

Thames Tideway Tunnel

Guidelines for developers and local planning authorities

Updated August 2014



**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

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Summary

This document provides a set of guidelines for developers preparing to apply for planning permission to build in the vicinity of the Thames Tideway Tunnel (the 'project') either:

- a. before the project is constructed
- b. during construction of the project
- c. when construction is complete and during the operation of the project.

The guidance should also be used by local planning authorities when considering a planning application in the vicinity of the project and discharging their decision making function.

The guidelines may also be useful for other undertakers and consenting bodies who may be considering development in the vicinity of the project.

Further background on the project and contact details are available on the project website:

<http://www.thamestidewaytunnel.co.uk/>

Introduction

Under the provisions of the Thames Tideway Tunnel Consultation and Safeguarding Directions, issued by the Secretary of State for Communities and Local Government on 15th March 2013, local planning authorities are required to consult Thames Water before determining certain planning applications which fall within the limits of land subject to consultation, as defined by the Consultation and Safeguarding Directions (Appendix A).

In February 2013, Thames Water applied under the Planning Act 2008 for a development consent order for the Thames Tideway Tunnel. The Thames Tideway Tunnel Consultation and Safeguarding Directions will be replaced by Development Consent Order (DCO) Article 52 – Safeguarding in the event the DCO is approved in the form as drafted. These guidelines are the guidelines referenced in DCO Article 52 (3) (b).

The purpose of these guidelines is to ensure that construction of the project is not prejudiced by new developments carried out by others, and that the new developments are designed and constructed so that they would not be adversely affected (to an unacceptable degree) by the construction of the project.

Any developer seeking permission to work in the vicinity of the project will need to demonstrate to the local planning authority that adverse impacts are avoided. For example, the foundations of their developments do not obstruct the route of the project tunnels (in the case where the developer plans to build before the project is built), or adversely impact the integrity of the project tunnels and other associated infrastructure (in the case where the project is already built).

Developers should ensure that the design of their developments in the vicinity of the project are not unduly affected by the construction and operation of the project. Considerations should include potential ground movements, loadings and operational access for the project. Developments shall also be designed to ensure that Thames Water do not incur any unreasonable additional costs when building or operating the project.

Local planning authorities should consult Thames Water about proposals in the vicinity of the project, and as part of this process Thames Water may recommend to the local planning authority that:

- a. condition(s) are placed on any planning permission which must be complied with/discharged before construction of the development commences
- b. development can commence without condition, or
- c. the local planning authority refuse the application.

In order to:

- a. assist developers in preparing proposals that meet these objectives, and
- b. reduce the possibility of an application being refused or conditioned by the local planning authority.

Information about the project's design criteria is provided in this document.

General information

Tunnel size and gradient

The external diameters of the project tunnels will vary and developers should consult with Thames Water to obtain the dimensions and location of the project infrastructure relative to their development. The approximate dimensions of the project's tunnels are as follows:

- a. The main tunnel between Acton Storm Tanks and Carnwath Road Riverside has an estimated excavated diameter of 8.1m [and an internal diameter of 6.5m].
- b. The main tunnel between Carnwath Road Riverside and Abbey Mills Pumping Station has an estimated excavated diameter of 8.8m [and an internal diameter of 7.2m].
- c. The Greenwich connection tunnel between Greenwich Pumping Station and Chambers Wharf has an estimated excavated diameter of 6.2m [and an internal diameter of 5m].
- d. In addition to the above, there are also connection tunnels between the main tunnel and drop shafts along the route which are sized relative to the flows from the combined sewer overflows (CSOs) being intercepted.
- e. The level of the main tunnel falls from Acton Storm Tanks to Abbey Mills Pumping Station and is approximately 24m from the crown of the tunnel to ground level at Acton, increasing to 58m at Abbey Mills.
- f. The level of the Greenwich connection tunnel falls from Greenwich Pumping Station to Chambers Wharf and is approximately 40m from the crown of the tunnel to ground level at Greenwich, increasing to 50m at Chambers Wharf.
- g. The level of the Frogmore Connection Tunnel falls from King George's Park to Carnwath Road Riverside and is approximately 17m from the crown of the tunnel to ground level at King George's Park, increasing to 21m at Carnwath Road Riverside.

Shafts and other structures

The project also will include shafts, interception structures, connection culverts and connection tunnels at various locations along the route to intercept flows from the CSOs, and for tunnel construction purposes.

Developers are required to assess the impact of their proposals on these structures in addition to the tunnels. Developers should seek advice from Thames Water for further information about the constraints imposed by these structures.

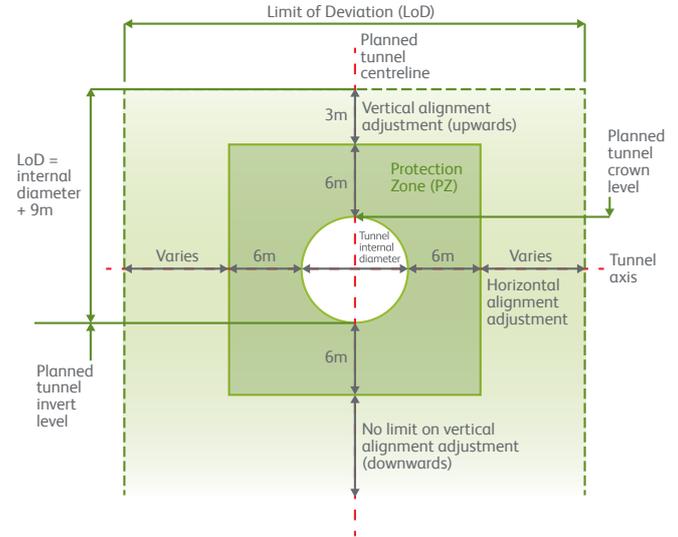
Tunnel Protection Zone and Limits of Deviation

If a developer has entered into a separate agreement or development agreement with Thames Water, then the terms contained within these documents will take precedence (as between the developer and Thames Water) over this guidance document. However, insofar as this guidance document has status under the DCO, through article 52 (3) (c), then Local planning authorities will be able to have regard to it in the circumstances provided for by the DCO once made.

The proposed/actual location of the project tunnels or other infrastructure will be provided by Thames Water.

To protect developments against impact from the construction and operation of the project, and protect the project against the impact of other developments, a Protection Zone (PZ) will exist around the proposed main tunnel and connection tunnels as illustrated in the Figure 2.1.

Figure 2.1 Limits of deviation, protection zone and alignment adjustment



Alignment adjustment

Tunnel size	Horizontal alignment adjustment
6.5m internal diameter tunnel	5m
7.2m internal diameter tunnel	5m
5.0m internal diameter tunnel	5m
Frogmore connection tunnel	12.7m but irregular in some areas
Short connection tunnels	irregular - will be advised by Thames Water upon application

Development foundations for permanent and temporary works built prior to the project shall not intrude into the area defined as the horizontal and vertical Limits of Deviation (LoD) shown on Figure 2.1.

Development foundations for permanent and temporary works built after the project has been constructed shall not intrude into the area around the as-built tunnels defined as the Protection Zone (PZ) shown on Figure 2.1.

Developers shall take into account the construction tolerances for their proposed development foundations or excavations in determining an acceptable location for their development relative to the project. The construction tolerance is the difference between the theoretical position of the works and the realistic deviation from that position taking into account the achievable construction accuracy.

The project's LoD include flexibility within an alignment adjustment to move the tunnels horizontally and raise the tunnels up to 3m vertically. This alignment adjustment is to allow the project to vary the tunnel alignment within the LoD to avoid potential obstructions or other constraints and minimise third party impacts identified during the detailed design and construction of the project. Developers must allow for this possible adjustment when preparing their proposals.

For developments constructed after the project, developers wanting to build in the vicinity of the PZ should confirm with Thames Water the exact as-constructed location of the project infrastructure and its PZ.

Loads from development foundations

The foundations of any development must be designed to prevent unacceptable stresses being induced in the project's tunnels and other structures.

To cater for the loads from future development the project's tunnels will be designed for the following:

- a. the existing ground overburden plus the loading from any existing developments (as would be the case for a developed site), or
- b. the existing ground overburden plus 75kN/m² imposed at ground level over the footprint of the development (as would be the case for future development of a vacant site).

In general the loads from development imposed on the tunnels will be acceptable if they do not exceed the above criteria. Developers wanting to build in the vicinity of the PZ should contact Thames Water to discuss the imposed loading in respect of the project's infrastructure.

Loads from the project

Developers should consider that the project tunnels will be constructed using tunnelling machines that will exert a pressure on the ground to maintain stability. This pressure may be up to 2bar above in-situ hydrostatic pressure. Developers shall make allowance for this additional loading.

Developers should take into account that the project's infrastructure will be subject to internal water pressures when in use, and make allowance for these pressures in their stability assessments.

The required loading attributable to the water pressure within the project's infrastructure varies depending upon location and developers should obtain specific loading data from Thames Water.

Loads when the project is operational

After the project tunnels are constructed, developers will be required to demonstrate that the impact of their development, including construction, on the project infrastructure is acceptable, and shall cover any costs incurred by Thames Water in relation to the assessment of submissions, including (but not limited to) design statements, contingency plans, assessment reports and attendance at meetings.

The LoD are irrelevant once the project has been constructed. The project tunnels and other infrastructure will be fixed and developers shall avoid construction in the PZ.

Developers should demonstrate that any reduction in overburden due to excavation of existing ground does not adversely affect the project tunnels and other structures.

The design of the project allows for a potential reduction of 10% of the current overburden pressure. In general the loads on the tunnels will be acceptable if they do not exceed the above criteria. Developers of any development in the vicinity of the PZ should contact Thames Water to discuss the loading in respect of the project infrastructure.

Ground movement

Impact of the project construction on a development

Construction of the project tunnels and other excavations will cause ground movement and settlement of the ground above and adjacent to the tunnels and structures.

The foundations and the structures for a new development should be designed to ensure impacts on the development from any ground movement and settlement caused by the project are acceptable to the developer.

Developers should propose their methods of assessment to the local planning authority, who will consult with Thames Water regarding the acceptability of the proposals.

For the purpose of this provision, developers shall allow for a ground volume loss (sometimes called face loss) from tunnelling at a rate of 1.7 percent for main tunnels and the Greenwich connection tunnel, and 2 percent for all other connection tunnels.

Noise and vibration

The impact of ground borne noise and vibration from construction of the project has been evaluated and presented in the Environmental Statement. Developers shall determine whether their developments can accept the predicted vibration levels or incorporate mitigation into their proposal as they consider necessary.

Engagement with the project

Consultation

Developers of any development within or in the vicinity of the project's protection zone are advised to consult with Thames Water prior to making an application to the local planning authority for planning approval.

This will facilitate understanding of the interfaces between the development and the project's infrastructure to be taken into account in the planning submission, and minimise the risk of the local planning authority, having consulted with Thames Water, refusing planning permission, or imposing conditions on the grant of planning permission.

Contact details for the project are available on the project website:

<http://www.thamesidewaytunnel.co.uk/>

Telephone No: 0800 0721 086

Email: info@tidewaytunnels.co.uk

Documentation

Thames Water require developers to submit documentation to demonstrate that the design and construction of their development will not jeopardise the project's infrastructure.

Thames Water reserves the right to charge developers for time and resource utilised in assessing their proposals, particularly where specialist engineering resources have to be commissioned to provide appropriate advice.

It is recommended that developers submit a draft Design Statement to Thames Water prior to making a detailed or outline planning application to the relevant local planning authority.

The contents of the draft Design Statement should include:

- a. An Executive Summary.
- b. An introduction setting out objectives:
 - i. the future construction of the project is not prejudiced by the proposed development.
 - ii. the proposed development would be designed so that the impact of subsequent construction of the project will be accommodated.
 - iii. the development has been designed to not prejudice the project.
- c. Compliance in terms of any development agreement (if applicable).
- d. Overview of the development outlining:
 - i. the nature and extent of the development.
 - ii. proximity to the project's infrastructure (including dealing with loading, overburden and unloading where relevant).
 - iii. assumptions for the project's infrastructure including diameter, clearance and exclusion zones, volume loss, noise and vibration criteria, impact on the project's operations.
- e. Parties involved including contact details, roles and responsibilities.
- f. Outline development programme, including key milestone dates.
- g. Summary of existing site conditions, including compiled assumptions on ground conditions, groundwater, ground contamination (if appropriate). Details substantiated by desktop assessment or intrusive surveys as appropriate, supplied by the developer.
- h. Outline drawings, calculations and analysis demonstrating compliance including summary of predicted ground movements and damage assessment for the project works or development if the latter is constructed prior to the project.
- i. Proposal for detailed assessment and content of an assessment report to be submitted with the planning application.
- j. List of standards and references.

Project standard conditions

Standard conditions

In accordance with the provisions as to safeguarding detailed above, Thames Water has the right to be consulted on all development occurring in the vicinity of the Safeguarding Limits/LoD/PZ. Such development must be referred to Thames Water by the local planning authority. Typically the following conditions may be applied to protect the project infrastructure. However, in each case Thames Water will advise the local planning authority in the specific circumstances.

Typical conditions include:

- a. None of the development hereby permitted shall be commenced until detailed design and method statements for all of the ground floor structures, foundations and basements and for any other structures below ground level, including piling (temporary and permanent), have been submitted to and approved in writing by the local planning authority which:
 - i. accommodate the proposed location of the project's structures and tunnels
 - ii. accommodate ground movement arising from the construction thereof, and
- b. The method statements to be submitted under this condition shall include arrangements to ensure that for any period when construction of the development hereby permitted and the project works are concurrent:
 - i. the construction of the project works are not impeded
 - ii. the development will be undertaken in accordance with the design statements and method statements accepted by the local planning authority who will consult with Thames Water regarding their acceptability.

Appendix A – Safeguarding Direction

CONSULTATION AND SAFEGUARDING DIRECTIONS FOR DEVELOPMENT AFFECTING ANY TUNNEL ALIGNMENTS THAT FORM PART OF THE THAMES TIDEWAY TUNNEL PROJECT - FROM ACTON STORM TANKS IN WEST LONDON TO ABBEY MILLS PUMPING STATION IN EAST LONDON AND FOR DEVELOPMENT AFFECTING SITES REQUIRED FOR THE CONSTRUCTION OF THE THAMES TIDEWAY TUNNEL PROJECT

The Secretary of State for Communities and Local Government ("the Secretary of State") gives the following Directions to the local planning authorities named at Annex A in exercise of the powers conferred on him by articles 16(4), 25(1) and 29(6) of the Town and Country Planning (Development Management Procedure)(England) Order 2010¹ ("the Order") made under section 74(1)(a), (c) and (f) of the Town and Country Planning Act 1990² ("the Act").

Commencement

1. These Directions come into force on 15 March 2013 ("the commencement date").

Application

2. These Directions apply in respect of any application for planning permission which has not been finally determined by the commencement date, where:
 - (a) it relates to development within the Zone specified in paragraph 3 and is not an exempt application by virtue of paragraph 4; or
 - (b) it relates to development on, above or under any part of the sites specified in paragraph 5.

The Zone

3. The Zone referred to in paragraph 2(a) is the Zone shown bounded by the red lines on the plans listed in the Schedule of drawings at Annex B of these Directions (being the Zone relating to the route of the proposed construction of the Thames Tideway Tunnel project).

Exempt applications

4. An application is an exempt application for the purposes of paragraph 2(a) if it is an application for planning permission which relates to development that:
 - (a) consists of an alteration to an existing building, or the change of use of an existing building or land; and
 - (b) does not involve, or is not likely to involve, any construction, engineering or other operations below existing ground level.

¹ S.I. 2010/2184.
² 1990 c.8.

The sites

5. The sites referred to in paragraph 2(b) are the sites shaded grey and edged red on the plans listed in the Schedule of drawings at Annex B of these Directions (being sites required in connection with the proposed construction of the Thames Tideway Tunnel project).

Duties on local planning authorities

6. Before granting planning permission for development in respect of any application for planning permission to which these Directions apply a local planning authority must consult Thames Water Utilities Limited (Company No. 2366661).

7. Where a local planning authority is required by paragraph 6 to consult Thames Water Utilities Limited, they must not grant planning permission on the application otherwise than to give effect to any recommendation of Thames Water Utilities Limited:

- (a) unless they have delivered to the Secretary of State for the Department for Communities and Local Government the material specified in paragraph 8; and
- (b) either:
 - (i) a period of 21 days beginning with the date which the Secretary of State tells the authority in writing is the date he received the material specified in paragraph 8 has elapsed; or
 - (ii) the Secretary of State has notified the authority in writing that he does not intend to take any further action in respect of that application.

8. The material referred to in paragraph 7 is:

- (a) a copy of the application together with a copy of any plans or documents submitted with it;
- (b) a copy of the response of Thames Water Utilities Limited to the consultation by the local planning authority in pursuance of paragraph 6;
- (c) a copy of any representations made to the local planning authority in respect of the application;
- (d) a copy of any report on the application prepared by an officer of the local planning authority;
- (e) a statement on the provisions of the development plan and other issues involved, including whether the grant of permission would be contrary to the views of another Government Department; and
- (f) such information regarding the application as the Secretary of State may require by additional direction under article 29(6) of the Order.

General

9. These Directions will remain in force until 30 April 2022.

10. If Thames Water Utilities Limited and the local planning authority provide to the Secretary of State written confirmation that any area of the land is not required as part of the Thames Tideway Tunnel Project prior to 30 April 2022 that area of land shall cease to be subject to these Directions.

11. The Directions issued to local planning authorities:

(a) on 24 April 2012 under article 25(1) of the Order made under section 74(1)(a) of the Act specifying safeguarding limits for Carnwath Road Riverside site in London Borough of Hammersmith and Fulham and Kirtling Street Site in London Borough of Wandsworth;

(b) on 5 October 2012 under article 25(1) of the Order made under section 74(1)(a) of the Act specifying safeguarding limits for Blackfriars Bridge Foreshore in City of London; Earl Pumping Station in London Borough of Lewisham and Greenwich Pumping Station in London Borough of Greenwich; and

(c) on 21 December 2012 under articles 16(4), 25(1) and 29(6) of the Order made under section 74(1)(a), (c) and (f) of the Act specifying safeguarding limits and consultation requirements for all tunnel alignments forming part of the project from Acton Storm Tanks to Abbey Mills Pumping Station

are hereby cancelled.

Richard Watson

Authorised by the Secretary of State to sign in that behalf

15 March 2013

Original correspondence available at:
<https://www.gov.uk/government/publications/consultation-and-safeguarding-directions-thames-tideway-tunnel-project>

