

**RESPONSE TO THAMES WATER'S PHASE TWO PUBLIC CONSULTATION ON THE  
PROPOSED THAMES TIDEWAY TUNNEL**

January 2012

Dear Sir / Madam,

**THAMES TUNNEL: PHASE TWO PUBLIC CONSULTATION**

Thank you for consulting London Borough of Southwark on the preferred route and sites for the Thames Tunnel.

Southwark continues to recognise the importance of reducing the amount of sewage that reaches the Thames and supports the efforts to clean up the river to meet the requirements of the EU wastewater directive.

Notwithstanding this, Southwark has significant concerns over the current proposal. It considers that Thames Water has not demonstrated that the tunnel proposal is the most appropriate means of meeting the requirements of the EU wastewater directive and objects on those grounds. It also strongly objects to the use of Chambers Wharf as a shaft construction site and has strong concerns about the works proposed at the Shad Thames Pumping Station and Earl Pumping Station.

**1. Principle of the Tunnel**

On 4 July 2011, Southwark, along with four other London boroughs (Hammersmith and Fulham, Kensington and Chelsea, Richmond and Tower Hamlets) came together to sponsor an independent Commission to carry out a review of the proposed Thames Tunnel. The report of the Commission published in October 2011 strongly recommends that the Ministerial request to Thames Water to pursue a full-length tunnel be reconsidered. This would enable the full range of 'best technical knowledge' options available to manage storm water to be evaluated and given equal consideration to the tunnel option.

The Commission encouraged DEFRA to recommend to the EU that there is a need for an environmental and economic reassessment to ensure not only that storm water overflow issues are addressed but also that flooding and wider societal benefits are considered and that the options pursued do not entail excessive cost for the benefits accrued in today's economic climate.

It was found by the Commission that the alternative options to a full length tunnel have never been adequately tested, especially where such alternatives can deliver more than the mono-benefit of Combined Sewer Overflow spill reduction that the tunnel will provide. These options include reducing flows by separation, by green infrastructure, by the construction of local detached sewage treatment works, by the construction of distributed storage and by the enhancement of the existing sewerage network, thereby allowing a partial tunnel solution at a lower cost or even a non-tunnel solution.

On the basis of the findings of the Commission, Southwark will continue to dispute the need for the tunnel until there has been an environmental and economic reassessment of the proposal. Furthermore, in the light of the findings, Southwark disputes the full-length storage tunnel option as the best possible means of meeting the requirements

of the Urban Waste Water Treatment Directive and considers that other technical options may be as viable and more cost-effective.

As set out in the findings of the Commission, Southwark wishes to raise serious concerns about the escalating costs of the Thames Tunnel and the impact this will have on customers, pushing a significant proportion of Thames Water bill payers into water poverty.

Alongside the reservations expressed above relating to the need for the Tunnel, Southwark would also wish to raise objection to the use of both Chambers Wharf and Shad Thames Pumping Station as part of the proposal.

## **2. Chambers Wharf**

It is proposed that Chambers Wharf is used as a main tunnel drive site as an alternative to King's Stairs Gardens. Chambers Wharf is a cleared re-development site that has planning permission for residential development.

It is noted that, unlike King's Stairs Gardens, Chambers Wharf is a brownfield site. The site also has access to the River Thames, which would allow the removal of excavated material and delivery of construction materials to the site via barge. Notwithstanding this, Southwark objects to the use of Chambers Wharf as a main tunnel drive shaft for the reasons set out below.

### **Noise and vibration**

The site is located in close proximity to several existing residential properties surrounding the site including existing residential properties on Loftie Street adjacent to the east boundary of the site. The rear gardens and rear windows of several of these properties would directly face the site and would be in close proximity to key elements of the works including the underground shaft. There are also existing flats adjacent to the west boundary of the site.

The Preliminary Environmental Information Report (PEIR) states that the current noise climate is dominated by road traffic noise. This does not create an accurate impression of the existing noise environment around the site. Whilst traffic noise is audible in the vicinity of the site, it is not particularly notable, and properties around the site enjoy a generally peaceful noise climate relative to their central London location.

In its assessment on noise, the PEIR itself concludes that *“significant noise effects arising from construction activities are predicted at residential properties at Luna House, Axis Court, Chambers Street, Chambers Wharf South (proposed development), Bevington Street, Bermondsey Wall East and Fountain Square”* (PIER Non-technical Summary, Chambers Wharf, page 258). The PEIR goes on to state that *“it is anticipated that additional mitigation would be required to address significant noise effects. These could include the increased hoarding heights, use of localised screens and enclosures to reduce noise from particularly noisy, static operations”* (PIER Non-technical Summary, Chambers Wharf, page 258).

The impact of the proposals upon local residents is a particular concern given that the construction programme is expected to last for approximately six years. It is also relevant that following the construction phase of the Thames Tunnel there will be a further period of construction for the residential development, resulting in an even more prolonged period of disturbance for residents.

Given the close proximity and intimate relationship between the residential properties (including that new development proposed on Chambers Street) and the site, there is a strong likelihood of serious harm resulting from noise and disturbance upon the living conditions of the residential properties in the vicinity of the site. There are currently no detailed proposals in place which demonstrate how the harm will be mitigated and objection is therefore raised to the proposals on this basis.

Given the relationship of the construction proposals with residential properties extensive mitigation would be required to counter the serious noise and disturbance likely to occur, if the scheme were to go ahead. Such mitigation needs to be carefully considered well in advance of the application. They would also need to be rigorously monitored. Consideration should be given to enclosure of the head of the shaft and the main lifting and loading operations on the site. In paragraph 9.2.3 of the PIER Main Report, Volume 22: Chambers Wharf Site Assessment, it is stated in the assessment that the hoarding height will be 2.4m at this site. However in the Control of Construction Practice Part B document the height of the hoarding is stated to be 3.6m. In considering mitigation it needs to be borne in mind that the use of high hoardings and screening panels could also have adverse impacts upon both the general visual amenity of the area, key viewpoints and could appear oppressive when viewed from adjacent residential properties. Alternative noise mitigation measures such as secondary glazing should also be considered, if the proposal were to go ahead.

It should be demonstrated that the noise levels resulting from the operation of the ventilation system will not increase the current background noise levels as per "LBS Sustainable and Construction SPD".

The impact upon the living conditions of residents would be exacerbated by additional disturbance from vehicle movements to and from the site. During construction, vehicles would access and egress the site onto Chambers Street, connecting to Jamaica Street via Bevington Street. The proposed vehicular access to the site is proposed directly opposite the proposed flats on the south side of Chambers Street, increasing the likelihood of significant disturbance for future occupiers, the windows for some of whom will be immediately adjacent (albeit at a higher level) to the edge of the pavement.

For the first two years of the construction phase, average lorry movements will frequently be between 60 and 90 lorry movements per day. In the final four years of the construction phase the maximum number of lorry movements is expected to drop to a maximum of 54 movements per day (for the avoidance of doubt each movement represent a trip to or from the site so the number of two way trips will be half this number). The number of overall lorry movements will drop significantly in the final year of construction. These figures are based upon an assumption that 90% of fill and excavated material movements would be transported by barge. If this 90% figure is not reached the number of lorry movements could potentially significantly increase. It is noted with concern that Thames Water indicates that the actual amount of waste transported by barge will be at the discretion of the package contractors and there is no formal commitment to achieving this target at Chambers Wharf.

There are also likely to be adverse implications, both in terms of disturbance and safety issues for the existing primary school located on Bevington Street in close proximity to the site. The Council do not accept the method by which the schools are assessed against the ambient noise as indicated by the London noise maps. Instead, the criteria should be based on the baseline noise data.

Future proposals will need to clearly demonstrate how the works can operate without detriment to the operation, safety of children and learning conditions at the school.

The proposal is contrary Policy 3.2 of the Southwark Plan which seeks to ensure that development does not result in a loss of amenity, including disturbance from noise, to present or future occupiers in the surrounding area or on the application site.

### **Design and visual impact**

The proposed works will result in the need for amendments to the permitted scheme for residential development at Chambers Wharf to the north of Chambers Street. The detailed proposals of permanent works for the Thames Tunnel project will therefore need to be transposed onto the permitted scheme for the Chambers Wharf residential development and the Council's agreement of the revised proposals will be required. Permission will need to be in place for any amended scheme prior to the commencement of the proposed tunnelling works.

The hoardings to be maintained during the construction period will affect views upstream and in particular significant views of Tower Bridge to the west from the public footway. The design and finish of the proposed hoardings should be given careful consideration, their presentation and maintenance for the 6 year duration of the construction should be considered and agreed with the Council prior to the submission of the application. Careful consideration should also be given to the design of the hoarding to the river's edge and utilising an open fence to the extended pier to retain the up-stream views.

The 'Dolphin' is an historic river structure located immediately to the east of the wharf for the duration of the works. Careful consideration should be given to this given the proposed use of barges to service the site and the works that will be required to the shoreline of the River. The proposals must ensure that the 'Dolphin' is properly safeguarded and protected during the construction programme.

The Council would require a detailed condition survey be carried out of all heritage assets and residential properties that could be affected by the tunnelling works. The detailed condition survey should be retained for the duration of the works.

Should the scheme go ahead and without prejudice to its case, the Council would support the removal of the projecting wharf and the reinstatement of the river edge. The design of the proposed vents is sensitive. These will be very prominent on the river walk and will become significant landmarks in the area. Their design should be developed more along the lines of sculptures than utilitarian vents and the Council would prefer natural materials and a signature piece in this location.

The location, arrangement, scale, height and detailed design of the two kiosks remains to be agreed. The council would expect to be involved in detailed discussions about the design of these structures

The impact of the proposed un-filtered ventilation 'slot' needs further consideration – the Council is very concerned over the workings of this feature of the re-constructed Thames Wall.

The 'Dolphin' should be carefully restored in accordance with a schedule of works that should be agreed with the council.

The Council will need to be satisfied that the proposal is consistent with Policy 3.12 and 3.13 of the Southwark Plan and Core Strategy strategic policy 12 which seek to ensure that development achieve a high quality of both architectural and urban design, enhancing the quality of the built environment.

### **Thames policy area**

Chambers Wharf is located in the Thames Policy Area (TPA). The purpose of the Thames Policy Area is to recognise the role of the Thames in maintaining London as an exemplary, sustainable world city.

Chambers Wharf comprises one of few development opportunities with a river frontage in Southwark and plays an important part in enabling Southwark to attract investment and meet the housing need of the borough. The site has planning permission and were it not for the tunnel proposal would be available for development. If the tunnel proposal goes ahead, the part of the site which fronts the Thames will not become available for development until 2022/23, blighting the regeneration of this part of the borough.

In view of this, the proposal is not consistent with Policy 3.29 of the Southwark Plan, Core Strategy policy 12 or London Plan policy 4C.6 which seek to ensure that character of the TPA is protected and enhanced. .

### **Heritage**

The use of Chambers Wharf as a construction site is likely to be detrimental impact on the setting of the listed and locally listed buildings/structures close to the site. Riverside School and Bermondsey Wall West are both grade II listed and their settings would be compromised by the proposal. The proposals will also impact on nearby locally listed buildings such as 23 Jacob Street, the Dockhead Fire Station and The Ship Aground public house on Wolseley Street. Thames Water will need to demonstrate that these impacts are appropriately identified and mitigated against.

Chambers Wharf is adjacent to St Saviour's Dock conservation area and the recently designated, King Edward III Rotherhithe Conservation Area. The proposal is likely to significantly impact on the setting of the recently designated conservation area, which will be severely affected by the works which will block out most up-stream views along the river walk for the 6 year duration of the works.

Use of the site as a construction site would harm the heritage and conservation value of the area contrary to Southwark Plan policies 3.15 and 3.18 and Core Strategy policy 12.

### **Archaeological priority zone**

The proposals for the excavation of the shaft will require an archaeological response. Archaeological works to the immediate south of Chambers Street, the southern part of the Chamber's Wharf site revealed remains relating to the post medieval shipping industry in this area together with a significant geoarchaeological potential. At St Michael's School, to the south of the site Roman settlement evidence and geoarchaeological evidence of the former watery landscape of the area was recorded. East of the site at Cherry Gardens Roman cremation burials have been identified. The judicious examination of borehole data should help with predictive modelling and the design of a suitable archaeological strategy.

The proposals also include the removal of the present jetty. Archaeological recording of the foreshore at Chamber's Wharf has revealed significant archaeological remains of various periods of foreshore archaeology. Proposals for work in this area will be required to record archaeological remains to be impacted by the removal of the jetty and new construction work for the replacement river wall. The removal of the jetty is also likely to increase the impact of tidal erosion on the foreshore so proposals for the recording of the archaeology should consider operational as well as constructional impacts upon this resource. The Thames Discovery Programme has been undertaking survey work on this foreshore as part of their wider project so a significant, recent baseline of archaeological data should be available.

It should be noted that Chambers Wharf is located within an archaeological priority zone. Southwark would expect any planning application to be accompanied by an archaeological assessment, evaluation of the impact of development and mitigation measures. Failure to demonstrate adequate mitigation of impacts would be contrary to Southwark Plan policy 3.19 and London Plan policy 7.8.

### **Open space**

Chambers Wharf is close to Cherry Gardens which is an open space protected as Borough Open Land. It is an open space of borough importance and has the second highest level of policy protection afforded to greenfield sites. Any development on Chambers Wharf will need to demonstrate that there are no negative impacts on the nearby open space and its quality and value to the community for recreation and leisure purposes in line with Southwark Plan policy 3.26 and Core Strategy strategic policy 11.

### **Nature conservation**

The River Thames is the borough's largest Site of Importance for Nature conservation and the site itself may have some habitats or species of value for nature conservation. Any development on Chambers Wharf will need to demonstrate that there are no negative impacts on the ecological value of the River Thames or the site itself in line with Southwark Plan policy 3.28 and Core Strategy strategic policy 11.

### **Transport and movement**

The Council is concerned about the high number of goods vehicles assumed to use the road network and the effect these will have on residential amenity, pedestrian and cyclist safety and road capacity generally, both locally and in relation to the cumulative impact of construction traffic on strategic roads. In order to minimise this, every effort should be made to transport fill, excavated material and construction elements by river. The Council would expect this objective to override any commercial considerations.

Notwithstanding the above, it is recognised that there will be a requirement for goods vehicle movements. This raises concerns, as identified in the PEIR, on the safety of pedestrians and cyclists. Paragraphs 12.7.3 and 12.7.4 refer to diversion of pedestrian and cycling routes, but with no indication of the roads to which these can be diverted. Travel to and from the schools is obviously the key concern here, and the extent to which routes can be diverted will be limited by their fixed locations.

As is noted above, the lack of a formal commitment on the part of Thames Water to achieving the 90% target for transportation of waste by barge is a serious cause for objection. For this undertaking to be given any weight, it will need to be the subject of

a condition of planning obligation as appropriate. Without such a commitment, it is possible that the number of lorry movements could rise substantially. Soutwark considers that a binding commitment will be an essential part of the mitigation of the impacts of the proposals.

The relocation of parking should be assessed in the light of parking occupancy surveys, but it will be necessary to ensure that all current parking needs are accommodated. On the basis that no parking will be provided for workers on site and given that parking permits will not be available for workers within the controlled parking zone, overspill parking or the impact of workers' vehicles on the road network is not a concern. However, the Council would wish to be assured that secure cycle parking will be provided on site.

For travel on the road network, the Council considers the A200 for access to the A2 to be more appropriate than the A2208, since the A200 is part of the Strategic Road Network and that these are more appropriate than routes to the north/west, for reasons of road safety and traffic congestion.

Unless it can be demonstrated that the impacts of the proposal can be satisfactorily mitigated, the proposal will be contrary policies 5.1, 5.2 and 5.3 of the Soutwark Plan, Core Strategy strategic policy 2 and London Plan policies 6.3, .68, 6.9 and 6.10.

## **Construction**

The construction machinery and plant should be stipulated to meet the following criteria:

All contractors' vehicles cars and vans must meet or exceed the following CO<sub>2</sub> limits and European emission standards (euro standards) at the commencement of the contract:

- *Cars - maximum certified CO<sub>2</sub> emissions of 100 g/km and a minimum of Euro V emission standards*
- *Vans equal to or less than 1205 kg kerb weight – maximum certified CO<sub>2</sub> emissions of 110 g/km CO<sub>2</sub> and a minimum of Euro V emission standards*
- *Vans between 1205 and 1660 kg kerb weight – maximum certified CO<sub>2</sub> emissions of 150 g/km CO<sub>2</sub> and a minimum of Euro V emission standards*
- *Vans greater than 1660 kg kerb weight – maximum certified CO<sub>2</sub> emissions of 210 g/km CO<sub>2</sub> and a minimum of Euro V emission standards*

All contractors' heavy duty road vehicles and non-road diesel engines must meet or exceed the following emission standards at the commencement of the contract:

- Heavy duty road vehicles >3500 kg kerb weight – Euro 6 European emission standards
- Non road diesel engines between 19 and 36 kW – Stage 3A European emission standards
- Non road diesel engines between 37 and 55 kW – Stage 3B European emission standards
- Non road diesel engines between 56 and 560 kW – Stage 3B European emission standards

## **Air quality**

There are no plots of the air quality assessments shown in the documentation in the PIER Main Report, Volume 22 Chambers Wharf Site Assessment.

### **Contamination**

There are also no tables showing the results of the chemicals tests on the soils from the boreholes.

### **3. Shad Thames Pumping Station**

Thames Water has now established that there is no longer a need to connect the Shad Thames Pumping Station CSO to the main tunnel. Instead it is proposed that storm flows are managed by utilising existing storage in the sewers upstream of the pumping station and implementing works at Shad Thames Pumping Station to inhibit it from pumping flows from the CSO into the River Thames.

Southwark objects to the proposed works on this site for the reasons set out below.

### **Noise and vibration**

Given the proximity of the proposals to existing residential properties, including those immediately adjacent to the site, there is serious concern that the construction works (including excavation activity) and relating vehicular traffic will result in significant harm to the living conditions of neighbouring residents. Very careful consideration must therefore be given to the mitigation which can be provided, well in advance of the submission of the application. The Council will also need to be satisfied that the operation of the revised pumping station would not result in additional noise or disturbance for residents, including noise from the proposed three storey extension to the rear housing electrical equipment. Consideration should also be given to the impact of the three storey rear extension upon the outlook and privacy of neighbouring residential properties.

Unless it can be demonstrated that the impacts of the proposal can be satisfactorily mitigated, the proposal will be contrary policy 3.2 of the Southwark Plan which seeks to ensure that development does not result in a loss of amenity, including disturbance from noise, to present or future occupiers in the surrounding area or on the application site.

### **Design and Visual Appearance**

This site is located within the St Saviour's Dock Conservation Area. Without prejudice to the Council's objection to the proposal, further discussion should take place in connection with the demolition of an existing section of the pumping station building and the acceptability of the design of the three storey extension along with other alterations to the building including the new vehicular access doors on the front elevation.

The council will need to be satisfied that the proposal is consistent with Policy 3.12 and 3.13 of the Southwark Plan and Core Strategy strategic policy 12 which seek to ensure that development achieve a high quality of both architectural and urban design, enhancing the quality of the built environment.

## **Heritage**

The use of Shad Thames Pumping Station as a construction site may have a detrimental impact on the setting of the listed and locally listed buildings close to the site, in particular 29 Shad Thames and Anise warehouse which are both grade II listed. Any proposals for development which impact on heritage assets should seek to enhance or preserve the heritage assets or their setting. Unless satisfactory mitigation is identified, use of the site for construction purposes would harm the heritage and conservation value of the area contrary to Southwark Plan policies 3.15 and 3.18 and Core Strategy policy 12.

## **Archaeological priority zone**

Further information is required concerning the impacts upon the archaeological resource at this site. The drawings provided only show elevations and the area of the building to be replaced. It is understood that new pumps are to be inserted at this site. The Shad Thames area has a considerable post-medieval archaeological resource, however, most significantly, remains from Bronze-age field systems survive, deeply buried on site. These are among some of the most significant archaeological remains of the development of agriculture in the UK. Further detail is required to determine the impacts upon this resource, which survives at approximately 4m below ground level. Proposals for this site will need to design in suitable access for archaeologists to excavate and record the archaeological resource.

It should be noted that Shad Thames pumping station is located within an archaeological priority zone. Southwark would expect any planning application to be accompanied by an archaeological assessment, evaluation of the impact of development and mitigation measures. Failure to demonstrate adequate mitigation of impacts would be contrary to Southwark Plan policy 3.19 and London Plan policy 7.8.

## **Transport**

The Council is concerned about the high number of goods vehicles assumed to use the road network and the effect these will have on residential amenity, pedestrian and cyclist safety and road capacity generally, both locally and in relation to the cumulative impact of construction traffic on strategic roads. Thames Water will need to provide details of the number of vehicle movements expected as part of a transport assessment.

Notwithstanding the above, it is recognised that there will be a requirement for goods vehicle movements. This raises concerns on the safety of pedestrians and cyclists.

The relocation of parking should be assessed in the light of parking occupancy surveys, but it will be necessary to ensure that all current parking needs are accommodated. On the basis that no parking will be provided for workers on site and given that parking permits will not be available for workers within the controlled parking zone, overspill parking or the impact of workers' vehicles on the road network is not a concern. However, the Council would wish to be assured that secure cycle parking will be provided on site.

The proposal will need to demonstrate compliance with policies 5.1, 5.2 and 5.3 of the Southwark plan, Core Strategy strategic policy 2 and London Plan policies, 6.3, .68, 6.9 and 6.10.

## **Environmental impacts**

The detailed plan 110-DX-ARC-SM04X-000465 & 110-DX-ARC-SM04X-000467 show the termination of the ventilation pipe at the eaves level. This could result in a loss of amenity due to downwash of any odour due to design of the building. There is only a site information paper for this site. It is recommended that there should be a separate volume of preliminary environmental information report in a similar manner to the “Design Development Report – Appendix Y – Other works”.

### **4. King’s Stairs Gardens**

Whilst the preferred site put forward is Chambers Wharf, it is noted that Kings Stairs Gardens remains a possible alternative site and is therefore still included in the phase two public consultation.

For all of the reasons set out in the council’s previous response (appendix A), including the loss of open space and as well as negative impacts on local heritage assets and value for nature conservation, Southwark continue to object strongly to the possible use of King’s Stairs Gardens as a main shaft site. Use of King’s Stairs Gardens would harm many interests of acknowledged importance, including MOL, nature conservation and heritage.

The previous objections raised to the use of this site are carried forward as part of the Council’s response to the current consultation.

### **5. Druid Street**

Whilst the preferred site put forward is Shad Thames Pumping station, it is noted that the site at Druid Street remains a possible alternative site and is therefore still included in the phase two public consultation.

For all of the reasons set out in the council’s previous response (appendix A), including the impact on the amenity of surrounding residential properties as well as the temporary loss of an important children’s play facility, Southwark continue to object to the possible use of Druid Street as a CSO construction site.

The previous objections raised to the use of this site are carried forward as part of the Council’s response to the current consultation

### **6. Earl Pumping Station**

Although located within the London Borough of Lewisham, Earl Pumping Station adjoins the boundary with Southwark. There is a significant risk of impacts upon the residential properties in Southwark given their location facing the north west and south west boundaries of the site.

The PEIR identifies that there will be significant noise effects arising from construction activities for properties located with Southwark, including those properties on Chilton Grove immediately adjacent to the north west and south west boundaries of the site. Significant vibration impacts are also predicted from the construction works. No acceptable details are currently provided of how such impacts upon Southwark residents will be successfully mitigated and objection is therefore raised given the adverse impacts that would be likely to result for the adjacent residents.

It is acknowledged that all materials being imported to or exported from the site must travel by road. The Council considers that vehicle routes to and from the south via the A200 are more appropriate than the A2208, since the A200 is part of the Strategic Road Network, or to the north/west for reasons of road safety and traffic congestion. The Council is concerned about cyclist and pedestrian safety on Plough Way, and considers that steps should be taken to mitigate any adverse impact. The Council is also concerned about general traffic congestion there and on the Lower Road gyratory and these will need to be fully assessed.

The relocation of parking to improve goods vehicle access should be assessed in the light of parking occupancy surveys, but it will be necessary to ensure that all current parking needs are accommodated. It is assumed that no parking is provided on site. Roads within Southwark in the immediate area are covered by a controlled parking zone preventing parking by site workers. Consequently, the Council has no concerns about commuter traffic generation or parking. However, the Council would wish to be assured that secure cycle parking will be provided on site.

## **7. General Matters and Mitigation**

### **PIER Volume 2: Proposed development**

In paragraph 5.2.8 of the PIER, Volume 2: Proposed development, in connection with the use of the River Thames it states that, "The horizontal alignment of the main tunnel would generally follow the River Thames where possible, because it would allow the use of the river for construction transport, where practicable and economic". The environmental benefits of this should also be taken into account.

Paragraph 5.3.55 of the report states that the 'Package contractor' will determine the delivering of material by river. As is noted above, this is not acceptable to Southwark. The Council considers that it should be subject to a binding commitment.

On page 72, the figure is missing for the "Typical Schematic arrangement for active ventilation plant"

### **PIER Volume 5: Assessment methodologies**

Paragraph 3.4.109 of the PIER, Volume 5: Assessment methodologies, only uses a typical year "October 1979 – September 1980". Where the problem would coincide with a bad year, it does not appear that the effects of climate change are being taken into account. No reference is given to the Water Research Council study and the reason for choosing the stated period. As it is predicted that certain periods will get wetter, there is a probability that the Thames Tunnel will be used more often. Within the documents there is no indication of the odour concentration around the various ventilation shafts in the borough. As it can be seen from the graph included as Appendix B, the rainfall for the typical year is 21.3mm above the 100 year average. The worst case for the amount of combined sewer overflow into the Thames Tunnel would be for the year 2000 – 2001 when the total annual (October 2000 to September 2001) rainfall was 1162.7mm. In the Environmental Statement, this year should be presented as worst case scenario for all the air quality assessments.

Page 137 in table 8.4.1 Note D the time for Sunday should be 2200 hours not 23:00 this is a Thameslink project standard.

There is no mention of noise insulation or re-housing triggers levels. There are several references to the trigger levels in the documents, but there are no references to the

policy document. The Thameslink project has a twenty-nine page policy document on the noise insulation or temporary re-housing policy.

### **Air quality**

Chambers Wharf, Shad Thames Pumping Station and Earl Pumping Station are all located within an air quality management area. Thames Water will be expected to demonstrate that proposals do not result in a reduction in air quality, through an air quality assessment, as set out in Southwark plan policy 3.8.

In paragraph 3.3.1 (c) of the Air Quality Management Plan, Thames Water states that the H<sub>2</sub>S would be maintained for at least three years after start of operation and if records indicate good performance, such H<sub>2</sub>S monitoring would be discounted. In another paragraph of the same document (3.5.3) it states that the H<sub>2</sub>S monitoring would be reviewed. The H<sub>2</sub>S monitoring should be carried out until after the first major maintenance of the Thames Tunnel, and then it should be reviewed. The H<sub>2</sub>S monitoring is an integrated part of the monitoring system to check the odour control plant at a central operation station. This is another good reason why the H<sub>2</sub>S monitoring should be longer than three years and as part of BPM system.

In section four of the Air Quality Management Plan, the local authority is not included in the complaint structure.

### **Noise and Odour**

Construction of shafts and the residual ventilation structures will also have noise and odour impacts. Proposals which do not demonstrate that they can mitigate these impacts satisfactorily would be considered unacceptable by Southwark, in line with Southwark Plan policies 3.1 and 3.2.

Paragraph 2.3.2 of the PIER Main Report, Volume 6: Project Wide effects, states that the roads A202 Camberwell to Peckham and the A2 corridor south east of the A202 junction are predicted to an increase of over 200 HGVs movements per day, which will have an adverse effect on the local air quality in an area of current poor air quality. Therefore the option of delivering and exporting of the material from the various construction sites by barges may be the best environmental option. There is no indication of the concentrations given in the volume; it is unclear whether this will be shown in the Environmental Statement.

The roads mentioned above have not been considered in the section in connection with noise and vibration because the section only includes the effects associated with the underground works.

The current noise assessment has been made on the noise – related environmental design measures as defined in the current Code of construction practices Parts A & B, however the assessment will be different when the contractor's equipment and construction sequence are known. It is suggested that a s106 agreement should be entered into to ensure that a year baseline monitoring data (Noise and Air Quality) around the various construction sites in the borough is obtained before enabling works start. For each site a Working Group is convened with representation made up from residents, local Councillors, contractor, Thames Water and officers from the authority. The construction sites on the border with London Borough of Lewisham and the City of London the group should have cross borough representation.

It is not clear why there is a change in the contours in the vicinity of Tower Bridge in connection with the predicted vibration levels in Volume 6 Figure 5.4.18 TBM Ground borne noise contours.

In respect of “Volume 6 Table 5.4.4. Ground borne noise impacts from TCR” table, there is no assessment to the duration of the low impact (35 – 39 dB(A)) that the 310 residential properties. A significant period of a low impact will cause a significant impact. Also the cumulative effect of the TBM and TCR has been considered in the report. In the plan showing the Greenwich Tunnel TCR ground borne noise levels (Vol. 6 Figure 5.4.22), there is no upper limit shown for the ground borne noise contours. It is presumed from the text that the upper limit is 40dB, but this should be shown on the legend for the plan.

## **Flood risk**

### Risk of Flooding due to Groundwater

Potential elevation in groundwater levels as a result of shaft and tunnel construction schemes may introduce or increase flood risk from groundwater in the short term, particularly in areas at high risk of flooding. For shaft construction and operation, site specific mitigation measures such as continuous dewatering during construction should be implemented in order to manage the groundwater levels and reduce risk of groundwater flooding. It is appreciated that the tunnel will be deep (at about 57m depth in Chambers Wharf) and go through bedrock in the lower aquifer; this, combined with the tunnel's relatively insignificant diameter compared to the lower aquifer thickness means it is unlikely to influence near-surface groundwater dynamics. The Council recommends further assessment of groundwater flood risk (as part of EIA) following additional groundwater monitoring results to be undertaken as planned. In addition, modelling of the interaction between groundwater and surface water should be undertaken to inform the Environmental Statement (ES) on overall flood risk from the proposed schemes.

At the Chambers Wharf site, the effect of the temporary coffer dam and permanent shafts on groundwater flow is anticipated to have negligible impact; this should be further assessed and quantified in the ES. The Bermondsey area just south of the proposed Chambers Wharf shaft site has increased potential for elevated groundwater, derived from our Preliminary Flood Risk Assessment (PFRA), and has previously reported groundwater flood incident. The proximity of the Chambers Wharf site to this area enhances the need for further investigation and quantification of the effects of construction work on near-surface groundwater dynamics.

### Risk of Flooding due to Surface Water

The Thames Tunnel Code of Construction Practice (CoCP, section 8.2.3) provides information on general requirements for limiting flows from site to ensure no increase in runoff rates unless otherwise agreed, and site specific (Flood Risk Assessment) FRAs recommend that measures for limiting and controlling runoff flows from site are undertaken. The Council recommends that detailed measures are developed and implemented during the construction and operational phases of the schemes. The Council recommends that opportunities to reduce existing site runoff must be explored as all sites (Earl Pumping Station, Chamber Wharf and Shad Pumping Station) are within or near areas vulnerable to surface water flooding. It is therefore recommended that conclusive assessments of risk of surface water flooding due to runoff from surrounding areas should be undertaken as part of ES.

Impact of future climate change to be simulated and effect on surface water flood risk fully understood and made available in the ES.

Although the three sites are currently 100% hard standing, reduction/attenuation of the velocity and volume of runoff must be considered in order to reduce the risk of flooding to surrounding areas. The Council recommends that post-development mitigation measures (e.g. to meet PPS25 30% runoff increase due to climate change and Mayor's Draft Water Strategy to attenuate 50% of undeveloped runoff) are assessed, with additional investigations on feasibility of attenuation/infiltration SUDs and on potential to route flows away from site as well as from vulnerable properties. The Council also recommends the reduction of currently proposed hard standing areas and introduction of permeable paving/soft landscaping in order to mitigate runoff contribution to surrounding developments.

The proposed coffer dam, raised to current tidal flood defence levels, could cause accumulation of surface water from rainfall in the working area during construction and necessitate periodic pumping of rainwater into the River Thames. Control of surface water from rainfall should be implemented during construction, as per CoCP (with contingencies for pumping failure), to ensure that flood risk from surface water on site is effectively reduced. Site specific methodologies and risk assessments should be established (for construction and operation phases), and LBS should be engaged with on the proposals.

#### Risk of Flooding due to Sewer Overload

Introduction of flow discharges from construction site dewatering activities into sewers may reduce storm water capacity and lead to a peak in the local system network, which would increase the risk of flooding. It is recommended that appropriate management of pumped flows from dewatering must be developed and implemented on a site specific basis during construction. While the CoCP states that water management will be in place during construction, site specific methodologies and risk assessments should be established (for construction and operation phases) and LBS should be engaged with on the proposals.

At Shad Pumping Station, the proposal to inhibit pumping flows from existing CSO into the River Thames, utilise storage in upstream sewers and pump storm water from the pumping station into River Thames in extreme rainfall events could increase flood risk in the event of pump failure. The residual risk of flooding (and extent) due to pumping failure should be identified and mitigation measures identified and incorporated.

#### Risk of Flooding due to Impact of Tunnel Construction on Tidal Defences

Although management of tidal flood risk falls outside remit of London Borough of Southwark, the impact of a failure on the Thames Tidal Defence could lead to increased flood risk in surrounding developed areas of the borough. A detailed study of impact of tunnelling on flood defence settlement should be undertaken and included in ES as proposed in the PEIR.

### **Planning Obligations**

Without prejudice to the Council's objection to the proposal, it would expect planning obligations to include the items identified below. Further items may be identified as more detailed proposals emerge.

#### Chamber's Wharf

- Archaeological investigation, mitigation and S106 administration fee, including the former dock area.
- Construction management plan (noise, dirt, hours), including monitoring.

- Post completion installation of River Side Walk, including new wall and public access.
- Transportation mitigation on access and egress route to and from the site to the main road (A200) and reinstatement works.
- Air quality monitoring and mitigation measures.
- Noise and vibration monitoring and mitigation measures.

#### Shad Thames Pumping station

- Archaeological investigation, mitigation and S106 administration fee.
- Transportation mitigation on access and egress route to and from the site to the main road (A200) and reinstatement works.
- Air quality monitoring and mitigation measures.
- Noise and vibration monitoring and mitigation measures.

#### King's Stairs Gardens option

- Archaeological investigation, mitigation and S106 administration fee.
- Construction management plan (noise, dirt, hours), including monitoring.
- Post completion re-installation of River Side Walk and public access.
- Transportation mitigation on access and egress route to and from the site to the main road (A200) and reinstatement work.
- Open space mitigation contribution.
- Nature conservation mitigation.
- Children's play facility mitigation.
- Appropriate mitigation for loss of trees. Replacement trees should serve to increase canopy cover. Where this is not possible, a financial contribution should be made in lieu of on-site provision calculated using the CAVAT methodology.
- Air quality monitoring and mitigation measures.
- Noise and vibration monitoring and mitigation measures.

#### Druid Street option

- Archaeological investigation, mitigation and S106 administration fee.
- Construction management plan (noise, dirt, hours), including monitoring.
- Open space mitigation contribution.
- Children's play facility mitigation.
- Air quality monitoring and mitigation measures.
- Noise and vibration monitoring and mitigation measures.

### **Sustainability Appraisal**

The construction of the tunnel is likely to have significant social, economic and environmental impacts. Thames Water has indicated that planning proposals will be subject to environmental impact assessment (EIA). The PIER states (PIER Main Report, Volume 4, Scoping Opinions and Technical Engagement, page 17) that no response was received from London Borough of Southwark during the consultation on the scoping report. However, Southwark submitted the response (attached as appendix B) to Thames Water on the 21st July 2011. The response raised concerns over a number of issues, including the lack of heritage consideration.

Whilst any future applications affecting Southwark sites will be subject to an environmental impact assessment, it should be noted that an EIA tests the environmental impacts of a particular development. In 2005, the Thames Water Tideway Strategic Study identified a number of strategic options for addressing the

environmental problems of CSOs and concluded that the Thames Tideway Tunnel was the preferred option. Whilst this study included a regulatory impact assessment, it is not clear whether the identified options were subjected to any sustainability or environmental appraisal before selecting the Thames Tideway Tunnel or the preferred route.

The government has recently consulted on the draft National Policy Statement for Waste Water which addresses the need for nationally significant infrastructure projects and includes the Thames Tideway Tunnel. Whilst the draft NPS is the subject of a separate consultation response, it is noted that it relies on the 2005 study and states that Thames Tunnel is the preferred infrastructure solution and that the sustainability appraisal will include “an assessment of the specific aspects” of the Thames Tunnel proposal. This suggests that options should have been subject to sustainability appraisal at the time the 2005 study was conducted.

It is a mandatory requirement under Directive 2001/42/EC for a Strategic Environmental Assessment to be submitted with plans/programmes which are prepared for waste and/or water management where they require the amendment of a Land Use plan. The SEA is required to include an assessment of alternatives against the SEA objectives, provided there is sufficient detail to identify the significant environmental effects of each alternative. Where appropriate any cumulative, secondary and synergistic, short, medium, and long-term effects need to be highlighted, indicating whether they are likely to be permanent or temporary. In this respect, Southwark Council believe the SEA is required to adequately assess the cumulative impact of development and assess the positives and negative impacts of the scheme against other alternatives. Southwark Council also considers that LPAs are best placed to assess the SEA and how the cumulative impacts of the proposals would affect their local areas. LPAs are therefore also best placed to determine whether the assessment of alternatives is appropriate and realistic and should be involved in the SA process from the start.

Southwark Council wishes to reiterate the findings of the commission and ask for a further assessment of the wider impacts of the proposal, in social, economic and environmental terms.

## **8. The National Planning Policy Statement (NPS) for Waste Water**

When published, the NPS for Waste Water will set out the Government policy for the provision of the major waste water infrastructure, including the Thames Tunnel project. In accordance with the Planning Act 2008, the NPS will be used by the Infrastructure Planning Commission to guide its assessment on development consent applications, including the Thames Tunnel. It will therefore be a key document in the decision making process.

While not the subject of the current consultation, it should be noted that it is Southwark’s view that the National Policy Statement (NPS) on Waste Water should not pre-empt the role of the planning process to determine whether the Thames Tunnel meets the criteria for major waste water developments. Southwark objected to Defra’s consultation on the draft NPS on those grounds.

We trust that these comments will be given due consideration in the preparation of the development consent order for submission to the IPC.

Yours faithfully,

Appendix A: LBS' response to Thames Water's stage one consultation of the proposed route and sites of the Thames Tunnel, January 2011  
Appendix B: LBS' response to the EIA scoping report, July 2011