

**THE WATER INDUSTRY (SPECIFIED INFRASTRUCTURE PROJECTS) (ENGLISH UNDERTAKERS) REGULATIONS 2013**

**DRAFT Thames Tideway Tunnel Project Specification Notice**

*[date]*

The Secretary of State makes this Notice in exercise of the powers conferred by regulation 4(1) of the Water Industry (Specified Infrastructure Projects) (English Undertakers) Regulations 2013 (SI 2013/1582) (the “SIP Regulations”) in relation to *infrastructure* which is provided or to be provided for the use of one or more English undertakers.

In accordance with regulation 4(4)(a) of the SIP Regulations the Secretary of State prepared draft reasons for the exercise of this power and consulted the Incumbent Undertaker, the *Authority* and such other persons as he considered to be appropriate.

In accordance with regulation 4(4)(c) of the SIP Regulations, this Notice shall be served on those persons or bodies consulted under regulation 4(4)(a) of the SIP Regulations.

**Citation, commencement and application**

**1. This Notice—**

- (a) may be cited as the Thames Tideway Tunnel Project Specification Notice; and
- (b) takes effect on the day after the day on which it is signed on behalf of the Secretary of State.

**Interpretation**

**2. In this Notice—**

“Incumbent Undertaker” means (in relation to the Thames Tideway Tunnel Project) Thames Water Utilities Limited or such other sewerage undertaker whose ability to provide services for its customers could, in the opinion of the Secretary of State or the *Authority* (as the case may be) be threatened by the Thames Tideway Tunnel Project, but for the exercise of the powers of the Secretary of State or the *Authority* under or by virtue of the SIP Regulations;

“Infrastructure Provider” means the company designated under regulation 8(1) of the SIP Regulations in respect of the Thames Tideway Tunnel Project;

“Thames Tideway Tunnel Project” means the *infrastructure project* described in Schedule 1 to this Notice; and

“Thames Tideway Tunnel Project Specification Notice” means this notice.

Except as otherwise provided in this Notice, words and expressions used in the SIP Regulations and the Water Industry Act 1991 (as modified by the SIP Regulations and as may be amended from time to time) are italicised and have the same meaning in this Notice as they have in those Regulations and that Act.

**Specification**

**3.—(1)** In accordance with regulation 4(3) of the SIP Regulations, the Secretary of State is of the opinion that—

- (a) the Thames Tideway Tunnel Project is of a size and complexity that threatens the Incumbent Undertaker's ability to provide services for its customers; and
- (b) specifying the Thames Tideway Tunnel Project is likely to result in better value for money than would be the case if the Thames Tideway Tunnel Project were not specified, taking into account—
  - (i) the charges fixed or likely to be fixed under Chapter 1 of Part 5 of the Water Industry Act 1991 (financial provisions, charges); and
  - (ii) the powers of the Secretary of State under section 154B of the Water Industry Act 1991 (financial assistance for major works).

(2) Accordingly, pursuant to the powers available to him under regulation 4(1) of the SIP Regulations the Secretary of State specifies the Thames Tideway Tunnel Project as a *specified infrastructure project*.

**Description of the scope of the *infrastructure project***

4. In accordance with regulation 4(4)(b) of the SIP Regulations, a description of the scope of the Thames Tideway Tunnel Project is set out in Schedule 1 to this Notice.

Signed

on behalf of the Secretary of State for Environment, Food and Rural Affairs

[date]

## Schedule 1

### Description of the scope of the Thames Tideway Tunnel Project

#### Interpretation

1. Defined terms are set out in paragraph 7. Any use of the singular includes use of the plural and vice versa.

#### Project overview

2.—(1) The Thames Tideway Tunnel Project is designed to update the Sewer Network to ameliorate the effects of the overflow of untreated sewage mixed with rainwater into the tidal river Thames from CSOs and to comply with legal requirements.

(2) Discharges of untreated sewage from CSOs must be reduced in order to ensure compliance with the Urban Waste Water Treatment Directive (91/271/EEC) and the related Urban Waste Water Treatment (England and Wales) Regulations 1994 (SI 1994/2841).

(3) The Thames Tideway Tunnel Project is also intended to meet certain environmental objectives in relation to surface water quality in the Water Framework Directive (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy) and the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (SI 2003/3242).

(4) The Thames Tideway Tunnel Infrastructure will connect with and operate in conjunction with the Sewer Network.

(5) The Thames Tideway Tunnel Project will actively manage or influence the CSOs (including intercepting and diverting CSO flows into the Thames Tideway Tunnel Infrastructure (or part thereof)).

#### General scope

3.—(1) The Thames Tideway Tunnel Project is —

- (a) the design, construction, testing and commissioning of the works;
- (b) prior to the Acceptance Date:
  - (i) maintenance of the works;
  - (ii) operation of the Thames Tideway Tunnel Infrastructure, subject to any agreements between the Infrastructure Provider and the Incumbent Undertaker or third parties;
  - (iii) ownership of the works, subject to any agreements between the Infrastructure Provider and the Incumbent Undertaker or third parties;
- (c) from the Acceptance Date:
  - (i) the operation and maintenance of the IP Owned Structures in accordance with paragraph 6;
  - (ii) ownership of the IP Owned Structures, subject to any agreements between the Infrastructure Provider and the Incumbent Undertaker; and
- (d) the financing of the activities set out in paragraphs (a)-(c) above,

all as necessary to ensure that the Shafts and the Tunnels provide a minimum of 1.24 million cubic metres of volume so that the Thames Tideway Tunnel Infrastructure can be used, in conjunction with the Sewer Network, to actively manage and influence flows from the CSOs in accordance with the Operating Techniques and the environmental permits.

(2) The Thames Tideway Tunnel Project comprises—

- (a) coordination of activities necessary for undertaking the design, construction and commissioning of the works across multiple worksites, and the carrying out, coordination, implementation and management of project delivery between various contractors, stakeholders, third parties and the Incumbent Undertaker;

- (b) works and services for the avoidance of, or limiting of, impact to the environment, local residents, businesses, third party assets and other third parties;
- (c) obtaining and complying with all necessary consents, permissions, licences, approvals, including the Development Consent Order, asset protection agreements or other similar agreements protecting property or assets within the vicinity of the Thames Tideway Tunnel Project;
- (d) the design, construction, supply, installation, inspection, testing and commissioning of the works, including —
  - (i) protection of existing assets potentially affected by the works, including any strengthening works necessary;
  - (ii) demolition and site clearance (including disposal);
  - (iii) worksite preparation, access and establishment;
  - (iv) land remediation;
  - (v) marine works;
  - (vi) boat, jetty and mooring relocation, demolition and construction;
  - (vii) civil works (including Tunnels, Shafts, buildings and structures), marine works, MEICA equipment, SCADA, architectural and landscape works;
  - (viii) diversions, protection, modification and reinstatement of existing utilities and services; and
  - (ix) modifications to highways and public rights of way;
- (e) acquisition of, or securing of appropriate interests in, land necessary to construct the works and to operate and maintain (to the extent described in this Notice) the Thames Tideway Tunnel Infrastructure;
- (f) provision of all utilities and drainage services necessary for the permanent operation of the Thames Tideway Tunnel Infrastructure, activation of these supplies and any associated connection fees;
- (g) surveys, monitoring and instrumentation works and services;
- (h) studies, investigations and assessments;
- (i) reinstatement of all highways, footpaths and hardstanding outside of the worksite that are damaged or temporarily modified during construction of the works;
- (j) engagement with stakeholders, local communities and third parties impacted by the Thames Tideway Tunnel Project including monitoring and liaising with third parties whose activities may impact on or be impacted by the Thames Tideway Tunnel Project;
- (k) provision of workforce occupational health services and well-being programmes;
- (l) provision of any services necessary for the day-to-day activities required for the Thames Tideway Tunnel Project, including payroll, administration, regulation and human resources services;
- (m) protection and maintenance of the works through construction, testing and commissioning periods and up to the Acceptance Date;
- (n) provision of as-built construction records, operation and maintenance documentation and other documentation for the Thames Tideway Tunnel Project;
- (o) provision of warranties and collateral warranties for plant and materials;
- (p) provision of temporary works to deliver the Thames Tideway Tunnel Project including —
  - (i) areas for storage of construction materials including temporary enclosures and workshops, concrete batching plants, fixed and mobile cranes and office and welfare facilities;
  - (ii) temporary power supplies and other utility connections and supplies and payment of associated fees and tariffs;

- (iii) connections to and within the Sewer Network required to construct the works, with all works undertaken in collaboration with the Incumbent Undertaker to limit the impact of the construction of the works on the Sewer Network;
- (iv) maintaining sewage flows through the temporary works, with all works undertaken in collaboration with the Incumbent Undertaker to limit the impact of the construction of the works on the Sewer Network;
- (v) provision of transport of plant, materials and equipment to and from site including utilisation of river transport; and
- (vi) any other temporary works to facilitate construction of the Thames Tideway Tunnel Project;
- (q) undertaking the completion, commissioning and acceptance tests and works and services required to ensure these tests are passed and the provision of training for operation and maintenance;
- (r) provision of all elements required for operational and maintenance access;
- (s) the detailed works and services described in paragraphs 4-6 below; and
- (t) provision of all such other works, services and activities which are incidental to, or reasonably necessary to ensure that the Thames Tideway Tunnel Project can be designed, constructed and commissioned and to ensure that the Thames Tideway Tunnel Infrastructure can be operated and maintained in conjunction with the Sewer Network in accordance with the Operating Techniques and the environmental permits.

## **Design**

4. The Thames Tideway Tunnel Project shall be designed in accordance with the following—
- (a) any contractor employed who has any responsibility for the design of any of the works required to deliver the Thames Tideway Tunnel Project will exercise all reasonable skill, care and diligence to be expected of a prudent and competent engineer experienced and skilled in works of a similar size, scope and complexity as the Thames Tideway Tunnel Project;
  - (b) so that from the Handover Date, the Thames Tideway Tunnel Infrastructure is capable of being operated in compliance with the Operating Techniques and environmental permits and will be in every respect fit for purpose so that the Thames Tideway Tunnel Infrastructure when operated with the Sewer Network is able to comply with any environmental permit and the Operating Techniques; and
  - (c) the main components of the Thames Tideway Tunnel Project are designed so as to consider the whole of life cost and to minimise asset deterioration and associated maintenance requirements, and ensure that works are designed, constructed and maintained to meet their asset lives. The IP Owned Structures will achieve a minimum 120 year design life.

## **Construction**

5. The Thames Tideway Tunnel Project comprises the design and construction of the following principal elements—

- (a) hydraulic elements including but not limited to —
  - (i) interception chambers and connections to intercept or influence flow from CSOs or the Sewer Network in accordance with the Operating Techniques and environmental permits;
  - (ii) connection culverts to convey flows from the interception chambers and connections to the drop Shafts, chambers, and the vortex generators;
  - (iii) chambers to house penstocks and valves to control flow and isolate the Tunnels from the Sewer Network;
  - (iv) drop Shafts, chambers and the vortex generators to drop flows down to the level of the Connection Tunnels;

- (v) de-aeration and energy dissipation chambers;
  - (vi) Connection Tunnels to convey flow from the drop Shafts and chambers that are off the line of the Main Tunnel, to the Main Tunnel;
  - (vii) overflow chambers to discharge flows to the tidal river Thames directly or via other watercourse or Sewer Network when the Main Tunnel is not available to receive flows;
  - (viii) Shafts on the line of the Tunnels for access or egress and Tunnel ventilation, and
  - (ix) Main Tunnel (and other Tunnels) to enable the conveyance of flow from Acton to Abbey Mills and into the Lee Tunnel for onward conveyance to the Beckton Sewage Treatment Works;
- (b) air management elements including but not limited to—
- (i) fans (at active ventilation worksites only) for the ventilation and active management and treatment of air release from the Thames Tideway Tunnel Infrastructure;
  - (ii) air treatment plant to avoid nuisance odours from air removed from the Thames Tideway Tunnel Infrastructure (at both active and passive ventilation worksites);
  - (iii) dampers to manage air flow in and out of the Thames Tideway Tunnel Infrastructure and to provide pressure relief;
  - (iv) interception and overflow chamber ventilation to allow air movement in and out of the chambers when operating; and
  - (v) associated ducting and chambers, ventilation columns, acoustic enclosures and other ventilation structures;
- (c) MEICA equipment including but not limited to—
- (i) penstocks that will be provided to control flow into the Tunnels when operating and to isolate the Tunnels from the Sewer Network;
  - (ii) flap valves that will be provided to protect the Sewer Network from inflow from the Tunnels or the tidal river Thames;
  - (iii) MEICA equipment associated with the air management, penstocks and flap valves described above;
  - (iv) MEICA equipment associated with maintaining performance of the existing sewerage infrastructure including storm pump recirculation systems at pumping station worksites;
  - (v) instrumentation to monitor and record conditions within drop Shafts, interception chambers and ventilation system;
  - (vi) instrumentation to enable the Incumbent Undertaker to monitor and control the System (or part thereof) in accordance with the Operating Techniques;
  - (vii) instrumentation to monitor and record flow discharge events as necessary to demonstrate compliance with the Operating Techniques;
  - (viii) telecommunications works to allow the control and monitoring of the local worksites and the System overall;
  - (ix) building services;
- (d) SCADA works to enable monitoring and control of the System in accordance with the Operating Techniques and the environmental permits;
- (e) architectural elements including but not limited to—
- (i) buildings, lighting, boundary walls and fencing;
  - (ii) hard landscape and soft landscape;
  - (iii) structures, buildings and public realm landscaping works; and
  - (iv) kiosk structures to house MEICA equipment;
- (f) provision of all elements required for operational and maintenance access;
- (g) modifications within the existing Sewer Network to influence CSO discharges;

- (h) civil and MEICA equipment works at the Beckton Sewage Treatment Works to the Tideway Pumping Station, flow transfer system, inlet works and Tideway CSO outfall works;
- (i) modifications to the Sewer Network including relocation of CSOs and raising of weirs; and
- (j) such other works and services as are incidental to or reasonably necessary to intercept and divert combined sewage to ensure the interception, collection or influence of the CSO flows in accordance with the Operating Techniques and the environmental permits.

### **Operation and maintenance**

6. The operation and maintenance of the Thames Tideway Tunnel Project includes—
- (a) prior to the Acceptance Date:
    - (i) maintenance of the works;
    - (ii) operation of the Thames Tideway Tunnel Infrastructure, subject to any agreements between the Infrastructure Provider and the Incumbent Undertaker or third parties;
  - (b) from the Acceptance Date:
    - (i) the operation and maintenance of the IP Owned Structures;
    - (ii) periodically inspecting the IP Owned Structures;
    - (iii) routine, planned and reactive maintenance activities for the IP Owned Structures;
    - (iv) fulfilling any maintenance requirements identified in any such inspections; and
  - (c) allowing the transfer of combined sewage through the Thames Tideway Tunnel Infrastructure.

### **Definitions and Interpretation**

7. Defined terms in this Schedule 1 have the following meanings—

“Acceptance Date” means the earlier of the date on which the acceptance tests are satisfactorily completed and the date on which deemed acceptance of the Thames Tideway Tunnel Infrastructure occurs;

“Beckton Sewage Treatment Works” means the Incumbent Undertaker’s sewage treatment facility at Beckton;

“building” includes any building, structure or erection or any part of a building, structure or erection;

“Connection Tunnel” means a Tunnel that connects a Shaft to the Main Tunnel;

“Crossness Sewage Treatment Works” means the Incumbent Undertaker’s sewage treatment facility at Crossness;

“CSOs” means the combined sewer overflows listed in Schedule 2 to this Notice;

“Development Consent Order” means the development consent order for the Thames Tideway Tunnel Project to the extent granted to the Incumbent Undertaker, as may be amended from time to time;

“Environment Agency” means the Environment Agency established pursuant to section 1 of the Environment Act 1995 (UK) or any successor thereof;

“Handover Date” means the date on which the design and construction of the Thames Tideway Infrastructure is completed and has been tested (excluding acceptance tests) and commissioned in accordance with any agreements between the Incumbent Undertaker and the Infrastructure Provider;

“highway” has the same meaning as in the Highways Act 1980;

“IP Owned Structures” means the Tunnels, de-aeration chambers, de-aeration vents, vortex tubes, vortex generators, vortex liner, the Shafts, Shaft cover slabs and everything constructed inside the Shafts except for the MEICA equipment, Metalwork and access covers;

“Lee Tunnel” means the tunnels, shafts, the Tideway Pumping Station and associated infrastructure between Abbey Mills and Beckton Sewerage Treatment Works;

“London Tideway Tunnels” means the Thames Tideway Tunnel Project and the Lee Tunnel;

“Main Tunnel” means the tunnel between Acton Storm Tanks and the connection to the Lee Tunnel at Abbey Mills;

“maintain” and “maintenance” includes maintain, inspect, repair, adjust, alter, remove, clear, refurbish, reconstruct, decommission, demolish, replace or improve;

“MEICA equipment” means all mechanical, electrical, instrumentation, control and automation equipment that is part of the Thames Tideway Tunnel Project including:

- a) penstocks;
- b) hydraulic and electric actuators;
- c) flap valves;
- d) river flap valves;
- e) dry weather flow pumps;
- f) ventilation dampers;
- g) air blowers;
- h) air filters;
- i) kiosks;
- j) level and odour control instrumentation; and
- k) SCADA;

“Metalwork” means ladders, handrails, platforms, covers and grates, embedded anchor points and other similar appurtenances, excluding any liner provided to the vortex tube;

“Operating Techniques” means the techniques agreed with the Environment Agency for the London Tideway Tunnels;

“SCADA” means supervisory control and data acquisition works and services;

“Shaft” means any shaft connecting to a Tunnel and includes a drop shaft;

“System” means the Thames Tideway Tunnel Project and such parts of the Sewer Network, such that they form an operating system and can be operated in accordance with the Operating Techniques;

“Sewer Network” means the Incumbent Undertaker’s network of sewers, including all necessary component parts and lateral drains, draining the London area of effluent, trade effluent and stormwater, including the Lee Tunnel and any pumping stations and treatment works operated by the Incumbent Undertaker;

“Thames Tideway Tunnel Infrastructure” means all permanent works contemplated in this Schedule 1;

“Tideway Pumping Station” means the pumping station at the Beckton Sewage Treatment Works at the downstream end of the Lee Tunnel;

“Tunnels” means the Main Tunnel, the Greenwich and Frogmore connection tunnels and all Connection Tunnels but excluding the Lee Tunnel;

“watercourse” includes all rivers, streams, ditches, drains, canals, cuts, culverts, dykes, sluices, sewers and passages through which water flows except a public sewer or drain; and

“works” means all physical works contemplated in this Schedule 1, whether temporary or permanent.

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**Schedule 2**

**CSOs**

<b>Thames Tideway CSO ID</b>	<b>CSO Name</b>
CS01X	Acton Storm Relief
CS02X	Stamford Brook Storm Relief
CS03X	North West Storm Relief
CS04X	Hammersmith Pumping Station
CS05X	West Putney Storm Relief
CS06X	Putney Bridge
CS07A	Frogmore Storm Relief (Bell Lane)
CS07B	Frogmore Storm Relief (Buckhold Road)
CS08A	Jews Row -Wandle Valley Storm Relief
CS08B	Jews Row -Falconbrook Storm Relief
CS09X	Falconbrook Pumping Station
CS10X	Lots Road Pumping Station
CS11X	Church Street
CS12X	Queen Street
CS13A	Smith Street Main Line
CS13B	Smith Street Storm Relief
CS14X	Ranelagh
CS15X	Western Pumping Station
CS16X	Heathwall Pumping Station
CS17X	South West Storm Relief
CS18X	Kings Scholar Pond
CS19X	Clapham Storm Relief
CS20X	Brixton Storm Relief

CS21X	Grosvenor Road
CS22X	Regent Street
CS23X	Northumberland Street
CS24X	Savoy Street
CS25X	Norfolk Street
CS26X	Essex Street
CS27X	Fleet Main
CS28X	Shad Thames Pumping Station
CS29X	North East Storm Relief
CS30X	Holloway Storm Relief
CS31X	Earl Pumping Station
CS32A	Deptford Storm Relief
CS32B	Deptford Creek
CS33X	Greenwich Pumping Station
CS34X	Charlton Storm Relief
CS35X	Abbey Mills Pumping Station
CS36X	Wick Lane
CS81X	Tideway CSO
CS37X	Low Level 1-Brook Green
CS39X	Horseferry
CS40X	Wood Street
CS41X	Goswell Street
CS42X	Pauls Pier
CS43X	Battle Bridge
CS44X	Beer Lane
CS45X	Iron Gate

CS46X	Nightingale Lane
CS47X	Union Wharf
CS48X	Wapping Dock
CS49X	Cole Stairs
CS50X	Bell Wharf
CS51X	Ratcliffe
CS52X	Blackwall Sewer
CS53X	Henley Road
CS55X	London Bridge
CS56X	Isle of Dogs Pumping Station (Separated storm and CSO)
CS57X	Canning Town Pumping Station (not in service)