

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

Kirtling Street

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

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January 2013

Thames
Tideway Tunnel 
Creating a cleaner, healthier River Thames

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Section 16

Kirtling Street

16.1 Introduction

16.1.1 A worksite is required to drive the main tunnel in two directions simultaneously: to Chambers Wharf in the east and Carnwath Road Riverside in the west. The proposed development site is known as Kirtling Street, which is located in the London Borough of Wandsworth.

16.1.2 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. The proposed landscape design is indicative, except for the layout of the above-ground structures, which is illustrative.

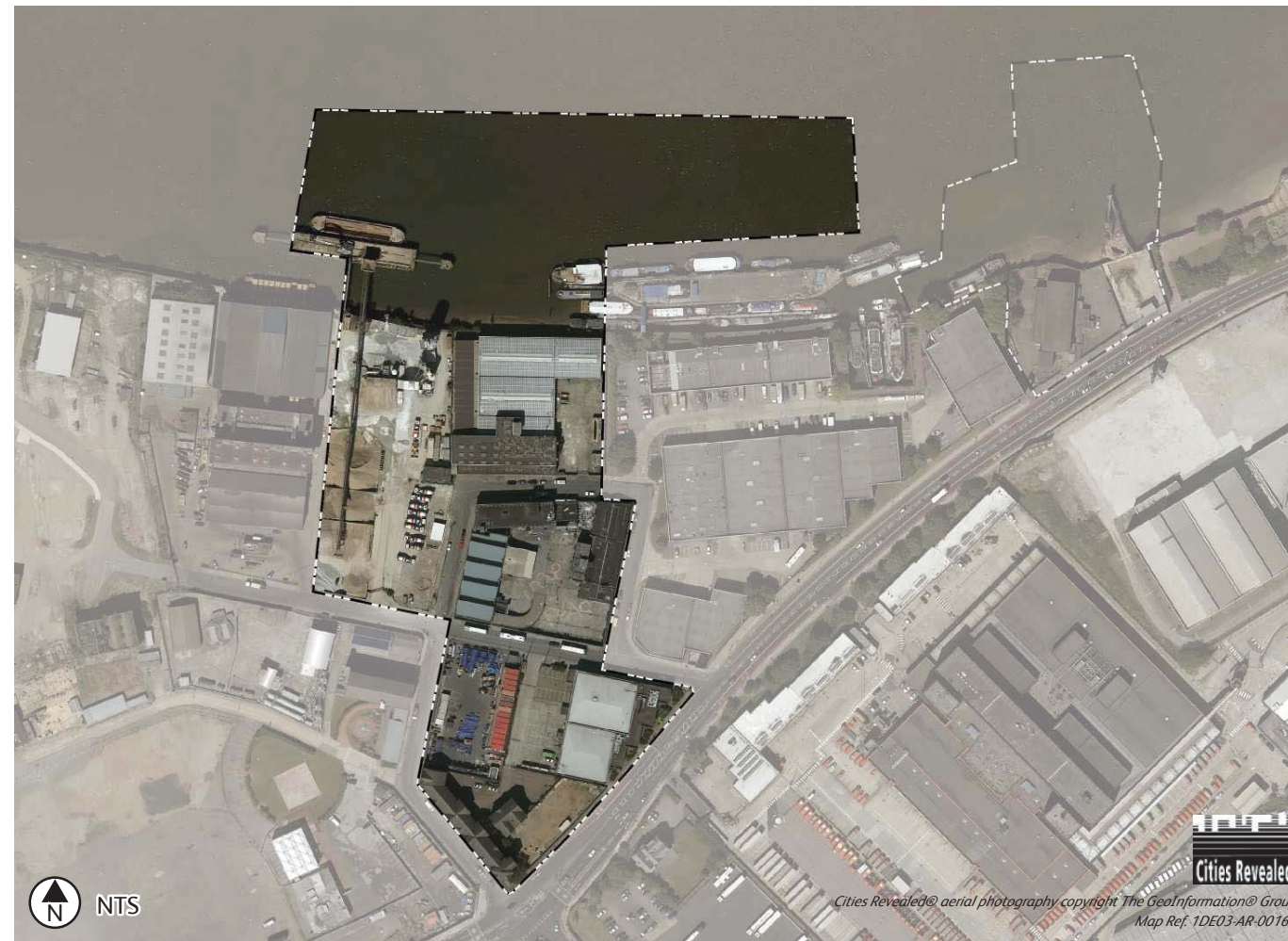


Figure 16.1: Aerial photograph of the existing Kirtling Street site with LLAU indicated

16.2 Existing site context

16.2.1 The site itself comprises a section of the foreshore of the River Thames and the river wall close to Cringle Street and four adjacent land areas, as follows:

- a. a warehouse (northeastern area)
- b. a depot (eastern area)
- c. a mixed-use area including a depot, a former petrol station and various office units (southeastern area)
- d. an active concrete batching works on the safeguarded Kirtling Wharf (also known as Cringle Wharf) (western area).

16.2.2 The site is bisected by Cringle Street and the northern loop of Kirtling Street runs through the northern half of the site.

16.2.3 There are a number of above-ground structures on the site, including an overhead conveyor and batching plant associated with the concrete batching works; a jetty; several electricity substations; an industrial warehouse; and various depots and offices.

16.2.4 The Kirtling Street site is currently safeguarded by a ministerial direction for the project.

16.2.5 The site falls within the Nine Elms area of the Vauxhall/Nine Elms/Battersea Opportunity Area (VNEB OA), which is one of 33 opportunity areas identified in the London Plan 2011. Opportunity areas can contribute to the delivery of London Plan objectives by providing substantial development as set out in the *Vauxhall/Nine Elms/Battersea Opportunity Area Planning Framework 2012 (VNEB OAPF)* and supplementary planning guidance to the London Plan. One of the key environmental principles in the OAPF is to: "Maximise opportunities to use the wharves for transportation by river of construction materials and demolition waste associated with new development in the opportunity area and the Thames Tideway Tunnel" (p. 132).

16.2.6 The site is also within the Wandsworth Thames Policy Area, adjacent to the proposed Battersea Power Station Focal Point of Activity, as designated in the London Borough of Wandsworth's Core Strategy 2010.

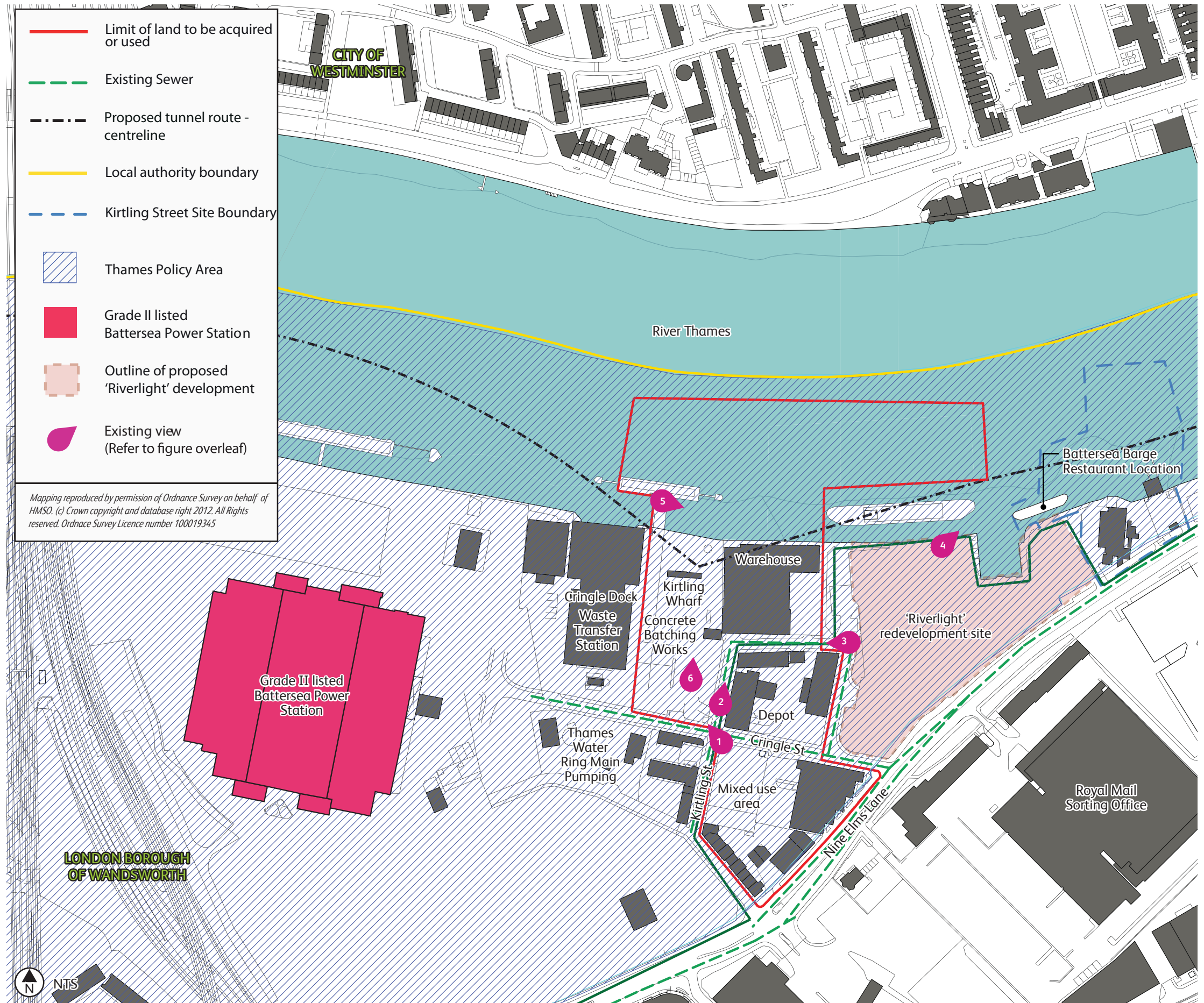


Figure 16.2: Existing site plan



Figure 16.3: Existing site and access to concrete Batching works



Figure 16.4: Kirtling Street



Figure 16.5: Existing warehouse on site



Figure 16.6: Nine Elms Pier and Battersea Barge



Figure 16.7: Existing foreshore



Figure 16.8: Existing concrete batching works

16.2.7 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, in addition to a riverside path. They also promote greater use of the River Thames, including for freight, and seek to protect and enhance biodiversity. The site lies within the 'Nine Elms Riverside District', which is earmarked for largely residential mixed-use developments, with an emphasis on active ground floor frontages and riverside-focused pocket parks.

16.2.8 Kirtling Wharf is also safeguarded by a ministerial direction (and 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 would be returned to waterborne freight handling use. Cringle Dock, adjacent to the site, is also a safeguarded wharf.

16.2.9 Parts of the site are subject to allocations set out in the London Borough of Wandsworth's Site Specific Allocations Document 2012 (SSAD). With the exception of Kirtling Wharf, the other three areas of the site are allocated for mixed-use development, including the continuation of the Thames Path National Trail.

16.2.10 A Public Right of Way and Strategic Walking Route (the Thames Path) passes through the site along Kirtling Street. The SSAD (p.13) sets out the council's aspirations to realign the Thames Path along the riverside. An improved and realigned riverside walk is also identified on p.112 of the VNEB OAPF as part of a wider public realm strategy for the area.

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

16.2.12 The site is bounded to the north by the River Thames. To the northeast lie two houseboat communities: Nine Elms Pier, which is subject to a planning application for redevelopment as a marina, and Tideway Village in Tideway Dock. It is bounded to the east by the former Tideway Industrial Estate 'Riverlight' development, which is under construction; to the south by Nine Elms Lane;

and to the west by the Cringle Dock waste transfer station, a Thames Water ring main pumping station and the grounds of the disused Battersea Power Station.

16.2.13 The wider area is predominantly industrial and is characterised by low to mid-rise structures up to approximately four storeys high. To the north across the River Thames lie residential properties beyond the A3212. Beyond the Riverlight development to the east lies the Battersea Barge restaurant and the project's Heathwall Pumping Station site. To the southeast lies the Royal Mail South London Mail Centre and to the south lies the entrance to the New Covent Garden Market.

16.2.14 Approximately 160m to the west of the site lies the disused Battersea Power Station, a Grade II* listed building constructed in the 1930s, which features prominently in the London skyline and in nearby river views. A Grade II listed pumping station sits within the grounds, approximately 100m to the west of the Kirtling Street site.

16.2.15 Although the area surrounding the Kirtling Street site is largely industrial in nature, 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.

16.2.16 The most progressed of these developments is the Riverlight development – a major regeneration scheme that was approved by the London Borough of Wandsworth in February 2011. Construction began in September 2011. The development will provide over 750 new apartments, shops, cafés, bars, and restaurants. The scheme will significantly change the appearance and character of the area and the riverside will be dominated by several modern high rise towers.

16.2.17 A major mixed-use regeneration scheme was approved in August 2011 for the disused Battersea Power station site, which includes the warehouse area and mixed-use area of the Kirtling Street site. The scheme will provide approximately 3,800 homes. The scheme would be constructed in phases and phase 1 (in the area to the west of Battersea Power Station) is scheduled to commence in 2013.

16.2.18 Major regeneration schemes were also approved in 2012 for the site of the New Covent Garden Market and the Royal Mail South London Mail Centre, which is known as Nine Elms Parkside. The mixed-use developments will be located to the south of the Kirtling Street site and provide 2,326 and 1,870 homes respectively. Construction is likely to commence in 2013

16.3 Existing site access and movement

16.3.1 There are multiple existing accesses to the various areas of the site off Kirtling Street and Cringle Street and one off Nine Elms Lane.

Highways

16.3.2 Kirtling Street and Cringle Street are both minor roads in the Nine Elms Industrial Area that are accessed directly from Nine Elms Lane (A3025), which is a Transport for London red route that runs northeast to Vauxhall and southwest to Battersea. It becomes Battersea Park Road to the west of the junction with Kirtling Street, which is controlled by traffic signals.

Car parking

16.3.3 On-street parking is available on both Cringle Street and Kirtling Street. The majority is restricted to one side of the carriageway; however, on some sections of Kirtling Street parking is permitted on both sides. Parking in this area is unrestricted and not subject to a Controlled Parking Zone.

Public transport

16.3.4 Vauxhall Underground and National Rail stations lie approximately 1.1km to the northeast of the site and Battersea Park Rail Station is situated approximately 800m to the southwest.

16.3.5 Two daytime bus routes operate within 640m of the site in each direction. On average there are 17 daytime bus services per hour in the AM and PM peaks.

16.3.6 Vauxhall Bus Station, which serves a large number of bus services, is located approximately 1.1km to the northeast of the site.

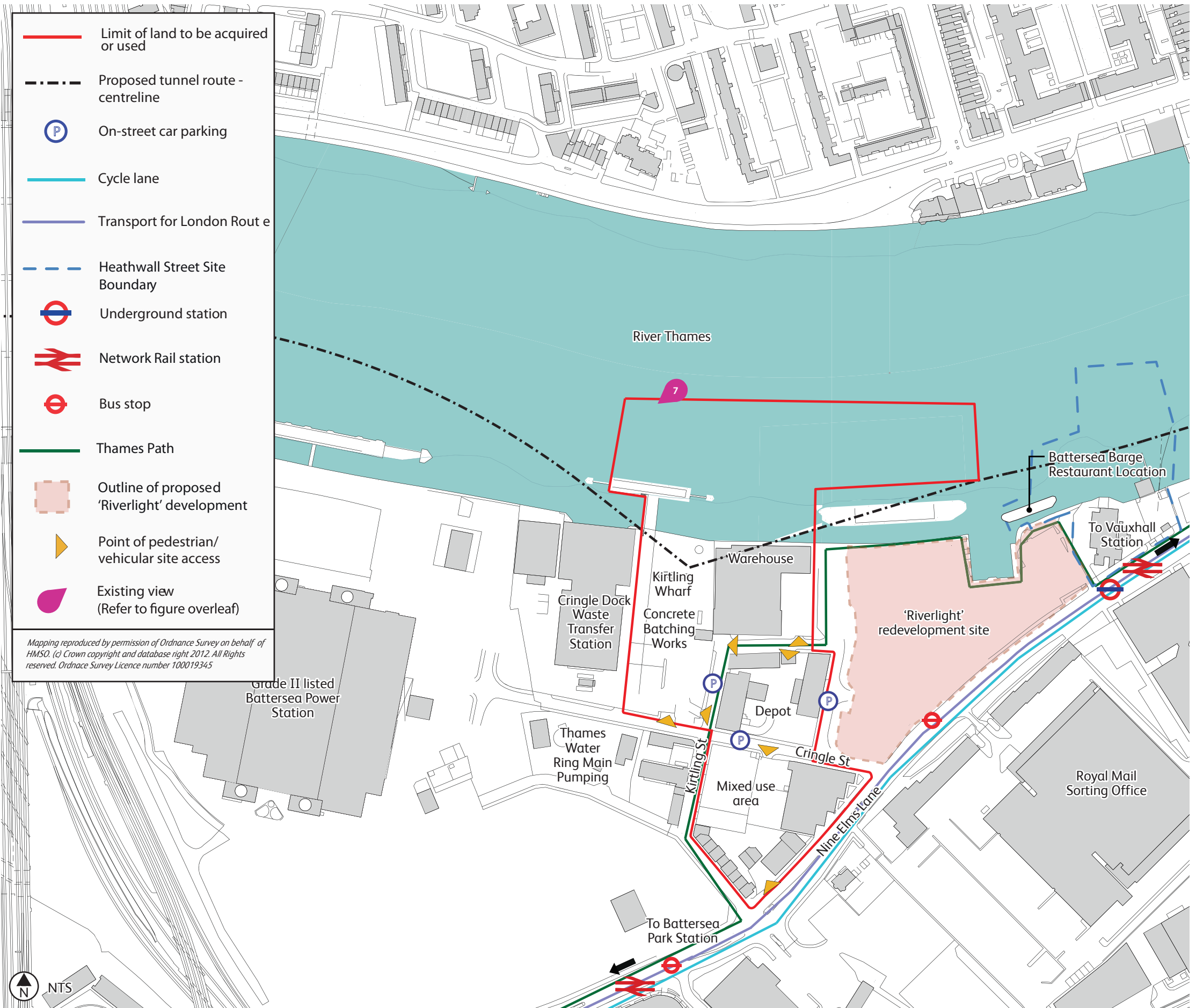


Figure 16.9: Existing site analysis plan



Figure 16.10: Aerial view of the existing site and surrounding area



Figure 16.11: Aerial view of the existing site from the east

Cycle routes

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

16.3.8 The closest Cycle Superhighway is CS8, which runs between Wandsworth and Westminster. Queenstown Road, approximately 885m to the southwest of the site, is the closest point on the CS8 to the site.

16.3.9 The closest Barclays cycle hire docking station is at Vauxhall Gyratory, approximately 1.1km walking distance 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

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



Figure 16.12: Existing site and Battersea Power Station from the River Thames



Figure 16.13: Visualisation of proposed development at Battersea Power Station ©Feilden Clegg Bradley Studios for Ballymore



Figure 16.16: Visualisation of Riverlight development (under construction) by others (from north) ©St James Group Limited

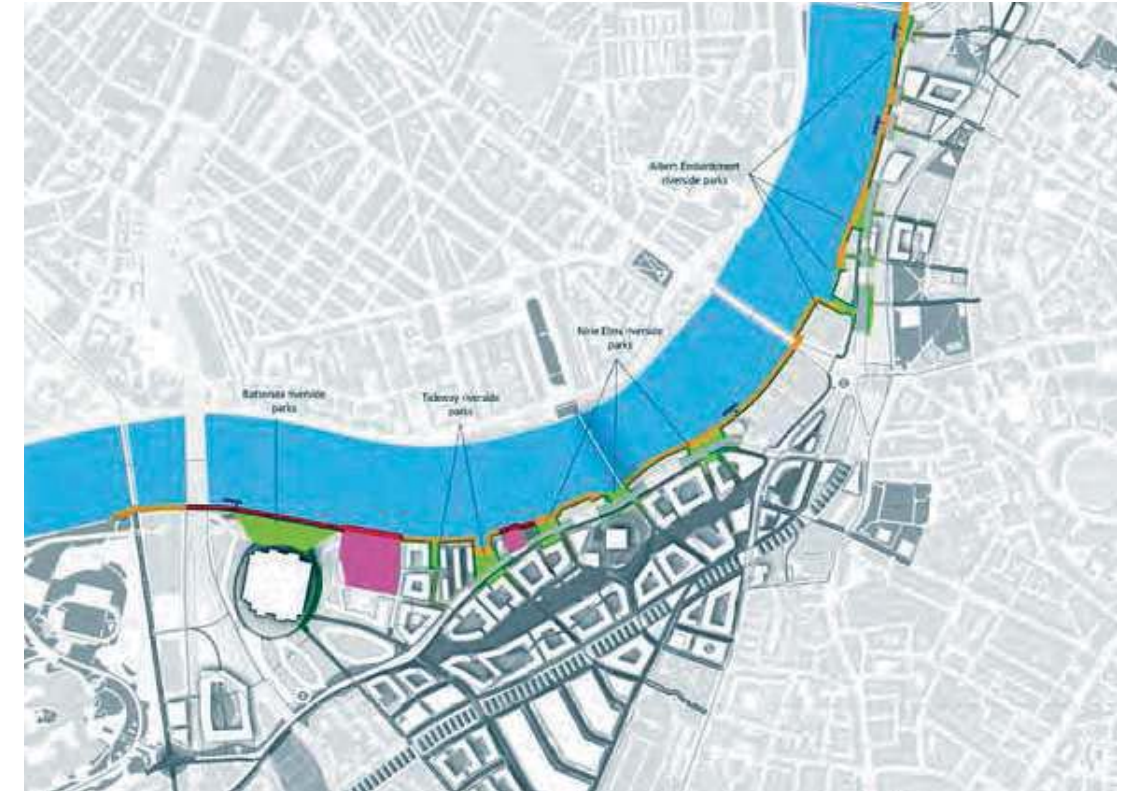


Figure 16.18: Aspirations for improved river walk (Vauxhall/Nine Elms/Battersea Opportunity Area, 2012 Mayor of London)



Figure 16.14: Visualisation of Riverlight development (under construction) and proposed marina by others (from east) ©St James Group Limited



Figure 16.17: Visualisation of approved US Embassy and Embassy Gardens developments and wider Nine Elms developments by others (from east) © US Embassy



Figure 16.19: Nine Elms Public Realm Strategy (Vauxhall/Nine Elms/Battersea Opportunity Area, 2012 Mayor of London)



Figure 16.15: Visualisation of approved Embassy Gardens development by others (from south east) ©Feilden Clegg Bradley Studios for Ballymore

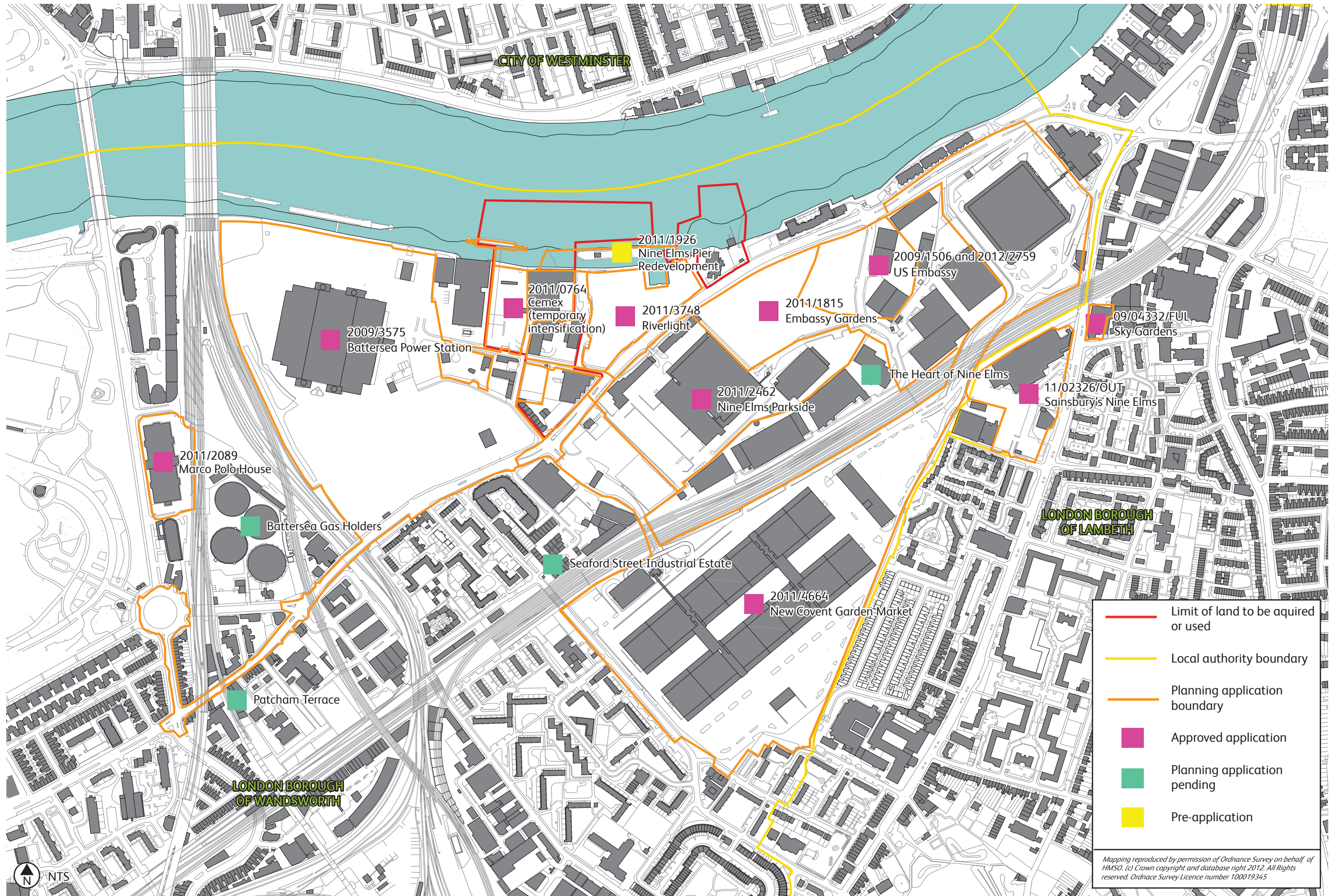


Figure 16.20: Approximate locations of surrounding planning boundaries

Historical context

16.3.11 The Kirtling Street site was once marshland that was gradually reclaimed for agricultural use from the medieval period onwards. In the 17th century, there was a windmill or post mill on the site.

16.3.12 The bridging of the River Thames at Battersea in the early 1770s and the general expansion of river trade in London provided the catalyst for industrial growth on and around the site. Horwood's map of 1799 indicates that the northern part of the site was occupied by two of a group of four wet timber docks. The map indicates fields behind the site and Nine Elms Lane beyond.

16.3.13 The landscape of timber docks and fields endured until at least the 1830s. By the 1860s the timber docks had been replaced with industrial development and several wharfs. The site was framed by docks on both sides. Beyond the Nine Elms Mill Dock and Mill Ponds to the east was a gas works and gas holder, built in 1833. The buildings and reservoirs of the Southwark and Vauxhall Water Works, built in 1839, stood to the west.

16.3.14 A church was built to the south of the site and housing was developed to the southwest on what is now Battersea Park Road. The railway line was established further to the south.

16.3.15 By the mid-1870s, the gas works had encroached further westwards towards the site and there was a gas holder to the south of the site. Kirtling Street and the western arm of Cringle Street were laid out at this time. Additional housing extended on both sides of Nine Elms Lane and the site saw more intense industrial development. The river wall was extended into the River Thames.

16.3.16 By the mid-1890s, the present-day street pattern was established. Some of the housing was demolished for industrial expansion, especially on the gas works site. The centre of the site was dominated by the Nine Elms Lead Works and later by the Paint and Colour Works. A public baths was built on the relatively open southern part of the site. By 1916, the water works to the west had been redeveloped.

16.3.17 The site suffered bombing during the Second World War. Post-war maps indicate that there was a petrol station at the southern end of the site. The construction of Battersea Power Station 'Station A' altered the character of the area, and 'Station B' was completed in 1953. An engineering works was built between Battersea Water Pumping Station and the site that provided riverside wharf facilities, including travelling cranes. A warehouse was re-built on the northern part of the site.

16.3.18 More recently, the paint works made way for light industrial units, including the present cement works and adjacent waste transfer station.

16.3.19 In the early 1970s, New Covent Garden Market was established 340m to the southeast of the site and the gas works was replaced by the Royal Mail depot. Battersea Power Station had increased to its current size and layout by the end of the 1960s; however, Station A was shut down in 1975 and Station B in 1983, leaving the complex disused, as it remains today.

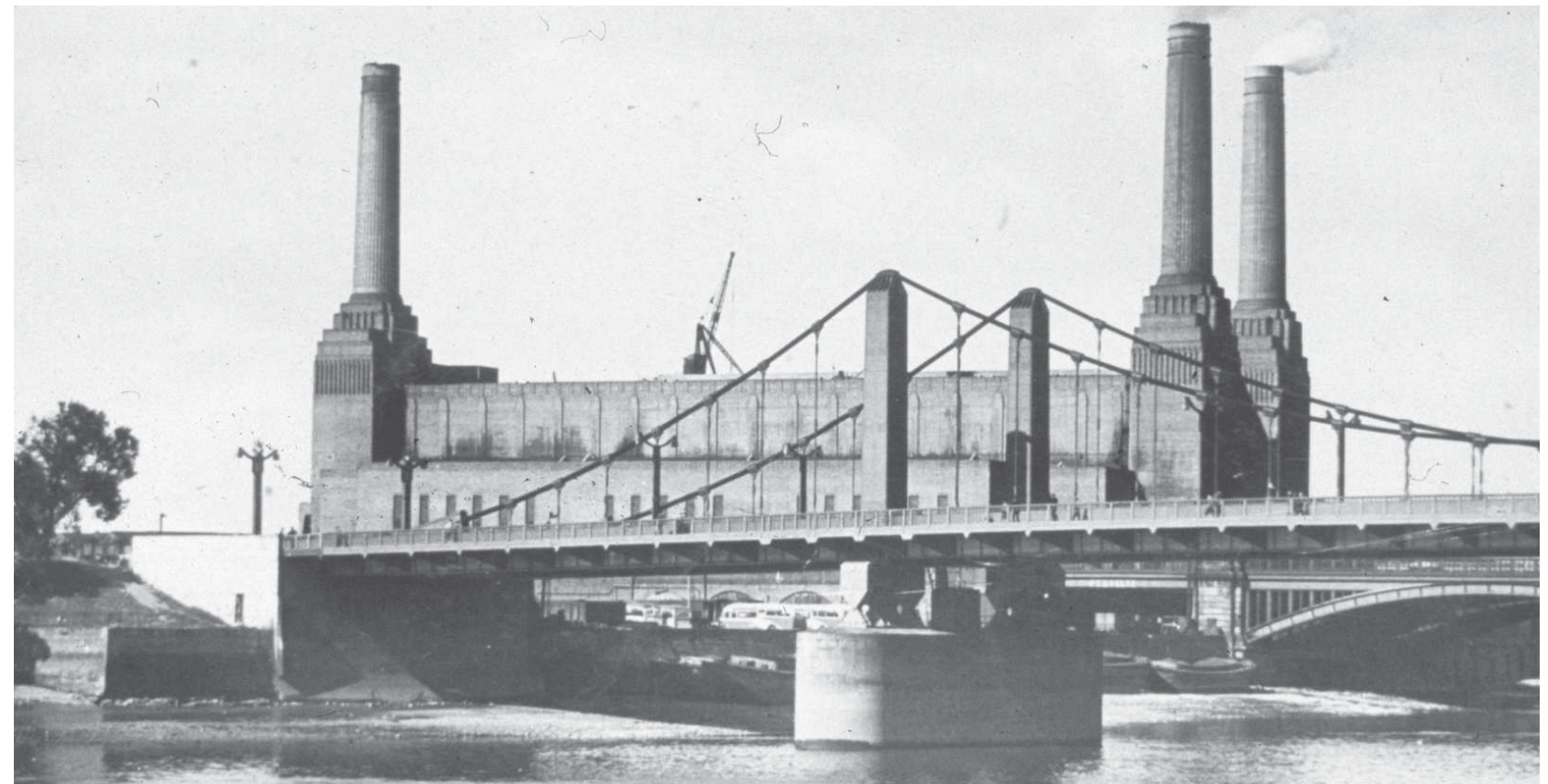


Figure 16.21: Battersea Power station circa 1960 © London Borough of Wandsworth

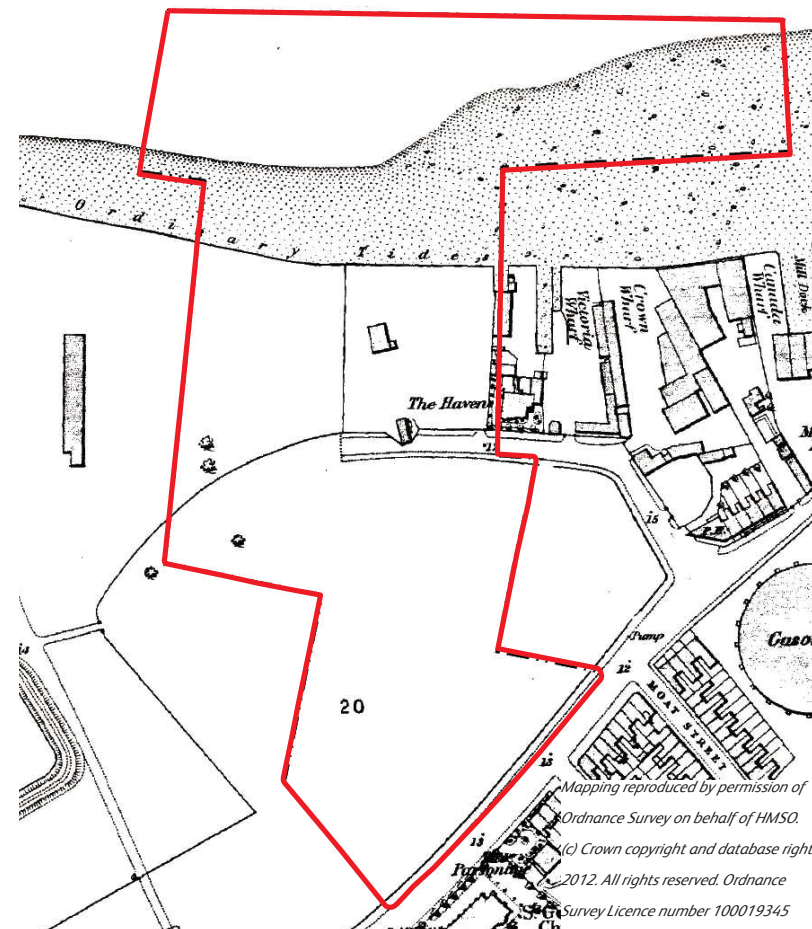


Figure 16.22: Historic map showing existing Kirtling Street site site (1875)

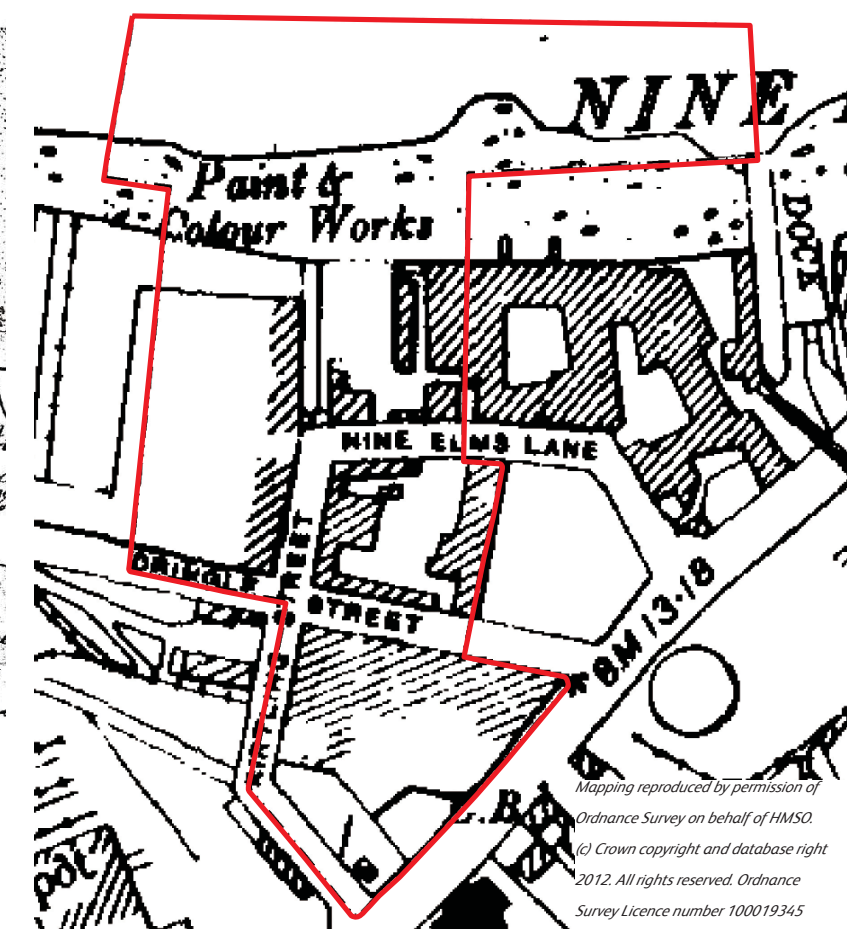


Figure 16.23: Historic map showing existing Kirtling Street site site (1949)

Site analysis: Opportunities and constraints

The site-specific design opportunities included:

- Improve the public realm of the Thames Path in accordance with local policy.
- Improve wayfinding in the area.
- Tie in any public realm improvements with public realm of other developments in the area, such as the Riverlight development to support a coherent overall public realm.
- Clear sites for development by others for uses in support of the Core Strategy and the SSAD, on completion of the works.

The site-specific design constraints included:

- The shaft must be located to optimise the alignment of the main tunnel.
- The shaft must be of sufficient size to launch tunnel boring machines, having regard to changing geological conditions and the necessary hydraulic requirements.
- The safeguarded Kirtling Wharf must be able to continue as a waterborne freight handling use on completion of the works.
- Relocation of existing third-party infrastructure must be kept to a minimum.
- The future Northern Line extension to Nine Elms and Battersea must be considered.
- Any effects on amenity of existing and future residents must be kept to a minimum.
- The Thames Path must be retained.
- Any effects on nearby listed buildings must be kept to a minimum.
- Any effects on the River Thames and Tributaries Site of Importance for Nature Conservation (Metropolitan value) and Battersea Park Nature Area Local Nature Reserve must be kept to a minimum.
- Any impacts on allocations in the SSAD must be kept to a minimum.

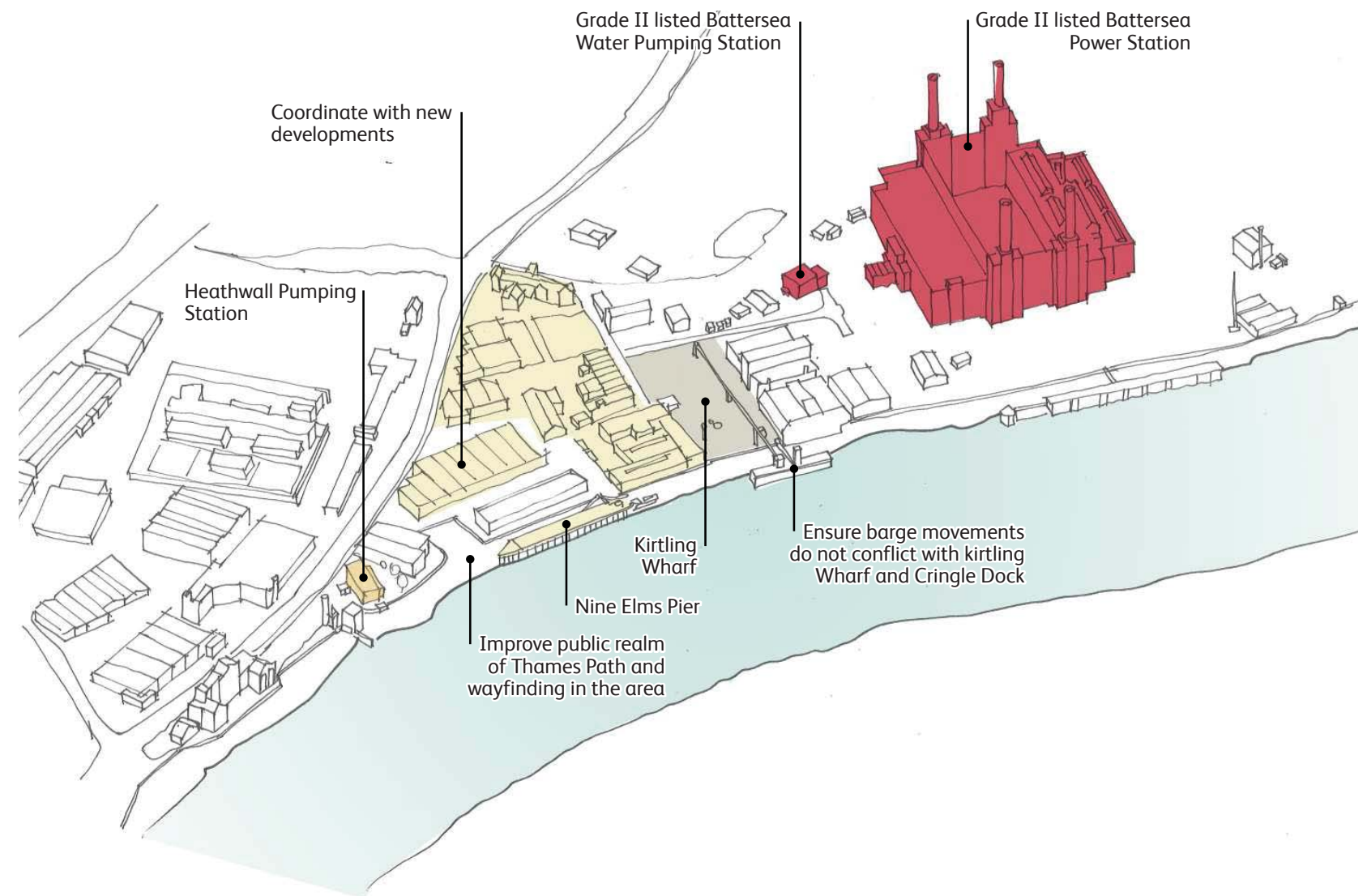


Figure 16.24: Existing site opportunities and constraints sketch

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16.4 Design evolution and alternatives

16.4.1 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 Kirtling Street was to successfully restore the site on completion of the works to enable future industrial/mixed-use redevelopment by others and to ensure that Kirtling Wharf remains viable for waterborne freight handling use.

16.4.2 The design of our proposals at Kirtling Street 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 CABE. We also held various pre-application meetings with the London Borough of Wandsworth and other strategic stakeholders. More information on our public consultation process is provided in the Consultation Report, which accompanies the application.



Figure16.25: Early design development sketch visualisation

October 2010

Phase one consultation

16.4.3 The Kirtling Street site was not presented at phase one consultation. At this stage, Tideway Walk was proposed as a combined site to intercept the Heathwall Pumping Station CSO and the South West Storm Relief CSO, to receive the main tunnel drive from Barn Elms, and drive the main tunnel to King's Stairs Gardens.

16.4.4 Following phase one consultation, we learned that Tideway Walk was no longer available as the Riverlight development had received planning permission and construction works had commenced. As a result, we undertook a site selection back-check (refer to Volume 13 of the Final Report on Site Selection Process, which accompanies the application, for details).

16.4.5 We then selected Kirtling Street as our preferred site to drive the main tunnel in two directions to Chambers Wharf and to Carnwath Road Riverside. Our reasons for this decision at this stage included the following:

- a. It is brownfield land in a predominantly industrial area.
- b. It has direct river access, which would make river transport easier than at other sites on the far side of Nine Elms Lane.

16.4.6 We proposed to use Heathwall Pumping Station as a separate site to intercept the Heathwall Pumping Station and South West Storm Relief CSOs. Refer to Section 17 on Heathwall Pumping Station for further details.

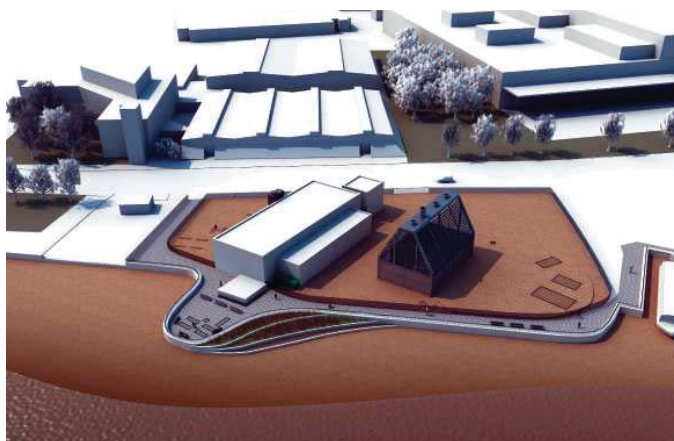


Figure 16.26: Proposed view from phase one consultation

May 2011

CABE sketch review

16.4.7 We held a sketch review based on an initial assessment and sketched ideas for the site in May 2011. At this stage, the site did not include Kirtling Wharf and we proposed to locate the shaft on the northeastern area of the site. The proposals included a public footpath running along the riverfront between the main tunnel shaft and Kirtling Wharf.

16.4.8 The Design Council CABE panel deemed the proposals "well-considered" and applauded the design team's recognition of the major changes that the Battersea Nine Elms area will undergo in the coming decades.

16.4.9 The panel suggested testing the relationship between our proposals and the Riverlight development to ensure that future residents would not be adversely affected by the operational site. The panel also noted the opportunity to improve wayfinding in the area by means of signage to the Thames Path.

16.4.10 Finally, the panel stated that it is critical to engage with Treasury Holdings (the then owners of the Battersea Power Station site) and other public bodies, such as Transport for London, early in the process in order to phase and coordinate construction and explore the possibility of sharing river transport facilities with other developments. The panel also suggested engaging with the community in relation to the construction process.

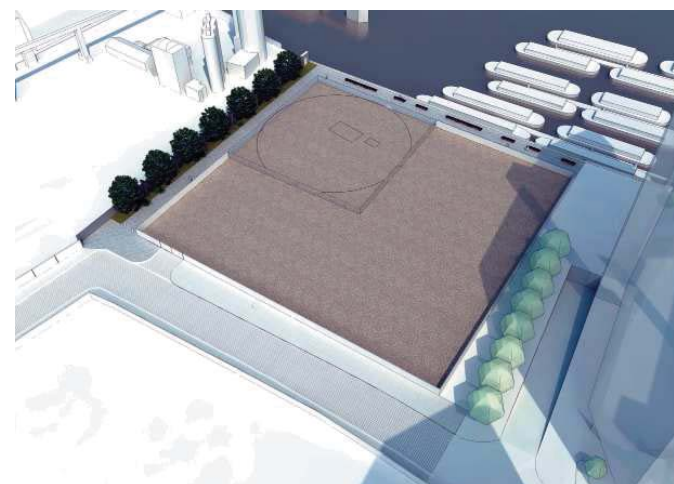


Figure 16.27: Proposed View from Design Council CABE sketch review

June 2011

CABE scheme review

16.4.11 In response to the feedback from the sketch review, we developed the proposals in more detail. We indicated the location of the proposed ventilation structure and proposed tree planting. These plans were presented to the Design Council CABE panel in June 2011.

16.4.12 The panel welcomed the idea of a tree-lined path with signage to the Thames Path and the riverside. It stated that, in the long term, the quality of the path would ultimately be determined by the future built development in this location.

16.4.13 The panel also reiterated its comments in relation to community engagement and the importance of open dialogue with stakeholders and other developers.

Interim engagement

16.4.14 Following the scheme review, we held drop-in sessions at the bandstand in Battersea Park on 15 and 16 August 2011 to gather views from communities and businesses in the Battersea/Nine Elms area in relation to the use of the Kirtling Street site.

16.4.15 The key concern in relation to the permanent design was the impact on the planned development of the areas of land that form part of the Battersea Power Station redevelopment site.

16.4.16 Following the drop-in sessions, we continued to refine our proposals. Notably, we extended the boundary of the site to include Kirtling Wharf, which the Greater London Authority had suggested to use in its formal response to phase one consultation. As a result of this change, the northeastern area of the site (part of the Battersea Power Station redevelopment site) would only be required during the project's construction phase, which would remove the constraints that our previous proposals placed on its redevelopment.

16.4.17 The extended boundary also enabled us to position the main tunnel shaft adjacent to the River Thames in order to avoid conflict with the piled foundations of the Riverlight development and optimise the alignment of the main tunnel. The new location would also reduce impacts on the nearby houseboat communities. Furthermore, the wider river frontage including Kirtling Wharf would provide better river access for barges (potentially for large, sea-going vessels) and enable the construction of jetties and conveyors.

16.4.18 Subsequently we conducted a further round of interim engagement on the proposed extended boundary, including drop-in sessions at the Battersea Dogs and Cats Home in October 2011.

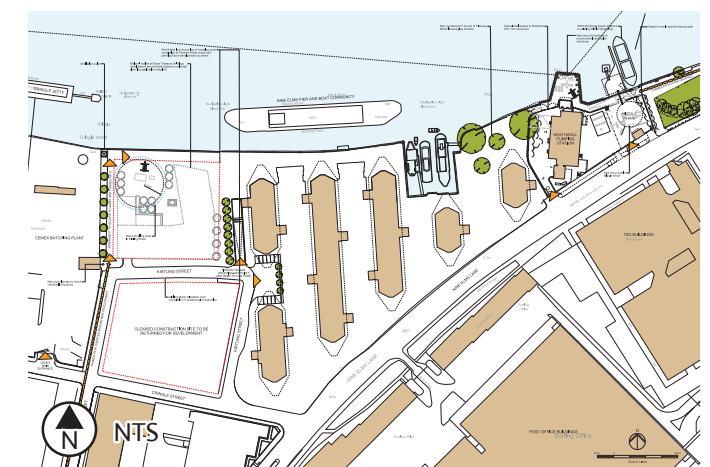


Figure 16.28: Design development sketch plan

February 2012

Phase two consultation

16.4.19 The Kirtling Street site, including Kirtling Wharf, was presented as our preferred site to drive west to Carnwath Road and east to Chambers Wharf at phase two consultation. We proposed to locate the main tunnel shaft and permanent works on Kirtling Wharf to the west of the original location. Our proposals no longer included a permanent diversion of the Thames Path because the consented Battersea Power Station redevelopment included proposals to divert the path within our site as part of the mixed-use development. To accommodate our construction we proposed to consolidate the existing concrete batching plant on Kirtling Wharf within our site, to be reinstated (by others) following completion of construction.

16.4.20 The key concerns raised in relation to the use of the site at this stage included:

- a. the potential effect on the safeguarded wharves
- b. the potential impact on the existing planning permission and nearby developments
- c. the potential cumulative impact of traffic from various developments in the Battersea/Nine Elms area
- d. the potential impact on air quality.



Figure 16.29: Proposed view from phase two consultation

16.4.21 The London Borough of Wandsworth commented that the Thames Path should be improved and widened to 6m as part of the proposals.

16.4.22 The Greater London Authority and the London Borough of Wandsworth commented that Kirtling Wharf and Cringle Dock must remain viable wharf operations. They also noted the need to minimise impacts on the regeneration of the area.

16.4.23 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.

April 2012

Section 48 publicity

16.4.24 At Section 48 publicity we included proposals to reinstate the existing concrete batching plant on Kirtling Wharf following construction. To retain flexibility for the final layout of the concrete batching plant we proposed to position our ventilation structure within one of two zones along the western or eastern boundary of Kirtling Wharf.

16.4.25 Following Section 48 publicity, we undertook further discussions with the owners of the concrete batching plant. The existing concrete batching plant on Kirtling Wharf would now be removed to accommodate construction on the north of the wharf, and a new concrete batching plant would be provided, prior to construction, on the southern part of the wharf. This concrete batching plant would be retained following construction. Defined parameters for the scale and layout of buildings and structures were developed and the visualisations were revised to illustrate the works. It is proposed to locate the tallest structures to the west of the wharf adjacent to the large Cringle Dock waste transfer station. Based on the illustrative layout the preferred location of the combined ventilation column and electrical control kiosk structure is now on the eastern boundary of the wharf.



Figure 16.30: Proposed view from Section 48 publicity

16.5 Proposed design

16.5.1 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

16.5.2 The Site works parameter plan defines the zones in which the proposed works would take place. The plan indicates the general location of the main tunnel shaft, the combined ventilation and electrical and control kiosk structure and the permanent access. There are two possible locations for the combined structure in order to accommodate the arrangement of the concrete batching works and the regeneration of the wider area. The plan also indicates the location of the concrete batching plant. It defines zones and maximum heights for the structures required.

16.5.3 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.

Above ground permanent structure	Maximum height above finished ground level (Minimum heights are in brackets where applicable)
Combined ventilation column(s) and electrical and control kiosk(s)	6.0m (4.0m)
Water tanks and wedge pit	10.0m
Aggregate storage bins, cement silos, concrete plant, water tanks, wedge pit, conveyor, blowing shed and hopper.	30.0m
Tanks, bays and substation.	5.0m
Offices and welfare , blowing shed.	5.0m

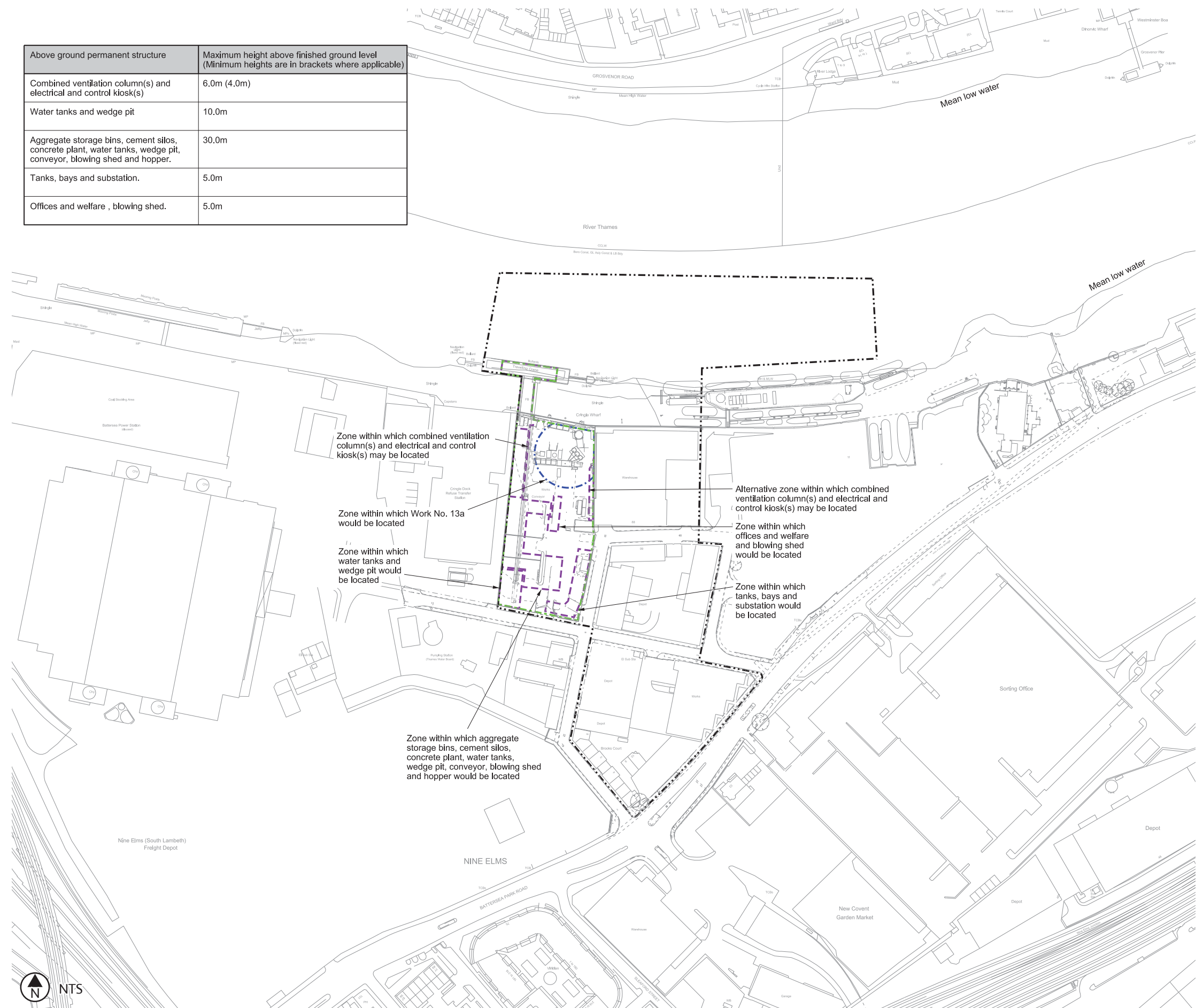


Figure 16.31: Site works parameter plan - refer to Site works parameter plan in the *Book of Plans*

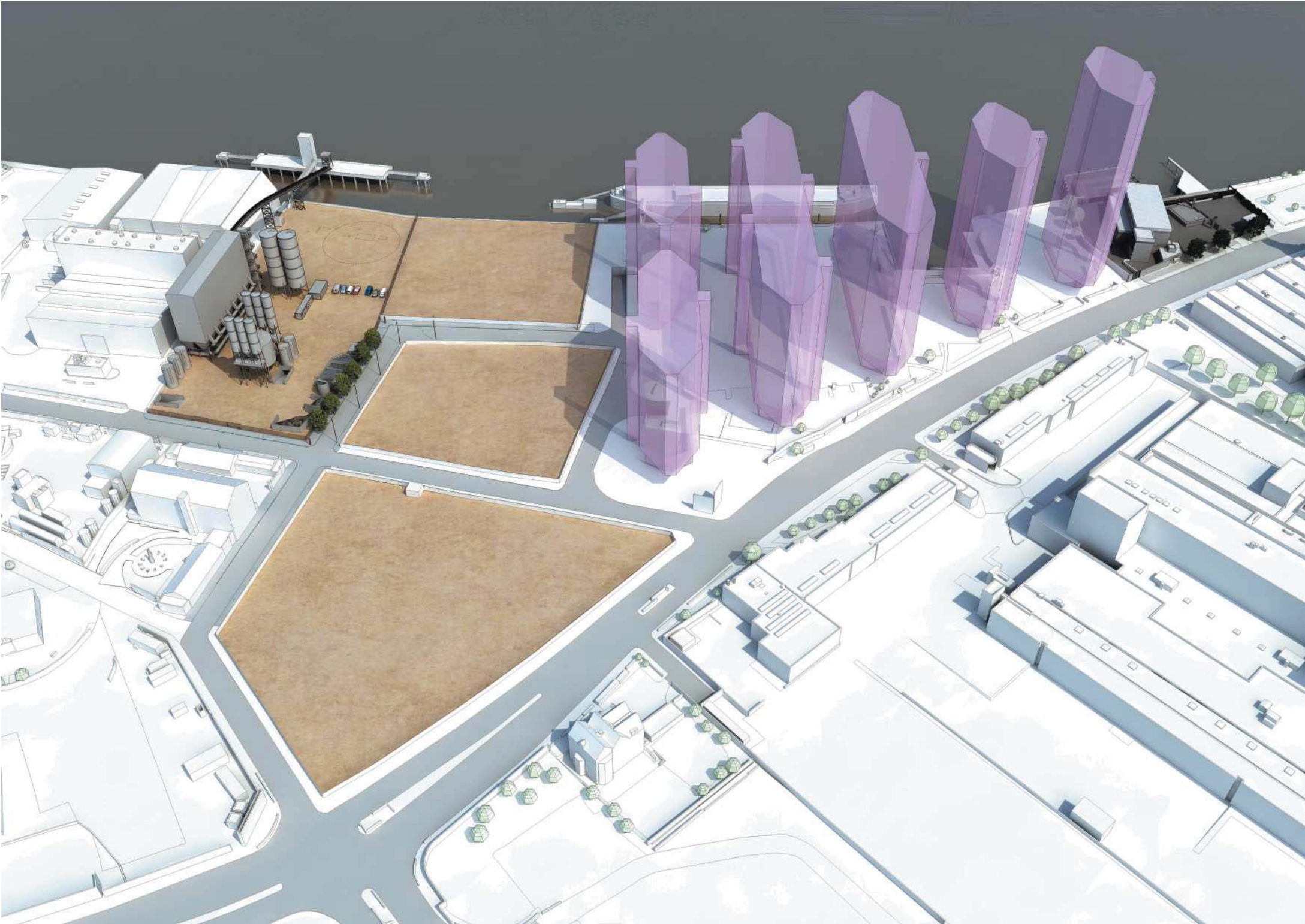


Figure 16.32: Aerial view of site proposal

Integration of the functional components

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

- a main tunnel shaft
- an air treatment chamber
- associated ducts.

16.5.5 Post construction, the only visible tunnel infrastructure on the site would be a ventilation structure combined with an electrical and control kiosk.

Main tunnel shaft

16.5.6 The main tunnel shaft would be approximately 30m internal diameter and would be located on Kirtling Wharf. The main tunnel shaft would be finished flush to the ground level to enable vehicles to drive over it.

16.5.7 The proposed siting would avoid the need for the main tunnel to pass in-land where it would potentially affect existing third-party infrastructure. Locating the shaft close to the river would also optimise the tunnel alignment while meeting the hydraulic requirements. Shaft construction would therefore take place next to the Cringle Dock waste transfer station and away from existing houseboats and the dwellings under construction at the Riverlight development. It would also avoid conflict between the shaft and the foundations of future mixed-use development proposals on the other areas of the site set out in the SSAD.

16.5.8 The ventilation and air treatment chamber would sit adjacent to the main tunnel shaft.

16.5.9 The layout of shaft and the associated permanent structures would not preclude the use of Kirtling Wharf as an operational wharf in the future, in support of London Plan Policy 7.14 and Core Strategy Policy PL 9. The existing concrete batching plant on Kirtling Wharf would be removed to accommodate construction on the north of the wharf, and a new concrete batching plant would be provided, prior to construction, on the southern part of the wharf. This concrete batching plant would be retained following construction and operations could be extended over the shaft.

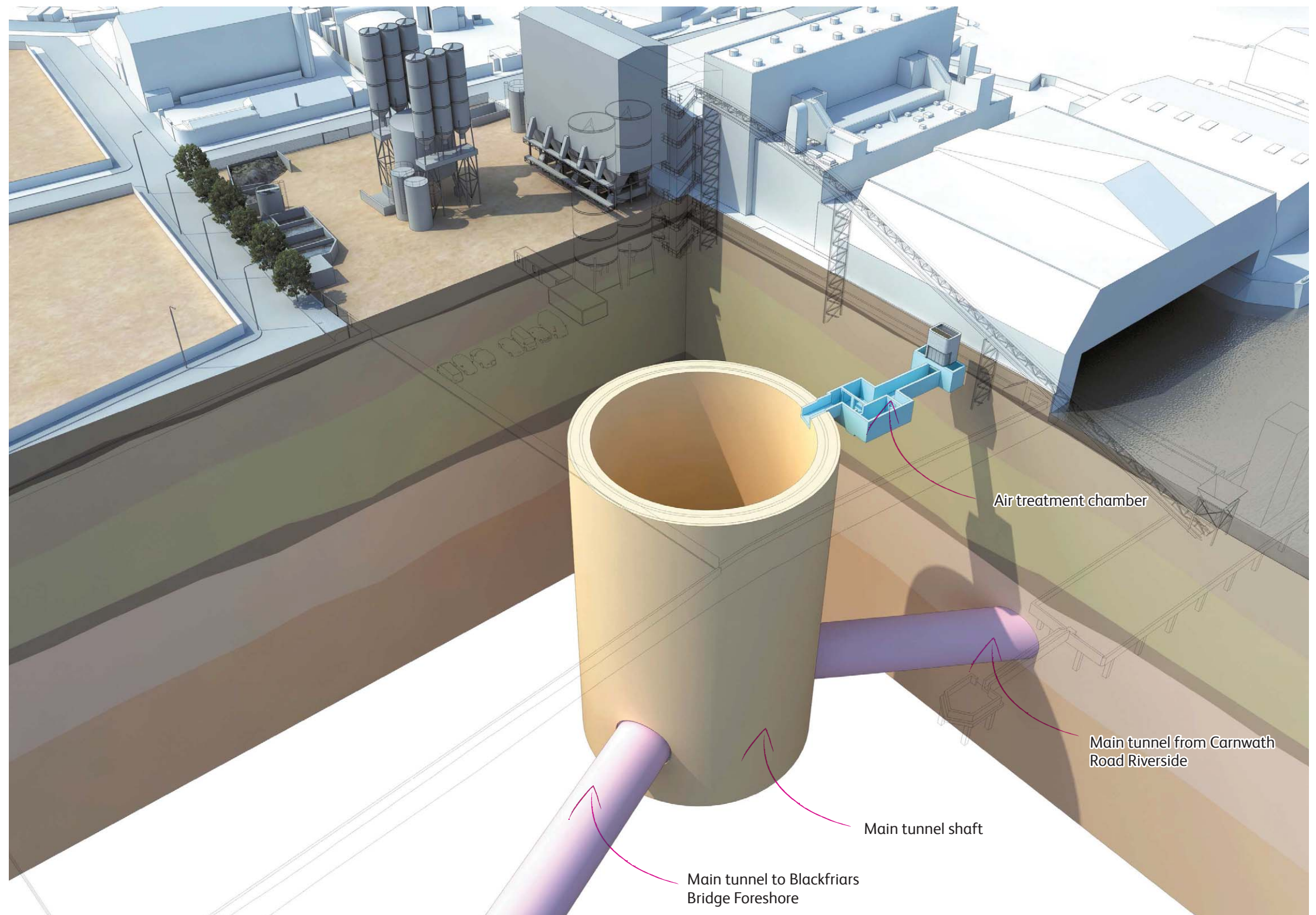


Figure 16.33: Proposed functional components diagram : below ground view



Figure16.34: Proposed functional components diagram : above ground view

Combined ventilation and electrical and control structure

16.5.10 The combined ventilation and electrical and control structure would be between 4m and 6m high and be located along the eastern or western boundary of Kirtling Wharf.

16.5.11 Consolidating the ventilation and electrical and control equipment into one structure along the site boundary would reduce the overall impact of the permanent works on the safeguarded Kirtling Wharf. It would also reduce the visual impact in support of Core Strategy Policy IS 3 and the London Borough of Wandsworth's Development Management Policy Document Policy DMS 1. The flexibility of the combined structure's location would allow the final location to best respond to emerging proposals for Kirtling Wharf, the Thames Path and neighbouring sites as they take shape. The site is large; however, the area required for the permanent works is significantly less than for the temporary construction site.

16.5.12 The proposed location of the combined structure accommodates the potential for the Thames Path to be diverted along the River Thames across Kirtling Wharf, if this becomes an option in the future, in support of aspirations in the VNEB OAPF.

Thames Path

16.5.13 The Thames Path would be temporarily diverted during construction. We would reinstate and, with the consent of the relevant landowners, improve the route of the path along Kirtling Street by widening it and providing new signage and tree planting, in support of Core Strategy Policy PL 3.

16.5.14 This reinstatement of the Thames Path would not preclude the realignment of the path along the riverfront by others in future. In the existing Battersea Power Station planning permission, the path is shown running up to the boundary of Kirtling Wharf from the west, before turning south to Cringle Street. It is unlikely that the path could be extended further along the riverfront due to the use of Kirtling Wharf and the Cringle Dock waste transfer station. It would need to be diverted around the wharfs before returning to the riverfront along the northern boundary of the Battersea Power Station site.

Other works

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

16.5.16 The other areas of the site would be secured with a temporary hoarding and made available for future development by others, in support of allocations in the SSAD.

16.5.17 –The concrete batching plant would be on Kirtling Wharf with the tallest structures predominantly located to the west of the wharf as denoted on the Site works parameter plan. This defines zones in which structures would be located and maximum height limits as follows:

- a) Water tanks with maximum heights of 10.0m and a wedge pit for below ground storage of aggregates.
- b) Tanks bays and a substation with maximum heights of 5.0m.
- c) Offices and welfare and blowing shed (for housing equipment to pump aggregates from barges) with maximum heights of 5.0m.
- d) Aggregate storage bins, cement silos, concrete plant, water tanks, conveyor, and hopper with a maximum height of 30.0m and a further wedge pit. An additional blowing shed would be provided well within the maximum height of this zone.

The parameters have been defined to minimise visual impact in support of Core Strategy Policy IS3 and LBW DMDP Policy DMS1.

Landscaping and appearance

16.5.18 No CSO would be intercepted at this site therefore only minimal electrical and control equipment would be required, which would be incorporated into the combined ventilation and kiosk structure. The combined structure would discharge vertically; we might incorporate a small planted brown roof over the remainder of the roof, if practical.

16.5.19 The materials for the combined structure would be appropriately robust in order to withstand operational requirements and the utilitarian context of the surrounding wharf-related activities. In order to resist impacts from manoeuvring vehicles, the structure would be clad in concrete panels with a simple, high quality finish. The detailed design and landscaping plans and the final selection of materials would be agreed with the local authority in line with our project-wide and site-specific design principles. The materials and design of any reinstatement works outside of Kirtling Wharf would be consistent with the Riverlight development in order to support a coherent public realm in the area.

16.5.20 Very little planting is proposed at Kirtling Street in view of Kirtling Wharf's use and safeguarded status and the future redevelopment of the other areas of the site. Our plans illustrate various trees along sections of Kirtling Street; however, it would be necessary to widen the footpath in order to accommodate them. This change would need to be agreed with the relevant landowner. Any trees planted as part of the project works would coordinate with the public realm strategy in the *VNEB OAPF* and be consistent with our project-wide landscaping principles.



Figure 16.35: Aerial view of permanent works proposal



Figure 16.36: Example of high quality patterned concrete



Figure 16.37: Example of street tree



16.38: Example of louvred wall and doors

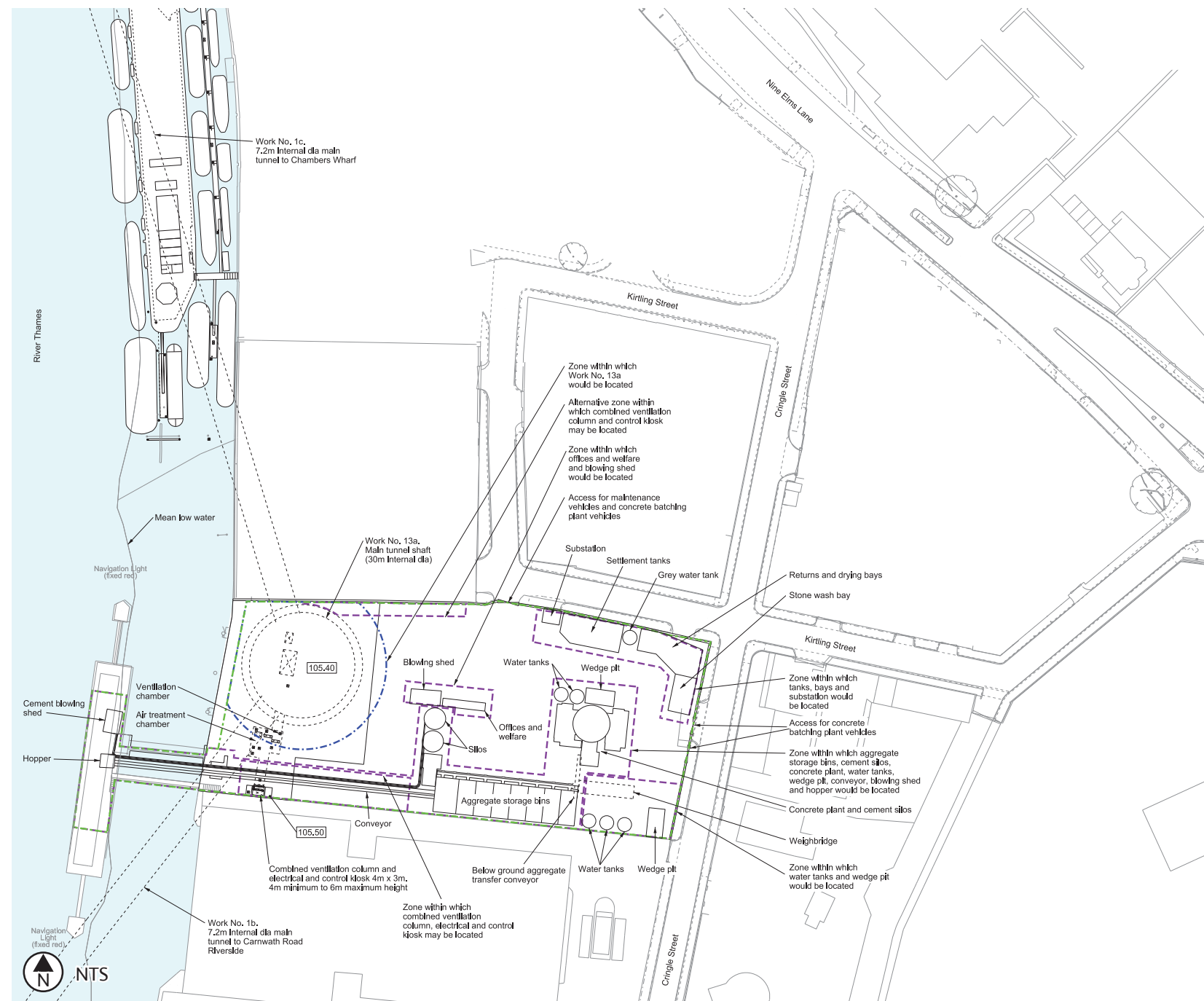


Figure 16.39: Permanent works layout - refer to Permanent works layout in the *Book of Plans*

16.6 Access and movement

16.6.1 Kirtling Street would be closed during construction and reopened to traffic and pedestrians once the works are complete. Other routes to and from the site off Nine Elms Lane would remain unchanged.

16.6.2 The Thames Path would be reinstated along its present route, as set out above.

16.6.3 As part of the development of the Battersea Power Station site, an extension to the Northern Line is expected to be constructed in the area and to include new stations at Battersea and Nine Elms. According to information from Transport for London, the earliest completion date of the extension is 2019.

Thames Water access requirements

16.6.4 Access to permanent works for maintenance would be via an existing entrance to Kirtling Wharf off Kirtling Street. Access to the concrete batching plant would be via the same entrance from Kirtling Street and via a widened existing entrance to the Kirtling Wharf off Cringle Street.

16.6.5 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.

16.6.6 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 main tunnel shaft. Any cranes would be positioned on or adjacent to, the shaft in order to reach the access covers. The inspection would be carried out during normal working hours and would likely take several weeks.

16.6.7 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.

16.6.8 The proposed area of hardstanding adjacent to the main tunnel shaft and combined ventilation column and electrical and control kiosk would be allocated to Thames Water for maintenance purposes in agreement with the operator of the safeguarded wharf.

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