

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

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Transport Assessment

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Shad Thames Pumping Station

Main Report

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**Thames
Tideway Tunnel**



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Thames Tideway Tunnel

Transport Assessment

Section 19: Shad Thames Pumping Station

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19 Shad Thames Pumping Station

19.1 Introduction

- 19.1.1 This site-specific *Transport Assessment (TA)* presents the findings of the assessment of the transport issues of the Thames Tideway Tunnel project at the Shad Thames Pumping Station site located within the London Borough (LB) of Southwark.
- 19.1.2 The assessment takes into consideration the changes as a result of all other Thames Tideway Tunnel project sites to ensure that results indicate the significance of each individual site in combination with construction works being undertaken at other sites.
- 19.1.3 The site is located within the existing Thames Water Shad Thames Pumping Station and lies within the LB of Southwark. There is road access to the site directly from Maguire Street.
- 19.1.4 The purpose of this *TA* is to identify the site context, development proposals and any transport implications arising from these proposals to ensure that appropriate mitigation measures are identified, where necessary.
- 19.1.5 The *TA* draws on a number of project-wide or application documents which include the *Transport Strategy* and the *Code of Construction Practice (CoCP)*. Further detail on these documents which form the background to the *TA* can be found in Section 1 of the *TA*.
- 19.1.6 The *TA* structure is as follows:
- a. Section 19.2 includes a description of the proposed development. This details construction phasing, vehicle and person trip generation and construction traffic routing. It also provides details on transport during the operational phase.
 - b. Section 19.3 outlines the assessment methodology used for the *TA* for the construction and operational phases.
 - c. Section 19.4 details the baseline conditions on the transport network surrounding the site, including survey data analysis and accident analysis.
 - d. Section 19.5 provides the assessment of the construction phase of the project, including a comparison between the construction base case and the construction development case.
 - e. Section 19.6 provides the assessment of the operational phase of the project.
 - f. Section 19.7 summarises the *TA* findings.

19.2 Proposed development

- 19.2.1 The site is located within the existing Thames Water Shad Thames Pumping Station and lies within the LB of Southwark. Figure 19.2.1 in the Shad Thames Pumping Station *Transport Assessment* figures shows the Shad Thames Pumping Station site location.
- 19.2.2 The site is bounded to the north by Wheat Wharf apartments, to the east by the Clove Building which includes the Design Museum, to the south by Tamarind Court and to the west by a private car park serving Vanilla and Sesame Court. The area comprises a mixture of residential, offices and commercial development.
- 19.2.3 Existing access to the site is via Maguire Street approximately 300m northeast of Jamaica Road (A200), which forms part of the Transport for London Road Network (TLRN). Maguire Street is accessed via the junction of Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames, via Shad Thames and Gainsford Street.
- 19.2.4 The development at Shad Thames Pumping Station would involve modifications to the existing sewer network and to the Pumping Station.

Construction

- 19.2.5 Construction at the Shad Thames Pumping Station site is anticipated to last for one and a half years. The construction site would be located in three areas that would be occupied for different periods during three phases of construction. The main site area would be within the existing Shad Thames Pumping Station, and the other areas would be in Maguire Street and Gainsford Street for works to manholes and sewers and underground chambers. Vehicle access to and from the site would take place from the existing access point to Shad Thames Pumping Station on Maguire Street.
- 19.2.6 Construction of the manhole and pumping main along Maguire Street would require a temporary closure of the road. During this period two-way operation on the northern part of Shad Thames would be implemented with associated traffic management to maintain access to properties. Car parking in this part of Maguire Street would be temporarily suspended for the duration of these works. The highway layout during construction phases plans are provided in the Shad Thames Pumping Station *Transport Assessment* figures.
- 19.2.7 *Stage 1 Road Safety Audits* have been carried out on the illustrative highway layouts proposed for this site. The Road Safety Audit reports for this site are contained in Section 19 Appendix D.
- 19.2.8 There would be three different phases of construction. During Phase 1 of construction approximately 40m of the western footway of Maguire Street outside the Pumping Station would be closed. Pedestrians would be required to cross onto the eastern footway of Maguire Street. To facilitate construction vehicle movements seven parking bays and one car club parking bay at the northern end of Maguire Street would be temporarily restricted.

- 19.2.9 During Phase 2 works would be carried out within the carriageway of Maguire Street. One of the footways (either the eastern or the western footway) would remain open at all stages. The closure of the footways would begin at the junction of Gainsford Street and run for approximately 60m northeast along Maguire Street. Access would be maintained to Butler’s Wharf, Tamarind Court, Coriander Court and the Clove Building. Maguire Street would be closed to all vehicles except for construction traffic during this Phase of construction.
- 19.2.10 In addition to the temporary restriction of parking bays in Phase 1, three parking bays would also be temporarily restricted at the southern end of Maguire Street during Phase 2. To maintain access to the Design Museum, Shad Thames north of the junction with Gainsford Street would be converted to two-way operation using appropriate traffic control measures.
- 19.2.11 During Phase 3 of construction the hoarding location and pedestrian diversions along Maguire Street would be reverted to the Phase 1 layout. In addition, approximately 15m of Gainsford Street directly to the southeast of the junction with Maguire Street would be temporarily closed whilst construction works take place in the carriageway. This would include the northern footway of Gainsford Street, with pedestrians being diverted to the southern footway. The ten parking bays and one car club bay along Maguire Street would remain temporarily restricted to facilitate the movement of large construction vehicles. Shad Thames north of the junction with Gainsford Street would be reinstated to one-way operation during Phase 3.
- 19.2.12 All construction materials would be transported to and from this site by road.
- 19.2.13 Parking for five essential maintenance / operational vehicles would be provided on site. No worker parking would be provided.
- 19.2.14 Construction details for the site relevant to the construction transport assessment are summarised in Table 19.2.1.

Table 19.2.1 Construction traffic details

Description	Assumption
Assumed peak period of construction lorry movements	Site Year 1 of construction
Assumed average peak daily construction lorry vehicle movements (in peak month of Site Year 1 of construction)	14 movements per day (7 vehicle trips) For one month
Typical types of lorry requiring access (comprising rigid-bodied, flatbed and articulated vehicles)	Excavated and demolition materials lorries Plant, equipment and building materials deliveries

Description	Assumption
	Imported fill lorries Ready mix concrete lorries Office/general delivery lorries Rebar lorries Temporary construction material lorries including pipe/track/oils/greases lorries Shaft precast concrete lining lorries

Note: a movement is a construction vehicle moving either to or from the site. A Site Year is a 12 month period, one in a series of Site Years; Site Year 1 commences at the start of construction.

Construction routes

- 19.2.15 Figure 19.2.2 in the Shad Thames Pumping Station *Transport Assessment* figures shows the construction routes for the Shad Thames Pumping Station site. These have been discussed with both Transport for London (TfL) and the Local Highway Authority.
- 19.2.16 The site is located on Maguire Street approximately 300m from Jamaica Road (A200) which forms part of the TLRN.
- 19.2.17 The main junctions along the construction traffic routes are:
- a. Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) Shad Thames
 - b. Tooley Street (A200) / Lafone Street
 - c. Jamaica Road (A200) / Bevington Street / St James's Road.
- 19.2.18 In all phases of construction, construction vehicles would approach the site from the junction of Jamaica Road (A200), Tooley Street (A200), Tanner Street (A200) and Shad Thames. They would travel along Shad Thames joining Maguire Street to the west of the Design Museum.
- 19.2.19 During Phase 1 of construction vehicles would exit the site by turning left from Maguire Street into Gainsford Street and then right into Shad Thames to the junction of Jamaica Road (A200), Tooley Street (A200), Tanner Street (A200) and Shad Thames.
- 19.2.20 During Phase 2 of construction Maguire Street would be temporarily closed due to the construction works, therefore vehicles would exit by turning around using the temporary turning head at the northern end of Maguire Street. They would travel south along Shad Thames to the junction of Jamaica Road (A200), Tooley Street (A200), Tanner Street (A200) and Shad Thames.
- 19.2.21 During Phase 3 of construction vehicles would exit the site by turning right from Maguire Street into Gainsford Street. From Gainsford Street they would turn left into Lafone Street joining the A200 at the junction of Tooley Street (A200) and Lafone Street.

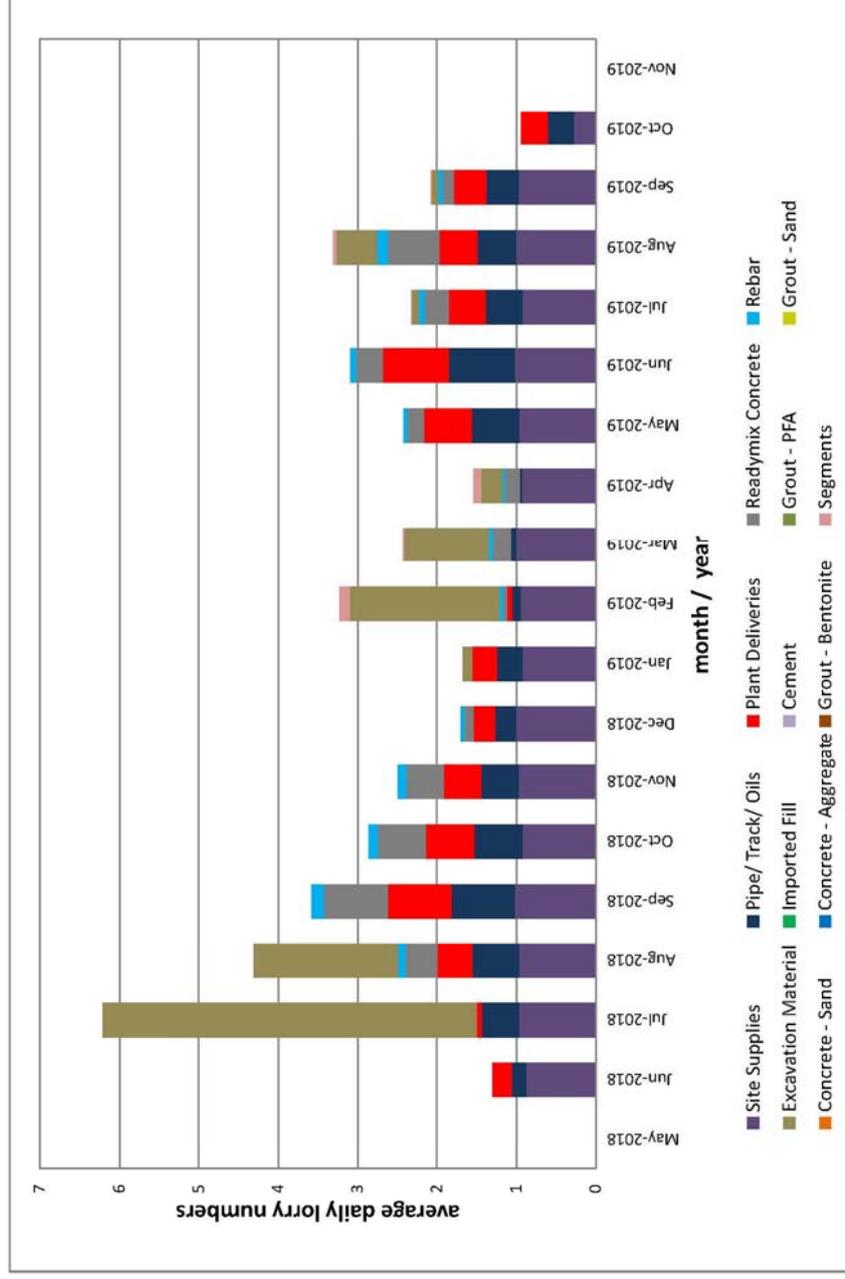
- 19.2.22 The exact routing of construction traffic depends on the origins and destinations of construction materials which is detailed in the *Project-wide TA*.

Proposed construction flows

Construction vehicles

- 19.2.23 Vehicle movements would take place during the standard day shift of ten hours on weekdays (08:00 to 18:00) and five hours on Saturdays (08:00 to 13:00). In exceptional circumstances HGV and abnormal load movements could occur up to 22:00 and later at night on agreement with the LB of Southwark and TfL.
- 19.2.24 A site-specific peak construction assessment year has been identified. The histogram in Plate 19.2.1 shows that the peak site-specific activity at the Shad Thames Pumping Station site would occur in Site Year 1 of construction. This site-specific peak is earlier than the overall project-wide construction peak activity year of 2019.
- 19.2.25 This *TA* assesses this site-specific peak construction year. As detailed in Table 19.2.1, there would be an estimated average of 14 peak daily construction lorry vehicle movements in the peak month of this peak year. Plate 19.2.1 shows how the number of vehicular movements would vary throughout the construction period.
- 19.2.26 The assessment has been based on 10% of the daily number of lorry journeys occurring in the peak hours, which has been agreed with TfL as a reasonable approach. It is recognised that it may be desirable to reduce the number of construction lorry movements in peak hours and the mechanisms for addressing this would form part of the *Traffic Management Plans (TMP)* which are required as part of the *CoCP*.

Plate 19.2.1 Estimated construction lorry profile



Note: Plate shows indicative volumes and number of lorry trips based upon assumed timings for the works. It is not a programme and remains subject to change.

- 19.2.27 As the *Project-wide TA* explains, the TfL Highway Assignment Models (HAMs) used for the strategic highway modelling represent peak hours of 08:00 to 09:00 and 17:00 to 18:00 and these have been taken as being the network-wide AM and PM peak hours in the project-wide and site-specific assessments.
- 19.2.28 The 07:00 to 09:00 and 17:00 to 19:00 periods identified from the local traffic surveys are busier on the network in the weekday than those encountered at the weekends (this is discussed in Section 19.4). Whilst the AM and PM peak hours differ slightly from these network-wide peak hours, in practice the number of vehicle movements at this site would be low in comparison to base case traffic flows on the adjacent network and is expected to be constant throughout the day.
- 19.2.29 Hourly construction vehicle trips during the inter-peak period are not expected to exceed the hourly trips assumed for the 08:00 to 09:00 and 17:00 to 18:00 periods used in this assessment. The peak travel periods used for the modelling in this assessment are therefore the weekday periods between 08:00 and 09:00 and 17:00 and 18:00.
- 19.2.30 Other construction vehicle movements associated with site operations and contractor activities would be cars and light goods vehicles. The construction worker vehicle movements expected to be generated by the Shad Thames Pumping Station site are shown in Table 19.2.4.

Construction workers

- 19.2.31 The construction site is expected to require a maximum workforce of 24 workers on site at any one time. The number and type of workers is shown in Table 19.2.2.

Table 19.2.2 Maximum estimated construction worker numbers

Contractor		Client
Staff*	Labour**	Staff
08:00-18:00	08:00-18:00	08:00-18:00
7	13	4

*Staff Contractor – engineering and support staff to direct and project manage the engineering work and site.

**Labour – those working on site doing engineering, construction and manual work.

***Staff Client – engineering and support staff managing the project and supervising the Contractor.

- 19.2.32 The mode split outlined in Table 19.2.3 has been used to assess the changes as a result of the worker journeys on the highway and public transport networks. It has been derived using the 2001 Censusⁱ journey to work data for the area in the vicinity of the Shad Thames Pumping Station site. The Census data indicates that the predominant mode of travel for journeys to work in this area is public transport.

ⁱ Based on 2001 Census. This type of data had not been released from the 2011 Census at the time of the assessment.

19.2.33 At this site there would be no parking provided within the site boundary for workers. As parking on surrounding streets is also restricted, and measures to reduce car use will be incorporated into site-specific *Travel Plan* requirements, it is highly unlikely that any workers would travel by car. The Census mode shares have therefore been adjusted in Table 19.2.3 to reflect increased levels of non-car use by workers at this site. The assessment has been undertaken on this basis.

Table 19.2.3 Transport mode split

Mode	Percentage of trips to site	Equivalent number of worker trips (based on 24 worker trips)	
		AM peak hour (07:00-08:00)	PM peak hour (18:00-19:00)
Bus	17%	4	4
National Rail	35%	8	8
Underground	28%	7	7
Car driver	<1%*	0	0
Car passenger	<1%*	0	0
Cycle	4%	1	1
Walk	13%	3	3
River	1%	0	0
Other (taxi/motorcycle)	4%	1	1
Total	100%	24	24

* Assumed to be zero for the purpose of this assessment

19.2.34 As indicated in Table 19.2.3 it is assumed that the predominant mode of travel for journeys to work in this area is public transport and it is assumed that the primary public transport services used would be from Bermondsey London Underground station on Jamaica Road (A200) and the bus stops on Jamaica Road (A200), Tower Bridge Road (A100), Abbey Street (B202) and Queen Elizabeth Street.

Vehicle movements summary

19.2.35 The total anticipated number of construction-related vehicle movements in the peak month of activity at this site is set out in Table 19.2.4.

Table 19.2.4 Peak construction works movements

Vehicle type	Vehicle movements per time period				
	Total daily	07:00 to 08:00	08:00 to 09:00	17:00 to 18:00	18:00 to 19:00
Construction lorry vehicle movements 10%*	14	0	1	1	0
Other construction vehicle movements**	36	4	4	4	4
Worker vehicle movements***	nominal	0	0	0	0
Total	50	4	5	5	4

* The assessment has been based on 10% of the daily construction lorry movements associated with materials taking place in each of the peak hours.

**Other construction vehicle movements includes cars and light goods vehicles associated with site operations and contractor activity.

*** Worker vehicle numbers are based on less than 1% of workers driving, on the basis that there would be no worker parking on site, on-street parking in the area is restricted, and site-specific Travel Plan measures would discourage workers from driving by car. In practical terms, this would be close to zero.

19.2.36 Based on all materials being transported by road, an average peak flow of 50 vehicle movements a day is expected during the months of greatest activity during Site Year 1 of construction at this site. At other times in the construction period, vehicle flows would be lower than this average peak figure.

19.2.37 Table 19.2.4 shows that in the AM and PM peak two-hour periods, the Shad Thames Pumping Station site would generate approximately five vehicle movements.

Code of Construction Practice

19.2.38 The *Code of Construction Practice (CoCP)* is provided in Vol 1 Appendix A. It contains general requirements (Part A), and site specific requirements for this site (Part B). Measures incorporated into the *Code of Construction Practice (CoCP)* Part A (Section 5) to reduce transport effects include:

- a. site specific *Traffic Management Plans (TMP)*: to 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. This includes any works on the highway, diversion or temporary closure of the highway or public right of way

- b. HGV management and control: to ensure construction vehicles use appropriate routes to the sites and the vehicle fleet and/or drivers meet current safety and environmental standards.

19.2.39 In addition to the general measures within the *CoCP Part A*, the following transport measures have been incorporated into the *CoCP Part B* (Section 5) relating to the Shad Thames Pumping Station site:

- a. site access would be from Jamaica Road (A200), Shad Thames and Maguire Street. Traffic leaving the site would turn right from Maguire Street into Gainsford Street, left into Lafone Street and left onto Tooley Street (A200)
- b. Gainsford Street and Maguire Street junction shall be closed for the duration of the required manhole works
- c. existing parking on Maguire Street opposite the Pumping Station to be suspended
- d. the period of closure of Maguire Street for the construction of the manhole and sewer connection shall be minimised. Shad Thames to be made two-way during closure
- e. the closure of the footpath outside of the Pumping Station would be clearly signed
- f. during the construction of the manhole and sewer connection in Maguire Street, pedestrian access to the existing building entrances is to be maintained at all times
- g. liaison and consultation with LB of Southwark to agree details including notices, publicity and coordination with other potential works.

19.2.40 Based on current travel planning guidance including TfL's 'Travel Planning for new development in London'¹, this development falls within the threshold for producing a Strategic Framework Travel Plan. A *Draft Project Framework Travel Plan* has been prepared based on the TfL ATTrBuTE guidance². The *Draft Project Framework Travel Plan* addresses project-wide travel planning measures, including the need for a project-wide Travel Plan Manager, initial travel surveys during construction and a monitoring framework. It also contains requirements and guidelines for the development of site-specific *Travel Plans*. The site-specific travel planning requirements of relevance to the *Draft Project Framework Travel Plan* are as follows:

- a. information on existing transport networks and travel initiatives for the Shad Thames Pumping Station site
- b. a mode split established for the Shad Thames Pumping Station site construction workers to establish and monitor travel patterns
- c. site-specific targets and interim targets based on the mode share which would link to objectives based on local, regional and national policy
- d. a nominated person with responsibility for managing the *Travel Plan* monitoring and action plans specifically for this site.

Other measures during construction

- 19.2.41 Embedded design measures which are not outlined in the *CoCP* but are of relevance to the transport assessment at the Shad Thames Pumping Station site include the following:
- a. temporary traffic management (traffic signals) on Shad Thames to allow shuttle working between Gainsford Street and the northern end of Maguire Street in order to maintain access and egress from the northern end of Shad Thames during the closure of Maguire Street
 - b. existing dropped kerb at the northern end of Maguire Street to be extended, bollards to be relocated and trees removed in order to provide sufficient room for construction vehicles to turn around.

Operation

- 19.2.42 During operation the area surrounding Shad Thames Pumping station would be returned to its existing layout.
- 19.2.43 During operation it is anticipated that there would be no significant changes to the transport infrastructure and operation within the local area, because maintenance trips to the site would be infrequent and short-term, similar to the current number of visits to the pumping station. On this basis the only issues considered during the operational phase are:
- a. effects on highway layout and operation
 - b. effects on parking
- 19.2.44 There would be potential for some operational issues to arise as a result of the short-term changes to the physical aspects of access to the site for maintenance. These have only been considered qualitatively because the changes required to the highway network during maintenance activity would be minor and temporary, meaning that a quantitative assessment is not required. The scope of this analysis has been agreed with the LB of Southwark and TfL.
- 19.2.45 Access would be required for a light commercial vehicle on a one to three monthly maintenance schedule, as with the existing maintenance regime.
- 19.2.46 During operation, access for maintenance vehicles to the Shad Thames Pumping Station site would be via the existing access/egress point on Maguire Street that serves the existing Thames Water facility together with the new access onto Maguire Street at the southern end of the pumping station. Maintenance would be undertaken from within the Shad Thames Pumping Station site as part of the existing maintenance routine. Hence, the transport demands created by the development in the operational phase would be similar to the existing case. The highway layout during operation plans are provided in the Shad Thames Pumping Station *Transport Assessment* figures and indicate the operational phase permanent works.

19.3 Assessment methodology

Engagement

- 19.3.1 An extensive scoping and technical engagement process has been undertaken. All consultee comments relevant to this site are presented in Volume 19 of the *Environmental Statement*.
- 19.3.2 Whilst the effects associated with transport for the operational phase have been scoped out of the *Environmental Statement*, the *TA* examines the operational phase in order to satisfy the relevant stakeholders that technical issues have been addressed (for example, those associated with access for maintenance activities).

Consultees

- 19.3.3 Throughout the scoping and technical engagement process, the key stakeholders with regards to transport, primarily TfL and the relevant Local Highway Authority for each site, have been consulted. For Shad Thames Pumping Station, the LB of Southwark has been consulted and the comments which have arisen relating directly to Shad Thames Pumping Station have been recorded and responded to accordingly.
- 19.3.4 The key issues arising from the stakeholder engagement are:
- a. understanding the impact on the local highway network associated with construction traffic
 - b. cyclist and pedestrian safety
 - c. the impact of any parking suspensions that may be required during construction or operation
 - d. the operation of traffic management on the narrow roads surrounding the site
 - e. all proposed site accesses, traffic management arrangements, diversionary routes (for vehicles, pedestrians and cyclists) etc must all be designed and appropriately assessed (safety audit) so as to minimise the risk of accidents.
- 19.3.5 The key technical issues raised have been addressed as far as is practicable at this stage within this *TA*, *Project-wide TA* and the *Environmental Statement*, in consultation with both TfL and the LB of Southwark.

Construction

- 19.3.6 The assessment methodology for the construction phase follows that described in the *Project-wide TA*. However, for Shad Thames Pumping Station there has been no local traffic modelling undertaken as the change in traffic flows resulting from construction at Shad Thames Pumping Station would be very low and no significant impact is expected on the highway network. Survey results and the outcomes of the strategic traffic modelling (which covers all Thames Tideway Tunnel project sites) have

instead been used to understand the existing capacity and operation of the local highway network.

- 19.3.7 The effect of all other Thames Tideway Tunnel project sites on the area surrounding the Shad Thames Pumping Station site has been taken into account within the assessment of the peak year of construction at this site.

Construction assessment area

- 19.3.8 The assessment area for the Shad Thames Pumping Station site includes the site access from Maguire Street, Shad Thames, Maguire Street, Gainsford Street the junctions between these roads, and the junction of Jamaica Road (A200) / Shad Thames / Tanner Street (A200).

- 19.3.9 Consideration has also been given to the potential impacts on pedestrian and cycle routes, including the Thames Path, and on bus services and rail or river services within 640m and 960m of the site respectively. The Public Transport Accessibility Level (PTAL) of the site, calculated using TfL's approved PTAL methodology assumes a walking speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within an eight minute walk (640m).

Construction assessment year

- 19.3.10 To assess the busiest case scenario for the Shad Thames Pumping Station locality, the peak construction traffic year has been identified. This ensures that the assessment for Shad Thames Pumping Station takes into consideration the heaviest flow of construction vehicles at this site on local roads.

- 19.3.11 The site-specific peak construction traffic year at Shad Thames Pumping Station is Site Year 1 of construction.

- 19.3.12 The assessment of the aggregated Thames Tideway Tunnel project construction traffic flows on the wider highway network is included within the *Project-wide TA*.

Highway network modelling

- 19.3.13 The assessment for each site takes account of construction vehicle movements associated with Shad Thames Pumping Station, together with construction traffic from other Thames Tideway Tunnel project sites that would use the highway network in the vicinity of this site in Site Year 1 of construction.

- 19.3.14 As indicated in the *Project-wide TA*, the TfL HAMs have been used as part of the assessment. The strategic highway modelling has used three of the HAMs, which cover west, central and east London. These three models cover the locations of all of the Thames Tideway Tunnel project sites and this approach has been agreed with TfL.

- 19.3.15 The HAMs have been developed by TfL using GLA employment and population forecasts, which are based on the employment and housing projections, set out in the London Plan³. As a result the assessment inherently takes into account a level of future growth and development across London.

- 19.3.16 For future year assessments for the Shad Thames Pumping Station site, the TfL East London HAM (ELHAM) has been used to test the strategic highway network impacts associated with this site. Construction traffic associated with other Thames Tideway Tunnel project sites using routes in this area has been included in the ELHAM scenarios.
- 19.3.17 Construction lorry, operational and worker vehicle trips (where relevant) associated with the project peak month were assigned to ELHAM to create the scenarios for testing strategic highway impacts.
- 19.3.18 ELHAM also provides factors for the increase in vehicle-kilometres in the borough between the ELHAM model base and forecast years (2008/9 and 2021 respectively).
- 19.3.19 For Shad Thames Pumping Station there has been no local traffic modelling undertaken as the change in traffic flows resulting from construction at the Shad Thames Pumping Station site would be very low and therefore no significant impacts on highway operation are expected.
- 19.3.20 The assessment undertaken is qualitative based on professional judgement drawing on survey data and strategic modelling outcomes to understand the existing capacity and operation of the local highway network. This enables the effect of all other Thames Tideway Tunnel sites on the area surrounding Shad Thames Pumping Station to be taken into account within the assessment of the peak year of construction at this site.

Operation

- 19.3.21 The assessment methodology for the operational phase follows that described in the *Project-wide TA*. There are no site-specific variations for undertaking the operational assessment of this site.
- 19.3.22 Given the level of transport activity associated with the Thames Tideway Tunnel project during the operational phase, only the localised transport effects around the Shad Thames Pumping Station site have been assessed. Other Thames Tideway Tunnel sites would not affect the area around Shad Thames Pumping Station in the operational phase and therefore they have not been considered in the assessment.

Operational assessment area

- 19.3.23 The assessment area for the operational assessment remains the same as for the construction assessment as outlined in paras. 19.3.8 to 19.3.9.

Operational assessment year

- 19.3.24 The operational assessment year has been taken as Year 1 of operation which is the year in which it is assumed that the Thames Tideway Tunnel project would become operational. As transport activity associated with the operational phase would be very low, there is no requirement to assess any other year beyond that date.

19.4 Baseline

19.4.1 This section sets out the baseline conditions on the local transport network in the vicinity of the Shad Thames Pumping Station site in 2012, with the exception of the traffic survey data which was collected in 2011.

Policy review

19.4.2 The site is located within the LB of Southwark; the relevant national, regional and local policy documents have been reviewed and included in Appendix A.

Existing land use

19.4.3 The site is located in and around the existing Thames Water Shad Thames Pumping Station.

19.4.4 The nearest residential areas are Tamarind Court and Wheat Wharf located adjacent to the southern and northern boundary of the site respectively.

Existing access

19.4.5 The site is currently accessible by vehicle from Maguire Street. There is pedestrian and cycle access from the western footway of Maguire Street which is indicated in Figure 19.4.1 in the Shad Thames Pumping Station *Transport Assessment* figures.

Pedestrian network and facilities

19.4.6 The key pedestrian network related to the Shad Thames Pumping Station site comprises:

- a. Maguire Street providing a northeast-southwest link between Shad Thames to the northeast and Gainsford Street to the southwest
- b. Shad Thames providing a northeast-southwest link between the Design Museum and Maguire Street to the northeast and Jamaica Road (A200) to the southwest
- c. Gainsford Street providing a northwest-southeast link between Shad Thames to the southeast and Horselydown Lane to the northwest
- d. Jamaica Road (A200) providing an east-northwest link between Tooley Street and Tanner Street (A200) to the northwest and Brunel Road (B205), the Rotherhithe Tunnel (A101) and Lower Road (A200) to the east.

19.4.7 The Thames Path and the London Strategic Walk network in the vicinity of the site are shown on Figure 19.4.1 in the Shad Thames Pumping Station *Transport Assessment* figures.

19.4.8 The Thames Path (a Public Right of Way) runs approximately 60m to the north of the site, adjacent to the River Thames. The Thames Path continues to the east along Bermondsey Wall East and Chambers Street, and to the west along Shad Thames. Plate 19.4.1 shows the Thames Path to the north of the site.

Plate 19.4.1 Thames Path



19.4.9 Maguire Street shown in Plate 19.4.2 joins the northern end of Shad Thames and has continuous footways of approximately 1.5m in width provided on both sides of the road. Maguire Street links to Gainsford Street to the south.

Plate 19.4.2 Footway along Maguire Street



- 19.4.10 Shad Thames provides a northeast-southwest link between Jamaica Road (A200) and Butlers Wharf located on the south bank of the River Thames. Footways of approximately 1m in width are provided on both sides of the road.
- 19.4.11 Gainsford Street provides a northwest-southeast link between Shad Thames and Horselydown Lane. Footways of between 1m and 2m wide are present on both sides of the road.
- 19.4.12 Jamaica Road (A200) shown in Plate 19.4.3 to the south of the site has footways of between 2.5m and 7m wide along both sides of the road providing a continuous link between Bermondsey Underground station to the east and the site to the west. Guardrails are provided along the road to stop pedestrians from crossing; however, pedestrian crossings are provided at junctions for pedestrians wishing to cross Jamaica Road (A200).
- 19.4.13 A pedestrian crossing is provided at the junction of Jamaica Road (A200) and Abbey Street. A pelican crossing is located to the east of the Jamaica Road (A200) / Dockhead junction.
- 19.4.14 At the junction of Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames, signalised pedestrian crossings with refuge pedestrian islands are provided to the east and west of the junction.

Plate 19.4.3 Footway along Jamaica Road (A200)



Cycle network and facilities

- 19.4.15 The existing cycle network and facilities in the vicinity of the site are described below and shown on Figure 19.4.1 in the Shad Thames Pumping Station *Transport Assessment* figures.
- 19.4.16 The main cycle route within the area is National Cycle Route (NCN) Route 4 which routes between London and Fishguard via Reading, Bath, Bristol, Newport, Swansea, Carmarthen, Tenby, Haverfordwest and St. Davids. The route is fully open and signed though it has not been finalised in central London between Greenwich and Putney Bridge.
- 19.4.17 NCN Route 4 (on-road) runs along Queen Elizabeth Street. If heading west the route continues along Tooley Street (A200) and to the east runs along Shad Thames (on-road), Jamaica Road (A200) (traffic-free), Dockhead (on-road) and Wolseley Street (traffic-free).
- 19.4.18 There are bus lanes along Jamaica Road (A200) which can also be used for cycling as shown in Plate 19.4.4. Advanced cycle stop lines are provided at the junction of Jamaica Road (A200) / Tanner Street (A200) / Shad Thames.

Plate 19.4.4 Shared use cycle lane along Jamaica Road (A200)



Barclays Cycle Superhighways

- 19.4.19 The closest Barclays Cycle Superhighway (CS) to the site is CS7 which runs between Merton and the City. The cycle route starts on the High Street in Colliers Wood and runs along the A24 Tooting High Street, Balham High Road, Clapham High Street, Kennington Park Road, Southwark Bridge Road, and Southwark Bridge with an approximate 45 minute journey from Merton to the City. The closest point to CS7 from the site is on Southwark Bridge, approximately 2km walking distance to the west.
- 19.4.20 CS4 running between Woolwich and London Bridge (A206 – A200) is planned to be opened in 2015.

Barclays Cycle Hire Scheme

- 19.4.21 The closest Barclays Cycle Hire docking station to the proposed site is located on Curlew Street, approximately 150m walking distance to the southwest. A total of 21 bicycles are available from this docking station.

Cycle parking

- 19.4.22 Two Sheffield Cycle stands are provided at the northern end of Maguire Street, approximately 50m walking distance to the northeast. These provide capacity for four bicycles.
- 19.4.23 Three Sheffield Cycle stands are located on Curlew Street approximately 200m walking distance to the southwest, which can accommodate six bicycles.

- 19.4.24 A further five Sheffield Cycle stands are in place on Queen Elizabeth Street to the southwest of the site, approximately 230m walking distance to the southwest, with capacity for ten bicycles.

Public transport

Public Transport Accessibility Level

- 19.4.25 The Public Transport Accessibility Level (PTAL) of the site has been calculated using TfL's approved PTAL methodology⁴ (analysis is included in Appendix B).
- 19.4.26 The site has a PTAL rating of 3, rated as 'moderate' (with 1 being the lowest accessibility and 6b being the highest accessibility). The following sections detail the public transport services in the vicinity of the site which are shown on Figure 19.4.2 in the Shad Thames Pumping Station *Transport Assessment* figures.

Bus services

- 19.4.27 A total of eight daytime bus routes and two night bus routes operate within 640m walking distance of the site. These routes serve a range of destinations in the local and wider area. Table 19.4.1 provides a summary of the bus services and their frequencies during the weekday peaks.

Table 19.4.1 Existing daytime weekday peak hour local bus services and frequencies (number of buses per hour)

Bus number	Origin - destination	Nearest bus stop to Shad Thames Pumping Station site	Approximate walking distance from Shad Thames site (m)	Weekday peak hour two-way frequencies	
				AM peak (08:00-09:00)	PM peak (17:00-18:00)
42	Sunray Avenue – Appold Street	Druid Street	485m	12	12
47	Catford Bus Garage - Shoreditch	Dockhead	400m	14	13
78	Shoreditch High Street - Nunhead	Druid Street	485m	15	15
188	North Greenwich Station – Russell Square	Dockhead	400m	16	16
383	City Hall – New Cross	City Hall	345m	20	20
381	Peckham Bus Station – County Hall	Dockhead	400m	13	13
C10	Canada Water Bus Station – Victoria	Old Jamaica Road	610m	14	13
RV1	Covent Garden – Tower Gateway	Druid Street	485m	12	12

Source: Transport for London (TfL) (2011) Timetables. Available at www.tfl.gov.uk (site last accessed December 2012)

- 19.4.28 These bus routes operate from the following bus stops:
- a. Dockhead bus stop on Jamaica Road (A200) – eastbound and westbound, 400m walking distance to the southeast
 - b. City Hall bus stop on Queen Elizabeth Street – westbound only, 345m walking distance to the southwest
 - c. Druid Street bus stop on Tower Bridge Road (A100) – northbound and southbound, 485m walking distance to the southwest
 - d. Old Jamaica Road bus stop on Abbey Street (B202) – eastbound and westbound, 610m walking distance to the southeast
- 19.4.29 On average there are approximately 114 daytime bus services in total per hour in the AM and PM peak hours within 640m walking distance of the site.
- 19.4.30 There are approximately six night-time bus services per hour Monday – Friday between 00:00 – 06:00 and a total of eight night-time bus services per hour on Saturdays between 00:00 – 06:00 within a 640m walking distance of the site.

London Underground

- 19.4.31 Bermondsey station is the nearest London Underground station to the site. As shown on Figure 19.4.2 in the Shad Thames Pumping Station *Transport Assessment* figures, Bermondsey station is located approximately 1.1km walking distance to the southeast of the site. This is beyond the threshold distance of 960m used in the PTAL calculations, and represents approximately 14 minutes walking time.
- 19.4.32 Jubilee Line trains serving this station travel west to Stanmore and Wembley, and east to Greenwich and Stratford. In the AM and PM peak hours, the frequency of Jubilee Line trains is approximately every three to five minutes providing 20-24 services per hour in each direction. On average there are 44 underground services in total during each of the AM and PM peaks from Bermondsey Underground station.
- 19.4.33 The same Jubilee Line train services can also be accessed at London Bridge Underground station, approximately 1.3km walking distance to the west of the site. London Bridge Underground station also provides services to Northern Line.
- 19.4.34 Northern Line trains serving this station travel north to High Barnet and Edgware, and south to Morden. In the AM and PM peak hours, the frequency of the Northern Line trains is approximately every three to four minutes providing 19-22 services per hour in each direction.
- 19.4.35 On average there are 40 Northern Line services in total during each of the AM and PM peak hours from London Bridge Underground station.
- 19.4.36 Table 19.4.2 provides a summary of the London Underground services and their frequencies during the weekday peaks.

National Rail

- 19.4.37 As shown on Figure 19.4.2 in the Shad Thames Pumping Station *Transport Assessment* figures, the closest National Rail station to the site

is London Bridge, located approximately 1.3km walking distance to the west of the site. This is beyond the threshold distance of 960m used in the PTAL calculations, and represents approximately 16 minutes walking time.

- 19.4.38 The station is served by First Capital Connect, Southeastern and Southern train services and provides northbound services to Bedford, Luton, St Albans, London Cannon Street and London Charing Cross. Southbound services are provided to Brighton, Uckfield, Tonbridge, Dartford, Horsham, Gravesend, Tunbridge Wells, Slade Green, Sevenoaks, Dover Priory, Reigate, Hastings, and Ramsgate.
- 19.4.39 In the AM peak hour there are approximately 124 services (51 northbound and 73 southbound) and in the PM peak hour there are approximately 123 services (40 northbound and 83 southbound) from London Bridge station.
- 19.4.40 Table 19.4.3 provides a summary of the National Rail services and their frequencies during the weekday peaks.

Table 19.4.2 Existing London Underground weekday peak hour services and frequencies (number of services per hour)

Line	Origin - destination	Approximate walking distance from Shad Thames Pumping Station site (m)	Weekday peak hour two-way frequencies	
			AM peak (08:00-09:00)	PM peak (17:00-18:00)
Jubilee	Stanmore - Stratford	1100	44	44
Northern	Morden – High Barnet	1300	40	40

Transport for London (TfL) (2012) Timetables www.tfl.gov.uk (site last accessed: December 2012).

Table 19.4.3 Existing National Rail weekday peak hour services and frequencies (number of services per hour)

National Rail station	Origin - destination	Approximate walking distance from Shad Thames Pumping Station site (m)	Weekday peak hour two-way frequency	
			AM peak (08:00-09:00)	PM peak (17:00-18:00)
London Bridge	Northbound services to Bedford, Luton, St Albans, London Cannon Street and London Charing Cross. Southbound services to Brighton, Uckfield, Tonbridge, Dartford, Horsham, Gravesend, Tunbridge Wells, Slade Green, Sevenoaks, Dover Priory, Reigate, Hastings, and Ramsgate	1300	124	123

Rail Planner (2012) www.nationalrail.co.uk (site last accessed: December 2012).

River passenger services

- 19.4.41 The Shad Thames site is approximately 1km walking distance east of the London Bridge City Pier which is served by Thames Clippers services. London Bridge City Pier is situated on the south bank of the River Thames close to London Bridge. Table 19.4.4 summarises the services from this pier, including their peak hour service intervals.
- 19.4.42 Thames Clippers services run between Embankment Pier in the west and Woolwich Arsenal Pier in the east.
- 19.4.43 Eastbound Thames Clippers services from London Bridge City Pier start at 07:14 running until 23:26 and westbound services start at 06:42 running until 22:51. The eastbound weekend services run between 09:51 and 23:26 and the westbound weekend services run between 09:16 and 22:51.
- 19.4.44 In the weekday AM peak, the frequency of the westbound services is approximately every ten to 20 minutes and during the PM weekday peak, the frequency of the services is approximately every six to 25 minutes. The eastbound services run approximately every ten to 20 minutes during the AM and PM weekday peaks.
- 19.4.45 London Bridge City Pier is currently accessed from Thames Path which runs along the south bank of the River Thames. The Thames Path continues east along Shad Thames and west along Tooley Street and Montague Close.

Taxis

- 19.4.46 The nearest taxi ranks to the site are located on Tooley Street (More London) approximately 900m walk to the northwest of the site with four taxi spaces and Tooley Street (London Dungeon) approximately 1.1km walk to the northwest of the site with one taxi space.

Table 19.4.4 Existing river services and frequency

River service	Origin - destination	Approximate walking distance from Shad Thames Pumping Station site (m)	Weekday peak hour two-way frequency	
			AM peak (08:00-09:00)	PM peak (17:00-18:00)
Thames Clippers	Embankment – Woolwich Arsenal	1000	9	8

Source: Transport for London (TfL) (2012) Timetables www.tfl.gov.uk (site last accessed: December 2012).

Highway network and operation

- 19.4.47 The site is located on Maguire Street as shown in Figure 19.2.1 in the Shad Thames Pumping Station *Transport Assessment* figures, approximately 300m from Jamaica Road (A200) which forms part of the TLRN. Maguire Street is a southbound one-way road with a 30mph speed limit. Access to Maguire Street at its northern end is from Shad Thames and traffic leaves Maguire Street into Gainsford Street. Gainsford Street is a two-way road which leads to Shad Thames to the east and Curlew Street, Lafone Street and Horselydown Lane to the west.
- 19.4.48 Between the junctions with Jamaica Road (A200) and Gainsford Street, Shad Thames is a two-way road. North of Gainsford Street, Shad Thames is one way northbound passing under the Design Museum to the east and merging with Maguire Street.
- 19.4.49 At its southern end, Shad Thames leads to Jamaica Road (A200) which forms part of the TLRN with one lane and a bus lane in both directions. A 30mph speed limit applies. Jamaica Road (A200) links to Lower Road (A200), Rotherhithe Tunnel (A101) and Brunel Road (B205) to the east and Tooley Street (A200), Druid Street (A200) and Tower Bridge Road (A100) to the west.
- 19.4.50 Rotherhithe Tunnel (A101), Tooley Street (A200), Druid Street (A200), and Tower Bridge Road (A100), all form part of the TLRN, and Lower Road (A200) forms part of the SRN.

Parking

- 19.4.51 Figure 19.4.3 in the Shad Thames Pumping Station *Transport Assessment* figures shows the locations of the existing car parking within the vicinity of the site. The existing off-street/private car parking and car club parking spaces are also shown in this figure.

Existing on-street car and motorcycle parking

- 19.4.52 There are eight permit holder parking bays along Maguire Street which are restricted between 08:00 and 18:30 Monday to Friday. Two pay and display parking bays are located along Maguire Street to the north of the junction with Gainsford Street with a charge of £2.40 per hour between 08:30 and 18:30 Monday to Friday and a maximum stay of four hours. There is also one car club only parking bay.
- 19.4.53 On Curlew Street, Fair Street, Gainsford Street, Horselydown Lane, Lafone Street, Queen Elizabeth Street and Three Oak Lane, there are a total of 89 resident parking bays which are restricted between 08:00 and 18:30 Monday to Friday. In total, there are 34 pay and display parking bays on the roads close to the site which are limited to a maximum stay of four hours. The charges are £2.40 per hour between 08:30 and 18:30 Monday to Friday.
- 19.4.54 There are two motorcycle parking bays on Gainsford Street between the junctions with Curlew Street and Lafone Street approximately 200m walking distance to the west of the site providing a capacity of up to 15 motorcycles. These are not subject to a time restriction.

- 19.4.55 Two disabled parking bays are available on Shad Thames to the east of the junction with Maguire Street approximately 50m to the northeast of the site, which are restricted to blue badge holders only.
- 19.4.56 Table 19.4.5 summarises the parking restrictions and the number of bays on the roads in the vicinity of the site. The availability and usage of parking capacity on a weekday and a Saturday on the roads in the vicinity of the site is summarised later in this section in Table 19.4.10.

Table 19.4.5 Existing on-street car parking in the vicinity of Shad Thames Pumping station

Road name	Type of parking restrictions and number of bays				
	Pay and display	Resident	Blue badge	Unrestricted	Short-term*
Boss Street	4	0	0	0	0
Coxson Way	0	0	0	0	0
Curlew Street	0	3	0	0	0
Druid Street	0	0	0	19	0
Fair Street	4	20	0	0	0
Gainsford Street	0	22	2	0	0
Horselydown Lane	3	4	0	0	0
Lafone Street	5	4	0	12	0
Maguire Street	3	8	2	0	0
Queen Elizabeth Street	15	31	0	0	0
Shad Thames	0	0	0	78	0
Three Oak Lane	0	5	0	0	0
Tooley Street	0	0	0	13	0
Total	34	97	4	122	0

*The maximum stay for short-term parking bays is 20 minutes.

Existing off-street/private car parking

- 19.4.57 The nearest off-street private car park to the site, Q-Park Butler's Wharf, is approximately 120m walking distance to the southwest of the site on

Gainsford Street. This 24-hour car park has 115 car spaces and nine blue badge holder parking bays. The charges are summarised in Table 19.4.6.

Table 19.4.6 Q-Park Butler’s Wharf private car parking charges

Duration	Charge
Up to 1 hour	£3.00
Up to 2 hours	£6.00
Up to 3 hours	£9.50
Up to 4 hours	£12.50
Up to 12 hours	£15.50
Up to 24 hours	£18.00

Coach parking

19.4.58 There are no coach parking spaces within 640m walking distance of the site.

Car clubs

19.4.59 Car clubs provide members with easy access to cars for short-term use. Cars are available as and when needed and allow members to access a car without purchase, storage and operational costs associated with owning a private car.

19.4.60 When surveys were undertaken in May 2011, there was one car club parking space on the northern end of Maguire Street approximately 25m to the northeast of the site. One car club bay was on Curlew Street to the north of the junction with Queen Elizabeth Street, located approximately 210m walking distance to the southwest of the site.

19.4.61 A further car club parking space was located on Gainsford Street to the east of the junction with Horselydown Lane at a distance of approximately 320m walking distance from the site. Two further car club parking spaces were located on Wolseley Street and George Row at a distance of 500m walking distance and 640m walking distance respectively.

Servicing and deliveries

19.4.62 A loading bay is located to the east of the Shad Thames / Maguire Street junction, approximately 50m walking distance from the site with a maximum stay of 20 minutes.

19.4.63 Additionally, a loading and blue badge holder parking bay is located along Jamaica Road (A200) (eastbound) to the east of the junction with Shad Thames and Tanner Street (A200) approximately 350m walking distance from the site. The maximum stay in the loading bay is 20 minutes and the maximum stay for blue badge holders is three hours.

Baseline survey data

Description of data

- 19.4.64 An ad-hoc junction survey at the junction of Jamaica Road (A200) with Shad Thames and Tanner Street (A200), carried out in October 2008, was obtained from TfL. This identified the two-way traffic flows along Jamaica Road (A200) and Shad Thames at that time. The flows are discussed in para. 0.
- 19.4.65 Baseline survey data were collected in May 2011 to establish the existing transport movements in the area. Figure 19.4.4 in the Shad Thames Pumping Station *Transport Assessment* figures indicates the survey locations in the vicinity of the site.
- 19.4.66 As part of surveys in May 2011, manual and automated traffic surveys were undertaken to establish specific traffic, pedestrian and cycle movements including turning volumes, queue lengths, saturation flows, degree of saturation and traffic signal timings. Parking surveys were undertaken to establish the availability and usage of parking in the vicinity of the site.
- 19.4.67 The scope of the surveys in terms of location and time periods was considered to ensure that the data required for assessment was collected. In some cases Automatic Traffic Count (ATC) data was collected on links to validate the junction count data and provide information for noise and air quality assessments. Pedestrian and cycle count data was collected at locations where flows could be affected by pedestrian and cycle diversions during construction, the generation of additional trips or where conflicts could occur with construction vehicles. Parking survey data was collected where it was possible that parking suspensions would be necessary or where additional parking demand might be generated by the proposed development.
- 19.4.68 Traffic surveys were carried out on a weekday and a weekend to represent a weekly profile of traffic at particular locations. Where two weekly profiles have been surveyed, the busiest survey was used.
- 19.4.69 The *Baseline Data Report*, which is an appendix to the *Project-wide TA*, presents the method for field survey data collection and data collected from other sources.
- 19.4.70 The surveys undertaken and their locations are summarised in Table 19.4.7.

Table 19.4.7 Survey types and locations

Survey type and location	Date
Junction survey (including pedestrian and cycle movements)	
Jamaica Road (A200) / Tanner Street (A200) / Shad Thames	10 May 2011
Automatic Traffic Count (ATC)	
Jamaica Road (A200) to the west of the junction with Abbey Street (B202)	21-27 May 2011 28 May- 03 June 2011
Pedestrian and cycle surveys	
Thames Path along Butlers Wharf	10 May 2011
Pedestrian crossing on Jamaica Road (A200) to the east of the junction with Dockhead	
Parking surveys	
Druid Street	12 May 2011
Fair Street	
Tooley Street	
Queen Elizabeth Street	
Gainsford Street	
Shad Thames	
Maguire Street	
Curlew Street	
Lafone Street	
Boss Street	
Three Oak Lane	
Horselydown Lane	
Coxson Way	

- 19.4.71 The following ATC and junction surveys are on construction traffic routes to and from the Shad Thames Pumping Station site:
- a. ATC on Jamaica Road (A200) to the west of the junction with Abbey Street (B202)
 - b. Jamaica Road (A200) / Tanner Street (A200) / Shad Thames junction.

Results of the surveys

- 19.4.72 The surveys inform the baseline situation in the area surrounding the site and are summarised in the following paragraphs.

Pedestrians

- 19.4.73 Table 19.4.8 indicates the pedestrian flows on the Thames Path along Butlers Wharf and the pedestrian crossing on Jamaica Road (A200) to the east of the junction with Dockhead.
- 19.4.74 Pedestrian surveys on the Thames Path along Butlers Wharf indicate that flows are heavier during the AM peak hour with 357 westbound pedestrians and 77 eastbound pedestrians along the Thames Path. During the PM peak hour, there is a relatively balanced flow of pedestrians along the Thames Path of approximately 190 pedestrians in each direction.
- 19.4.75 Pedestrian surveys on the controlled pedestrian crossing located on Jamaica Road (A200) to the east of the junction with Dockhead indicate that flows are similar in each peak period. During the AM peak hour flows of 99 northbound pedestrians and 34 southbound pedestrians were recorded. In the PM peak hour, 86 southbound pedestrians and 52 northbound pedestrians were observed to use the crossing.

Cyclists

- 19.4.76 Table 19.4.9 indicates the flows of bicycles along Shad Thames and at the Jamaica Road (A200) junction with Shad Thames. During the AM peak hour, there is a heavy flow of cyclists with 719 cyclists travelling in the northwest bound direction and 75 in the southeast bound direction along Jamaica Road (A200) through the junction with Shad Thames. During the PM peak hour the predominant flow of 411 cyclists along Jamaica Road (A200) is in the southeast bound direction with 91 cyclists travelling in the northwest bound direction.
- 19.4.77 Shad Thames experiences a total of 62 cyclists (two-way) in the AM peak hour. During the PM peak hour, the two-way cycle flow is 53 with the predominant flow in the southbound direction.

Table 19.4.8 Existing pedestrian flows

Pedestrian crossing	Direction	Weekday			Weekend
		AM peak hour (08:00-09:00)	Inter-peak hour (12:00-13:00)	PM peak hour (17:00-18:00)	Saturday peak hour (13:00-14:00)
Thames Path	Eastbound	77	187	188	232
Thames Path	Westbound	357	172	194	244
Pedestrian crossing on Jamaica Road (A200) to the east of the junction with Dockhead	Northbound	99	40	52	31
Pedestrian crossing on Jamaica Road (A200) to the east of the junction with Dockhead	Southbound	34	27	86	35

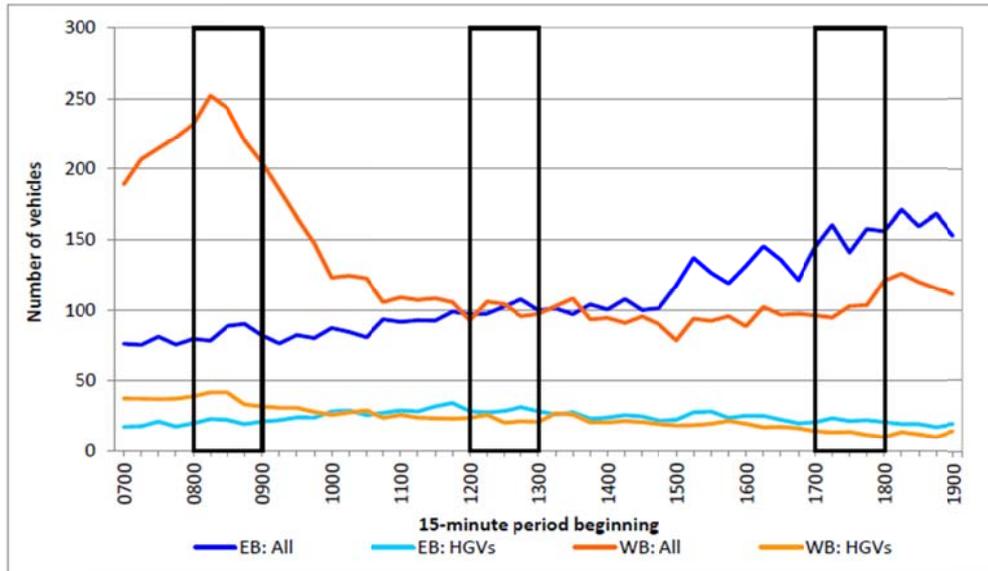
Table 19.4.9 Existing cycle flows

Road/route	Direction	Weekday			Weekend
		AM peak hour (08:00-09:00)	Inter-peak hour (12:00-13:00)	PM peak hour (17:00-18:00)	Saturday peak hour (13:00-14:00)
Shad Thames	Northbound	38	2	14	6
Shad Thames	Southbound	24	6	39	5
Jamaica Road (A200) junction with Shad Thames	Northwest	719	33	91	40
Jamaica Road (A200) junction with Shad Thames	Southeast	75	41	411	45

Traffic flows

19.4.78 ATC data collected as part of the surveys have been analysed to identify the existing traffic flows along Jamaica Road (A200). Weekday flows are used as this is when the greatest impacts from the project are likely to be experienced. The weekday vehicle and HGV flows for a 12-hour period (07:00-19:00) are shown in Plate 19.4.5.

Plate 19.4.5 Existing weekday 15-minute traffic flows on Jamaica Road (A200) (ATC survey)



EB – East Bound, WB – West Bound. The black box represents the peak hour traffic flows used for the traffic assessment.

19.4.79 The weekday vehicle and HGV flows show that AM peak hour for Jamaica Road (A200) is the busiest hour with a maximum two-way flow of approximately 330 vehicles every 15 minutes. There are approximately 335 and 950 vehicles per hour in the eastbound and westbound directions respectively. This equate to a total of approximately 1285 vehicles per hour two-way in the AM peak hour.

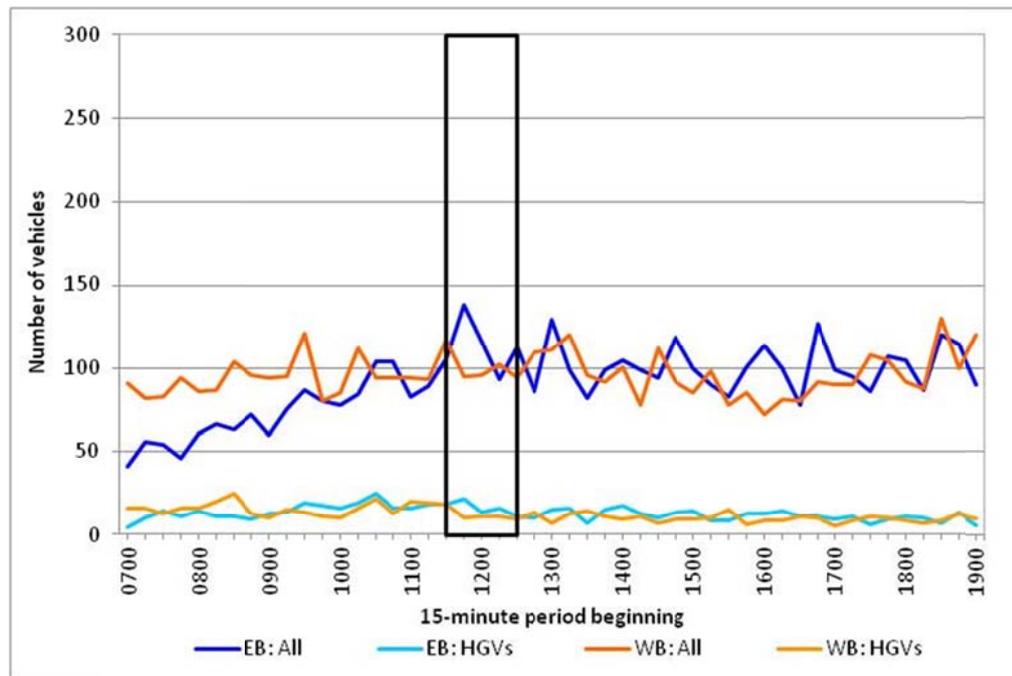
19.4.80 In the PM peak hour, there is a maximum two-way flow of approximately 260 vehicles every 15 minutes along Jamaica Road (A200). There are approximately 600 and 400 vehicles per hour in the eastbound and westbound directions respectively. This equates to a total of approximately 1000 vehicles per hour two-way in this peak hour.

19.4.81 Plate 19.4.6 indicates the Saturday peak along Jamaica Road (A200) which indicates that the peak two-way flow is between 11:30 and 12:30 with approximately 230 vehicles during the peak 15 minutes. There are approximately 455 and 410 vehicles per hour in the eastbound and westbound directions respectively. This

equates to a total of approximately 865 vehicles per hour two-way in this peak hour.

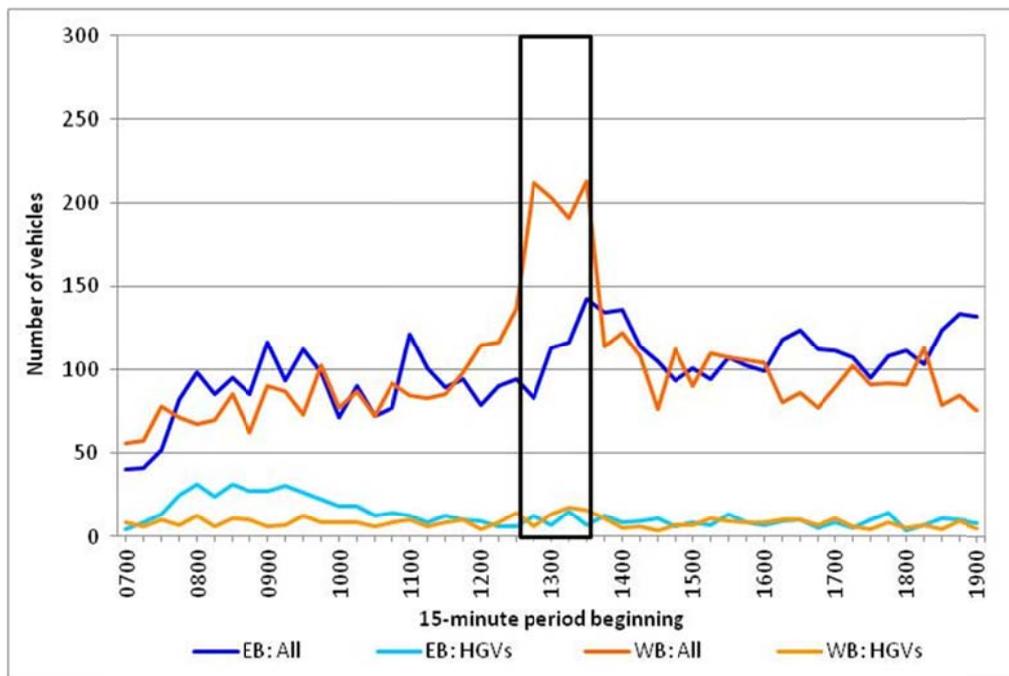
- 19.4.82 Plate 19.4.7 shows that along Jamaica Road (A200), the busiest time for the westbound traffic flow on a Sunday is between 12:30 and 13:30 with approximately 320 vehicles during the peak 15 minutes. There are approximately 405 and 745 vehicles per hour in the eastbound and westbound directions respectively. This equates to a total of approximately 1150 vehicles per hour two-way in this peak hour.

Plate 19.4.6 Existing Saturday 15-minute traffic flows on Jamaica Road (A200) (ATC survey)



EB – East Bound, WB – West Bound. The black box represents the peak hour traffic flows used for the traffic assessment.

Plate 19.4.7 Existing Sunday 15-minute traffic flows on Jamaica Road (A200) (ATC survey)



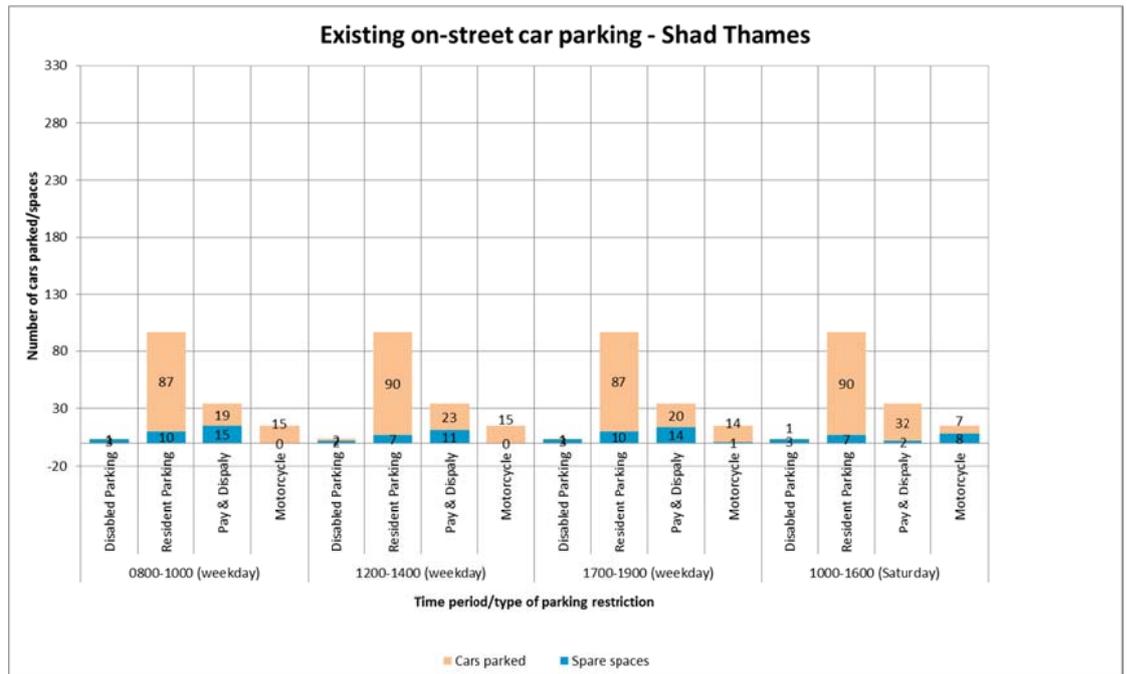
EB – East Bound, WB – West Bound. The black box represents the peak hour traffic flows used for the traffic assessment.

- 19.4.83 TfL junction surveys indicate that along Jamaica Road (A200) there were two-way traffic flows of 1,025 and 1,029 vehicles in the weekday AM and PM peak hours respectively. The weekday AM and PM peak hour two-way traffic flows along Shad Thames were 185 and 190 vehicles respectively.
- 19.4.84 The ATC survey for Jamaica Road (A200) undertaken in 2011 has been validated against the TfL ATC survey data. The comparison shows that there is only a small difference between these two sets of data, with the traffic flows recorded in 2011 being slightly higher. This is to be expected due to traffic growth taking place between the two surveys taking place.
- 19.4.85 Traffic flow diagrams for the AM and PM peak hours indicate the traffic flow information collected during the junction surveys in 2011 and are shown in Figures 19.4.5 to 19.4.6 in the Shad Thames Pumping Station *Transport Assessment* figures.

Parking

- 19.4.86 Plate 19.4.8 shows a histogram of the car parking availability and usage in the area surrounding Shad Thames Pumping Station during the AM, inter-peak, PM peaks on a weekday and during the weekend peak periods.

Plate 19.4.8 Existing on-street car parking availability and usage



19.4.87 Table 19.4.10 indicates the parking and motorcycle bay capacity available throughout a weekday and on Saturday on the roads in the vicinity of the site.

Table 19.4.10 Parking and motorcycle bay availability and usage

Location	Number and Type of Bays		No. of spaces available			
			Weekday			Saturday
			08:00-10:00	12:00-14:00	17:00-19:00	12:00-14:00
Fair Street	Resident	20	3	0	3	0
	Pay and Display	4	4	4	4	1
Curlew Street	Resident	3	0	0	0	0
Gainsford Street	Resident	22	0	0	0	0
	Motorcycle	15	0	0	1	8
	Blue badge parking bays	2	1	0	1	1
Boss	Pay and Display	4	2	1	1	0

Location	Number and Type of Bays		No. of spaces available			
			Weekday			Saturday
			08:00-10:00	12:00-14:00	17:00-19:00	12:00-14:00
Street						
Lafone Street	Resident	4	0	0	0	0
	Pay and Display	5	0	3	1	0
Maguire Street	Resident	8	7	7	7	7
	Pay and Display	3	2	1	2	0
	Blue badge parking bays	2	2	2	2	2
Queen Elizabeth Street	Resident	31	0	0	0	0
	Pay and Display	15	4	1	4	0
Three Oak Lane	Resident	5	0	0	0	0
Horselydown Lane	Resident	4	0	0	0	0
	Pay and Display	3	3	1	2	1

19.4.88 The results of the parking surveys indicate that pay and display parking within the area is between 56% and 94% utilised depending on location and that there is generally a small amount of spare capacity available on both weekdays and at weekends.

19.4.89 The usage of resident parking bays is high with between 89% and 92% occupancy of available parking bays during weekdays and at the weekend. There is a small amount of spare capacity available both on weekdays and at the weekend. Maguire Street is the exception to this with low occupancy throughout the day.

19.4.90 Motorcycle parking occupancy during weekdays is also high, with almost full occupancy on weekdays. During the weekends on average 47% of motorcycle parking spaces were occupied.

Accident analysis

19.4.91 Accident data in the assessment area for the most recent five-year period available were obtained from TfL.

19.4.92 A total of 15 accidents occurred in the vicinity of the Shad Thames Pumping Station site during the five years for which accident data was analysed. Of these accidents, one was fatal, five were classified as serious and nine classified as slight.

- 19.4.93 The largest number of road traffic accidents occurred at the junction of Jamaica Road (A200) / Tanner Street (A200) / Shad Thames, with one fatal accident, three serious accidents and two slight accidents.
- 19.4.94 The fatal accident recorded in the assessment area involved a skip lorry and a pedal cycle and was caused by the lorry driver failing to signal and passing too close to the cyclist and the cyclist failing to judge the lorry's path or speed and losing control.
- 19.4.95 Six of the total accidents involved pedestrians. One occurred along Jamaica Road (A200) away from junctions, one occurred along Shad Thames to the north of the junction with Jamaica Road (A200), two at the junction of Jamaica Road (A200) / Dockhead, one at the Jamaica Road (A200) / Mill Street junction, and one at the Jamaica Road (A200) Tanner Street (A200) / Shad Thames junction. Of the pedestrian accidents that occurred in the vicinity of the site, one involved a pedestrian under 18 and one involved a Light Goods Vehicle.
- 19.4.96 Of the total accidents, six involved pedal cycles, three at the junction of Jamaica Road (A200) / Dockhead and three at the Jamaica Road (A200) / Tooley Street (A200) / Shad Thames junction.
- 19.4.97 In the majority of accidents within the study area, not looking properly, failing to judge the other person's path or speed and reckless driving were the main causes of accidents, and none of the accidents were considered to be due to road geometry or failure of infrastructure.
- 19.4.98 Table 19.4.11 and Figure 19.4.7 in the Shad Thames Pumping Station *Transport Assessment* figures indicate the accidents that occurred within the vicinity of the site.

Table 19.4.11 Accident severity from 2006 to 2011

Location	Slight	Serious	Fatal	Total
Shad Thames	1	0	0	1
Maguire Street	0	0	0	0
Gainsford Street	0	0	0	0
Jamaica Road (A200) between the junction with Dockhead and the junction with Shad Thames	1	1	0	2
Shad Thames / Maguire Street junction	0	0	0	0
Maguire Street / Gainsford Street junction	0	0	0	0
Shad Thames / Gainsford Street junction	0	0	0	0

Location	Slight	Serious	Fatal	Total
Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames junction	2	3	1	6
Jamaica Road (A200) / Mill Street	1	0	0	1
Jamaica Road (A200) / Dockhead junction	4	1	0	5
Total	9	5	1	15

- 19.4.99 Of the six pedestrian-injury accidents, all occurred on the roads expected to be used by construction vehicles within the study area. Inspection of the data showed that three of these occurred at junctions with signalised pedestrian crossing facilities, with the remaining accidents occurring at locations without signal control. Of the six cyclist-injury accidents, all occurred on the roads expected to be used by construction vehicles within the study area. Figure 19.4.8 in the Shad Thames Pumping Station *Transport Assessment* figures shows pedestrian and cyclists accidents by severity.
- 19.4.100 In the context of the construction HGV movements associated with the Shad Thames Pumping Station site, the accident risk to these modes of travel would be managed by providing pedestrian and cyclist awareness training for commercial drivers associated with the construction works as set out in the *CoCP*. For sections of road affected by roadworks, the risk to all road users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works.⁵
- 19.4.101 Appendix C provides a full analysis of accidents within the local area surrounding Shad Thames Pumping Station.

19.5 Construction assessment

- 19.5.1 The *TA* for the Shad Thames Pumping Station site including both qualitative and quantitative analysis, has been undertaken drawing on discussions with TfL and the Local Highway Authorities, knowledge of the transport networks and their operational characteristics in the vicinity of each site and the anticipated construction programme, duration and levels of construction activity.
- 19.5.2 The construction assessment compares a construction base case, which represents transport conditions in the assessment year without the Thames Tideway Tunnel project, with a construction development case, which represents conditions with the Thames

Tideway Tunnel under construction. The construction base case does not include any traffic related to the Thames Tideway Tunnel, whether from the Shad Thames Pumping Station site or from other sites.

Construction base case

- 19.5.3 As described in Section 19.3 above, the construction assessment year for transport issues in relation to this site is Site Year 1 of construction.

Pedestrians and cyclists

- 19.5.4 There are no proposals to change the pedestrian network in the vicinity of the site by Site Year 1 of construction and the construction base case for this network is therefore the same as indicated in the baseline description in Section 19.4.
- 19.5.5 There are proposals to change the cycle network by Site Year 1 of construction. Barclays Cycle Superhighway CS4, between Woolwich and London Bridge (A206 – A200), is expected to be opened in 2015. This will pass along Jamaica Road (A200) close to the site.

Public transport

- 19.5.6 In terms of the public transport network, work is already underway to improve London Bridge rail station by reconfiguring the rail infrastructure. In the future there would be nine through platforms and six terminating platforms enabling more through trains to serve the station. A new concourse at street level, with entrances on Tooley Street and St Thomas Street, will provide room for 35% more passengers than expected in 2016. The development is scheduled to be completed in 2018.
- 19.5.7 It is expected that as a result of the TfL London Underground Upgrade Plan⁶, compared to the current baseline, capacity will increase by approximately 33% and journey times reduce by approximately 22% on the Jubilee Line.
- 19.5.8 Due to traffic growth in the construction base case compared to the baseline situation, bus journey times along Jamaica Road (A200) and within the wider area will be affected. However, as there is adequate capacity on the roads in the vicinity of Shad Thames Pumping Station at present, it is anticipated that the local network will continue to operate with available capacity when taking into account the construction base case traffic flows and the impact on the bus journey times will be insignificant.
- 19.5.9 It is anticipated that patronage on public transport services may change between the baseline situation and Site Year 1 of construction. Future patronage changes on bus and rail will be driven by a range of complex factors and there are inherent uncertainties in setting a patronage level for a future year. Therefore, in order to ensure that a busiest case scenario is

addressed in assessing the result of additional construction worker journeys by public transport, the capacity for public transport services in the construction base case has been assumed to remain the same as capacity in the baseline situation. This ensures a robust assessment.

Highway network and operation

- 19.5.10 Baseline traffic flows (determined from the junction surveys) have been used and forecasting carried out to understand the capacity on the highway network in the vicinity of the Shad Thames Pumping Station site in Site Year 1 of construction without the Thames Tideway Tunnel project. The scope of this analysis has been discussed with the LB of Southwark and TfL.
- 19.5.11 Strategic highway network modelling has been undertaken at a project-wide level using the TfL HAMs, which include forecasts of employment and population growth in line with the London Plan. Growth factors have been derived at individual Borough level by comparing the 2008/9 base and 2021 forecast years in the HAMs, as described in the *Project-wide TA*.
- 19.5.12 For the Shad Thames Pumping Station site, ELHAM has been used. The relevant growth factors for this site are described in para. 19.5.16 which were applied to the survey flows undertaken in 2011 to produce flows for the base and development cases. These have informed the qualitative review of effects on highway network operation, bearing in mind that local highway modelling has not been undertaken for this site (as explained in paras. 19.3.19 and 19.3.20).
- 19.5.13 It should be noted that these factors represent growth over the period to 2021, which is beyond Site Year 1 of construction at Shad Thames Pumping Station and therefore ensures that the construction base case for the highway network is robust.

Committed developments

- 19.5.14 The construction base case takes into account new developments that would be complete or under construction within the vicinity of the site by Site Year 1 of construction at Shad Thames Pumping Station. The committed developments in the immediate vicinity of the site are:
- a. a new development at land adjacent to Lambeth Collage and Potters Fields
 - b. Chambers Wharf (buildings F and G)
 - c. St. Michael's RC College.
- 19.5.15 Due to the distance of these developments from the Shad Thames Pumping Station site it is not expected that there would be a significant change to the highway network surrounding it in the construction base case.

Local highway modelling

- 19.5.16 The growth factors for the LB of Southwark based on ELHAM have been agreed with TfL and the LB of Southwark and applied equally to the baseline traffic flow movements. The growth factors are:
- Weekday AM Peak growth factor – +3.8%
 - Weekday PM Peak growth factor – +4.4%
- 19.5.17 These factors form the background to the consideration of the local highway network and its operation during the construction works at Shad Thames Pumping station. As paras. 19.3.19 and 19.3.20 explain, this has been undertaken quantitatively for this site.

Construction development case

- 19.5.18 This section summarises the findings of the assessment undertaken for the peak year of construction at the Shad Thames Pumping Station site (Site Year 1 of construction).

Pedestrian routes

- 19.5.19 As discussed in Section 19.2 the construction works would result in changes to the pedestrian movements around Shad Thames Pumping Station. The highway layout plans during construction phases plans are provided in the Shad Thames Pumping Station *Transport Assessment* figures and show the footway closures during construction.
- 19.5.20 During Phase 1 approximately 40m of the western footway outside of the Pumping Station would be closed. Pedestrians would be required to cross onto the eastern footway of Maguire Street.
- 19.5.21 During Phase 2 works would be carried out within the carriageway of Maguire Street meaning that the eastern footway would be closed. The closure would begin at the junction of Gainsford Street and run for approximately 60m northeast along Maguire Street. Pedestrians wishing to access Butler's Wharf would be diverted on to the eastern footway along Maguire Street and be required to cross the road. Access would be maintained to Tamarind Court, Coriander Court and the Clove Building.
- 19.5.22 During Phase 3 the pedestrian diversions along Maguire Street would be as in Phase 1. In addition, approximately 15m of Gainsford Street directly to the south of the junction with Maguire Street would be temporarily closed, during which the northern footway would be closed with pedestrians being diverted to the southern footway.
- 19.5.23 To assess a busiest case scenario, it has been anticipated that all worker trips would finish their journeys to the site by foot. As a result the 24 worker trips generated by the site during the AM and PM peak hours have been added to the construction base case pedestrian flows.

- 19.5.24 Given this small increase in pedestrian numbers against baseline usage, an extension to the length of the pedestrian phase at the junction of Jamaica Road (A200), Tooley Street (A200), Tanner Street (A200) and Shad Thames is not required. In addition, as the assessment assumes that all construction workers would travel in the peak hours, the increase in pedestrian numbers against baseline usage during the peak hours due to construction workers walking is considered to be a conservative estimate because, due to the site working start and finish times, many workers will be travelling outside of peak network hours.
- 19.5.25 It is anticipated that the pedestrian diversions along Maguire Street and Gainsford Street would result in a journey time increase of approximately 20 seconds, based on a walking speed of 1.3m/sec.
- 19.5.26 The closure of the eastern Maguire Street footway during works in that street would result in pedestrians being diverted onto the western footway. During this period, there would be no vehicle access to Maguire Street and therefore no immediate pedestrian / vehicle conflicts.
- 19.5.27 The closure of the northern footway along Gainsford Street during works in that street would also result in pedestrians having to make an additional road crossing to use the southern footway. However, during this period the road would be closed to vehicles and therefore although pedestrians would have to cross the road to follow the diversionary route, in practice this would present no additional accident risk.
- 19.5.28 During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Shad Thames Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the *Traffic Signs Manual* Chapter 8 - Traffic Safety Measures and Signs for Road Works⁷. This will include compliance with the Equality Act 2010⁸ to ensure safe passage for mobility and vision impaired pedestrians.

Cycle routes

- 19.5.29 Cyclists using the highway would experience an additional delay to journey time as a result of the construction works at the Shad Thames Pumping Station site. The primary location in which this could occur is in the streets immediately surrounding the site. Particularly in Maguire Street in Phase 2 of construction and Gainsford Street in Phase 3 of construction when these streets would be closed and cyclists would need to find alternative routes. The nearest alternatives would be via Shad Thames and Curlew Street, which would have a minimal effect on cycle journey times. The cycle diversion routes are shown in Figure 19.5.1 of the Shad Thames Pumping Station *Transport Assessment* figures.

- 19.5.30 In the wider area, the effect on cycle journey times is expected to be insignificant because of the very low levels of construction traffic at the Shad Thames Pumping Station site.
- 19.5.31 Measures set out in the *CoCP* include increasing driver awareness of restrictions on the road network and marshalling of traffic at the site access. During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Shad Thames Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the *Traffic Signs Manual* Chapter 8 - Traffic Safety Measures and Signs for Road Works⁹. This would include compliance with TfL guidance (*Cyclists at Roadworks – Guidance*¹⁰) to ensure safe passage for cyclists.
- 19.5.32 During the construction period, the operation and layout of the road network will change. These changes include Shad Thames being temporarily converted to two-way working, and the temporary closure of Maguire Street and Gainsford Street. A minimum carriageway width of either 4m (where HGVs can safely overtake cyclists) or 3.25m (where HGVs cannot overtake cyclists) would be retained for traffic in each direction. Where necessary, carriageway widths of less than 3.25m would be agreed with the LB of Southwark prior to execution of any works.

Bus routes and patronage

- 19.5.33 No bus services run immediately past the site. However, additional construction vehicles serving the site may affect bus journey times along Jamaica Road (A200) and within the wider area. Given the very low levels of construction traffic at the Shad Thames Pumping Station site, the effect on bus journey times is expected to be insignificant for bus users along Jamaica Road (A200).
- 19.5.34 It is expected that approximately four additional worker trips would be made by bus during the AM and PM peak hours respectively. The area is served by eight bus routes which provide a total of 114 buses within 640m walking distance of the site during the AM and PM peak hour respectively. This additional patronage represents an insignificant increase and would be capable of being accommodated on the base case bus services.
- 19.5.35 If workers travelling to and from the site by London Underground and National Rail services were to use buses between the site and nearby stations, this would increase the additional bus passenger demand to 19 journeys in each peak hour (approximately an additional four worker during both peak periods). Bearing in mind the number of bus routes and services available in the area, this would still represent less than one additional journey per bus and would therefore be insignificant.

London Underground and patronage

- 19.5.36 No underground stations are directly adjacent to the site and therefore none would be directly affected by the works at the Shad Thames Pumping station.
- 19.5.37 It is anticipated that there would be approximately seven additional person trips on London Underground services in each of the AM and PM peak hours.
- 19.5.38 Due to the large number of London Underground services available at Bermondsey station and London Bridge station, this equates to less than one additional journey per train based on the 84 services per hour available at these stations during the AM and PM peak hours, which could be easily accommodated within existing capacity.

National rail and patronage

- 19.5.39 No rail stations are directly adjacent to the site and therefore none would be directly affected by the works at the Shad Thames Pumping station.
- 19.5.40 It is anticipated that there would be eight additional person trips on National Rail services during the AM and PM peak hours. This represents less than one additional person trip on National Rail services into and out of London Bridge station during the AM and PM peak hours based on the number of services calling at London Bridge. This additional demand could be easily accommodated on those services.

River services and patronage

- 19.5.41 During construction, no river passenger services would be altered as a result of the works at Shad Thames Pumping Station. It is anticipated that 1% of construction workers and labourers would use the river services to access the construction site, which would result in less than one construction worker per boat service.

Parking

- 19.5.42 During works in Maguire Street and Gainsford Street, permit holder, Car Club and pay and display parking bays would require temporary restriction.
- 19.5.43 During Phase 1 of construction seven residents parking bays and one Car Club parking bay would be temporarily restricted at the northeastern end of Maguire Street. The Car Club parking bay would be relocated to one of the pay and display parking bays at the southern end of Maguire Street.
- 19.5.44 During Phases 2 and 3 in addition to the parking bays restricted in Phase 1, three pay and display parking bays at the southern end of Gainsford Street would also be temporarily restricted.
- 19.5.45 The LB of Southwark has been consulted on the suspension of these bays along Maguire Street and Gainsford Street. The

parking spaces would not be reprovided as there is spare capacity currently shown to be available on the roads in the vicinity of Maguire Street that could accommodate the displaced demand.

- 19.5.46 There would be no change to the loading bays located along Shad Thames.

Highway assessment

Highway layout

- 19.5.47 The highway layout during construction phases are provided in the Shad Thames Pumping Station *Transport Assessment* figures. Construction vehicles would use the existing access point on Maguire Street.
- 19.5.48 During Phase 1 of construction there would be no changes to the highway layout in the immediate vicinity of the site, except for the parking bays that would be temporarily restricted as detailed in para. 19.5.43.
- 19.5.49 During Phase 2 of construction a number of highway layout changes would be required to accommodate the works at the Shad Thames Pumping Station site. These include the temporary closure of Maguire Street and the introduction of two-way operation along Shad Thames to maintain access. A turning area at the northern end of Maguire Street would be created, which would require the removal of four bollards and four trees.
- 19.5.50 During Phase 3 of construction Maguire Street would be reopened to vehicles and Shad Thames returned to one-way operation. A small section of Gainsford Street would be temporarily closed whilst works take place in the highway.
- 19.5.51 The construction phase swept path movements plans are provided in the Shad Thames Pumping Station *Transport Assessment* figures and show that the construction vehicles would be able to safely enter and leave the site.

Highway network

- 19.5.52 Construction lorry movements would be limited to the day shift only (08:00 to 18:00) and Saturday (08:00-13:00). In exceptional circumstances HGV and abnormal load movements could occur up to 22:00 for large concrete pours and later at night on agreement with the LB of Southwark.
- 19.5.53 Table 19.2.4 in Section 19.2 shows the vehicle movement assumptions for the local peak traffic periods based on the peak months of construction activity at this site
- 19.5.54 Based on all materials being transported by road, Table 19.2.4 shows that an average peak flow of 50 vehicle movements a day is expected during the months of greatest activity during Site Year 1 of construction at this site. In the AM and PM peak hours, the Shad Thames Pumping Station site would generate approximately

- 5 vehicle movements. The site would also generate 4 vehicle trips in the hour prior to the AM peak hour and after the PM peak hour.
- 19.5.55 The busiest peak in the AM and PM period for each type of movement (construction, other and worker) has been combined in the development case and assessed against the peak hour operation of the highway network. In reality, not all peaks for these movements will occur concurrently and the peak for worker trips will be outside of the highway network peak hour, therefore the assessment is considered to be robust.
- 19.5.56 The *Project-wide TA* explains the method used to assign construction traffic to the HAMS, from which the likely changes in turning movements at local junctions have been identified and added to the construction base case flows.
- 19.5.57 The assignment of construction lorry trips has been undertaken using OmniTransⁱⁱ software, which enables a fixed assignment to be created for these trips in order to ensure that they are assigned only to the proposed construction routes. The OmniTrans outputs also identify lorry traffic which would be associated with the Shad Thames Pumping Station site, or with other Thames Tideway Tunnel project sites, that would use routes in the vicinity of the Shad Pumping Station site. Figure 19.5.2 in the Shad Thames Pumping Station *Transport Assessment* figures shows the OmniTrans plot for the local road network around the Shad Thames Pumping Station site.
- 19.5.58 There would be no construction HGV movements along Jamaica Road (A200) associated with other Thames Tideway Tunnel sites passing the junction with Shad Thames and Tanner Street (A200) during Site Year 1 of construction at the Shad Thames Pumping Station site.
- 19.5.59 Changes to the highway network during construction and the additional construction traffic generated by the project may lead to local changes in traffic flow and capacity. The construction traffic flows resulting from construction at the Shad Thames Pumping Station site would be small in comparison to the existing levels of traffic on the surrounding highway network. The results of the ATC and junction surveys conducted in May 2011 indicate that the immediate highway network operates within capacity and given the number of construction vehicle movements expected at this site, no quantitative assessment is necessary for the assessment at this site.
- 19.5.60 Qualitative assessment based on professional judgement suggests that vehicles using the highway network could experience an

ⁱⁱ OmniTrans is a software package used for multi-modal transport network modelling and in this case has been used to produce assignments of construction traffic across the proposed network of routes to be used for the project.

increase in journey time a result of the additional construction traffic flows on the local network. However, given the low number of construction vehicle movements and the spare capacity available in the network it is expected that any additional delay would be very small.

Construction mitigation

19.5.61 The project has been designed to limit the issues arising on transport networks as far as possible and many measures have been embedded directly in the design of the project. These are summarised in Table 19.5.1.

Table 19.5.1 Shad Thames Pumping Station design measures

Phase	Issues	Design measures
Construction	Creating site access point	<ul style="list-style-type: none"> • Creation of a gated access for the site access along Maguire Street
	Pedestrian and cyclist safety at the site access point	<ul style="list-style-type: none"> • Where necessary pedestrian and cyclist safety at the site access points could be assisted by a banksman during periods of greater construction activity • Provision of appropriate warning signage for pedestrians, cyclists and drivers
	Closure of footways along Maguire Street and Gainsford Street	<ul style="list-style-type: none"> • Diversion of pedestrians from western footway of Maguire Street to the eastern footway • Diversion of pedestrians from northern footway of Gainsford Street to southern footway • Diversions would be adequately signed
	Closure of Maguire Street	<ul style="list-style-type: none"> • Two-way vehicle operation would be introduced along the northern end of Shad Thames during Phase 2 of construction • Access would be maintained to neighbouring properties • Appropriate traffic control would be introduced • The diversion would be adequately signed

Phase	Issues	Design measures
	Closure of Gainsford Street	<ul style="list-style-type: none"> • Diversion routes would be adequately signed

19.5.1 The outcomes indicate that with these measures in place the changes to be expected in the transport networks are not significant and therefore no additional measures are required for the construction or operational phases.

19.6 Operational assessment

19.6.1 This section summarises the findings of the assessment undertaken for Year 1 of operation at the Shad Thames Pumping Station site.

19.6.2 The assessment of the operational phase is limited to the physical issues associated with accessing the site from the highway network as outlined in Section 19.2. This has been discussed with the LB of Southwark and TfL.

Operational base case

19.6.3 The operational assessment year for transport is Year 1 of operation.

19.6.4 As explained in para 19.2.44, the elements of the transport network that would be affected during operation are highway layout and operation, and parking. For the purposes of the operational base case, it is anticipated that the highway layout and parking will be as indicated in the construction base case.

Operational development case

19.6.5 The operational development case for the site includes any permanent changes in the vicinity of the Shad Thames Pumping Station site as a result of the Thames Tideway Tunnel project and takes into consideration the occasional maintenance activities required at the site.

19.6.6 The transport demands created by the development in the operational phase would be extremely low and limited to occasional maintenance visits every one to three months as part of the existing maintenance routine.

19.6.7 The operational assessment has taken into consideration those elements that would be affected, which comprise the short-term changes to car parking and on the highway layout and operation when maintenance visits are made to the site.

19.6.8 The highway layout during operation plans are provided in the Shad Thames Pumping Station *Transport Assessment* figures and indicates the operational phase permanent works.

19.6.9 When maintenance activity takes place during the operational phase, pedestrians would not be diverted but would have to cross the site access point. This arrangement would be the same as in the operational base case.

19.6.10 When large maintenance vehicles are required to access the site, pedestrian movements could be assisted by a banksman in order to ensure pedestrian safety.

Parking

19.6.11 No change is expected to car parking in the vicinity of the site, compared to the base case, as a result of the operational phase of the proposed development at the Shad Thames Pumping Station site.

19.6.12 On the infrequent occasions when large vehicles are required to service the site, a maximum of one permit holder parking bay at the northern end of Maguire Street would have to be temporarily suspended to ensure the vehicles have sufficient space to turn from Shad Thames into Maguire Street. This temporary suspension would be on an infrequent basis and would occur approximately once every ten years.

19.6.13 Taking into consideration the infrequent and temporary nature of the arrival of large vehicles at Shad Thames Pumping Station which would require parking suspension, it is anticipated that there is unlikely to be a substantial change to car parking in the local area.

Highway layout and operation

19.6.14 To assess the effect of the operational traffic movements on the highway layout, swept path analysis has been undertaken for the largest vehicles including an 11.36m mobile crane, a 10m rigid vehicle and a 10.7m articulated vehicle. It is not intended that an 11.36m mobile crane would service the site, but this has been included in the swept path analysis should access be required in the future. The operational phase swept path movements plans are contained in the Shad Thames Pumping Station *Transport Assessment* figures and show safe access/ egress at the site for the operational phase.

19.6.15 When larger vehicles are required to serve the site, there may also be some temporary, short-term delay to other road users while manoeuvres are made. However it is anticipated that the arrival of large vehicles would normally be scheduled to take place outside of the peak hours to minimise the effect on the local highway network.

19.6.16 Due to the infrequent nature of maintenance trips there is anticipated to be no significant change to the operation of the surrounding highway network during the operational phase at Shad Thames Pumping Station.

Operational mitigation

- 19.6.17 Due to there being no significant changes to transport during the operational phase, no mitigation is required.

19.7 Summary of Transport Assessment findings

- 19.7.1 The key outcomes of this TA are indicated in Table 19.7.1

Table 19.7.1 Shad Thames Pumping Station transport assessment results

Phase	Mode of transport	Key Findings
Construction	Pedestrians	Approximately 20 seconds delay to pedestrian journeys due to closure of approximately 60m of the northern footway along Gainsford Street during Phase 2 of construction.
	Cyclists	Minimal delay would be experienced by cyclists as a result of the works affecting Maguire Street and Gainsford Street. Alternative routes along Shad Thames and Curlew Street would be available when Maguire Street is closed.
	Bus patronage and operators	Approximately four two-way worker trips would be made by bus and could be accommodated on base case services. Base case services could also accommodate workers travelling between the site and nearby rail stations
	London Underground and National Rail patronage	Approximately eight two-way worker trips would be made by National Rail and approximately seven two-way worker trips would be made by London Underground. These trips could be accommodated on base case services.
	Parking	Parking in Maguire Street and Gainsford Street would be suspended without reprovision during the works. Sufficient capacity exists in surrounding parking areas to accommodate any displaced demand.
	Highway network and operation	<p>Construction works in Maguire Street would require a temporary closure of the road during Phase 2 of construction. Temporary two-way operation on the northern part of Shad Thames would be implemented with associated traffic management to maintain access to properties.</p> <p>During construction works in Gainsford Street, approximately 15m of the road would be closed and there would be no direct vehicular access to Gainsford Street from Shad Thames. Traffic would be diverted along Shad Thames onto Maguire Street and Gainsford Street.</p> <p>The number of construction lorry movements at this site would be very low and would</p>

Transport Assessment

Phase	Mode of transport	Key Findings
Operation	Parking Highway layout and operation	<p>not give rise to any significant additional delays on the highway network.</p> <p>When large vehicles are required to service the site, a maximum of one permit holder parking bay would have to be temporarily suspended to ensure the vehicles have sufficient space to turn from Shad Thames into Maguire Street. This temporary suspension would be on an infrequent basis and would occur approximately once every ten years.</p> <p>Some network delay may be experienced by other road users when large vehicles are accessing the site. However, this will be infrequent and temporary.</p>

References

¹ Transport for London *Travel Planning for new development in London* (2011)

² Transport for London *Assessment Tool for Travel plan Building Testing and Evaluation (ATTrBuTE)* is a web-based travel planning tool, which ensures that Travel Plans are in accordance with TfL's published guidance on travel planning for new development in London. Available at: <http://www.attrbute.org.uk/>.

³ Greater London Authority, *London Plan*, July 2011

⁴ Transport for London, *Transport Assessment Best Practice guidance*, April 2010

⁵ Department for Transport (DfT), *Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works and Temporary Situations*, 2009.

⁶ *London Underground Upgrade Plan*, <http://www.tfl.gov.uk/assets/downloads/corporate/our-upgrade-plan-london-underground-february-2011.pdf>

⁷ See citation above.

⁸ HM Government, *Equality Act 2010 – Guidance*, 2010.

⁹ See citation above.

¹⁰ Department for Transport (DfT), *Traffic Advisory Leaflet 15/99 - Cyclists at Road Works*, December 1999.

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Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.16**

Shad Thames Pumping Station

Appendices

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

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**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

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Thames Tideway Tunnel

Transport Assessment

Section 19 Appendices: Shad Thames Pumping Station

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Appendix A: Policy review

A.1 Introduction

- A.1.1 There are a number of documents containing planning policies that are relevant to transport matters for the proposed development at Shad Thames Pumping Station. This includes national, regional and local policies relevant to the site.
- A.1.2 This section reviews current documents relevant to the proposed development which is situated within the London Borough (LB) of Southwark.

A.2 National Policy

National Planning Policy Framework (March 2012)

- A.2.1 The Department for Communities and Local Government published the National Planning Policy Framework (NPPF) in March 2012. The NPPF replaces a variety of existing planning guidance, most notable the following document, Planning Policy Guidance 13: Transport (November 2010).
- A.2.2 The key objective of the NPPF is to create a policy context to support economic growth. The principle of the guidance is to place an emphasis on sustainable development, where environmental conditions should be considered alongside economical and social matters.
- A.2.3 It outlines the importance of local development plans and notes that where development accords with an up to date development plan then the proposals should be approved. Moreover, it suggests that local authorities should follow the approach of the presumption in favour of sustainable development.
- A.2.4 With particular reference to transport matters the documents states:
“In preparing local plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, and facilitates the use of sustainable modes of transport.”
- A.2.5 The guidance goes on to advise at paragraph 32:
“All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:
- a. the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
 - b. safe and suitable access to the site can be achieved for all people; and
 - c. improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development.

Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”

A.2.6 The document also states that:

“Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people”. Therefore:

“A key tool to facilitate this would be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan”.

National Policy Statement for Waste Water (March 2012)

A.2.7 The National Policy Statement for Waste Water (NPS) was published by the Department of Environment, Food and Rural Affairs in March 2012. This National Policy Statement (NPS) sets out Government policy for the provision of major waste water infrastructures. The NPS does not recognise the Thames Tideway Tunnel project within the original thresholds which is contained within the Planning Act. However the document indicates that *“the Government has already stated its intention that the project should be considered at a national level”.*

A.2.8 The Secretary of State announced that development consent for the Thames Tideway Tunnel project should also be dealt with under the regime for nationally significant infrastructure projects under the Planning Act 2008.

A.2.9 The NPS seeks a sustainable long term solution to address the untreated sewage discharged into the River Thames and a Thames Tideway Tunnel has been considered as the preferred solution.

A.2.10 With particular reference to transport matters the document states:
“The Environmental Statement should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport (DfT), or any successor to such methodology. Applicants should consult the Highways Agency and/or the relevant highway authority, as appropriate, on the assessment and on mitigation measures. The assessment should distinguish between the construction, operation and decommissioning project stages as appropriate”.

A.2.11 The document states that the impacts on the surrounding transport infrastructure should be mitigated and where the mitigation measures are not sufficient the requirements to mitigate adverse impacts on transport networks should be considered.

A.2.12 Therefore it is advised to prepare a *Travel Plan* which includes demand management measures to mitigate transport impacts, and *“to provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts”.*

A.2.13 The NPS prefers water-borne or rail transport over road transport and where there is likely to be substantial HGV traffic, the following measures should be looked:

- a. “control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements;
- b. make sufficient provision for HGV parking, either on the site or at dedicated facilities elsewhere, to avoid ‘overspill’ parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and
- c. ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force”.

A.2.14 The proposed development is located at a moderate accessible transport hub and the proposed location has a Public Transport Accessibility Level (PTAL) rating of 3, rated as ‘moderate’. It is assumed that construction workers would not travel by car to and from the site on the basis that there would be no worker parking on site; on-street parking in the area is restricted; and site-specific *Travel Plan* measures will discourage workers from travelling by car.

A.3 Regional policy

The London Plan (July 2011)

A.3.1 The London Plan 2011 is produced by the Greater London Authority (GLA) and sets out the strategic planning guidance for London planning authorities. The Mayor of London is responsible for strategic planning and the production of a Spatial Development Strategy called The London Plan. The London plan sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. The Plan takes the year 2031 as its formal end date and its over-arching vision is supported by six detailed objectives for London:

- a. A city that meets the challenges of economic and population growth;
- b. An internationally competitive and successful city;
- c. A city of diverse, strong, secure and accessible neighbourhoods;
- d. A city that delights the senses;
- e. A city that becomes a world leader in improving the environment; and
- f. A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities.

A.3.2 The last objective of the plan relates specifically to transport. Policies within the London Plan of relevance to the proposed development are outlined as follows:

A.3.3 **Policy 6.1 – Strategic Approach** advises that the mayor will work with all relevant partners to encourage the closer integration of transport and development by:

- a. Encouraging patterns and nodes of development that reduce the need to travel, especially by car;
- b. Seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greater demand;
- c. Supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvement;
- d. Seeking to increase the use of the Blue Ribbon Network, especially the Thames, for passenger and freight use;
- e. Facilitating the efficient distribution of freight whilst minimising its impacts on the transport network;
- f. Supporting measures that encourage shifts to mode sustainable modes and appropriate demand management; and
- g. Promoting greater use of low carbon technology so that carbon dioxide and other contributors to global warming are reduced.

A.3.4 **Policy 6.2 – Providing public transport capacity and safeguarding land for transport** which notes that development proposals that do not provide adequate safeguarding for the schemes should be refused.

A.3.5 **Policy 6.3 – Assessing effects of development on transport capacity** outlines that development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed. Development should not adversely affect safety on the transport network. Where existing transport capacity is insufficient for the travel generated by proposed developments, and no firm plans exist for an increase in capacity, boroughs should ensure that the development proposals are phased until it is known that these requirements can be met. The policy notes that the use of *Travel Plans* and addressing freight issues can help reduce the impact of development on the transport network.

A.3.6 **Policy 6.7 – Better streets and surface transport** notes that high levels of priority should be provided to bus routes and there should be direct, secure, accessible and pleasant walking routes to stops. The development would include provision of transport to and from public transport nodes where sites are at a distance from public transport services.

A.3.7 **Policy 6.9 – Cycling** presents measures to increase cycling mode share in London to 5 percent by 2026. Measures include completing the Cycle Super Highways and expanding the London cycle hire scheme. To support this, developments should provide cycle parking to at least the minimum standards, provide showers and changing facilities and facilitate the major cycling schemes in London (Super Highways / Cycle Hire).

A.3.8 **Policy 6.10 – Walking** recommends the use of shared space principles with simplified streetscape, de-cluttering and access for all. Developments should therefore ensure high quality pedestrian environments and emphasise the quality of pedestrian and street space. It points to the

‘Legible London’ pedestrian wayfinding system as a successful measure to support walking journeys.

- A.3.9 **Policy 6.13 – Parking** outlines the need to seek an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. As such, car parking should reduce as public transport accessibility (measured by PTAL) increases. The policy advises that *Transport Assessments* and *Travel Plans* for major developments should give details of proposed measures to improve non-car based access, reduce parking and mitigate adverse transport impacts.
- A.3.10 **Policy 6.14 – Freight** notes that freight distribution should be improved and movement of freight by rail and waterway should be promoted. To support this, developments that generate high number of freight movements should be located close to major transport routes. In addition, the Freight Operators Recognition Scheme, construction logistics plans and delivery and servicing plans should be promoted. The policy also advises the increase in the use of the Blue Ribbon Network for freight transport.

The Mayors Transport Strategy (GLA, 2010)

- A.3.11 In addition to the London Plan, the Mayor has prepared a number of strategies that are essentially an extension of the London Plan. Published by the GLA in 2010, the Mayor’s Transport Strategy (MTS) (Greater London Authority, May 2010) envisages *“London’s Transport system excelling among that of global cities, providing access to opportunities for all people and enterprises while achieving the highest environmental standards and leading the world in its move towards tackling the urban transport challenges of the 21st century”*.
- A.3.12 The MTS sets out a number of policy commitments or requirements which have implications for TfL and a range of other delivery partners including the GLA and the London boroughs. The policies that are relevant to the proposed development are:
- a. **Policy 4** indicating that the Mayor will seek “to improve people’s access to jobs, business’ access to employment markets, business to business access, and freight access by seeking to ensure appropriate transport capacity and connectivity is provided on radial corridors into central London”;
 - b. **Policy 5** seeks “to ensure efficient and effective access for people and goods within central London”;
 - c. **Policy 8** supports “a range of transport improvements within metropolitan town centres for people and freight that help improve connectivity and promote the vitality and viability of town centres, and that provide enhanced travel facilities for pedestrians and cyclists”;
 - d. **Policy 9** states that the Mayor “will use the local and strategic development control processes”;
 - e. **Policy 11** specifies that the Mayor will “encourage the use of more sustainable, less congesting modes of transport, set appropriate

parking standards, and aim to increase public transport, walking and cycling mode share”;

- f. **Policy 12** states that the Mayor “will seek to improve the distribution of freight through the provision of better access to/from Strategic Industrial Locations, delivery and servicing plans, and other efficiency measures across London”; and
- g. **Policy 15** and **Policy 16** indicate that the Mayor will seek to reduce emissions of air pollutants and noise impacts from transport respectively.

A.3.13 The *London Freight Plan, Sustainable Freight Distribution: a Plan for London* (TfL, June 2008) sets out the steps that have to be taken over the next five to ten years to identify and begin to address the challenge of delivering freight sustainably in the capital. Principles set in that document are expected to be relevant to the consideration of the construction logistics strategy for the proposed development.

A.4 Local policy

A.4.1 The London Borough of Southwark (LBS) has a number of planning documents that are used to set out their strategy for development and make decisions on planning applications. This consists of Development Plan Documents which cover the Core Strategy and the Southwark Plan (saved policies). Both reflect regionally focused policies from the London Plan and are referred to where appropriate

Southwark Core Strategy, April 2011

A.4.2 The core strategy is a planning document that sets out how Southwark will change up to 2026 to be the type of place set out in our sustainable community strategy (Southwark 2016).

A.4.3 Key transport policies within the core strategy are associated with **Strategic Policy 2 – Sustainable Transport**. These objectives are detailed below.

- a. SO 1C: Be healthy and active;
- b. SO 2A: Created mixed communities;
- c. SO 2B: Promote sustainable use of resources;
- d. SO 2E: A liveable public realm; and
- e. SO 5A: Developing in growth areas.

A.4.4 LBS Strategic transport policy will encourage walking, cycling and the use of public transport rather than travel by car. This in turn will help create safe, attractive, vibrant and healthy places to live and work by reducing congestion, traffic and pollution.

Southwark Plan, (Adopted July 2007)

A.4.5 The Southwark Plan is the framework for all land use and development in Southwark and forms part of the Development Plan alongside the Core Strategy. Some of the Southwark policies were ‘saved’ and some of them

have been superseded by policies in the Core Strategy which was adopted on April 2011.

A.4.6 Local transport policies that are part of the Southwark Plan include:

A.4.7 **Policy 5.1: Locating developments** - States that “the location of development throughout the borough must be appropriate to the size and trip-generating characteristics of the development.”

A.4.8 **Policy 5.2: Transport impacts** - States that “where a development proposal is likely to have significant transport implications applicants will be asked to submit a transport assessment (TA), which includes a travel plan with their application. A transport assessment will form part of the sustainability assessment.”

A.4.9 **Policy 5.3: Walking and cycling** - Planning permission will be granted where.

- a. There is adequate provision for pedestrians and cyclists within the development, and where practicable within the surrounding area; and/or
- b. There is good design, location and access arrangements, including restrictions on parking, and the promotion of walking and cycling, with particular emphasis on disabled people and the mobility impaired; and/or
- c. The development creates or contributes towards more direct, safe and secure walking and cycling routes, integrating with surrounding networks where possible, furthering the delivery of the London Cycle Network Plus and strategic walking routes (including the Jubilee Walkway and the Thames Path); and
- d. There is provision of convenient, secure and weatherproof cycle parking to the minimum cycle parking standards set out in Tables 15.3 and 15.4 in Appendix 15.

A.4.10 **Policy 5.4: Public Transport improvements.**

A.4.11 **Policy 5.5: Transport development area.**

A.4.12 **Policy 5.6: Car parking** - States that “*all developments requiring car parking should minimise the number of spaces provided. Maximum standards are set out in Appendix 15.*”

A.4.13 **Policy 5.7: Parking standards for disabled people and the mobility impaired** – States that “*developments (subject to site constraints) must provide adequate parking for disabled people and the mobility impaired.*”

A.4.14 **Policy 5.8: Other parking.**

Sustainable Transport: Supplementary Planning Document (SPD)

A.4.15 This SPD provides further information and guidance to policies in the Southwark Plan. It also provides advice on what information you need to provide in an application for development.

A.4.16 The objectives of the SPD are to provide:

- a. Guidance so all development is easily accessible and encourages people to walk, cycle and use public transport;
- b. Guidance for new development so that it reduces congestion and pollution within Southwark; and
- c. Clear guidance about possible reasons for approval and refusal of planning applications for development.

A.4.17 The Sustainable Transport SPD provides more information on Southwark Plan policies 5.1-5.8 as detailed in the section above and provides further information relevant to London Plan Policies.

Appendix B: PTAL analysis

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PTAI Study Report File Summary

PTAI Run Parameters

PTAI Run Parameters
PTAI Run: 20122109162756
Description: 20122109162756
Run by user: PTAL web application
Date and time: 21/09/2012 16:27

Walk File Parameters

Walk File: PLSQLTest
Day of Week: M-F
Time Period: AM Peak
Walk Speed: 4.8 kph
BUS Walk Access Time (mins): 8
BUS Reliability Factor: 2.0
LU LRT Walk Access Time (mins): 12
LU LRT Reliability Factor: 0.75
NATIONAL_RAIL Walk Access Time (mins): 12
NATIONAL_RAIL Reliability Factor: 0.75
Coordinates: 533876, 179939

Transport Assessment

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
BUS	JAMAICA ROAD MILL STREET	381	405.54	5.75	0.5	5.07	7.22	12.29	2.44	1.22
BUS	City Hall Stand	343	513.1	10.0	0.5	6.41	5.0	11.41	2.63	1.31
BUS	TOWER BRIDGE SOUTH SIDE	RV1	485.8	6.0	0.5	6.07	7.0	13.07	2.29	1.15
BUS	JAMAICA ROAD MILL STREET	47	405.54	6.0	0.5	5.07	7.0	12.07	2.49	1.24
BUS	JAMAICA ROAD MILL STREET	188	405.54	8.0	1.0	5.07	5.75	10.82	2.77	2.77
BUS	TOWER BRIDGE SOUTH SIDE	42	485.8	6.0	0.5	6.07	7.0	13.07	2.29	1.15
BUS	TOWER BRIDGE SOUTH SIDE	78	485.8	7.0	0.5	6.07	6.29	12.36	2.43	1.21
BUS	JAMAICA RD ABBEY STREET	C10	613.82	6.0	0.5	7.67	7.0	14.67	2.04	1.02
LT	SAP Points Not Found									
NATIONAL_RAIL	SAP Points Not Found									

Note: Total AI for this POI is 11.07.
PTAL Rating is 3.

Appendix C: Accident analysis

C.1 Existing highway safety analysis

- C.1.1 Details of road traffic accident within the vicinity of the site have been obtained from Transport for London (TfL) and have been reviewed to determine whether there are particular problems or trends on the local highway network.
- C.1.2 Data on accidents for the most recent five-year period from April 2006 until March 2011 has been analysed for the following junctions and surrounding roads:
- a. Shad Thames
 - b. Maguire Street
 - c. Gainsford Street
 - d. Jamaica Road (A200) between the junction with Dockhead and the junction with Shad Thames
 - e. Shad Thames / Maguire Street junction
 - f. Maguire Street / Gainsford Street junction
 - g. Shad Thames / Gainsford Street junction
 - h. Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames junction
 - i. Jamaica Road (A200) / Mill Street
 - j. Jamaica Road (A200) / Dockhead junction.
- C.1.3 Based on the DfT Design Manual for Roads and Bridges, Volume 13 Economic Assessment of Road Schemes, accidents have been analysed according to the method outlined in this guidance which states that accidents that have occurred within 20m of each junction are associated with that specific junction, and the remaining accidents are grouped to the relevant links.
- C.1.4 The area of interest together with the locations of the recorded road traffic accidents and the severity of the accidents are indicated in Table C.1.

Table C.1 – Accident severity 2006 to 2011

Location	Slight	Serious	Fatal	Total
Shad Thames	1	0	0	1
Maguire Street	0	0	0	0
Gainsford Street	0	0	0	0
Jamaica Road (A200) between the junction with Dockhead and the junction with Shad Thames	1	1	0	2

Location	Slight	Serious	Fatal	Total
Shad Thames / Maguire Street junction	0	0	0	0
Maguire Street / Gainsford Street junction	0	0	0	0
Shad Thames / Gainsford Street junction	0	0	0	0
Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames junction	2	3	1	6
Jamaica Road (A200) / Mill Street	1	0	0	1
Jamaica Road (A200) / Dockhead junction	4	1	0	5
Total	9	5	1	15

C.1.5 During the five year period, a total of 15 road traffic accidents have occurred in the area of interest. Of these accidents, eight are classified as slight, five as serious and one as fatal.

C.1.6 Road traffic accident analysis for individual junctions and roads within the vicinity of the site is discussed below.

Maguire Street

C.1.7 Maguire Street is the main access road to the site, which leads from Shad Thames in the north to Gainsford Street in the south. Maguire Street is a one-way road and 30mph speed limit applies. Over the last five years, no accidents have occurred along Maguire Street and the junctions associated with this road.

Shad Thames

C.1.8 Shad Thames is a north-south route which lies to the east of the site. Between the junctions with Jamaica Road (A200) and Gainsford Street, Shad Thames is a two-way road. The road continues north with a northbound one-way system passing under the Design Museum to the north-east, merging with Maguire Street.

C.1.9 In total, one accident occurred along this road and the junctions associated with this road from April 2006 to March 2011 (five years) which were recorded as slight. The accident involved a LGV and a pedestrian. The contributory factors in the accident were reckless driving, not looking properly and failing to judge vehicle's path or speed.

Gainsford Street

C.1.10 Gainsford is a two-way road which runs to the south of the site. The road links to Shad Thames to the east and Horselydown Lane to the west. The junction with Shad Thames is a give-way T- junction. Over the last five

years, no accidents have occurred along Gainsford Street and its junction with Shad Thames.

Jamaica Road (A200)

- C.1.11 Jamaica Road (A200) within the study area is a dual carriageway between the junction with Dockhead and the junction with Shad Thames.
- C.1.12 Jamaica Road (A200) runs east-west to the south of the site. To the east, the road meets Brunel Road (B205), Rotherhithe Tunnel (A101), and Lower Road (A200) at a roundabout. To the west, the road leads to Tooley Street (A200) and Druid Street (A200).
- C.1.13 In total, 14 accidents have occurred along Jamaica Road (A200) in the local area and at the junctions associated. Those junctions included within this analysis are as follow:
 - a. Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames junction;
 - b. Jamaica Road (A200) / Mill Street junction
 - c. Jamaica Road (A200) / Dockhead junction.
- C.1.14 Of the total accidents occurred along Jamaica Road in the local area and at the junctions associated, one was classified as fatal occurring at the junction of Jamaica Road (A200) with Tooley Street (A200), Tanner Street (A200), and Shad Thames. The accident involved a skip lorry and pedal cycle and caused by the lorry driver failing to signal and passing too close to the cyclist and the cyclist failed to judge the lorry's path or speed and lost control.
- C.1.15 Of the total accidents occurred along Jamaica Road in the local area and at the junctions associated, five were classified as serious with three occurring at the junction with Tooley Street (A200), Tanner Street (A200) and Shad Thames which involved cars and a pedestrian, a pedal cycle, and a motorcycle. One serious accident occurred at the junction with Dockhead which involved a taxi and a pedestrian. The other accident occurred along Jamaica Road (A200) between the junction with Shad Thames and the junction with Mill Street which involved a motorcycle and a pedestrian.
- C.1.16 The major contributory factors in the serious accidents were not as a result of the road geometry, but by drivers not looking properly, driving recklessly and failing to judge other person's path or speed.
- C.1.17 The remaining eight accidents were classified as slight with one accident occurred away from the junctions along Jamaica Road and the remaining six accidents happened at the junctions, with four happened at the junction of Jamaica Road (A200) / Dockhead, two at the junction of Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames, and one at the junction of Jamaica Road (A200) / Mill Street.
- C.1.18 Of the total slight accidents, two involved pedestrians. One of these pedestrians were hit at the junction of Jamaica Road (A200) / Dockhead and one was hit at Jamaica Road (A200) / Mill Street junction of whom one was hit by a car and one was hit by a motorcycle. One of the

pedestrians was minor. From the time of the accidents, it is assumed that the pedestrian was not travelling to /from school. Not looking properly, poor manoeuvre were the main causes of these accidents, and the road geometry was not the result of these accidents.

- C.1.19 Four of the slight accidents involved pedal cycles collided with other vehicles including cars, a MGV. One of these accidents occurred at the junction of Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames, and the remaining three at the junction of Jamaica Road (A200) / Dockhead. These accidents mainly caused by not looking properly, failing to judge other person's path or speed, and reckless driving, and not as a result of the road geometry.
- C.1.20 The remaining two slight accidents involved cars, a motorcycle, and a bus/coach, with one accident occurred away from the junctions along Jamaica Road and one at Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames. One of the accidents caused by reckless driving and sudden braking and the other accident happened due to illness.
- C.1.21 Of the accidents occurred along Jamaica Road (A200) and the junctions associated, none happened as a result of the road geometry.

C.2 Summary and conclusion

- C.2.1 Of the five year accident data analysed, the largest number of road traffic accidents occurred at the junction of Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames, with one fatal accident, three serious accidents and two slight accidents.
- C.2.2 In total one fatal accident and five serious accidents occurred in the area of interest over the five year accident data analysis. The fatal accident involved a skip lorry and a pedal cycle and caused by the lorry driver failing to signal and passing too close to the cyclist and the cyclist failing to judge the lorry's path or speed and lost control.
- C.2.3 Six of the total accidents involved pedestrians, one was hit along Jamaica Road (A200) away from junctions, one was hit along Shad Thames to the north of the junction with Jamaica Road (A200), two at the junction of Jamaica Road (A200) / Dockhead, one at Jamaica Road (A200) / Mill Street junction, and one at Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames junction. Of the pedestrians hit in the area of interest, one was minor and one was hit by a Light Goods Vehicles.
- C.2.4 Of the total accidents, six involved pedal cycles, three were hit at the junction of Jamaica Road (A200) / Dockhead and three were hit at Jamaica Road (A200) / Tooley Street (A200) / Tanner Street (A200) / Shad Thames junction.
- C.2.5 In case of the majority of accidents within the study area, not looking properly, failing to judge other person's path or speed and reckless driving were the main causes of accidents, and none of the accidents considered to be due to road geometry or failure of infrastructure.

Appendix D: Road Safety Audits

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Thames Water Utilities

**Thames Tideway Tunnel -
Shad Thames Pumping
Station**

Stage 1 Road Safety Audit

Project Ref: 27016/033

Doc Ref: 001

February 2013

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Thames Tideway Tunnel - Shad Thames Pumping Station
Stage 1 Road Safety Audit

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Document Control Sheet

Project Name: Thames Tideway Tunnel - Shad Thames Pumping Station

Project Ref: 27016/033

Report Title: Stage 1 Road Safety Audit

Doc Ref: 001

Date: 11th January 2013

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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved

Peter Brett Associates LLP disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with the appropriate ACE Agreement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Peter Brett Associates LLP accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

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Thames Tideway Tunnel - Shad Thames Pumping Station
Stage 1 Road Safety Audit

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Appendices

Appendix A - Information Utilised in this Stage 1 Road Safety Audit

Appendix B - Site Reference Plan

1 Introduction

- 1.1 Peter Brett Associates LLP have been commissioned to undertake a series of Stage 1 Road Safety Audits on proposals associated with the construction of the Thames Tideway Tunnel project in London.
- 1.2 This Audit has been undertaken on the highway aspects of the proposals at the existing Shad Thames Pumping Station, Southwark site and considers both the situation during the construction phase and post construction. Works are to be carried out at the existing pumping station as part of the main Thames Tideway Tunnel works.
- 1.3 The surrounding highway network is urban in nature, within a 30mph speed limit, is illuminated by a system of street lighting, with footways on both sides of the carriageway.
- 1.4 The scheme proposals that affect the existing highway consist of the following design aspects:-
- Construction Phases:-
 - Suspending existing parking bays in order to accommodate the passage of construction type vehicles accessing the site;
 - Temporary closure of Maguire Street and signal controlled shuttle working in Shad Thames during Phase 2;
 - Temporary closure of Gainsford Street, immediately east of Maguire Street during Phase 3;
 - Higher construction vehicle flows expected, with an average of approximately 14 construction vehicles per day. It is noted that the Design Team has indicated that it is assumed that the largest construction vehicle accessing the site will not be larger than 10m rigid vehicle;
 - Operational Phase:-
 - Highway layout to be returned to its current layout i.e. parking bays reinstated;
 - 6 monthly maintenance access required by transit van;
 - 10 yearly maintenance required by rigid HCV / mobile crane – parking bays suspended as required for short term maintenance activity;
- 1.5 The Audit Team Membership was as follows:-
- Audit Team Leader:-
- James Horne Peter Brett Associates, Northampton
- Team member:-
- Philip Edwards Peter Brett Associates, Northampton
- The Audit Team are independent of the Design Team.

Thames Tideway Tunnel - Shad Thames Pumping Station

Stage 1 Road Safety Audit

- 1.6 The Audit took place during December 2012 / January / February 2013. The Audit Team visited the site on 6th December 2012 between 08:45 and 9:30. The weather during the site visit was cold but sunny. The Audit comprises of an examination of the documents listed in Appendix A.
- 1.7 The Audit Team have not been made aware of any Departure from Standards identified with this proposed scheme. The Audit Team have not been provided with a specific Audit Brief but have received a number of documents that are describing the proposed works.
- 1.8 The Audit Team have received a document summarising the recorded collision data within the surrounding highway network for a 5 year period (April 2006 to March 2011). The Audit Team have not been provided with the raw collision data, therefore, a full review and analysis of the recorded collisions cannot be undertaken as part of this Audit.
- 1.9 The Terms of Reference of this Audit are as described in Transport for London (TfL) Procedure SQA-0170. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical Audit.
- 1.10 This Audit has a maximum shelf life of 2 years. Should the scheme not progress to the next stage in its development within this period it should be re-audited.
- 1.11 Problems identified in the report are indicated by location and are shown on the site reference plan in Appendix B.

2 Items Raised from this Stage 1 Road Safety Audit

Construction Phase – General

2.1 Problem

- Location - Maguire Street
- Summary - Access to Site Potential Restricted

The proposals indicate that the existing parking bays along Maguire Street will be temporarily suspended for the duration of Construction Phase 1 and 3 in order to facilitate access to the site for construction type vehicles. However, it is unclear how the proposals will prevent on-street parking within these temporarily suspended parking bays and maintain an unobstructed route to the site.

Recommendation

Temporary Traffic Regulation Orders should be made and waiting restrictions applied within the appropriate lengths of Maguire Street in order to ensure access to site is not restricted by parked vehicles.

2.2 Problem

- Location - General
- Summary - Issues with Swept Paths Analysis

The swept path analysis undertaken for both the Construction and the Operational phases presented on “Highway Layout During Construction Vehicle Swept Path Analysis 1 of 2” (DCO-PP18X-SHTPS-200026) indicates that the Design Vehicles, when performing some manoeuvres, will overhang the adjacent footway thus potentially endangering pedestrians. Also, these swept paths do not illustrate construction vehicles entering the pumping station site from Maguire Street which will be open to general traffic during Phase 1 and Phase 3.

NB. Larger vehicles are used for the swept path analysis indicated on drawing “Highway Layout During Construction Vehicle Swept Path Analysis 2 of 2” (DCO-PP18X-SHTPS-200027) but the Highway Mitigation Plan provided by the Design Team reports that the largest delivery vehicle to the site during the construction phases would be a 10m ridged lorry.

Furthermore, it is noted that the speed at which the swept path analysis has been carried out at is 5kph. This is a very slow speed and in some locations it would appear likely that site delivery vehicles will be travelling at a higher speed. There is a risk of large vehicles overrunning the footway, straddling lanes when they turn and braking unexpectedly at pinch points and junctions.

Recommendation

Notwithstanding the fact that the swept path analysis has been undertaken using Ordnance Survey data (and not topographical survey data) the effect on the swept paths of vehicles

Thames Tideway Tunnel - Shad Thames Pumping Station

Stage 1 Road Safety Audit

travelling at a more realistic speed should be checked. Where necessary, measures should be provided to prevent large vehicles overrunning the footway and to protect pedestrians. It may also be necessary to review the extent of the proposed parking bay suspensions.

Swept paths for vehicles entering and leaving the pumping station off Maguire Street should be produced to ensure site access will be adequate to accommodate delivery vehicles.

Construction Phase 1

2.3 Problem

Location - Maguire Street

Summary - Pedestrian Facilities Removed

It is proposed to place temporary hoarding which will close the footway on the western side of Maguire Street directly outside the pumping station. Pedestrians will be forced into the carriageway.

Recommendation

Provision should be made in the detailed site traffic management proposals to enable pedestrians, including wheelchair users to safely cross the road and use the opposite footway.

2.4 Problem

Location - Maguire Street

Summary - Potentially Restricted Pedestrian / Vehicle Intervisibility

It is proposed to provide a site access within the hoarding on the western side of Maguire Street. In the event of vehicles or construction plant exiting the site from this access, intervisibility with approaching vehicles and pedestrians may be restricted by the hoarding.

Recommendation

The detailed design for the site access should ensure that there is adequate intervisibility for vehicles / pedestrians at the access. The hoarding may need to be locally realigned adjacent to the site access.

2.5 Problem

Location - Maguire Street

Summary - Construction Traffic Performing Hazardous Manoeuvres

Further to Problem 2.2, under Phase 1, it is not clear that construction traffic will be able to manoeuvre to enter and leave the site area. This may result in hazardous manoeuvres such as overrunning the footway by vehicles attempting to enter and exit the site, or else large vehicles stopping on the carriageway to off load.

Thames Tideway Tunnel - Shad Thames Pumping Station

Stage 1 Road Safety Audit

Recommendation

The detailed design should ensure the arrangement of gates and hoarding will accommodate all vehicles which are anticipated to service the site.

2.6 Problem

Location - Maguire Street

Summary - Pedestrians Unsighted to Approaching Traffic

The drawings indicate a small gate in the hoardings at the northern end of the site. This is assumed to be a personnel gate. The gate is indicated leading directly onto the carriageway. Pedestrians using the gate will be unsighted to approaching traffic.

Recommendation

The personnel gate should be repositioned, e.g. to open onto the adjacent footway to the north side of the site, or else the gate and hoarding arrangements should be detailed to ensure adequate intervisibility.

Construction Phase 2

2.7 Problem

Location - Gainsford Street / Shad Thames Junction

Summary - Minor Arm Blocked by Queuing Traffic on Major Arm

During Phase 2, there will be signal controlled shuttle working in Shad Thames. Northbound traffic will be stopped in Shad Thames approximately 15m north of Gainsford Street. Hence there will be very limited space for vehicles to queue before the junction is obstructed.

Recommendation

The operation of the traffic signals should be optimised to mitigate the likelihood of queues extending past the Gainsford Street / Shad Thames junction.

2.8 Problem

Location - Maguire Street

Summary - Access to Adjacent Properties Restricted

The footway on the eastern side of Maguire Street is indicated to be closed by hoarding. However, there appear to be several properties which are accessed via this footway. Hence the proposals may not be viable without pedestrians having to walk through the construction site.

Recommendation

The design should ensure that adequate safe access is maintained to all properties in Maguire Street.

Construction Phase 3

2.9 Problem

Location - Gainsford Street

Summary - Pedestrian Facilities Removed

The northern footway of Gainsford Street will be closed east of Maguire Street. Pedestrians will be forced into the carriageway.

Recommendation

Provision should be made in the detailed site traffic management proposals to enable pedestrians, including wheelchair users to safely cross the road and use the opposite footway.

2.10 Problem

Location - Gainsford

Summary - Vehicle Entering No Through Road

Gainsford Street east of Curlew Street will effectively be a cul-de-sac to vehicular traffic. There will be minimal opportunity for vehicles to turn round and therefore some vehicles may reverse back along Gainsford Street, or attempt a 'turn in the road' within the narrow carriageway, potentially resulting in overrunning of the adjacent footways.

Recommendation

If it is necessary to close Gainsford Street, then it does not appear possible to eliminate this problem. However, the problem may be mitigated by providing signage in advance, e.g. at Curlew Street junction to discourage inadvertent traffic entering the street.

Operational Phase (Post Construction)

No problems identified that this stage.

3 Audit Team Statement

We certify that we have examined the drawings and documents listed in Appendix A to this Road Safety Audit Report. The Road Safety Audit has been carried out within the sole purpose of identifying any feature that could be removed or modified in order to improve the safety of the scheme. The problems identified have been noted in this report together with associated suggestions for safety improvements that we recommend should be studied for implementation.

No one on the Audit Team has been involved with the design of the measures.

Audit Team Leader:

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Position: Senior Engineer Date: 15th February 2013
Organisation: Peter Brett Associates
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Audit Team Members:

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NN7 3DG

Appendix A

Thames Tideway Tunnel - Shad Thames Pumping Station Stage 1 Road Safety Audit

Appendix A

Information Utilised in this Stage 1 Road Safety Audit:-

- Figure 19.2.1 – Site Location Plan;
- Figure 19.2.2 – Construction Traffic Routes;
- Figure 19.4.7 – Accident Locations
- DCO-PP-18X-SHTPS-200003 – Access Plans
- DCO-PP-18X-SHTPS-200006 – Permanent Works Layout
- DCO-PP-18X-SHTPS-200014 – Construction Phases – Phase 1 Pumping Station Modification Works;
- DCO-PP-18X-SHTPS-200015 – Construction Phases – Phase 2 Pumping Station Modification Works;
- DCO-PP-18X-SHTPS-200016 – Construction Phases – Phase 3 Pumping Station Modification Works;
- DCO-PP-18X-SHTPS-200021 – Existing Highway Layout;
- DCO-PP-18X-SHTPS-200022 – Highway Layout During Construction Phase 1;
- DCO-PP-18X-SHTPS-200023 – Highway Layout During Construction Phase 2;
- DCO-PP-18X-SHTPS-200024 – Highway Layout During Construction Phase 3;
- DCO-PP-18X-SHTPS-200025 – Permanent Highway Layout;
- DCO-PP-18X-SHTPS-200026 – Highway Layout During Construction Vehicle Swept Path Analysis; 1 of 2
- DCO-PP-18X-SHTPS-200027 – Highway Layout During Construction Vehicle Swept Path Analysis; 2 of 2
- DCO-PP-18X-SHTPS-200028 – Permanent Highway Layout Vehicle Swept Path Analysis;
- Highway Mitigation Plans;
- Technical Note – Information for Shad Thames Pumping Station Stage 1 RSA;
- Technical Memorandum – Shad Thames Pumping Station – Accident Analysis;

NB Some of the above drawings indicate a note that states 'See Schedule of Works'. The Audit Team have not been provided with this Schedule.

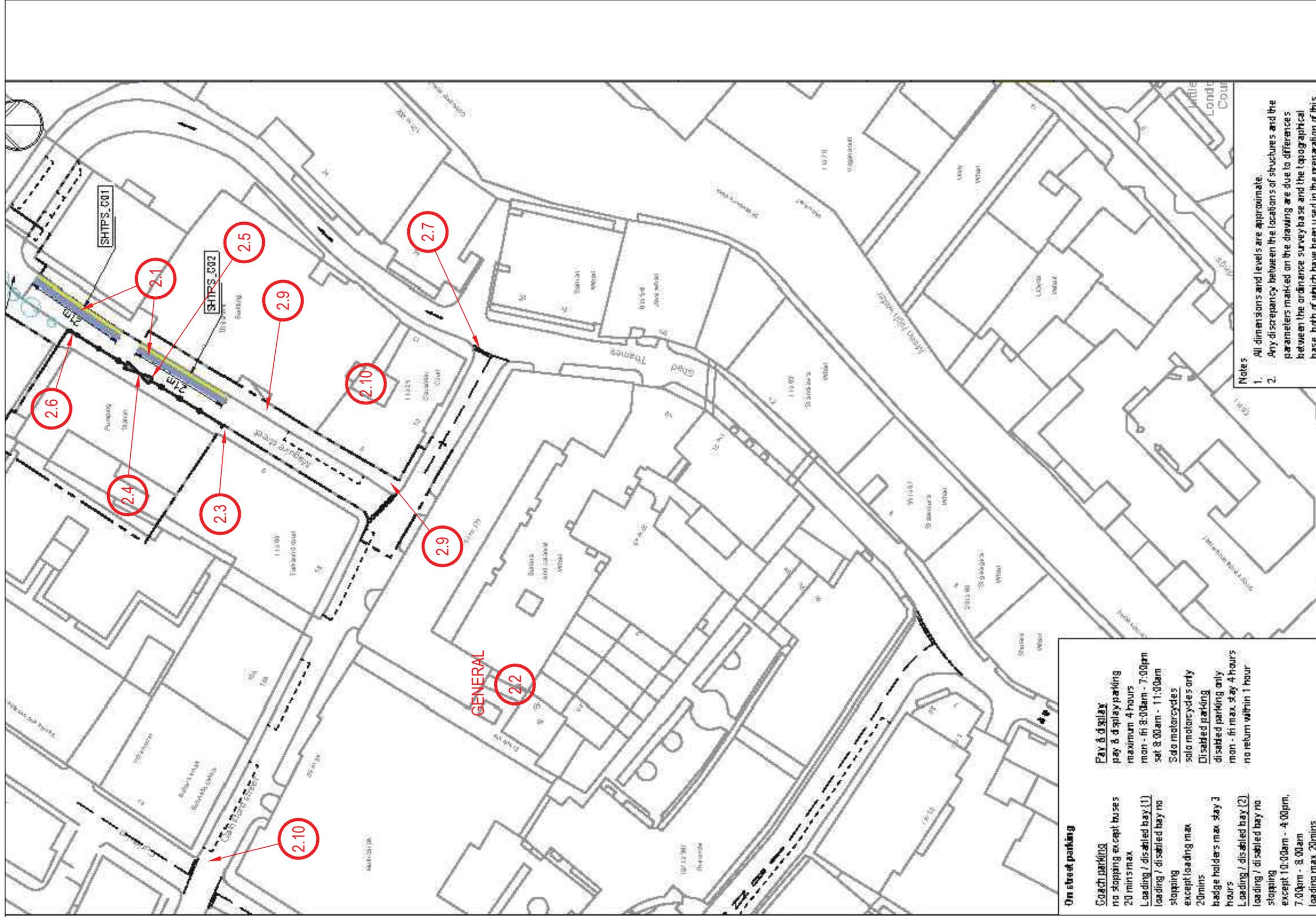
Appendix B



Thames Tideway Tunnel - Shad Thames Pumping Station
Stage 1 Road Safety Audit

Appendix B

Site Reference Plan – 27016/S1RSA/002;



Notes

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

On street parking

Coach parking
 no stopping except buses
 20 mins max
 Loading / disabled bay (1)
 loading / disabled bay no stopping
 except loading max 20mins
 badge holders max stay 3 hours
 Loading / disabled bay (2)
 loading / disabled bay no stopping
 except 10:00am - 4:00pm,
 7:00am - 8:00am
 loading max 20mins

Pay & display parking
 maximum 4 hours
 mon - fri 8:00am - 7:00pm
 sat 8:00am - 11:00am

Solo motorcycles
 solo motorcycles only
 Disabled parking
 disabled parking only
 mon - fri max stay 4 hours
 no return within 1 hour

THAMES TIDEWAY TUNNEL		THAMES WATER UTILITIES	
SHAD THAMES PUMPING STATION		CLIENT	
SITE REFERENCE PLAN		www.peterbrett.com	
Mark	Revision	Date	Chkd
Drawing Status		STAGE 1 ROAD SAFETY AUDIT	
Date of 1st issue	15/02/13	Drawing Number	FIGURE 1
A3 Scale	NTS	Checked by	PE
Drawn by	SB	Checked by	PE
Revision		-	

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Project title Thames Tideway Tunnel

Job number

211146-04

cc

File reference

211146

Prepared by F Jahanshahi

Date

15 February 2013

Subject RSA Stage 1 - Designer's response for Shad Thames Pumping Station

1 Introduction

This report is the Designer's Response to the Stage 1 Road Safety Audit Report for Shad Thames Pumping Station completed in February 2013.

2 Responses to the items arising from the Stage 1 Road Safety Audit

2.1 Problem –

Location: *Maguire Street*

Summary: *Access to site potential restricted*

Description: The proposals indicate that the existing parking bays along Maguire Street will be temporarily suspended for the duration of Construction Phase 1 and 3 in order to facilitate access to the site for construction type vehicles. However, it is unclear how the proposals will prevent on-street parking within these temporarily suspended parking bays and maintain an unobstructed route to the site.

Recommendation: Temporary Traffic Regulation Orders should be made and waiting restrictions applied within the appropriate lengths of Maguire Street in order to ensure access to site is not restricted by parked vehicles.

Designer's response

Recommendation agreed. The construction phase highway layout plans in the Shad Thames Pumping Station *Transport Assessment* figures have been amended to take into account the temporary restrictions of the parking bays on Maguire Street.

Technical Note

211146-04

15 February 2013

It should also be noted that the existing parking bays along Maguire Street would be temporary restricted during phase 2 of construction as well as phases 1 and 3.

2.2 Problem –

Location: General

Summary: Issues with swept paths analysis

Description: The swept path analysis undertaken for both the Construction and the Operational phases presented on “Highway Layout During Construction Vehicle Swept Path Analysis 1 of 2” (DCO-PP18X-SHTPS-200026) indicates that the Design Vehicles, when performing some manoeuvres, will overhang the adjacent footway thus potentially endangering pedestrians. Also, these swept paths do not illustrate construction vehicles entering the pumping station site form Maguire Street which will be open to general traffic during Phase 1 and Phase 3.

NB. Larger vehicles are used for the swept path analysis indicated on drawing “Highway Layout During Construction Vehicle Swept Path Analysis 2 of 2” (DCO-PP18X-SHTPS-200027) but the Highway Mitigation Plan provided by the Design Team reports that the largest delivery vehicle to the site during the construction phases would be a 10m ridged lorry.

Furthermore, it is noted that the speed at which the swept path analysis has been carried out at is 5kph. This is a very slow speed and in some locations it would appear likely that site delivery vehicles will be travelling at a higher speed. There is a risk of large vehicles overrunning the footway, straddling lanes when they turn and braking unexpectedly at pinch points and junctions.

Recommendation: Notwithstanding the fact that the swept path analysis has been undertaken using Ordnance Survey data (and not topographical survey data) the effect on the swept paths of vehicles travelling at a more realistic speed should be checked. Where necessary, measures should be provided to prevent large vehicles overrunning the footway and to protect pedestrians. It may also be necessary to review the extent of the proposed parking bay suspensions.

Swept paths for vehicles entering and leaving the pumping station off Maguire Street should be produced to ensure site access will be adequate to accommodate delivery vehicles.

Designer’s response

Recommendation noted. The construction vehicle swept path analysis plan will be amended to ensure all manoeuvres can be completed without overhanging the adjacent footways at detail design (stage 2).

Site access points in the construction vehicle swept path analysis plan in the Shad Thames Pumping Station *Transport Assessment* figures have been shown indicatively. The site access points and the vehicle types will be reviewed to show the suitability of manoeuvres and access to the site at detail design stage.

Technical Note

211146-04

15 February 2013

Construction phase 1

2.3 Problem –

Location: Maguire Street

Summary: *Pedestrian facilities removed*

Description: It is proposed to place temporary hoarding which will close the footway on the western side of Maguire Street directly outside the pumping station. Pedestrians will be forced into the carriageway.

Recommendation: Provision should be made in the detailed site traffic management proposals to enable pedestrians, including wheelchair users to safely cross the road and use the opposite footway.

Designer's response

Recommendation noted. Traffic management proposals to enable pedestrians, including wheelchair users, to safely cross Maguire Street and use the eastern footway will be reviewed at detail design (stage 2).

In addition, during all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Shad Thames Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the *Traffic Signs Manual* Chapter 8 - Traffic Safety Measures and Signs for Road Works. This will include compliance with the Equality Act 2010 to ensure safe passage for mobility and vision impaired pedestrians.

2.4 Problem –

Location: Maguire Street

Summary: *Potentially restricted pedestrian / vehicle intervisibility*

Description: It is proposed to provide a site access within the hoarding on the western side of Maguire Street. In the event of vehicles or construction plant exiting the site from this access, intervisibility with approaching vehicles and pedestrians may be restricted by the hoarding.

Recommendation: The detailed design for the site access should ensure that there is adequate intervisibility for vehicles / pedestrians at the access. The hoarding may need to be locally realigned adjacent to the site access.

Designer's response

Recommendation noted. Adequate intervisibility for vehicles / pedestrians at the site access point will be taken into account at detail design (stage 2).

Technical Note

211146-04

15 February 2013

2.5 Problem –

Location: Maguire Street

Summary: Construction Traffic Performing Hazardous Manoeuvres

Description: Further to Problem 2.2, under Phase 1, it is not clear that construction traffic will be able to manoeuvre and enter leave site area. This may result in hazardous manoeuvres such as overrunning the footway by vehicles attempting to enter and exit the site, or else large vehicles stopping on the carriageway to off load.

Recommendation: The detailed design should ensure the arrangement of gates and hoarding will accommodate all vehicles which are anticipated to service the site.

Designer's response

Recommendation noted. The site access points and the vehicle types will be reviewed to show the suitability of manoeuvres and access to the site at detail design (stage 2).

2.6 Problem –

Location: Maguire Street

Summary: Pedestrians Unsighted to Approaching Construction Traffic

Description: The drawings indicate a small gate in the hoardings at the northern end of the site. This is assumed to be a personnel gate. The gate is indicated leading directly onto the carriageway. Pedestrians using the gate will be unsighted to approaching construction traffic.

Recommendation: The personnel gate should be repositioned, e.g. to open onto the adjacent footway to the north side of the site, or else the gate and hoarding arrangements should be detailed to ensure adequate intervisibility.

Designer's response

Recommendation noted. The repositioning of the personnel gate will be reviewed at detail design (stage 2).

Construction phase 2

2.7 Problem –

Location: Gainsford Street / Shad Thames Junction

Summary: Minor Arm Blocked by Queuing Traffic on Major Arm

Description: During Phase 2, there will be signal controlled shuttle working in Shad Thames. Northbound traffic will be stopped in Shad Thames approximately 15m north of Gainsford Street. Hence there will be very limited space for vehicles to queue before the junction is obstructed.

Technical Note

211146-04

15 February 2013

Recommendation: The operation of the traffic signals should be optimised to mitigate the likelihood of queues extending past the Gainsford Street / Shad Thames junction.

Designer's response

Recommendation noted. The optimisation of the traffic signals on Shad Thames will be reviewed at detail design (stage 2).

2.8 Problem –

Location: Maguire Street

Summary: Access to Adjacent Properties Restricted

Description: The footway on the eastern side of Maguire Street is indicated to be closed by hoarding. However, there appear to be several properties which are accessed via this footway. Hence the proposals may not be viable without pedestrians having to walk through the construction site.

Recommendation: The design should ensure that adequate safe access is maintained to all properties in Maguire Street.

Designer's response

Recommendation noted. The adequate safe access to all properties in Maguire Street will be reviewed at detail design (stage 2).

During phase 2 of construction, pedestrians wishing to access Butler's Wharf would be diverted on to the eastern footway of Maguire Street and be required to cross the road. Access would be maintained to Tamarind Court, Coriander Court and the Clove Building.

Construction phase 3

2.9 Problem –

Location: Gainsford Street

Summary: Pedestrian facilities removed

Description: The northern footway of Gainsford Street will be closed east of Maguire Street. Pedestrians will be forced into the carriageway.

Recommendation: Provision should be made in the detailed site traffic management proposals to enable pedestrians, including wheelchair users to safely cross the road and use the opposite footway.

Technical Note

211146-04

15 February 2013

Designer's response

Recommendation noted. Traffic management proposals to enable pedestrians, including wheelchair users, to safely cross Gainsford Street and use the eastern footway will be reviewed at detail design (stage 2).

In addition, during all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Shad Thames Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works. This will include compliance with the Equality Act 2010 to ensure safe passage for mobility and vision impaired pedestrians.

2.10 Problem –

Location: Gainsford Street

Summary: Vehicle entering no through road

Description: Gainsford Street east of Curlew Street will effectively be a cul-de-sac to vehicular traffic. There will be minimal opportunity for vehicles to turn round and therefore some vehicles may reverse back along Gainsford Street, or attempt a 'turn in the road' within the narrow carriageway, potentially resulting in overrunning of the adjacent footways.

Recommendation: If it is necessary to close Gainsford Street, then it does not appear possible to eliminate this problem. However, the problem may be mitigated by providing signage in advance, e.g. at Curlew Street junction to discourage inadvertent traffic entering the street.

Designer's response

Recommendation noted. Vehicle's manoeuvring on Gainsford Street will be reviewed at detail design (stage 2).

DOCUMENT CHECKING (not mandatory for File Note)

	Prepared by	Checked by	Approved by
Name	F Jahanshahi	G Wicks	S Jenkins
Signature			

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.16**

Shad Thames Pumping Station

Figures

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

Hard copy available in

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January 2013

**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

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Thames Tideway Tunnel

Transport Assessment

Section 19: Shad Thames Pumping Station figures

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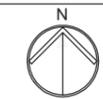
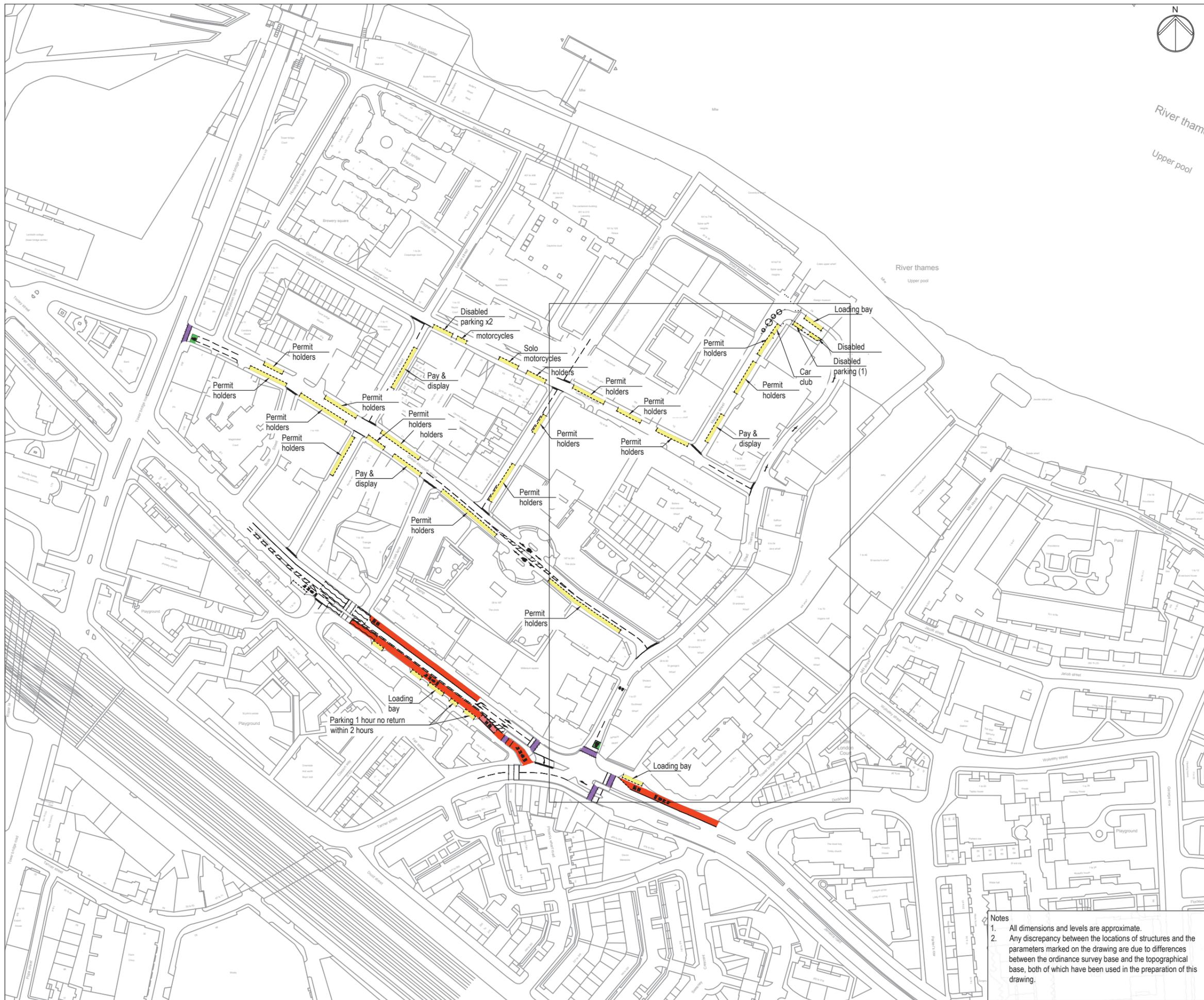
Plans

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Shad Thames

THAMES TIDEWAY TUNNEL - SCHEDULE OF ASSOCIATED HIGHWAY WORKS

Drawing Number	Works Reference	Location	Item of Work	Date of Implementation
DCO-PP-18X-SHTPS-200022	SHTPS_C01	Maguire Street	Suspension of parking bays (3 No.)	TBC
	SHTPS_C02	Maguire Street	Suspension of parking bays (3 No.)	TBC
	SHTPS_C03	Maguire Street	Removal of bollards and two trees.	TBC
DCO-PP-18X-SHTPS-200023	SHTPS_C04	Maguire Street	Suspension of parking bays (3 No.)	TBC
	SHTPS_C05	Shad Thames	Install temporary traffic management to enable two way flow.	TBC
	SHTPS_C06	Maguire Street	Provision of a turning head for vehicles.	TBC
DCO-PP-18X-SHTPS-200024	SHTPS_C07	Shad Thames	Remove temporary traffic management and reinstate road markings for one-way traffic flow.	TBC
	SHTPS_C08	Gainsford Street	Temporary road closure to enable works. Addition of left turn only arrow at Maguire Street/ Gainsford Street junction.	TBC
	SHTPS_C09	Maguire Street	Re-provision of parking bays (3 No.)	TBC
DCO-PP-18X-SHTPS-200025	SHTPS_P01	Maguire Street	Re-provision of parking bays (6 No.)	TBC
	SHTPS_P02	Maguire Street	Removal of temporary road markings and reinstatement of existing road markings	TBC
	SHTPS_P03	Maguire Street	Provision of new access to pumping station. Strengthening of footway and provision of dropped kerbs	TBC
	SHTPS_P04	Maguire Street	Reinstatement of bollards and two trees. Removal of provision for vehicle turning head.	TBC



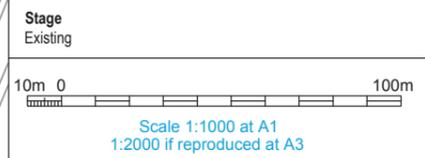
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- On street parking
 - Bus stop / stand
 - Bus lane
 - Pedestrian crossing
 - Cycle lane / advance stop line
 - Tree
 - Bollards

- Standards**
- Design manual for roads and bridges, DfT, 1992
 - Traffic signs regulations & general directions, TSO, 2002
 - Traffic signs manual, DfT, 2006
 - Manual for streets, DfT, 2007
 - Manual for streets 2, CIHT, 2010
 - Designing for deliveries, Fta, 1998
 - Cycle infrastructure design Ltn 2/08, DfT, 2008
 - Design of pedestrian crossings Ltn 2/95, DfT, 1995
 - Guidance for the use of tactile paving, DfT, 1998
 - Accessible bus stop design guidance, TfL, 2006



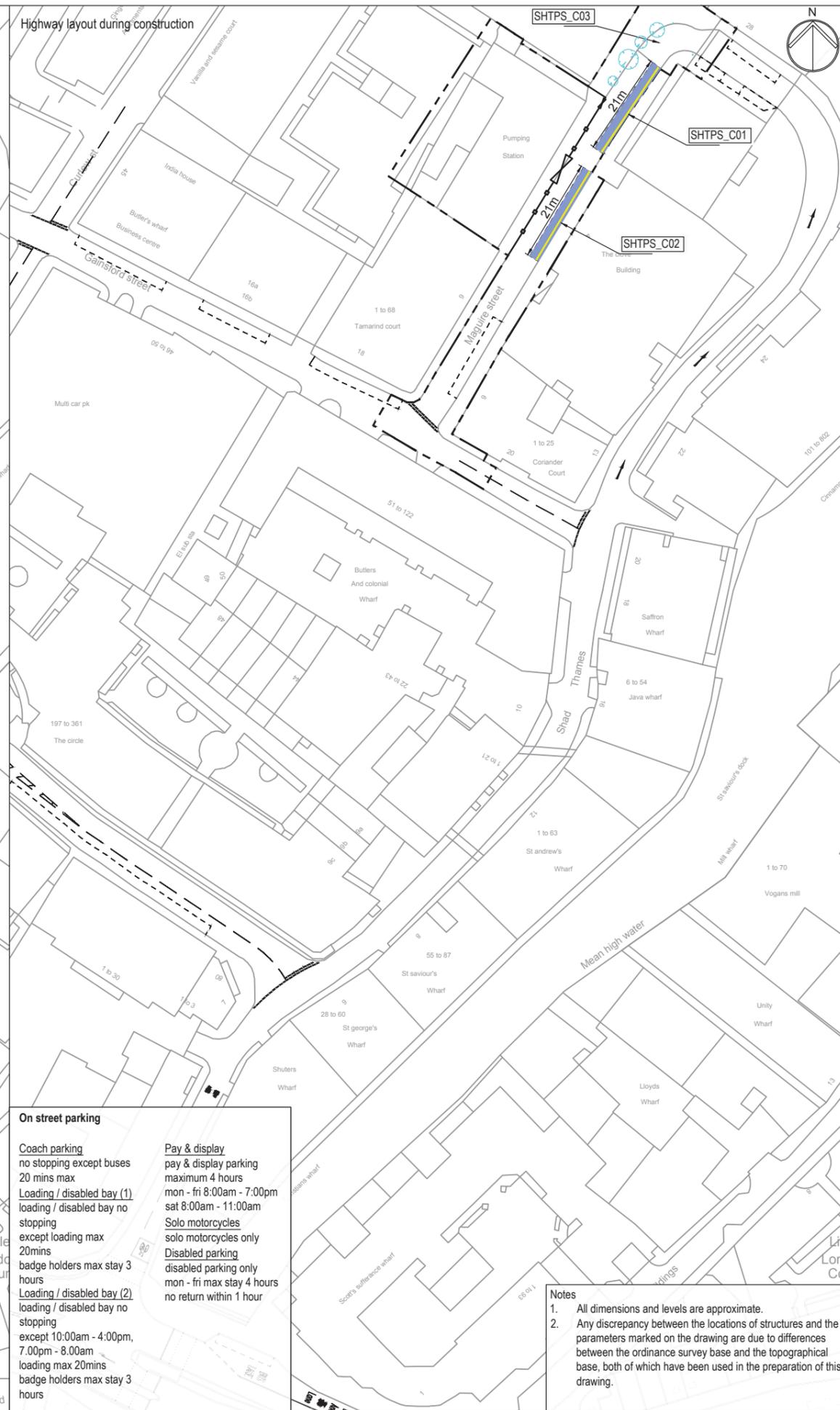
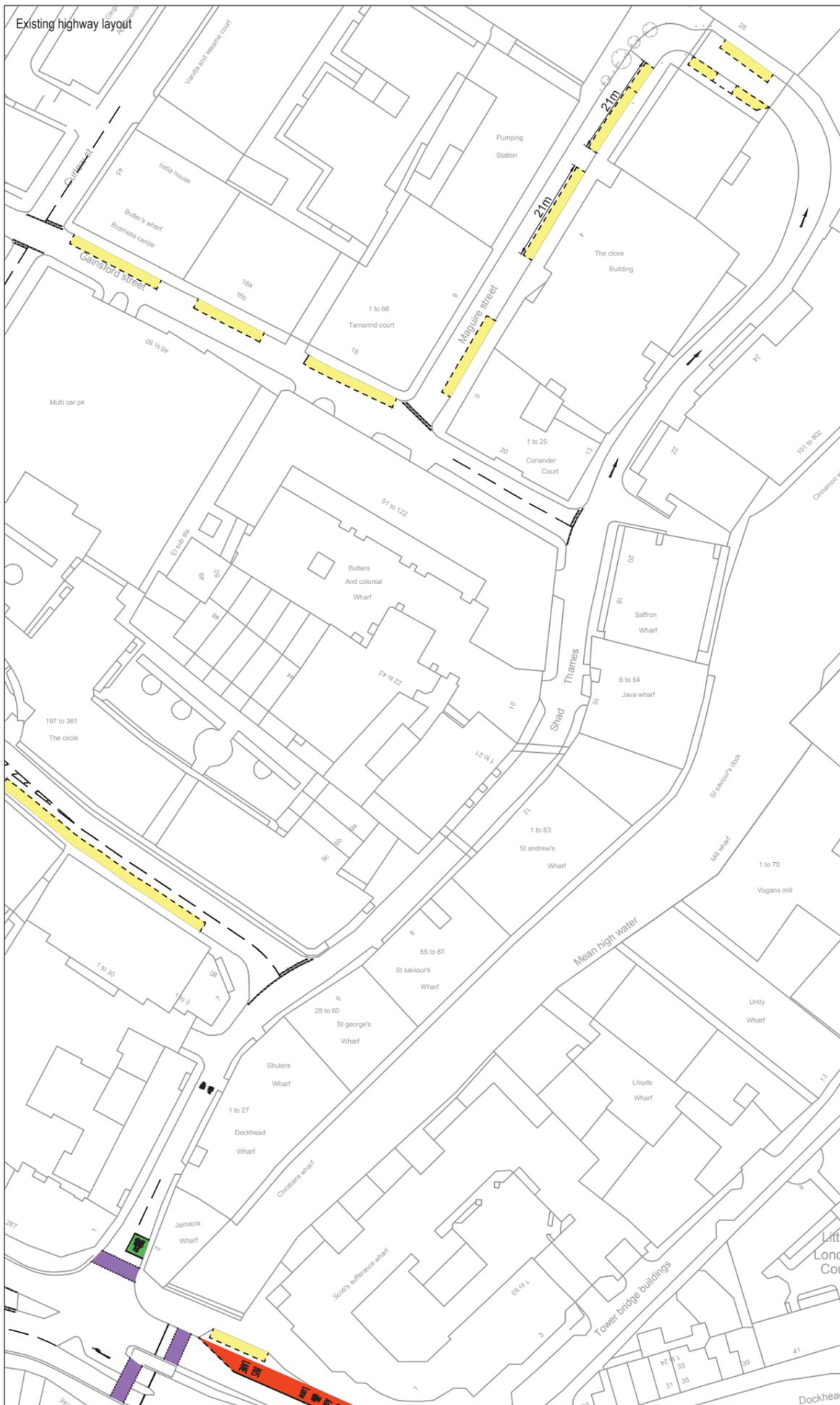
FOR INFORMATION

Location
Shad Thames
London Borough of Southwark

Document Information
Application for Development Consent
Existing highway layout

DCO-PP-18X-SHTPS-200021
January 2013

- Notes**
1. All dimensions and levels are approximate.
 2. Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.



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Keyplan:

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

Existing

- On street parking
- Bus stop / stand
- Bus lane
- Pedestrian crossing
- Cycle lane / advance stop line
- Tree
- Bollards

Revised

- L.L.A.U.
- Removal of footway
- Footway extension
- Temporary restriction to on street parking
- Illustrative on-site manoeuvring zone

SHTPS C00

- See schedule of works
- Hoarding line
- Site access
- Remove tree
- Remove bollards

Standards

- Design manual for roads and bridges, DfT, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, DfT, 2006
- Manual for streets, DfT, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, DfT, 2008
- Design of pedestrian crossings Ltn 2/95, DfT, 1995
- Guidance for the use of tactile paving, DfT, 1998
- Accessible bus stop design guidance, TfL, 2006

Stage

Construction phase

10m 0 40m

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

ILLUSTRATIVE

Location

Shad Thames
London Borough of Southwark

Document Information

Application for Development Consent
Highway layout during construction - Phase 1

DCO-PP-18X-SHTPS-200022
January 2013

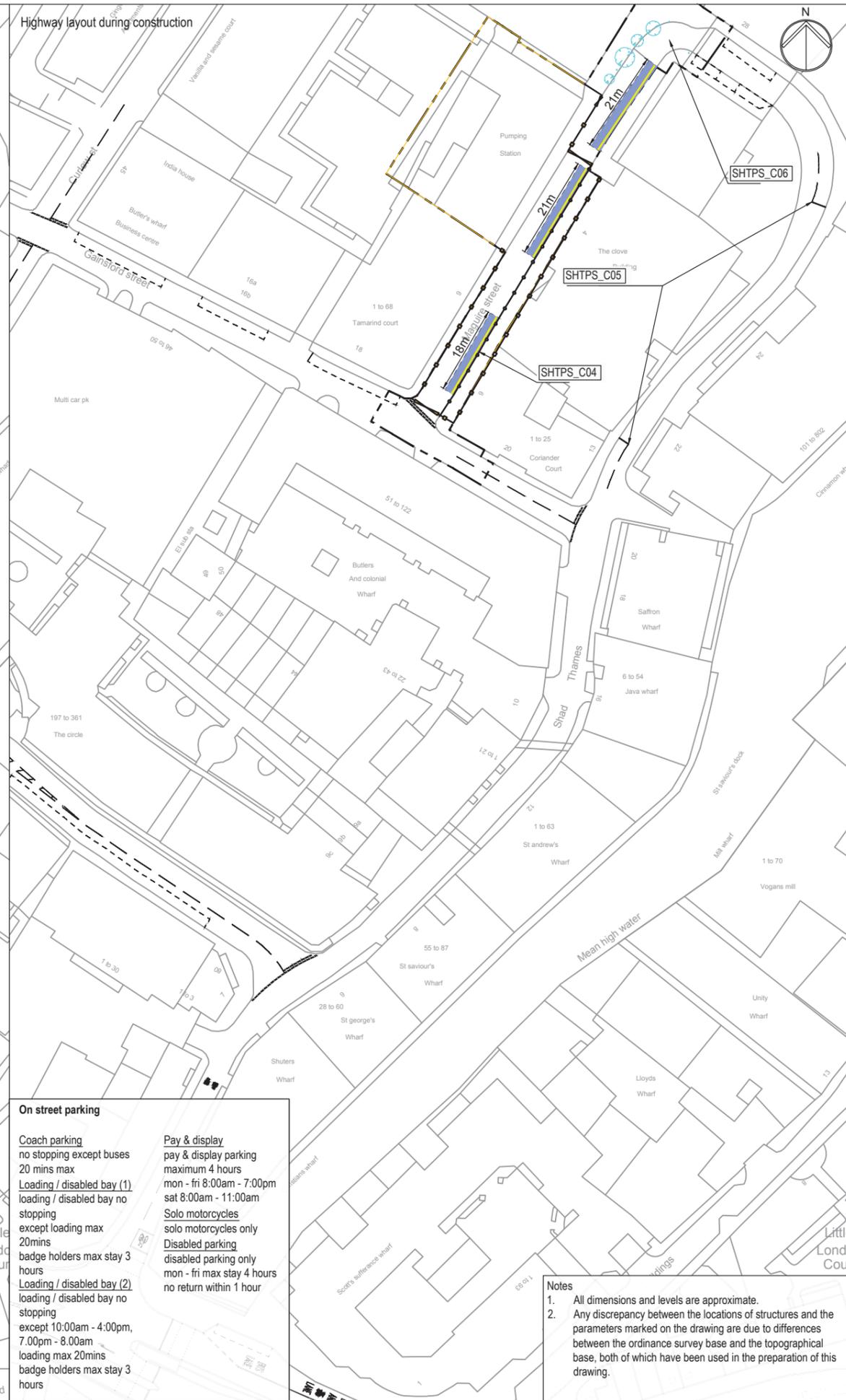
Notes

- All dimensions and levels are approximate.
- Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.

On street parking

Coach parking
no stopping except buses
20 mins max
Loading / disabled bay (1)
loading / disabled bay no
stopping
except loading max
20mins
badge holders max stay 3
hours
Loading / disabled bay (2)
loading / disabled bay no
stopping
except 10:00am - 4:00pm,
7:00pm - 8:00am
loading max 20mins
badge holders max stay 3
hours

Pay & display
pay & display parking
maximum 4 hours
mon - fri 8:00am - 7:00pm
sat 8:00am - 11:00am
Solo motorcycles
solo motorcycles only
Disabled parking
disabled parking only
mon - fri max stay 4 hours
no return within 1 hour



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Keyplan:

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

Existing

- On street parking
- Bus stop / stand
- Bus lane
- Pedestrian crossing
- Cycle lane / advance stop line
- Tree
- Bollards

Revised

- L.L.A.U.
- Removal of footway
- Footway extension
- Temporary restriction to on street parking
- Illustrative on-site manoeuvring zone

SHTPS C00

- See schedule of works
- Hoarding line
- Site access
- Remove tree
- Remove bollards

Standards

- Design manual for roads and bridges, DfT, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, DfT, 2006
- Manual for streets, DfT, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, DfT, 2008
- Design of pedestrian crossings Ltn 2/95, DfT, 1995
- Guidance for the use of tactile paving, DfT, 1998
- Accessible bus stop design guidance, TfL, 2006

Stage

Construction phase

10m 0 40m

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

ILLUSTRATIVE

Location

Shad Thames
London Borough of Southwark

Document Information

Application for Development Consent
Highway layout during construction - Phase 2

DCO-PP-18X-SHTPS-200023
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

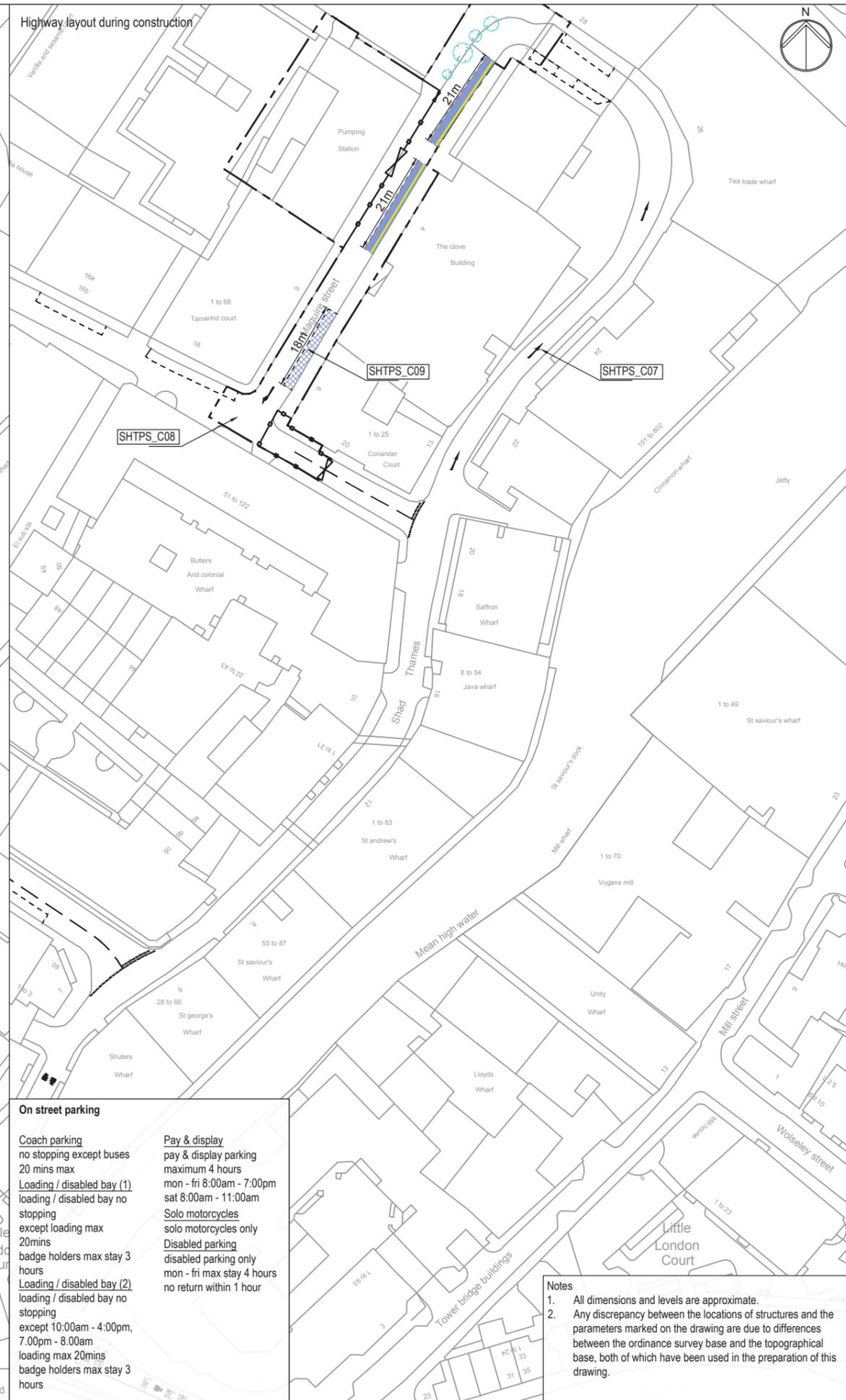
On street parking

Coach parking
no stopping except buses
20 mins max
Loading / disabled bay (1)
loading / disabled bay no
stopping
except loading max
20mins
badge holders max stay 3
hours
Loading / disabled bay (2)
loading / disabled bay no
stopping
except 10:00am - 4:00pm,
7:00pm - 8:00am
loading max 20mins
badge holders max stay 3
hours

Pay & display
pay & display parking
maximum 4 hours
mon - fri 8:00am - 7:00pm
sat 8:00am - 11:00am
Solo motorcycles
solo motorcycles only
Disabled parking
disabled parking only
mon - fri max stay 4 hours
no return within 1 hour

Notes

- All dimensions and levels are approximate.
- Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.



On street parking

Coach parking
no stopping except buses
20 mins max
Loading / disabled bay (1)
loading / disabled bay no stopping
except loading max 20mins
badge holders max stay 3 hours
Loading / disabled bay (2)
loading / disabled bay no stopping
except 10:00am - 4:00pm,
7:00pm - 8:00am
loading max 20mins
badge holders max stay 3 hours

Pay & display
pay & display parking
maximum 4 hours
mon - fri 8:00am - 7:00pm
sat 8:00am - 11:00am
Solo motorcycles
solo motorcycles only
Disabled parking
disabled parking only
mon - fri max stay 4 hours
no return within 1 hour

Notes

- All dimensions and levels are approximate.
- Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.

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Keyplan:

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

Existing

- On street parking
- Bus stop / stand
- Bus lane
- Pedestrian crossing
- Cycle lane / advance stop line
- Tree
- Bollards

Revised

- L.L.A.U.
- Removal of footway
- Footway extension
- Temporary restriction to on street parking
- Illustrative on-site manoeuvring zone

SHTPS_C07
SHTPS_C08
SHTPS_C09

Standards

- Design manual for roads and bridges, DfT, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, DfT, 2006
- Manual for streets, DfT, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, DfT, 2008
- Design of pedestrian crossings Ltn 2/95, DfT, 1995
- Guidance for the use of tactile paving, DfT, 1998
- Accessible bus stop design guidance, TfL, 2006

Stage
Construction phase

10m 0 40m
Scale 1:500 at A1
1:1000 if reproduced at A3

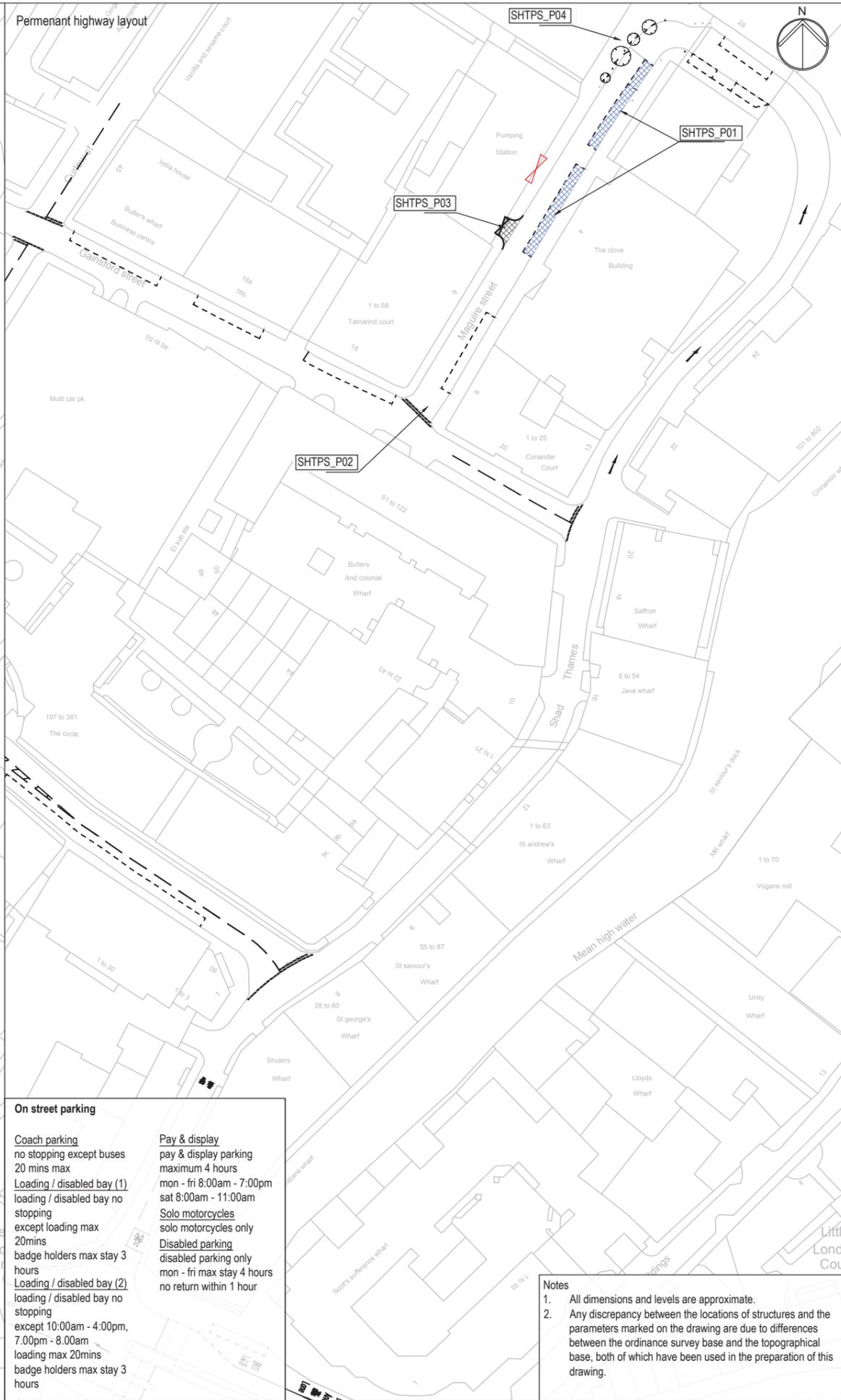
ILLUSTRATIVE

Location
Shad Thames
London Borough of Southwark

Document Information
Application for Development Consent
Highway layout during construction - Phase 3

DCO-PP-18X-SHTPS-200024
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

Existing

- On street parking
- Bus lane
- Pedestrian crossing
- Cycle lane / advance stop line

Revised

- Reinstated on street parking
- See schedule of works
- Reinstated tree
- Reinstated bollards
- Site access (new)
- Strengthen footway / vehicle crossover area
- Existing site access

Standards

- Design manual for roads and bridges, DfT, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, DfT, 2006
- Manual for streets, DfT, 2007
- Manual for streets 2, CiHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, DfT, 2008
- Design of pedestrian crossings Ltn 2/95, DfT, 1995
- Guidance for the use of tactile paving, DfT, 1998
- Accessible bus stop design guidance, TfL, 2006

Stage
Permanent phase

10m 0 40m
Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Shad Thames
London Borough of Southwark

Document Information
Application for Development Consent
Permanent highway layout

DCO-PP-18X-SHTPS-200025
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

On street parking

Coach parking
no stopping except buses
20 mins max

Loading / disabled bay (1)
loading / disabled bay no stopping
except loading max 20mins
badge holders max stay 3 hours

Loading / disabled bay (2)
loading / disabled bay no stopping
except 10:00am - 4:00pm,
7:00pm - 8:00am
loading max 20mins
badge holders max stay 3 hours

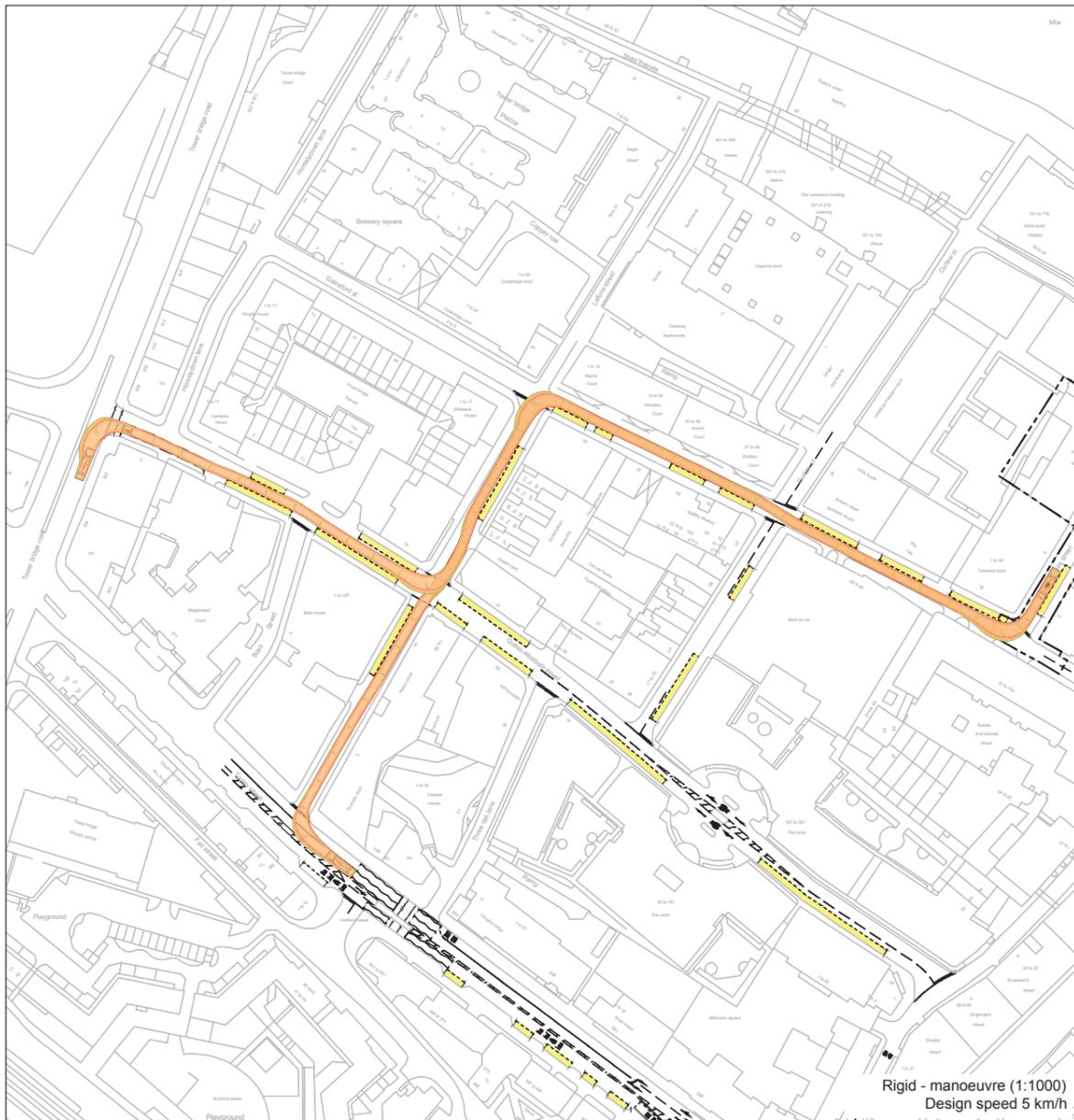
Pay & display
pay & display parking
maximum 4 hours
mon - fri 8:00am - 7:00pm
sat 8:00am - 11:00am

Solo motorcycles
solo motorcycles only

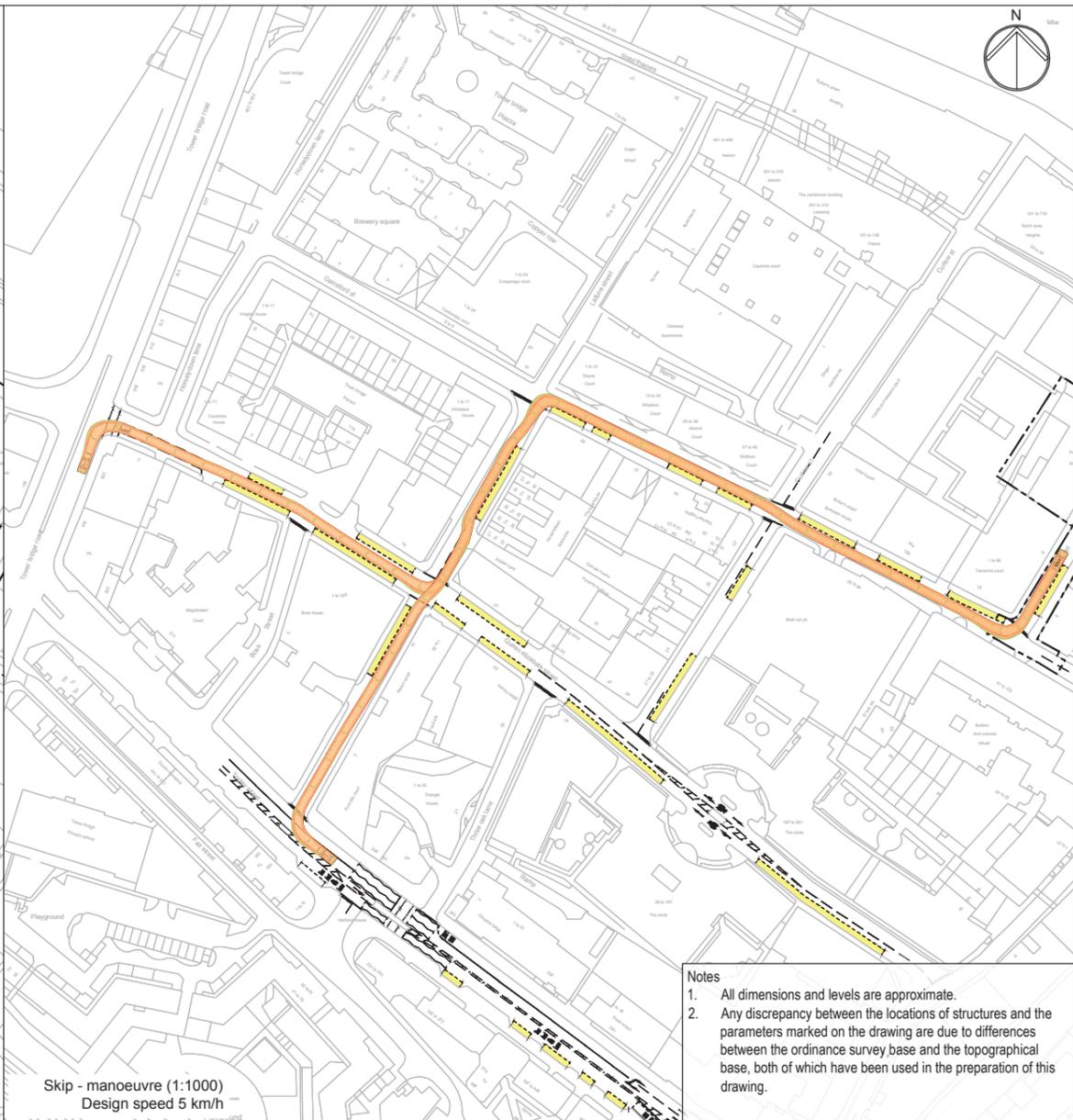
Disabled parking
disabled parking only
mon - fri max stay 4 hours
no return within 1 hour

Notes

- All dimensions and levels are approximate.
- Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the Ordnance Survey base and the topographical base, both of which have been used in the preparation of this drawing.



Rigid - manoeuvre (1:1000)
Design speed 5 km/h

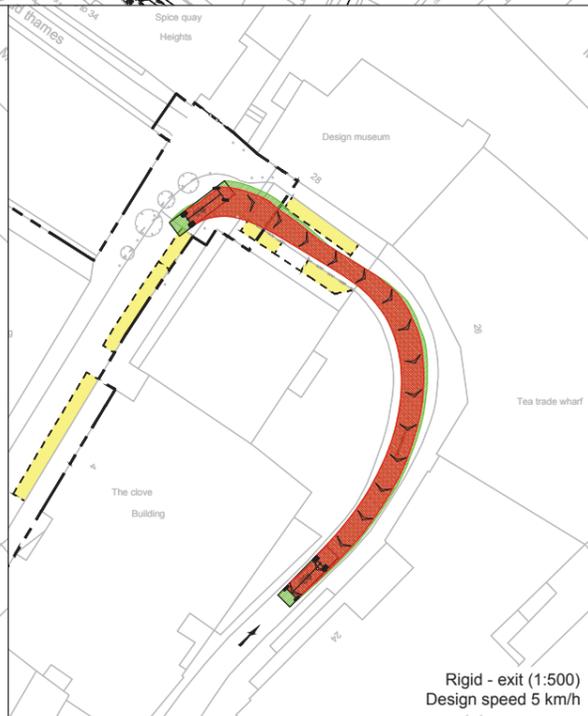


Skip - manoeuvre (1:1000)
Design speed 5 km/h

Notes
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Rigid - entry (1:500)
Design speed 5 km/h



Rigid - exit (1:500)
Design speed 5 km/h



Skip - entry (1:500)
Design speed 5 km/h



Skip - exit (1:500)
Design speed 5 km/h



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Keyplan:



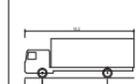
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Revised
 --- L.L.A.U.

- Vehicle swept path analysis
- Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path
 - Tree
 - Bollards

10.2M RIGID VEHICLE



10.2m
 Overall Length 10.200m
 Overall Width 2.200m
 Overall Body Height 2.800m
 Max Body Clearance 2.100m
 Max Body Clearance 2.100m
 Lock to Lock Time 1.100sec
 Arch to Arch Turning Radius 11.000m
 Design Speed 5km/h

SMALL SKIP VEHICLE



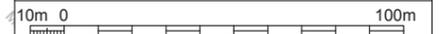
Small Skip Lorry
 Overall Length 6.200m
 Overall Width 2.200m
 Overall Body Height 2.800m
 Max Body Clearance 2.100m
 Max Body Clearance 2.100m
 Lock to Lock Time 1.100sec
 Arch to Arch Turning Radius 11.000m
 Design Speed 5km/h

Standards

- Design manual for roads and bridges, DfT, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, DfT, 2006
- Manual for streets, DfT, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, DfT, 2008
- Design of pedestrian crossings Ltn 2/95, DfT, 1995
- Guidance for the use of tactile paving, DfT, 1998
- Accessible bus stop design guidance, TfL, 2006

Stage

Construction phase



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



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

ILLUSTRATIVE

Location

Shad Thames
 London Borough of Southwark

Document Information

Application for Development Consent

Highway Layout During Construction -
 Vehicle Swept Path Analysis 1 of 2

DCO-PP-18X-SHTPS-200026
 January 2013

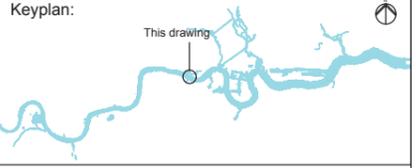


16.5m Articulated vehicle
Design speed 5 km/h

12.0m Rigid vehicle
Design speed 5 km/h



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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
Revised
--- L.L.A.U.

Vehicle swept path analysis
 - Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path
 - Tree
 - Bollards

16.5m Articulated vehicle	12.0m Rigid vehicle
Max Legal Articulated Vehicle (16.5m) Overall Length: 16.500m Overall Body Height: 3.830m Max Body Ground Clearance: 1.520m Max Track Width: 2.470m Lock to Lock Time: 6.00 sec Lock to Bank Turning Radius: 11.800m Design Speed: 5km/h	Rigid Truck Overall Length: 12.000m Overall Body Height: 3.050m Max Body Ground Clearance: 1.420m Max Track Width: 2.470m Lock to Lock Time: 5.00 sec Lock to Bank Turning Radius: 11.800m Design Speed: 5km/h

- Standards**
- Design manual for roads and bridges, DfT, 1992
 - Traffic signs regulations & general directions, TSO, 2002
 - Traffic signs manual, DfT, 2006
 - Manual for streets, DfT, 2007
 - Manual for streets 2, CIHT, 2010
 - Designing for deliveries, Fta, 1998
 - Cycle infrastructure design Ltn 2/08, DfT, 2008
 - Design of pedestrian crossings Ltn 2/95, DfT, 1995
 - Guidance for the use of tactile paving, DfT, 1998
 - Accessible bus stop design guidance, TfL, 2006

Stage
Construction phase

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

ILLUSTRATIVE

Location
Shad Thames
London Borough of Southwark

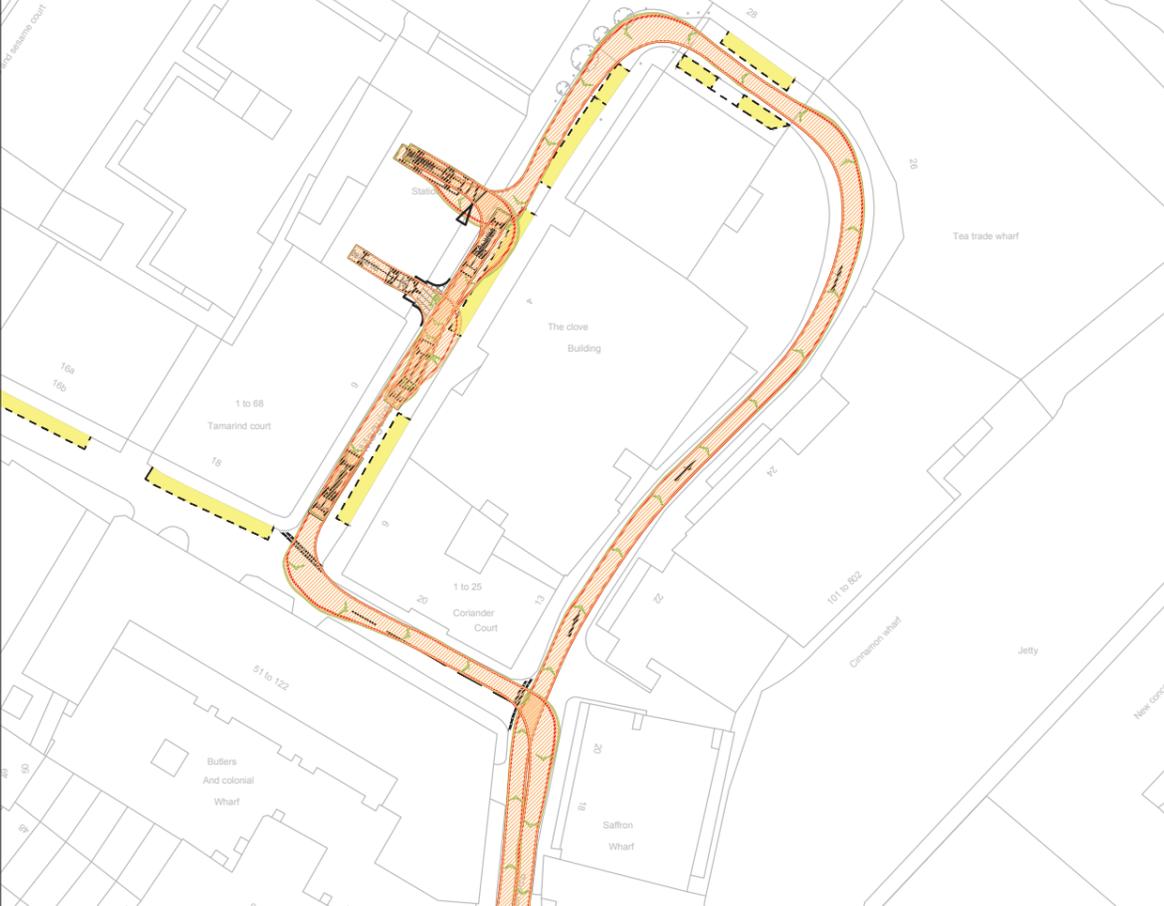
Document Information
Application for Development Consent
Highway Layout During Construction -
Vehicle Swept Path Analysis 2 of 2

DCO-PP-18X-SHTPS-200027
January 2013



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

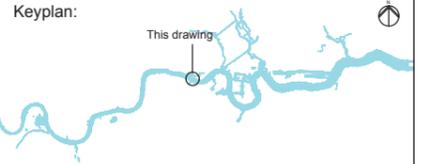
10.7m small Articulated vehicle
Design speed 5 km/h



10.0m Rigid vehicle
Design speed 5 km/h



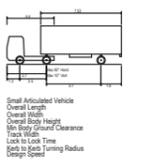
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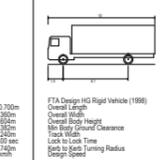
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Vehicle swept path analysis
 - Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path
 - Tree
 - Bollards

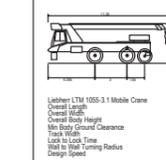
10.7M SMALL ARTICULATED VEHICLE



10.0M RIGID VEHICLE



11.36M LIEBHERR LTM 1055-3.1 MOBILE CRANE



Small Articulated Vehicle	10.700m	FTA Design HC Rigid Vehicle (1998)	10.000m
Overall Length	2.300m	Overall Length	2.900m
Overall Width	3.000m	Overall Body Height	3.640m
Overall Body Height	3.000m	Min Body Ground Clearance	2.400m
Min Body Ground Clearance	2.400m	Track Width	2.400m
Track Width	2.400m	Lock to Lock Time	3.00 sec
Lock to Lock Time	3.00 sec	Max on Road Turning Radius	11.00m
Max on Road Turning Radius	11.00m	Design Speed	5 km/h
Design Speed	5 km/h		

Standards

- Design manual for roads and bridges, DfT, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, DfT, 2006
- Manual for streets, DfT, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, DfT, 2008
- Design of pedestrian crossings Ltn 2/95, DfT, 1995
- Guidance for the use of tactile paving, DfT, 1998
- Accessible bus stop design guidance, TfL, 2006

Stage

Permanent phase



ILLUSTRATIVE

Location
Shad Thames
London Borough of Southwark

Document Information
Application for Development Consent
Permanent highway layout
Vehicle swept path analysis

DCO-PP-18X-SHTPS-200028
January 2013



11.36m Liebherr ltm 1055-3.1 mobile crane
Design speed 5 km/h



- Notes**
1. All dimensions and levels are approximate.
 2. Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.

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Transport assessment figures

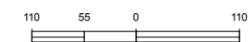
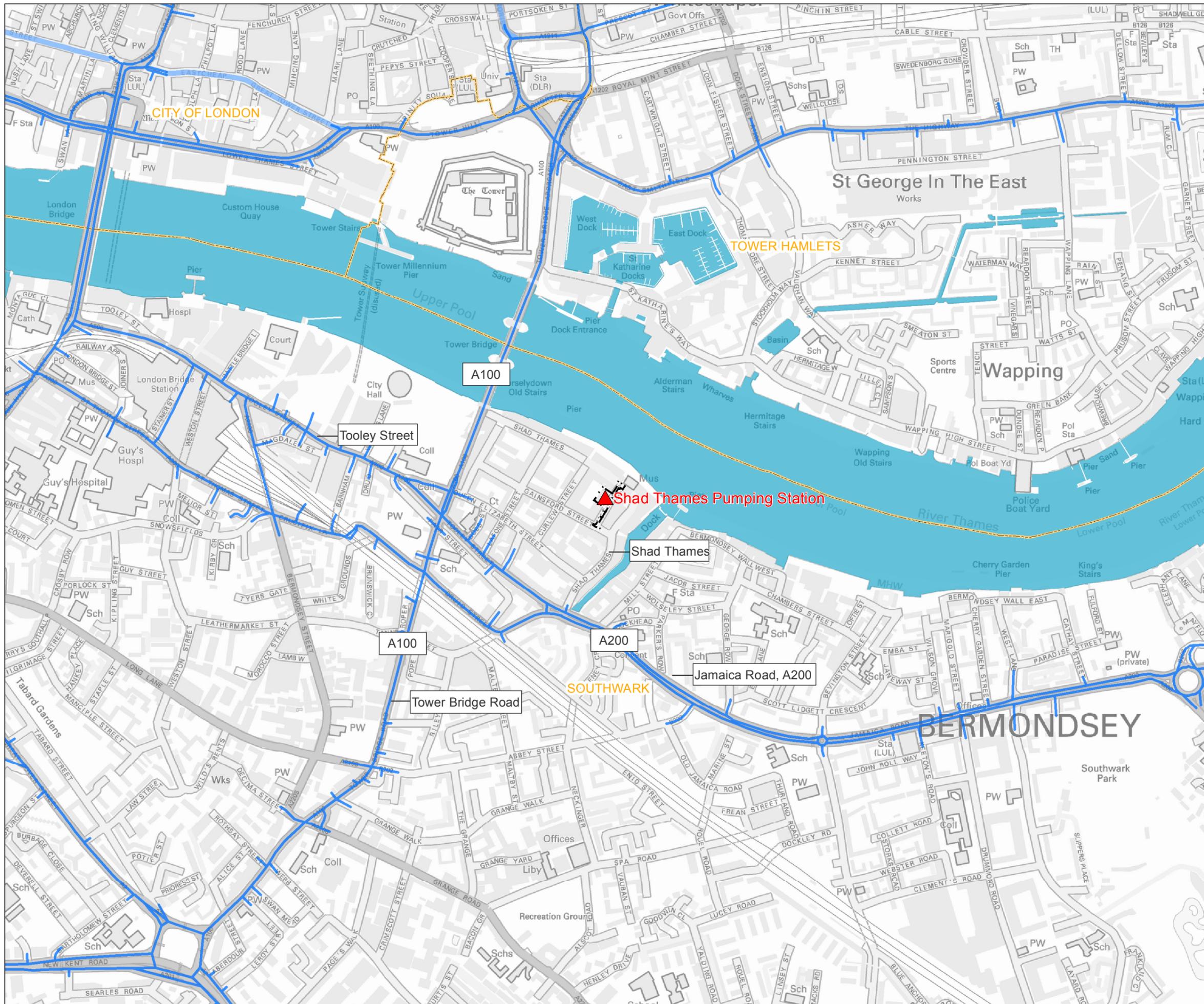
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Keyplan:



Key

-  Pumping station
-  TFL road network
-  Strategic road network
-  Limits of Land to be Acquired or Used
-  Local authority boundary



Scale 1 : 7,500 at A3

FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

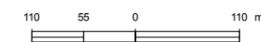
Document Information
Transport Assessment
 Transport - site location plan

Figure 19.2.1
 1PL03-TT-50711
 January 2013





- Key**
- * Site access
 - TFL road network
 - Strategic road network
 - Primary construction route
 - Limits of Land to be Acquired or Used
 - Local authority boundary



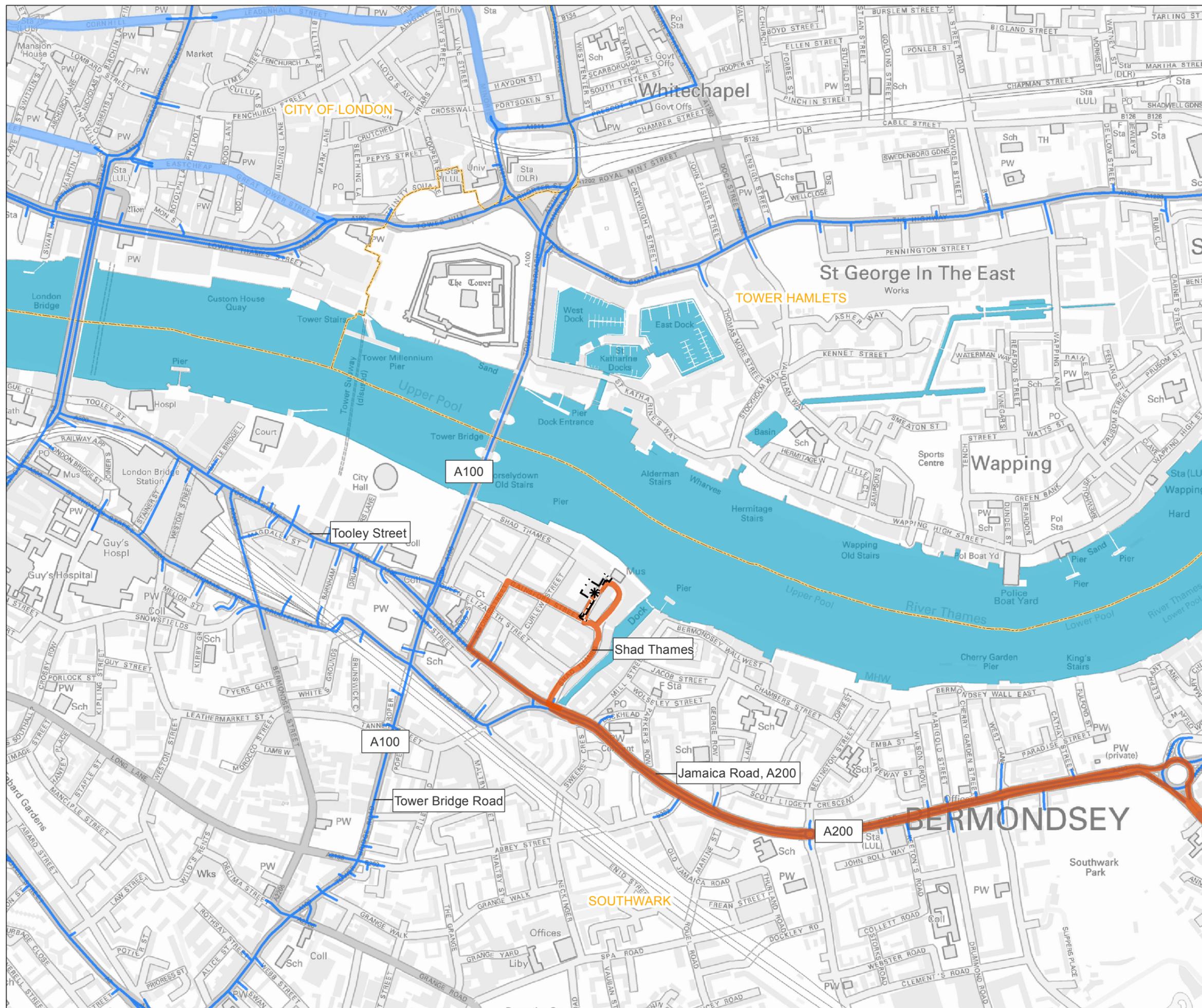
Scale 1 : 7,500 at A3

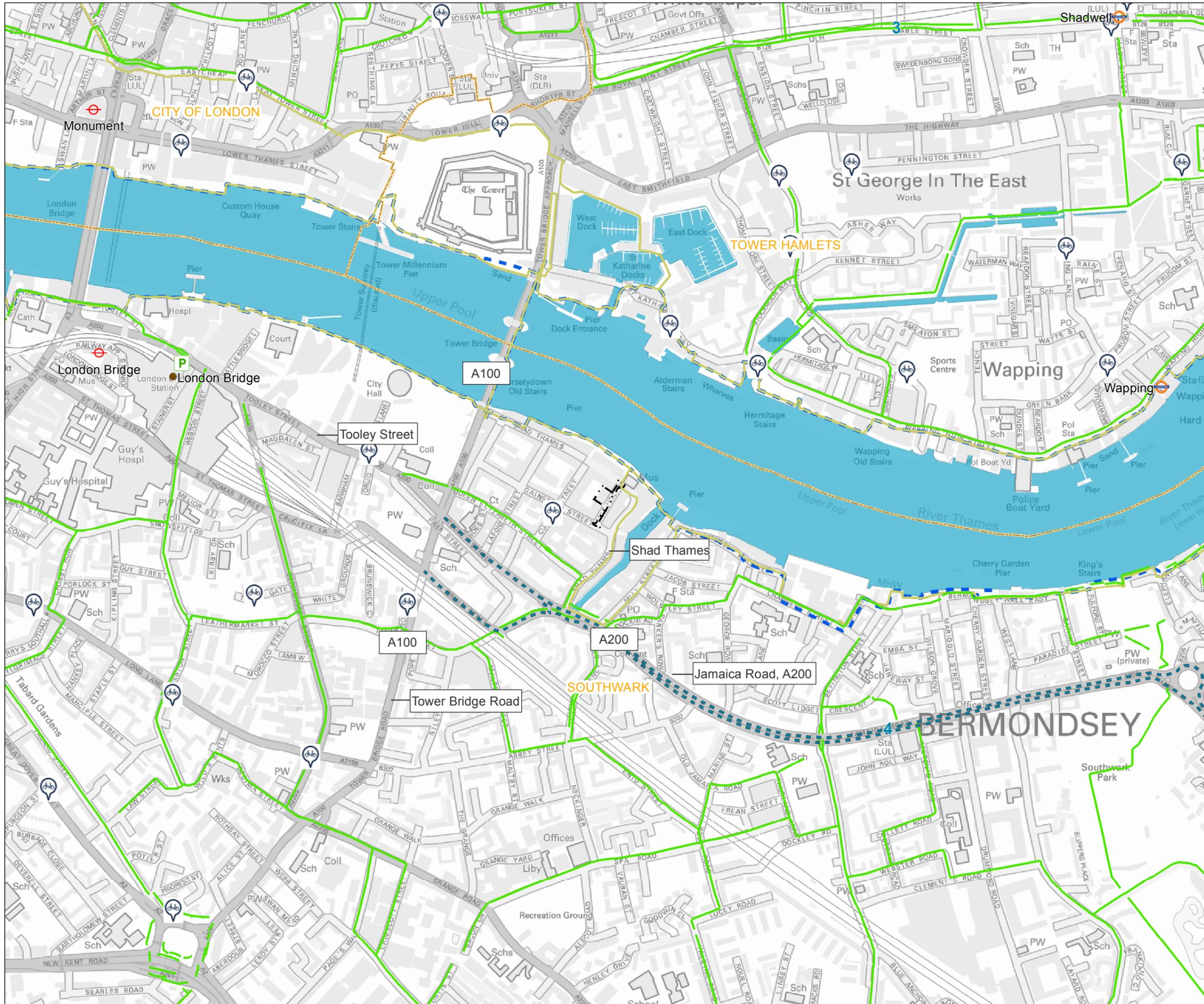
FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

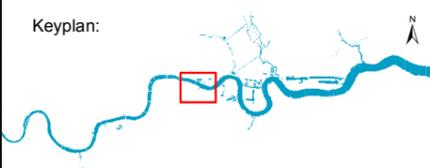
Document Information
Transport Assessment
 Transport - construction traffic routes

Figure 19.2.2
 1PL03-TT-50703
 January 2013

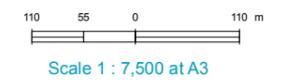




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- Key**
- Overground stations with cycle parking
 - London bridge cycle park
 - National rail Stations with cycle parking
 - Underground stations with cycle parking
 - Barclays cycle hire docking stations
 - Cycle superhighway (open 2015)
 - London cycle routes
 - Thames path
 - London strategic walk network
- National cycle network**
- Route Type**
- Open Traffic Free
 - Open on-road
 - Limits of Land to be Acquired or Used
 - Local authority boundary



FOR INFORMATION

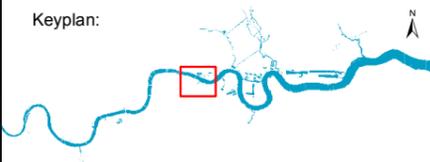
Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment
 Transport - pedestrian and cycle network

Figure 19.4.1
 1PL03-TT-50719
 January 2013



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- Key**
- TFL bus stops
 - London underground stations
 - London overground stations
 - National rail stations
 - Docklands light railway stations
 - Pier locations
 - TfL bus routes
 - Limits of Land to be Acquired or Used
 - Local authority boundary

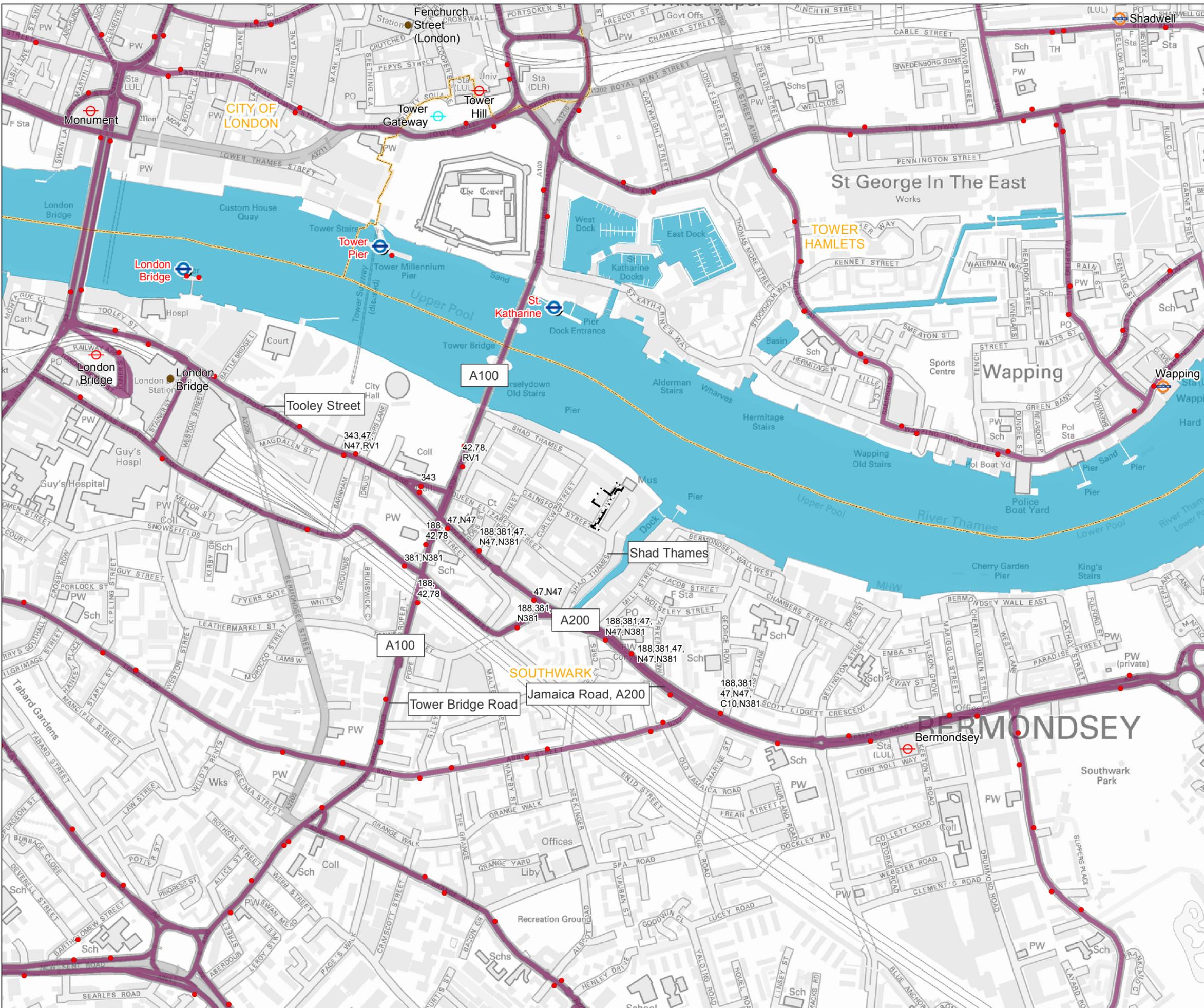
110 55 0 110 m
Scale 1 : 7,500 at A3

FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment
 Transport - public transport

Figure 19.4.2
 1PL03-TT-50727
 January 2013

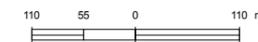


Keyplan:



Key

-  Coach parking
-  Private car parking
-  City Car
-  Hertz on Demand
-  Zip Car
-  Controlled Parking Zones and Hours of Operation
-  Limits of Land to be Acquired or Used
-  Local authority boundary



Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Shad Thames Pumping Station
London Borough of Southwark

Document Information

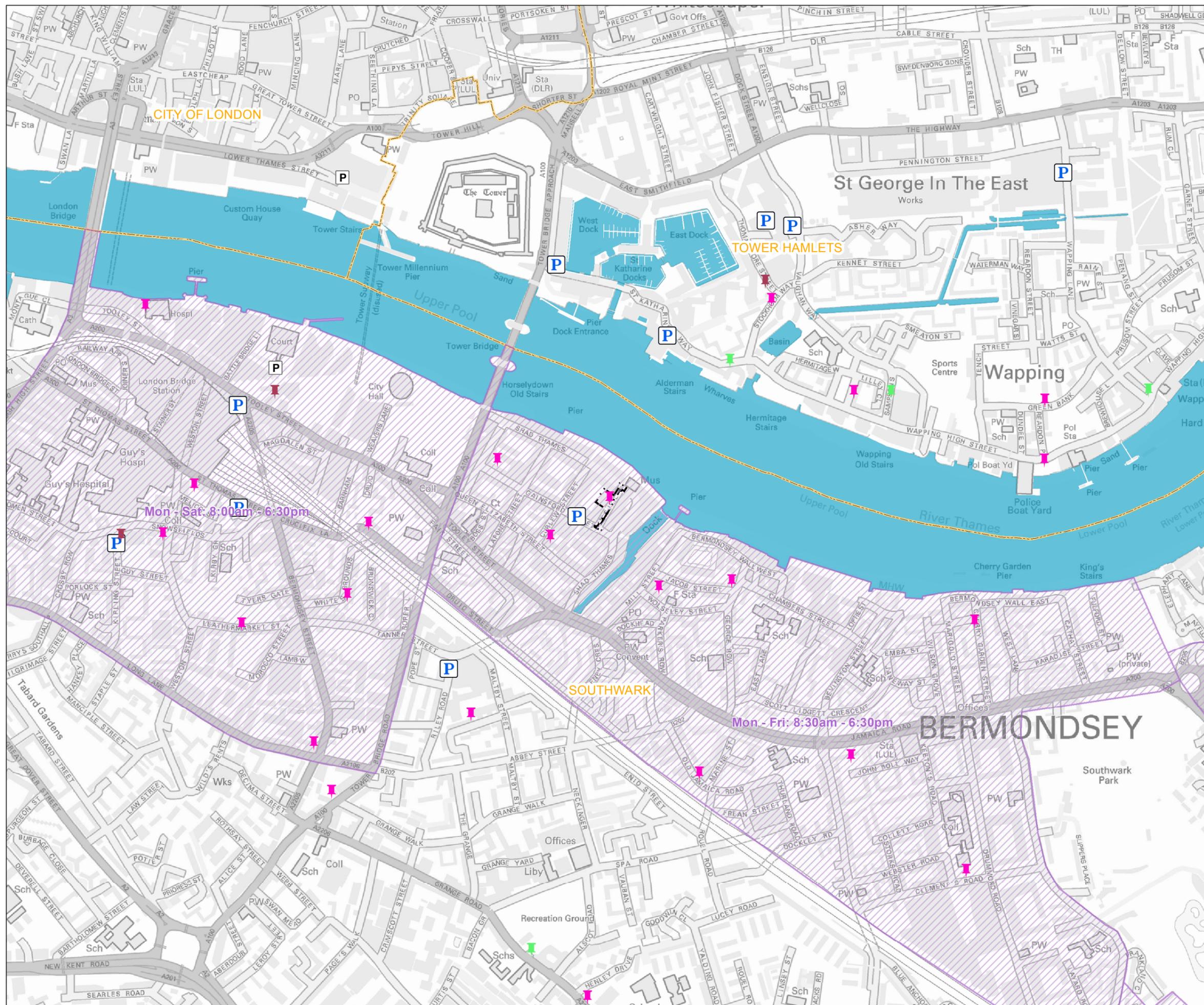
Transport Assessment

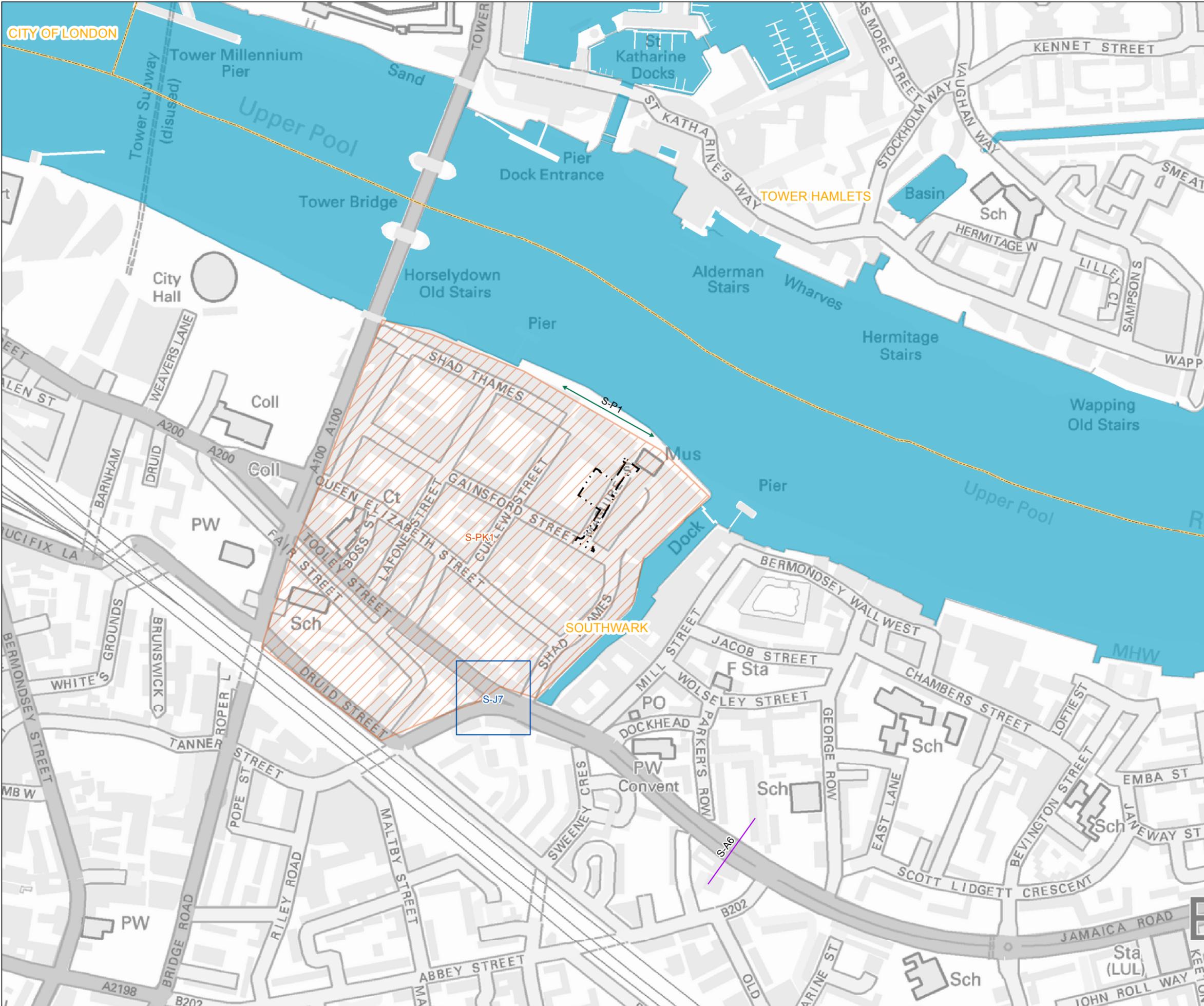
Transport - parking

Figure 19.4.3

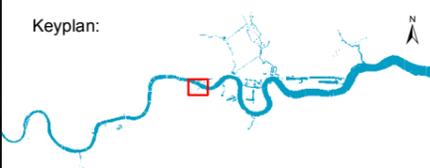
1PL03-TT-50735

January 2013

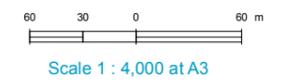




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- Key**
- Automatic traffic count surveys
 - Pedestrian and cycle surveys
 - Junction surveys
 - Parking surveys
 - Limits of Land to be Acquired or Used
 - Local authority boundary



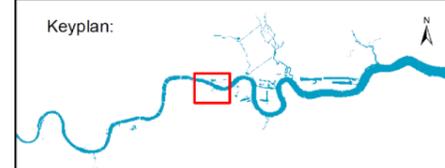
FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment
 Transport - survey locations

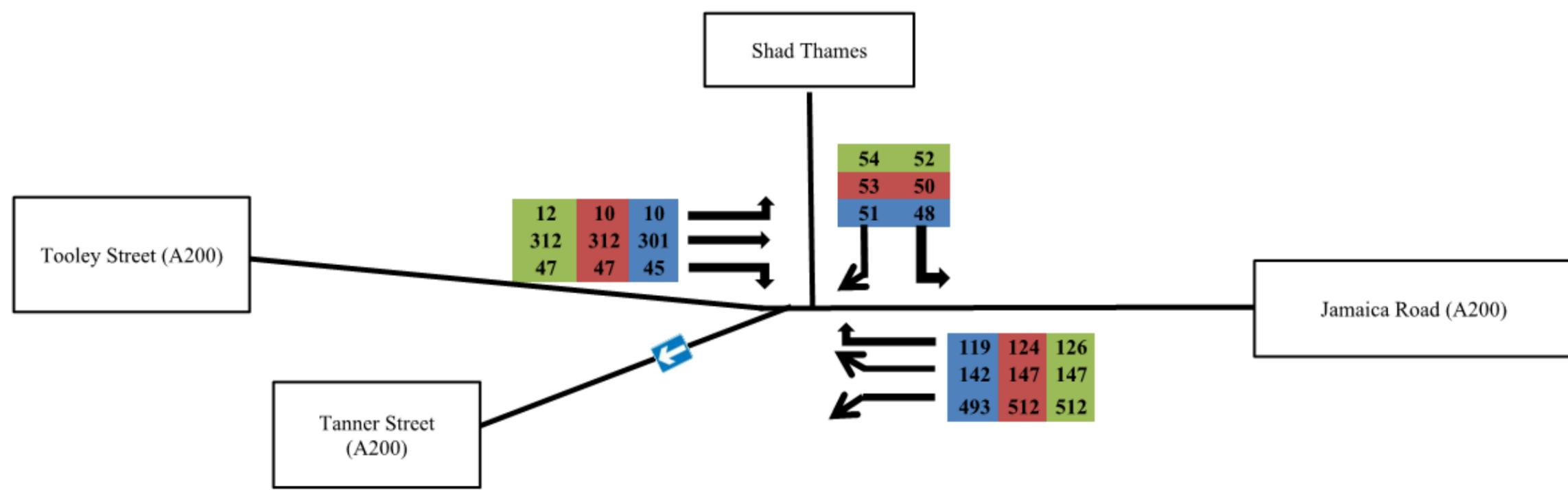
Figure 19.4.4
 1PL03-TT-50743
 January 2013





Key

- Base Traffic Flow
- Construction Base
- Development Case

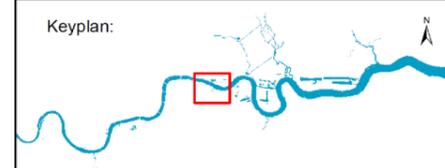


FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

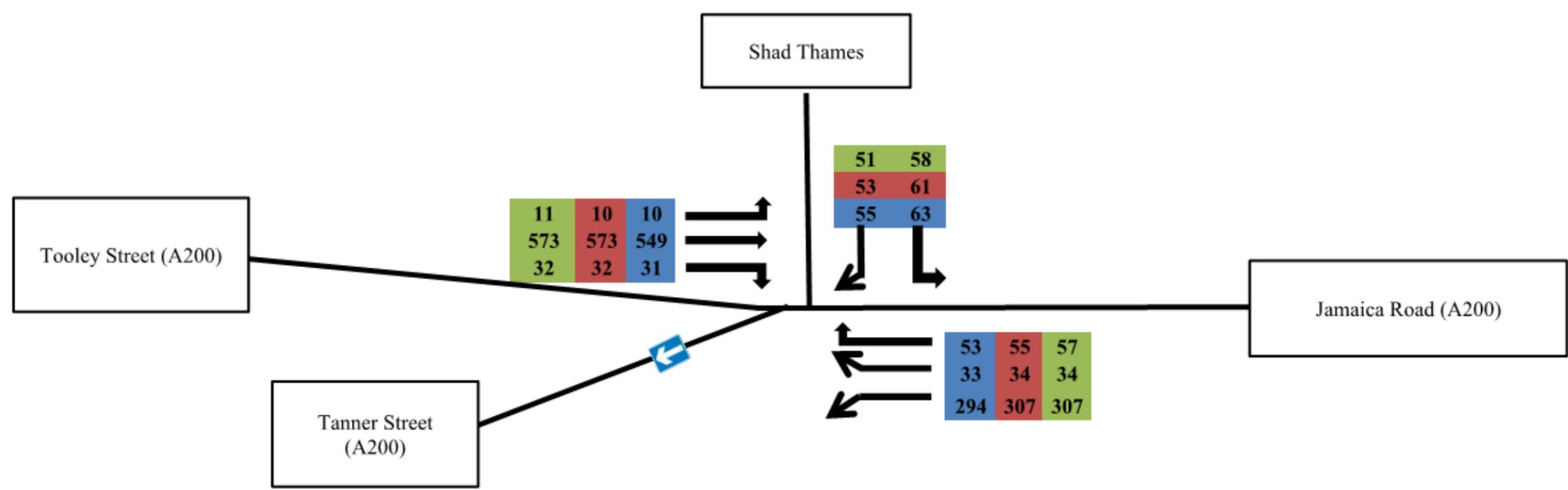
Document Information
Transport Assessment
 Transport - Baseline, Construction and Development case traffic flow (AM peak hour)
 Figure 19.4.5
 1PL03-TT-50922
 January 2013





Key

- Base Traffic Flow
- Construction Base
- Development Case



FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment
 Transport - Baseline, Construction and Development case traffic flow (PM peak hour)
 Figure 19.4.6
 1PL03-TT-50946
 January 2013

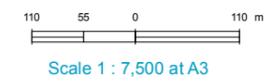


Keyplan:



Key

- Slight
- Serious
- Fatal
- Limits of Land to be Acquired or Used
- Local authority boundary



FOR INFORMATION

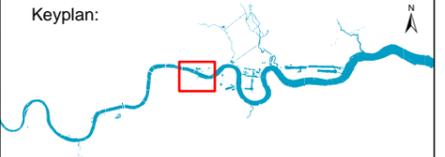
Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment
 Transport - accident locations

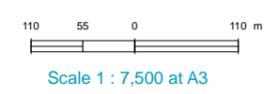
Figure 19.4.7
 1PL03-TT-50767
 January 2013



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- Key**
- Accidents**
(Severity, Mode of travel)
- Slight, Pedestrian
 - Slight, Pedal Cycle
 - Serious, Pedestrian
 - Serious, Pedal Cycle
 - Fatal, Pedal Cycle
- Limits of Land to be Acquired or Used
- Local authority boundary



FOR INFORMATION

Location
Shad Thames Pumping Station
London Borough of Southwark

Document Information
Transport Assessment
Transport - pedestrian and cyclist accidents by severity by Figure 19.4.8
1PL03-TT-50850
January 2013

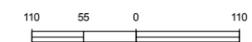
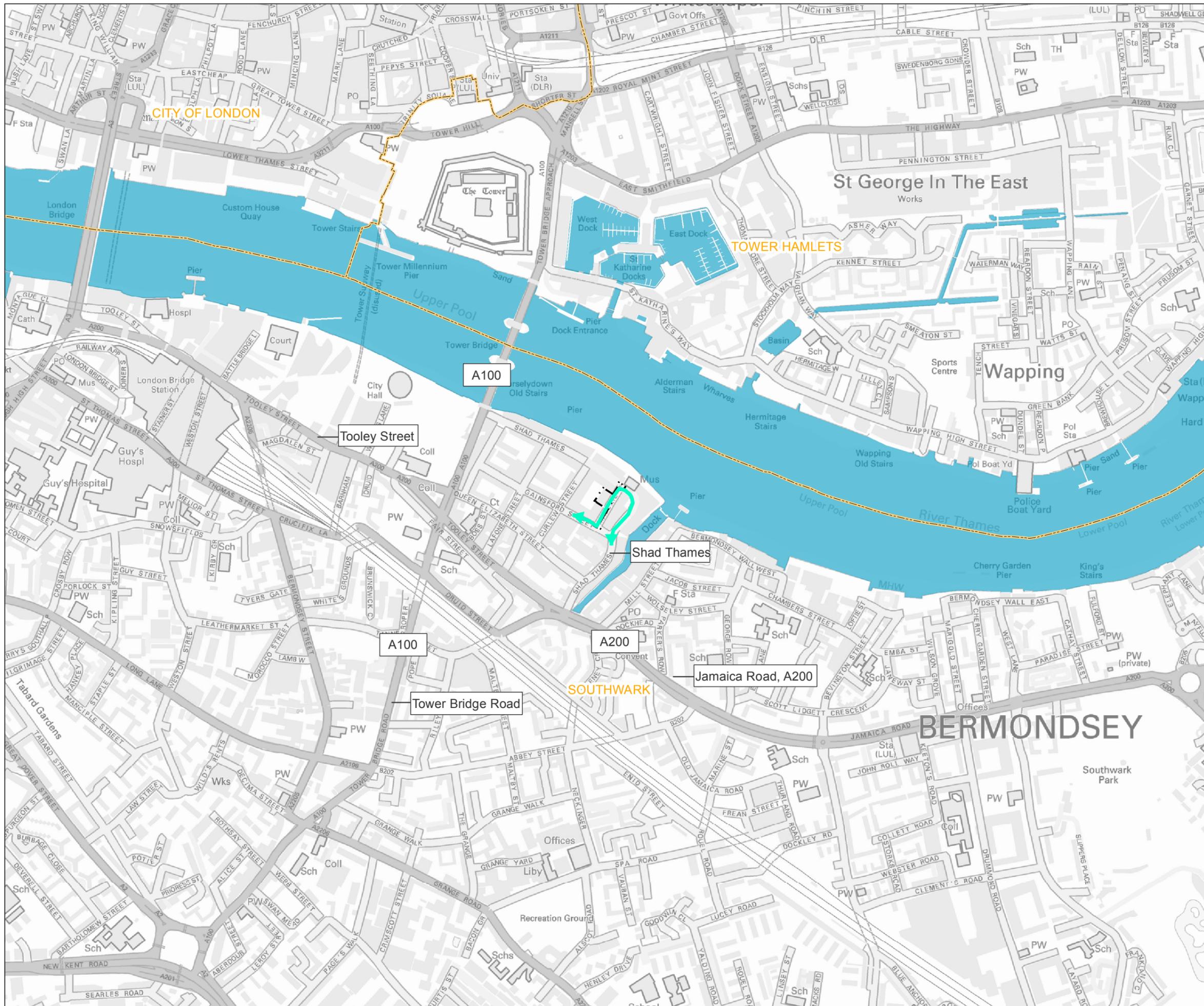


Keyplan:



Key

-  Proposed cycle diversion
-  Limits of Land to be Acquired or Used
-  Local authority boundary



Scale 1 : 7,500 at A3

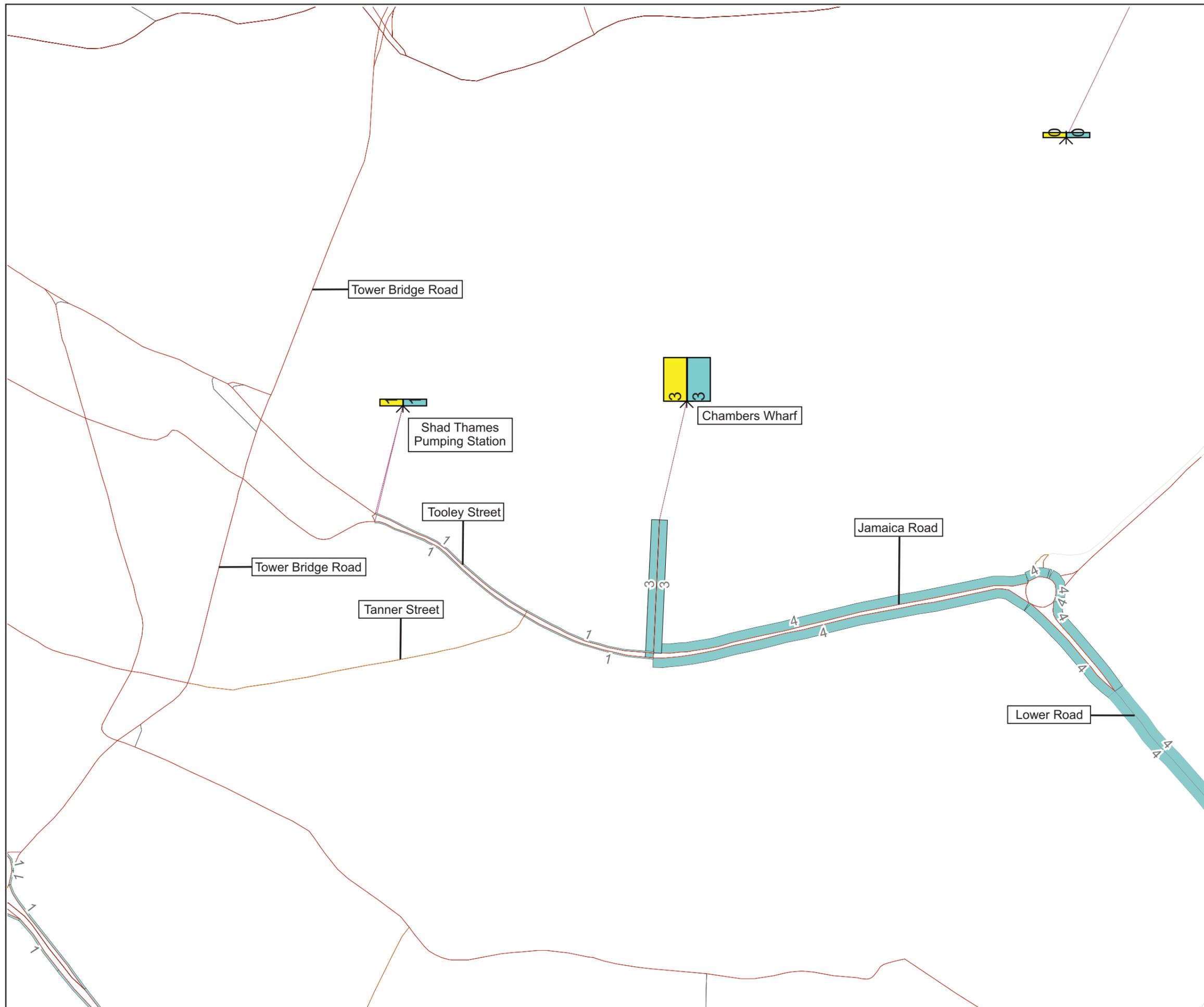
FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment

Transport - cycle diversion for Shad Thames PS construction phase 3
 Figure 19.5.1
 1PL03-TT-50771
 January 2013





Hourly construction lorries arrivals and departures

- Arrivals
- Departures

Hourly construction lorries movements

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10
- 10 - 11
- 11 - 12
- 12 - 13
- 13 - 14
- 14 - 15
- > 15

Note: Construction vehicle flows include all Thames Tideway Tunnel sites on this network during this period.

FOR INFORMATION

Location
Shad Thames Pumping Station
 London Borough of Southwark

Document Information
Transport Assessment
 Hourly Construction Lorry Movements -
 Site Year 1 of Construction

Figure 19.5.2
 1PL03-TT-50898



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