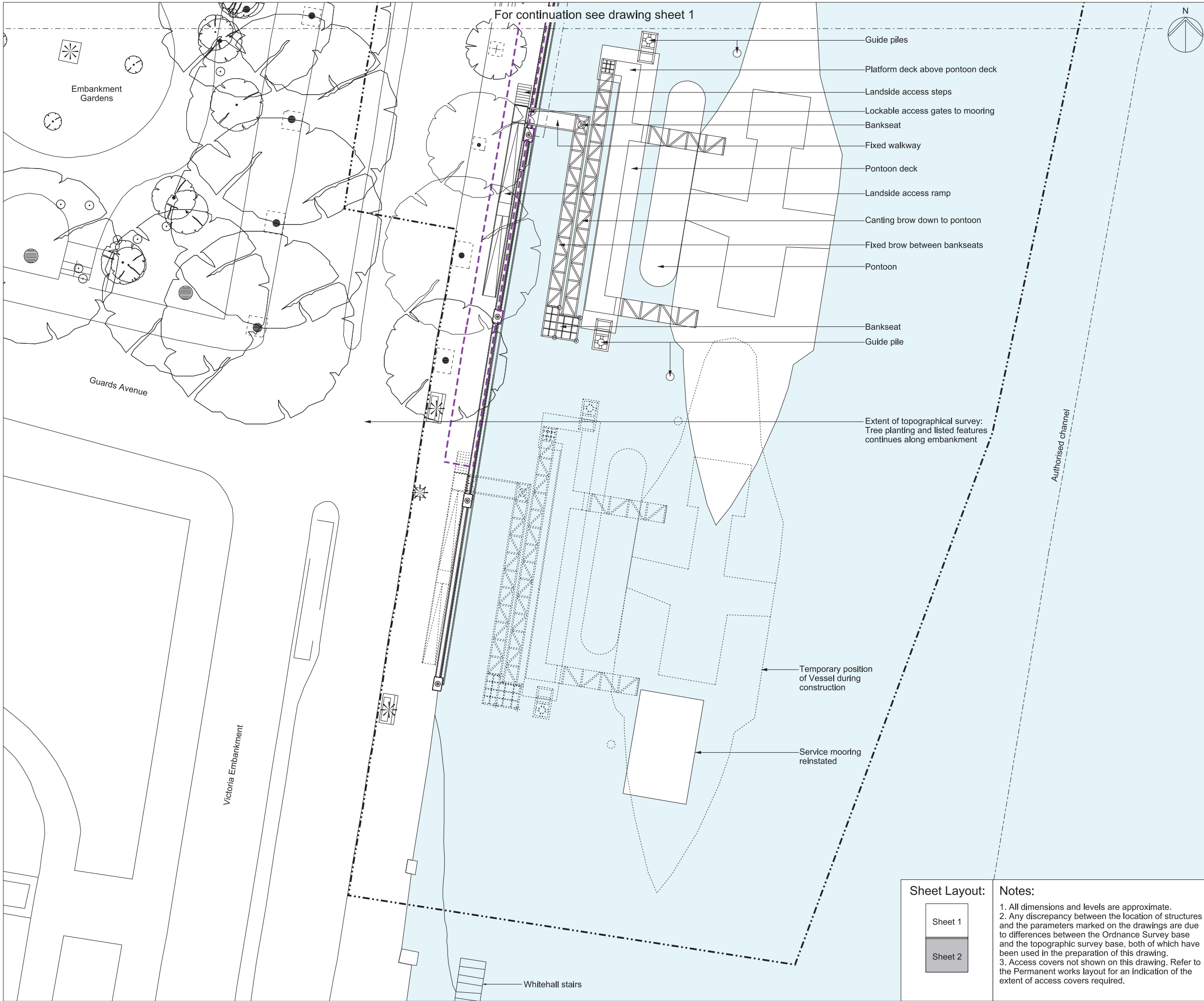


Sheet Layout:

- Sheet 1
- Sheet 2

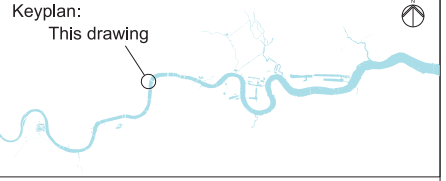
Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
3. The above ground structures in the "save for the layout of above ground structures which is illustrative" statement are those listed in Table 1 on the Site works parameter plan.
4. Access covers not shown on this drawing. Refer to the Permanent works layout for an indication of the extent of access covers required.



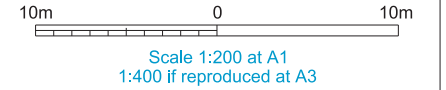
For continuation see drawing sheet 1

Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Zone within which permanent above ground structures would be located
 - - - - - Authorized channel
 - ✳ Listed buildings/structures
 - ⊙ Existing trees within surveyed area (trunk sizes vary)
 - ⊕ Proposed trees



FOR APPROVAL

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Proposed
Landscape plan sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180013
January 2013



- Sheet Layout:**
- Sheet 1
 - Sheet 2

Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
3. Access covers not shown on this drawing. Refer to the Permanent works layout for an indication of the extent of access covers required.

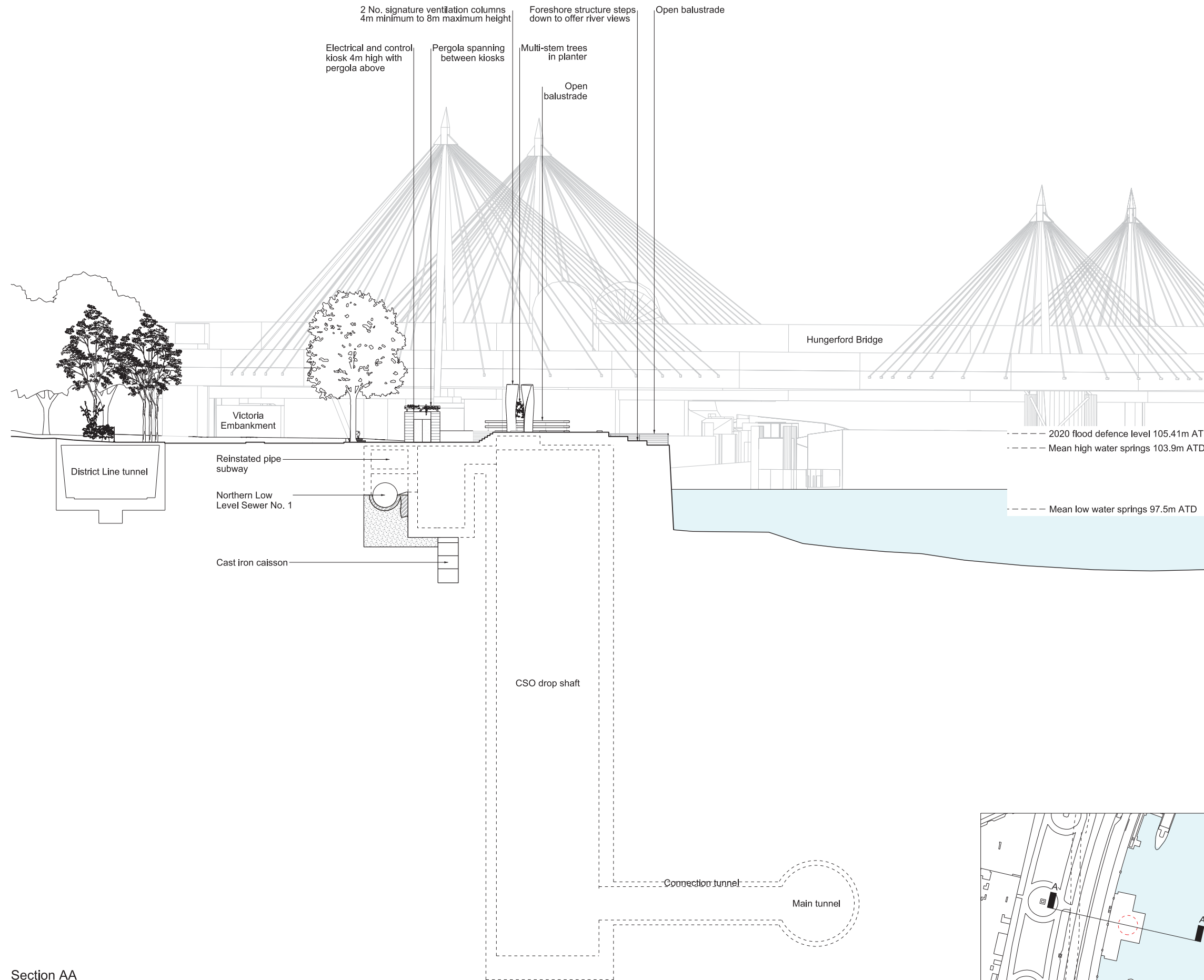
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



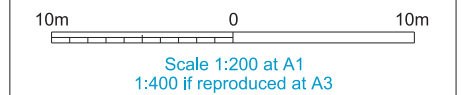
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

1. All dimensions and levels are approximate.
2. The purpose of this section is to show the scale of the below ground infrastructure to be provided.



Section AA



ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Section AA

Book of plans - section 18
DCO-PP-16X-VCTEF-180014
January 2013



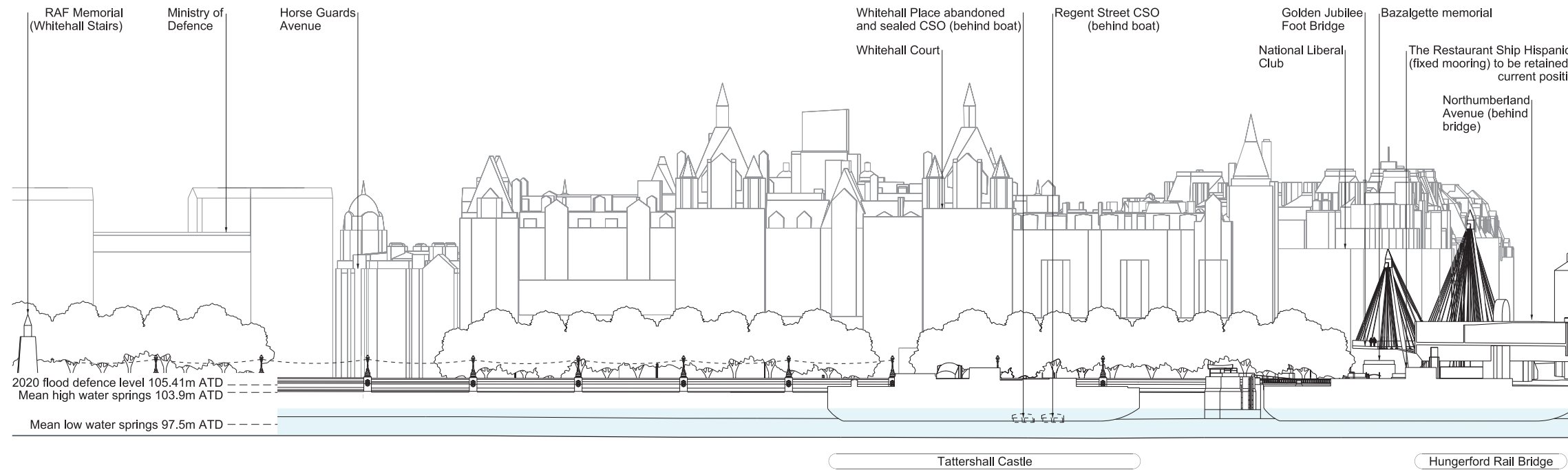
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



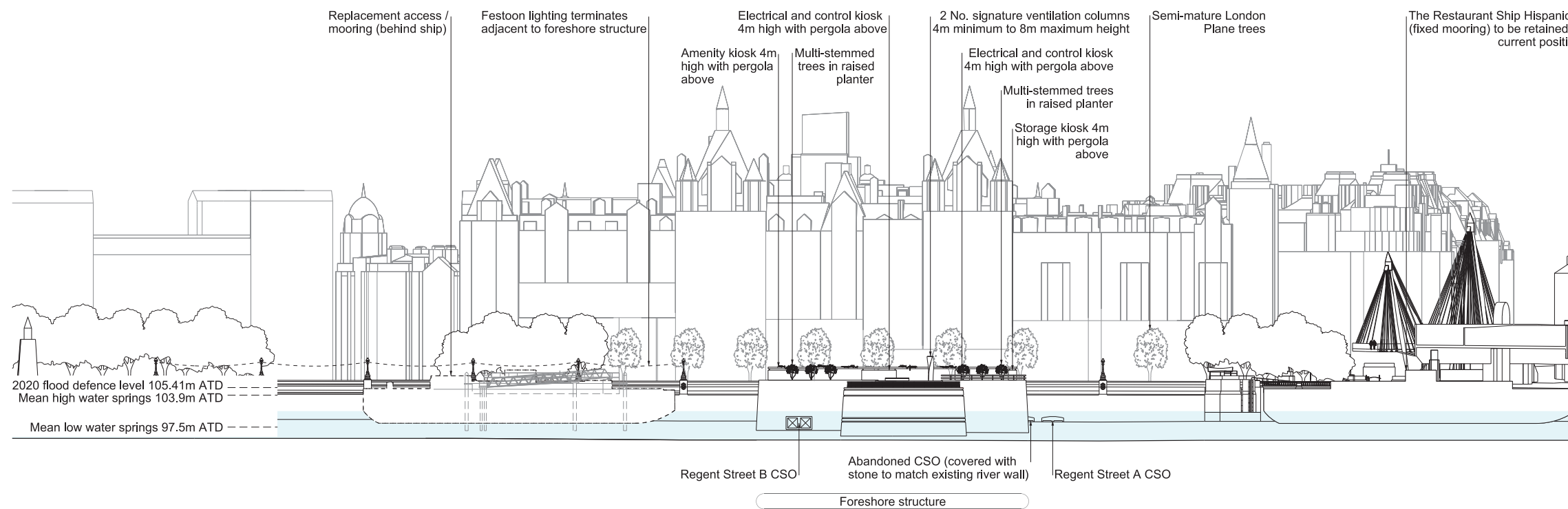
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

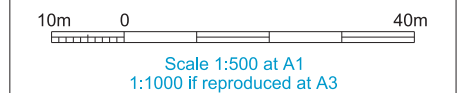
1. All dimensions and levels are approximate.



As existing river elevation



Proposed river elevation

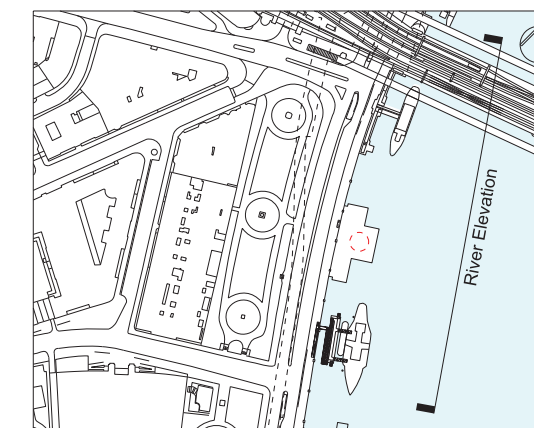


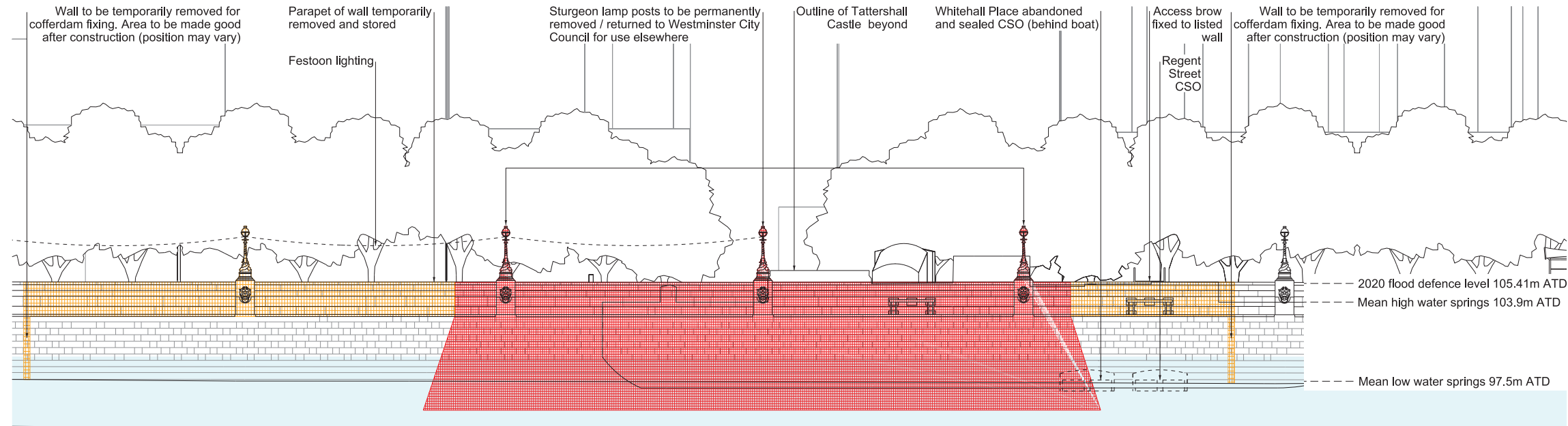
ILLUSTRATIVE

Location
 Victoria Embankment Foreshore
 City of Westminster

Document Information
 Application for Development Consent

As existing and proposed
 Long river elevation
 Book of plans - section 18
 DCO-PP-16X-VCTEF-180015
 January 2013



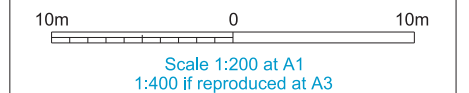
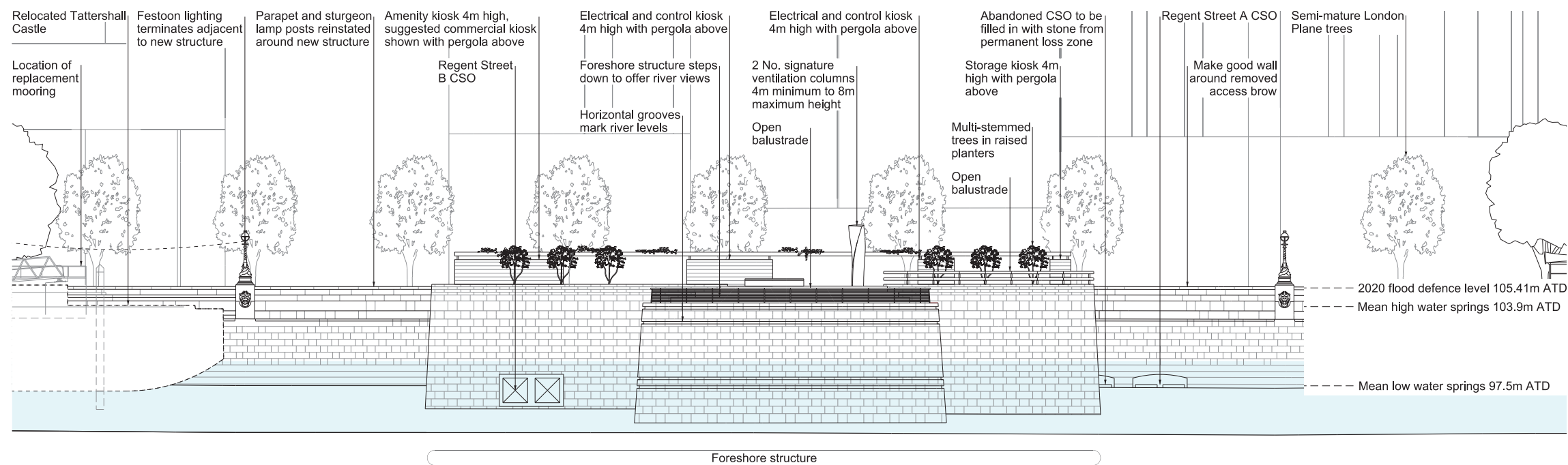


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

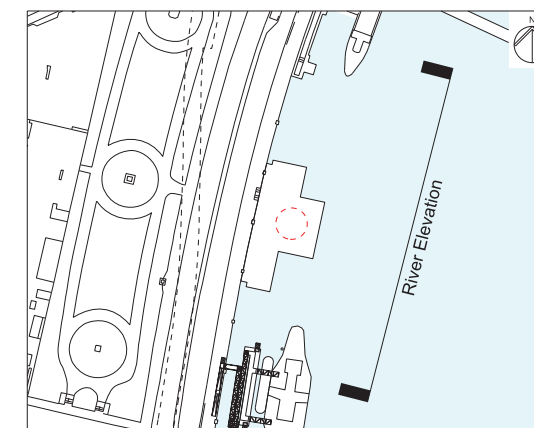
- Key:**
- Maximum temporary extent of loss of listed buildings / structures
 - Maximum permanent extent of loss of listed buildings / structures

- Notes:**
- All dimensions and levels are approximate.
 - Drawing to be read in conjunction with conservation statement.

As existing river elevation



Proposed river elevation



ILLUSTRATIVE
Save for maximum extent of loss of listed structures which is for approval

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed
River elevation - impact on listed structure
Book of plans - section 18
DCO-PP-16X-VCTEF-180016
January 2013



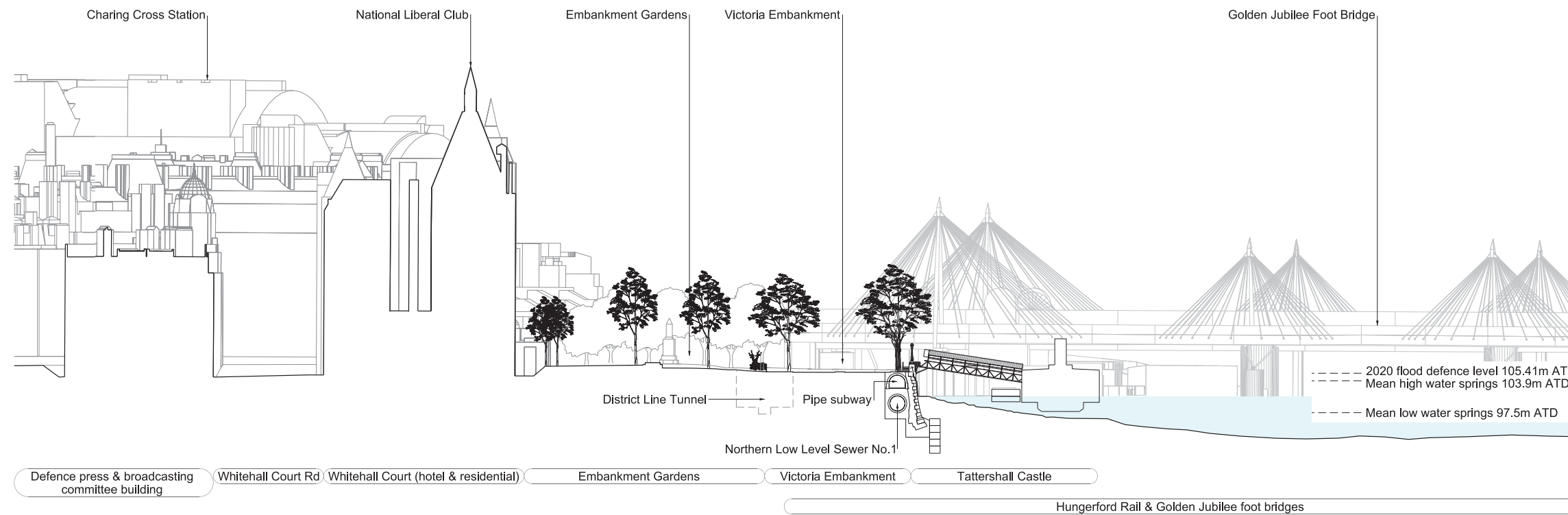
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



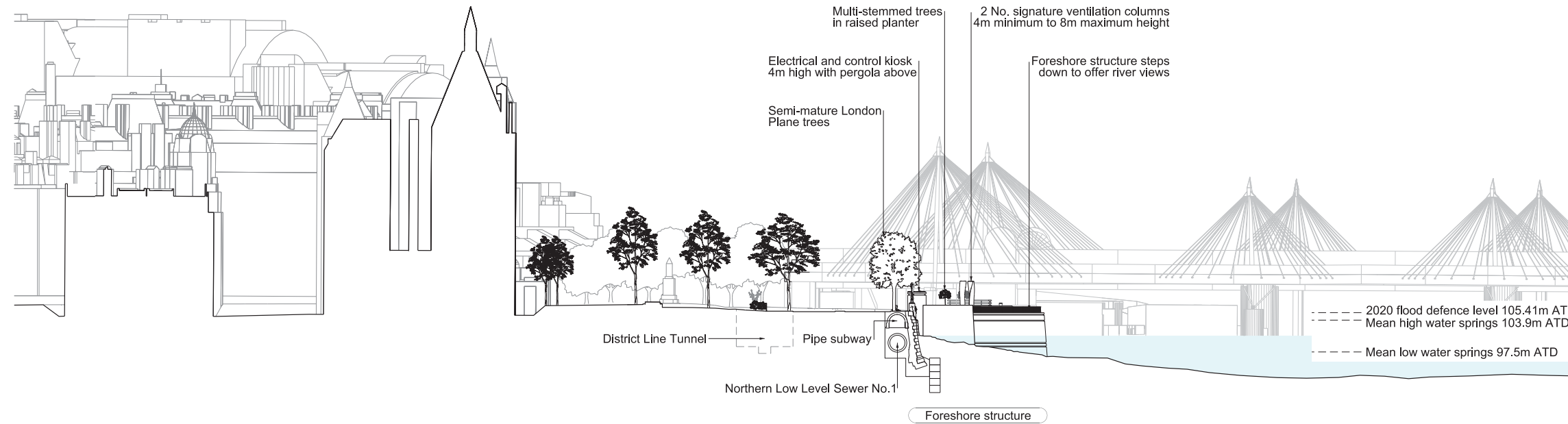
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

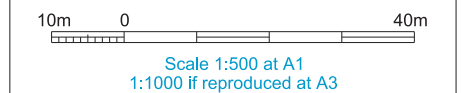
1. All dimensions and levels are approximate.



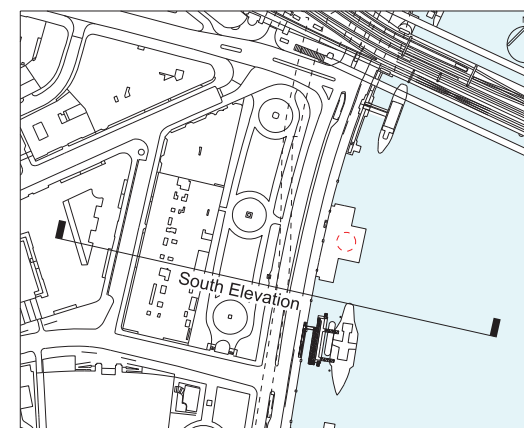
As existing South elevation



Proposed South elevation



ILLUSTRATIVE



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed
South elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180017
January 2013

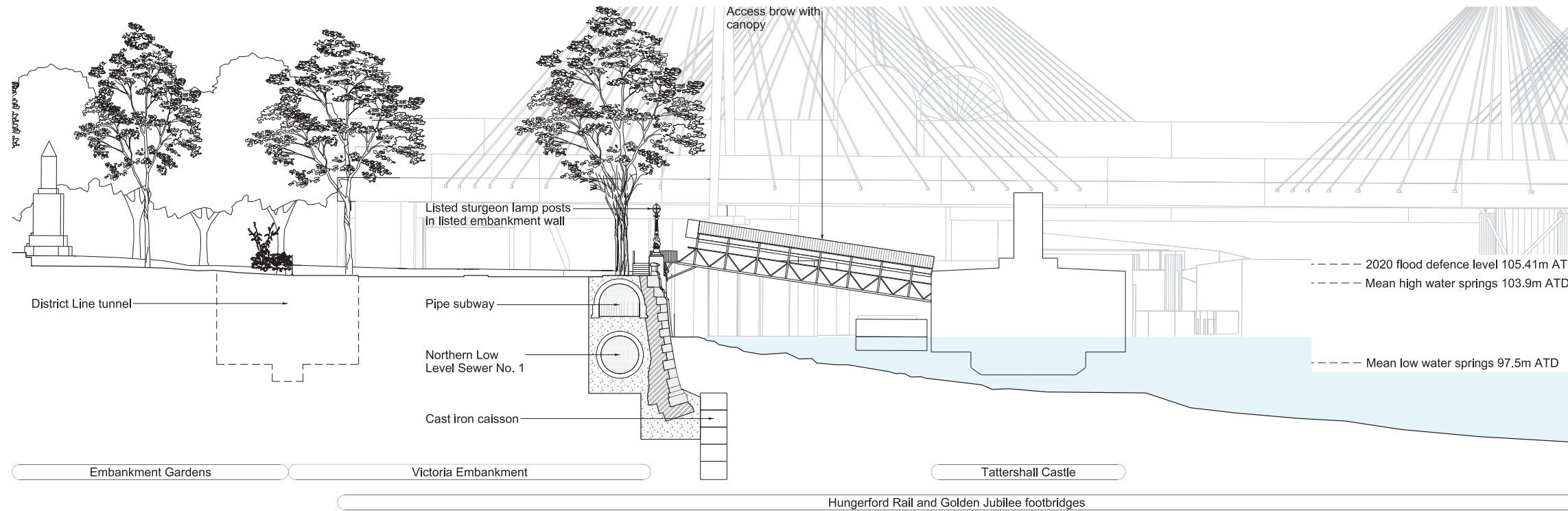




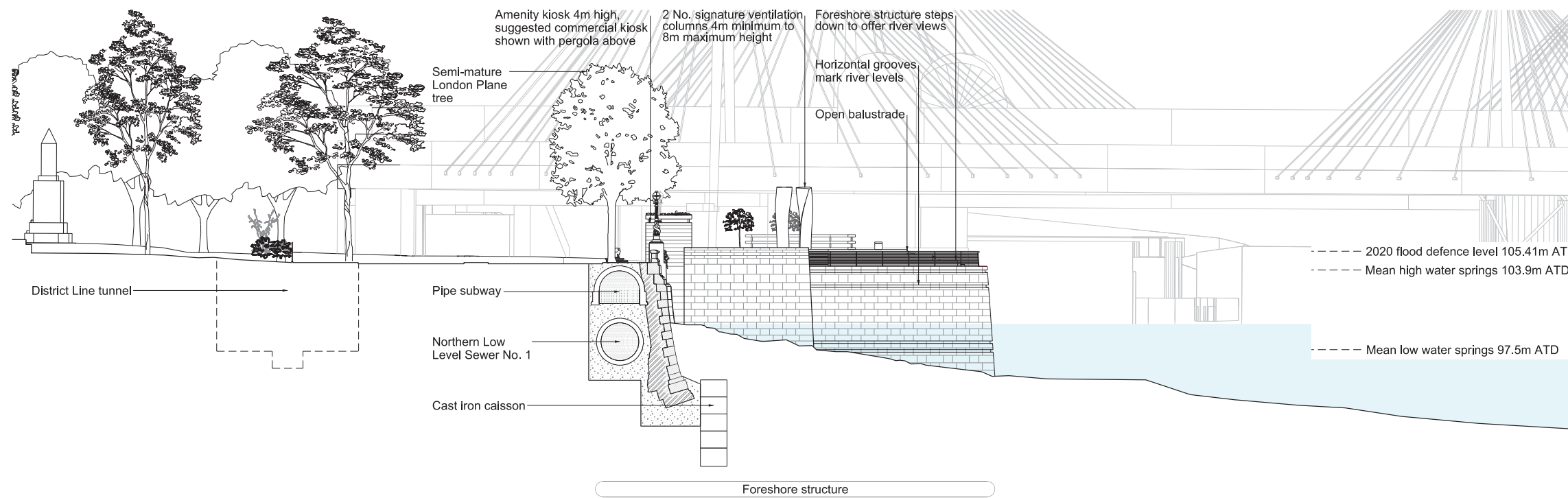
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

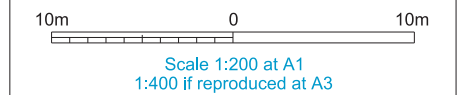
- 1. All dimensions and levels are approximate.



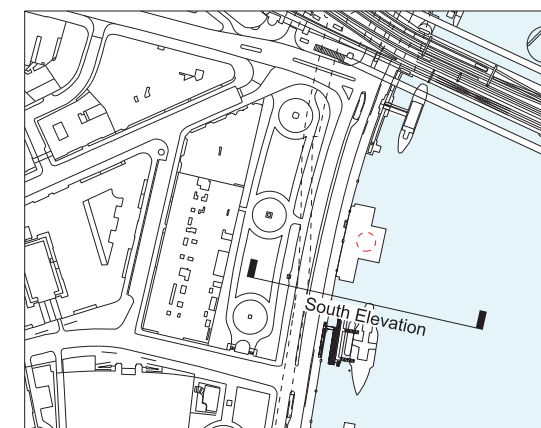
As existing South elevation



Proposed South elevation



ILLUSTRATIVE



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent

As existing and proposed
Detailed south elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180018
January 2013



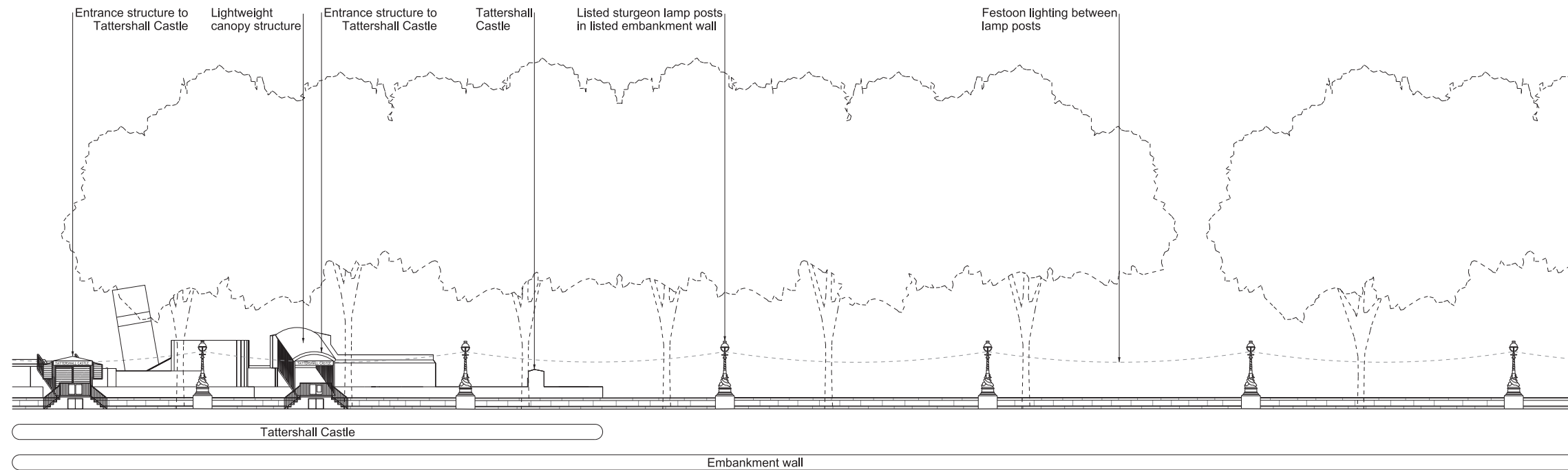
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



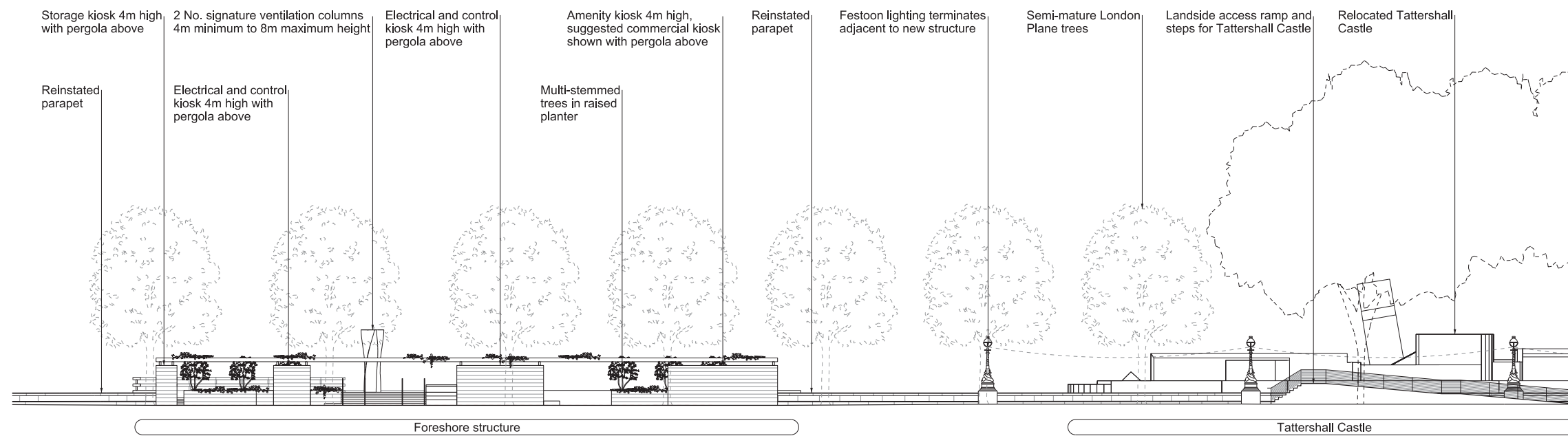
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

1. All dimensions and levels are approximate.



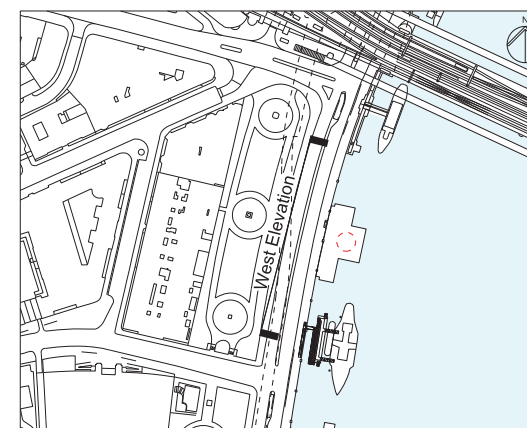
As existing West elevation



Proposed West elevation

10m 0 10m
Scale 1:200 at A1
1:400 if reproduced at A3

ILLUSTRATIVE



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent

As existing and proposed
West elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180019
January 2013

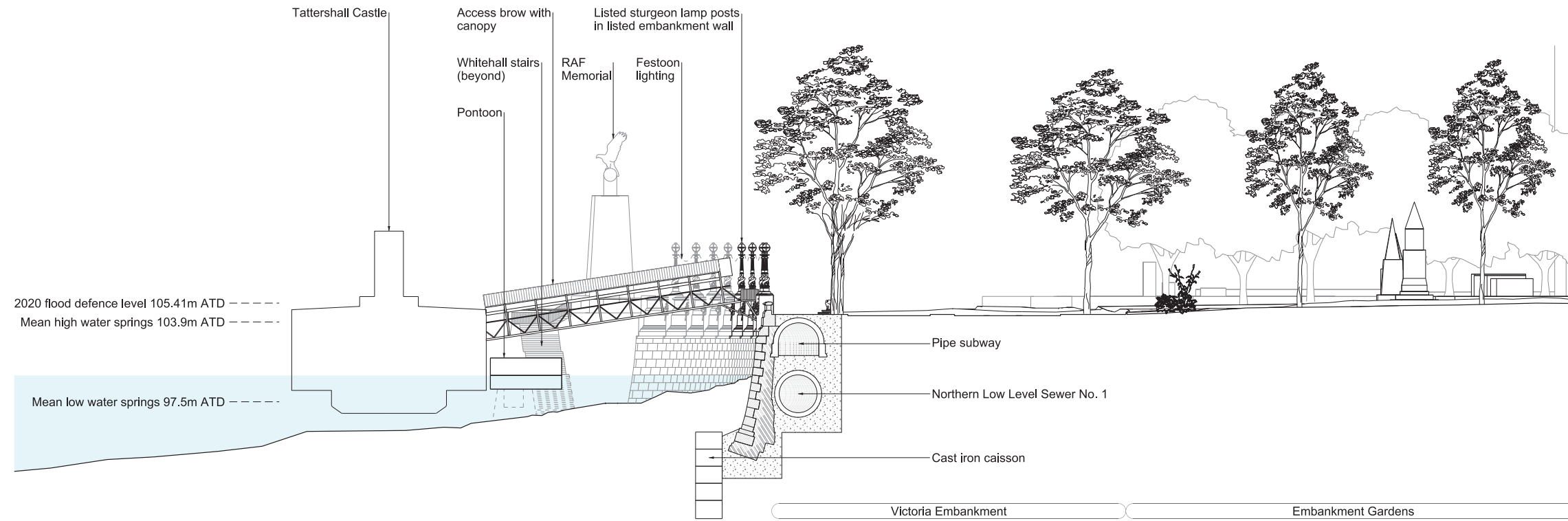


Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

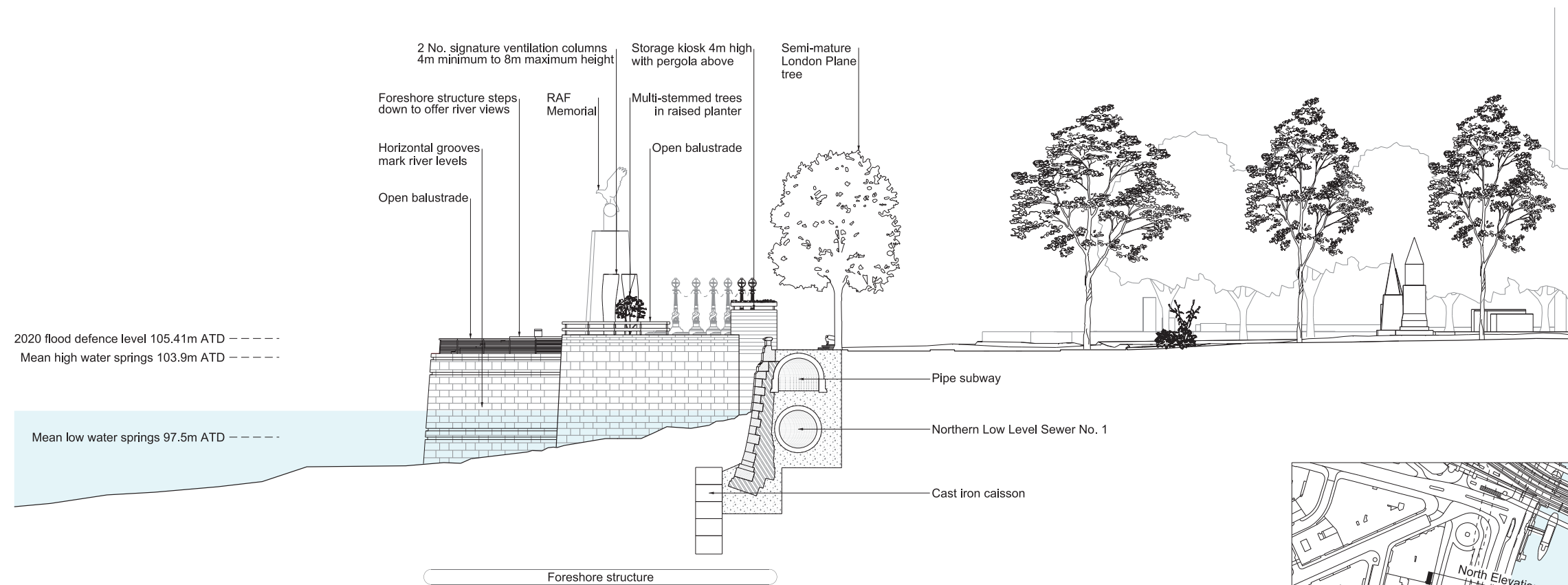


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

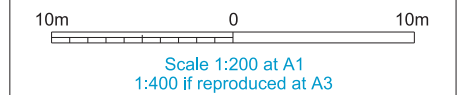
Notes:
1. All dimensions and levels are approximate.



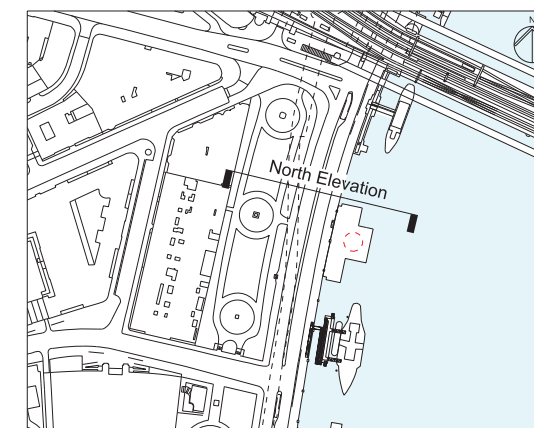
As existing North elevation



Proposed North elevation



ILLUSTRATIVE



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent

As existing
And proposed north elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180020
January 2013





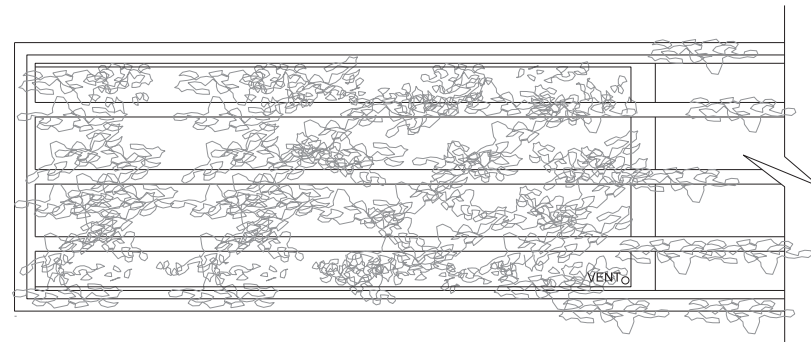
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



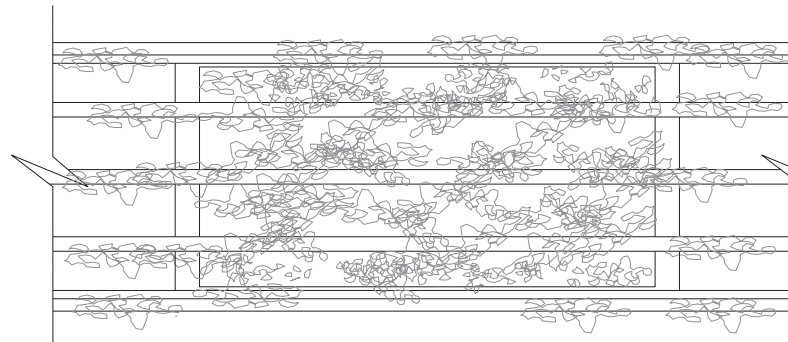
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

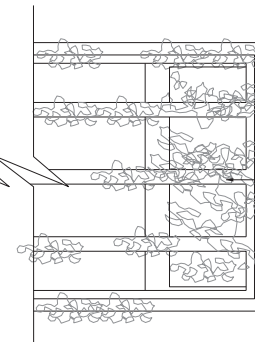
- 1. All dimensions and levels are approximate.



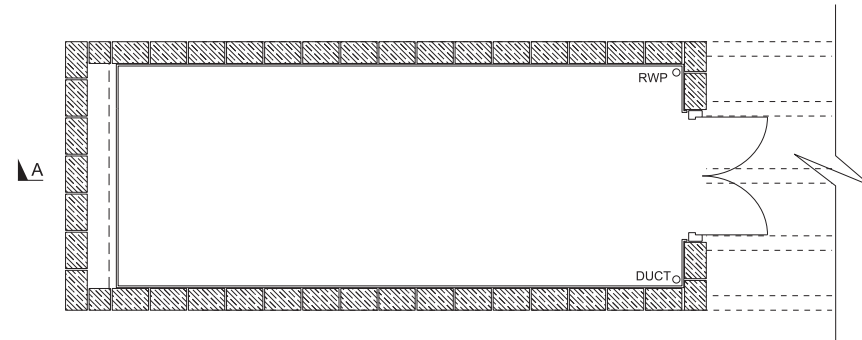
Amenities building - Suggested commercial kiosk plan



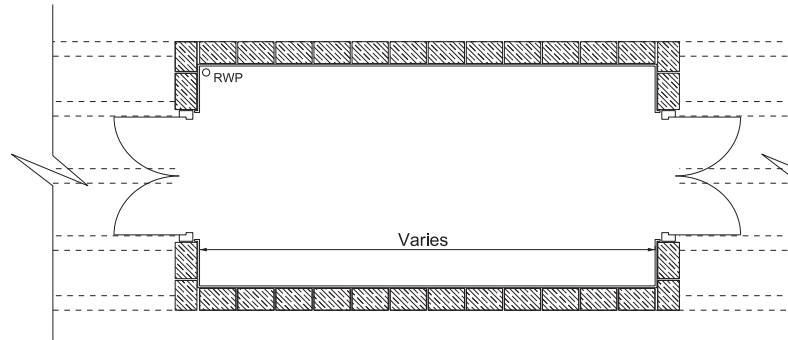
Typical central electrical and control kiosk roof plan



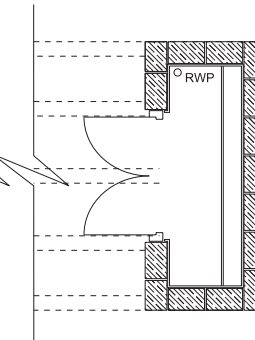
Storage kiosk roof plan



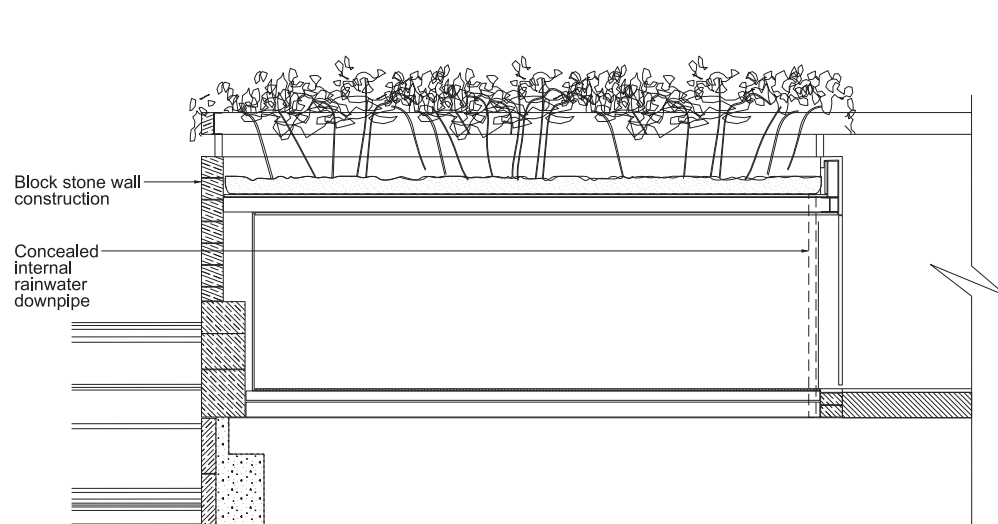
Amenities building - Suggested commercial kiosk plan



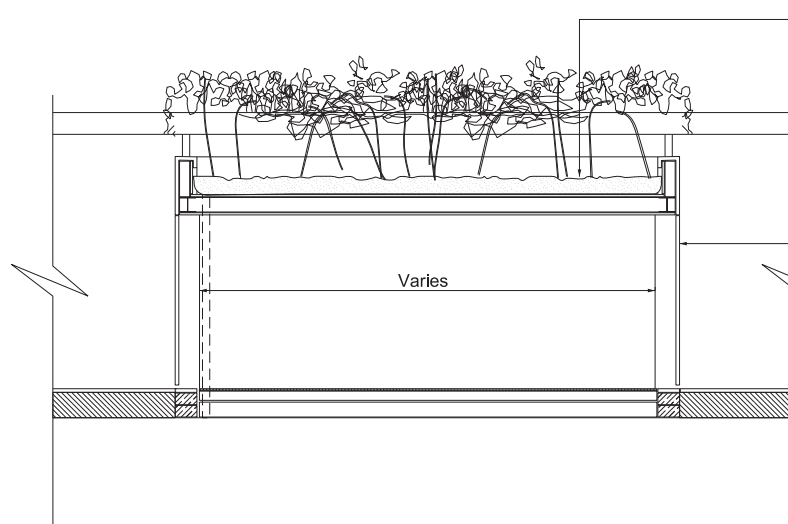
Typical central electrical and control kiosk plan



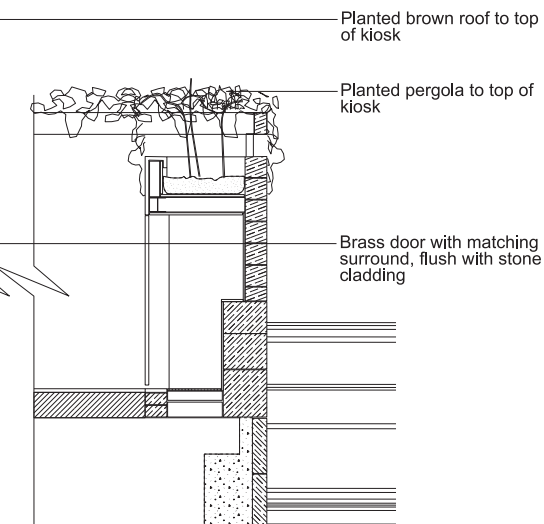
Storage kiosk plan



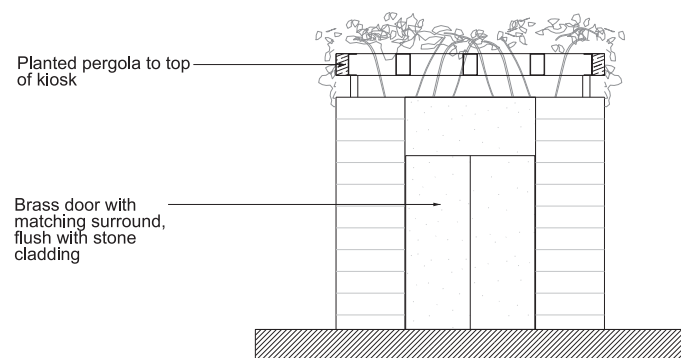
Amenities building - Suggested commercial kiosk section A-A



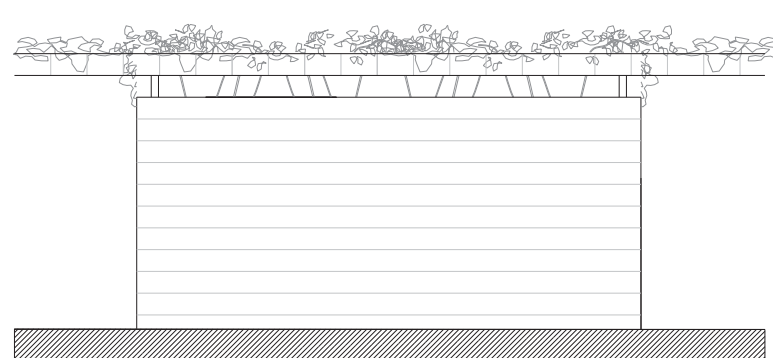
Typical central electrical and control kiosk section A-A



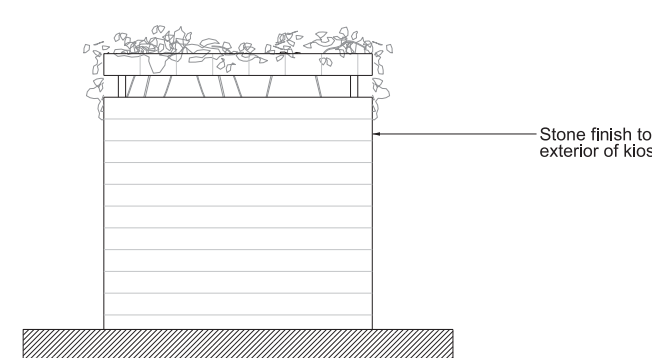
Storage kiosk section A-A



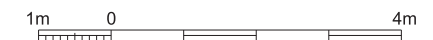
Typical end elevation (with door)



Typical side elevation



Typical end elevation



Scale 1:50 at A1
1:100 if reproduced at A3

INDICATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Kiosk design intent

Book of plans - section 18
DCO-PP-16X-VCTEF-180021
January 2013

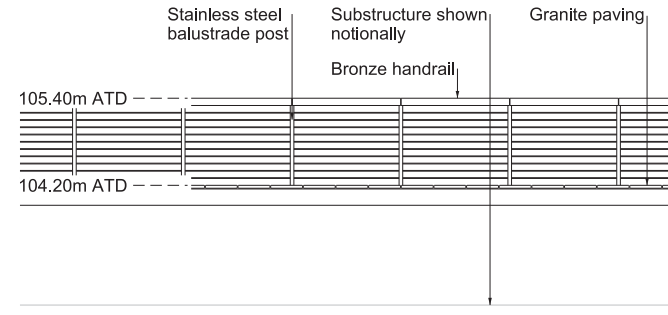


Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

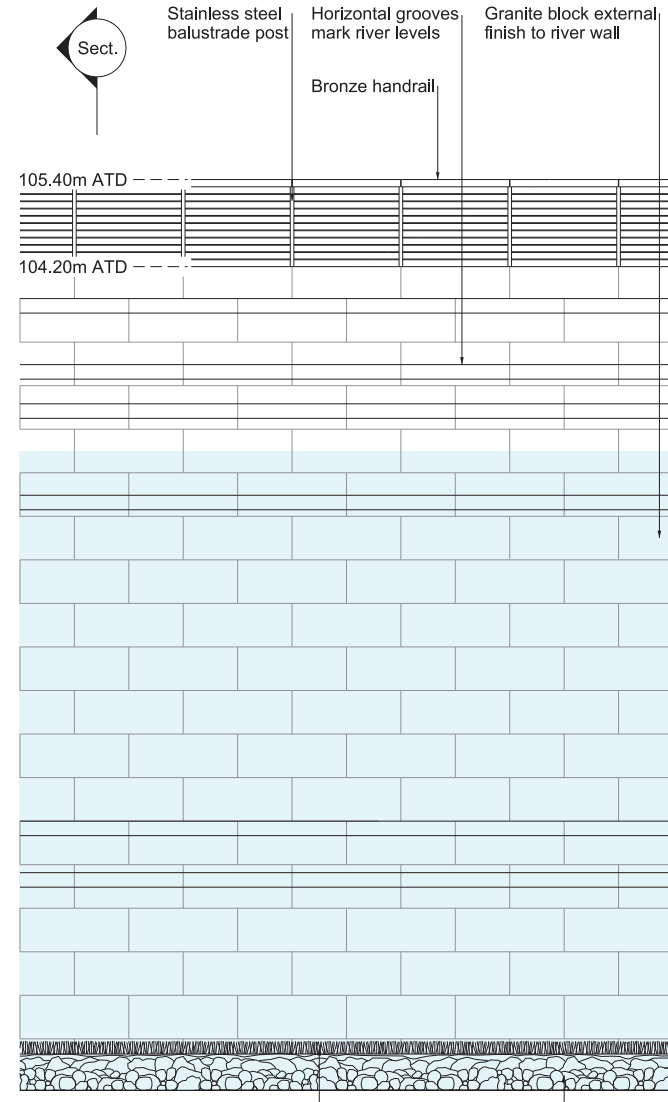


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

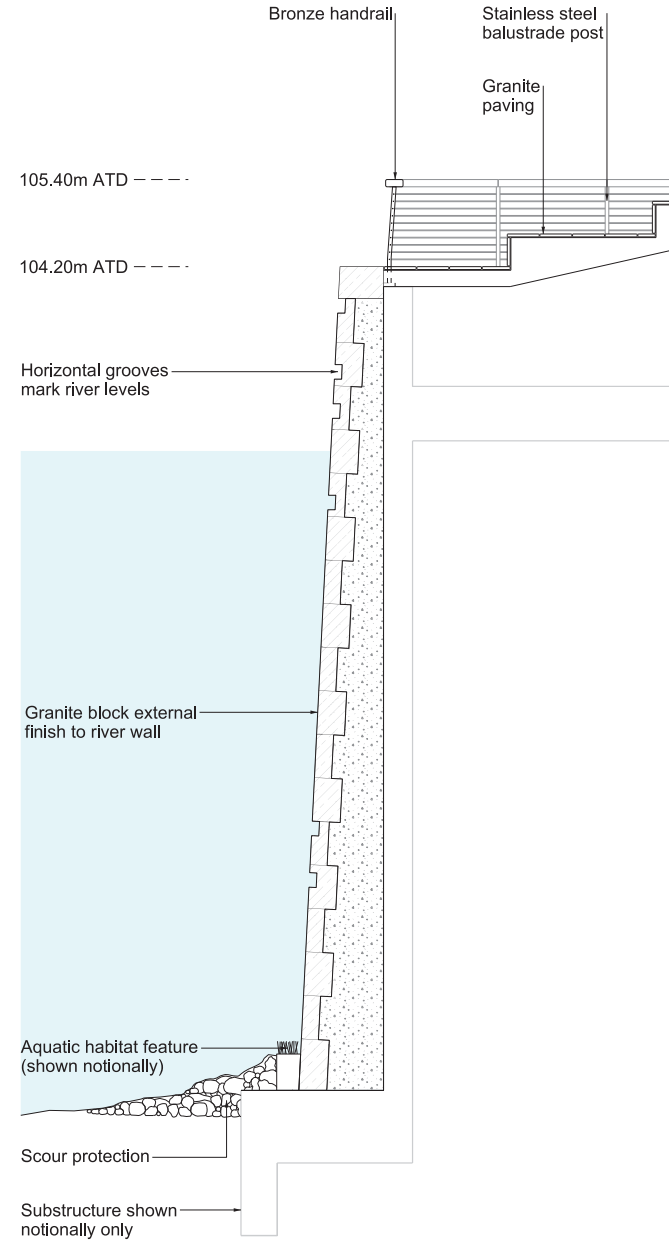
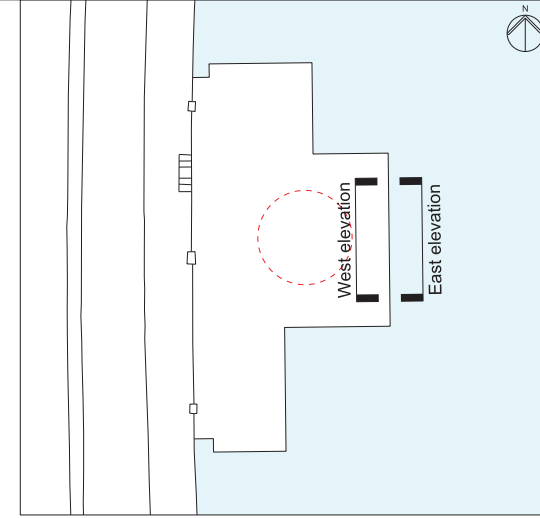
Notes:
1. All dimensions and levels are approximate.



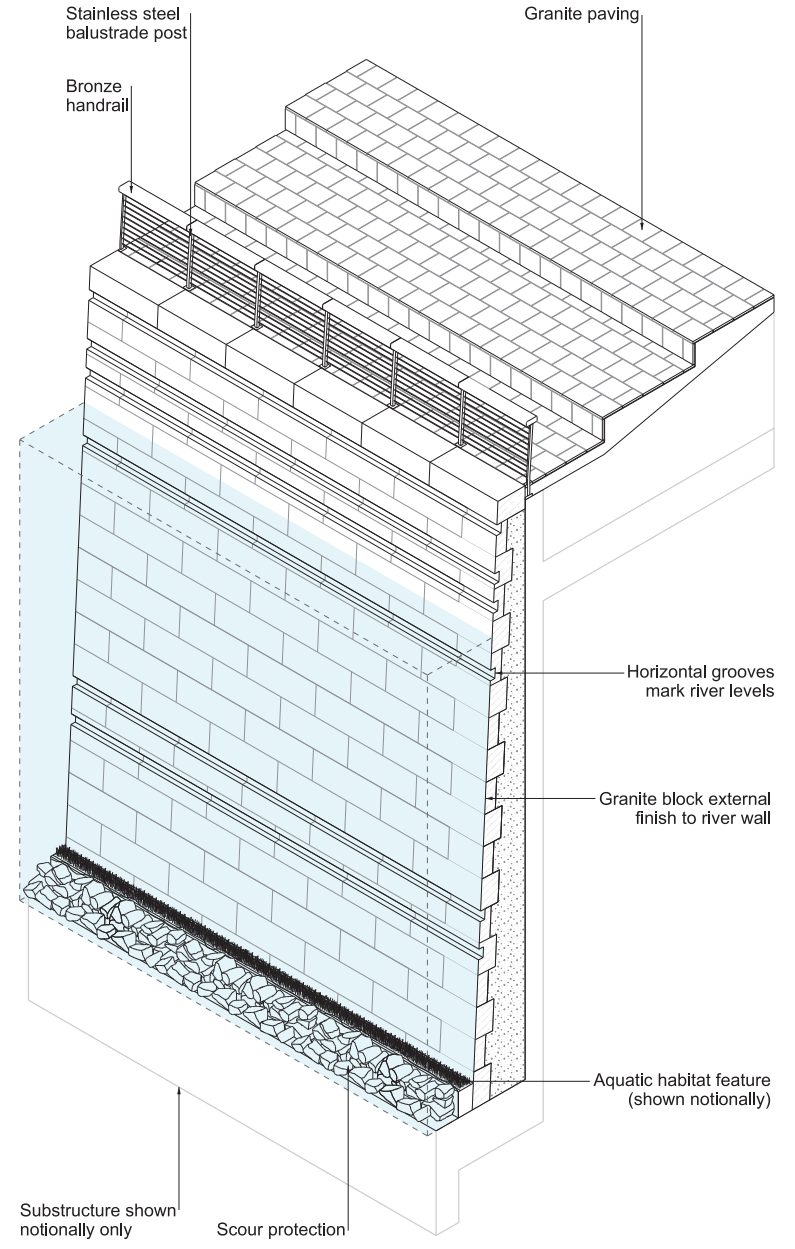
West elevation
Scale 1:50



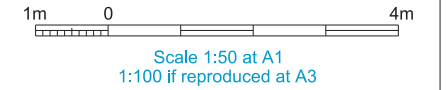
East Elevation
Scale 1:50



Detail section
Scale 1:50



Isometric
NTS

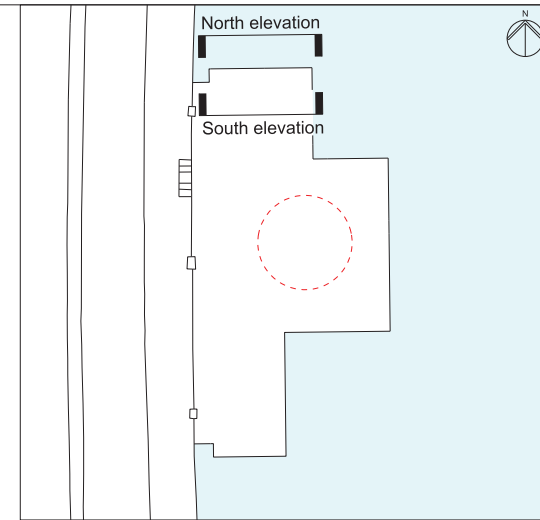
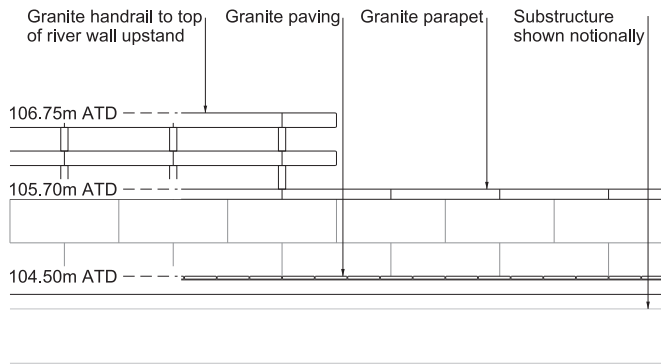


INDICATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
River wall design intent
Sheet 1 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180022
January 2013





Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



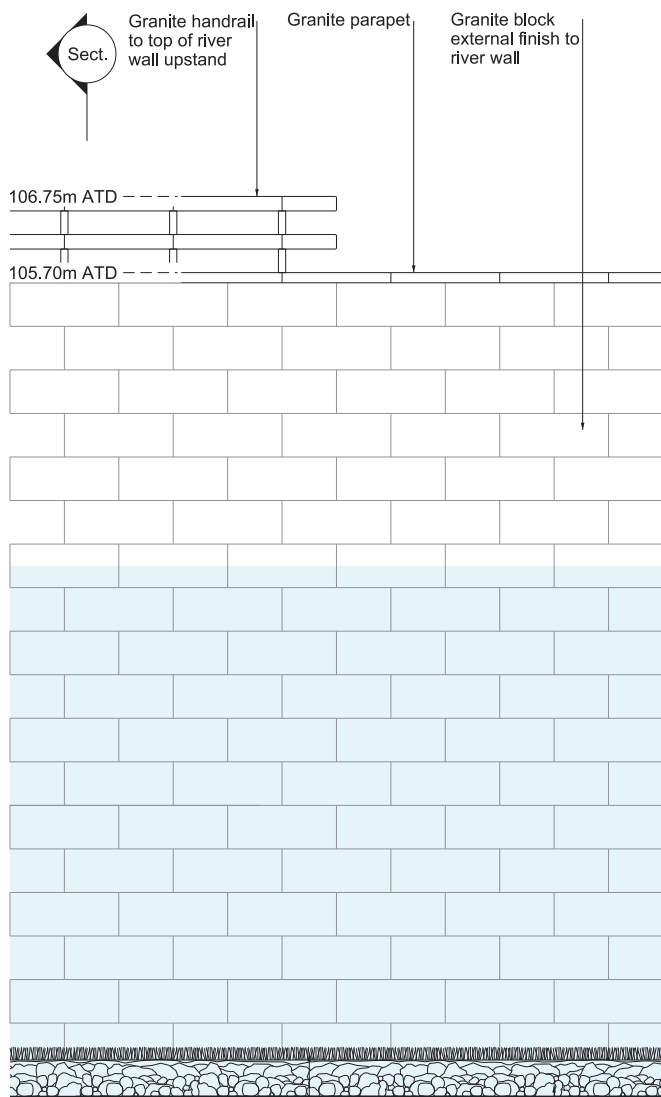
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

1. All dimensions and levels are approximate.

South elevation

Scale 1:50

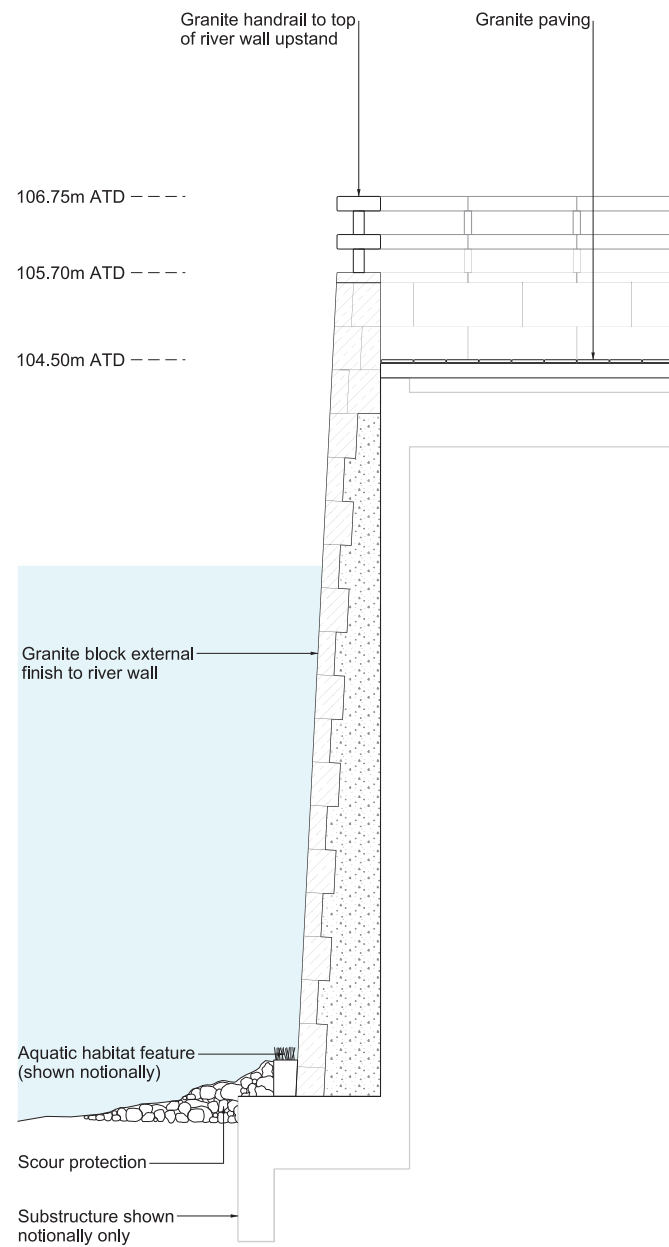


Aquatic habitat feature (shown notionally)

Scour protection

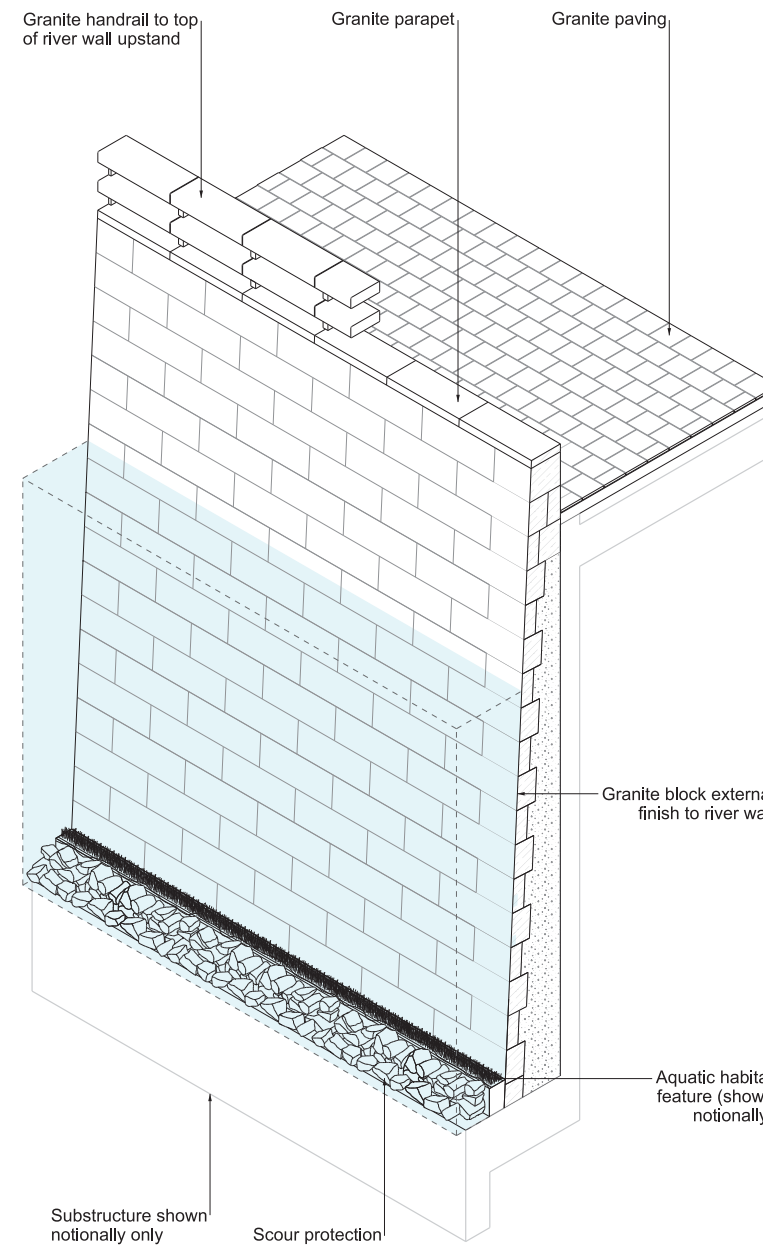
North Elevation

Scale 1:50



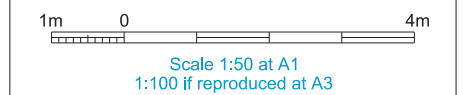
Detail section

Scale 1:50



Isometric

NTS



INDICATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
River wall design intent
Sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180023
January 2013

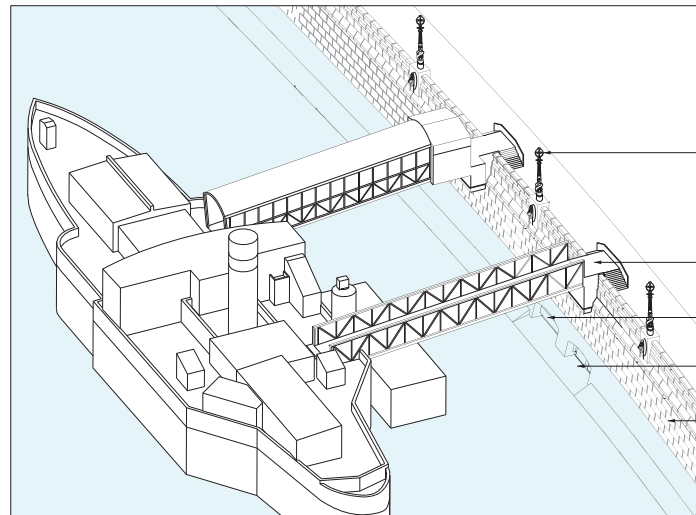




Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

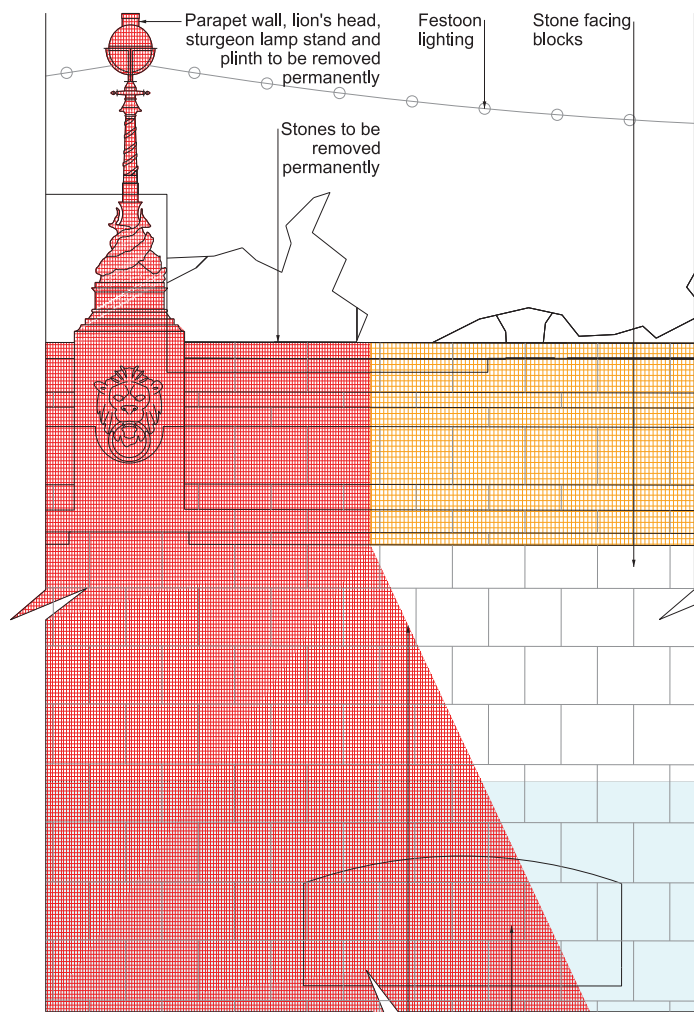
- Key:**
- Maximum temporary extent of loss of listed buildings / structures
 - Maximum permanent extent of loss of listed buildings / structures

- Notes:**
1. All dimensions and levels are approximate.
 2. Drawing is based on as-constructed drawings and topographical survey and not on heritage survey.



As existing North isometric

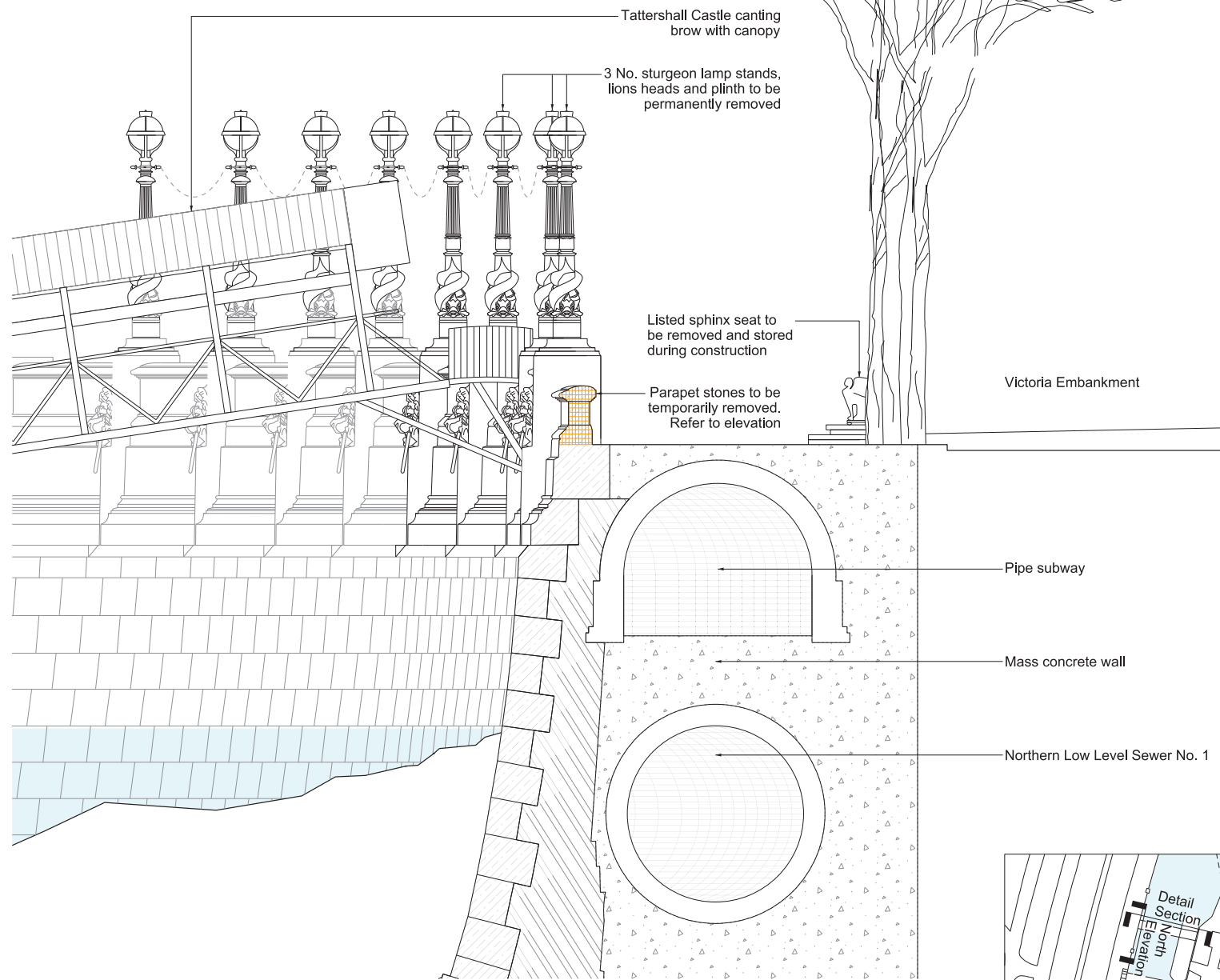
NTS



Line of routing to existing stones (retained in situ) for water tight connection with new wall

Existing North elevation

Scale 1:50



Existing detail section

Scale 1:50

1m 0 4m
Scale 1:50 at A1
1:100 if reproduced at A3

FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing listed structure interface -
Foreshore structure
Book of plans - section 18
DCO-PP-16X-VCTEF-180024
January 2013

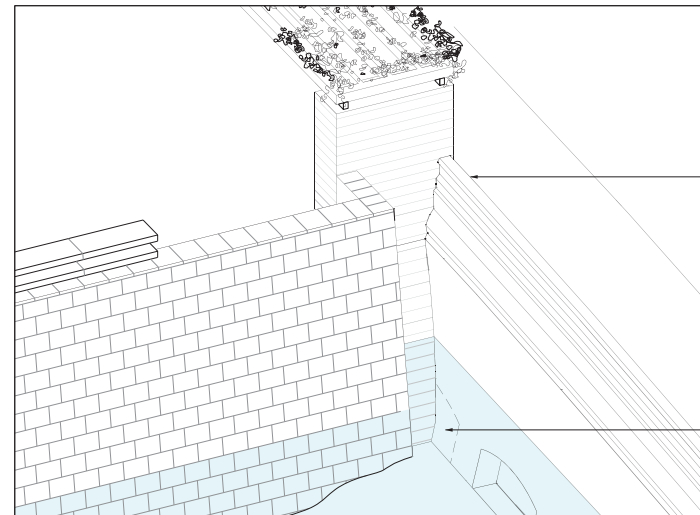




Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

1. All dimensions and levels are approximate.
2. Drawing is based on as-constructed drawings and topographical survey and not on heritage survey.

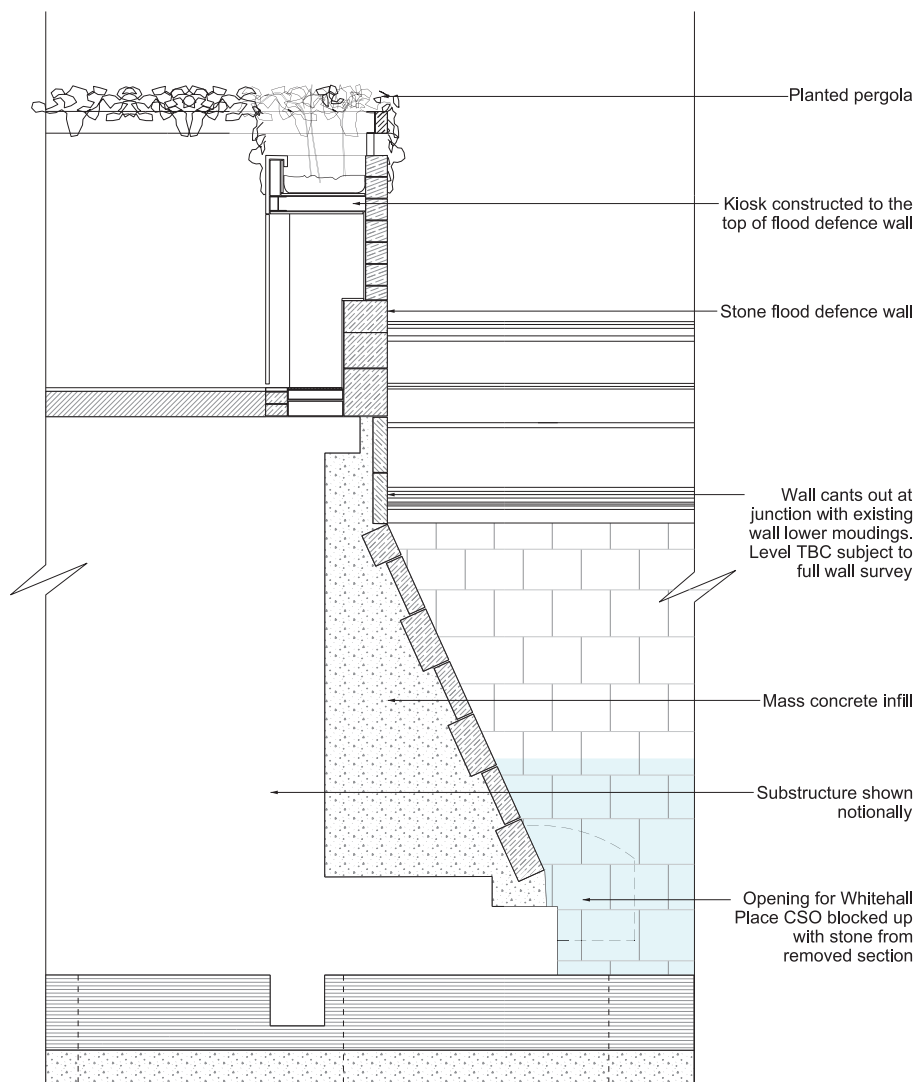


Existing parapet terminates against new kiosk structure

Block up abandoned CSO outfall using stones from removed section

Proposed North isometric

NTS



Planted pergola

Kiosk constructed to the top of flood defence wall

Stone flood defence wall

Wall cants out at junction with existing wall lower mouldings. Level TBC subject to full wall survey

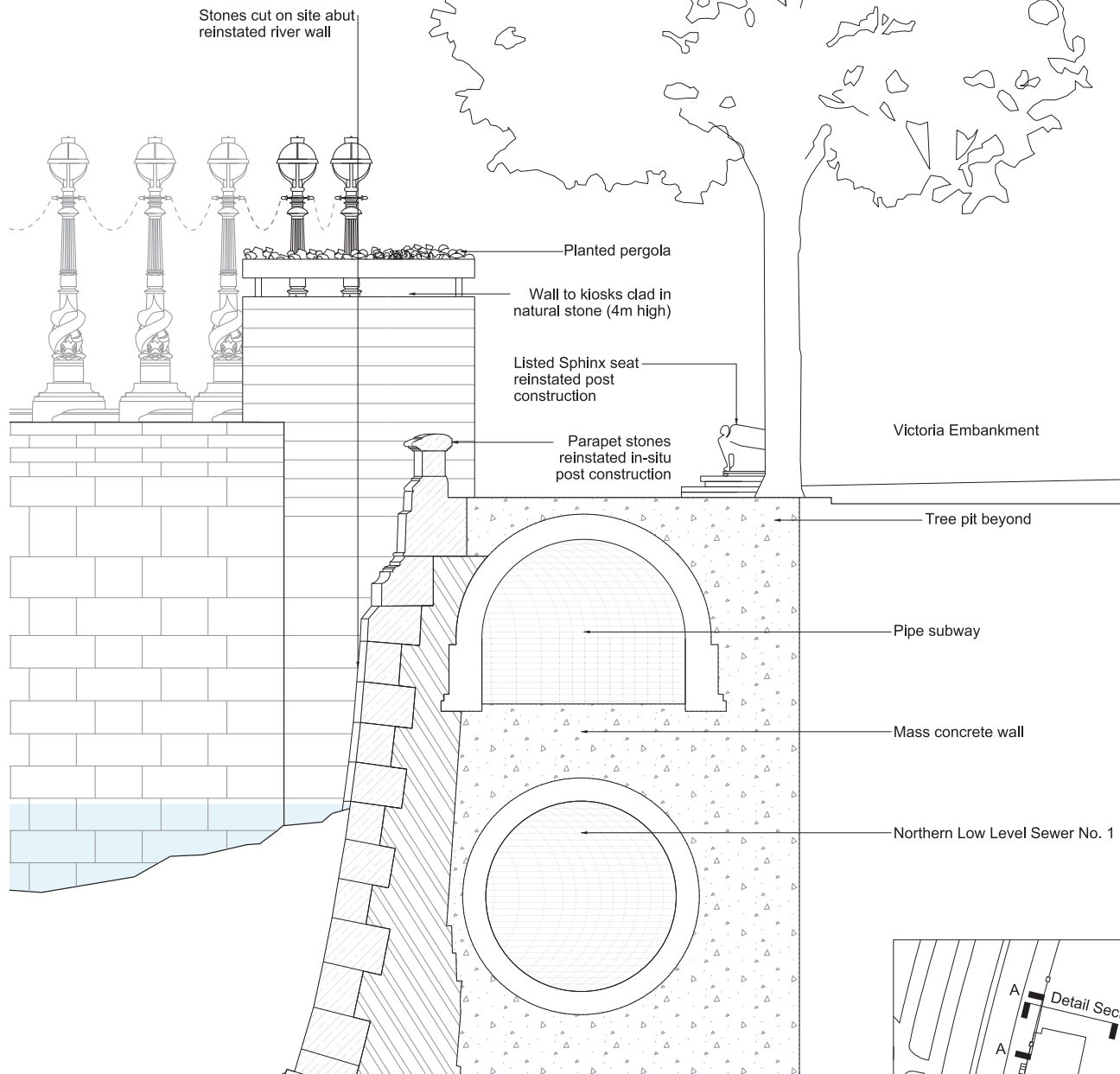
Mass concrete infill

Substructure shown notionally

Opening for Whitehall Place CSO blocked up with stone from removed section

Proposed Section AA showing wall elevation

Scale 1:50



Stones cut on site abut reinstated river wall

Planted pergola

Wall to kiosks clad in natural stone (4m high)

Listed Sphinx seat reinstated post construction

Parapet stones reinstated in-situ post construction

Victoria Embankment

Tree pit beyond

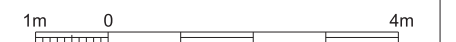
Pipe subway

Mass concrete wall

Northern Low Level Sewer No. 1

Proposed detail section

Scale 1:50



Scale 1:50 at A1
1:100 if reproduced at A3

INDICATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Proposed listed structure interface -
Foreshore structure
Book of plans - section 18
DCO-PP-16X-VCTEF-180025
January 2013



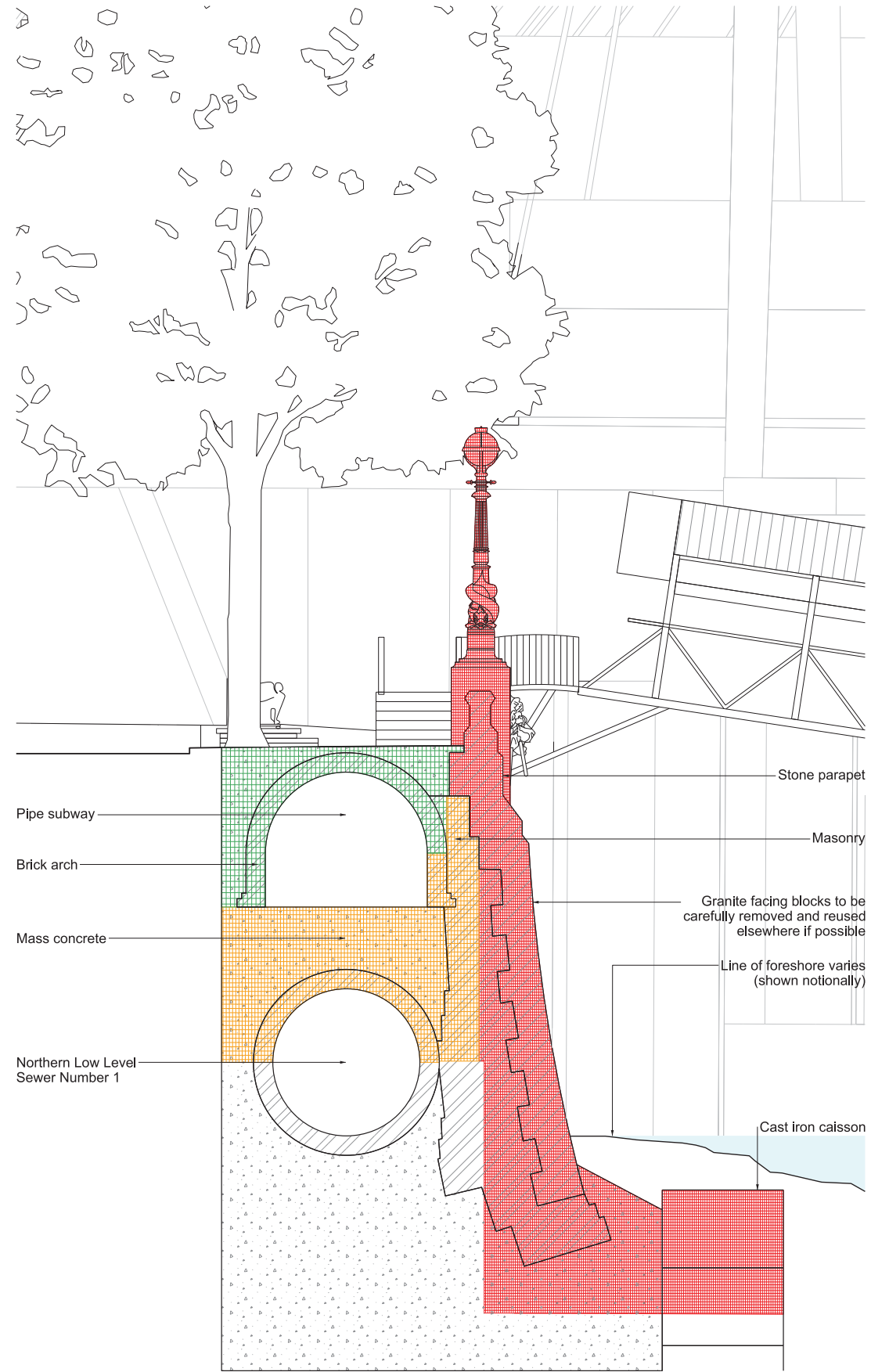
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



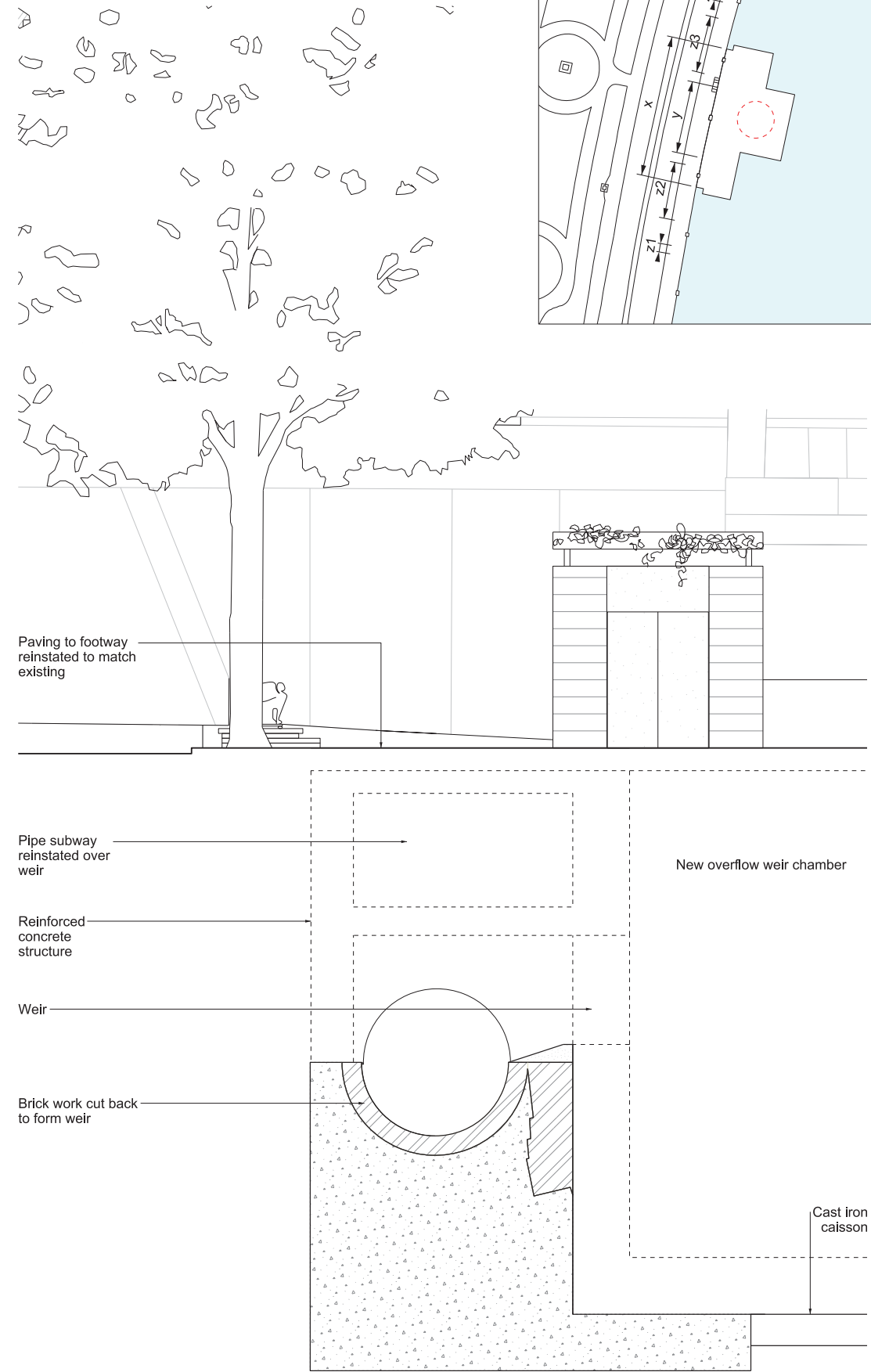
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Permanent removal along length x
 - Permanent removal along length y
 - Permanent removal along length y plus temporary removal and reinstatement along length z1 - z4

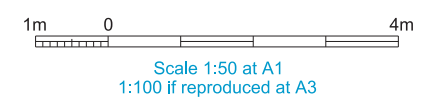
- Notes:**
1. All dimensions and levels are approximate.
 2. Drawing is based on as-constructed drawings and topographical survey and not on heritage survey.



As existing section AA



Proposed section AA



INDICATIVE

Location
Victoria Embankment Foreshore
City of Westminster

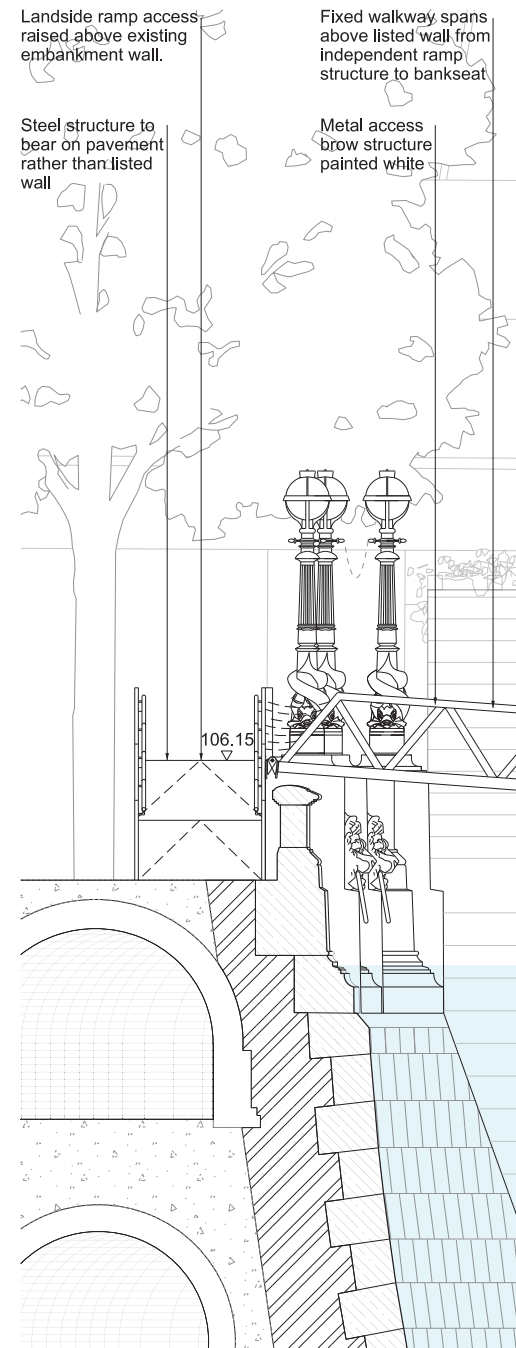
Document Information
Application for Development Consent
As existing and proposed listed
Interface weir construction structure
Book of plans - section 18
DCO-PP-16X-VCTEF-180026
January 2013



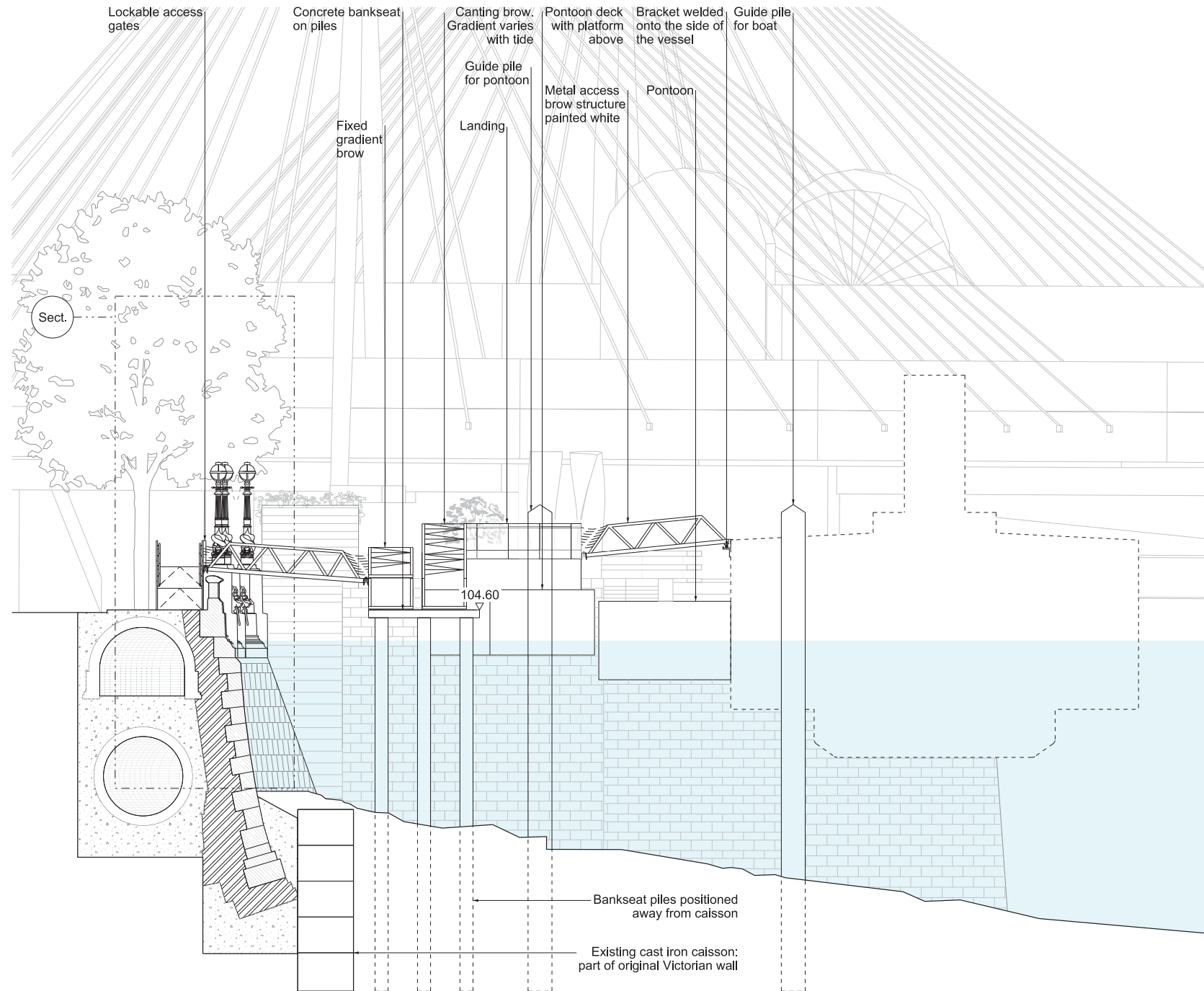


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

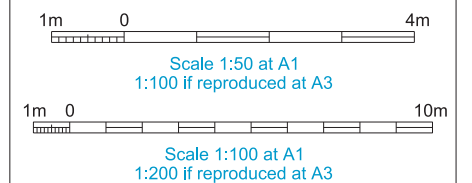
Notes:
1. All dimensions and levels are approximate.



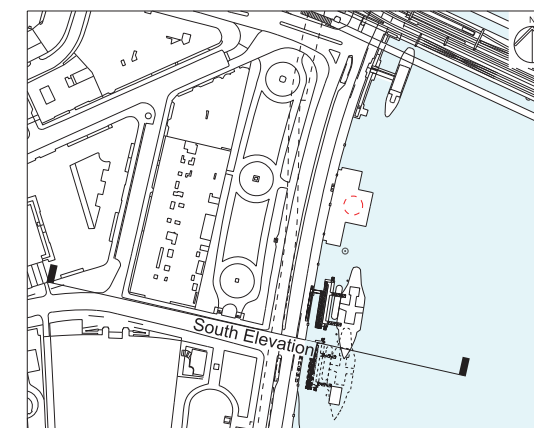
Detail section
(in both temporary and permanent cases)
Scale 1:50
See proposed landscape plan sheet 2 of 2 for location details



Proposed South elevation at high tide
Scale 1:100



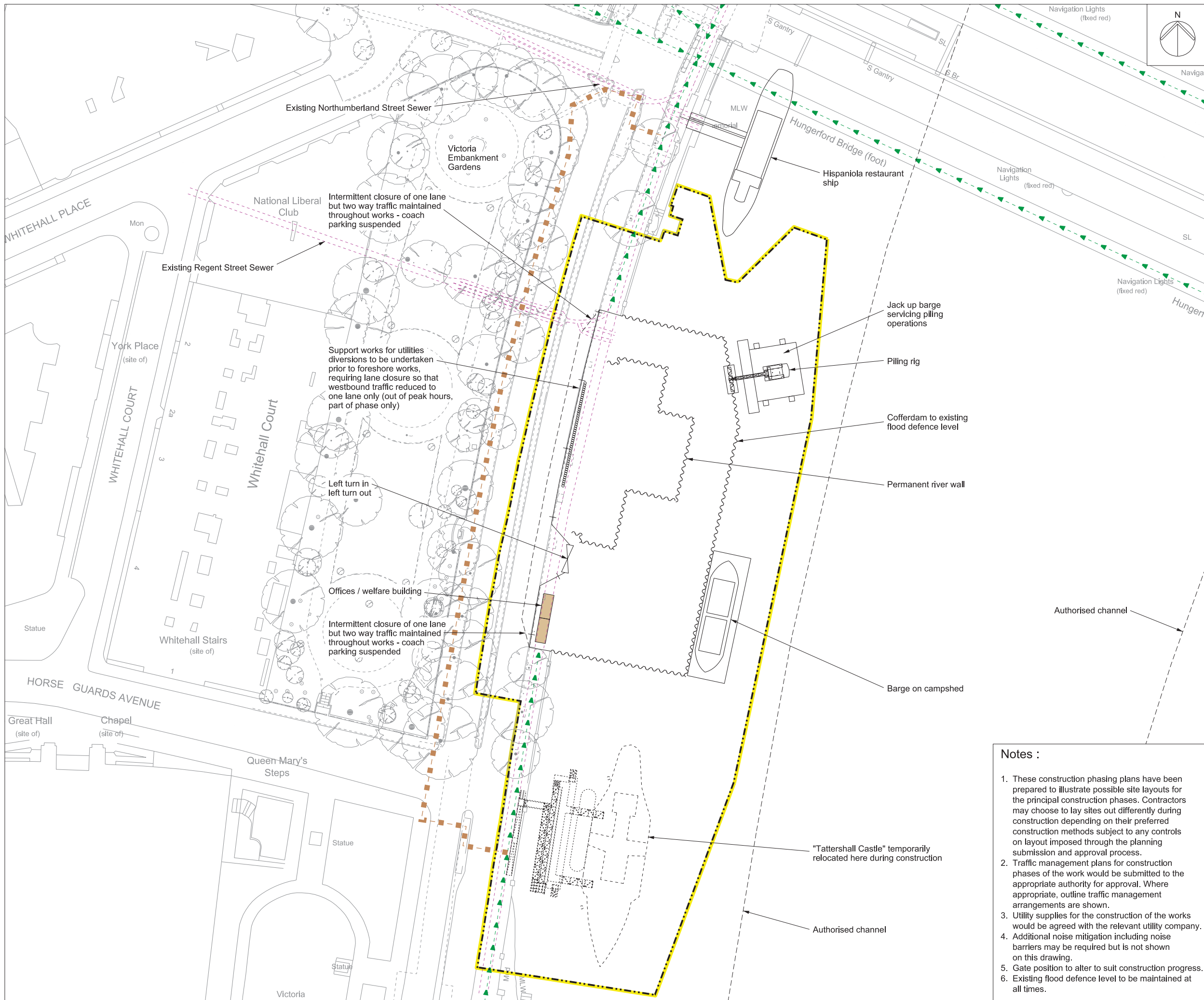
ILLUSTRATIVE
Save for the detail of spanning the listed wall which is for approval



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Proposed
Mooring access details
Book of plans - section 18
DCO-PP-16X-VCTEF-180027
January 2013





Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

Keyplan:
This drawing

Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key:

- Limits of land to be acquired or used (LLAU)
- Hoarding
- Maximum extent of working area
- Existing public right of way
- Route of temporary diversion of right of way
- Site access
- Existing sewers
- Sheet piles
- Secant piles installed

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

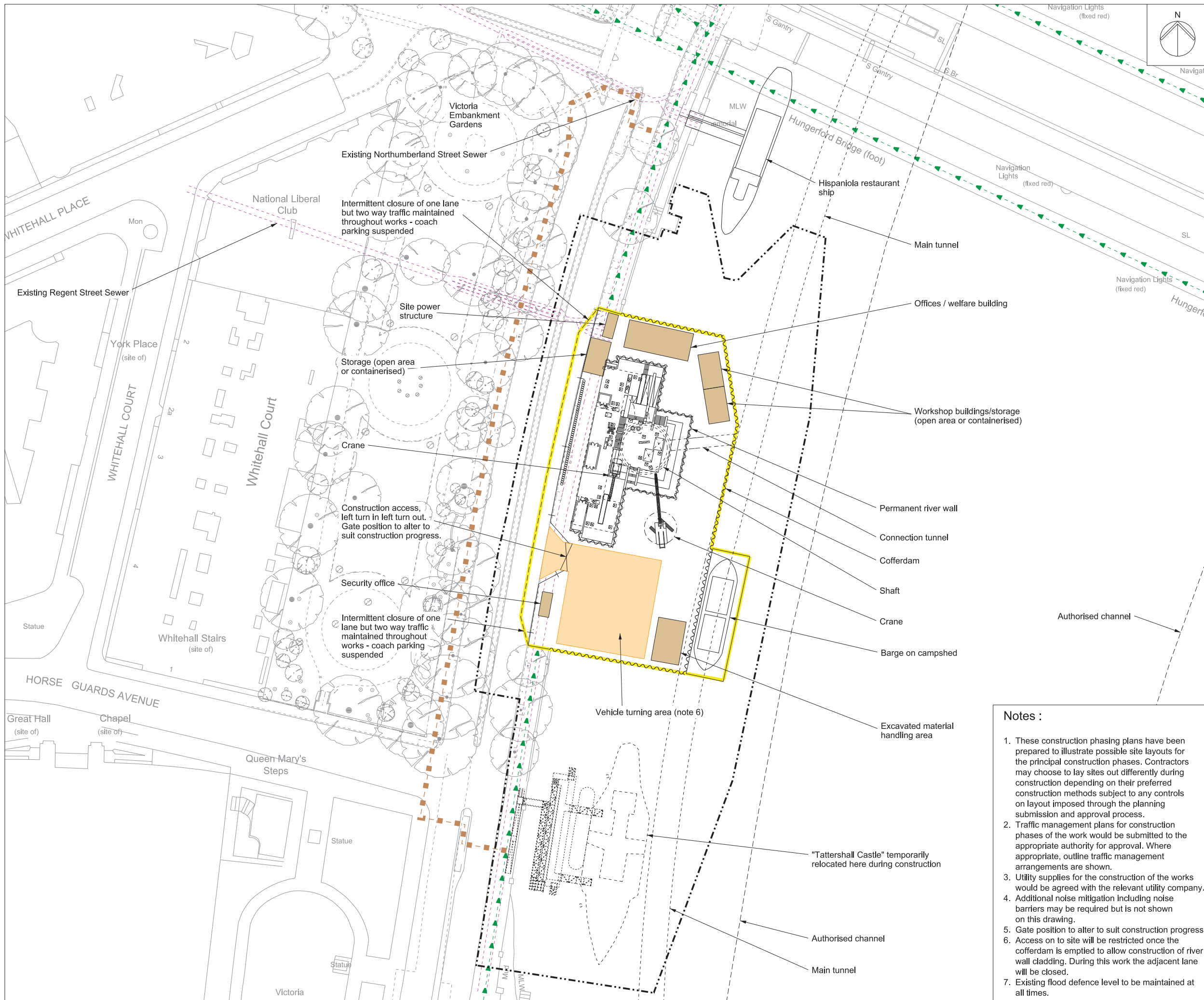
- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
 4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
 5. Gate position to alter to suit construction progress.
 6. Existing flood defence level to be maintained at all times.

ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Construction phases - phase 1
Site setup
Book of plans - section 18
DCO-PP-16X-VCTEF-180028
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames



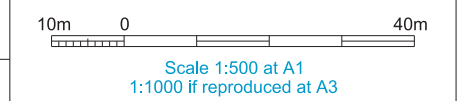
Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

Keyplan:
This drawing

Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key:

- Limits of land to be acquired or used (LLAU)
- Hoarding
- Maximum extent of working area
- Existing public right of way
- Route of temporary diversion of right of way
- Site access
- Access / haul route
- Existing sewers
- Sheet piles
- Secant piles installed



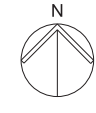
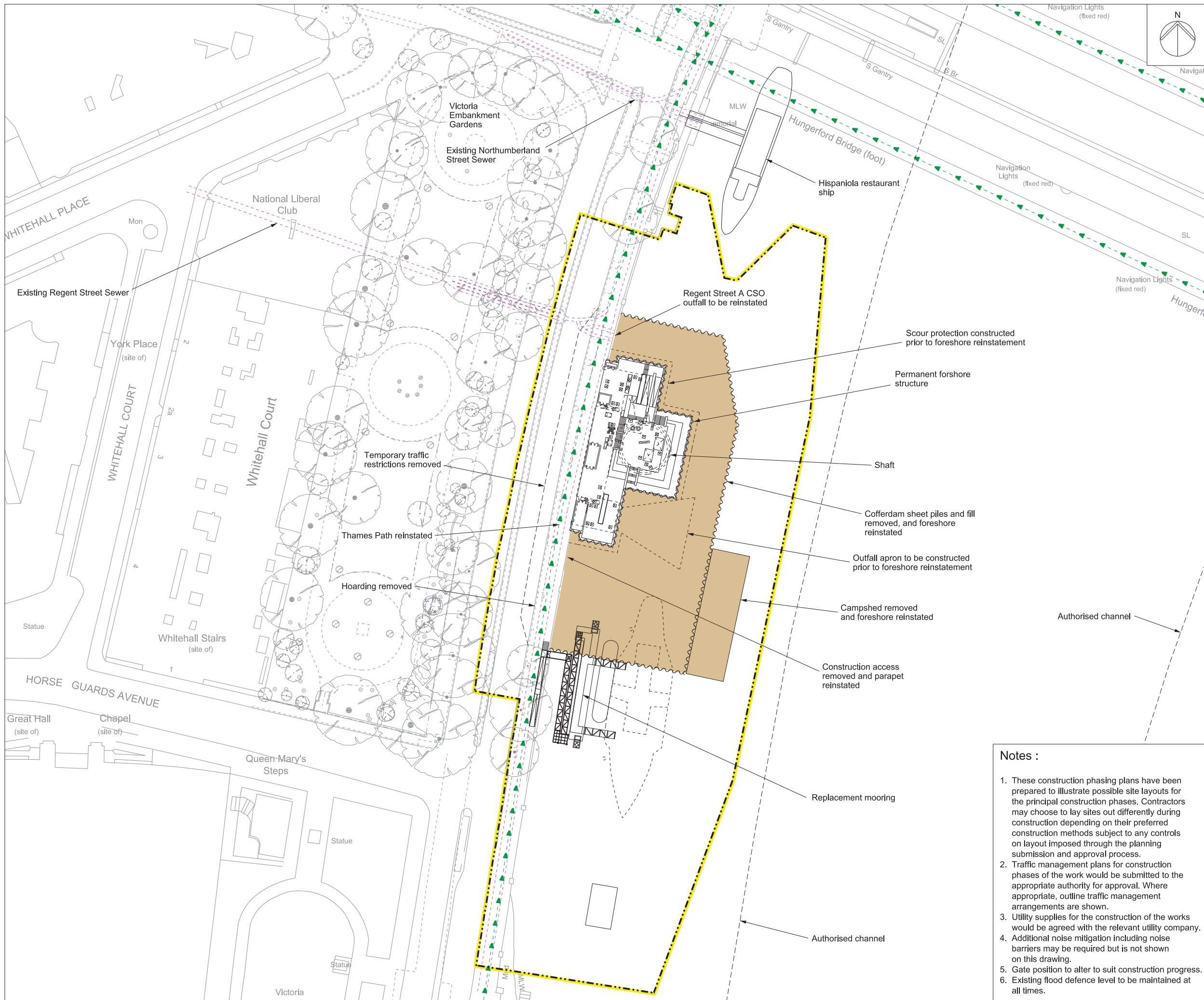
- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
 4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
 5. Gate position to alter to suit construction progress.
 6. Access on to site will be restricted once the cofferdam is emptied to allow construction of river wall cladding. During this work the adjacent lane will be closed.
 7. Existing flood defence level to be maintained at all times.

ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Construction phases - phase 3
Construction of other structures
Book of plans - section 18
DCO-PP-16X-VCTEF-180030
January 2013





Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Maximum extent of working area
 - Existing public right of way
 - Existing sewers
 - Sheet piles



Notes :

1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
5. Gate position to alter to suit construction progress.
6. Existing flood defence level to be maintained at all times.

ILLUSTRATIVE

Location
Victoria Embankment Foreshore
 City of Westminster

Document Information
Application for Development Consent
 Construction phases - phase 4
 Site demobilisation
 Book of plans - section 18
 DCO-PP-16X-VCTEF-180031
 January 2013



This page is intentionally blank

Copyright notice

Copyright © Thames Water Utilities Limited January 2013.
All rights reserved.

Any plans, drawings, designs and materials (materials) submitted by Thames Water Utilities Limited (Thames Water) as part of this application for Development Consent to the Planning Inspectorate are protected by copyright. You may only use this material (including making copies of it) in order to (a) inspect those plans, drawings, designs and materials at a more convenient time or place; or (b) to facilitate the exercise of a right to participate in the pre-examination or examination stages of the application which is available under the Planning Act 2008 and related regulations. Use for any other purpose is prohibited and further copies must not be made without the prior written consent of Thames Water.

Thames Water Utilities Limited

Clearwater Court, Vastern Road, Reading RG1 8DB

The Thames Water logo and Thames Tideway Tunnel logo are © Thames Water Utilities Limited. All rights reserved.

DCO-DT-000-ZZZZ-050300

