

Thames Tideway Tunnel  
Thames Water Utilities Limited



# Application for Development Consent

Application Reference Number: WWO10001

## Design and Access Statement

Doc Ref: **7.04**

### Part 2

#### Heathwall Pumping Station

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

Hard copy available in

Box **69** Folder **B**

January 2013

Thames  
Tideway Tunnel 

Creating a cleaner, healthier River Thames

This page is intentionally left blank

# Section 17

# Heathwall Pumping Station

## 17.1 Introduction

17.1.1 A worksite is required to connect two existing CSOs, known as the Heathwall Pumping Station CSO and the South West Storm Relief CSO, to the main tunnel. The proposed development site is known as Heathwall Pumping Station, which is located in the London Borough of Wandsworth and close to the London Borough of Lambeth.

17.1.2 We have agreed with the London Borough of Wandsworth that some elements of the detailed design proposals would be drawn up at a later stage. The detailed designs would be submitted to the local authority for approval in the form of a DCO requirement. Therefore, the majority of the images and plans in this section are for illustrative purposes only. However, the proposed landscape design is indicative, except for the layout of the above-ground structures, which is illustrative.



Figure 17.1: Aerial photograph of the existing Heathwall Pumping Station site with LLAU indicated

17.2 Existing site context

17.2.1 The site itself comprises Thames Water's operational Heathwall Pumping Station, the safeguarded Middle Wharf and an area of the river wall and foreshore of the River Thames, including the floating Battersea Barge restaurant.

17.2.2 The South West Storm Relief sewer and Heathwall Pumping Station CSO run through the site and discharge into the River Thames below the low water line.

17.2.3 The site falls within the Nine Elms area of the Vauxhall/Nine Elms/Battersea Opportunity Area (VNEB OA), one of 33 'opportunity areas' identified in the *London Plan 2011*. The site also falls within the Wandsworth Thames Policy, adjacent to the proposed Nine Elms near Vauxhall Focal Point of Activity, as designated in the London Borough of Wandsworth's *Core Strategy (2010)*.

17.2.4 *Core Strategy* Policies PL9 and PL11 provide strategic policy for the Thames riverside and the Nine Elms area supporting mixed-use development with public spaces at key focal points along the riverside and a riverside path; while promoting greater use of the river including freight uses. The policies protect river infrastructure and the safeguarded wharves for the trans-shipment of freight, waste and aggregates and routes to the main road network serving protected wharves. They also protect flood defences and seek to protect and enhance biodiversity.

17.2.5 The Heathwall Pumping Station site lies within the 'Nine Elms Riverside district', which is earmarked for mixed-use developments with an emphasis on active ground floor frontages, including fronting Nine Elms Lane and riverside-focused pocket parks.

17.2.6 Middle Wharf, within the site, is safeguarded by a ministerial direction, *London Plan 2011* Policy 7.26 and *Core Strategy* Policy PL9 from redevelopment for non-waterborne freight handling uses. Temporary uses of a safeguarded wharf are permitted in some circumstances where the wharf is then returned to waterborne freight handling use.

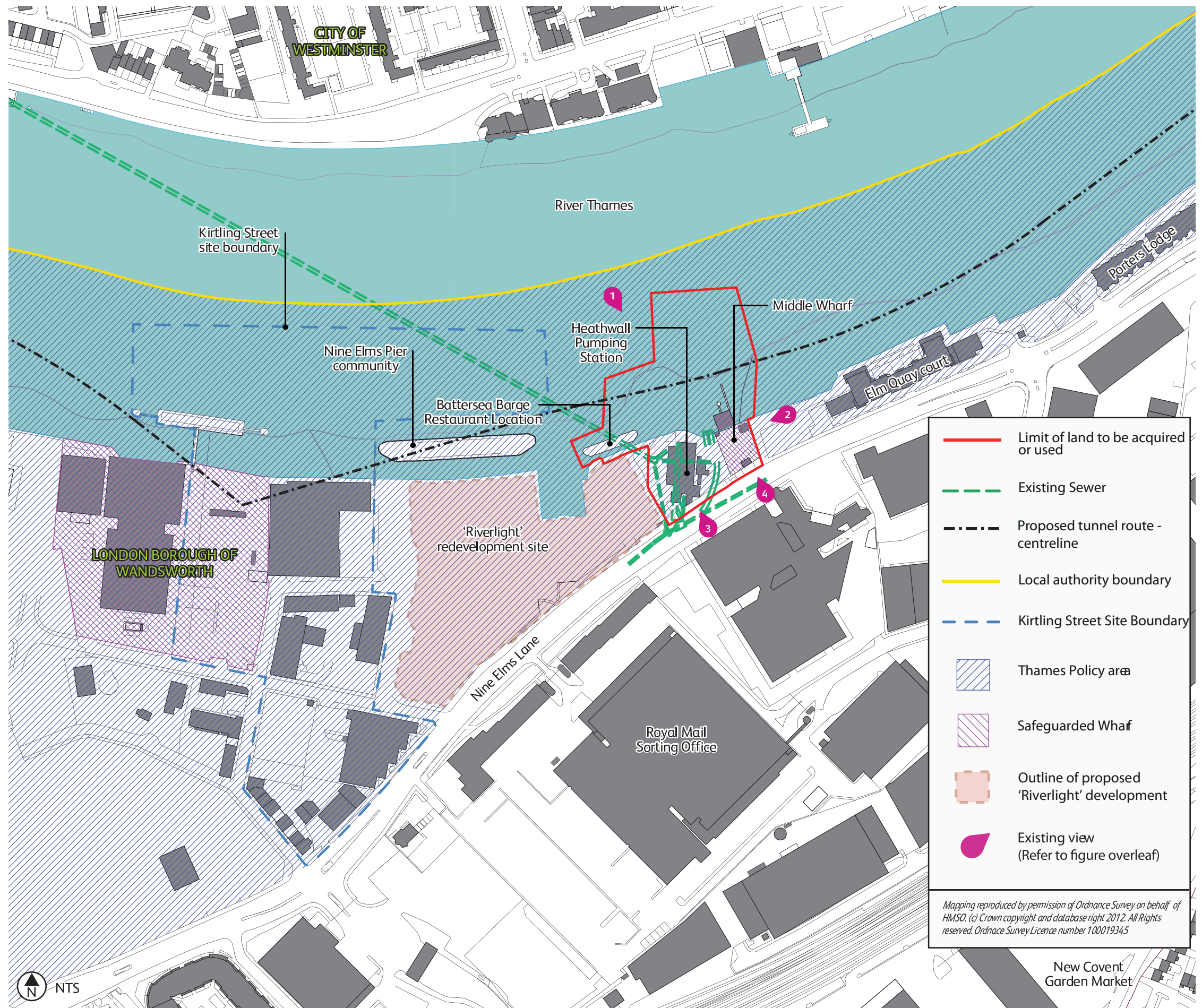


Figure 17.2: Existing site plan



Figure 17.3: Heathwall Pumping Station from the Thames



Figure 17.4: Green wall at eastern site boundary



Figure 17.5: Heathwall Pumping Station from Nine Elms Lane



Figure 17.6: Middle Wharf entrance gates and sub-station from Nine Elms Lane

17.2.7 The two parcels of land that form the on-land part of the site are both allocated within the London Borough of Wandsworth's *Site Specific Allocations Document (SSAD)* (February 2012). Heathwall Pumping Station forms the western section of the site and is allocated for use by the project. The Thames Water-owned Middle Wharf forms the eastern part of the site and is a former concrete batching works that has now been cleared and is allocated as a safeguarded wharf. The Thames Path Public Right of Way currently runs around the eastern (William Henry Walk), southern (Nine Elms Lane) and western (Tideway Walk) boundaries of the site. The SSAD (p.13) sets out the council's aspirations to realign the Thames Path along the riverside.

17.2.8 The site as a whole also falls within the Wandsworth Archaeological Priority Area and the foreshore section falls within the River Thames and Tributaries Site of Importance for Nature Conservation (Metropolitan Importance).

17.2.9 The site is bounded by the River Thames to the north; an open space to the east; Nine Elms Lane to the south; and the Tideway Industrial Estate 'Riverlight' redevelopment, and two houseboat communities: the Nine Elms Pier community and Tideway Village around Tideway Dock to the west.

17.2.10 The land use in the wider area is mixed and comprises industrial and commercial uses and some residential development.

17.2.11 To the north across the river lie residential properties. To the east beyond the open space lies the Elm Quay Court residential block. To the south across Nine Elms Lane lies an industrial area including the Royal Mail South London Mail Centre and cleared former industrial land. Beyond the Riverlight development to the west lies the project's Kirtling Street site and the disused Battersea Power Station.

17.2.12 Although the area surrounding the Kirtling Street site is largely industrial in nature, the future of the wider area is set to change significantly. There are several large-scale proposals to transform it from an industrial area into a residential neighbourhood. These proposals are at various stages in the planning and development process.

17.2.13 The most progressed of these developments is the Tideway Industrial Estate (now called 'Riverlight'), immediately to the west of the site. It is currently the subject of a major regeneration scheme approved by the London Borough of Wandsworth in February 2011. Construction commenced in September 2011. The scheme will provide over 750 new apartments, shops, cafés, bars and restaurants. The scheme will result in a significant change to the appearance and character of the area and the riverside location will be dominated by several modern high rise towers.

17.2.14 A major regeneration scheme has been approved on the site of the Royal Mail South London Mail Centre (known as Nine Elms Parkside), for mixed-use development, including 1,870 homes. Another major regeneration scheme known as Embassy Gardens has been approved to the south of the site, which would provide 1,982 homes. A further scheme to provide a new US Embassy has also been approved. Enabling works on the site began in 2012.

#### River wall

17.2.15 The river walls along this stretch of the River Thames are a mixture of different thicknesses and materials, including sheet piling, concrete, brick and timber fenders. The top of the walls is approximately 105.8m Above Tunnel Datum (ATD), which is above the current statutory flood defence level.

#### Middle Wharf

17.2.16 A jetty sits in front of Middle Wharf. There is no level access between the wharf and jetty and materials were previously transported between them on a high level conveyor. Pedestrian access to the jetty is via steps over the river wall.

17.2.17 A brick substation building sits on the southern boundary of Middle Wharf. High voltage cables to the substation run below the pavement in Nine Elms Lane. Office accommodation for the wharf is provided above the substation. The wharf is accessed by gates from Nine Elms Lane on either side of the substation/office building.

17.2.18 The eastern boundary wall comprises a brick dwarf wall topped with metal mesh fencing. Climbers have grown over it to create a 'green wall'.

Heathwall Pumping Station compound

17.2.19 The existing Heathwall Pumping Station building was built in brick and concrete in a New Brutalist style in the 1960s. The clean lines of the design have been somewhat obscured over the years by ad hoc additions such as signage and barbed wire.

17.2.20 Within the compound are a number of free-standing structures such as portacabins and a generator.

17.2.21 The ground below the compound is extremely congested with existing Thames Water infrastructure including two major sewers.

17.2.22 A valve chamber for the Heathwall Pumping Station CSO sits between the northern side of the pumping station and the river wall. It sits higher than surrounding ground level and currently restricts a pedestrian route in front of the pumping station.

17.2.23 The compound's boundary walls vary on each side. The boundary wall on Nine Elms lane is original brick. It matches the pumping station and forms part of the entrance to the building. There have been a number of later additions to the walls such as barbed wire, signage and new gates that detract from the style of the wall. The brick of the boundary wall with Middle Wharf also matches the pumping station building. Above it is a chain-link fence topped with barbed wire.

17.2.24 The western boundary wall will be rebuilt as part of the Riverlight development to better suit its landscaping proposals while meeting Thames Water security standards.

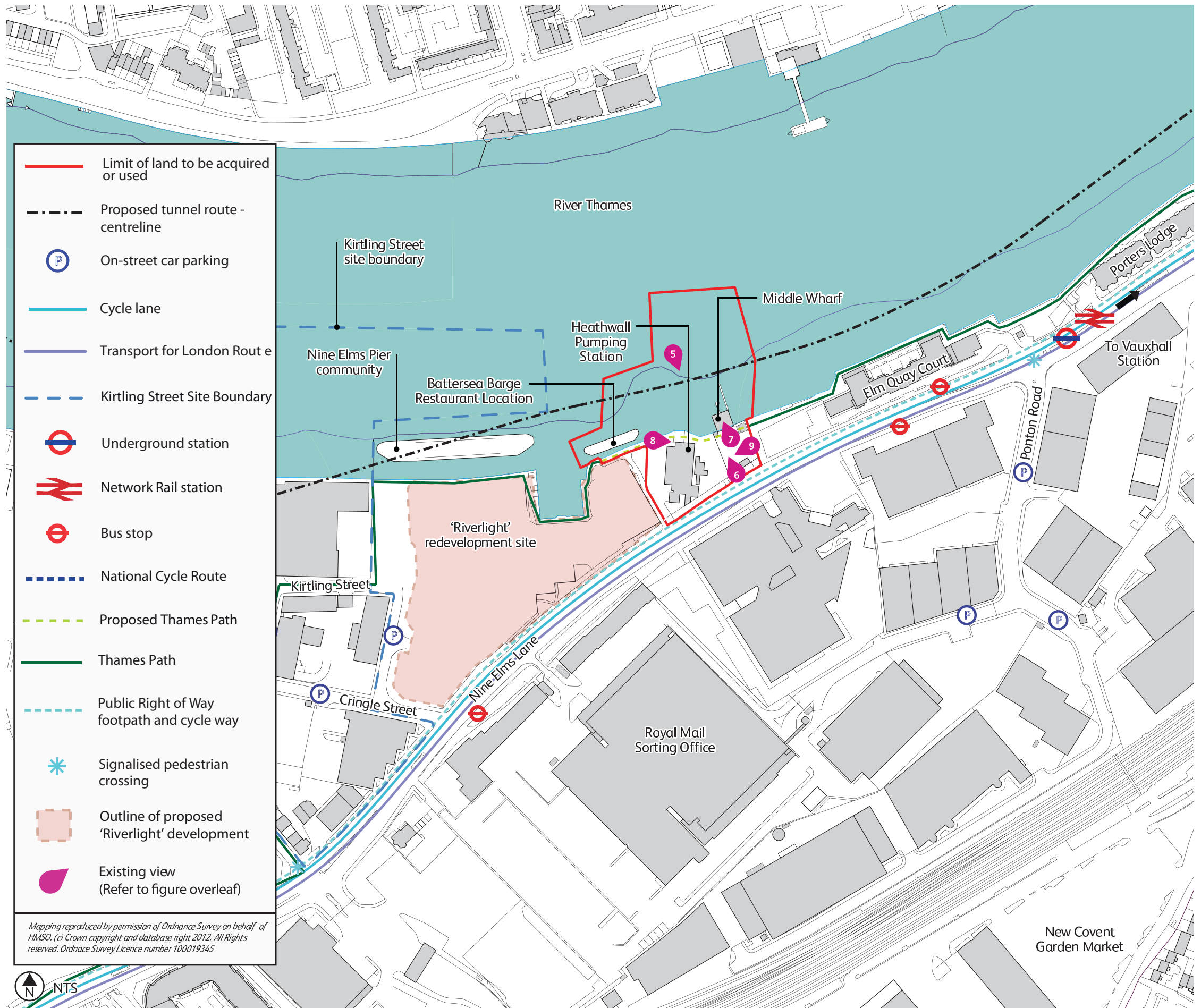


Figure 17.7: Existing site analysis plan



Figure 17.8: River wall and jetty at Heathwall Pumping Station from the Thames



Figure 17.9: Middle Wharf to existing jetty



Figure 17.10: Steps to jetty from Middle Wharf



Figure 17.11: Valve chamber and loading bay to the north of Heathwall Pumping Station



Figure 17.12: Heathwall Pumping Station from Middle Wharf

### Existing site access and movement

17.2.25 There are four existing access points to the site off Nine Elms Lane: two into the pumping station and two into Middle Wharf. The site is not publically accessible due to its industrial nature and use.

### Highways

17.2.26 Nine Elms Lane (A3205) is a four-lane single carriageway and one lane in each direction is a bus lane. It forms part of the Transport for London Road Network and is a designated red route. A 30mph speed limit applies and it is suitable for heavy goods vehicles and other long vehicles.

17.2.1 Nine Elms Lane links to the Vauxhall Gyrotory (A3036) to the east and Queenstown Road (A3216) to the west.

### Car parking

17.2.2 On-street parking is available approximately 200m from the site along Kirtling Street and Cringle Street. The majority of the parking is limited to one side of the carriageway. However, there are sections of parking on both sides of Kirtling Street. Parking in this area is unrestricted and not subject to a Controlled Parking Zone.

17.2.3 There is no on-street parking along Nine Elms Lane or Battersea Park Road.

### Public transport

17.2.4 Vauxhall Underground and National Rail stations lie approximately 950m to the northeast of the site and Battersea Park Rail Station is situated approximately 1km to the southwest.

17.2.5 Two daytime bus routes operate from various bus stops on Nine Elms Lane within 640m of the site. The stops serve the 156 (between Vauxhall and Wimbledon) and the 344 (between Shoreditch and Clapham Junction).

17.2.6 Vauxhall Bus Station, which provides a large number of bus services, is located approximately 950m to the northeast of the site.

### Cycle facilities and routes

17.2.7 A designated cycle route runs east-west along Nine Elms Lane. The cycle path is shared with the footpath.

17.2.8 The closest Cycle Superhighway is CS8, which runs between Wandsworth and Westminster. Queenstown Road, approximately 1.1km to the southwest of the site, is the closest point on the CS8 to the site.

17.2.9 The closest Bardays Cycle Hire docking station is at Vauxhall Cross, approximately 900m to the east of the site. The docking station is located on the western footway of Parry Street (A3036) and accommodates 16 bicycles.

### Pedestrian routes

17.2.10 Footfall through the Nine Elms industrial area is generally low except on the Thames Path, which runs around the site as set out above.





Figure 17.13: Visualisation of proposed development at Battersea Power Station by ©Feilden Clegg Bradley Studios for Ballymore



Figure 17.16: Visualisation of Riverlight development (under construction) by others (from north) ©St James Group Limited

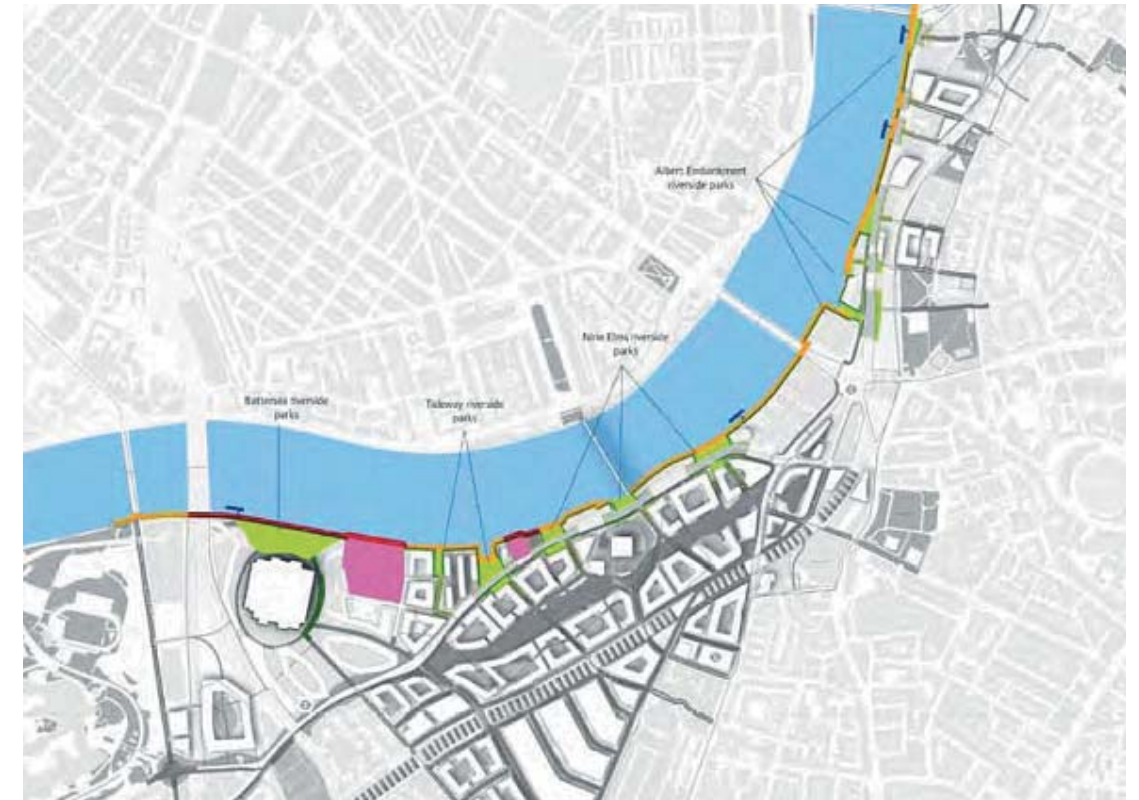


Figure 17.18: Aspirations for improved river walk (Vauxhall/Nine Elms/Battersea Opportunity Area, 2012 Mayor of London)



Figure 17.14: Visualisation of Riverlight development (under construction) and proposed marina by others (from east) ©St James Group Limited



Figure 17.17: Visualisation of approved US Embassy and Embassy Gardens developments and wider Nine Elms developments by others (from east) © US Embassy



Figure 17.19: Nine Elms Public Realm Strategy (Vauxhall/Nine Elms/Battersea Opportunity Area, 2012 Mayor of London)



Figure 17.15: Visualisation of approved Embassy Gardens development by others (from south east) ©Feilden Clegg Bradley Studios for Ballymore

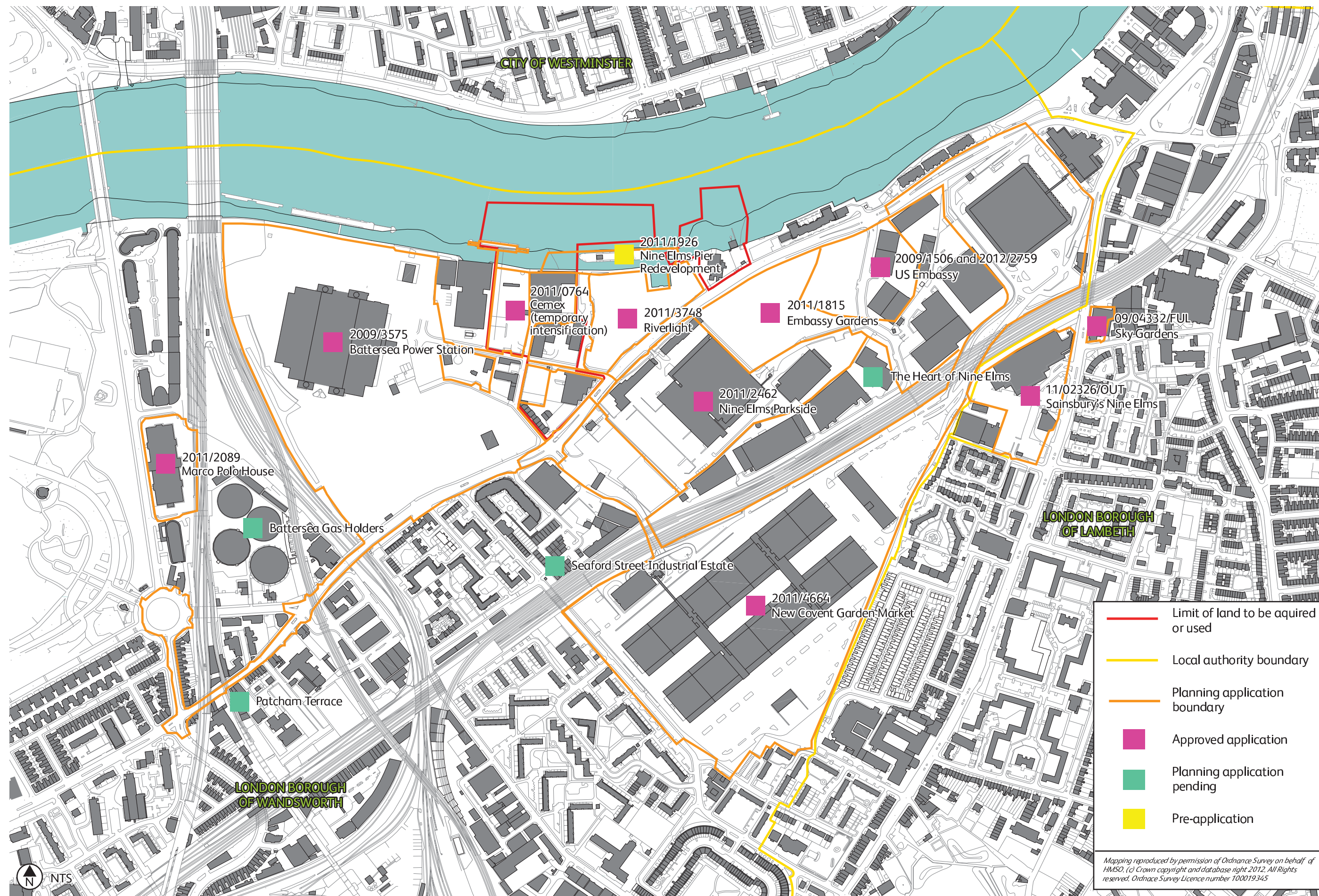


Figure 17.20: Approximate locations of surrounding planning boundaries

## Historical context

17.2.11 The Heathwall Pumping Station site was marshland until it was gradually reclaimed for agricultural use from the medieval period onwards. The site's river side location meant that it was increasingly used for trade and industry in the post-medieval period. Several windmills lined the river bank in the Nine Elms area and fields and an osier bed (where willows were grown for basket-making) lay nearby.

17.2.12 The bridging of the River Thames at Battersea in the early 1770s acted as the catalyst for industrial expansion. Rocque's map from 1762 shows Nine Elms Lane already in place and a map from 1824 to 1826 shows a Tide Mill and Stone Wharf Factory on or adjacent to the site, with the northern part of the site located in the foreshore. Nine Elms Mill Dock was located to the west of the site. A gas works was also built to the south of Nine Elms Lane in 1833 and included a prominent gas holder, south of the site.

17.2.13 Between the mid-1820s and the 1860s, a whiting and lime works was established on the site around the new Middle Wharf. There was a pottery on the eastern part of the site and possibly associated cottages immediately to the east.

17.2.14 In the late 19th century, a jetty was added to the west side of Middle Wharf and the cottages were removed to make way for more intensive industrial development.

17.2.15 By the early 20th century, Middle Wharf had been divided into Mill Pond Wharf and Middle Wharf and many of the buildings near the southeastern side of Middle Wharf had been demolished. Map evidence indicates that the buildings to the west of Mill Pond Wharf were also largely rebuilt. A London City Council sewage pumping station was established at the end of the dock. After the Second World War, the dock was filled in, although evidence of the entrance survives in the river wall. The former jetty was removed and much of the site was redeveloped by the early 1950s.

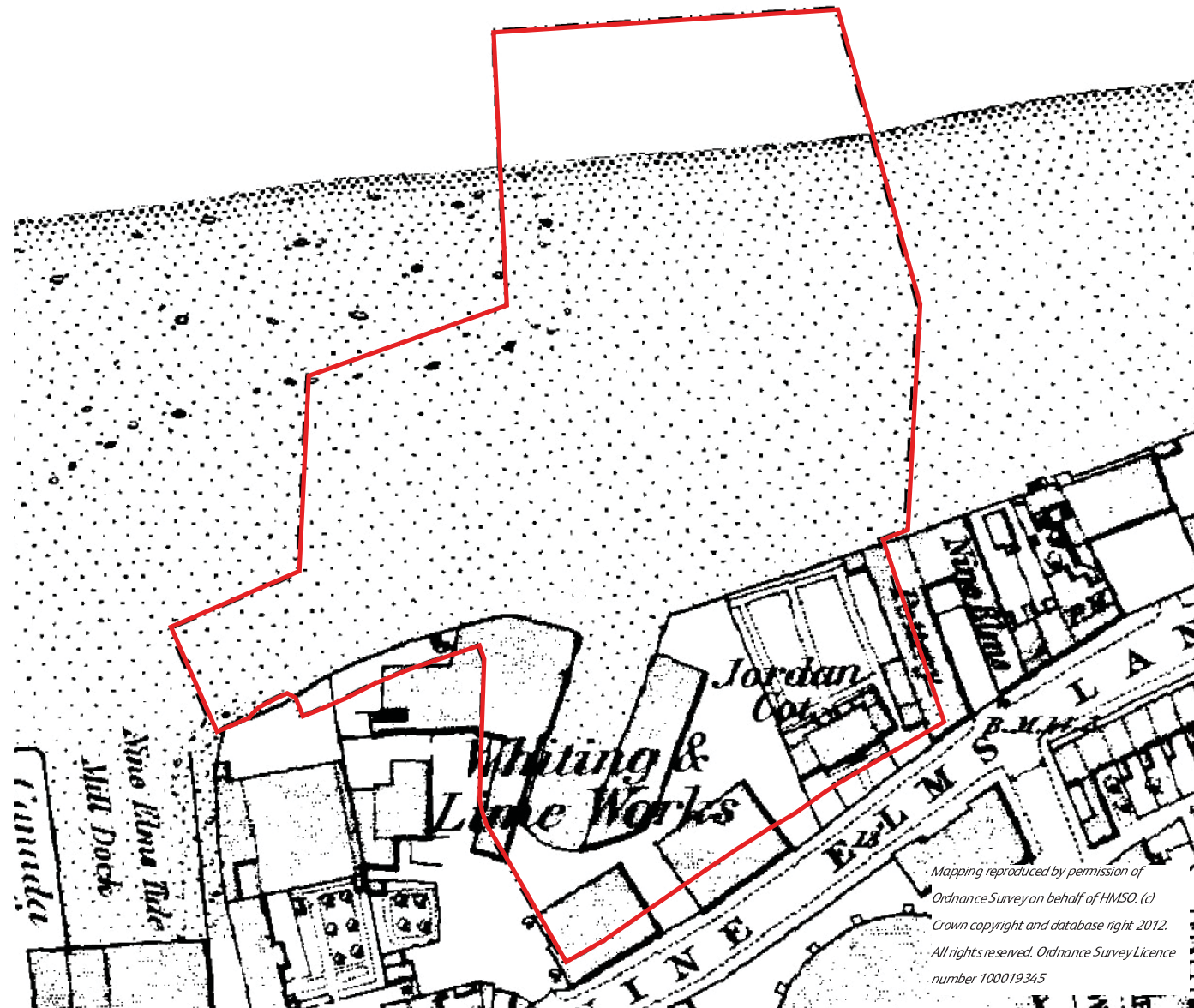


Figure 17.21: Historic map showing existing Heathwall Pumping Station site (1875)



Figure 17.22: Historic photo of Heathwall Pumping Station upon completion (1960's)



Figure 17.23: Historic photo of Heathwall Pumping Station upon completion (1960's)



Figure 17.24: Historic photo of Heathwall Pumping Station under construction



Figure 17.25: Historic photo of Heathwall Pumping Station upon completion (1960's)

**Site analysis: Opportunities and constraints**

**The site-specific design opportunities included:**

- a. Divert the Thames Path along the river in line with planning policies.
- b. Provide a new area of riverside public realm on the route of the Thames Path in which to sit and enjoy the views over the river in support of planning policies.
- c. Co-ordinate the design to tie in with the public realm of other developments in the area, such as Riverlight.
- d. Improve the appearance of the existing pumping station.
- e. Improve the site's biodiversity and habitat value

**The site-specific design constraints included:**

- a. The waterborne freight-handling use at the safeguarded Middle Wharf and jetty must be able to continue on completion of the works.
- b. The existing pumping station must remain operational during and following construction.
- c. Works in the foreshore must be kept to a minimum to limit effects on aquatic ecology, river flows and navigation as far as possible.
- d. The permanent works must integrate with the design and layout of other developments in the area.
- e. The Battersea Barge restaurant must remain operational.
- f. The gradients of any level changes in public footpaths and open spaces across the site must comply with the Disability Discrimination Act.
- g. Flood protection must be maintained.

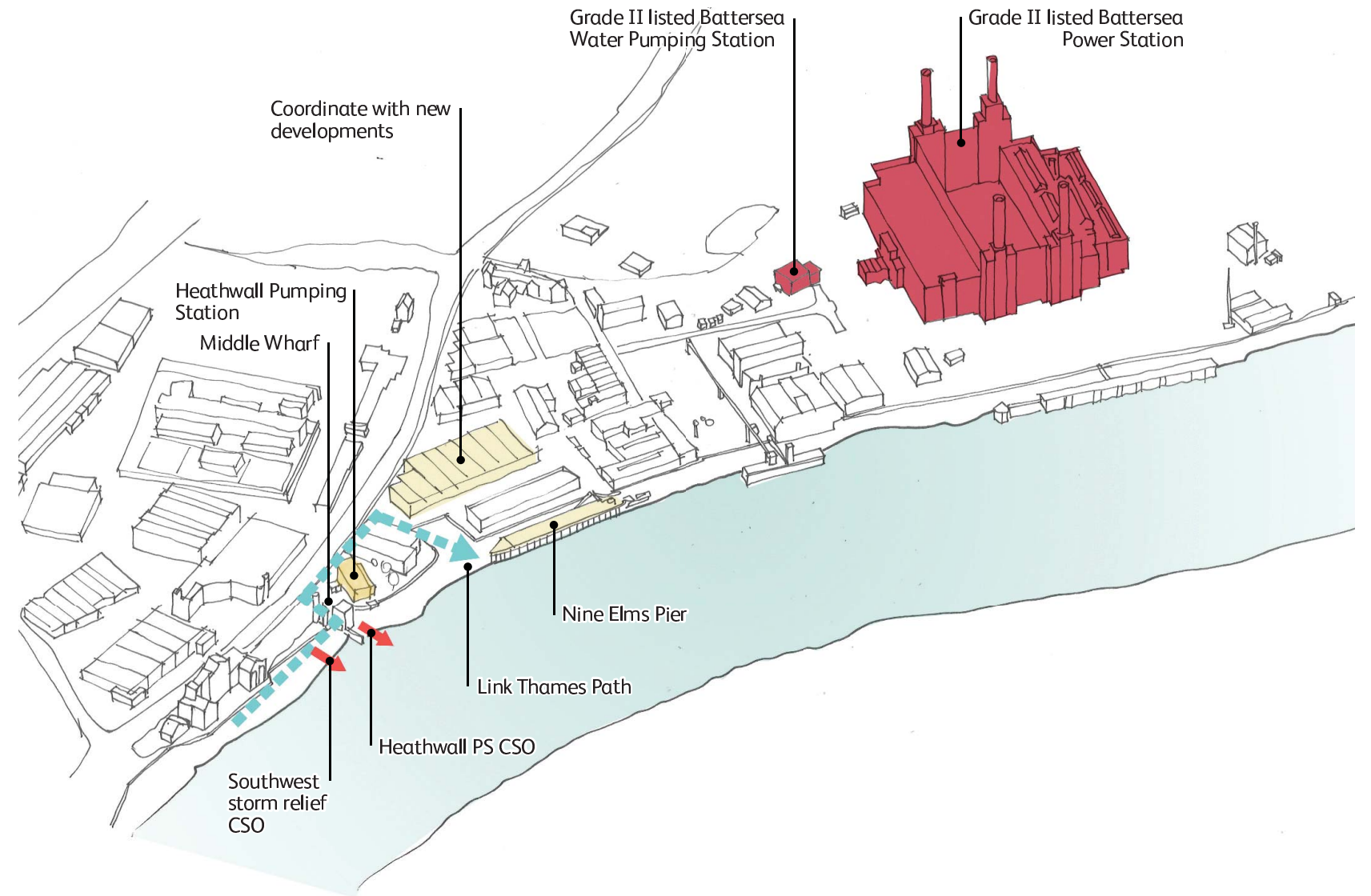


Figure 17.26: Existing site opportunities and constraints sketch

This page is intentionally left blank

### 17.3 Design evolution and alternatives

17.3.1 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 design objective at Heathwall Pumping Station was to successfully integrate the works into the existing Thames Water operational site and the safeguarded wharf and to create a new area of public realm.

17.3.2 The design of our proposals for the Heathwall Pumping Station site was also significantly influenced by an extensive process of stakeholder engagement and design review. In order to ensure design quality, we undertook two rounds of review hosted by the Design Council CABI. We also held various pre-application meetings with the London Borough of Wandsworth and other strategic stakeholders. More information on our consultation process is provided in the *Consultation Report*, which accompanies the application.

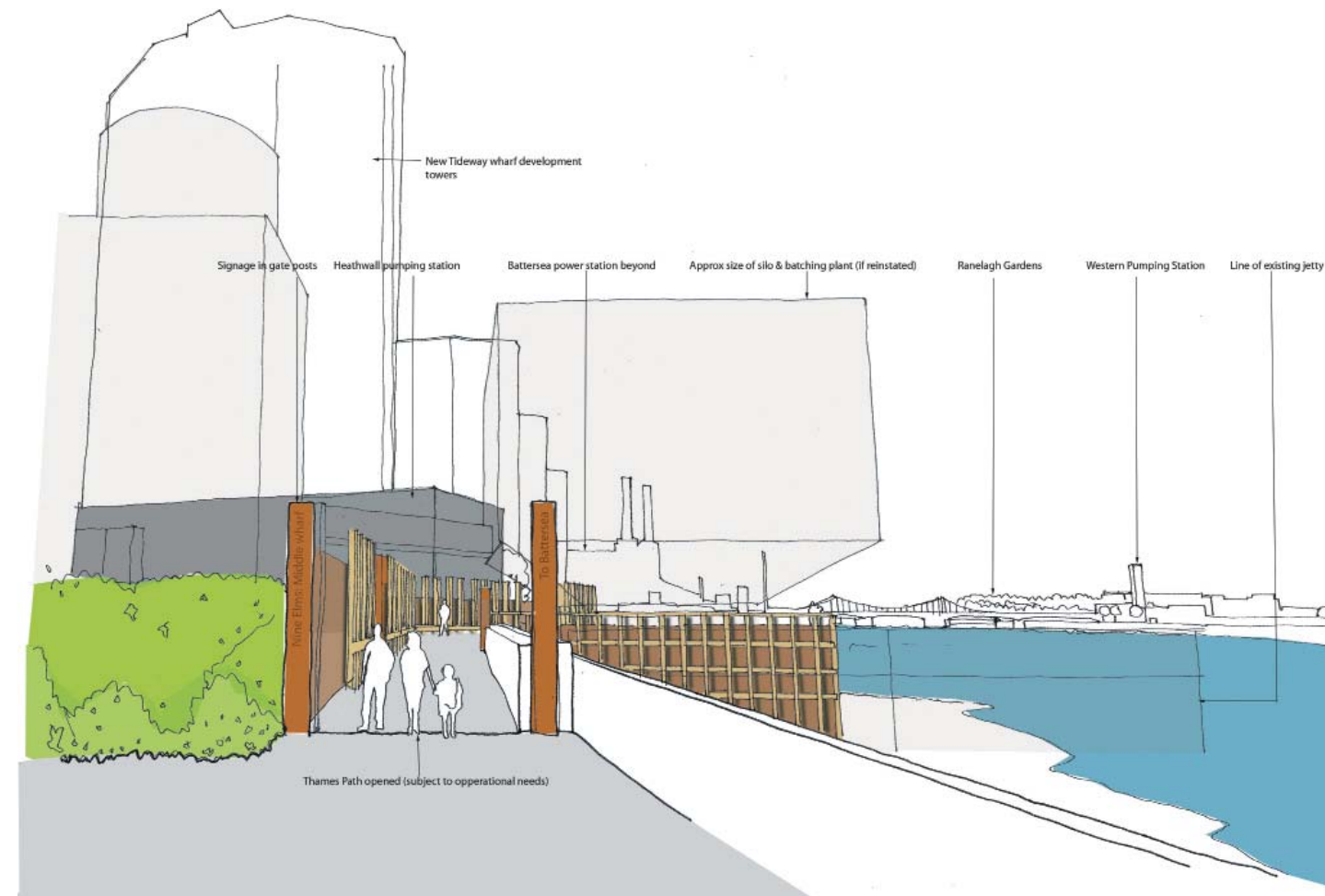


Figure 17.27: Sketch from design development

October 2010

## Phase one consultation

17.3.3 The Heathwall Pumping Station site was not presented at phase one consultation. At this stage, Tideway Walk was proposed as a combined site at which to: intercept the Heathwall Pumping Station CSO and the South West Storm Relief CSO; receive the main tunnel drive from Barn Elms; and drive the main tunnel to King's Stairs Gardens. The combined site comprised the Tideway Walk Industrial Estate, Heathwall Pumping Station and Middle Wharf sites.

17.3.4 Following phase one consultation, we learned that Tideway Walk was no longer available as the Riverlight development had received planning permission and construction had commenced. As a result we undertook a site selection back check (see the *Final Report on Site Selection Process*, Volume 14, which accompanies the application, for details). We then selected the Heathwall Pumping Station site as our preferred site to intercept the two CSOs at phase two consultation for a number of reasons, including:

- It would be possible to intercept both CSOs at one site and make use of Thames Water-owned land.
- There is good access from Nine Elms Lane.
- The area is largely industrial, which would minimise potential effects on the residential community.

17.3.5 We also proposed to use the Kirtling Street site to drive the main tunnel in two directions to Chambers Wharf and to Carnwath Road Riverside.

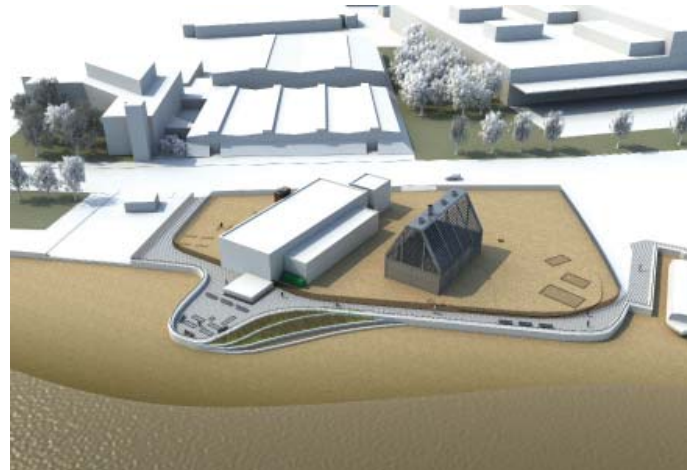


Figure 17.28: Proposed view from phase one consultation

May 2011

## CABE sketch review

17.3.6 We held a sketch review based on our initial site assessment and sketched ideas for the site with the Design Council CABE in May 2011. The proposed site comprised the Thames Water-owned Heathwall Pumping Station site combined with the Middle Wharf site, which had been acquired by Thames Water.

17.3.7 We proposed to create a new foreshore structure enclosing the CSO interception structures, which would be surrounded by a new section of river wall. The top of the structure would form a new area of public open space. We proposed to position the CSO drop shaft on Middle Wharf. We also proposed to permissively divert the Thames Path along the river frontage.

17.3.8 The proposed materials palette recognised the post-industrial character of the area. In the landscape concept diagram, we proposed to construct a new wall on the outer face of Middle Wharf's eastern boundary, which could incorporate climbers or screens. We also recognised the need to improve the condition and appearance of the existing pumping station building and site boundary.

17.3.9 The Design Council CABE panel was generally supportive of the design and noted that the proposed scheme acknowledged the fact that the Battersea Nine Elms area is set to change significantly over the coming decades. The panel recognised that the proposed foreshore structure beside the pumping station could form a public riverside space from which to enjoy vistas of the River Thames. It noted that the scheme could *"inform the public about the Thames Tunnel through the detailed design of the new space and the improvements to the pumping station itself"*. The panel also commented that the operations of the safeguarded wharf facility should not be compromised.

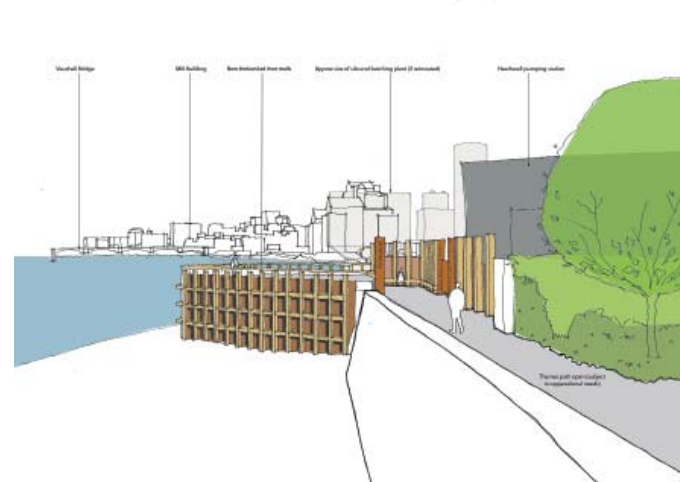


Figure 17.29: Proposed view from Design Council CABE sketch review

17.3.10 Further comments included:

- The detailed design of this space should *"capitalise on this unique opportunity, creating a moment of delight and escape from the noise and pollution of Nine Elms Road [Lane]"*. The panel welcomed the proposal to link the space to the Thames Path and understood that it would need to be closed during maintenance and use of the safeguarded wharf.
- The relationship between the foreshore structure and the pumping station is important for design development. The external appearance of the pumping station could be improved to recognise future residential development in the vicinity, but it should retain its *"honest expression as a working part of the river alongside Middle Wharf, celebrating its presence as an industrial interlude"*.
- The scheme should address the relationship to Nine Elms Lane and improve access to the Thames Path from the highway.
- More thought is required on the detailed design of the new river wall around the foreshore structure.

June 2011

## CABE scheme review

17.3.11 A more detailed scheme was presented at a subsequent review in June 2011. There were no significant developments in the design of the engineering components at this stage. Minor changes were made to the number and location of the proposed ventilation structures.

17.3.12 The Design Council CABE panel was generally positive in its comments. It applauded the main changes presented and the fact that the design clearly recognised that the Battersea Nine Elms area is set to change beyond recognition over the coming decades.

17.3.13 The panel suggested that a new jetty beside the pumping station could create a new public riverside space. It also recognised the relationship between the existing jetty and the pumping station and noted that the pumping station building would become more conspicuous as neighbouring sites are redeveloped. However, the panel also advised that it was important that the pumping station maintained *"its honest expression as a working part of the river alongside Middle Wharf, celebrating its presence as an industrial interlude on an otherwise residential-focused riverside"*.

17.3.14 The panel suggested that the works to the pumping station and public realm should also address the relationship to Nine Elms Lane and in doing so help to improve access to the Thames Path, having regard to the local authority's emerging design principles for Nine Elms Lane.



Figure 17.30: Proposed view from Design Council CABE scheme review

November 2011

## Phase two consultation

17.3.15 Finally, the panel reiterated its comments in relation to community engagement and the importance of open dialogue with stakeholders and other developers.

17.3.16 Following phase one consultation, we held drop-in sessions on 15 and 16 August 2011 at the Bandstand area in Battersea Park to inform the local community of the potential use of the Heathwall Pumping Station site. We also gathered views on issues that we should take account of in developing our proposals.

17.3.17 At phase two consultation, the key issues raised by the London Borough of Wandsworth in relation to the design of the proposals for Heathwall Pumping Station included:

- a. The design and materials of the river walk and foreshore structure *“should match those proposed on the adjacent Riverlight scheme to ensure consistency of treatment [across the Thames Path]”*.
- b. The proposed Thames Path should be 6m wide.
- c. The design of the interface between the pumping station and the River Thames, and between the southern boundary of the site and Nine Elms Lane needs careful consideration. The design of the Nine Elms Lane frontage should comply with the council’s emerging public realm design proposals. The corten fence proposed for this frontage is not considered acceptable given that Nine Elms will become a mixed-use area over the next decade.
- d. The appearance of the pumping station should be enhanced to integrate with the character of emerging development in the Nine Elms Opportunity Area.



Figure 17.31: Proposed view from phase two consultation

e. Middle Wharf should continue to be safeguarded but that it might be *“worthy of consideration for future de-designation, depending on the future requirements of the Opportunity Area”*.

17.3.18 The Design Council CABE supported the proposals and did not raise any new issues. However, it noted that:

- a. The design team should consider *“a continuous grading to the ramp with level intervals to one side to allow people to pause along the length”*.
- b. The bespoke corten fencing should create a suitably robust setting for the building while providing interest to users of the Thames Path.

17.3.19 Following phase two consultation, we continued to liaise with representatives of the London Borough of Wandsworth to develop design principles for the site and to accommodate their aspirations for the Vauxhall/Nine Elms/Battersea Opportunity Area.



Figure 17.32: Proposed view from Section 48 publicity

July 2012

## Section 48 publicity

17.3.20 Pursuant to phase two consultation and further design development, we made the following changes to our proposals:

- a. We proposed a different set of finishes to better coordinate with the Riverlight development and the public realm strategy in the VNEB OAPF.
- b. We proposed to position an additional small tank breather unit within the Thames Water compound in order to meet odour and ventilation requirements.
- c. Due to on-going engineering design developments, we increased the size of the foreshore structure to ensure safe access to the below-ground infrastructure.

17.3.21 In response to comments received from the Environment Agency, we undertook a study to determine whether we could include an intertidal terrace in the increased footprint of the foreshore structure. We concluded that it was not feasible at this site as such a terrace could be over-sailed by the large barges that operate in the area, which would compromise the impact protection zone required to protect the foreshore structure.

17.3.22 In response to concerns that the pumping station building would not integrate well with the surrounding area once the various regeneration proposals are complete, we explored a number of scenarios for the building’s future. We considered relocating the pumping station to a less prominent location to enable construction of a residential development above the existing building.

17.3.23 However, few suitable alternative sites were available and it was highly likely that they would all be redeveloped in the near future. Moreover, the complexity of the relocation and the cost of securing a suitable site were prohibitive. We also determined that it would not be feasible to construct a residential development over the pumping station as the foundations would be restricted by the extent of the underground project infrastructure.



This page is intentionally left blank

17.4 Proposed design

17.4.1 This section describes the amount, layout and scale of the proposed development and how the functional components would be integrated into the existing site. Details of the proposed landscaping and appearance of the site are also embedded in the description where relevant.

Fixed principles

17.4.2 The Site works parameter plan defines the zones in which the proposed works would take place. The plan indicates the general location of the realigned river wall, the CSO drop shaft, the ventilation columns and the CSO interception and flap valve chambers.

17.4.3 The site-specific design principles are included in the *Design Principles* document which accompanies this application. These principles establish the parameters for the above ground structures and landscaping on the site and have, where possible, been developed in consultation with the local authority. The site-specific principles should be read in conjunction with the project-wide design principles.

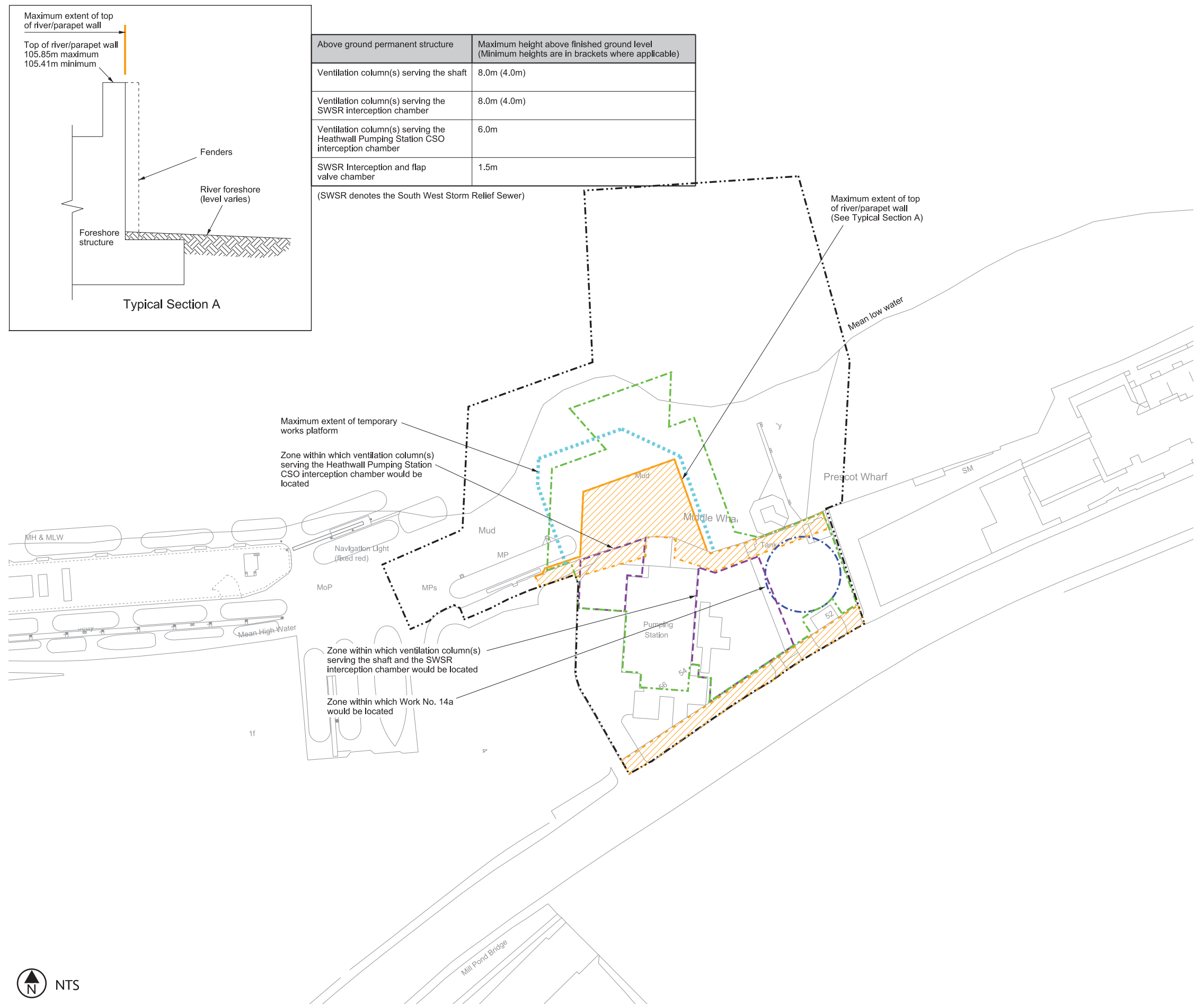


Figure 17.33: Proposed site works parameter plan - refer to Site works parameter plan in the *Book of Plans*

## Design objectives

17.4.4 The main driver behind the development of the designs was to explore ways in which the foreshore structure and permanent works could fit in with and contribute positively to its environment. We sought to comply with Core Strategy Policy IS 3 and the Wandsworth *Development Management Policies Document* (DMPD) Policy DMS 1. Our other design objectives included:

- a. Position the foreshore structure to avoid compromising the operation of Middle Wharf, the existing jetty and the Battersea Barge restaurant.
- b. Create a new low key public space on the foreshore structure, in which to rest and enjoy the views along the Thames Path and provide seating along the river frontage.
- c. Ensure the proposals tie in with the regeneration of the area and the Riverlight development and create a cohesive area of public realm.
- d. Limit opportunities for anti-social behaviour within the public space through design and use of materials.
- e. Locate the functional components within the pumping station compound wherever possible.
- f. Keep the above-ground structures to a minimum in order to minimise the visual impact and limit constraints on access and movement around the congested operational site.

## Use and programme

17.4.5 The proposed design for the site accommodates two types of use: private operational and permissive public access.

17.4.6 The operational Thames Water Heathwall Pumping Station would be retained and access would remain restricted. Thames Water would need to access the foreshore structure for routine maintenance purposes. Middle Wharf is safeguarded for waterborne freight-handling use and access would be restricted. Although the present use of the wharf does not require river access, its configuration must not compromise future loading and unloading via the jetty. However, it is unlikely that the Thames Water maintenance and freight-loading activities would be frequent or prolonged.

17.4.7 Local policy strongly supports opening a riverside walkway along this stretch of the River Thames. The foreshore structure would enable sufficient space for a 4m wide pedestrian route between the pumping station building and the river. We propose to open up a permissive pedestrian right of way along the entire riverfront of the site by fencing off a strip of the northern edge of Middle Wharf. The strip would link to the Thames Path on either side, which would avoid the need for pedestrians to use the busy Nine Elms Lane.

17.4.8 The remaining area on top of the foreshore structure would be used as flexible public space, which could accommodate different uses. Primarily we anticipate that it will be used as an incidental viewing and seating space for pedestrians using the Thames Path.



Figure 17.34: Proposed view of foreshore structure



Figure 17.35: Proposed landscape plan

## Detailed description

17.4.9 Our proposals comprise three parts: the new public space and riverside walkway, the Thames Water compound, and Middle Wharf.

### Public space and riverside walkway

17.4.10 We sought to create a simple, clutter-free space in support of DMPD Policy DMS1, which would be a valuable addition to the public realm along the River Thames. The open design would be self-policing and foster natural surveillance.

17.4.11 The public space would be characterised by the project-wide motif of ‘flowing bands’. The motif is a visual reference to the way in which the currents in the river bend and direct reeds and how the river forms geological strata over the millennia. At this site we propose to incorporate the bands into the surface of the paving materials in alignment with the proposed seating benches and lighting.

17.4.12 We sought to co-ordinate with the proposals for the Riverlight development, in line with comments from the London Borough of Wandsworth. We propose to use a unifying palette of materials that comprises concrete block pavers with a natural aggregate surface finish. We added decorative, slender ‘flecks’ of etched metal to the paving to create interest and character. The design of the new area of public realm references the former industrial uses of the site.

17.4.13 We propose to include seating in the form of contemporary benches, which would be positioned to optimise views of the River Thames. The solid and robust nature of the benches would help to define the overall character of the space. The benches would be constructed of sustainably-sourced timber to reference the timber fenders of the adjacent wharf. The benches would be demountable to facilitate maintenance access to the below-ground structures.

17.4.14 The handrails along the river frontage would be bespoke and designed to lean against in order to enjoy the river views.

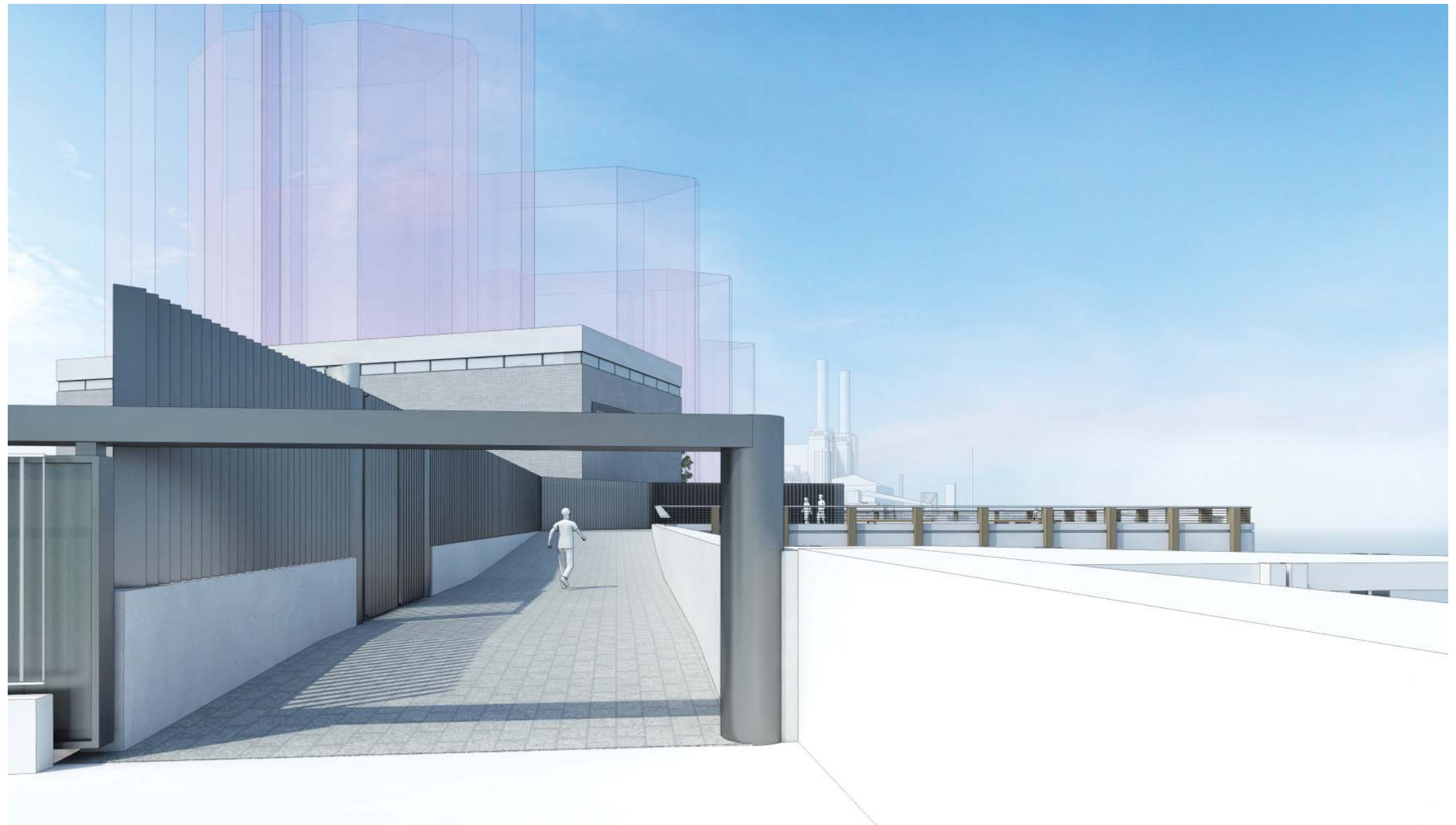


Figure 17.36: Proposed view of the east sliding gate



Figure 17.37: Proposed view of the west sliding gate

17.4.15 We propose to include high quality sliding metal gates at the eastern and western edges of the site in order to divert pedestrians from the riverside walk when operational access to the foreshore structure or jetty is required. The gates would be constructed of solid metal panels with laser cut signage to direct pedestrians towards the Thames Path. When the walk is open, the gates would be concealed behind the eastern and western boundary walls.

17.4.16 We also propose to incorporate a bespoke architectural screen to create an interesting backdrop to the public space and separate it from the operational areas. The screen would be comprised of vertical steel fins mounted on top of a low concrete retaining wall. The gates to Middle Wharf and the Thames Water compound would be finished with the same steel fins to reduce their visual impact and maintain the continuity of the treatment across the site. The final finish may be developed to tie in with the material palette of the Riverlight development at a later stage.

#### Thames Water compound

17.4.17 In recognition of the changing character of the area and in line with comments from the London Borough of Wandsworth, we agreed to carry out cosmetic improvements to the appearance of the pumping station. We propose to clean the brick work and concrete, and re-paint the existing metal cladding.

17.4.18 We also propose to remove the barbed wire and extraneous signage from the pumping station building and the boundary walls, which would restore the simplicity and clean lines of the original design. We would also replace the existing tall, blue arched access gates to Nine Elms Lane. The gates would be constructed of solid panels with limited openings to screen views into the compound. They would stand at the same height as the boundary wall to continue the line of the wall.

17.4.19 In order to further screen the pumping station building and tie in with the public realm strategy for the wider area, we propose to plant three London Plane trees in the footway along the southern boundary of the site. Several high voltage cables are positioned near the kerb line therefore the trees would be planted at the back of pavement. The size of the tree pits would ensure that the pavement is wide enough for pedestrians and wheelchair users to pass each other. This is consistent with aspirations set out in the SSAD and wider regeneration proposals for the surrounding area to reconfigure Nine Elms Lane/Battersea Park Road to create an urban boulevard.

#### Middle Wharf

17.4.20 New gates to Middle Wharf would be provided in the southern boundary wall to match the new gates to the Thames Water compound in order to unify the elevation onto Nine Elms Lane.

17.4.21 The western boundary wall with the Thames Water compound would be re-built to incorporate a gate. The existing 'green wall' on the eastern boundary would be reinstated with mixed climbing plants to soften it and create a wildlife habitat.

### Integration of the functional components

17.4.22 The majority of the proposed works are below-ground structures, including:

- a. a CSO drop shaft
- b. a connection tunnel
- c. a CSO interception chamber for the Heathwall Pumping Station CSO
- d. a CSO interception chamber for the South West Storm Relief CSO
- e. a connection culvert
- f. valve chambers
- g. CSO overflow structures and a protective foreshore apron
- h. an air treatment chamber
- i. associated hydraulic structures, culverts, pipes and ducts

17.4.23 Post construction, the following structures would be visible on the site:

- a. the foreshore structure surrounded by the new section of river wall
- b. a raised chamber on the South West Storm Relief CSO
- c. one signature ventilation column to serve the CSO drop shaft
- d. one signature ventilation column to serve the South West Storm Relief interception chamber
- e. one ventilation column to serve the CSO interception chamber
- f. a passive filter breather unit
- g. two local control pillars.

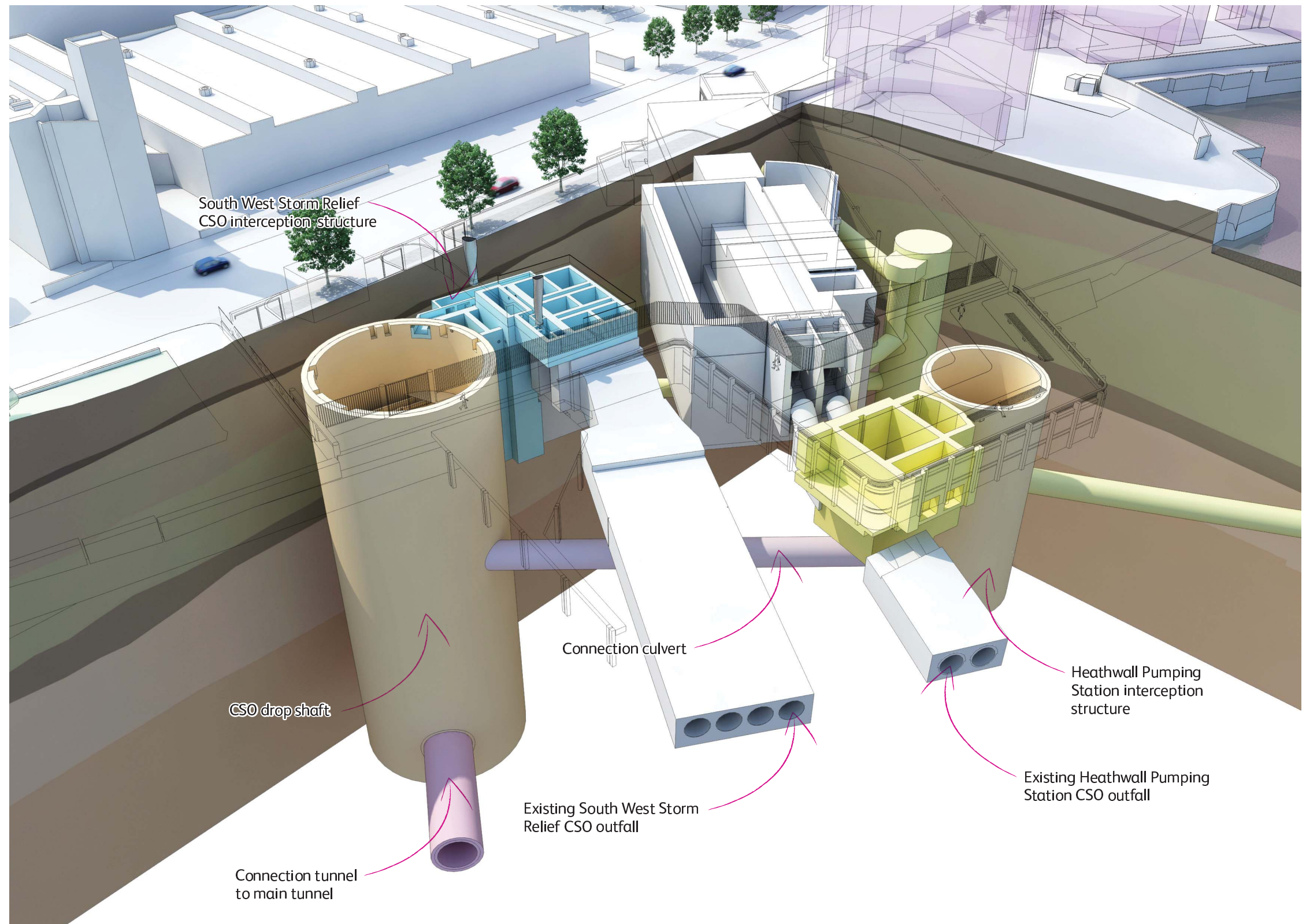


Figure 17.38: Proposed functional components diagram: below ground view



Figure 17.39: Proposed functional components diagram: above ground view

17.4.24 Due to constraints within the pumping station compound, including the location of the existing buildings and below-ground infrastructure, the CSO drop shaft to intercept the South West Storm Relief CSO cannot be located within the Thames Water compound. Therefore, it would be positioned on Middle Wharf and would be approximately 16m in internal diameter. The shaft would be finished at ground level to enable the wharf to return to waterborne freight-handling use, which is supportive of *London Plan Policy 7.14* and *Core Strategy Policy PL 9*. The shaft would be connected to the CSO interception chamber for the Heathwall Pumping Station CSO by a connection culvert and to the main tunnel via a short connection tunnel.

17.4.25 The CSO interception and flap valve chamber for the South West Storm Relief CSO would be raised to a maximum height of 1.5m. It would be positioned within the Thames Water compound to the east of the pumping station building or on the western boundary with Middle Wharf.

17.4.26 The two local control pillars would stand approximately 1m high. They would be positioned within the Thames Water compound to the northwest and the east of the pumping station building.

#### Ventilation columns and structures

17.4.27 The number and size of the ventilation columns is determined by the air management requirements for the site. At Heathwall Pumping station, we propose to include two ventilation columns to serve the CSO drop shaft, which would be minimum 4m to maximum 8m high. They would be located within the Thames Water compound either to the east of the pumping station building or on the western boundary with Middle Wharf in order to minimise their visual impact, in line with *Core Strategy Policy IS 3* and *DMPD Policy DMS 1*.

17.4.28 We also propose to include a smaller diameter ventilation column, which would be maximum 6m high. It would be positioned within the Thames Water compound to the northwest of the pumping station building or within the riverside walkway.



17.4.29 The passive filter breather unit would stand approximately 1m high. It would be positioned within the Thames Water compound to the northeast of the pumping station building.

17.4.30 Locating the permanent above ground structures outside or on the western boundary of Middle Wharf would enable the wharf to continue to operate as a safeguarded wharf once the project is complete.

17.4.31 Areas of hardstanding would be included to facilitate maintenance vehicle access and incorporate access covers to the below-ground infrastructure.

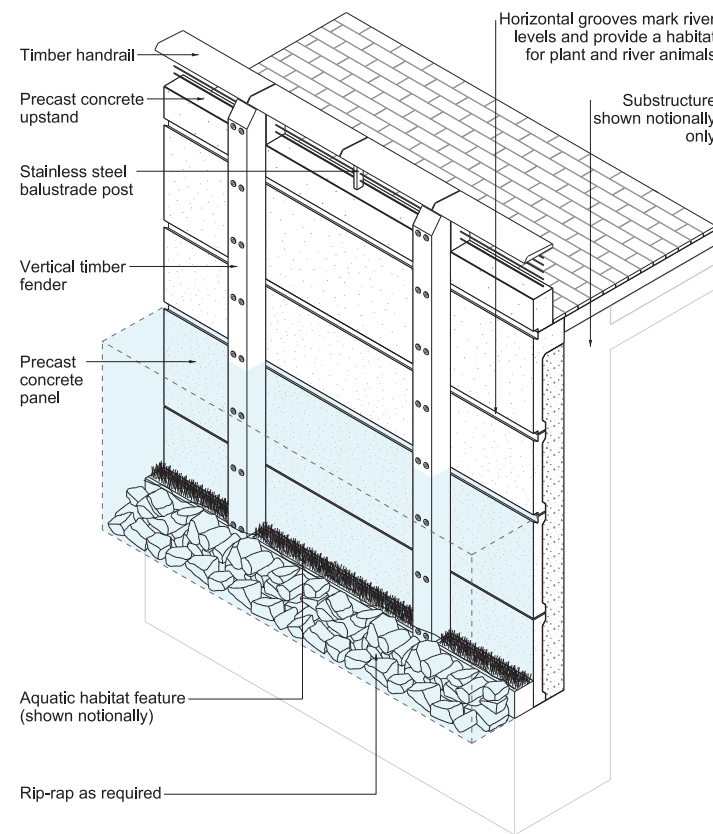
**Foreshore structure**

17.4.32 Due to constraints within the pumping station compound, including the location of the existing buildings and below-ground infrastructure, the works to intercept the Heathwall Pumping Station CSO needed to be located within a structure in the foreshore to the north of the pumping station building.

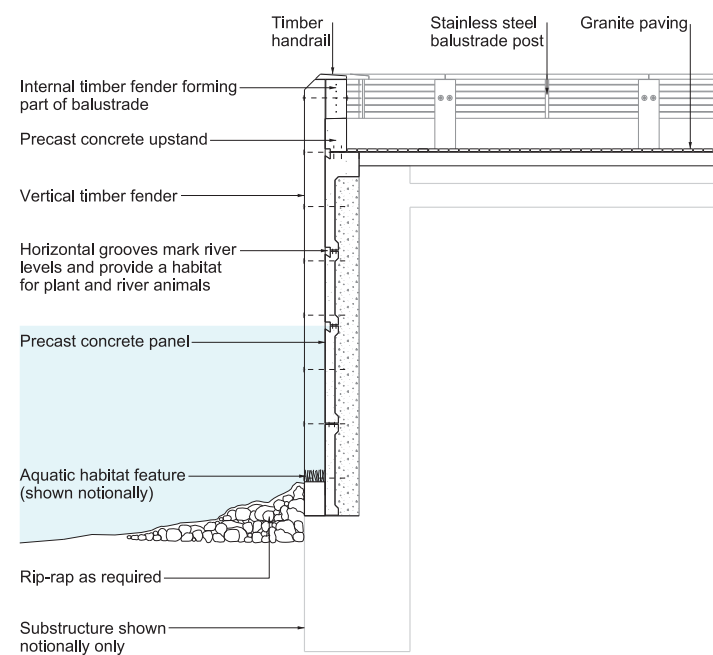
17.4.33 The Battersea Barge restaurant would be moved slightly to the west during the construction period. It would then be reinstated into its existing position, in line with DMPD Policy DMS 1. Its operational needs would be maintained throughout.

**River wall**

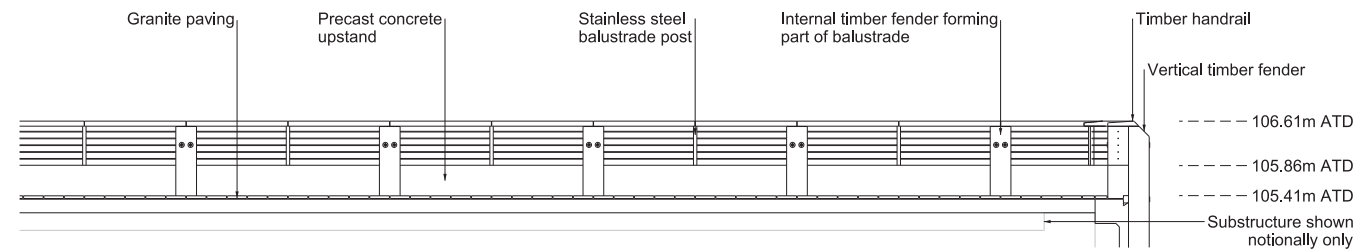
17.4.34 The foreshore structure was designed to integrate with the existing river wall. The new section of wall surrounding the structure would form part of the flood defences. The top of the wall would be finished at 105.87m Above Tunnel Datum (ATD) in order to align with the height of the existing walls. This level is approximately 400mm above the ground level of the foreshore structure. It is above the current flood defence level and anticipates the required raise in levels in the year 2065 predicted in the Environment Agency's Thames Estuary 2100 strategy. The structural design of the wall would be developed to be raised further to meet these requirements by the year 2100.



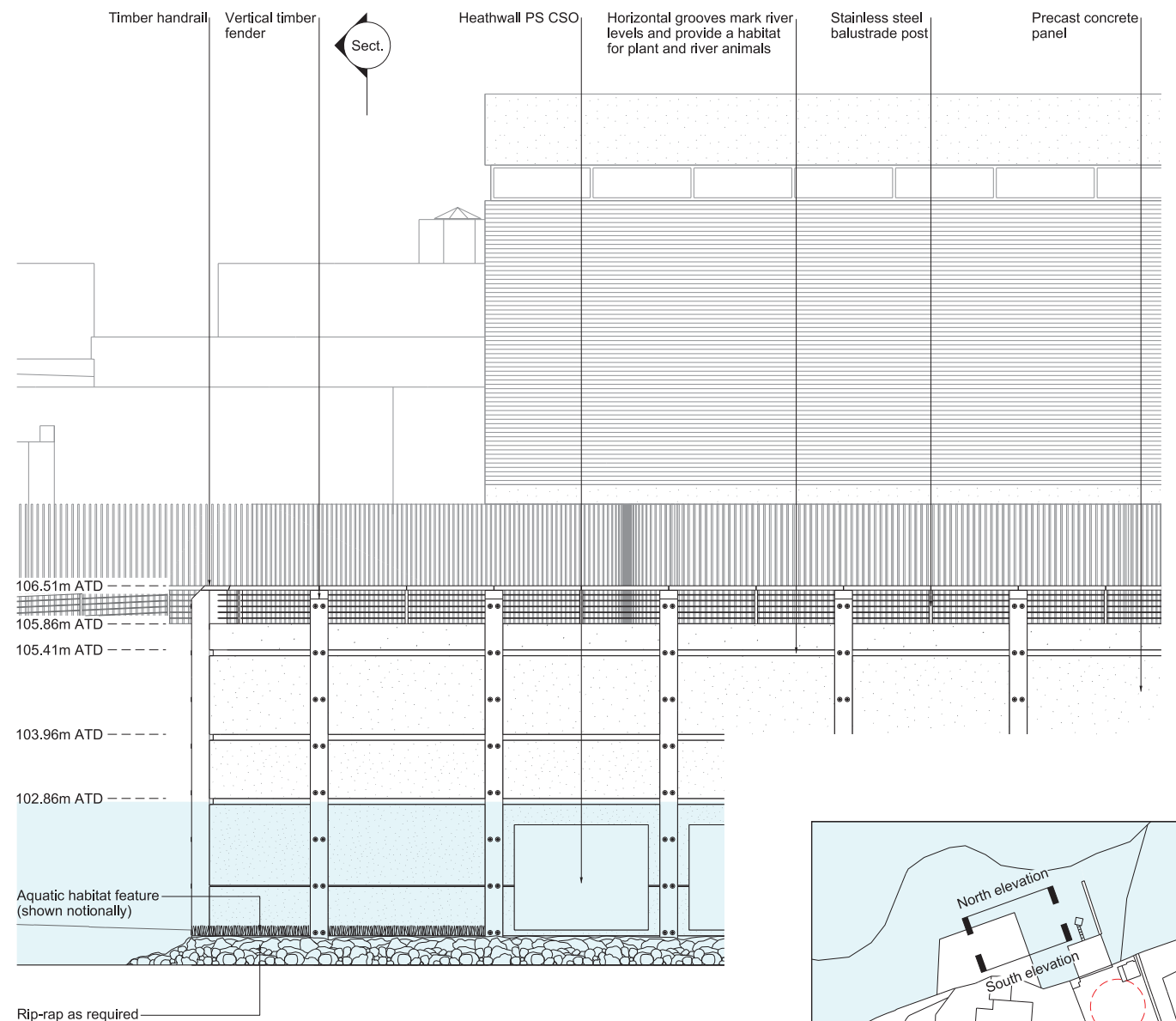
Isometric



Detail section



South elevation



North elevation

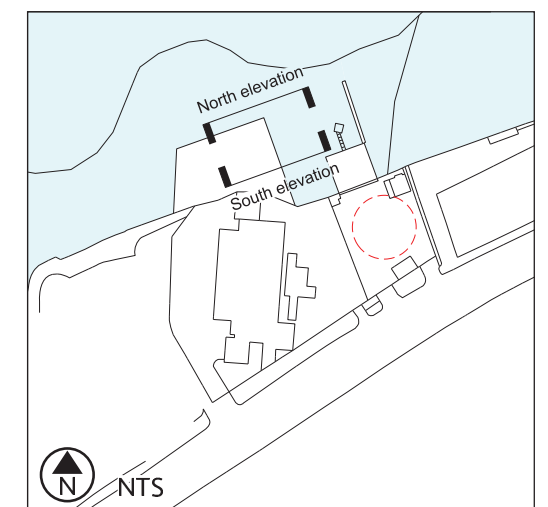


Figure 17.40: Proposed river wall (not to scale) - refer to Typical river wall design intent in the *Book of Plans*



Figure 17.41: Example of aquatic habitat feature



Figure 17.42: Example of 'rip rap' scour protection

17.4.35 We selected a simple 'wharf like' treatment for the new wall. The materials would reference the robust, utilitarian history and character of the area, in support of *Core Strategy Policy IS3*. However, it would be clearly designed and proportioned to be in keeping with the changing nature of the area.

17.4.36 The wall would be finished with high quality concrete panels, cast with horizontal grooves to mark pertinent tide levels. Vertical timber fenders would be applied to the panels. The fenders would continue above the line of the concrete wall to form part of the handrail design. The balustrade treatment above the concrete upstand and between the fenders would be kept as open as possible to facilitate views over the River Thames when seated.

17.4.37 At the base of the wall, we would incorporate an 'aquatic habitat feature' – a type of timber planter filled with brush, rubble or sediment to create habitat. It would be located between the timber fenders in the intertidal zone and outside of the area likely to be impacted by vessels. Such features have been previously installed within the tidal Thames. The detailed design would be agreed at a later stage.

### CSOs

17.4.38 The concrete culvert of the existing Heathwall Pumping Station CSO, which extends out below the foreshore, would be abandoned. Once the project is operational, it would only discharge in rare circumstances through flap valves located in the northern section of the new wall. The flap valves would likely be made of cast iron.

17.4.39 The South West Storm Relief CSO would continue to discharge in rare circumstances below the low water line approximately 80m from the river wall. Replacement signage would be required on the pumping station building or new wall to alert river users to the continued operation of the CSO. Any signage would be agreed at a later stage.

### Apron and scour protection

17.4.40 In order to prevent possible erosion due to the proposed foreshore structure, a new apron would be formed in front of the structure using rip-rap beneath a layer of foreshore sediments. Scour protection composed of rip-rap may also be required at the base of the river walls. The maximum extent of the apron is defined on the Site works parameter plan.

### Fluvial modelling

17.4.41 We conducted fluvial modelling studies in order to understand the possible effect of the foreshore structure on the flow of the River Thames. We developed a layout for the structure that avoids acute angles in order to minimise any effects on river navigation. We optimised the size and scale of the structure to reduce encroachment into the foreshore as far as possible, while accommodating the necessary hydraulic structures.

17.4.42 The location of the existing South West Storm Relief CSO below the foreshore constrained the layout of the hydraulic structures and the possible size of the foreshore structure to the east.

### Navigational issues

17.4.43 The foreshore structure would sit approximately 100m outside of the authorised navigation channel in the River Thames. It would project no further into the river than the existing jetty at Middle Wharf. Therefore, in spite of barge traffic to Cringle Dock and the fact that there are several houseboats in the immediate vicinity, we do not expect that the structure would significantly impact on general river navigation.

17.4.44 In order to preserve the operational requirements of Middle Wharf, we positioned the foreshore structure to retain adequate space for barges to berth on either side of the existing jetty.

17.4.45 The mean low later line lies approximately 25m from the existing river wall and at low tide a large area of the foreshore is exposed. As a result, the foreshore structure would only affect small boat users at high tide.

Lighting design

17.4.46 The lighting design for the public space on the foreshore structure and the riverside walkway was designed to reinforce the effect of the 'reed banding' in the paving pattern.

17.4.47 We propose to include in-ground LED strip luminaires to add interest to the space, and further enhance its overall character. We also proposed to include decorative LED lighting at the base of the seating benches.

17.4.48 The architectural screen fencing that would run along the boundary between the pumping station and the riverside walk would be subtly back-lit. Additional luminaires would be selected to tie in with the Riverlight development at a later stage.

17.4.49 The proposed lighting scheme complies with the aspiration in the VNEB OAPF to provide an improved riverside walk.

17.4.50 No light would be directed towards the tidal Thames itself, so as not to adversely affect resident or migratory wildlife.

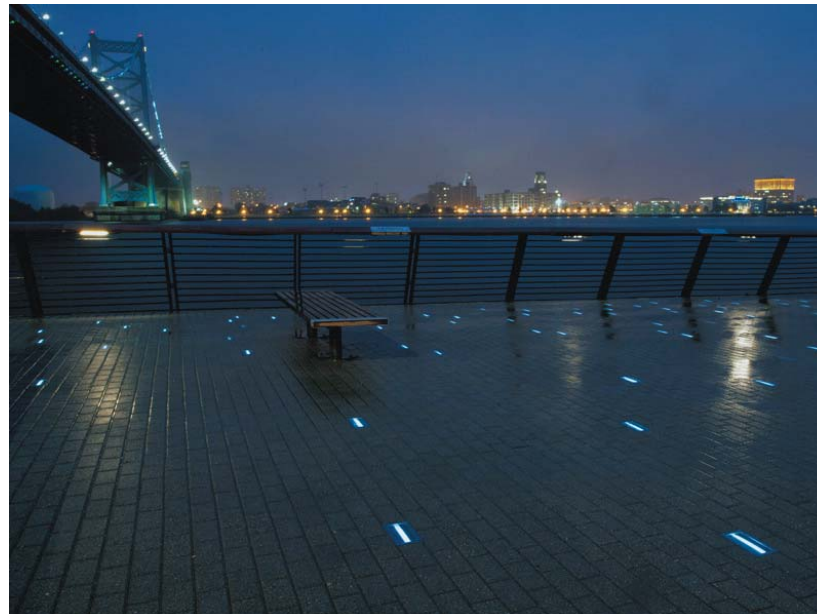


Figure 17.43: Example of in-ground luminaires



Figure 17.46: Example of in-ground luminaires

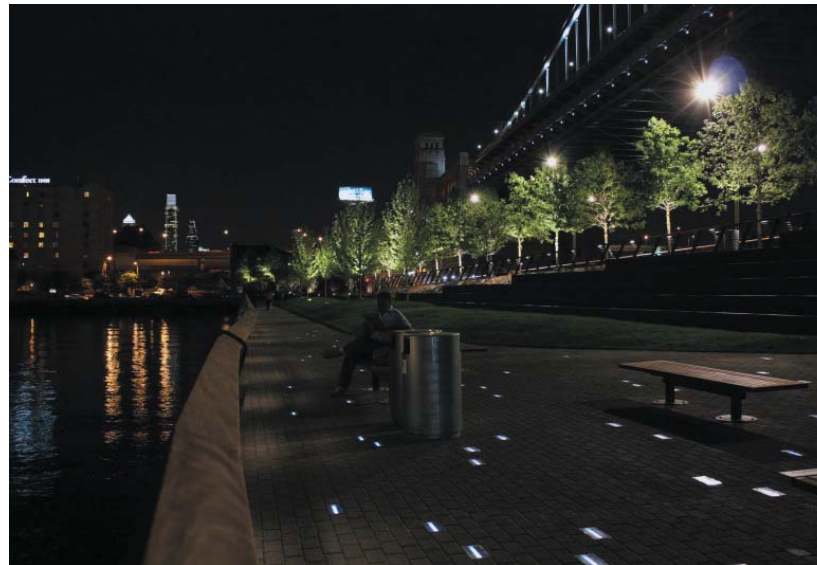


Figure 17.44: Example of in-ground luminaires



Figure 17.47: Example of back-lit screen fencing



Figure 17.45: Example of in-ground luminaires



Figure 17.48: Light fitting



Figure 17.49: Example of in-ground luminaire fitting

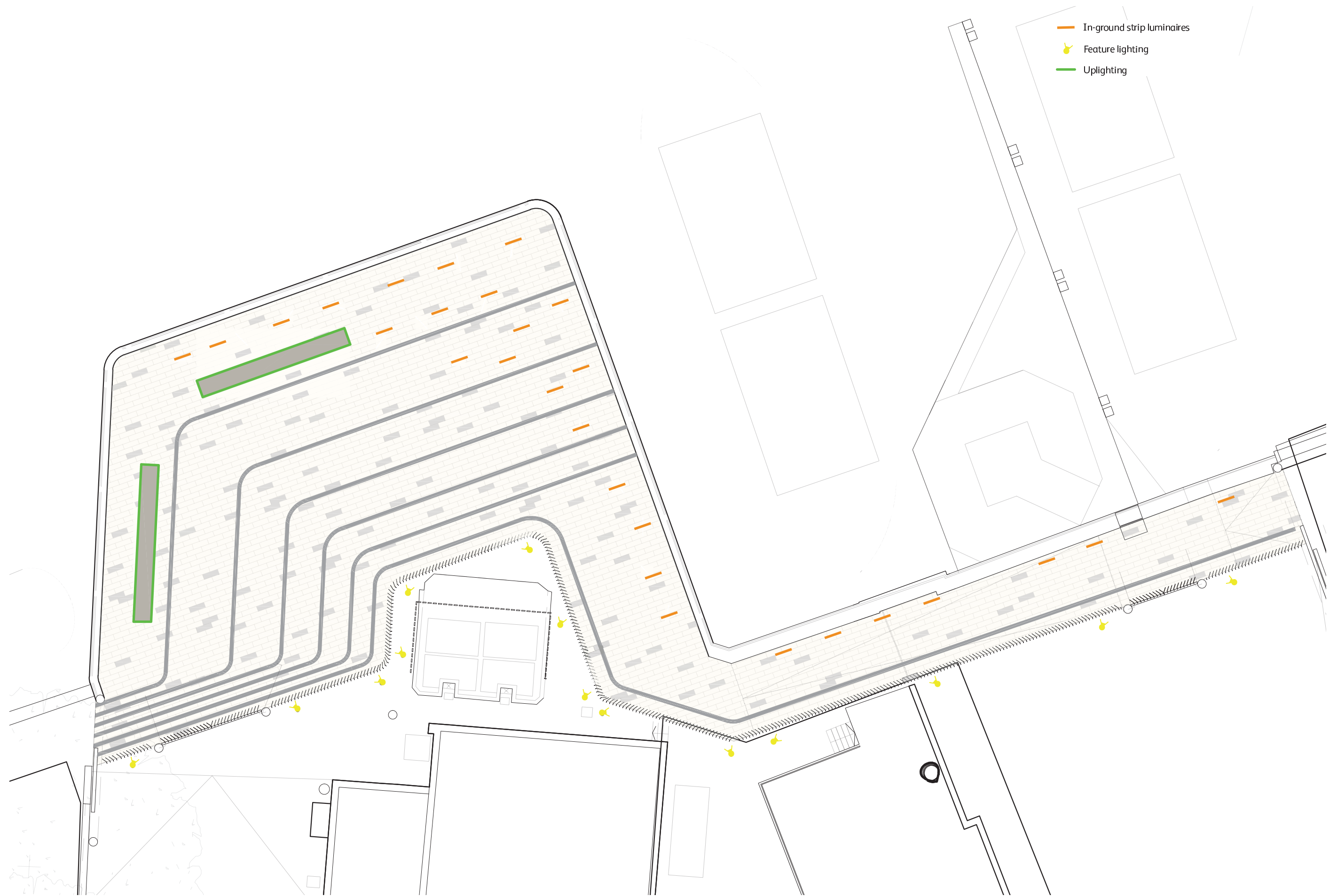


Figure 17.50: Illustrative lighting scheme

## Landscaping and appearance

17.4.51 The final reinstatement scheme would comply with the Site works parameter plan, the indicative proposed landscape plan, and the agreed design principles and be agreed at a later stage.

### Hard landscape palette

17.4.52 The proposed hard landscape materials and furniture palette would be robust, fit-for purpose, and appropriate to the setting in order to maintain long-term quality.

17.4.53 The hard landscaping materials and furniture palette comprises:

- concrete pavers with a natural aggregate finish to tie in with the materials proposed for the Riverlight redevelopment. The colour would be predominantly buff (80 per cent) with a mix of grey pavers (20 per cent) scattered throughout the area. The shape and size of the pavers would be slender and elegant
- the long seating benches would be made from sustainably-sourced, chunky timber to reference the character of the adjacent wharf
- slender, etched metal strips or 'flecks' flush with the paving
- bespoke balustrades incorporating chunky timber fenders, metal uprights and a timber handrail designed for leaning against
- metal gates and a bespoke architectural fence on top of a fair-faced concrete retaining wall to screen the existing pumping station.

17.4.54 High quality fencing would be provided on the southern edge of the riverside walkway.

### Soft landscape palette

17.4.55 The soft landscaping palette includes:

- semi mature *Platanus x hispanica* (London Plane) trees on the southern edge of the site adjacent to Nine Elms Lane
- façade greening of mixed climbing plants including ivy and Virginia creeper to soften the eastern boundary fence.

17.4.56 The outer face of the walls at the eastern end of the Middle Wharf site would be planted with climbing plants. The wall at the western end would coordinate with the Riverlight development.



Figure 17.51: Timber bench



Figure 17.52: Timber bench



Figure 17.53: Example of timber bench



Figure 17.54: Breccia bianco hardscape paver (gray)



Figure 17.55: Breccia giallo hardscape paver (buff)



Figure 17.56: Example of patterned paving



Figure 17.57: Example of metal fleck in paving



Figure 17.58: Example of street tree



Figure 17.59: Example of a green wall

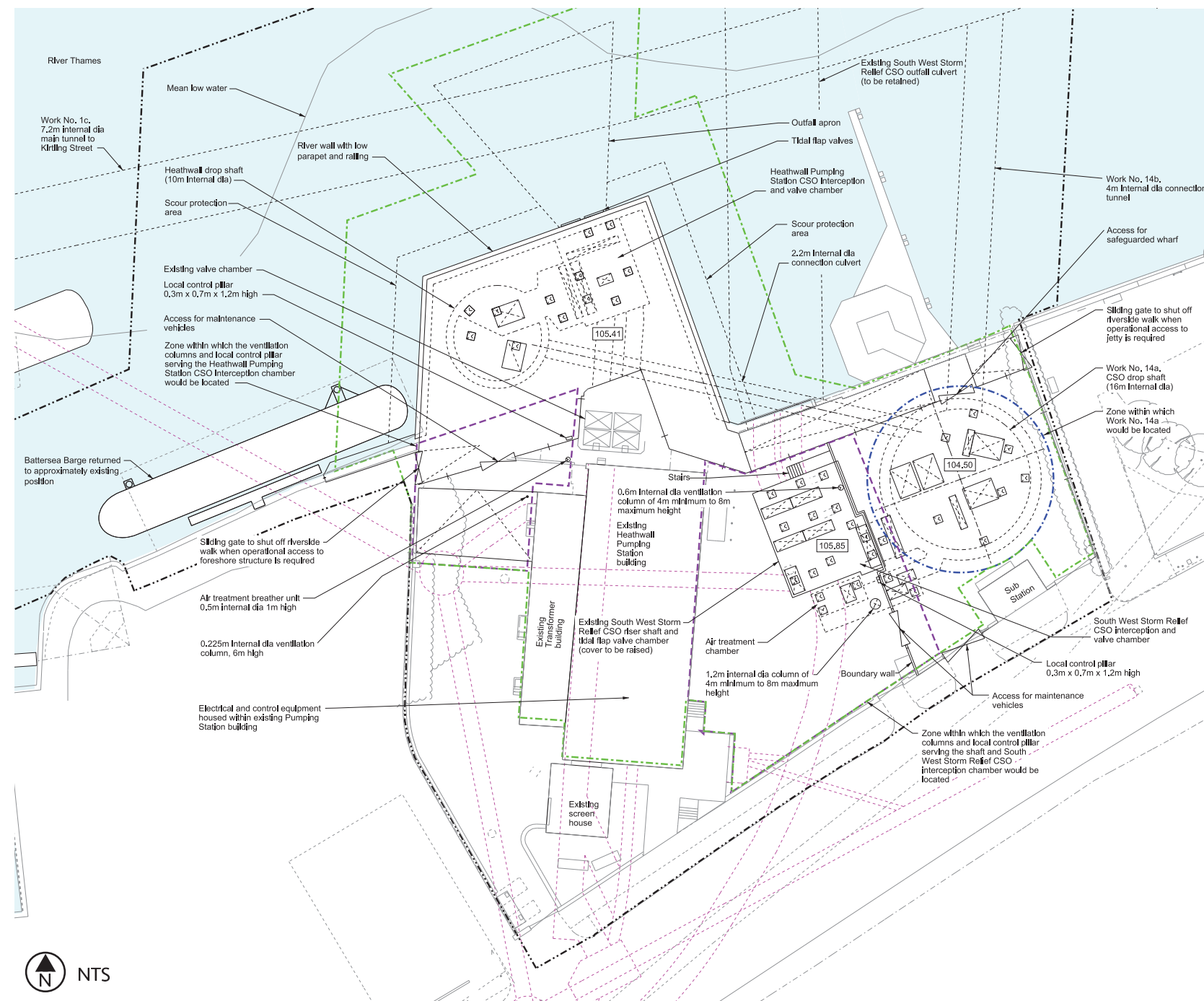


Figure 17.60: Permanent works layout plan

### 17.5 Access and movement

17.5.1 Ensuring appropriate access across and between the three parts of the site would be crucial to its successful operation. In addition to balancing the private operational and public access requirements, there are a number of level changes across the site. There is a level difference of approximately 1.2m between the Thames Path on the eastern boundary and the ground level of the foreshore structure. Step-free access across the publically accessible areas of the site would be provided in the form of ramps with gradients of not less than 1:21 to comply with accessibility legislation. Minor modifications would be required to the Riverlight landscaping treatment to make good the level changes on the western boundary. This would create an inclusive space in line with Wandsworth *Core Strategy* Policy IS 3 and the Disability Discrimination Act.

17.5.2 A level landing would be provided in the ramp at the access point between Middle Wharf and the jetty. It would be finished at the same level as the CSO drop shaft on Middle Wharf. Since the Thames Path would be publicly accessible, the jetty and ladder/steps would be secured with lockable gates to prevent unauthorised access.

17.5.3 In order to avoid disrupting operational activities at Middle Wharf and to ensure pedestrian safety, the proposed sliding gates would restrict public access along the Thames Path when the existing jetty is in use. Signage would redirect pedestrians along Nine Elms Lane when this section of the Thames Path is closed, in accordance with advice from the Design Council CABA and *Core Strategy* Policy PL 3.

### Thames Water access requirements

17.5.4 The existing accesses off Nine Elms Lane to Middle Wharf and the Thames Water compound would be retained.

17.5.5 Access to the two interception chambers at Heathwall Pumping Station would be via the existing Thames Water access points off Nine Elms Lane. Access to the CSO drop shaft in Middle Wharf would either be via a gate in the boundary wall with Heathwall Pumping Station or directly off Nine Elms Lane from one of the two existing Middle Wharf access points.

17.5.6 Access to the foreshore structure would be via a new gate in the architectural fencing along the boundary between the pumping station and the riverside walk.

17.5.7 Once the project is operational, it is anticipated that Thames Water personnel would visit the site approximately every three to six months to inspect and carry out maintenance of the electrical and control, ventilation and below-ground equipment. This would likely involve a visit by personnel in a small van during normal working hours and may take several hours.

17.5.8 It is anticipated that a major internal inspection of the tunnel system and underground structures would be required once every ten years. This process would likely involve a small team of inspection staff and support crew and two mobile cranes to lower the team into the CSO drop shaft. The inspection would be carried out during normal working hours and would likely take several weeks.

17.5.9 Thames Water may also need to visit the site for unplanned maintenance or repairs, for example, in the event of a blockage or an equipment failure. Such a visit may require the use of mobile cranes and vans.

This page is intentionally left 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-ZZZZZ-070400

