

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Planning Statement

Doc Ref: **7.01**

Appendix Z

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

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Tideway Tunnel**



Creating a cleaner, healthier River Thames

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Thames Tideway Tunnel

Planning Statement

Appendix Z: Bekesbourne Street

List of contents

	Page number
Z.1 Introduction	1
Z.2 Site description	1
Z.3 Planning context	2
Z.4 Description of development	3
Overview	3
Application for development consent	3
Construction	4
Site set-up	5
Secant piling and chamber construction	5
Electrical and control kiosk construction	6
Completion of works and site restoration	6
Operation	6
Penstock and flap valve chamber	6
Ventilation structures.....	6
Electrical and control kiosk.....	7
Permanent restoration and landscaping.....	7
Access and movement.....	7
Typical maintenance regime	7
Scheme development	7
Z.5 Site-specific planning considerations.....	9
Meeting the need	9
Good design.....	10
New structures should be in keeping with the surroundings	11
Managing impacts of construction.....	12
Water resources and flood risk.....	12
Air quality, emissions, dust and odour.....	13
Biodiversity and geological conservation	14
Landscape and visual impacts	14
Land use including open space, green infrastructure and green belt.....	15

Noise and vibration	15
Historic environment	17
Light.....	17
Traffic and transport.....	17
Waste management.....	20
Socio-economic.....	20
Z.6 Overall conclusions.....	21
Annex Z: Drawings for Bekesbourne Street.....	23

List of figures

	Page number
Figure Z.1 Aerial photograph of Bekesbourne Street	2
Figure Z.2 Visualisation of Bekesbourne Street north towards Ratcliffe Lane	12
Figure Z.3 Estimated construction lorry profile	19

List of tables

	Page number
Table Z.1 Bekesbourne Street: Drawings that define the proposed development.....	3

Appendix Z: Bekesbourne Street

Z.1 Introduction

- Z.1.1 In an average year the Holloway Storm Relief combined sewer overflow (CSO) discharges 7,900m³ of untreated sewage into the tidal Thames at London Wharf, Limehouse. On the basis that litter tonnages are proportional to discharge volumes, approximately two tonnes of sewage derived litter is also discharged from this CSO in an average year.
- Z.1.2 A worksite is required to control the Holloway Storm Relief CSO and divert flows into the northern Low Level Sewer No.1. These works would avoid the need to connect the CSO to the main tunnel. The proposed development site is known as Bekesbourne Street, which is located in the London Borough of Tower Hamlets. The location of the site is illustrated in Annex Z.
- Z.1.3 This assessment is structured as follows:
- a. Section Z.2 provides a brief description of the Bekesbourne Street site.
 - b. Section Z.3 sets out the planning context for works in this location.
 - c. Section Z.4 describes the site-specific development for which consent is sought and how the proposals evolved through consultation.
 - d. Section Z.5 provides an analysis of the principal site-specific planning considerations and how the proposals comply with relevant planning policy.
 - e. Section Z.6 provides an overall conclusion of the site-specific assessment for the proposed works at this site.

Z.2 Site description

- Z.2.1 The site itself comprises a section of Bekesbourne Street and its junction with Ratcliffe Lane.
- Z.2.2 The site is bounded to the north by Limehouse Station and the Docklands Light Railway, to the east by John Scurr House (a six-storey block of flats), and to the south and west by three to four-storey residential blocks of flats and the John Scurr Community Centre. A photograph of the site is provided in Figure Z.1 overleaf.
- Z.2.3 The area to the north beyond the Docklands Light Railway line is residential. Limehouse Basin lies to the east. To the south are predominantly residential properties dispersed with some commercial uses and the tidal Thames beyond. St James's Gardens lie to the southwest. The area to the west comprises mixed residential, commercial and cultural uses. The Location plan in Annex Z provides further detail of the site and its context.

Figure Z.1 Aerial photograph of Bokesbourne Street



Z.3 Planning context

- Z.3.1 In developing the proposals and mitigation measures for the development at Bokesbourne Street, Thames Water¹ had regard to the policies set out in the National Planning Statement for Waste Water (the 'NPS') and to local development plan designations where relevant to the application.
- Z.3.2 In this case, the local development plan comprises the *London Plan* (2011), the London Borough of Tower Hamlets' *Core Strategy* (April 2012), saved policies from the council's *Unitary Development Plan* (2007) and saved policies from the council's *Core Strategy and Development Control Plan Interim Planning Guidance* (2007).
- Z.3.3 The council has also submitted a draft *Development Management Development Plan Document* (Submission) for examination. Once adopted, this document will replace the saved policies from the *Unitary Development Plan* and Interim Planning Guidance. It is expected to be adopted in early 2013.
- Z.3.4 Policy SP04 in the *Core Strategy* provides the council's explicit support for the development of the project, and associated storm relief connections.
- Z.3.5 The northern part of the site, including the northern half of Ratcliffe Lane and the Limehouse Docklands Light Railway Station, falls within the York Square Conservation Area. This designation protects the architectural integrity of Mercer's Estate and the concentration of diverse historic

¹ Thames Water Utilities Ltd (TWUL). The Draft Development Consent Order (DCO) contains an ability for TWUL to transfer powers to an Infrastructure Provider (as defined in article 2(1) of the DCO) and/or, with the consent of the Secretary of State, another body

buildings around Commercial Road and along Butcher Row. The site does not contain any nationally designated heritage assets.

- Z.3.6 There are no tree preservation orders in effect within or adjacent to the site although any trees located beyond Ratcliffe Lane within the conservation area would be indirectly protected.
- Z.3.7 The London Borough of Tower Hamlets has been designated as an air quality management area, declared for nitrogen dioxide (NO₂) and particulate matter (PM10).
- Z.3.8 The site lies within the low probability flood risk zone, Flood Zone 1 (less than 1 in 1,000 flood year event).
- Z.3.9 No notable planning applications relevant to the site have been submitted within the last five years.

Z.4 Description of development

Overview

- Z.4.1 The proposed development at Bekesbourne Street would control the existing Holloway Storm Relief CSO. A penstock and flap valve chamber would be constructed to allow the introduction of a control gate within the sewer which would appropriately divert flows when required to control the CSO. The flows from the Holloway Storm Relief CSO would be diverted to the northern Low Level Sewer No.1 and transferred to Beckton Sewage Treatment Works for treatment, via the existing sewerage system. The extent of development is detailed in the Site works parameter plans in the *Book of Plans*.

Application for development consent

- Z.4.2 The geographic extent of the proposals for which development consent is sought, is defined by the limits of land to be acquired or used.
- Z.4.3 Table Z.1 sets out those elements of the project for which consent is sought and are considered in this assessment.

Table Z.1 Bekesbourne Street: Drawings that define the proposed development

Drawing title	Status	Location
Proposed schedule of works	For approval	Schedule 1 to the <i>Draft Thames Water Utilities Limited (Thames Tideway Tunnel) Development Consent Order (the 'Draft DCO')</i>
Access plan	For approval	<i>Book of Plans</i> , Section 26
Demolition and site clearance plan	For approval	<i>Book of Plans</i> , Section 26
Site works parameter plan	For approval	<i>Book of Plans</i> , Section 26
Permanent works layout plan	Illustrative	<i>Book of Plans</i> , Section 26
Proposed landscape plan	Illustrative except the above ground	<i>Book of Plans</i> , Section 26

Drawing title	Status	Location
	structures which is indicative	
Kiosk design intent	Illustrative except the kiosk which is indicative	<i>Book of Plans</i> , Section 26
Construction phases plan	Illustrative	<i>Book of Plans</i> , Section 26
Highway layout during construction (phases)	Illustrative	Transport Assessment Bekesbourne Street Figures
Permanent highway layout (phases)	Illustrative	Transport Assessment Bekesbourne Street Figures

Z.4.4 The proposed structures and works at this site do not fall under the Nationally Significant Infrastructure Project. However they are considered ‘associated development (Work No. 25)’. These include “*works to modify the existing sewer including a chamber to allow introduction of hydraulic structures within the sewer, installation of an electrical and control kiosk and ventilation column including provision of ducts, including construction of pits, chambers, ducts and pipes for cables, hydraulic pipelines, utility connections, utility diversions and drainage*”.

Z.4.5 The full description of the proposed development is provided in the *Draft DCO*. Further details of temporary construction works and permanent operational structures are contained below and an extended description are also provided in the *Environmental Statement* (Vol 27).

Construction

Z.4.6 Construction would take approximately seven months. The site is not connected to the main tunnel and subsequently the works required are of a more minor nature which significantly reduces the construction period.

Z.4.7 Connection of utilities and diversion of utilities may be conducted in advance of the main activities.

Z.4.8 This site would operate to the standard working hours for all phases and activities as set out in the *CoCP* Part A and B (Section 4).

Z.4.9 Construction traffic would access the site from Commercial Road (A13) turning into Branch Road (A101), right into Ratcliffe Lane and left into Bekesbourne Street. Traffic leaving the site would turn left into Ratcliffe Lane and into Butcher Row (A126).

Z.4.10 Suspension of parking bays and parking restrictions would be required on Bekesbourne Street and Ratcliffe Lane during construction and traffic management would be required on Bekesbourne Street to divert vehicles around the construction area.

Z.4.11 It is anticipated that an average of two heavy goods vehicles (HGVs) would access the site per day for the majority of the construction period. This would rise to approximately five HGVs per day over an estimated one month period during the construction of the underground chambers. There

may be additional periods during key construction activities when these HGV numbers would need to be exceeded. Further details regarding the number and breakdown of anticipated HGVs accessing the site per day is contained within the *Transport Assessment*.

- Z.4.12 Illustrative layouts of the construction site are shown on the construction phasing plan provided in Annex Z. It should be noted that these layouts are illustrative only. The contractor may arrange the site in a different way, depending on the chosen construction method, provided that any environmental effects are appropriately managed.

Site set-up

- Z.4.13 Eight trees along Bekesbourne Street would require removal in advance of the works. Also some existing CCTV installations and lampposts would need to be temporarily relocated for the period of the works.
- Z.4.14 Prior to main construction works commencing, the site boundary would be established and would consist of close boarded hoarding panels to the heights specified in the *CoCP*. Welfare and office facilities would also be set up with utility and power connections installed.
- Z.4.15 It is not anticipated that any land remediation would be required at this site.
- Z.4.16 Parking bays on both sides of Bekesbourne Street would be suspended for the duration of the works and bollards removed.
- Z.4.17 Prior to piling works, internal strengthening would be undertaken to the existing sewer.

Secant piling and chamber construction

- Z.4.18 It is assumed that the penstock and flap valve chamber would be constructed as an in situ concrete chamber within a secant piled excavation. This would allow the structure to be constructed in two phases with the carriageway being realigned half way through the works.
- Z.4.19 The road surface would be broken out and the ground excavated for the guide walls to a depth of approximately 1.5m. The secant piles would then be excavated and concreted in two phases.
- Z.4.20 When all the piled walls had been completed (under the second phase of traffic management) excavation would commence.
- Z.4.21 The material would be excavated and the material loaded direct to a road skip. Works would be undertaken using tracked excavator with a long reach arm.
- Z.4.22 A capping beam may be cast to tie the top of the secant piles or an internal waling would be installed. During the excavation phase additional internal temporary walings and struts would be installed ensuring that the toes of the piles above the sewer are restrained.
- Z.4.23 Excavation would proceed and the top of the sewer would be broken out as work proceeds. Temporary ground support would be provided to the exposed ground around the sewer. Works would be undertaken with a

small excavator in the shaft or by hand, supported by an attendant crane at the surface.

Z.4.24 Once fully excavated, the base concrete would be cast using a crane and a skip, followed by concreting of the chamber walls and internal structure.

Z.4.25 The penstock and flap valves would be installed by crane followed by intermediate landings and ladder ways.

Z.4.26 The top of the shaft would then be removed down to cover slab level and the reinforced concrete roof slab would be constructed *in situ*. Manholes would then be built up to ground level and the road reinstated.

Z.4.27 The ventilation duct would then be constructed from the penstock and flap valve chamber to the ventilation column and a short length of duct from the existing sewerage system to the ventilation column.

Electrical and control kiosk construction

Z.4.28 Once the main underground structures are complete, the main construction compound would be removed and Bekesbourne Street would be re-opened to traffic.

Z.4.29 The electrical and control kiosk and adjacent sections of ducts would then be constructed within a temporary open mesh fence compound in the area of parking spaces on the west side of Bekesbourne Street as part of a third construction phase.

Z.4.30 A cast *in situ* concrete base would be prepared and then the kiosk components would be delivered by road and assembled on-site using suitable lifting equipment.

Completion of works and site restoration

Z.4.31 On completion of the construction works the permanent works area would be finished in accordance with the landscaping requirements.

Operation

Penstock and flap valve chamber

Z.4.32 The penstock and flap valve chamber would sit below ground and would be constructed on the line of the Holloway Storm Relief Sewer to the southern end of the site. The chamber would be approximately 5m x 4.6m x 8m deep and would house the weir, penstock and flap valve. A number of large and small ground level access covers would be incorporated on the top of the chamber for inspection and maintenance purposes. The larger covers would be used for the installation and removal of the penstock gates and flap valves whilst the smaller ones would facilitate general maintenance activities.

Ventilation structures

Z.4.33 A ventilation column with an internal diameter of 0.225m and up to 6m high is proposed to the northwest of the site to ventilate the penstock and flap valve chamber. The column would be located on the northeastern corner of Ratcliffe Lane and Bekesbourne Street.

- Z.4.34 The ventilation column would be connected to the penstock and flap valve chamber via a ventilation duct and would draw air into the sewer. It would only release air when the chamber is drowned.

Electrical and control kiosk

- Z.4.35 The electrical and control kiosk proposed is approximately 5m in length, 2m in width and 2.5m in height and is located to the southwest of the site. The kiosk would contain gas monitors, electrical and control panels and metering equipment.

Permanent restoration and landscaping

- Z.4.36 Once the works described above are complete, the site would be reinstated in accordance with the proposed landscape plan in the *Book of Plans*.

Access and movement

- Z.4.37 The existing pedestrian and vehicle access to the site is via Ratcliffe Lane and Bekesbourne Street.

- Z.4.38 Access to the penstock and flap valve chamber and ventilation column would be via the existing highway network.

- Z.4.39 Access covers would be finished at ground level.

Typical maintenance regime

- Z.4.40 Once the project is operational, it is anticipated that Thames Water personnel would visit the site approximately every three to six months to carry out inspections of the penstock and flap valve chamber, ventilation column and electrical and control kiosk. It is likely that this would involve a visit by staff in a small van. Staff would open access covers to inspect and carry out minor maintenance of below-ground equipment.

- Z.4.41 Should cleaning be required, a jetting lorry would be brought to the site to undertake work via the appropriate ground-level access cover.

- Z.4.42 It is anticipated that once every ten years large access covers in Bekesbourne Street would be accessed for major maintenance of the flap valve and penstock and this would require a temporary road closure of Bekesbourne Street.

Scheme development

- Z.4.43 Proposals to control the Holloway Storm relief CSO were subject to over two years of consultation and public engagement. Consultation was undertaken using a variety of methods including phase one consultation, a phase of interim engagement, phase two consultation, and a period of pre-application publicity. Throughout this period the scheme evolved in response to consultation, through engagement with key stakeholders, and through on-going design development. The *Consultation Report*, which accompanies the application, contains detailed information on the consultation process.

- Z.4.44 Works at Bekesbourne Street were not presented at phase one consultation which was held between September 2012 and January 2011. At this time it was proposed to connect the Holloway Storm Relief CSO to

- the main tunnel utilising land off Butchers Row for a construction site and to accommodate the permanent works.
- Z.4.45 At phase one consultation comments were received concerning the use of Butchers Row. These were reviewed along with feedback from on-going stakeholder consultation, new information and outcomes of further technical work. The site selection options and the tunnelling strategy were also reviewed.
- Z.4.46 Prior to phase two consultation further technical work and engineering development identified capacity in the northern Low Level Sewer No. 1 and as such storm flows from the Holloway Storm Relief Sewer could be diverted to utilise this capacity and avoid the need for the CSO to be connected to the main tunnel. While the Butchers Row site was judged suitable for the full CSO interception and works to connect the CSO to the main tunnel this would have resulted in a larger construction site, a more complex engineering solution, a longer construction period, more substantial permanent above ground structures and additional disturbance during construction.
- Z.4.47 Following an extensive site selection back check exercise and review of the principle issues it was determined that Bekesbourne Street should become the preferred site at phase two consultation for the following reasons:
- a. The site is appropriately located to undertake the required engineering works as the Holloway Storm Relief CSO runs south under Bekesbourne Street.
 - b. The minor above ground works required are of a scale and form that can easily be integrated into the existing public realm.
 - c. The scale of the proposed works required at Bekesbourne Street is much less than that proposed at Butchers Row which involved connecting the CSO to the main tunnel.
 - d. The limited works required at Bekesbourne Street result in a shorter construction period and would accordingly reduce construction impacts.
- Z.4.48 Part of the phase two consultation programme included drop-in sessions held at the John Scurr Community Centre in Bekesbourne Street on 5, 6 and 7 December 2011.
- Z.4.49 Following phase two consultation, the comments received were again considered and further design development was undertaken. There was only limited feedback to consider with a total of seven comments including three comments in support of the proposals. English Heritage commented that it was unlikely that the proposals would have an impact on the setting of adjacent heritage assets and the London Borough of Tower Hamlets was supportive of the use of the site. Given the minor nature of the works and the feedback outlined above it was decided that Bekesbourne Street should remain the preferred site.
- Z.4.50 The key design presented at phase two consultation showed the main elements which included a below ground penstock and flap valve chamber

and an electrical and control kiosk to the south of the site and a small diameter ventilation column up to 6m high the north of the site.

- Z.4.51 The principal issues that arose from pre-application consultation and Section 48 publicity for Bekesbourne Street are identified below. These are subsequently addressed in the planning assessment in Section Z.6 which follows:
- a. Objection to the proposed use of the site: The reasons for selecting the proposed site are flawed and questionable. This issue is addressed in the Meeting the need subsection below.
 - b. Concern about amenity impacts arising from construction: This issue is addressed in the Air quality, emissions, dust and odour, Noise and vibration, Landscape and visual (including townscape) and Artificial light subsections below.
 - c. The effect of disruption from construction traffic on pedestrian safety and the loss of parking: This issue is addressed in the Traffic and transport subsection below.

Z.5 Site-specific planning considerations

- Z.5.1 This section provides an analysis of the key planning considerations associated with the proposed works at Bekesbourne Street. It considers the issues and factors identified in the NPS and other issues such as amenity effects and traffic which arose from consultation and are relevant to the site. The design response to each of these issues was informed by extensive consultation with stakeholders, as set out in the *Consultation Report*, and detailed below.

Meeting the need

- Z.5.2 The proposed works at Bekesbourne Street would be successful in meeting the need to control the Holloway Storm Relief CSO, and would make an important contribution to meeting the wider need for the project identified in the NPS.
- Z.5.3 Currently, in an average year, the Holloway Storm Relief Sewer CSO discharges approximately 7,900 m³ of untreated sewage into the tidal Thames to the south of the site at London Wharf, Limehouse. The CSO discharges approximately nine times a year, and releases two tonnes of sewage derived litter.
- Z.5.4 The CSO was identified by the Environment Agency as requiring control. The CSO discharges have multiple impacts on water quality in this location, including a localised effect of rapidly dropping dissolved oxygen levels, the release of pollutants and the discharge of sewage derived litter and effluent.
- Z.5.5 It is predicted that the CSO discharges will continue to worsen both in terms of volume, frequency and content. By the time the proposed works at Bekesbourne Street are ready to become operational the CSO is predicted to discharge, in an average year, approximately 8500m³ of

untreated sewage, discharging approximately 10 times a year and continuing to release approximately two tonnes of sewage derived litter.

- Z.5.6 Modelling suggests with the project in operation and the proposed works at Bekesbourne Street in operation the discharges of untreated sewage in an average year would be reduced to 7000m³ with only two spills per year predicted. Sewage derived litter would be reduced to 1.8 tonnes. This reduction, particularly in relation to the number of spills, would have a beneficial effect on water quality.
- Z.5.7 The key challenges in selecting the preferred site is the constrained location of the CSO which runs south beneath Bekesbourne Street towards the tidal Thames and the high density of development along its alignment which limits the availability of suitable sites that could be used to intercept the CSO.
- Z.5.8 The proposed site was selected and tested through a robust, qualitative, and iterative site selection process, and was subject to over two years of extensive consultation and engagement. The site selection methodology used to select the site was subject to consultation with local authorities and key stakeholders, and received the endorsement of all parties.
- Z.5.9 No alternative sites were put forward by stakeholders and the extensive site selection process did not identify any alternative sites that would be more suitable for the works that are required.
- Z.5.10 Overall it is considered that the specific need for the works proposed at Bekesbourne Street is justified, the site is wholly appropriate to accommodate construction of the required infrastructure and that the need for the proposed works is consistent with the NPS and *London Plan* Policy 5.14.

Good design

- Z.5.11 The amount, layout and scale of the proposed structures are primarily dictated by the function they need to perform. At this site key functional considerations would be diverting CSO flows from the Holloway Storm Relief CSO into the Low Level Sewer No. 1. Furthermore the design needs to facilitate routine maintenance of plant and comply with health and safety legislation.
- Z.5.12 The proposed electrical and control kiosk and a ventilation column would be the only permanent above ground elements. These structures are a product of the function they need to perform in venting the penstock and flapvalve chamber and housing electrical and control equipment required for operation of the infrastructure. Ground level access covers are proposed and all other infrastructure would be located below ground.
- Z.5.13 The design of the proposals for the site evolved through one round of consultation and continued engagement with key stakeholders. The detail of the consultation process for the site is reported in the *Consultation Report* and the *Design and Access Statement*, which accompanies the application.
- Z.5.14 The principal issues that influenced design at Bekesbourne Street arising from Thames Water's analysis of site opportunities and constraints were:

- a. New structures should be in keeping with the streetscape and surroundings
- b. Construction impacts should be managed.

New structures should be in keeping with the surroundings

- Z.5.15 A key design aspiration for developing the proposals at this site was to ensure the new elements introduced to the streetscape are in keeping with their surroundings and do not unreasonably add to visual clutter or adversely affect visual amenity within the streetscape.
- Z.5.16 The design of the proposals was influenced by a process of stakeholder engagement and design review to ensure designs are not only functional and durable, but are of an acceptable scale, layout and quality for the position in which they are sited.
- Z.5.17 The designs proposed ensure that the majority of the works are located below ground and any above ground structures are minimised to ensure that the public realm would remain open and uncluttered.
- Z.5.18 The electrical and control kiosk proposed is approximately 5m in length, 2m in width and 2.5m in height and is located to the southwest of the site, adjacent to an existing high brick wall. The siting would require removal of two car parking spaces from the formal avenue of parking provided along this side of Bekesbourne Street. The kiosk structure would be of a basic brick construction with the brick selected to match the abutting wall. Trees, planting and car parking along Bekesbourne Street would also serve to partially screen the kiosk from some views along Bekesbourne Street. As such it is considered that the structure would sit comfortably within the public realm.
- Z.5.19 The number and size of the ventilation columns is determined by the ventilation requirements for the site. At Bekesbourne Street the ventilation column proposed would be up to 6m in height with an internal diameter of approximately 0.225m. The location is to the northeastern corner of the site where a structure of this height and minimal width can comfortably sit within the streetscape without adding unnecessary clutter.

Figure Z.2 Visualisation of Bekesbourne Street north towards Ratcliffe Lane



Managing impacts of construction

- Z.5.20 The *CoCP* sets out how the environmental effects resulting from the construction of the project would be managed. The Draft DCO includes requirements that the construction works are to be carried out in accordance with the *CoCP*.
- Z.5.21 Design measures to manage impacts of construction traffic are outlined in *CoCP* Part A, which includes the provision of site-specific transport management plans. These plans set out how vehicular access to the site would be managed so as to minimise impact on the local area and communicate this with the local borough and other stakeholders.
- Z.5.22 Further specific design measures to minimise temporary construction impacts at this site are outlined in the *CoCP* Part B and include the specification of construction traffic access, and the replacement of trees.

Water resources and flood risk

- Z.5.23 This site requires substantially less construction work than other project sites and only proposes minor modifications to the existing sewer network. No connection to the main tunnel is proposed.
- Z.5.24 It is considered that given the small scale of construction there would not be any adverse effects on groundwater resources.
- Z.5.25 The project works at this site would divert storm flows back into the existing sewerage system reducing total quantity and frequency of discharges of untreated sewage to the tidal Thames resulting in improvements to water quality within the river.

- Z.5.26 Measures to protect water quality and resources during construction are detailed in Section 8 of the *CoCP*, Part A and referred to in the project-wide assessment. In accordance with the considered mitigation set out in the NPS, the *CoCP* covers activities that are subject to pollution control and makes reference to good practice.
- Z.5.27 After taking into account the measures incorporated into the design and *CoCP*, potential impacts on surface water resources are predicted to be manageable and not significant. Risks of impacts on the water environment were minimised through careful design and adherence to good pollution prevention practice.
- Z.5.28 As the works would not involve any change to flood defences, or any removal of flood storage, there would not be an increase in flood risk as a result of the proposed development at Bekesbourne Street. Therefore no flood risk issues arise from the proposals at this location.

Air quality, emissions, dust and odour

- Z.5.29 The site is located within the London Borough of Tower Hamlets Air Quality Management Area. Local monitoring data indicates that there are currently exceedences of the air quality standard for nitrogen dioxide in the vicinity of the site.
- Z.5.30 The closest sensitive receptors are occupiers of nearby residential dwellings on Bekesbourne Street and Radcliffe Lane, the Stephen Hawking School, commercial and retail premises, and recreational users of St James's Gardens.
- Z.5.31 As identified in the NPS, odours from waste water infrastructure could have significant amenity impacts. In accordance with NPS policy, the proposals at this site were subject to an air quality and odour impact assessment, which is reported in the *Environmental Statement* (Vol 27, Section 4). The assessment considered the potential for any air quality and odour impacts arising from the construction and operation of the development and the potential to have a detrimental impact on amenity. During construction these effects included road traffic, plant equipment and consideration of dust-related effects.
- Z.5.32 Through the measures included within the *CoCP* all reasonable steps have been taken, and would be taken, to minimise detrimental impact on amenity resulting from air quality, emissions and dust as identified in the NPS.
- Z.5.33 During the seven-month construction phase an adverse effect is predicted at number 8 Bekesbourne Street. Mitigation measures were introduced which include the identification of lower emission plant for the construction.
- Z.5.34 The consideration of odour impacts is also set out in the project-wide section of this document. The ventilation strategy for the project is designed to ensure that there would be no significant loss of amenity, and no nuisance, as a result of odour from the operation of the scheme at all locations.

Z.5.35 During the operational phase only minor ventilation of the flap valve chamber is planned at Bekesbourne Street and this would not result in any adverse operational air quality effects.

Z.5.36 The construction and operational effects with regard to air quality and odour would be consistent with the NPS policy objectives (at paras. 4.3.11 to 4.3.15 and 4.11.4 to 4.11.5) to minimise detrimental impacts on amenity and nuisance. Appropriate measures are proposed to ensure that the proposals would not lead to a material deterioration of, or change in, air quality or a significant loss of amenity at this location.

Biodiversity and geological conservation

Z.5.37 The Holloway Storm Relief CSO discharges directly into the designated River Thames and Tidal Tributaries Site of Metropolitan Importance. There would be no 'in-river' works at this site.

Z.5.38 As required by NPS para. 4.5.17, the footprint of the proposals is no greater than it needs to be and measures are in place to mitigate any adverse effects and to put in place proposals to enhance the value of long term habitats on the site. In respect of both terrestrial and aquatic ecology, no significant adverse effects are predicted on designations, habitats or species either during construction or operation. During the eight month construction period eight street trees would be removed however, following the works, nine trees would be replaced. The *CoCP* includes measures to address adverse effects during construction, including reinstating and replacing street trees.

Landscape and visual impacts

Z.5.39 The Bekesbourne Street site does not lie within or in proximity to any nationally or locally designated landscapes. However, the local townscape shaped the design development and evolution of the proposed works in this location. The development of the project also took into account local *Character Appraisals for the York Square Conservation Area* produced by the London Borough of Tower Hamlets.

Z.5.40 Through robust site selection, extensive consultation, significant design developments and mitigation, the proposed scheme was refined to minimise its impact on the surrounding townscape and views.

Z.5.41 The lower part of the site is located within a residential road lined with street trees and some on street parking and the John Scurr Community Centre. The northern part of the site is located within the York Square Conservation Area in proximity to the Limehouse Docklands Light Railway (DLR) station and a number of commercial uses which operate in arches under the railway viaduct. The condition of the townscape within the site is generally good with the majority of townscape components well maintained.

Z.5.42 The temporary construction activity is estimated to take seven months and would entail the presence of onsite plant and facilities, erection of hoardings and removal of street furniture, parking and vegetation including street trees. This would result in some minor impacts on the character of

the townscape particularly from residential properties in Bekesbourne Street.

- Z.5.43 Measures are incorporated in the *CoCP* to minimise the effects associated with the construction of the proposed development and as such it is considered that the minor works proposed over approximately seven months would not give rise to any significant landscape or visual effects. The works are considered to be similar to those Thames Water routinely undertake across London to improve and maintain waste water infrastructure.
- Z.5.44 The proposals are consistent with the approach required in NPS Section 4.7 as they were designed taking careful account of the landscape characteristics of the area, and through considered construction layout, design and the *CoCP*, the effects of construction were minimised as far as possible.
- Z.5.45 During operation no significant effects are predicted on local landscape, or views due to reinstatement of the streetscape including the hard and soft landscaping and street furniture as detailed on the illustrative landscape plan. The minor scale of the works and the appropriate siting of the permanent above ground structures proposed at the site are considered to fully integrate with, and respect the existing streetscape.

Land use including open space, green infrastructure and green belt

- Z.5.46 The impact of the proposals on neighbouring land uses and land use designations (as identified in the *Core Strategy* and retained *Unitary Development Plan* policies) was a key consideration in the project's site selection process and design development. Annex Z illustrates the land uses of the site and its surroundings.
- Z.5.47 The development is proposed on highway land owned by the local authority and on private land associated with the John Scurr House residential development.
- Z.5.48 There are no relevant land use designations specific to the site. The proposed development would not impact any areas of designated open space.
- Z.5.49 Surrounding land uses were reviewed and considered in the site selection process and on-going design development. Owing to the site's location and the project's design principles and parameters, it is not considered that the proposed works would negatively affect the surrounding land uses, during either construction or operation. Similarly, no extant planning permissions, committed developments, or policy allocations for future development would be adversely impacted as a result of the works in this location.

Noise and vibration

- Z.5.50 The current noise environment in the vicinity of the site is predominantly generated from road traffic and from the significant railway infrastructure to the north of the site. The nearest receptors that are sensitive to noise and

- vibration are residential dwellings on Bekesbourne Street and on Ratcliffe Lane.
- Z.5.51 The *Environmental Statement* (Vol 27, Section 9) provides an assessment of the noise and vibration effects predicted at the site.
- Z.5.52 Some significant adverse noise effects arising from construction activities are predicted at nearby residential properties in John Scurr House. The predicted effects would be temporary and are based on the highest anticipated exposures during the most intense vibration activities within the site.
- Z.5.53 The assessment also considered noise from road based traffic associated with construction and for which no significant impacts are expected.
- Z.5.54 In accordance with the NPS, a series of measures detailed in the *CoCP* are embedded in the project design. The measures include operating in accordance with best practice, selecting the quietest cost-effective plant available, and optimising plant layout to minimise noise emissions. The construction period at this site is relatively short at approximately seven months and the works proposed are consistent with those Thames Water routinely undertakes across London to improve and maintain waste water infrastructure.
- Z.5.55 The NPS advises that in situations where other forms of noise mitigation have been exhausted, noise insulation to dwellings or, in extreme cases, compulsory purchase of affected properties may be considered in order to gain consent for what might otherwise be an unacceptable development. In the case of the project, no extreme cases were identified at the date of the submission of the application for development consent which would necessitate the compulsory acquisition of properties due to significant adverse effects. The Thames Tideway Tunnel noise insulation and temporary re-housing policy and the Thames Tideway Tunnel project compensation programme (included within Schedule 2 to the *Statement of Reasons*, which accompanies the application) were developed to offset the effects arising from construction related disturbance. The noise insulation and temporary re-housing policy would be implemented where predicted or measured construction noise levels exceed published trigger levels. The compensation programme was established to address claims of exceptional hardship or disturbance. In relation to construction, eligible works would be directed towards mitigation or other required actions to reasonably reduce disturbance from noise or construction activities. The properties in John Scurr House may be eligible for noise insulation as described in the policy.
- Z.5.56 Vibration effects are not considered significant at any receptor during construction or operation at this site.
- Z.5.57 No noise issues would arise during the operational phase at this site.
- Z.5.58 The NPS recognises that Nationally Significant Infrastructure Projects are likely to take place in mature urban environments, and in the short term, to lead to some noise disturbance during construction. Whilst some adverse effects are acknowledged these would be confined to the temporary seven month construction period and all practical methods of minimising noise

and vibration effects would be implemented pursuant to the *CoCP* and in accordance with NPS guidance described in paras. 4.9.8 to 4.9.9 and 4.9.12 to 4.9.13.

Historic environment

- Z.5.59 There are no designated heritage assets within or in the immediate vicinity of the Bekesbourne Street site which would be affected by the proposed works. The northern part of the site (including the northern half of Ratcliffe Lane and Limehouse DLR) is located within the York Square Conservation Area. The purpose of the designation is to protect the architectural integrity of the Mercer's Estate, and the diverse concentration of historic buildings around Commercial Road and along Butchers Row. The proposed minor works and permanent structures would not adversely affect the setting of this conservation area.
- Z.5.60 The site does not lie within an archaeological priority area, however there is potential for some localised buried archaeological assets. Effects relating to these assets would be successfully mitigated by a suitable programme of archaeological investigation before and/or during construction, to achieve preservation by record.
- Z.5.61 With mitigation in place there would be no impacts on heritage assets in accordance with NPS and local policy.

Light

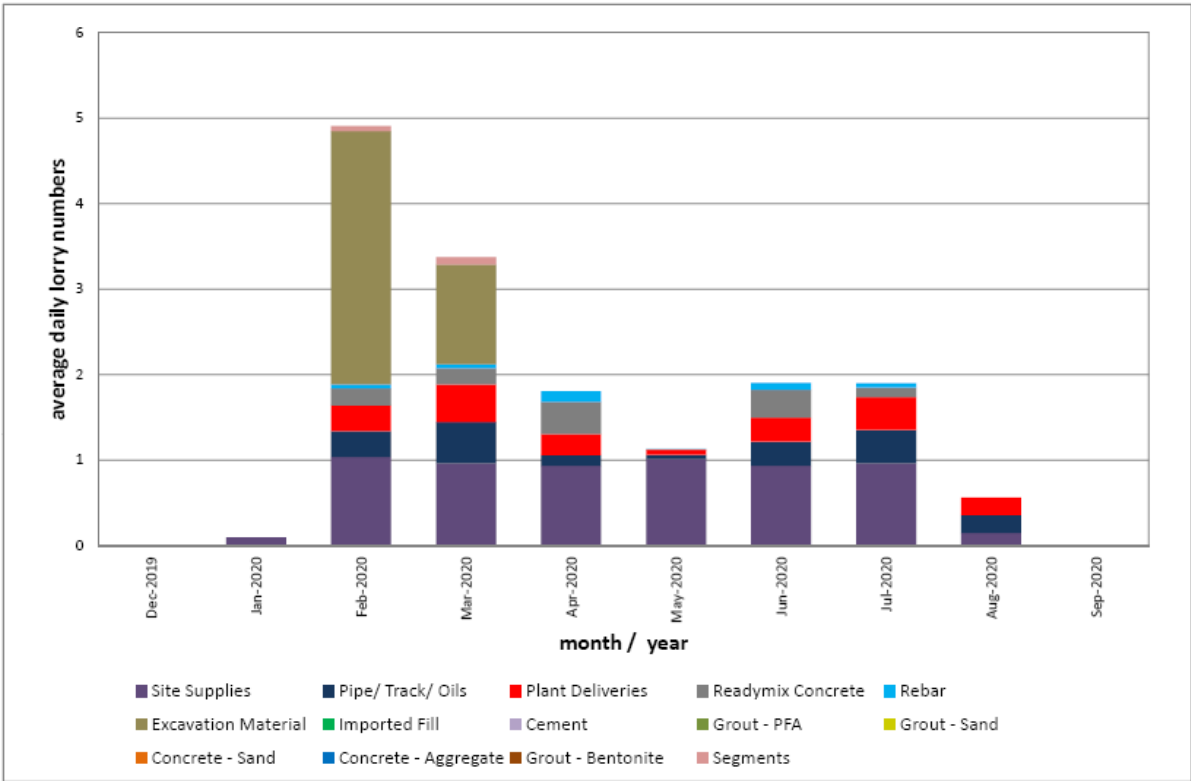
- Z.5.62 The screening assessment of effects on sunlight and daylight concluded that there would be no material impact on sunlight or daylight from construction or the permanent works.
- Z.5.63 There would be no significant effects from lighting either during construction or operation of the works at Bekesbourne Street. Through the measures set out in the *CoCP*, all reasonable steps having been taken to minimise any detrimental impact on amenity from artificial light.
- Z.5.64 No operational lighting is proposed at the Bekesbourne Street site.

Traffic and transport

- Z.5.65 The *Environmental Statement* and *Transport Assessment* considered the likely significant transport effects at this site in respect of the proposals for both the construction and operational phases. The project-wide approach to managing transport and cumulative transport considerations in the *Transport Strategy*.
- Z.5.66 Careful consideration was given to how materials, goods and personnel would be transported to and from development sites as these movements can have a variety of impacts on the surrounding transport infrastructure and connecting transport networks. Transport issues that were assessed for this site primarily include:
- c. effects on pedestrian routes
 - d. effects on cycle routes
 - e. effects on bus routes and patronage

- f. effects on the DLR and National Rail services
 - g. effects on car and coach parking
 - h. effects on highway layout, operation, safety and capacity.
- Z.5.67 The site is located in proximity to four daytime local bus routes and Limehouse DLR station adjoins the site to the north and as such the site has good access to public transport.
- Z.5.68 Pedestrian access is facilitated by footpaths as part of the local and private highway networks.
- Z.5.69 The site also benefits from good road access. The proposed access to the site during construction and operation would be from Commercial Road (A13), and via Branch Road, Ratcliffe Lane and Butchers Row.
- Z.5.70 The *CoCP* restricts construction lorry movements to Monday to Friday (8am to 6pm) and Saturday (8am to 1pm) with up to one hour before and after these hours for mobilisation and demobilisation of staff. In exceptional circumstances HGV and abnormal load movements could occur up to 10pm for large concrete pours and later at night on agreement with the London Borough of Tower Hamlets.
- Z.5.71 As detailed in the *Environmental Statement* during construction it is expected that there would be a maximum of 24 workers on site at any one time, which includes contractor staff and labour as well as client staff.
- Z.5.72 Thames Water would require contractors to produce a green travel plan to encourage the use of public transport by workers.
- Z.5.73 Given the minor scale of the works there would not be significant amounts of materials or waste transported to and from the site during the seven month construction period.
- Z.5.74 Peak vehicle movements at the site would occur during excavation for the underground chambers. The daily vehicle movements at this time, averaged over a one month period, would be 10 HGV movements (five HGVs) per day. HGV numbers would be less during other construction phases. These movements would not result in adverse effects on the highway network.

Figure Z.3 Estimated construction lorry profile



- Z.5.75 In order to accommodate the construction works at the Bekesbourne Street site 13 private parking spaces would be temporarily suspended from the southern section of Bekesbourne Street adjacent to John Scurr House. Two of these spaces would be permanently lost due to the need to accommodate the electrical and control kiosk.
- Z.5.76 In addition, the two shared visitor/authorised contractor bays would also be removed for the duration of the construction works but would be reinstated following the proposed works.
- Z.5.77 During the ventilation duct works, a total of five parking spaces in Ratcliffe Lane would need to be temporarily suspended.
- Z.5.78 There would not be any impacts on local parking from construction workers, as there would be no on-site parking for workers and parking on surrounding streets is restricted. Public transport is good and site-specific travel plan measures would discourage workers from travelling by car to and from the site.
- Z.5.79 The *Environmental Statement* (Vol 21, Section 12) predicts that during construction, the works would not result in any significant impacts on pedestrian routes, cycle routes and facilities, public transport routes and patronage, or the highway network, but there will be some significant effects on parking users in the vicinity of John Scurr House.
- Z.5.80 Measures to further reduce transport impacts in the *CoCP* include HGV management and control measures such as designated routes to sites for construction vehicles. There is also provision for management plans for construction worker journeys to and from the site.

Z.5.81 During the operational phase access for maintenance vehicles would be from the existing highway network. It is not considered that there would be any significant transport effects during the operational phase given the minor nature of the site infrastructure and the expected infrequent vehicle visits.

Z.5.82 As demonstrated above the extensive transport work undertaken at this site would ensure that any traffic and transport impacts are limited to an acceptable level and through appropriate mitigation.

Waste management

Z.5.83 The Waste Strategy was developed to provide a framework for the management of materials and waste that would be produced throughout the construction and operational phases of the project. This ensures that the requirements set out in NPS para. 4.14.6 would be satisfied, and the Waste Strategy would be secured via a requirement in accordance with NPS para. 4.14.7.

Z.5.84 No particular site-specific waste issues would arise at this site.

Socio-economic

Z.5.85 The project-wide socio-economic issues and benefits of the project both during construction and operation are detailed in Section 8 of this document.

Z.5.86 The site predominantly comprises highway land and the surrounding area is largely residential with some other land uses including commercial, community and transport. The proposed works are minor and the construction site on Bekesbourne Street would be small to facilitate a shaft to allow the introduction of a controlled gate within the existing sewer. Furthermore works are predicted to take approximately seven months and would be similar to those regularly undertaken by Thames Water across London as part of maintenance and improvement works.

Z.5.87 No significant socio-economic effects are likely to arise from the construction or operation of the minor works at Bekesbourne Street.

Z.5.88 In accordance with the NPS, the *Equalities Impact Assessment*, which accompanies the application, describes the demographics of the surrounding area and assesses whether a disproportionate number of people from particular equalities groups would be affected by the generic impacts associated with the project, including air emissions, flood risk, noise and vibration. The assessment also outlines the impact on people living, working or owning businesses that may be displaced as a result of the project.

Z.5.89 The *Equalities Impact Assessment* concluded that, during construction, no equalities groups would be disproportionately affected by the construction or operation of the works at this site.

Z.6 Overall conclusions

- Z.6.1 The need for the project as a whole is established at the national level in the NPS. Presently the Holloway Storm Relief discharges approximately 7900m³ of untreated sewerage into the tidal Thames. This site forms a vital component of the project in controlling discharges from this CSO.
- Z.6.2 Given the site's location in proximity to a number of residential properties, it is inevitable that some disturbance would be experienced during the seven month construction period. However, given the small scale of the works, the minimal construction programme and the fact that the works would be similar to those currently undertaken by Thames Water across London on a regular basis, the proposals are considered wholly appropriate.
- Z.6.3 Further to this Thames Water sought to minimise any potential disturbance through sensitive design, *CoCP* and mitigation measures where required, in accordance with the NPS and relevant local policies.
- Z.6.4 The proposed works at the Bekesbourne Street site and the mitigation measures that were developed and advanced as part of the application for development consent directly accord with the approach required by the NPS. Adverse effects have been minimised as far as possible and the design would be in keeping with its streetscape surroundings.
- Z.6.5 Section 8 of the *Planning Statement* considers the implications of the local effects of the works Bekesbourne Street and the other sites, and describes the overall balance between impacts and benefits associated with the project as a whole, against the guidance in the NPS. It concludes that the works at Bekesbourne Street, and the project as a whole, are compliant with the NPS and that development consent should be granted.

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Annex Z: Drawings for Bekesbourne Street

List of drawings

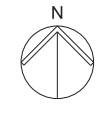
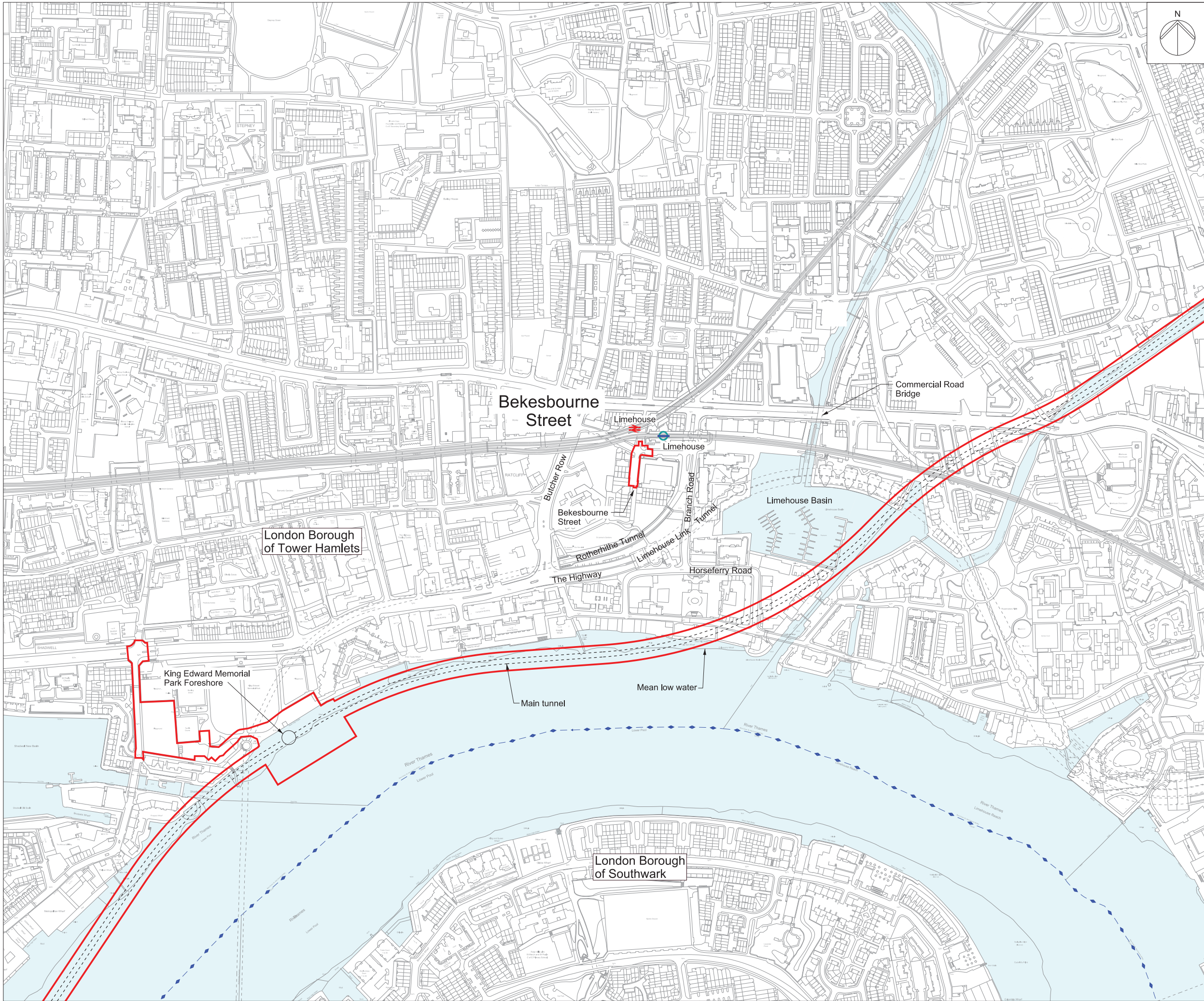
Bekesbourne Street: Location plan

Bekesbourne Street: As existing site features plan

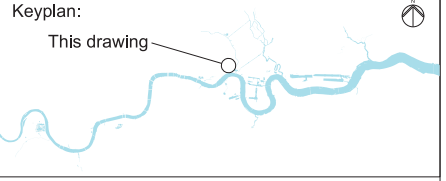
Bekesbourne Street: Construction phasing plans

Bekesbourne Street: Land use plan

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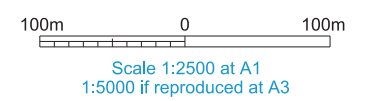
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

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

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



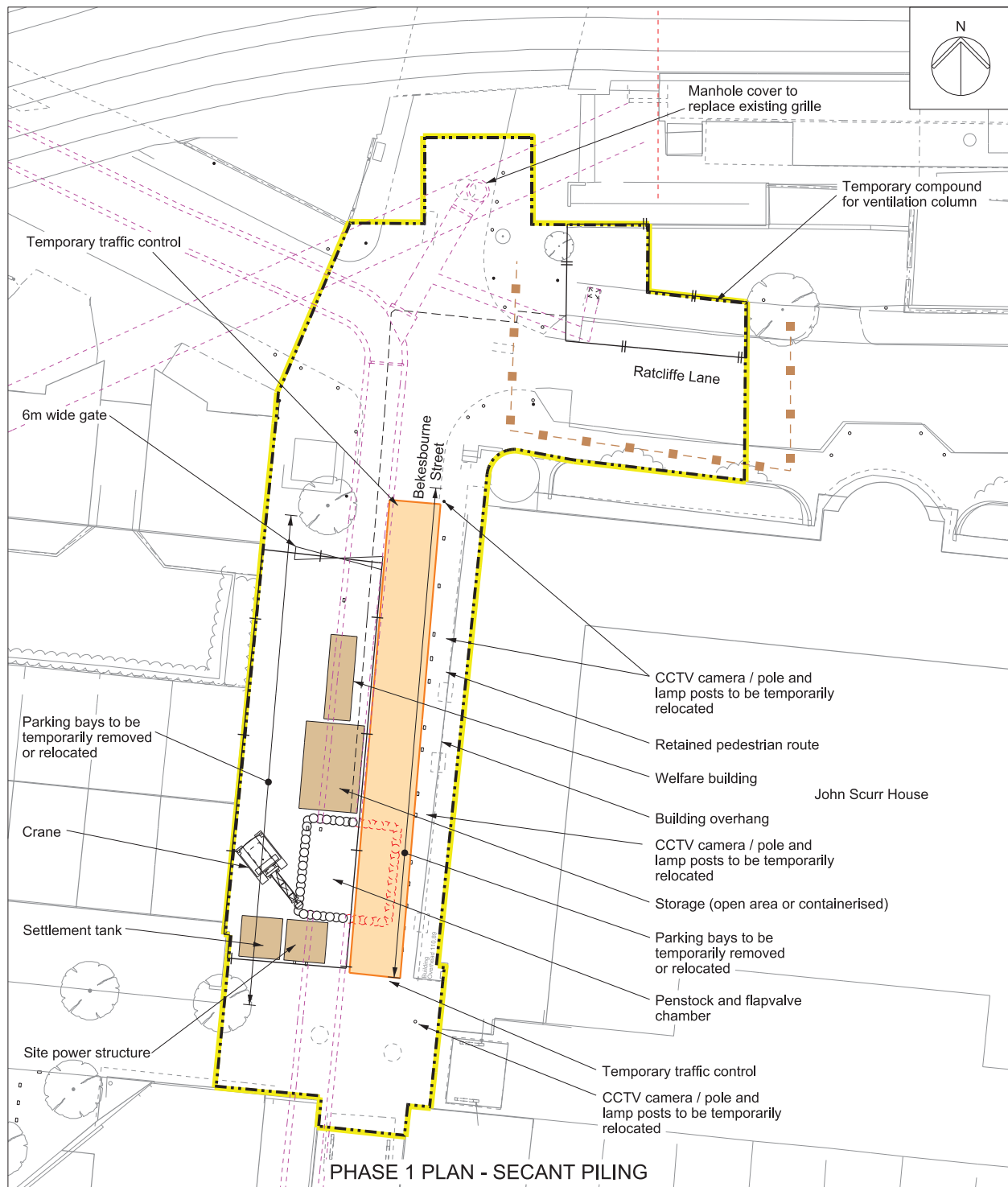
FOR INFORMATION

Location
 Bekesbourne Street
 London Borough of Tower Hamlets

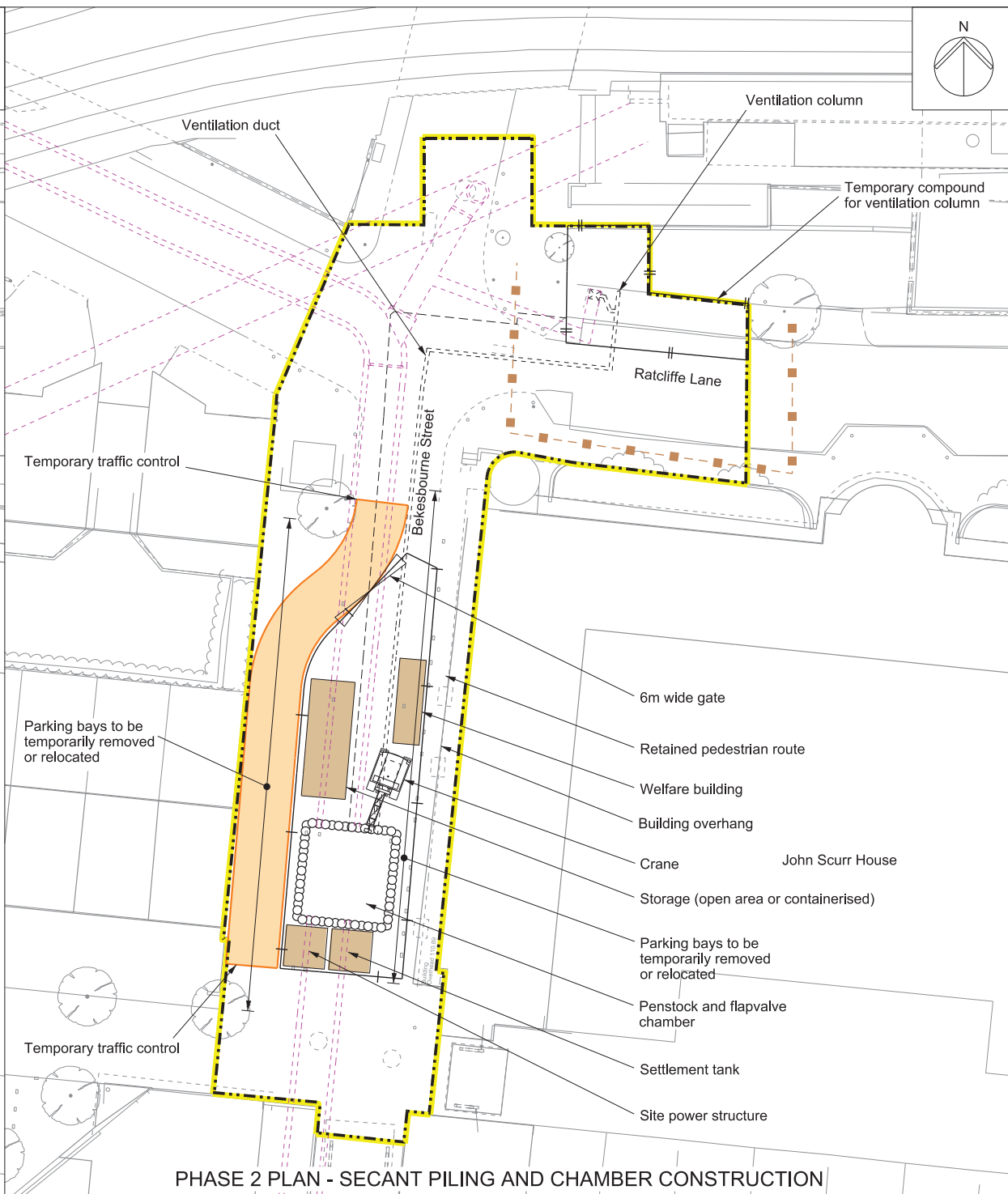
Document Information
 Application for Development Consent
 Location plan

Book of plans - section 26
 DCO-PP-25X-BKST-260001
 January 2013

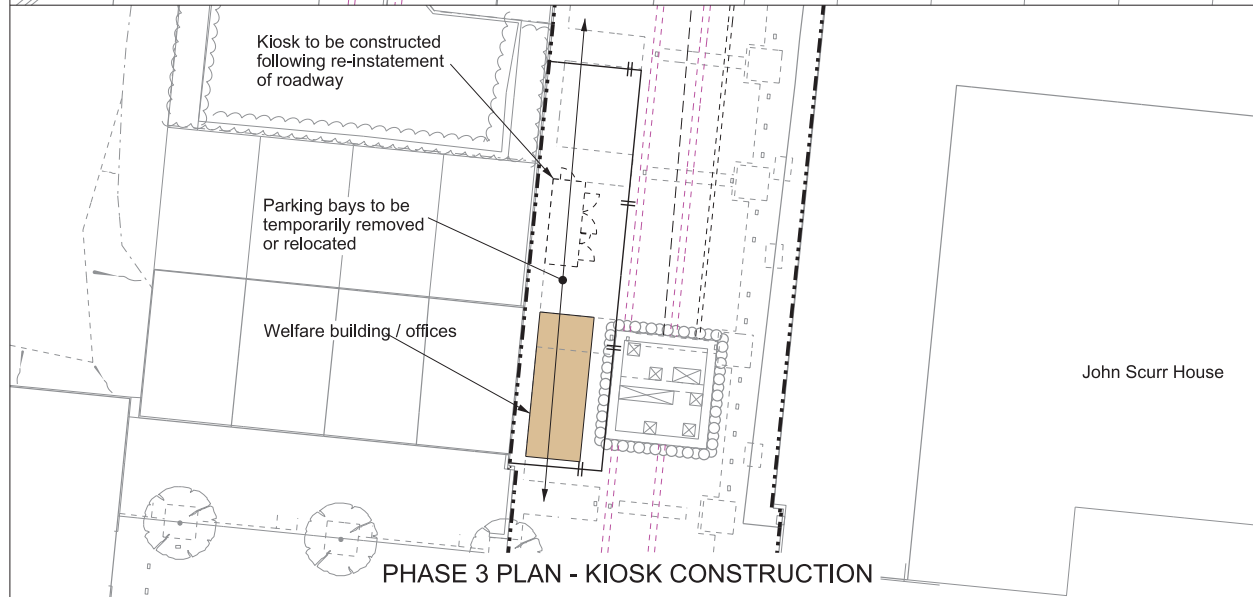




PHASE 1 PLAN - SECANT PILING



PHASE 2 PLAN - SECANT PILING AND CHAMBER CONSTRUCTION



PHASE 3 PLAN - KIOSK CONSTRUCTION

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Key:

	Limits of land to be acquired or used (LLAU)
	Hoarding
	Open mesh fence
	Maximum extent of working area
	Route of temporary diversion of footway
	Site access
	Access / haul route
	Existing sewers



Scale 1:200 at A1
1:400 if reproduced at A3

Notes :

1. 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.
2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.

ILLUSTRATIVE

Location
Bokesbourne Street
London Borough of Tower Hamlets

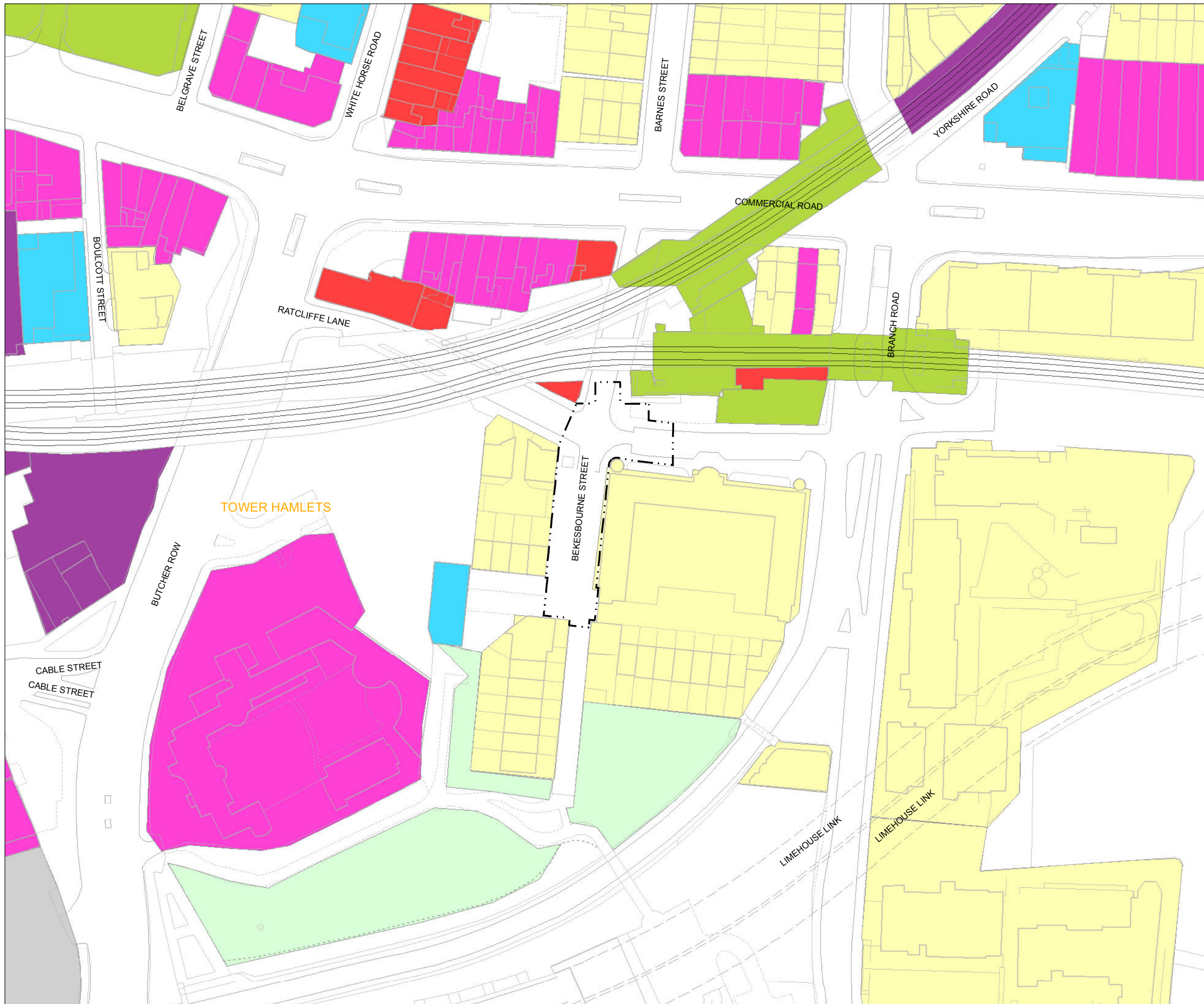
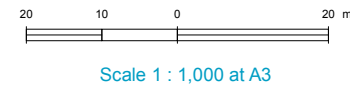
Document Information
Application for Development Consent
Construction phases

Book of plans - section 26
DCO-PP-25X-BEKST-260008
January 2013





- Key**
- Limits of Land
 - - - to be Acquired or Used
- Land Use**
- Class A1-A5 (Shops, Financial & Professional Services, Restaurants, Drinking Establishments and Hot Food Takeaways)
 - Class B1 (Business (Offices except A2) Research and Development, Light Industry)
 - Class B2-B8 (General Industrial / Storage or Distribution)
 - Class C3-C4 (Dwelling Houses)
 - Class D1-D2 (Non Residential Institutions (Community Facilities) and Assembly and Leisure)
 - Mixed Use
 - Other
 - Open Space



FOR INFORMATION

Location
Bekebourne Street
 London Borough of Tower Hamlets

Document Information
Planning Statement
 Land use

1PL03-MG-00822
 January 2013



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