

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Heritage Statement

Doc Ref: **5.3**

Appendix Q

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

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Thames Tideway Tunnel

Heritage Statement

Appendix Q: Abbey Mills Pumping Station

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Appendix Q: Abbey Mills Pumping Station

Q.1 Site location and context

- Q.1.1 The proposed development site is located in the London Borough of Newham. It comprises an area of the Abbey Mills Pumping Station complex. The new development would be concentrated near the Lee Tunnel shaft and the existing Station F pumping station.
- Q.1.2 A number of planning applications applicable to the site have been submitted in the last five years. The Lee Tunnel and Beckton Sewage Treatment Works Extension scheme comprises a sewage storage and transfer tunnel (the 'Lee Tunnel') between Abbey Mills Pumping Station and Beckton Sewage Treatment Works, and an extension to Beckton Sewage Treatment Works. The scheme is currently under construction. A number of other minor planning and listed building permissions are in place at Abbey Mills Pumping Station.
- Q.1.3 The site will be landscaped as part of the Lee Tunnel project works. The Thames Tideway Tunnel project would reinstate any of these works disrupted during construction.
- Q.1.4 The site falls within the Lee Valley Archaeological Priority Area and the Three Mills Conservation Area. There are no listed buildings on the site itself; however, there are several within the pumping station complex, including the original Grade II* listed Station A pumping station. It lies partially within the wider Lee Valley Regional Park and falls within an area of search for a new area of Metropolitan Open Land, although this has not yet been defined or adopted.
- Q.1.5 The majority of the site is not designated for nature conservation; however, the surrounding watercourses (Prescott Channel, Channelsea River and Abbey Creek) are designated as Sites of Importance for Nature Conservation and form part of the London-wide Blue Ribbon Network. Part of the site extends into the Prescott Channel and therefore falls within the Site of Importance for Nature Conservation.
- Q.1.6 The main flood risk to the site is from the River Lee and its tributaries: the Prescott Channel and the Channelsea River. The site lies within the 'high probability' flood zone and is protected by flood defences.
- Q.1.7 The site is bounded to the north and northeast by Abbey Mills Pumping Station and operational infrastructure and buildings, to the east and southeast by the Channelsea River and Abbey Creek, by the Prescott Channel to the west, and by Riverside Road to the northwest.
- Q.1.8 To the north of the site lies 'The Greenway', a green corridor that runs along the top of a man-made embankment above the Northern Outfall Sewer. The Greenway is designated as green space and Metropolitan Open Land.
- Q.1.9 Land use in the wider area is predominantly industrial; however, it is also an area of change and multiple major mixed-use developments have

either been permitted or proposed within 500m of the site. Beyond the Channelsea River and Abbey Creek to the east is the Channelsea Business Centre on Canning Road and an area of disused land, which is subject to a policy allocation for a new district centre. There is also a gas works to the south.

- Q.1.10 The land to the west of the site, known as Three Mills Island, comprises a landscaped grassed area and various warehouses including Three Mills Studio. Three Mills Green is designated as a local park. The area to the northwest of the site is residential.

Historical context

- Q.1.11 The site lies 2.1km to the north of the River Thames and is surrounded by numerous channels that form part of the River Lee.
- Q.1.12 During the prehistoric period (700,000 BC to AD 43), the site lay in a low-lying area of gravel islands and terraces surrounded by marshland. There is some evidence of prehistoric activity or occupation in the area.
- Q.1.13 During the Roman period (AD 43 to 410), the site lay approximately 6km to the northeast of the Roman City of London and 1km to the south of the nearest major Roman road. A small settlement may have developed at the crossing of the River Lee at Old Ford, approximately 1.4km northwest of the site.
- Q.1.14 During the later medieval period (AD 1066 to 1485), the settlement remained concentrated around the parish church on the eastern side of the Lee Valley, 875m to the northeast of the site. The abbey of St Mary Stratford Langthorne was built in AD 1135, and its western precinct boundary lay approximately 310m to the northeast of the site.
- Q.1.15 Rocque's map of 1746 indicates that the site lay in a reclaimed part of Stratford Marsh and was probably used for pasture. The main settlement of Stratford grew up along the main road (now the High Street) 410m to the northwest of the site. In later part of the 18th century, flood defences were constructed along the eastern edge of the site.
- Q.1.16 In 1854, the London, Tilbury and Southend Railway opened 40m to the southeast of the site on the eastern bank of the Channelsea River. Also in the mid-19th century, schemes were devised for main sewers to drain into the River Thames at Beckton on the northern bank and at Erith on the southern bank. The Northern Outfall Sewer, which passes to the north of the site, was constructed 160m to the northeast of the site in the late 1850s and early 1860s under the supervision of Sir Joseph Bazalgette. The richly decorated Abbey Mills Pumping Station was built in 1865/8.
- Q.1.17 In the mid-20th century, the central part of the site was used as allotment gardens and the Prescott Channel was constructed along the southwestern edge of the site.

Q.2 Relevant heritage policy and guidance

- Q.2.1 As the application for development consent relates to a Nationally Significant Infrastructure Project, the NPS is the primary basis for decision making on all planning issues raised by the application. When it comes to assessing the acceptability of the application proposals, it is the NPS that sets the relevant criteria to be applied. However, the project has been developed in the knowledge of local planning policies and, particularly, local land use planning designations.
- Q.2.2 The London Borough of Newham's planning and heritage policies are set out in the *Core Strategy Development Plan Document* (adopted January 2012) and the saved policies of the *Unitary Development Plan* (UDP) (2001). The *Three Mills Conservation Area Character Appraisal and Management Proposals* (2006) describes the character of the area and sets out a number of guidelines for its management.
- Q.2.3 *Core Strategy* Policy SP5 (Heritage and other Successful Place-making Assets) states that: *"the value of heritage and other assets (natural, cultural, architectural, and infrastructural) which contribute to local character and successful places will be recognised by protection, conservation, and enhancement of the assets and their settings. To this end, proposals which address the following in their concept, design and implementation will be supported:*
- (1.) An approach to urban design that recognises the strengths and weaknesses of local character and seeks to contribute positively to the composition of the townscape, achieving better integration and enhancement of new and old, natural and built environments, infrastructure and living environments;*
- (2.) The need to conserve and enhance designated and non-designated heritage assets, with any change to them based on an understanding of the nature of their significance and the contribution of their settings to that significance, seeking to increase their presence and encourage wider appreciation, ownership of, and access to them; and*
- (3.) The need for innovation to realise the value of assets and secure viable, sustainable and appropriate futures for them, particularly where they are under-performing, reconciling this with the sensitivity to change presented by many (see also Policies SC4, INF6 and INF7)".*
- Q.2.4 *Core Strategy* Policy INF7 (Blue Ribbon Network) states that the council intends to protect the waterways through various objectives including: *"(3) landscape character, heritage, views and linear nature of the network will be protected and enhanced"*.
- Q.2.5 Saved *UDP* Policy EQ35 (Preservation of Listed Buildings) states that: *"unless exceptional circumstances are demonstrated, the council will refuse the demolition of a listed building"*.

- Q.2.6 Saved UDP Policy EQ36 (Buildings of Local Interest) states that: *“the council will negotiate with a view to maintaining the architectural or historic integrity of buildings on the local list of buildings or architectural or historic interest”*.
- Q.2.7 Saved UDP Policy EQ37 (Scheduled and Other Nationally Important Monuments) states that: *“the council will protect scheduled monuments, other nationally important monuments and parks on the national register by permitting only that development which would not adversely affect them or their setting and will safeguard these sites when planning new development or roads. The council has completed a local list of parks and will recommend additions to the list as appropriate in determining applications under the planning acts, these parks or their setting shall be safeguarded to protect their local character”*.
- Q.2.8 Saved UDP Policy EQ38 (Planning Applications Affecting the Setting of a Listed Building) states that: *“when determining applications for planning permission affecting a listed building or setting the council will consider the extent to which the proposal displays a sympathetic relationship to the building or its setting, with particular reference to scale, style, design, detailing, materials and layout”*.
- Q.2.9 The Three Mills Conservation Area Character Appraisal and Management Proposals states that: *“The Council will seek to ensure that new development within the conservation area preserves or enhances the character or appearance of the area in accordance with policy EQ30 of the Development Plan and other policies. Similarly it will seek to ensure that initiatives aimed at the regeneration of the wider area respect, enhance and promote the conservation and heritage qualities of the area and its setting (para. 2.1.2)”*.
- Q.2.10 It also states that: *“the Council will ensure that all locally listed and buildings of townscape merit are protected from inappropriate forms of development or unjustified demolition. Furthermore, there must be satisfactory proposals for the redevelopment of any site before consent will be granted for demolition in accordance with development plan and other guidance (para. 2.1.3)”*.
- Q.2.11 It further states that: *“The Council will seek to ensure that all development respects the important views within, into and from the conservation area, as identified in the appraisal. The Council will aim to ensure that these remain protected from inappropriate forms of development and that due regard is paid to these views in the formulation of public realm works or enhancement schemes in accordance with the Development Plan and other guidance (para. 2.1.5)”*.
- Q.2.12 Finally, it states that: *“The Council will seek to ensure that any surviving historic streetscape features are retained, and that any future highway works will bring a positive improvement to the character or appearance of the conservation area. All works should accord with the spirit of English Heritage’s ‘Streets For All’ campaign (para. 2.1.6)”*.

Q.3 Description of heritage assets and significance summary

Q.3.1 The site contains no listed buildings; however, it falls within the Three Mills Conservation Area and there are a number of heritage assets (as defined in the NPS, para. 4.10.2) near the site. These heritage assets are illustrated on the Historic environment features map and the Conservation areas map. The numbering on the Historic environment features map refers to the gazetteer in which the heritage assets are described in the *Environmental Statement*, which accompanies the application (Vol 25, Appendix E.1). The gazetteer is provided at the end of this appendix.

Q.3.2 The heritage assets include:

- a. Three Mills Conservation Area (including the Abbey Mills Pumping Station complex)
- b. Abbey Mills Pumping Station
- c. the Grade II listed Bromley-by-Bow Gasholders
- d. Channelsea River Bridge
- e. West Ham Pumping Station
- f. potential archaeology.

Three Mills Conservation Area

Q.3.3 The Three Mills Conservation Area was designated to protect the character and appearance of the Three Mills complex and the Abbey Mills Pumping Station complex (refer to the Conservation Areas map).

Q.3.4 The Three Mills complex consists of 18th to early 19th century mills including the Clock Mill, various customs house offices, and sections of paved roadway (all Grade II listed). It also includes the House Mill, which is a Grade I listed tide mill that dates to the 1760s (refer to the Historic environment features map). To the east of the complex is a 19th century distillery, which was converted to 3 Mills Studios, and an open area to the north of the studios. The studios lie on a teardrop-shaped island between the Three Mills Wall River, the Prescott Channel and the Channelsea River, which is bounded by a wall on its southern side. The studios include a locally listed building, The Still, which is screened from the site by other buildings within the studio complex.

Q.3.5 The Abbey Mills Pumping Station complex contains several large brick buildings and the modern Pumping Station F to the south, which largely screens the site in views to/from the listed pumping station buildings. The buildings are all set within a fenced enclosure behind an embankment to prevent public access. To the northeast is the high embankment that contains the Northern Outfall Sewer. The Greenway public footpath runs along the top of the embankment and offers good views over and past the site to the Bromley-by-Bow Gas works, with its listed gasholders, and the conservation area. There are kinetic views from the District and Hammersmith and City line railway embankment towards the pumping

station complex, although the most significant views into the conservation area from the railway embankment are to the House Mill and Clock Mill.

- Q.3.6 Figure Q.1 shows the listed Three Mills complex at the heart of the Three Mills Conservation Area. The Grade I listed House Mill is to the left of the image, and the Grade II listed offices, cobbled roadway and Clock Mill are from the centre to the right.

Figure Q.1 View of the Three Mills complex (standard lens)



Abbey Mills Pumping Station complex

- Q.3.7 The construction of this complex of buildings commenced under the supervision of Sir Joseph Bazalgette in the 1860s, when Station A was built to raise wastewater into the Northern Outfall Sewer (refer to the Historic environment features map). The Grade II* listed Station A is a polychrome brick building designed in a Victorian Italian Gothic style on a Greek Cross plan. It features a slate Mansard roof and a central domed, octagonal cupola. It is of national heritage significance for its architecture and its role within Bazalgette's sewerage system. Its roofline is visible across a wide area.
- Q.3.8 Alongside Station A, embankments were raised to contain the various sewers and weirs to discharge storm water into the Channelsea River to the northeast of the site. Further buildings were constructed circa 1865 to increase the capacity of the sewerage system, including the single-storey storage building to the west of Station A, the two chimneystack bases to the northwest and southeast, and the former Superintendent's House. These buildings are Grade II listed for their group value with Station A.
- Q.3.9 The Grade II listed single-storey, brick Station B was constructed in 1891/96 in a complementary style with a slate hipped roof. The Grade II listed Station C and the associated valve house were built in 1910/14 in a more restrained style were listed for their value as part of the complex. The listed buildings stand within a grassed compound with formal tree planting, including mature London Planes.
- Q.3.10 The setting of the pumping station complex includes long views of the building along the Greenway and from the District and Hammersmith and City line railway embankment.
- Q.3.11 Figure Q.2 shows the Grade II* listed Station A from the south.

Figure Q.2 View of Station A from the south (standard lens)



Bromley-by-Bow Gasholders

- Q.3.12 The Bromley-by-Bow Gas Works was built on the eastern bank of the River Lee (refer to the Historic environment features map). It contained eight gasholders, of which seven survive, and all are Grade II listed in recognition of their quality, historic significance and striking appearance in views from all directions. Six of the gasholders are of two stages with cast iron columns, and one is of three stages.
- Q.3.13 The railway embankment obscures views of the lower part of the gasholders from the site; however, their superstructures are visible. There are long views to the gas holders from the Greenway over and past the site. However, the views make a small contribution to the gasholders' setting as they are visible over a wide area. Their setting also includes the extensive former gasworks buildings to the south of the railway embankment.

Other heritage assets

- Q.3.14 To the northeast of Station A is the Grade II listed Channelsea River Bridge, which carries the Northern Outfall Sewer (The Greenway) over the river. It was designed in the 1890s and constructed just after 1900 (refer to the Historic environment features map).
- Q.3.15 To the northeast of the bridge on the other side of the river is the Grade II listed West Ham Pumping Station. It is a large grey brick structure in a free classical style that dates to 1897 (refer to the Historic environment features map).

Archaeology

- Q.3.16 The entire site lies within an Archaeological Priority Area that covers the Lee Valley. The assessment of archaeological potential in the *Environmental Statement*, which accompanies the application, concludes that the site has low potential for Roman and early medieval remains of low to medium significance; moderate potential for medieval and post-medieval landscape features of low significance; and high potential for palaeoenvironmental and prehistoric remains of low, medium or high significance.

Significance summary

- Q.3.17 An assessment of the significance of the heritage assets and the potential effects of the proposed works at this site is set out in the *Environmental Statement* (Vol 25). The assessment includes a full statement of significance for built heritage and buried archaeological assets at the site, which is summarised below in Table Q.1.

Table Q.1 Significance of heritage assets at Abbey Mills Pumping Station

Heritage asset	Heritage significance	Reason for significance
Three Mills Conservation Area	High	Significance derives from its evidential, historical, aesthetic and communal values.
Abbey Mills Pumping Station	High	Significance derives from its evidential, historical, aesthetic and communal values. Station A is particularly significant as a fine early example of sewerage infrastructure. Referred to as 'the cathedral of sewage'.
Bromley-by-Bow Gasholders	High	Significance derives from their historical, evidential and townscape values.
Channelsea River Bridge	High	Significance derives from its group value and association with Station A.
West Ham Pumping Station	High	Significance derives from its evidential, historical and aesthetic values.
Archaeology	Palaeoenvironmental remains: Low to medium significance Prehistoric remains: High significance Other periods: Low significance	Potential for prehistoric occupation, preserved by waterlogging.

Q.4 Description of proposals and required heritage consents

- Q.4.1 A summary of the proposed temporary and permanent works at Abbey Mills Pumping Station is set out below.

Temporary construction works

- Q.4.2 The temporary works would include erecting site fencing and digging service trenches. No demolition work would be required. A main tunnel reception shaft and a connection tunnel would be constructed and a ventilation duct installed. The works would require the use of cranes.

Permanent above-ground structures

- Q.4.3 Post construction, the visible structures on the site would be the ventilation column (approximately 8.5m high), an electrical and control kiosk and reinstatement works including fencing. Improved areas of hardstanding

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

- Q.4.4 The evolution of the design of the permanent works and the alternatives considered are set out in the *Design and Access Statement*, which accompanies the application. The design proposals are illustrated in the drawings within the *Book of Plans* and were developed in line with the *Design Principles* and the *Code of Construction Practice*, which also accompany the application, to minimise the impact of the proposed works and structures on their surroundings, in line with relevant national, regional and local policies.
- Q.4.5 The aspects of the proposed works that would affect the nearby heritage assets are set out below. The proposals that would normally require Listed Building Consent or Conservation Area Consent are also identified.
- Q.4.6 Refer to the Historic environment features map, the Conservation areas map and the drawings listed in Table Q.2 below. This table sets out the drawings of the proposed works, which are provided in A3 format at the end of this appendix. It also provides the status and location of the drawings within the application.

Table Q.2 Drawings relating to heritage assets at Abbey Mills Pumping Station

Drawing title	Drawing status
Location plan	For information
As existing site features plan (1 of 2)	For information
As existing site features plan (2 of 2)	For information
Site works parameter plan	For approval
Permanent works layout	Illustrative
Proposed site features plan	Illustrative save for the scale of the above-ground structures, which is indicative
Section A-A	Illustrative
As existing and proposed south elevation	Illustrative
As existing and proposed west elevation	Illustrative
Construction phase 1: Site set-up and shaft construction	Illustrative
Construction phase 2: Other structures and secondary lining	Illustrative

The drawings are located in Section 27 of the *Book of Plans*

Three Mills Conservation Area

- Q.4.7 The cranes required for the construction works would be visible from much of the Three Mills Conservation Area (refer to the Construction phase 1: Site set-up and shaft construction drawing).
- Q.4.8 The permanent above-ground structures would be screened from local heritage assets within the conservation area by Station F and the

workshops along the eastern side of 3 Mills Studios (refer to the following drawings: Site works parameter plan, Proposed site features plan, Section A-A, and the As existing and proposed elevations).

Q.4.9 No heritage consent would normally be required.

Q.4.10 The design principles for the final design of this site include four of the generic (project-wide) heritage design principles and the site-specific principles set out in Section 4.21 of the *Design Principles*. The site-specific principles that relate to the significance of the Abbey Mills Conservation Area include the following:

Reference	Site-specific design principle
ABMPS.02	The design of the ventilation outlets shall be in keeping with the context. The signature design ventilation column shall not be used.

Abbey Mills Pumping Station Complex

Q.4.11 Station F would largely screen the main part of the construction works from the listed buildings of the Abbey Mills Pumping Station complex, although the access road would fall in their setting. The construction works also would fall in the foreground of the kinetic views from the railway embankment towards the pumping station; however, Station A would still appear in these views. The site would play a very minor role in views along the Greenway towards Station A.

Q.4.12 The permanent works would have no impact on the setting of the listed buildings and would improve the appearance of the site.

Q.4.13 No heritage consent would normally be required.

Bromley-by-Bow Gasworks

Q.4.14 The construction works and cranes would intrude to a small extent on some views from the Greenway to the gasholders. The gasholders themselves would not be obscured.

Q.4.15 The permanent above-ground structures would not be visible from the gas works and would not intrude on views from the north to the gasholders.

Q.4.16 No heritage consent would normally be required.

Other heritage assets

Q.4.17 The Channelsea River Bridge affords wide views to the south and north. The most significant views are to the Station A and down the Channelsea River with the gasholders in the distance and trees in the foreground. The construction works would feature peripherally in these views, although Station F would provide some screening.

Q.4.18 The setting of the West Ham Pumping Station would not be affected by the construction or permanent works.

Q.4.19 No heritage consent would normally be required.

Archaeology

- Q.4.20 The upper layer of made ground in the site would be stripped. The diversion of utilities would locally remove any remains of 18th century flood defences or medieval drainage ditches of low significance. The installation of the ventilation duct at a shallow depth might have a low impact on potential archaeology. Some of the archaeology on the site may have already been removed by the construction of the Lee Tunnel shaft, and the excavation of the below-ground infrastructure might remove further archaeological remains. However, the connection tunnel would not affect the archaeology as it would be at considerable depth.

Q.5 Heritage design considerations

- Q.5.1 As most of the project works would be below ground, the key design objective for the permanent works was to integrate the functional components of the system into the context of the historic environment. The site-specific design objective at Abbey Mills Pumping Station was to take account of the existing below-ground infrastructure; the character and appearance of the Three Mills Conservation Area; and the settings of nearby heritage assets including the listed buildings of the Abbey Mills Pumping Station complex, the Three Mills complex, the Bromley-by-Bow gasholders.
- Q.5.2 During consultation, English Heritage agreed that the works should be sited away from the Three Mills complex on land closely associated with the sewage processing use of the pumping station complex. This would minimise the impact on the setting of the listed buildings and on the character, appearance and significance of the conservation area. However, respondents recognised that the conservation area has a robust, industrial character that can accommodate cranes and other construction plant without undue harm.
- Q.5.3 Despite its proximity to a number of significant heritage assets, the main part of the site would be physically and visually separated by modern pumping station buildings and infrastructure in the pumping station complex, the Three Mills complex, The Still, and associated buildings to the west of the site. The permanent above-ground structures were scaled to be effectively screened from the significant elements of the conservation area in order to minimise their impact on the historic environment.

Q.6 Mitigation measures

- Q.6.1 Due to the presence of heritage assets nearby, the National Policy Statement for Waste Water (the 'NPS') requires the proposed development to be based on an understanding of the significance of heritage assets (para. 4.10.11), minimise any impacts on their significance (paras. 4.10.12 to 4.10.14), minimise impacts on their setting (para. 4.10.17), mitigate any negative impacts (para. 4.10.18 to 21), and ensure that the proposals are of a high design quality (Section 3.5). These requirements are reflected in similar policies in the *London Plan* (2011), the *Core Strategy*, the *UDP*, and the *Three Mills Conservation Area Character Appraisal and Management Proposals*.
- Q.6.2 The above-ground works would affect the character and appearance of the Three Mills Conservation Area and the setting of the nearby listed buildings. These impacts would be mitigated by the high quality design, siting and modest scale of the proposed structures in order to avoid altering significant views, enhance the appearance of this part of the conservation area, and preserve the settings of the listed buildings.
- Q.6.3 The proposed works would have no physical impact on the fabric of any heritage assets or other buildings on the site or in the conservation area.
- Q.6.4 The effects on any archaeology would be mitigated by a combination of approaches to be agreed in advance with statutory consultees, as set out in the *Overarching Archaeological Written Scheme of Investigation* (which accompanies the application). A *Site-specific Archaeological Written Scheme of Investigation* would be prepared at a later date, as set out in the *Code of Construction Practice Part A* (Section 12.3).
- Q.6.5 A watching brief would be carried out during site preparation and construction to mitigate impacts on potential remains of low significance. Targeted excavations would be carried out during the construction of the underground structures, if necessary. This approach would enable any remains to be appropriately recorded. Any information gathered would be disseminated via the usual channels in order to improve the public understanding and appreciation of the significance of these aspects of London's past. This would also constitute compensatory mitigation for any losses, which satisfies the requirements of paras. 4.10.18 to 4.10.20 of the NPS and reflects *London Plan Policy 7.8*.
- Q.6.6 For the duration of the construction phase, all heritage assets would be safeguarded by the provisions of a site-specific heritage management plan. This plan would be prepared by the contractor prior to commencing construction in accordance with Section 12 of the *Code of Construction Practice Part A*, which also states the following:
- a. The contractor shall define procedures for unexpected archaeological discoveries during the works in the heritage management plan and emergency preparedness plan. These shall include ceasing work in the vicinity, making safe, and notifying the Employer, English Heritage and the local planning authority in order to agree and implement suitable mitigation.

Q.7 Assessment of effects

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

Three Mills Conservation Area

- Q.7.2 The construction works, in particular the presence of cranes, would have a minor temporary negative effect on the character and appearance of the Three Mills Conservation Area. However, as it is a former industrialised area, the works would not be at odds with its historic character. The works would also be visually screened from much of the conservation area and its most significant heritage assets. This would therefore cause less than substantial harm to the significance, character and appearance of the conservation area as a whole.
- Q.7.3 The permanent above-ground structures would be effectively screened from the historic buildings and have a negligible effect on the character of the conservation area as a whole.

Abbey Mills Pumping Station Complex

- Q.7.4 The construction activities would not be out of place in an area that was traditionally the focus of industry. They would have a minor temporary negative effect, amounting to less than substantial harm.
- Q.7.5 The modest scale of the works and the siting of the proposed structures behind Pumping Station F would have no permanent effect on the setting of the Abbey Mills Pumping Station complex.

Bromley-by-Bow Gasholders

- Q.7.6 The construction works would have a minor temporary negative effect on a small part of the setting of the Bromley-by-Bow gasholders, as they would be visible in views from the Greenway. The magnitude of change would be low.
- Q.7.7 The permanent above-ground structures would have a moderately positive effect on the gasholders' setting. The improved open area within the site would offer a slightly enhanced place from which to view their superstructures.

Other built heritage assets

- Q.7.8 The construction works would have a negligible to minor temporary negative effect on the setting of the Channelsea River Bridge, amounting to less than substantial harm. The permanent works would have no effect on its setting, as they would be unobtrusive in the views to the south.
- Q.7.9 There would be no temporary or permanent effects on the West Ham Pumping Station.

Archaeology

- Q.7.10 The construction works would cause the localised removal of any archaeological remains within the site. The archaeological assessment concluded that no remains of very high significance are anticipated that would merit a mitigation strategy of preservation *in situ*. Any adverse effects from the removal of archaeological assets would be mitigated by the programme of investigation and recording. The normal dissemination of the information gathered would add to the public appreciation of the heritage of the site. These measures are proportionate to the likely significance of the archaeology and would reduce the impact of the works to negligible.

Assessment in relation to policy

- Q.7.11 An assessment of the proposals in relation to relevant heritage policy is set out below.
- Q.7.12 The construction works would have a minor temporary negative effect on the character and appearance of the Three Mills Conservation Area as a whole, and the settings of the Bromley-by-Bow gasholders, the listed buildings of the Abbey Mills Pumping Station complex, the Three Mills complex, and the Channelsea River Bridge. The main part of the works would be in a partially concealed location on the southern side of Station F and to the east of the 3 Mills Studios, where they would be largely screened. The works would therefore cause less than substantial harm to the nearby heritage assets and would conserve their significance, in accordance with paras. 4.10.13 and 4.10.15 of the NPS.
- Q.7.13 The scale, location and arrangement of the permanent above-ground structures would minimise their impact on the historic environment and there would be no adverse effects or harm, which satisfies paras. 4.10.13 and 4.10.14 of the NPS. The settings of the heritage assets would be protected in line with para 4.10.17 of the NPS. These policies also reflect *London Plan Policy 7.8, Core Strategy Policy SP5, saved UDP Policies EQ37 and EQ38, and paras. 2.1.3 and 2.1.5 of the Three Mills Conservation Area Character Appraisal and Management Proposals.*
- Q.7.14 The programme of archaeological interpretation and recording would meet the requirements of paras. 4.10.18 to 4.10.20 of the NPS, which reflect *London Plan Policy 7.8.* Although the ability to record archaeology that would be removed should not be a factor in any decision to grant development consent (NPS para. 4.10.19), English Heritage has agreed that archaeological recording and dissemination of findings would constitute partial mitigation for any archaeological impacts (*Environmental Statement Vol 2*).

Q.8 Conclusion

- Q.8.1 The main heritage impact at Abbey Mills Pumping Station would be minor temporary negative effects on the character and appearance of the Three Mills Conservation Area during construction. The works would not be out of character for the area and would be partially screened in all views. Its character and appearance would be only slightly altered by the permanent above-ground structures.
- Q.8.2 There would be no appreciable permanent effects on the settings of the heritage assets nearby, due to the siting and scale of the above-ground structures.
- Q.8.3 Any harm to archaeology would be mitigated by compensatory programme of recording and the dissemination of the findings.
- Q.8.4 In summary, no aspect of the proposals would cause substantial harm to the historic environment. The quality and sensitivity of the permanent design would minimise any negative impacts on the settings of nearby heritage assets. The proposals are therefore in line with the requirements of the NPS, the *London Plan*, the *Core Strategy*, the saved *UDP*, and the *Three Mills Conservation Area Appraisal and Management Strategy*.

Gazetteer of known heritage assets

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

All known heritage assets within the assessment area are referred to by a historic environment assessment (HEA) number. Assets within the site are referred to and labelled in the Historic environment features map with the prefix 1, eg, HEA 1a, 1b, 1c. References to assets outside the site but within the assessment area are referred to numerically from 2 onwards, eg, HEA 2, 3, 4, and 5). The gazetteer also appears within the *Environmental Statement*, Vol 25, Appendix E.1.

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

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
1A	Lee Tunnel Thames Water, Abbey Mills Pumping Station. Geoarchaeological assessment of geotechnical data by Museum of London Archaeology (MOLA) in 2009. The assessment identified an area of low lying migrating channel deposits along the line of the Abbey Creek with high levels of natural gravel deposits in the north (in the region of the main pumping station buildings) and lower lying gravels to the south. The results allowed the sub-surface topography and alluvial deposits to be modelled. MOLA monitored five geoarchaeological boreholes along the line of the proposed culvert and shaft, in order to evaluate the survival and archaeological potential of the alluvial deposits identified in the deposit model. The two boreholes in the northern segment of the culvert were not drilled as an underground tank was located in this area. The boreholes along the southern section of the proposed culvert found evidence for a former land surface developed in overbank flood deposits overlying floodplain gravel and sealed by post-medieval soils. An episode of wetter (sedge fen) conditions, prior to post-medieval soil development, might be associated with the excavation of a man-made channel in the post medieval period, which appears to have run across the line of the culvert. It eventually silted up, becoming a boggy hollow.	ABM11
1B	Line of Bazalgette's Lower Level Sewer.	---
2	Northern outfall sewer bridge over Channelsea River. Grade II listed.	1392549
3	Engine house at West Ham Pumping Station. Grade II listed. On the Heritage at Risk register.	1357997
4	The site of a post-medieval bridge over the Prescott Channel. Recorded on the Greater London Historic environment Record (GLHER).	MLO7309506 2812
5	Post-medieval bridge over the Channelsea River. In 1539 the	MLO7310106

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	western entrance to Stratford Langthorne Abbey was documented as through the 'kiln house' gate. Recorded on the GLHER.	2818 MLO40079
6	In 1539 a bake house of Stratford Langthorne Abbey was documented, adjoining the abbey mill and the kiln house. Recorded on the GLHER.	MLO34624 MLO54878
7	The location of a guest hall ('le Gestenhall') to the south of a house leased in 1537 to Peter Vannes, Dean of Salisbury. The house lay within the former precinct of Stratford Langthorne Abbey, alongside the road leading from the precinct to the abbey mills. Demolished in the 1840s and last used as a home for Lascars (Asian seamen who served on European ships). Recorded on the GLHER.	MLO40705
8	Stratford Langthorne Abbey (part of area within precincts), Baker's Row, West Ham: nationally designated Scheduled Monument. Documentary evidence indicates that the abbey of St Mary Stratford Langthorne was founded in 1135 by William de Montfichet as a Savigniac house, becoming Cistercian in 1147: the abbey precinct was situated beside the Channelsea River. The majority of the buildings were demolished at the Dissolution in 1538 and a late 18th century owner of the site auctioned and sold much of the surviving masonry, although part of the main gateway survived into the 19th century. The site is now mostly covered by railway lines and industrial buildings. In 1845 railway excavations revealed a brick and stone built drain running east-west. This drain was not observed in later excavations and probably lies under or to the immediate north of Baker's Row.	LO148 1003775 MLO10229
9	In 1539 Lady De Vere leased houses and gardens to the north and south of the west end of Stratford Langthorne Abbey church. These buildings do not appear in any later documents relating to the site. Recorded on the GLHER.	MLO40085
10	Archaeological excavation in 1973–4 by Passmore Edwards Museum (PEM) on the north side of Baker's Row located the line of the moat of the abbey of Stratford Langthorne. The line of the stone boundary-wall, beside the moat, had four building phases. An early 13th century chalk and flint two-roomed house, perhaps the gate-keeper's house, was found inside the medieval wall line: the house was much altered throughout the medieval period with walls and doorways rebuilt. An area was subsequently designated as a Scheduled Monument (HEA 8). In 1983, PEM carried out further excavations on the north side of Abbey Road, west of the North Woolwich Railway, revealing part of the abbey church, cemetery, and a limekiln. An archaeological evaluation of a large area to the north of Abbey Road and east of the Channelsea (Stratford Market Depot) was carried out by Oxford Archaeology Unit (OAU) between 1991 and 1993. Surviving walls, containing some green sandstone, were recorded. The walls were thought to form part of the abbey buildings due to the quality of the workmanship and their location.	MLO31524 MLO40086 MLO40088 MLO54160 MLO54305 BR73 SL83 HW-OP91 HW-RW94 LT94 DD94

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	At least nine inhumations were recorded in the area of the northeast cemetery. A compacted chalk surface overlaid by rubble was not securely dated, but was thought to be possibly medieval. To the east of this area, excavation and watching brief by NMS was carried out on the route of the Jubilee Line extension in 1994. This revealed the east end of the Abbey church, associated structures and part of the cemetery, including 80 human burials.	
11	<p>Three stone coffins were dug up near Grange Farm in the 1830s. By 1895 all were in the vault of a non-conformist chapel containing the bodies of three members of the Mabbs family, one-time occupants of the farm. Recorded on the GLHER.</p> <p>The GLHER records that removal of the foundations of Stratford Langthorne Abbey on Thomas Holbrook's land in the late 18th century revealed a small onyx seal with the impression of a griffin (or Pegasus) carved into it. The seal was set into a silver fitting and an inscription incised into the silver. The inscription read "nuncio vobis gaudium et salvetum".</p> <p>13th century arch, probably part of the cloisters of Stratford Langthorne Abbey, built into the wall of an outbuilding at the Adam and Eve public house. First mentioned in 1732, when the outbuilding was a dove house. Demolished between 1863 and 1888. Recorded on the GLHER.</p>	MLO56523 MLO2417806 1161 MLO40090
12	Abbey Road Bridge, West Ham. An archaeological excavation by NMS in 1994 in advance of a gas pipeline. The area, c. 5m square, contained four burials and foundations overlying an earlier ditch. The foundations were part of the medieval Stratford Langthorne Abbey, and consisting of pillar bases within the nave and a chapel wall, belong to an as yet undated phase.	HW-GP94
13	In 1539 the Abbey slaughterhouse was documented as near the barn of the lodge and probably in the abbey grange (farm). Recorded on the GLHER.	MLO40082
14	Olympic Development: BH9 Abbey Lane Pedestrian Bridge, Abbey Lane, E15. Standing structure recording by Museum of London Archaeology Service (MoLAS, now MOLA) and Pre Construct Archaeology (PCA). This bridge carried the Northern Outfall Sewer across Abbey Lane, and allowed pedestrian access along the Greenway footpath that runs along the top of the sewer. The sewer and its associated structures relate to Bazalgette's London sewerage system, constructed by the Metropolitan Board of Works between 1859 and 1875, with later repairs and rebuilding. The bridge featured yellow brick abutments with millstone grit copings, and appeared to have been partially rebuilt in the mid-late 20th century; the cast iron riveted plates which contain the sewerage pipes were replaced in the 1950s.	OL-04507
15	Olympic Development: BH23 Brick wall opposite 116–118 Abbey Lane, Stratford, E15. Standing structure recording by MoLAS and PCA. The wall was classically styled, constructed from yellow	OL-04807

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	stock bricks and blue engineering bricks, and related to the former West Ham gasworks site. The wall was constructed during the 1890s, and formed part of the boundary wall which originally surrounded the entire gas works site. By the late 1990s most of the boundary wall's eastern extent had been demolished by the construction of Rick Roberts Way, creating its current length.	
16	116– 130 Abbey Lane, Grade II listed, On the Heritage at Risk register.	1080983
17	A slab with brass studs in it for affixing inlays in the forms of a cross and two figures under canopies was still visible in the kitchen of the Adam And Eve public house in 1863. Recorded on the GLHER. The GLHER also records the location of 'Le pore infirmary', possibly the site of an infirmary provided by the abbey for the lay poor.	MLO40708
18	Baker's Row, Stratford. An evaluation was carried out by MoLAS in 2007 followed by a community excavation in 2008 to assess the level, nature and condition of structures on the site and to expose remains in advance of conservation for display. These excavations revealed parts of the east end of a medieval building belonging to the abbey which was previously exposed during excavations in 1973–4. The building lay close to the site of the abbey gatehouse and originally may have served as a guest house. By the Dissolution it had become 'the tenement of the janitor of the great gate'. It was mainly built of flint and mortar with chalk foundations. A stone wall, possibly of medieval date, had been built against the south face of the building. Cess pits and one brick wall apparently represented the northern extension of the medieval building after the Dissolution. No external ground surfaces contemporary with the medieval building were identified, and may have been removed in the 1970's excavations.	SFY07 AYF08 MLO40092 MLO54837
19	Beck Lane (Stratford Market Depot), West Ham. Medieval pits were found through excavations by the OAU in 1991 and 1992. A sparse amount of residual Neolithic flint was found. To the north of the later abbey precinct, a late-Bronze Age to middle-to-late Iron Age and Roman site was discovered, including a horse burial and other animals close to two crouched human burials, suggesting a possible ritual or religious element. A dense area of features (pits, postholes, hut-gullies, ditches) cut into the clay subsoil covered an area of at least 0.6ha (1.5 acres) on the east bank of the Channelsea River, and would seem to indicate a multi-phase settlement. Residual finds also attest to earlier use of the site from the Mesolithic period onwards. Sparse residual middle and late Saxon pottery and 14th to 15th century pottery was recovered from the pit fills. The pits cut through earlier grave cuts. Brick-lined channels and floors were associated with J. Tucker's Abbey Print Works. The works were involved in printing calico up until the early 18th century, after which they were used for printing silk. The channels may have been used either for washing the silk or, for	HW-0P91

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	conducting water to a washing tank. Traces of later 19th century and early 20th century factory buildings were also recorded.	
20	19th century gasholder. Grade II listed.	1080994
21	19th century gasholder. Grade II listed.	1190906
22	19th century gasholder. Grade II listed.	1293590
23	19th century gasholder. Grade II listed.	1080995
24	Unspecified works prior to 1912 revealed an iron spear head. It is thought to date from the early medieval period. Recorded on the GLHER.	MLO2542061 760
25	The site of the Three Mills dating to the post-medieval period. Recorded on the GLHER.	MLO6356006 2193 MLO6356206 2194 MLO6356306 2195
26	The historic core of the Abbey Mills Pumping Station complex, Abbey Lane E15, recorded on the GLHER. Built 1865–8 as part of Bazalgette's drainage scheme. For individual elements see below.	MLO90648
27	B Station at Abbey Mills Pumping Station. Grade II listed, On the Heritage at Risk register.	1357994
28	C Station, with associated valve house, Abbey Mills Pumping Station. Grade II listed, On the Heritage at Risk register.	1392550
29	Stores building at Abbey Mills to the west of the Pumping Station. Grade II listed, On the Heritage at Risk register.	1080980
30	Abbey Mills Pumping Station. An archaeological excavation by NMS in 1995. The post-mediaeval deposits were uniformly of 19th and 20th century date. A linear feature at the west end of the site corresponded to Low Level Sewer No. 2, linked to the 1868 pumping station (Station 'A'), and a ceramic pipe running roughly north-south was an overflow pipe, also of later 19th century date. The latter followed the course of an earlier open sewer, the Mill Meads Common Sewer between Stratford and the Channelsea River. A small quantity of residual 17th and 18th century ceramic material was recovered from the 19th century layers. This included Speckled Ware, Post-Mediaeval Redware and Bow Porcelain.	HW-AM95
31	Abbey Mills Pumping Station. Grade II* listed, On the Heritage at Risk register.	1190476
32	The bases of a pair of former chimney stacks at Abbey Mills to the northwest and southeast of the pumping station. Grade II listed. On the Heritage at Risk register.	1357995
33	Offices (former Superintendents' House) at Abbey Mills. Grade II listed, On the Heritage at Risk register.	1080981

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
34	Gates and gate piers at the entrance to Abbey Mills Pumping Station. Grade II listed. Gate lodge at Abbey Mills. Grade II listed, On the Heritage at Risk register.	1080982 1080982
35	Transmission towers: standing structure recording by MoLAS and PCA in 2007. Overhead transmission lines were first erected in the Lower Lee Valley in 1953, as part of a 132kV line transmitting electricity from Brimsdown power station to Brunswick Wharf. Two new overhead transmission lines were installed in 1971; a 275 kV line and a 132kV diversion for local electricity supply, which both ran from West Ham power station to Hackney substation. Some of the transmission towers may have been reused in 1971, as they share the same footprint as many erected in 1953, however these early towers have all been renewed. The Three Mills Conservation Area Character Appraisal highlighted the transmission towers as having a negative visual impact on their surroundings; that removal would be of significant visual benefit, and that they do not merit any statutory protection. A comprehensive written and photographic record was made of the transmission towers, substations, associated equipment and their setting in the landscape.	OL-04607 MLO99080
36	Clock Mill. Grade II listed.	1191269
37	A paved roadway extending from the west side of House Mill to the wall and gate on the east side of Clock Mill. Grade II listed. Also the site of offices opposite Clock Mill. Grade II listed.	1080972 1080971
38	Tide Mill (known as the House Mill). Grade I listed.	1080970
39	The Bridport Site, Three Mills, Three Mill Lane, Bromley-by-Bow, E3. An archaeological watching brief and evaluation by PCA in 2003. Alluvial deposits were recorded, one of which contained a single shard of pottery dating to the 15th or early 16th century. Further alluvial layers from the 18th and 19th centuries were covered with made ground from the 19th/20th centuries. The site had been disturbed by the insertion of a sewer, the construction of the river wall and some fuel storage tanks.	TMI03
40	The site of a medieval water mill. Recorded on the GLHER.	080995
41	The chance find of Roman coin. Recorded on the GLHER.	080806
42	Olympic Development: BH11, Pedestrian viaduct of sewer. Standing structure recording by MOLAS and PCA in 2007. The pedestrian viaduct, which is part of the Northern Outfall Sewer and associated Greenway footpath, spanning Bridge Road, was photographically recorded.	OL-04707
43	19th century gasholder. Grade II listed.	1190911
44	19th century No. 1 gasholder. Grade II listed.	1080996
45	19th century gasholder. Grade II listed.	1080993

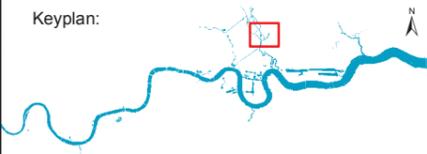
HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
46	Bromley-by-Bow gasworks was owned by the Imperial Gas and Coke Co. Production ceased in 1972. There is a group of seven gasholders (originally 8) which were erected in 1872. The engineers were Clark and Kirkham. The gasworks were linked to the dock at Bow Creek and there were rail connections to the Great Eastern Railway and the London Tilbury and Southend Railway. Recorded on the GLHER.	MLO23336 221584
47	The site of a post-medieval drain. Recorded on the GLHER.	060173
48	Olympic Development: Marshgate Lane Lock, Stratford, E15. Standing structure recording by MoLAS and PCA in 2007. Marshgate Lane Lock is located between the City Mill and Waterworks. The lock and surrounding banks date from a period of construction following the passing of the River Lee (Flood Relief) Act in 1930 and are constructed variously in plain concrete or in concrete over steel coffering.	OL-07407
49	War Memorial, Twelvetrees Crescent. Grade II listed. Statue of Sir Corbet Woodhall. Grade II listed.	1392547 1392548
50	Twelvetrees Crescent Bridge. Grade II listed.	1268439
51	Stratford Edge, 80–92 High Street, Stratford, E15. An archaeological evaluation by MOLA in 2010. Original drift geology was not reached, although the silt of the former Waterworks River channel (backfilled in the 1930s) was found at c. 103.2m ATD (above Tunnel Datum; the equivalent of 3.2m Ordnance Datum) in the west. Two probably 19th or early 20th century revetments were found at the former south bank of the river: a masonry-faced concrete and rubble revetment in the west and a timber revetment near the centre of the site. To south of the former channel, 18th or 19th century landfill was found as deep as c. 102.1m ATD in the east and c. 102.9m ATD in the west. The masonry-faced revetment was topped by mass concrete of uncertain function, possibly a foundation of late 19th or early 20th century date, and a concrete surface of early to mid-20th century date was found just to the south at c. 104.9m ATD. Stone and brick floors or paved areas and a remnant brick wall probably dating to the latter half of the 19th century were found at c. 104.0m ATD in the east together with a concrete surface at c. 104.2m ATD. The remains in the east are industrial in character, probably related to the stone industry (there was a 'stone yard' depicted on an 1867 Ordnance Survey (OS) map.	HSV10
52	Olympic Development: PDZ12, WP 1, Olympic Paralympic and Legacy Transformations Planning. An archaeological evaluation and excavation by MoLAS and PCA in 2007. Gravels of late Pleistocene - early Holocene date were recorded, overlain by prehistoric and historic alluvial sequences containing evidence for human activity. The sequence broadly suggested a site that lay at the eastern margins of a prehistoric river course: gravels were exposed of late Pleistocene to early Holocene date, overlain by a	OL-08707

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	<p>sequence of alluvial deposits that represented several phases of channel activity from the Neolithic to Iron Age. These alluvial deposits, interbedded sands, clays and gravels accumulated on channel bars within shifting stream channels. A gravel horizon within the sand bars produced flint debitage and a number of un-abraded shards of Neolithic pottery, an assemblage of animal remains, including horse, and a possible wooden stake structure. The sand bar deposits were truncated by a channel containing a possible dislodged or disaggregated wooden structure comprising the remnants of at least four roundwood timbers. The remains are undated as yet but are not thought to predate the Iron Age. A sequence of organic clays and peats overlay the active channel deposits; these are likely to represent a channel marginal backwater environment that gradually silted up. In the upper part of the alluvium an early medieval channel, consistent with the possible site of a mill works, was identified. Substantial gravel dumps were laid down to consolidate the ground above the alluvium prior to construction. This was characterised by a range of wells, cesspits, brick walls and drains of 17th century date. A number of walls recorded in section at the northern end of the site were clearly Victorian and are likely to relate to the former Christ Church.</p>	
53	<p>Lockkeeper's Cottage on Blaker Road. Locally listed. Three bays, two storey cottage. Stuccoed walls, hipped roof with modern tiling. Door frame with architrave and corbelled entablature.</p>	---
54	<p>The Still, 3 Mills Distillery. Locally listed. Classical building built in London stock brick, with a hipped slate roof.</p>	---
55	<p>Blackwall Tunnel Northern Approach. Site of a watermill that was Four Mills St 'Foure Milstrett' in 1551. Named from the four mills along the Lee. The Cartulary of Holy Trinity, Aldgate refers to a mill in Bromley in 1227.</p>	MLO3936 080972
56	<p>Twelvetrees Crescent. The site of the 17th century Bromley by Bow Palace, known as the Old Palace and also as Queen Anne's Palace, built of brick with a plain front and flanking pyramidal towers. The rooms had stucco ceilings, Jacobean panelling, William and Mary carvings and marble floors: one of the rooms is preserved in the Victoria and Albert Museum. The building was divided into two merchants' houses in 1750 and demolished in 1893 to make way for a London County Council Board School. Its demolition was the inspiration for the <i>Survey of London</i> project.</p>	MLO2363008 1036
57	<p>Set of tidal locks over the River Lee.</p>	MLO7299608 4434
58	<p>Line of Bazalgette's Northern Outfall Sewer.</p>	---
59	<p>Line of Bazalgette's Northern High Level Sewer.</p>	---

Table Q.4 List of drawings in order

Drawing title
Historic environment features map
Conservation areas map
Location plan
As existing site features plan (1 of 2)
As existing site features plan (2 of 2)
Site works parameter plan
Permanent works layout
Proposed site features plan
Section A-A
As existing and proposed south elevation
As existing and proposed west elevation
Construction phase 1: Site set-up and shaft construction
Construction phase 2: Other structures and secondary lining

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Key

- Limits of Land to be Acquired or Used
- Local Authority Boundary
- Heritage Feature/Findspot
- Heritage Feature
- Statutorily Listed Building
- Statutorily Listed Building
- Locally Listed Building
- Past Investigation
- Past Investigation Area
- Scheduled Monument
- Bazalgette sewer

The reference number for historic environment features correspond to the descriptions in the 'Gazetteer of known heritage assets' in Environmental Statement Vol. 25 Appendix E.1



Scale 1 : 6,000 at A3

FOR INFORMATION

Location

Abbey Mills Pumping Station
London Borough of Newham

Document Information

Heritage Statement

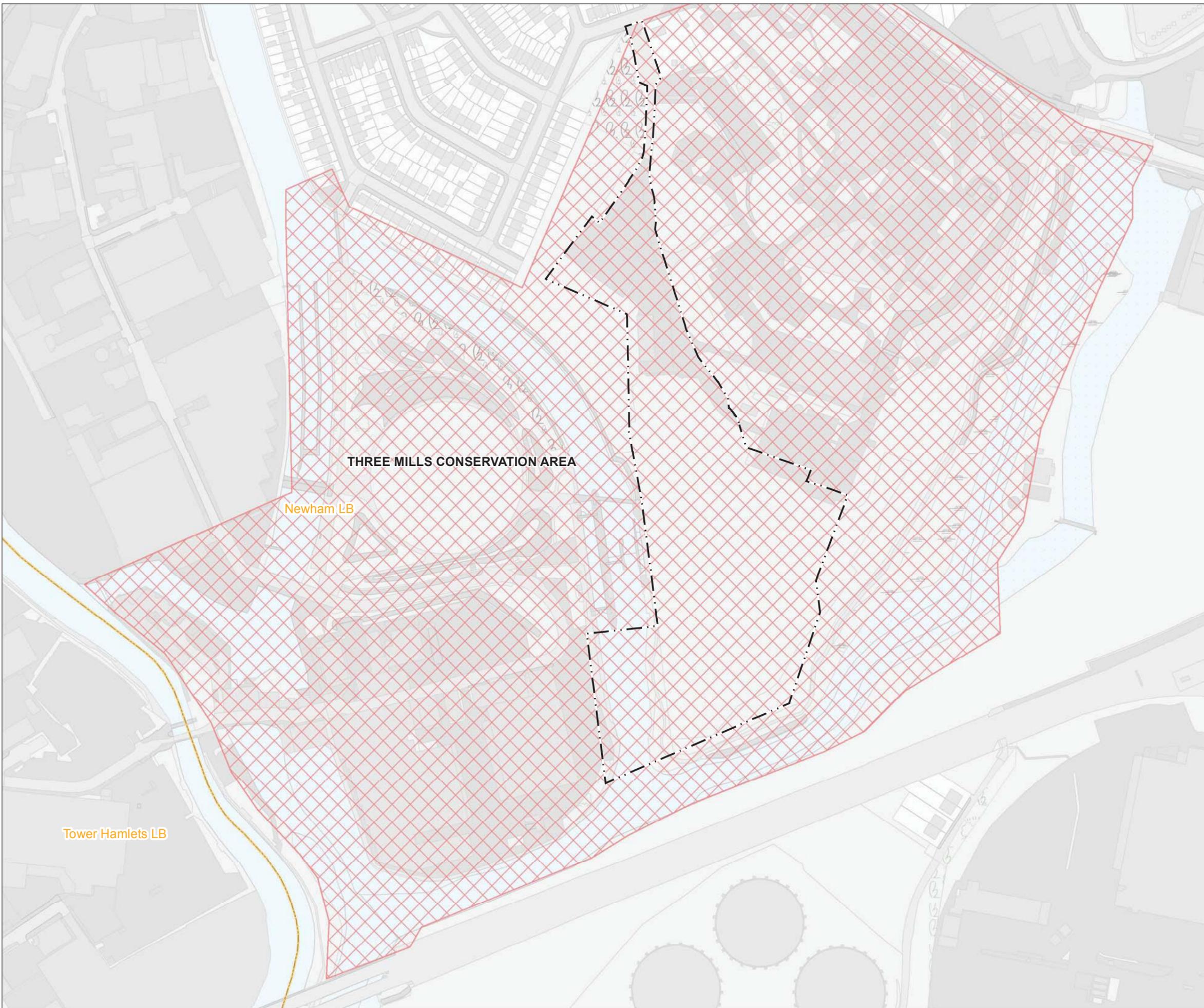
Historic environment features map

1PL03-HE-65217
January 2013

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- Key**
- Limits of Land to be Acquired or Used
 - Local Authority Boundary
 - Conservation Area



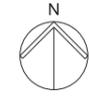
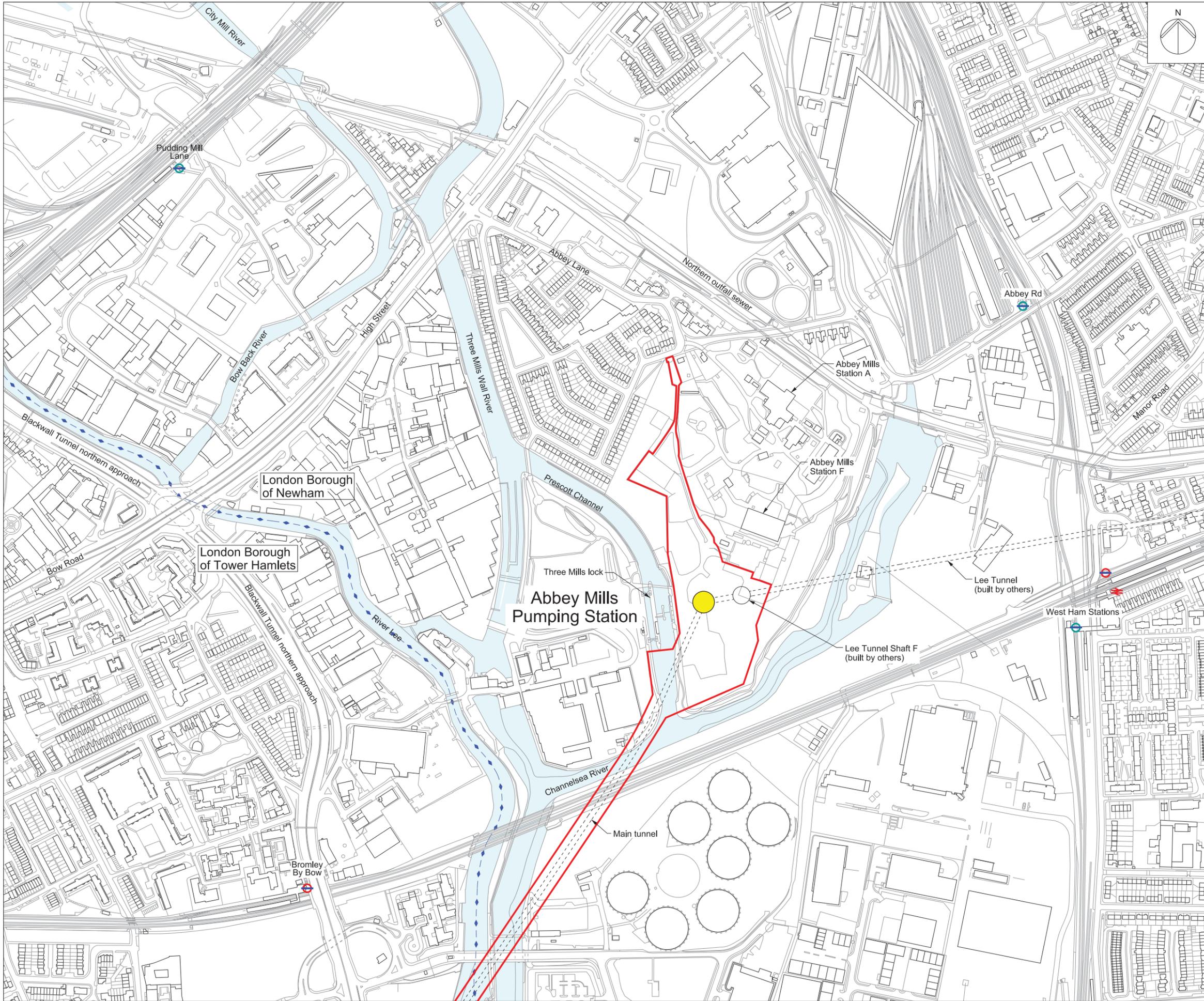
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Abbey Mills Pumping Station
London Borough of Newham

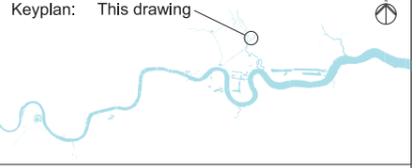
Document Information
Heritage Statement
Conservation areas map

PL03-HE-65234
January 2013





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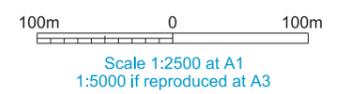


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

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

Notes:

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



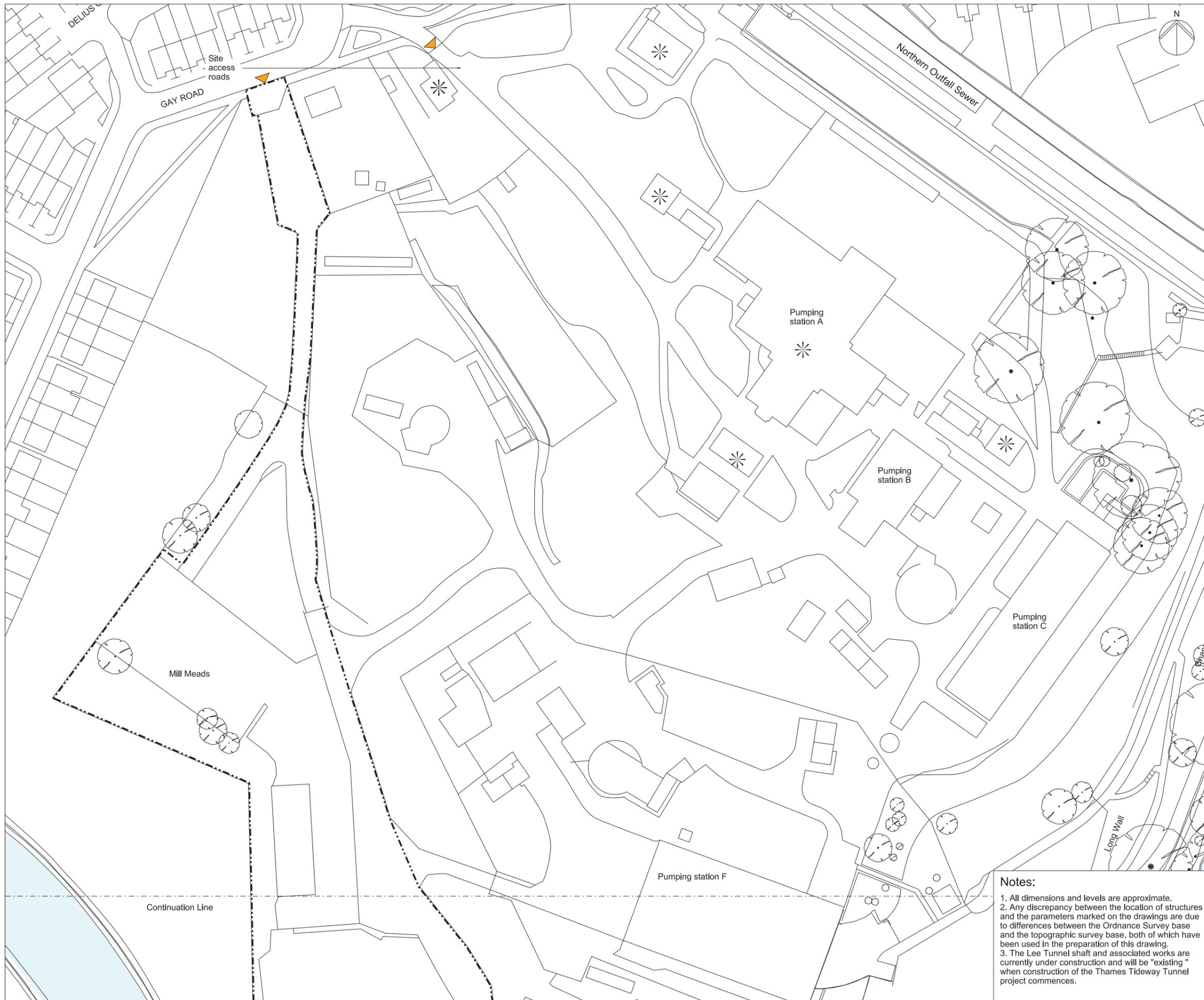
FOR INFORMATION

Location
 Abbey Mills Pumping Station
 London Borough of Newham

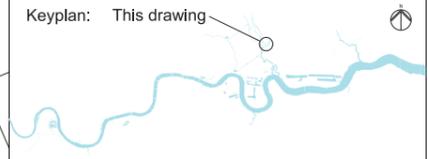
Document Information
 Application for Development Consent
 Location plan

Book of plans - section 27
 DCO-PP-26X-ABMPS-270001
 January 2013





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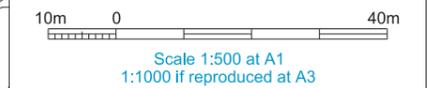


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - + 105.40m Existing levels (shown in metres above tunnel datum)
 - * Listed buildings/structures
 - ⊙ Existing trees within surveyed area (trunk sizes vary)
 - ▶ Thames Water access

Sheet Layout:

Sheet 1
2



FOR INFORMATION

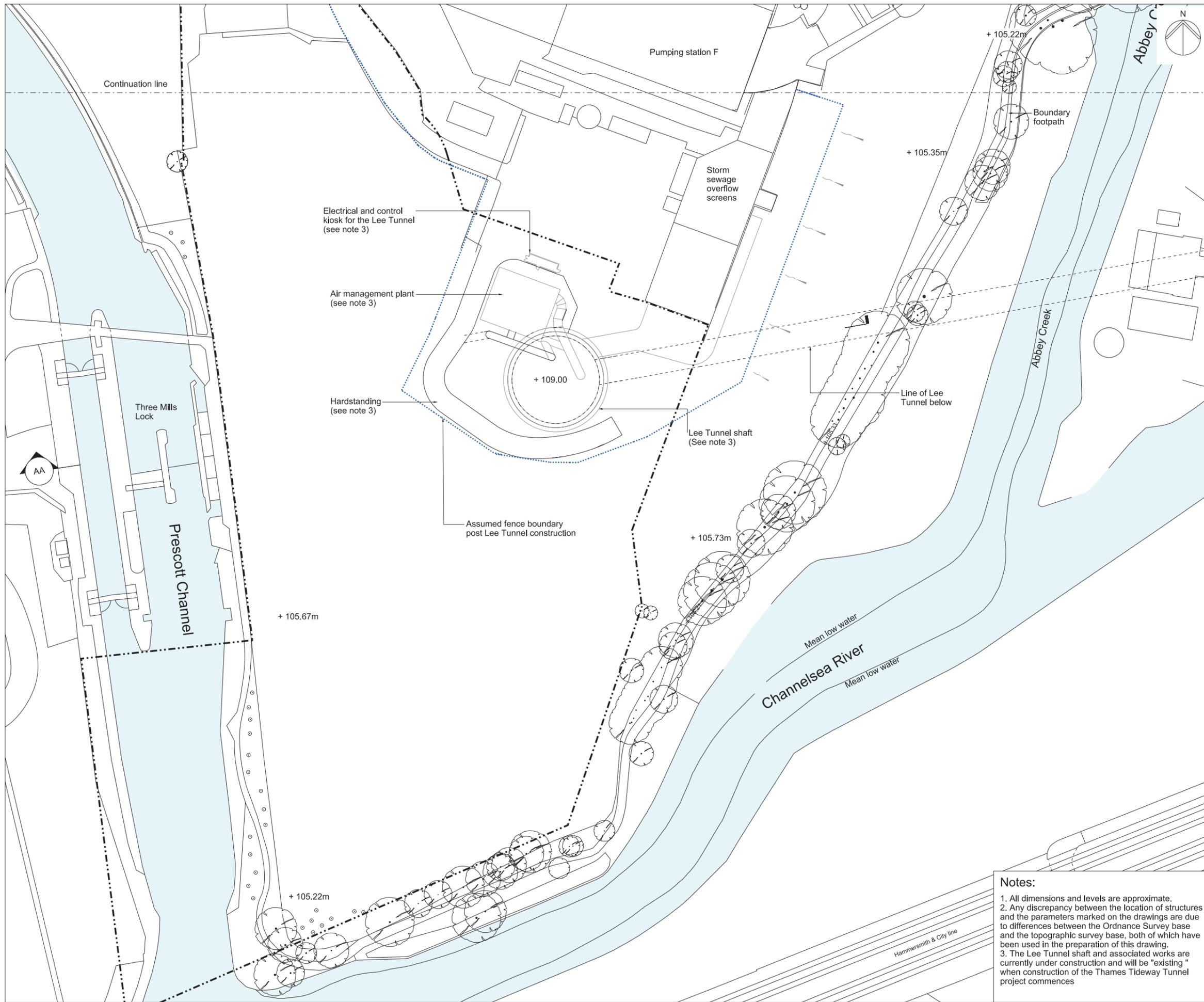
Location
Abbey Mills Pumping Station
 London Borough of Newham

Document Information
Application for Development Consent
 As existing
 Site features plan sheet 1 of 2
 Book of plans - section 27
 DCO-PP-26X-ABMPS-270002
 January 2013

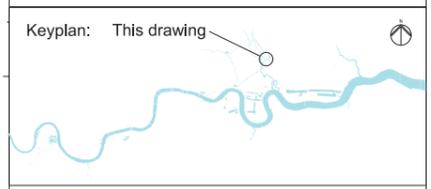
Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
3. The Lee Tunnel shaft and associated works are currently under construction and will be "existing" when construction of the Thames Tideway Tunnel project commences.



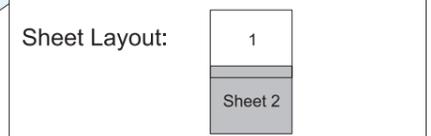


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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - + 105.40m Existing levels (shown in metres above tunnel datum)
 - ⊙ Existing trees within surveyed area (trunk sizes vary)



FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

Document Information
Application for Development Consent

As existing
 Site features plan sheet 2 of 2
 Book of plans - section 27
 DCO-PP-26X-ABMPS-270003
 January 2013



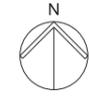
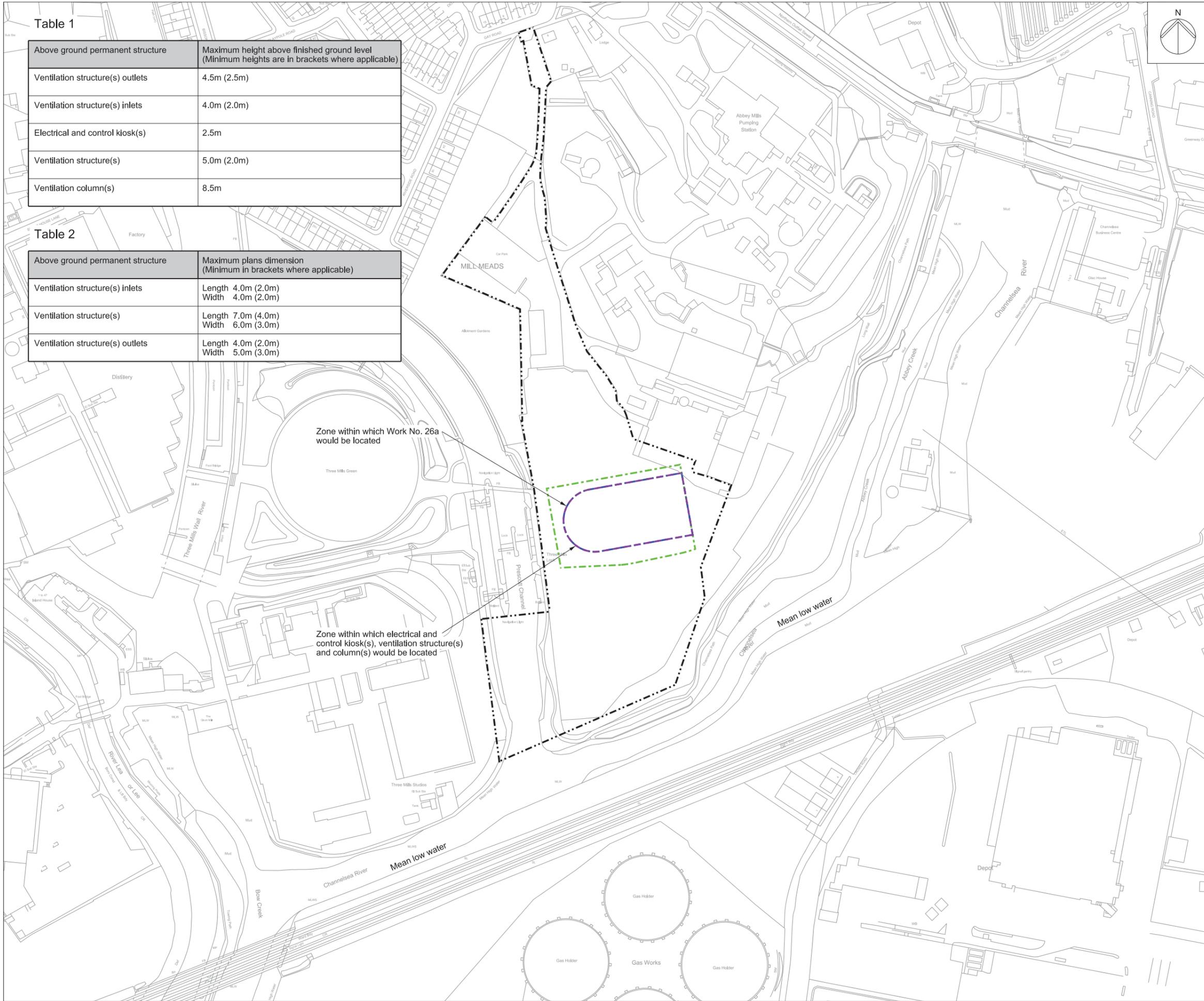
- Notes:**
- All dimensions and levels are approximate.
 - Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
 - The Lee Tunnel shaft and associated works are currently under construction and will be "existing" when construction of the Thames Tideway Tunnel project commences

Table 1

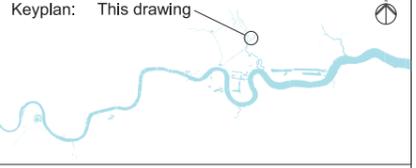
Above ground permanent structure	Maximum height above finished ground level (Minimum heights are in brackets where applicable)
Ventilation structure(s) outlets	4.5m (2.5m)
Ventilation structure(s) inlets	4.0m (2.0m)
Electrical and control kiosk(s)	2.5m
Ventilation structure(s)	5.0m (2.0m)
Ventilation column(s)	8.5m

Table 2

Above ground permanent structure	Maximum plans dimension (Minimum in brackets where applicable)
Ventilation structure(s) inlets	Length 4.0m (2.0m) Width 4.0m (2.0m)
Ventilation structure(s)	Length 7.0m (4.0m) Width 6.0m (3.0m)
Ventilation structure(s) outlets	Length 4.0m (2.0m) Width 5.0m (3.0m)



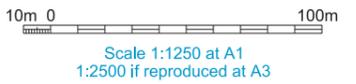
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located (those listed in Table 1)

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



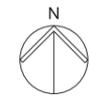
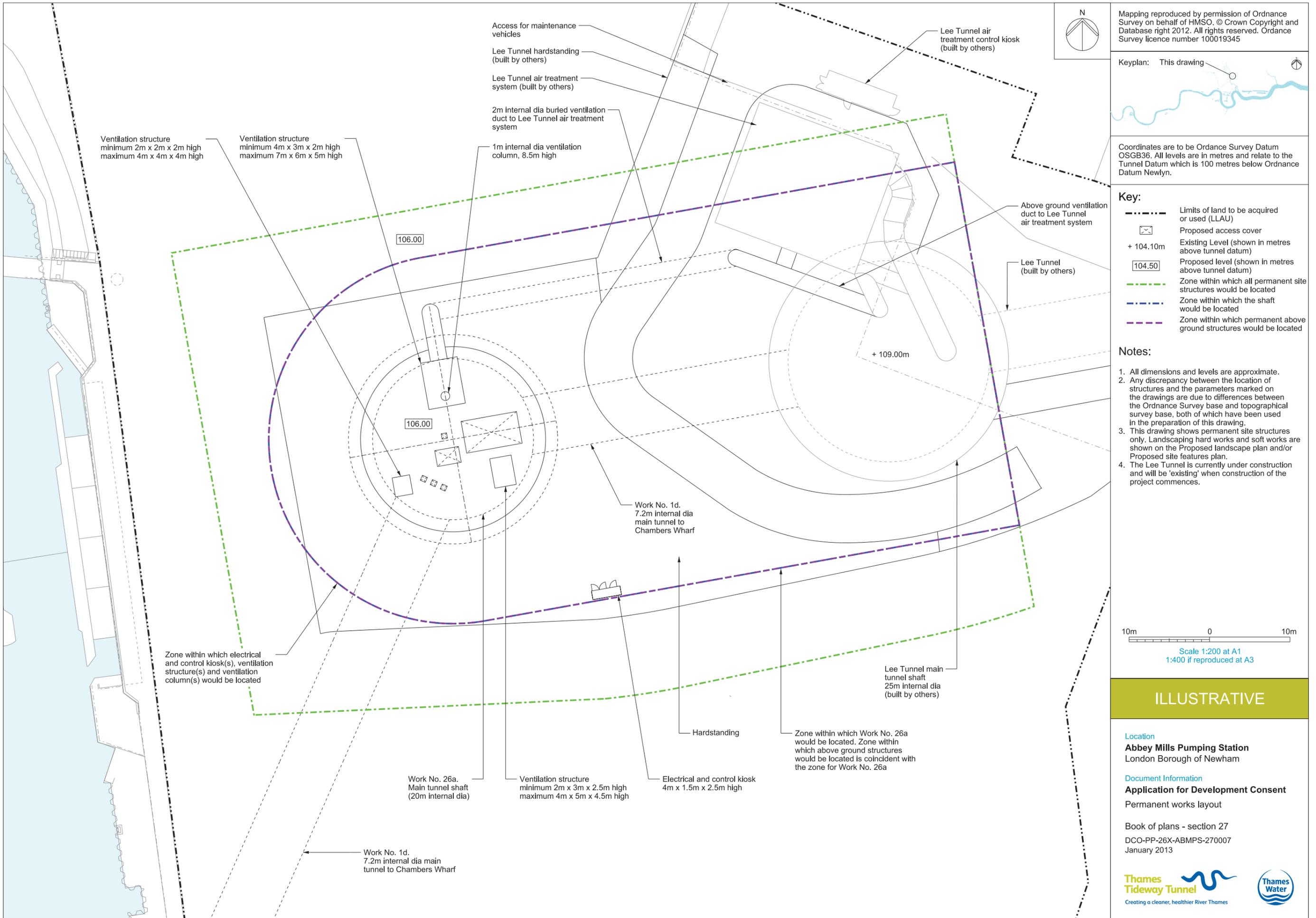
FOR APPROVAL

Location
Abbey Mills Pumping Station
London Borough of Newham

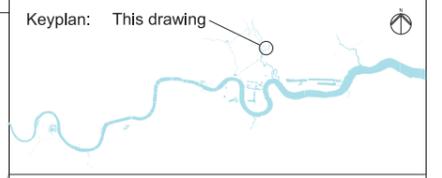
Document Information
Application for Development Consent
Site works parameter plan

Book of plans - section 27
DCO-PP-26X-ABMPS-270005
January 2013





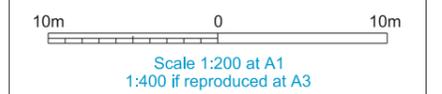
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - ☒ Proposed access cover
 - + 104.10m Existing Level (shown in metres above tunnel datum)
 - 104.50 Proposed level (shown in metres above tunnel datum)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located

- Notes:**
1. All dimensions and levels are approximate.
 2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and topographical survey base, both of which have been used in the preparation of this drawing.
 3. This drawing shows permanent site structures only. Landscaping hard works and soft works are shown on the Proposed landscape plan and/or Proposed site features plan.
 4. The Lee Tunnel is currently under construction and will be 'existing' when construction of the project commences.



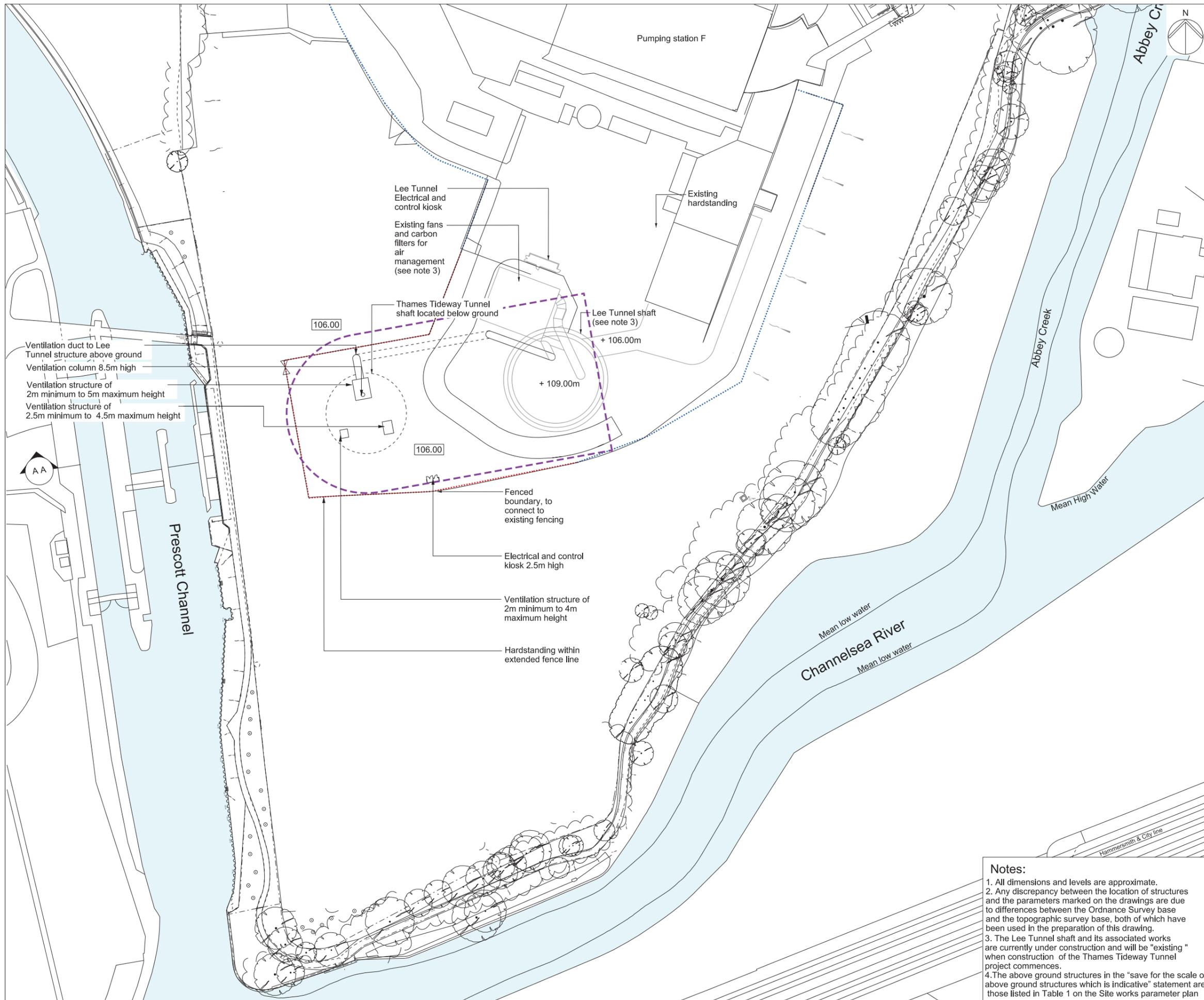
ILLUSTRATIVE

Location
Abbey Mills Pumping Station
London Borough of Newham

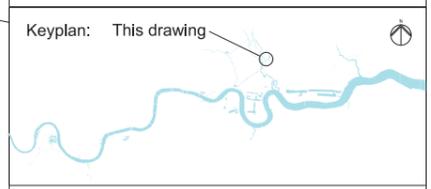
Document Information
Application for Development Consent
Permanent works layout

Book of plans - section 27
DCO-PP-26X-ABMPS-270007
January 2013





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

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Zone within which permanent above ground structures would be located
 - + 105.40m Existing levels (shown in metres above tunnel datum)
 - 105.40 Proposed levels (shown in metres above tunnel datum)
 - Existing trees within surveyed area (trunk sizes vary)
- Landscape key:**
- Existing fence boundary
 - New fence boundary
 - Gate



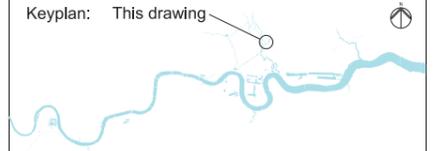
ILLUSTRATIVE
Save for the scale of above ground structures which is indicative

Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Proposed
Site features plan
Book of plans - section 27
DCO-PP-26X-ABMPS-270008
January 2013

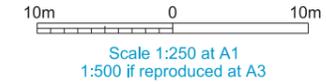
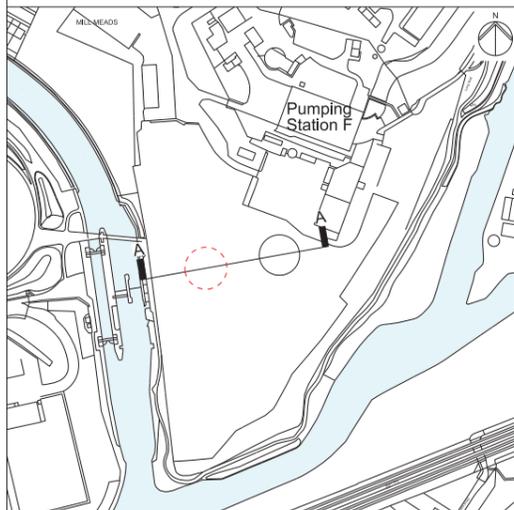
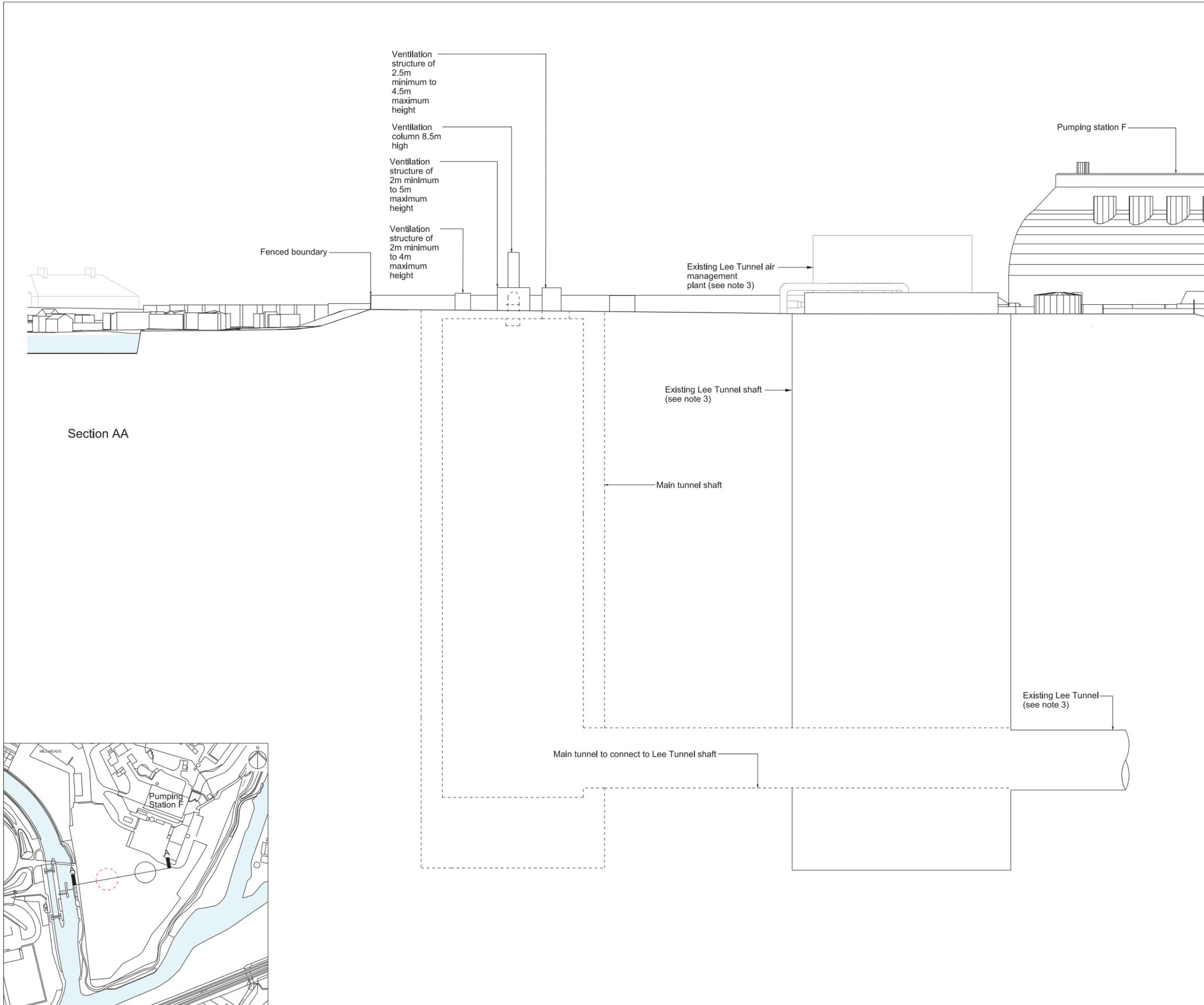


- Notes:**
- All dimensions and levels are approximate.
 - Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
 - The Lee Tunnel shaft and its associated works are currently under construction and will be "existing" when construction of the Thames Tideway Tunnel project commences.
 - The above ground structures in the "save for the scale of above ground structures which is indicative" statement are those listed in Table 1 on the Site works parameter plan.



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

- Notes:**
1. All dimensions and levels are approximate.
 2. The purpose of this section is to show the scale of the below ground infrastructure to be provided.
 3. The Lee Tunnel shaft and associated works are currently under construction and will be "existing" when construction of the Thames Tideway Tunnel project commences



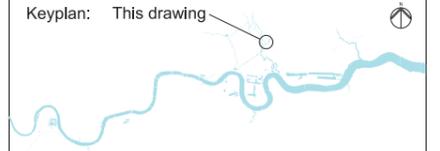
ILLUSTRATIVE

Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Section AA

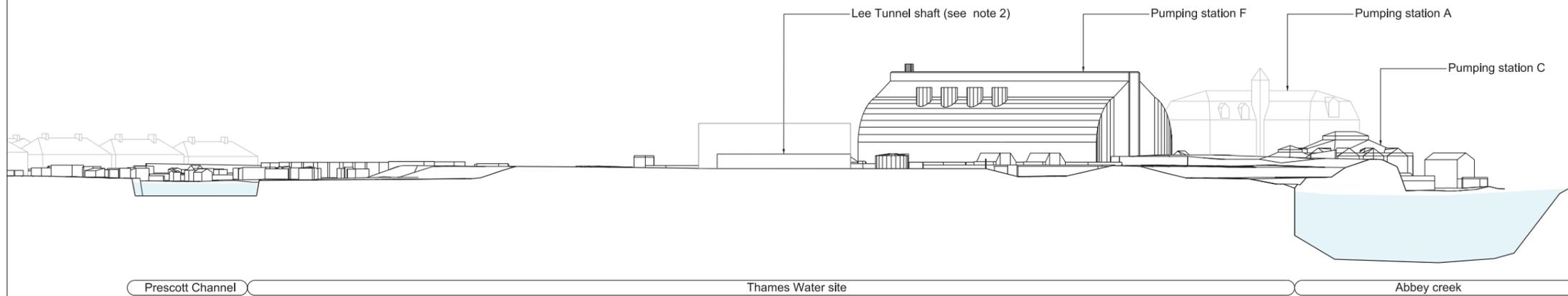
Book of plans - section 27
DCO-PP-26X-ABMPS-270009
January 2013



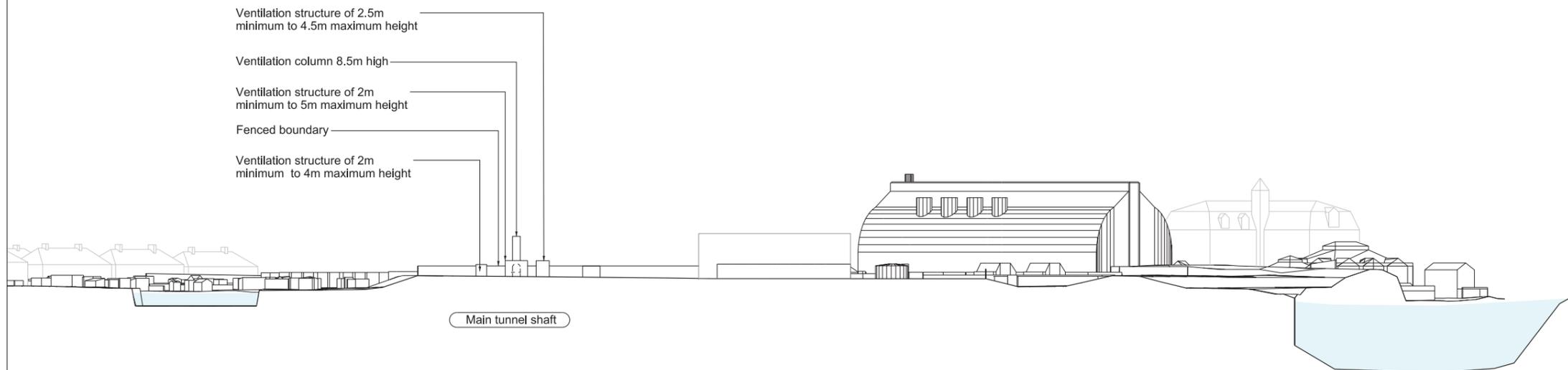


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Notes:**
1. All dimensions and levels are approximate.
 2. The Lee Tunnel shaft and associated works are currently under construction and will be "existing" when construction of the Thames Tideway Tunnel project commences



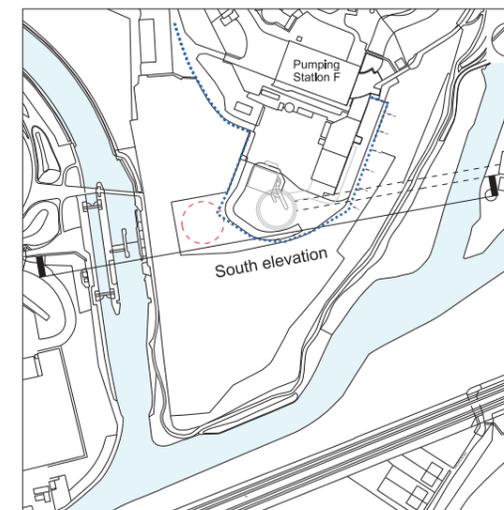
As existing South elevation



Proposed South elevation



ILLUSTRATIVE

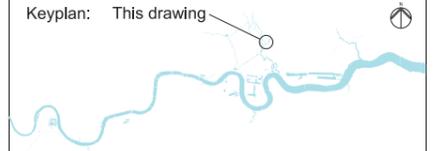


Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
As existing and proposed
South elevation
Book of plans - section 27
DCO-PP-26X-ABMPS-270010
January 2013



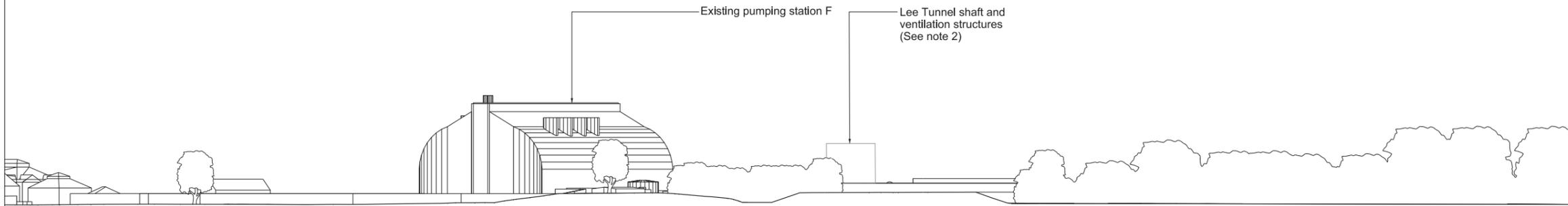
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

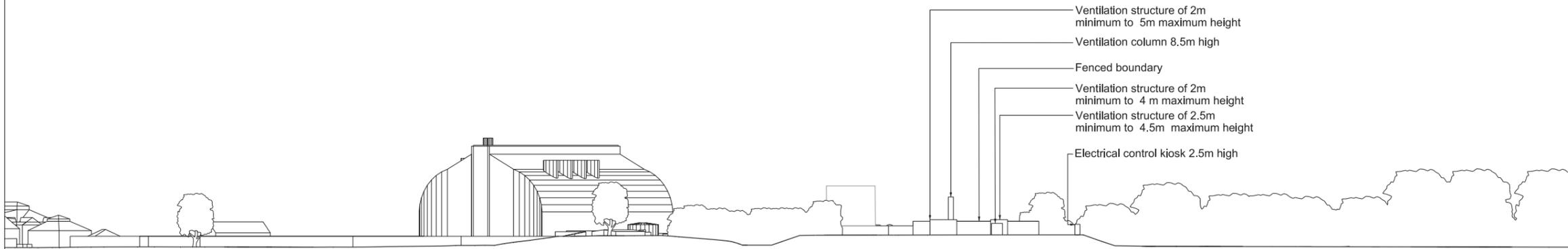
Notes:

1. All dimensions and levels are approximate.
2. The Lee Tunnel shaft and associated works are currently under construction and will be "existing" when construction of the Thames Tideway Tunnel project commences



Thames Water site

As existing West elevation



Main tunnel shaft

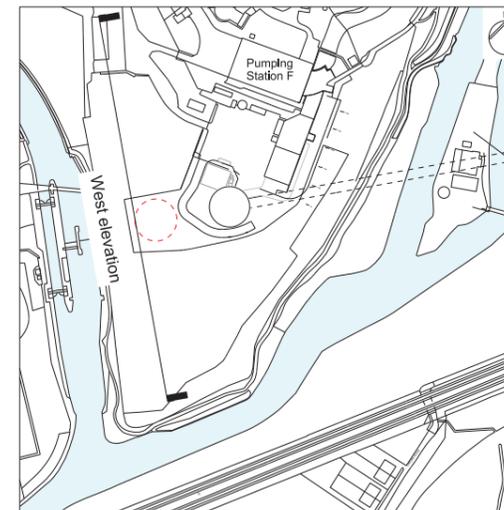
Proposed West elevation

- Ventilation structure of 2m minimum to 5m maximum height
- Ventilation column 8.5m high
- Fenced boundary
- Ventilation structure of 2m minimum to 4 m maximum height
- Ventilation structure of 2.5m minimum to 4.5m maximum height
- Electrical control kiosk 2.5m high



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

ILLUSTRATIVE



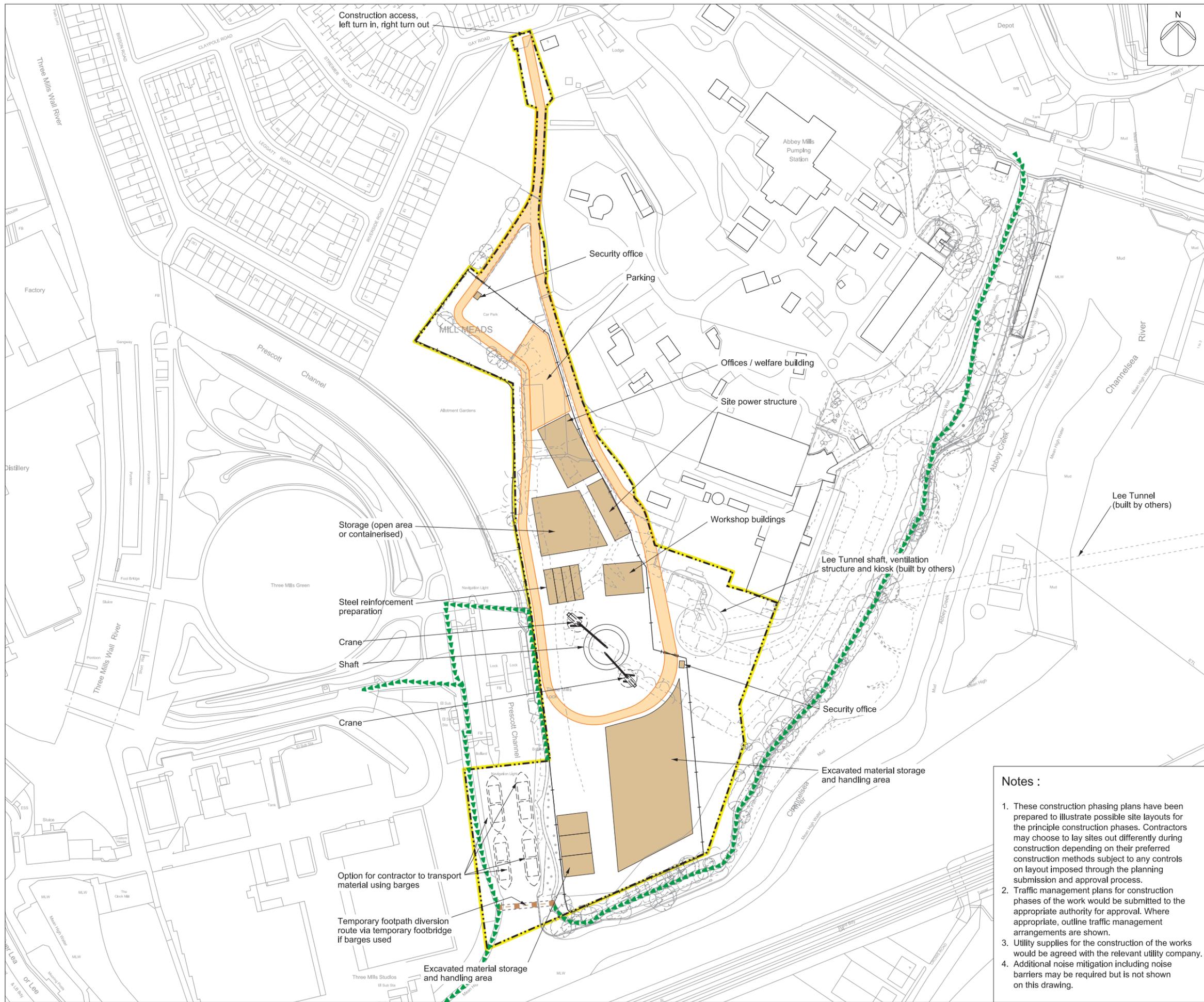
Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent

As existing and proposed
West elevation
Book of plans - section 27
DCO-PP-26X-ABMPS-270011
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames





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Keyplan: This drawing

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

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - ▶▶▶ Existing permissive right of way
 - - - Route of temporary diversion of right of way
 - ⊗ Site access
 - Access / haul route

10m 0 100m

Scale 1:1000 at A1
1:2000 if reproduced at A3

ILLUSTRATIVE

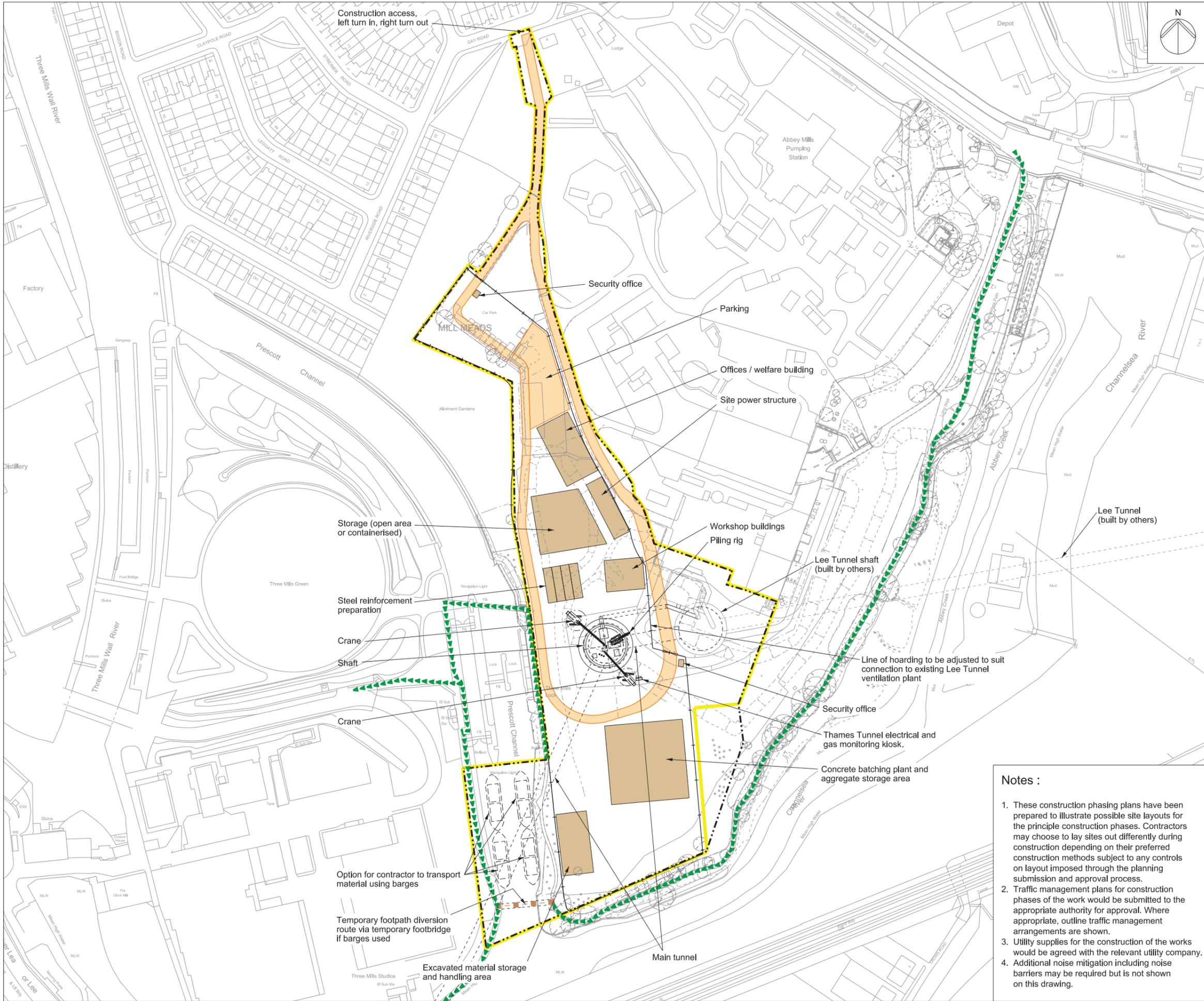
- Notes :**
- These construction phasing plans have been prepared to illustrate possible site layouts for the principle construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 - Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 - Utility supplies for the construction of the works would be agreed with the relevant utility company.
 - Additional noise mitigation including noise barriers may be required but is not shown on this drawing.

Location
Abbey Mills Pumping Station
London Borough of Newham

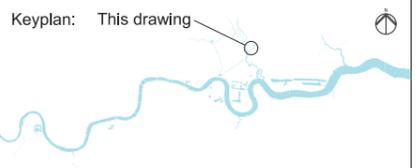
Document Information
Application for Development Consent
Construction phases - phase 1
Site setup and shaft construction
Book of plans - section 27
DCO-PP-26X-ABMPS-270012
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water



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

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - Existing permissive right of way
 - Route of temporary diversion of right of way
 - Site access
 - Access / haul route

10m 0 100m
 Scale 1:1000 at A1
 1:2000 if reproduced at A3

ILLUSTRATIVE

- Notes :**
- These construction phasing plans have been prepared to illustrate possible site layouts for the principle construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 - Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 - Utility supplies for the construction of the works would be agreed with the relevant utility company.
 - Additional noise mitigation including noise barriers may be required but is not shown on this drawing.

Location
 Abbey Mills Pumping Station
 London Borough of Newham

Document Information
 Application for Development Consent
 Construction phases - phase 2
 Other structures and secondary lining
 Book of plans - section 27
 DCO-PP-26X-ABMPS-270013
 January 2013

Thames Tideway Tunnel
 Creating a cleaner, healthier River Thames

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Thames Water Utilities Limited

Clearwater Court, Vastern Road, Reading RG1 8DB

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