

SITE SELECTION METHODOLOGY PAPER

FOREWORD

The publication of the Thames Tunnel Site Selection Methodology is an important milestone for the London Tideway Tunnels.

This document sets out how we will go about assessing potential sites to support the construction of the 32km Thames Tunnel and up to 34 connections to the Combined Sewer Overflows – resulting in a cleaner, healthier river Thames.

The methodology has been produced with input from local authorities potentially directly affected and strategic pan-London stakeholders by the construction of the Thames Tunnel.

On behalf of the whole Thames Tunnel project team I would like to thank everyone who took the time to contribute to the Site Selection Methodology and all those involved in its production.

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May 2009

THAMES TUNNEL

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EXECUTIVE SUMMARY

The Thames Tunnel (the Project) is required in order to intercept flows from Combined Sewer Overflows (CSOs) along the Thames between west London and Beckton Sewage Treatment Works in east London. The Project will benefit London as a whole, and those living and working in London, by providing a cleaner River Thames.

The main tunnel will be about 32km in length and will require main and intermediate shaft sites to facilitate construction and CSO interception and other works for CSOs. It is these sites that will be the subject of the proposed site selection exercise. A Site Selection: Background Technical Paper accompanies this document and provides more information on the Project.

Sections 2 and 3 of this document set out the proposed methodology for main and intermediate shafts sites and CSO sites respectively. Each type of site has certain size requirements and the methodology to identify such sites will be applied within an identified area of search. In general terms the methodology for each type of site can be summarised as follows:

- Outlining the methodology itself, outlining site requirements and the proposed area of search and consulting on the methodology.
- Stage 1: creation and assessment of a long list of sites; creation and assessment of a short list of sites; creation of a list of preferred sites.
- Stage 2: engagement on preferred list of shaft and CSO sites.
- Stage 3: reassessment following engagement exercise and final selection of sites.

1 INTRODUCTION

1.1 Purpose of this paper

1.1.1 The Thames Tunnel (the Project) is required in order to intercept flows from Combined Sewer Overflows (CSOs) along the Thames between west London and Beckton Sewage Treatment Works in east London. The Project will benefit London as a whole, and those living, working in and visiting London, by providing a cleaner River Thames. Whilst the completed Tunnel will require relatively few above ground structures, there is a need for a number of construction sites along the route of the Project to facilitate its construction. It is these sites that will be the subject of the proposed site selection exercise.

1.1.2 This paper summarises the background to the Project and then focuses on the proposed site selection methodology (the methodology). The accompanying Site Selection: Background Technical Paper provides more information on the Project.

1.2 Structure of this paper

1.2.1 The structure of this paper is as follows:

- Section 1 - provides an overall background to the sewerage system in London, the need for improvements, policy support for the Thames Tunnel, programme and the main features of the Project;
- Section 2 - describes the site selection methodology for the two types of shaft sites (main and intermediate) required for the main tunnel; and,
- Section 3 - describes the site selection methodology for CSO sites.

1.3 Background to London's Sewerage System

1.3.1 London's sewerage system dates from the 19th century and is based on the 'combined' principle; whereby a single set of sewers convey both foul sewage and rainwater run-off to sewage treatment works (STWs) for treatment, prior to discharge to the river.

1.3.2 It is usual for a combined sewer to incorporate overflows in the system, which allows excess storm flows to discharge directly to the river to prevent flooding. This is the case with the London sewerage system.

1.3.3 The Thames Tunnel will be designed to intercept flows from up to 34 CSOs.

1.3.4 Unsatisfactory CSOs affect the water quality of the tidal River Thames in three main ways:

- by introducing quantities of sewage derived solid material into the river that can give rise to offensive conditions both in the river and on the foreshore;
- by producing a fall in dissolved oxygen (DO) concentrations that can drop sufficiently low to result in fish mortality; and,
- by introducing pathogenic organisms into the river, which increases the health risk to both river users and to wildlife.

1.4 Need for Improvements to London's Sewerage System and the Tidal River Thames

Legal Background

- 1.4.1 Thames Water is the licensed sewerage undertaker for the London area and has a duty under the Water Industry Act 1991 to provide and maintain a system of sewers.
- 1.4.2 The EC Urban Waste Water Treatment Directive 1991 (UWWTD) and UK Urban Wastewater Treatment (England and Wales) Regulations (DoE, 1994) establish general standards for collecting systems (sewers) and sewage treatment works (STW). Compliance with these requirements is an extension of the duties under the Water Industry Act.
- 1.4.3 The need to meet the requirements of relevant legislation is a major driver for the Thames Tunnel.

European Commission Reasoned Opinion and Government Decision

- 1.4.4 On 10 April 2006 the European Commission handed down its 'Reasoned Opinion' that the untreated discharges from the CSOs along the Thames Tideway at the existing frequency of 50 to 60 times per year were unacceptable and that the United Kingdom Government was therefore failing to comply with the requirements of the UWWTD on collecting systems and treatment facilities. The Government has accepted that further measures are needed to improve parts of London's sewerage network and to meet the requirements of the UWWTD.
- 1.4.5 On 27 July 2006, Ian Pearson (Minister of State for Climate Change and the Environment) wrote to Thames Water requesting that Thames Water provided zsa detailed assessment of two of the storage and transfer tunnel options for providing improvements to the Thames Tideway.
- 1.4.6 In December 2006 Thames Water submitted its report to the Government on the assessment of the two options detailing costs and benefits. This report is entitled "Tackling London's Sewer Overflows – Thames Tideway Tunnel and Treatment – Option Development: Objectives and Compliance Working Group Report: December 2006".
- 1.4.7 A Regulatory Impact Assessment (RIA) was prepared by Defra and signed-off by Ian Pearson in March 2007. The RIA recommended that "...a phased, single tunnel approach, which addresses all the unsatisfactory overflows, is the minimum required to meet our obligations. It is therefore proposed that TW are asked to proceed urgently with the development and implementation of a scheme which reduces and limits pollution from storm water overflows."

1.5 Policy Support for Thames Tunnel

- 1.5.1 The Government's 2008 Water Strategy for England (refer to Annex 3) specifically supports the series of London Tideway projects and states: "The Thames Tideway scheme, consisting of large scale infrastructure improvements to London's combined sewer system and treatment works, will address pollution from sewage, which affects the tidal River Thames and the River Lee. It is expected to be completed by 2020, and will make significant improvements to water quality and the natural environment in London, where there are currently between 50 and 60 overflows per year."
- 1.5.2 One of the main aims of the Thames Tunnel Project is to improve the overall quality of the tidal River Thames. This aim is consistent with the Government's objectives for the planning system set out in Planning Policy Statement 1: Delivering Sustainable Development (2005) (PPS1). PPS1 states in paragraph 3 "(at) the heart of sustainable development is the simple idea of ensuring a better quality of life for everyone, now and for future generations."
- 1.5.3 *The London Plan also states general support for the Thames Tunnel. Policy 4A.18 of the Consolidated London Plan (2008): states: "In particular the Mayor will and the Boroughs should support the implementation of the Thames Tideway Sewer Tunnel project and associated*

infrastructure and sewage treatment from Hammersmith to Beckton and Lower Lee Valley to Beckton”.

- 1.5.4 Sub text to this policy states (paragraph 4.52): *“The project will involve a large diameter sewer tunnel with connecting shafts, access shafts, and the expansion of Beckton [Sewage] Treatment Works and an increase in the capacity for sewage sludge treatment at Beckton. The Mayor supports the timely implementation of the project, which is expected to take up to 2020. Boroughs will need to resolve local matters for example, design, construction, traffic management, remediation and mitigation.....The principle of the project is strategically important to delivering a more sustainable London”.*

1.6 Project Description and Programme

- 1.6.1 *Information concerning the Project and proposed means of construction is provided in the Site Selection: Background Technical Paper. The text below provides a summary of the Project and programme.*
- 1.6.2 The Thames Tunnel is a linear infrastructure project that will pass physically through the administrative areas of up to 13 London local authorities. The alignment of the tunnel will broadly follow the route of the Thames from west London to Beckton STW in the east. The existing CSOs to be intercepted will be connected to the Thames Tunnel and flows will be forwarded for treatment at Beckton STW.
- 1.6.3 The provisional outline schedule for the Thames Tunnel Project is given below:
- Design development 2008 to 2010
 - Site selection 2008 to 2010
 - EIA, ES and planning documentation 2009 to 2011
 - Submission of application for development consent 2011
 - Target for development consent 2012
 - Procurement of main construction packages 2012 to 2013
 - Site investigation and enabling works 2008 to 2012
 - Construction work 2013 to 2020
- 1.6.4 The Project involves a network of sites to enable the main tunnel to be constructed and maintained by Thames Water.

Main Features of the Thames Tunnel

- 1.6.5 The main elements of the proposed Thames Tunnel Project include:
- Main tunnel approximately 32km in length with an estimated 7.2m Internal Diameter (ID) running from west London to Beckton STW in east London;
 - Main shafts including one main drive shaft at Beckton STW (up to 25m ID) plus other main drive/reception shafts (up to 25m ID) to facilitate tunnel construction and for permanent operational tunnel access. The precise nature of the main shaft sites required will be determined in part by the availability and suitability of sites along the tunnel length and by the need to optimise drive lengths for Tunnel Boring Machines (TBMs);

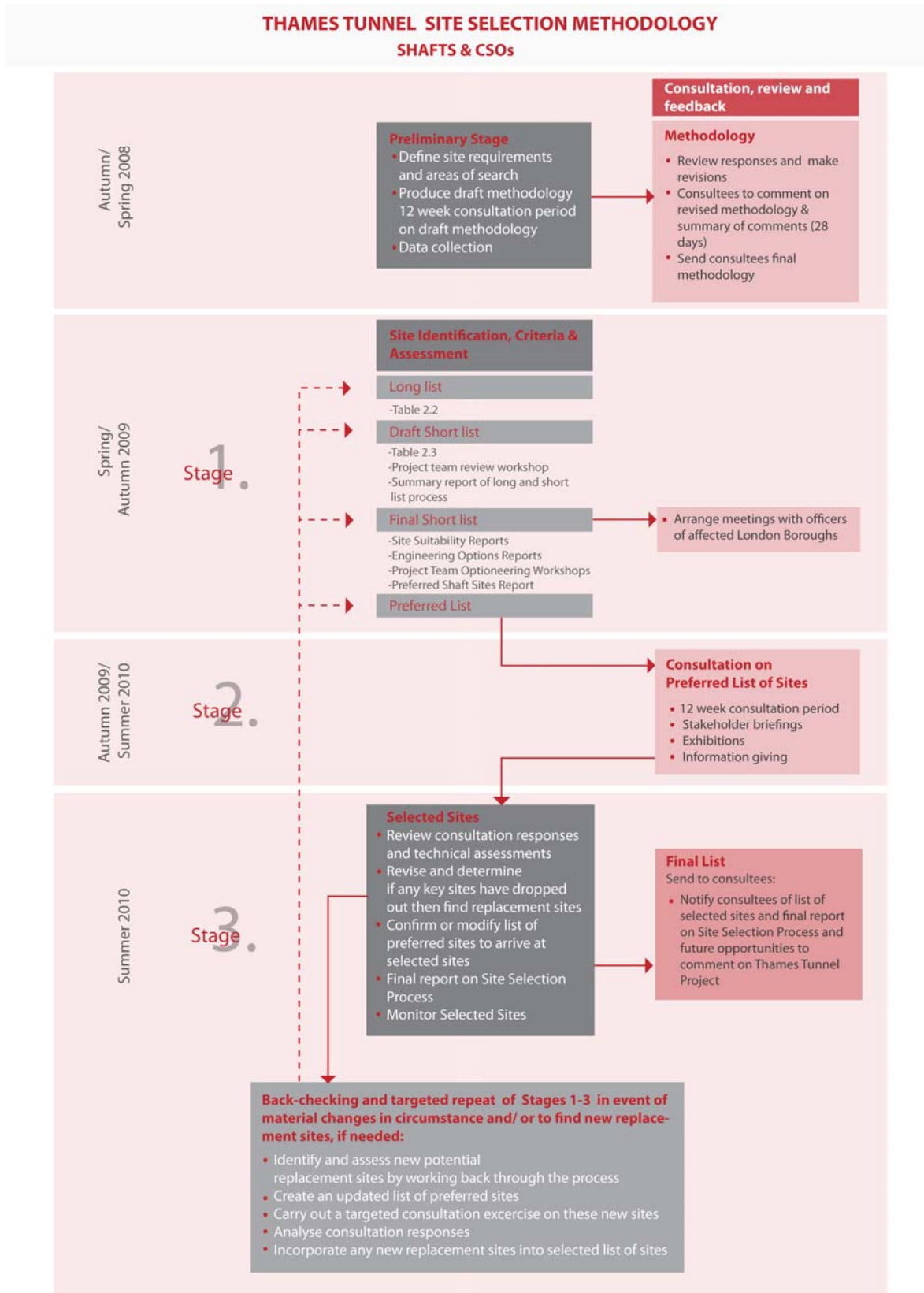
- Intermediate shaft sites to undertake planned inspections of TBMs and to provide access for secondary lining, should secondary lining be needed; and,
- CSO interception works that will typically be in the highway or other public areas in reasonable proximity to the river frontage. These existing CSOs will need to be connected in situ.

1.6.6 Further information on the above features of the Project is included in the Site Selection: Background Technical Paper.

1.7 Approach to Site Selection

- 1.7.1 Thames Water's intention is to be transparent, accountable and fair in the implementation of the methodology.
- 1.7.2 Relevant planning policy informs the proposed approach to site selection. Planning Policy Statement 1: Delivering Sustainable Development (2005) (PPS1) places an emphasis on sustainable development in order to ensure a better quality of life for everyone, now and for future generations. The principles set out in PPS1 underpin Thames Water's approach to site selection.
- 1.7.3 Other relevant government advice in terms of site selection is set out in Planning Policy Statement 10: Planning for Sustainable Waste Management (2005) (PPS10). This general waste management policy has been used as it provides clear advice on identifying suitable sites and areas and the application of locational criteria. Whilst the work-sites are not waste management sites, they are considered sufficiently similar in nature to recommend the approach taken in PPS10. It stresses that decisions on sites should be based on clear policy objectives, robust analysis of available data and information, and assessment of options. Community engagement is also important and should be proportionate to the scale of development proposed.
- 1.7.4 The site selection process will take into account relevant environmental, planning, engineering ('buildability' and 'operability'), property (including cost), social and economic aspects to enable selection of the most suitable combination of sites along the route of the tunnel.
- 1.7.5 There is a relationship between the processes for site selection, engineering design and optioneering of the Project. The engineering design process for the tunnel and various connections is proceeding in tandem with the site selection process. There will be an iterative relationship between these two processes.
- 1.7.6 The development of the Project will require a comprehensive baseline of information from a wide range of data sources. Information will be collected and used throughout the site selection process. A list of initial data sources is provided in Annex 2. During the course of the site selection process other data sources will be used, especially Environmental Impact Assessment (EIA) baseline research. Information will also be obtained from transport and utilities providers, particularly in respect of sub-surface infrastructure.
- 1.7.7 There are three main stages to the methodology, including the planned consultation review and feedback activities. Figure 1.1 provides a broad summary of the main stages and associated activities. The subsequent sections describe in more detail what will happen at each of the three stages.

Figure 1.1 Site Selection Flow Chart



2 SITE SELECTION METHODOLOGY: SHAFT SITES

2.1 Introduction

2.1.1 This section sets out the methodology for main and intermediate shaft sites. It reflects the three main stages of site selection as shown in Figure 1.1.

2.2 Definition of Site Requirements and Area of Search

2.2.1 In order to establish the scope of the site selection exercise it has been necessary to consider and establish:

- number and types of shaft site;
- shaft site features and parameters; and,
- search area for shaft sites.

2.2.2 This section explains the number and types of shaft sites (main and intermediate); the site features and parameters for each type of shaft site; and, the site search area for the main and intermediate shaft sites. Section 3 of this paper sets out the equivalent context information for the CSO sites.

2.2.3 Further background and fuller descriptions of characteristics of main and intermediate shaft sites, including possible indicative layouts for main and intermediate shaft sites, are provided in the supporting Site Selection: Background Technical Paper.

Number and Type of Shaft Sites

2.2.4 There are two types of shaft sites required to enable the Project to be built and operated. The site selection process will identify a combined package of suitable sites that meet the requisite criteria, are in suitable locations, are suitably spaced by reference to one another and of a suitable size. The following shaft sites are expected to be identified:

- up to 6 main shaft sites (one of which will be at Beckton STW); and,
- up to 5 intermediate shaft sites.

2.2.5 In general terms, the more Tunnel Boring Machines (TBMs) used to create the tunnel, the faster the overall programme and the more sites required. Health and safety, geological and economic factors also bear on the distance between shaft sites. A site is required to launch the TBM (i.e. drop it down a shaft so it can start tunnelling). Another site is required to remove the TBM from the ground. The number of TBMs used will ultimately depend on the distances between main shaft sites and the time available for tunnelling.

2.2.6 The requirement for intermediate shaft sites will be informed by factors such as health and safety factors and whether or not there is a need for secondary lining.

Shaft Site Features

2.2.7 Each site has its own locational characteristics, size requirements, uses associated with construction and operational activities.

2.2.8 The size, shape, location and other characteristics of shaft sites are dictated by the scale of the shafts they will accommodate, the activities to be carried out during the construction phase and the activities to be carried on post construction.

- 2.2.9 The main and intermediate shafts are assumed to be up to 25m internal diameter with depths ranging from 40m in west London to 75m at Beckton STW in east London.
- 2.2.10 The site activities and facilities can be divided into core activities at the shaft and ancillary activities which could be located on a site away from the shaft site. It is estimated that the sizes required for the shaft sites will range from 18,000m² to 20,000m² for main shafts and 5,000m² to 7,500m² for intermediate shafts.
- 2.2.11 For main shafts the majority of structures, plant and equipment on site will be needed for construction purposes only and following construction will be removed. However, some permanent above ground structures will remain on all main shaft sites. Typically these might include: access covers, an air extraction/intake structure; space adjacent to the shaft footprint to accommodate mobile cranes for maintenance; and an emergency overflow culvert to the river. There will also need to be adequate vehicular access from the highway for maintenance. Further details are provided in the Site Selection: Background Technical Paper.
- 2.2.12 For intermediate shafts, depending on the final design and operational considerations, there may be a requirement for an access manhole, ventilation structures and vehicular access. However, it is also possible that some or all intermediate shafts sites may only be required for construction purposes and may not have any permanent above ground facilities.
- 2.2.13 When assessing the suitability of shaft sites regard will be had to their ability to accommodate the types of permanent structures referred to above.

Search Area: Main and Intermediate Shaft Sites

Search Area for Shaft Sites

- 2.2.14 The boundaries of the proposed site search area for the main and intermediate shaft sites are shown in Figure 2.1. The site selection process will search for sites along the whole length of the tidal River Thames from the western limit to the eastern limit at Beckton STW. For reasons set out in the Site Selection: Background Technical Paper, it is anticipated that main and intermediate sites will be located on land. However, should it prove difficult to identify suitable land based sites it may be necessary to explore further the potential for siting shafts wholly or partially within or on the foreshore of the river. Regard will also be had to the possibility of locating part of a temporary work site (e.g. workers welfare facilities) upon the river, where appropriate and adjacent or close to a land based work site.
- 2.2.15 Ongoing engineering and design work may identify options for variations in the route and it is possible that circumstances could arise which render it necessary to search for shaft sites outside the areas of search identified in this document. Should this situation arise Thames Water would inform all those listed in Annex 1 of any proposed changes to the agreed area of search and of the reasons for the change.

Western Limit

- 2.2.16 The proposed western limit of the search area for the main and intermediate shaft sites is in the vicinity of the westernmost CSO to be intercepted by the tunnel (Acton CSO).

Eastern Limit

- 2.2.17 The proposed eastern limit of the search area for the main and intermediate shaft sites is Beckton STW, and because this is the end point for the Tunnel a main shaft will be located at Beckton STW.

Northern and Southern Limit

2.2.18 The initial proposed extent of the width of the site search area is about 500m either side of the river, but this will be applied flexibly as this distance will depend on a variety of factors on the ground, such as the route to the river bank, the direction the measurement is taken, and specific local circumstances. The 500m will be measured from the north and south bank side and extend in-land in all directions to adopt a flexible approach in implementation. If no or too few potentially suitable shaft sites are found within these initial limits then the search area may need to be extended outwards and/or to include the river. The extension of the search area may also be required if a shaft site is spread across two linked sites or where a shaft site extends across the outer search area boundary. There are particular advantages to sites closer to the river for the reasons set out in paragraph 4.2.1 of the Background Technical Paper, including the assumption that the majority of materials delivered to and removed from the sites will be transported by river wherever possible. Similar considerations may also apply to sites alongside or close to navigable creeks within the 500m area of search.

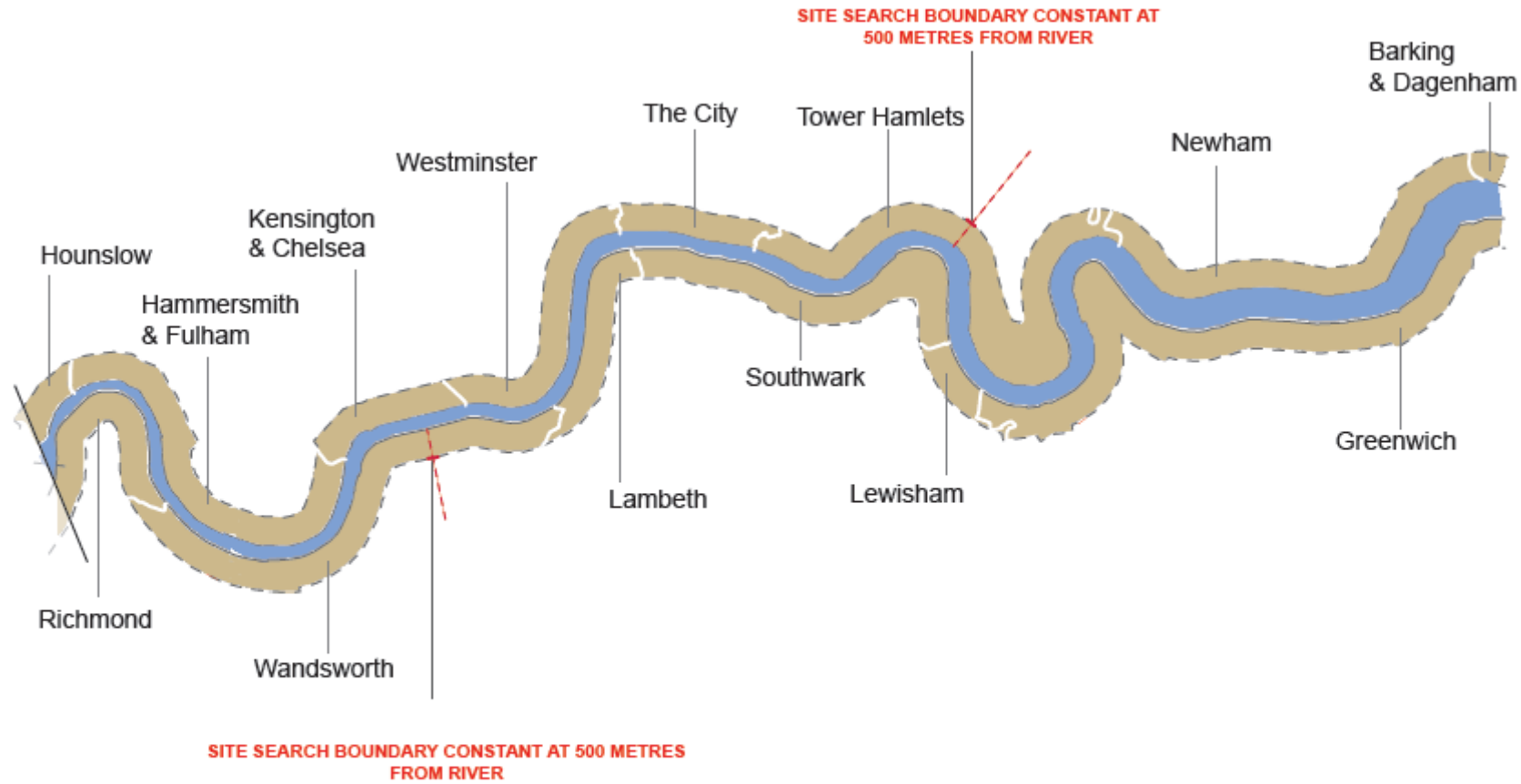
Excluded Areas

2.2.19 The site search area is a large and all inclusive area and in order to make sure the search is realistic, two types of areas have been excluded, after consideration of core London Plan policies:

- London's four World Heritage Sites: 1) Westminster Palace; 2) Westminster Abbey and Saint Margaret's Church; 3) Tower of London; and 4) Maritime Greenwich. World Heritage Sites are places of international importance for the conservation of mankind's cultural and natural heritage and are designated by the World Heritage Convention established in 1972 by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). (Policy 4B.13 - World Heritage Sites).
- Existing housing within concentrated residential areas: on the basis of: London Plan Policies 3A.15 - Loss of housing and affordable housing and 3A.16 - Loss of hostels, staff accommodation and shared accommodation. These policies are designed to protect existing residential stock unless there is a planned replacement. In addition, these London Plan policies are further supported in all Unitary Development Plans (UDPs) and emerging Core Strategies across London Local authorities. The aim across London is to prevent the loss of existing housing stock unless replaced as part of the proposed development. As exceptions to this general rule: (a) derelict or vacant housing sites will be identified and (b) if particular sites are put forward by local authority stakeholders as being potentially suitable, they will be considered. Should it be impossible to identify potential sites without including areas of housing – which is thought unlikely – the back-checking exercise would allow Thames Water to return to this point and reconsider whether there are in fact potential sites within this category of land use.

2.2.20 This study will therefore use a refined site search area within the boundary limits described above.

Figure 2.1: Initial Site Search Area: Main and Intermediate Shafts



Initial Site Search area for Main and Intermediate Shaft Sites

NB Paragraphs 2.2.14 and 2.2.18 explain in what circumstances the river itself would form part of the area of search.

NTS  Borough Boundaries 

2.3 Stage 1: Site Identification, Considerations and Assessment

2.3.1 There are three main parts to Stage 1:

- 1A - the creation of a long list of potential sites, along with an explanation of how information will be verified and moved to 1B;
- 1B - the creation of a short list of potential sites, along with an explanation of how information will be verified and moved to 1C; and,
- 1C - the creation of a preferred list of sites, along with an explanation of how information will be verified and moved to Stage 2.

2.3.2 Shafts sites will be identified within the refined site search area shown in Figure 2.1 and excluded areas described in paragraph 2.2.19.

2.3.3 The methodology in Stage 1 is based on a planning and environment policy approach that starts from the national level, moves to regional (London wide) level and works down to the local level. The aim is to use a hierarchy of policies in order to go from the strategic to site specific issues. This approach will identify potential sites and then screen out less suitable sites (in combination with other relevant factors including engineering, property and community related considerations). By mapping potential sites this will help clarify and move towards identifying the most suitable combination or network of sites. The aim of the site selection process is not to try and identify every piece of land within the refined search area, but rather realistic site alternatives. As London is a dense, complex urban environment most potential sites will be subject to some form of constraint or issues that may need measures to make them suitable sites for development activities.

2.3.4 The subsequent sections describe the information, considerations and assessment method that will be used for the long, short and preferred list of sites.

Part 1A - Creation of a Long List of Potential Shaft Sites

2.3.5 The long list will be created by conducting a desktop survey of the land within the site search area (see Figure 2.1) to identify sites that may be suitable for main and/or intermediate shaft sites. This exercise will be done mainly by examining aerial photographs, OS maps and atlases.

2.3.6 For the purpose of this paper, 'a site' is generally defined as an area for which boundaries can be readily distinguished and defined.

2.3.7 Sites should potentially be capable of being used as a shaft site during construction of the main tunnel and for post construction operational activities. In order to determine whether a site should be included on the long list a professional judgement will be made to determine whether it is potentially large enough to accommodate either a main or intermediate shaft site on either one single site or more than one linked sites (it is unlikely that more than two sites would be linked, but this should not be discounted). Regard will also be had to potential river linkages, and to that end Thames Water will give preference to the use of the river for transport of materials wherever possible.

2.3.8 Identified areas of land will be included in the long list of sites and plotted on a GIS map. Identification of these sites should only be taken to mean that a site may meet physical shaft site requirements, and a more detailed assessment of its suitability will be carried out.

2.3.9 When determining whether sites should be included on the long list a combination of factors will be taken into account. For example, if a site is not located next to the river, but is within the 500m search area (or even just outside the search area) it may be included if it can readily be linked to a site near the river. By starting with the basic suitability of the site, this approach allows for a large search area to be rapidly assessed and a different combination of local factors to be considered in order to create a realistic long list of sites.

- 2.3.10 However, if relatively few sites are suitable for inclusion on the long list then it may be necessary to widen the initial 500 metres from the northern and southern river bank further inland.
- 2.3.11 The long list will be published as part of the final site selection report and will also be discussed with stakeholder consultees at the stage of consultation on the short list.

Part 1B - Creation of a Short List of Potential Shaft Sites

- 2.3.12 Part 1B explains how the move from the long list to the short list of potential shaft sites will be made. There are four steps that are described in subsequent paragraphs and can be summarised as follows:

- collect data on long-listed shaft sites;
- assess long-listed sites against set considerations and values that reflect planning/environment, engineering criteria and other material considerations (see Table 2.2); then identify sites that move from the long list to the draft short list;
- create a draft short list of potential shaft sites and assess against criteria in Table 2.3, prepare pre-workshop reports, hold optioneering workshops, hold meetings and verify sites with relevant London local planning authorities and other stakeholders and consider responses; and,
- create a final short list of potential shaft sites and provide feedback to relevant London local planning authorities and other stakeholders.

Data Collection

- 2.3.13 In order to assess and differentiate between potential shaft sites on the long list, relevant information will be collected about long-listed sites. This information will be used to determine which sites are short-listed.

Criteria and Assessment of Long-Listed Sites to Produce a Draft Short List

- 2.3.14 The potential shaft sites on the long list will be assessed against the criteria in Table 2.2 and policy information used to inform this assessment. Table 2.2 is intended to allow a preliminary “high” level of assessment sufficient to determine which sites move from long list to draft short list. Table 2.3 is intended to allow for a more detailed assessment of similar factors when assessing the draft short list.
- 2.3.15 Table 2.2 allows for an initial assessment of each long listed site against the-considerations in Table 2.2. Acceptability of each site will be determined as red, amber or green for each criterion. By way of an example, if a site is subject to a national designation, which would suggest a site to be unlikely to be suitable in planning terms, a value would be given as red. Similarly, if a site were considered likely to be heavily constrained in engineering terms a value would be given as red. Inconsistency with regional/ local designations may be more capable of being outweighed by other factors, so a value would be given as amber. When no planning or environment designations apply to a site that would conflict with its use as a work site or no significant engineering constraints apply to a site, then the value would be given against the relevant assessment category as green. Naturally if a site were short-listed, more detailed site investigation at Part 1C may cause the need to reappraise these initial conclusions.
- 2.3.16 The results of this assessment will be evaluated and professional judgement, informed by inputs from emerging engineering and design requirements, will be used to determine which sites move from the long list to the draft short list. Sites will be compared as a whole, and those that perform best in relative terms and that are least constrained will be selected. If a site is awarded a red value this will not necessarily prevent a site proceeding to the next stage of assessment, if in overall terms it performs better than other sites.

Table 2.2: Long List of Shaft Sites: Assessment Considerations and Indicative Values

CRITERION	INDICATIVE VALUES		
	Red	Amber	Green
Engineering			
Site Size	Size or shape likely to prevent use of site	Smaller than desired, but potential as a linked site and/or shape not ideal	Acceptable size, suitable shape
Site Features	Site features have potential to prohibit development of site.	Will require compromise/mitigation in order to be workable	No or limited constraints.
Availability of Jetty/Wharf Facilities and Distance to river	Unlikely to be possible to access jetty/wharf facilities, or to create jetty/wharf. And/or distance/route between construction site and river (and any jetty/wharf or potential jetty/wharf) is particularly lengthy or significantly constrained	Moderate distance from river (and any jetty/wharf or potential location for jetty/wharf)and/or may be difficulties transporting materials between construction site and jetty/wharf or potential jetty/wharf	River immediately adjacent or in close proximity to site and clear potential to use existing jetty/wharf or develop new jetty/wharf)
Means of access	Significant difficulties achieving road or rail access	Road and/or rail access can be achieved but compromise/mitigation required	Good road/and or rail access
Planning and Environment			
Heritage designation	National	Regional/Local	None or positive.
Landscape/Townscape	National	Regional/ Local	None or positive
Open Space	National	Regional/local	None or positive
Ecological designation	National	Regional/local	None or positive
Community and Property			
Neighbouring land uses	Nature of surrounding land use likely to-preclude development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Neighbouring land uses do not conflict with use of site
Existing or designated use of site	Existing/designated use of site likely to preclude development	Existing/ designated use of site not ideal but mitigation measures would ensure acceptability	Existing/ designated use of site does not conflict with use of site

CRITERION	INDICATIVE VALUES		
	Red	Amber	Green
Special Land and Crown Land	Land comprises special land for the purposes of the Acquisition of Land Act 1981 or Crown Land	Land includes some special land for the purposes of the Acquisition of Land Act 1981 or Crown Land	Land does not include any 'special land' for the purposes of the Acquisition of Land Act 1981 or Crown Land
Acquisition Costs	Acquisition costs likely to be relatively high	Acquisition costs likely to be moderate	Acquisition costs likely to be relatively low

Assessment of Draft Short List

2.3.17 An assessment of all draft short-listed shaft sites will then be made by using the considerations in Table 2.3. These considerations are intended to assist each discipline in reaching a conclusion on a particular site. The Table 2.3 assessment will also use and build upon the information collected for and assessment undertaken at Table 2.2. The focus at Table 2.3 will be upon more detailed local considerations. Further discussions will be held with relevant London Local Authorities and agencies to obtain and utilise information required for Table 2.3. At this stage it is considered appropriate to judge each site against relevant factors for each of the following disciplines:

- Engineering;
- Planning and Environment;
- Property; and
- Community.

Table 2.3: Draft Short List of Shaft Sites: Assessment

ASSESSMENT TABLE OF DRAFT SHORT-LISTED SITES: LIST OF CONSIDERATIONS	
Number/ name of site	
ENGINEERING	
Site Size - main shaft or - intermediate shaft - general dimensions - i.e. square, rectangle, etc.	
Distance and route to river – detailed consideration	
Jetty/wharfage facilities - facilities available - facilities can be created	
Means of road/rail access - availability of rail connection/practicability of accessing rail connection - suitability of road links to site and river - availability of any other means of access worker transport considerations	

ASSESSMENT TABLE OF DRAFT SHORT-LISTED SITES: LIST OF CONSIDERATIONS	
Number/ name of site	
Site Features - above and below ground conditions (including 3 rd party assets) - geology - site levels - other considerations	
Site efficiency Ability to accommodate all requirements on one site and if not describe how facilities can be achieved via a combination of sites.	
Tunnelling and system engineering requirements Ability to be compatible with likely system and tunnelling requirements in the vicinity of the site	
PLANNING AND ENVIRONMENT	
Planning applications/permissions - application expected - awaiting determination - unimplemented	
London Plan/ UDP/LDF allocation or special policy areas - specific land use - specific planning objective	
Heritage designations - Archaeology priority areas - Scheduled Ancient Monuments - Historic Parks and Gardens - Conservation Areas - Listed Buildings	
Landscape/Open Space designations - Public Open Space - Metropolitan Land (MOL) - Other landscape/open space designations - Informal/undesigned open space	
Ecological designation - SSSI - Nature conservation / reserve designations - Tree Preservation Orders	
Transport - Rights of Way - Other key transport routes	
Amenity - Neighbouring land uses and amenity considerations - Sensitivity to-noise, dust and other construction effects	
PROPERTY	
Ownership of site	
Tenant on site	
Estimated acquisition cost	
Crown Land and Special Land	
Access and Material Transfer Rights	

ASSESSMENT TABLE OF DRAFT SHORT-LISTED SITES: LIST OF CONSIDERATIONS	
Number/ name of site	
COMMUNITY	
Proximity to sensitive receptors	
Social considerations	
Economic considerations	
Health considerations	
Equality considerations	

N.B. This list of considerations is not intended to be exhaustive at this stage if other relevant factors are identified they will also be used for assessment purposes.

2.3.18 After Table 2.3 has been completed, the Thames Tunnel team (including members of all relevant disciplines) will evaluate all those sites listed and consider the results of this assessment. The project team will use technical knowledge and professional judgement as appropriate to evaluate these sites. Reports will be prepared and include sections on the following areas and relevant factors within each area:

- Engineering;
- Planning and environment;
- Property; and
- Community.

Consideration and Analysis

2.3.19 After reports have been considered a project team workshop attended by project managers and all relevant specialists will be held to evaluate both main and intermediate shaft sites, and will need to consider which sites should be confirmed as on the final short list for each type of shaft site. Regard will also be given to the potential combinations of sites; co-location of sites; and, spatial distribution across the length of the tunnel route and their potential use as either a main and/or intermediate shaft site.

2.3.20 At the project team workshop each draft short-listed site will be discussed in turn and each discipline representative will comment on the site, with regards to that particular discipline and having regard to all relevant material considerations. The project team will reach agreement at the workshop in order to categorise each site as follows:

- Site potentially suitable - Remains on short list.
- Site unsuitable - Delete from short list.

2.3.21 It is intended that sufficient preparatory work will be completed by all parties prior to the workshop to ensure that informed, balanced judgements on the likely acceptability of sites can be taken. However, should new issues or additional concerns arise during the course of the workshop, which merit additional research/assessment then the workshop will be suspended and reconvened at a future date when the required information/assessment is available.

- 2.3.22 The project team workshop will be minuted and minutes used to supplement the reports produced to precede the workshops. A summary report will be provided which sets out the short-listed shaft sites and provides an overview of reasons for their inclusion (and a summary of long-listed and draft short-list sites that did not make the final short list and reasons for their exclusion).

Review of Short-Listed Shaft Sites

- 2.3.23 The contents of the short-listed shaft sites report referred to at paragraph 2.3.23 above will be the subject of a meeting with officers at relevant London local authorities, statutory and other stakeholders, so they can verify there are no specific sites or general site location factors that have been overlooked in the assessment of the draft short-listed shaft sites. It is proposed that this consultation is undertaken on a confidential basis because of the potential for undue anxiety and potential blight within the local community. This accords with the recommended approach within the Government's 1999 Code of Practice on the Dissemination of Information.
- 2.3.24 London local authorities, statutory and other stakeholders will be asked at a meeting to feed back any comments on short-listed shaft sites. All comments received will be analysed by the Thames Tunnel project team.
- 2.3.25 The final short-listed sites report will be reviewed and consideration given to consultation comments. A report will be produced which summarises the consultation comments (made both generally and in relation to particular sites) and will make recommendations concerning changes or rejection of changes to the short-list of shaft sites.

Final Short List of Shaft Sites

- 2.3.26 A Thames Tunnel project team will review the revised final short-listed sites report and consider any new technical information in arriving at the final short list of shaft sites. At this stage, regard will also be had to whether it is necessary to extend the Area of Search outwards and/or to include the river as described in paragraph 2.2.13.

Part 1C - Creation of the Preferred List of Shaft Sites

- 2.3.27 The shaft sites on the final short list emerging from Part 1B will be investigated to identify the final preferred list of shaft sites. This process will involve the following activities for each site on the short list, with contribution from engineering, planning, environment, property and community specialists:
- formulation, review and update of site investigation data;
 - assessing sites against all relevant planning and environment policies; London Plan policies, policies in London Borough planning documents (e.g. saved UDPs policies, LDF documents and any other site specific planning policy documents) and all other information on the Site Investigation Summary Form;
 - producing a **Site Suitability Report** for each site including inputs from all disciplines (engineering, planning and environmental, property and community), technical investigations and site surveys. This should include physical inspection and survey of sites wherever practicable and an intermediate level assessment of what the likely significant environmental effects would be of operating the site as a shaft site for the estimated construction duration;
 - producing an **Engineering Options Report** which will consider how sites work in combination and options for main tunnel alignment and CSO connections;
 - optioneering workshops; and,

- optional peer review of preferred shaft sites and then consultation on these sites as set out in Stage 3 below.

2.3.28 All of the above factors will be recorded and incorporated into the final preferred site selection report.

Site Suitability and Reports

2.3.29 Detailed site level data will be collected at this stage. Site studies and investigations will specifically address themselves towards planning, environmental, engineering, operational, property and/or any other specialist discipline that may relate to an individual site. This data will be used to assess sites.

2.3.30 All the detailed site level data will be confirmed, reviewed and assessed by the Thames Tunnel project team using professional judgement and experience of other similar tunnelling and large infrastructure projects.

2.3.31 A **Site Suitability Report** will be produced to a set template that will generally reflect the following considerations:

- review of relevant site specific national, London-wide and local planning policies, including impact on planning and environmental designations plus results of any site surveys;
- engineering, geotechnical, groundwater and technical matters that impact on a site's ability to host required on-site activities, 'buildability' and 'operability';
- technical assessment of how well the site may fit in with tunnel design options and ensuring combinations of sites spread across the length of the tunnel route provide a reasonable spatial distribution of sites that will best assist with the construction of the tunnel, operation and maintenance;
- environmental, social and community issues and impacts associated with the use of the site (and required mitigation measures) during the construction period and potential restoration and after uses for the site;
- other proposed projects in the locality and potential for cumulative effects, also potential for site sharing with other construction projects;
- sites are practical and capable of being granted planning permission with reasonable and necessary conditions and obligations;
- restoration and after-use of site;
- sites can reasonably fit in with the overall construction programme;
- property (including site acquisition), services and operational matters; and,
- time, cost and economic matters.

2.3.32 An **Engineering Options Report** will also be produced. Selection of the preferred sites from the final short list will proceed in tandem with refining design options for the Thames Tunnel itself. Options for tunnel alignment and CSO connection points will be refined having regard to the availability of and spacing of suitable shaft sites as well as to the potential for combined use of sites. Cost considerations associated with engineering options, transport and energy will be reported, balanced and taken into account.

Optioneering Workshops

2.3.33 These project team workshops will consider and focus on the detailed contents of the **Site Suitability Report** for each short-listed shaft site and the **Engineering Options Report**

referred to above. Following the workshop a **Preferred Scheme Report** will be prepared to supplement the reports preceding the workshop. The **Preferred Scheme Report** will make final recommendations to Thames Water as to the list of preferred sites.

2.3.34 The final preferred list of shaft sites along with the preferred scheme will be consulted on in Stage 2.

2.4 Stage 2: Engagement on Preferred List of Shaft Sites

2.4.1 There are six parts to Stage 2:

- 2A - pre-consultation period activities;
- 2B - 12 week consultation period;
- 2C - consultation activities: briefing sessions;
- 2D - consultation activities: exhibitions;
- 2E - review and assessment of all consultation responses; and,
- 2F - feedback to consultees and consultation report.

2.4.2 This stage applies to all the preferred sites that will be identified: main shaft sites, intermediate shaft sites and CSO sites. **It is important to stress that this methodology outlines consultation activities as they relate to the site selection process. Thames Water will of course engage regularly with all potentially affected London local authorities and other stakeholders in the period leading to submission of applications for consent for the Project, and beyond. A Stakeholder and Community Engagement Strategy has been prepared that outlines Thames Water's proposals for consulting on application/s.**

Part 2A – Pre-Consultation Period Activities

2.4.3 A comprehensive programme of community and stakeholder consultation activities will support the site selection process to ensure all relevant parties are effectively engaged. This programme will maximise the opportunities for interested parties to engage and provide feedback on the sites initially identified as preferred sites. The programme will utilise a range of activities to engage with the various community and stakeholder audiences from an early stage in the identification of the preferred sites. For example, leaflets, flyers and newsletters will be distributed to all communities living in the immediate vicinity of all the preferred sites. Also good use will be made of local media.

Part 2B – 12 week Consultation Period

2.4.4 The consultation period on the preferred sites will last for 12 weeks. Widespread notification and publicity about the consultation period will be given to statutory consultees and local communities near to any preferred sites before and during the consultation period.

Part 2C - Consultation Activities: Briefing Sessions

2.4.5 Once the preferred sites have been identified, an initial series of briefing sessions will be held with main local stakeholders in each of the local authorities where preferred sites have been identified. These sessions aim to kick-start the engagement process in these neighbourhoods.

2.4.6 It is envisaged that local Ward Councillors, local MPs, community leaders and other influential people in the community will be invited to a briefing session on the Project.

Those to be invited will be agreed with the local planning authorities and other relevant statutory consultees.

Part 2D - Consultation Activities: Exhibitions

- 2.4.7 Following these briefings, public exhibitions will be organised in each of the local authorities to engage directly with the local communities, groups and people living and working in the areas potentially affected. These exhibitions will be designed to provide information on the overall purpose of the Project and use of the sites and allow the gathering of opinions and comments from the communities and their stakeholders.
- 2.4.8 The exhibitions events will take the form of events at which information is presented on a series of display boards. The events will be staffed by members of the Thames Tunnel project team and its consultants, so that questions can be answered and information on the display boards explained in more detail where required. The exhibition will be publicised to the relevant local communities via the press and local sources.
- 2.4.9 The events will be located as close as possible to the selected sites, so as to make it as easy as possible for the communities likely to be most directly affected to attend. The events should be open from the morning into the evening to allow people to fit in a visit around their other home and work commitments. A range of methods will be used to capture comments, such as traditional comment forms, graffiti wall, flip charts and acetate sheets on top of boards and plans.
- 2.4.10 It is likely that the display boards will cover the following elements:
- an introduction to the Thames Tunnel project;
 - history of the project's evolution to date;
 - rationale, need and benefits of the tunnel;
 - explanation of the types of sites and their features;
 - details of the site selection methodology and process which has been used to generate the list of all the preferred sites – plan showing all sites;
 - overview of the other shaft sites considered and reasons for their non-selection;
 - a separate board for CSOs to give an overview of the site options and reasons for the selection of the site in the area;
 - deadline to make comments and programme for the next steps with the sites and the project; and,
 - details and timings of future opportunities to engage with local communities and other stakeholders.

Part 2E - Review and Analysis of Consultation Responses

- 2.4.11 All consultation responses received will be reviewed and analysed from all sources. A summary table will be created that will include:
- a unique reference for each consultee;
 - how many people made each particular comment;
 - a summary of substantive comments;

- a response to substantive comments; and
- recommended changes to the list of preferred sites.

Part 2F - Feedback to Consultees and Consultation Report

2.4.12 The report on all the consultation responses will provide recommendations and may identify potential mitigation measures to address comments made by the local community and/or local planning authority and other stakeholders. The consultation results and report will be fed into Stage 3 in order for Thames Water to come to a conclusion on the final network of sites.

2.5 Stage 3: Selection of Sites

2.5.1 There are five parts to Stage 3:

- 3A - revisions to the preferred list of sites;
- 3B - “back-check” repeat of Stages 1-3, in the event of significant changes of circumstances in relation to existing sites or combinations of sites, if new or replacement sites are required or found or if the engineering design develops in unexpected ways;
- 3C - agreed final network of sites for shaft sites;
- 3D - final report on site selection process; and,
- 3E - future programme for all final sites.

2.5.2 Selection of the list of sites will involve a mixture of considerations from a variety of viewpoints including but not limited to: consultation responses, engineering, planning, environment, property, community, operational and maintenance.

Part 3A - Revisions to Preferred List of Sites (if necessary)

2.5.3 In addition to the consultation responses and report produced at the end of Stage 2, there may be new technical information that may emerge about individual sites. The source of this information may be from further detailed site studies and investigations, engineering limitations, or design of the tunnel itself as this process will be running in tandem to the site selection process. All of these and other factors may influence the final list of sites required to assist the construction of the Thames Tunnel.

2.5.4 Any changes that are needed to any sites will be recorded in a document control register that will be available for inspection on request. However, the register will exclude any information that is confidential or commercially sensitive.

Part 3B - “Back Check” Repeat of Stages 1-3, if New Replacement Sites are Needed

2.5.5 If any sites for any of the main shaft or intermediate shafts are eliminated for any reason, if there are significant changes of circumstances in relation to existing sites or combinations of sites, if new or replacement sites are required or found or if the engineering design develops in unexpected ways then a targeted repeat of Stages 1-3 will need to be undertaken in order to fill-in any site gaps. This will mean a re-investigation of specific areas in order to:

- identify and assess new potential replacement sites (i.e. using the methods outlined in Stage 1);

- review the continuing suitability of the remaining selected sites, having regard to the availability of replacements for the site to be replaced;
- create an updated list of preferred sites;
- carry out a targeted consultation exercise on these new sites;
- analyse the consultation responses; and,
- incorporate any new replacement sites in to the selected list of sites.

2.5.6 The repeated targeted consultation will ensure relevant local communities are aware of any changes to sites prior to sites being finalised. Specific and limited feedback will be given to these consultees.

Part 3C – Selected Network of Shaft Sites

2.5.7 The sites ultimately selected will make up a network of sites for construction of the tunnel (including delivery and removal of material by barge), for future operation of the tunnel, for CSO connections and for future maintenance inspections.

2.5.8 In order to arrive at a confirmed preferred list of sites the factors listed at paragraph 2.3.31 (engineering etc) will be reconsidered in relation to each of the sites proposed to be selected.

Part 3D - Final Report on Site Selection Process

2.5.9 A final report that outlines and explains the whole site selection process will be produced along with all background reports such as the consultation responses from the consultation on the methodology and any Stage 2, reports about the design of tunnel and other associated works and site studies and investigations. This report will include a back-check in relation to the conclusions at each stage in the selection process to ensure that the decisions made earlier in the decision-making process remain valid in the light of known circumstances at the final selection stage.

2.5.10 A letter will be sent to all consultees with the final list of sites, how to access the final site selection report and supporting background reports, and how and when there will be future opportunities to comment on this project and sites.

2.5.11 Consultees will be given an opportunity to raise any queries, provide more up-to-date information on sites or suggest corrections/changes.

Part 3E - Future Programme for Sites and the Project

2.5.12 The final agreed list of construction sites will be given to the engineering team, so it can draw-up detailed plans and designs for each site. The sites will then be integrated into the overall tunnel construction programme. The selected sites will be kept under review to ensure that a change in circumstances has not affected their suitability.

2.5.13 All selected sites will be subject to applications for the consents to deliver the Thames Tunnel including any necessary Environmental Impact Assessment (EIA). These procedures will involve consultation in accordance with periods generally set out in London Local Authorities' Statements of Community Involvement (SCI).

2.5.14 Ongoing discussions are underway to determine the appropriate route to obtaining all necessary consents for the entire Project, including construction sites. The outcome of these investigations will be discussed in due course with all affected London planning authorities and statutory consultees.

- 2.5.15 Site specific codes of construction practice will be prepared in due course for each construction site and shared with local authorities and other key stakeholders. These will be based upon a scheme wide generic code of construction practice.

3 SITE SELECTION METHODOLOGY: COMBINED SEWER OVERFLOWS (CSOS) SITES

3.1 CSO Introduction

- 3.1.1 In addition to the shaft sites discussed in Section 2 of this paper, up to 34 existing CSOs will need to be intercepted and connected to the main tunnel. It may be possible to amalgamate the interception of CSOs when they are in close proximity to each other. If main shaft sites or intermediate shaft sites are identified adjacent to any of the existing 34 CSOs, then the CSO interception works will be carried out within a single combined site area.
- 3.1.2 The site selection process for CSO sites is similar to the process for main and intermediate shaft sites. It is referred to separately here to draw attention to certain differences in emphasis and approach.
- 3.1.3 Explanation of the characteristics of CSOs is provided in the Site Selection: Background Technical Paper, including diagrams of interceptions and illustrative site layouts.
- 3.1.4 A CSO needs to be intercepted along the line of existing sewers that flow into the tidal River Thames. In some cases this may mean sites may be located in the highway. A different approach is needed for CSOs as the sites are fixed, smaller and present fewer options. Therefore the methodology for CSOs follows a much more localised optioneering approach.

3.2 CSO Site Selection Context

3.2.1 There are two main areas defined in relation to site selection context:

- CSO site features; and,
- CSO locations and search area.

CSO Site Features

3.2.2 At this stage in the design process the CSO site areas are expected to range up to 3000m². The range of sizes required reflects differences in location and nature of underground sewer assets and means of connecting them to the main tunnel. The interception of CSOs will typically be achieved by the provision of an interception chamber, a connection culvert, a drop shaft and a connection tunnel or rider tunnel (see the Site Selection: Background Technical Paper for further explanation of figures and terms used in this section).

CSO Locations and Search Area

- 3.2.3 The Site Selection: Background Technical Paper identifies the 34 CSOs proposed to date to be intercepted by the Project.
- 3.2.4 The search area for CSO sites will be much more localised than the search area described above for the main and intermediate shaft sites.
- 3.2.5 It is anticipated that the search area for CSO sites will vary with each CSO as it will depend on the sewer network of each existing combined sewer, upstream of its current overflow structure. Therefore it is not possible to define a universally applicable site search area besides saying the CSO sites will be as close to the existing line of the sewer as practicable after allowing for the availability of suitable sites in the vicinity and, the search area may include the river. For each CSO the area within which the construction site could be located will be defined within a written report with a section devoted to each individual CSO (as a first stage in the process of searching for CSO sites), and sub-options within

that area identified as appropriate. This will result in a list of potential sites at each CSO location.

3.3 Stages 1-3: Assessment of Short-listed CSO Sites, identification of preferred sites, consultation and confirmation of selected sites

3.3.1 The assessment of the CSO sites will broadly follow the methodology for main and intermediate shaft sites from Part 1A through 1C to Stage 3 (as described in paragraphs 2.3.5 - 2.5.15 above). The selection of CSO sites will take place in tandem with those stages of the shaft site selection process and with the evolution of engineering and technical requirements for dealing with CSOs. This will result in a selected list of CSO sites at the same time as shaft sites and a selected scheme.

3.3.2 Due to the differences between CSO sites and main and intermediate shaft sites the site selection process for CSO sites will, where appropriate, be subject to some amendments to take account of these differences. These amendments will include:

- An additional criterion will be added to Table 2.2 entitled "Location (proximity to sewer to be intercepted)"; and,
- An additional criterion will be added to Table 2.3 entitled "Connection feasibility"

3.3.3 The purpose of CSO sites is to enable efficient interception of existing sewerage infrastructure and the complexity of doing so may vary according to the point at which interception is effected. It is for this reason that proximity to the sewer to be intercepted is added to Table 2.2 and connection feasibility is added to Table 2.3. For many CSO sites, the volumes of materials to be imported and exported are likely to be low. Consequently, although the Table 2.2 and 2.3 considerations of proximity to river and availability of jetty/wharfage facilities remain relevant, for some CSO sites, they will be less relevant than for others.

ANNEX 1 – LIST OF CONSULTTEES

Potentially Affected Planning Authorities

- LB of Greenwich
- LB of Hammersmith & Fulham
- LB of Hounslow
- Royal Borough of Kensington & Chelsea
- LB of Lambeth
- LB of Lewisham
- LB of Newham
- LB of Richmond upon Thames
- LB of Southwark
- The City of London Corporation
- LB of Tower Hamlets
- LB of Wandsworth
- City of Westminster
- London Thames Gateway Development Corporation
- Olympic Delivery Authority

Neighbouring Planning Authorities

- LB of Barking and Dagenham
- LB of Bexley
- LB of Bromley
- Croydon Council
- LB of Merton
- LB of Kingston Upon Thames
- LB of Hillingdon
- LB of Ealing
- LB of Brent
- LB of Camden

- LB of Islington
- LB of Hackney
- Elmbridge Borough Council
- Spelthorne Borough Council

Strategic pan-London stakeholders

- Government Office for London
- Mayor of London
- Greater London Authority
- London Development Agency
- Transport for London
- “London Councils”
- Environment Agency
- English Heritage
- Natural England
- Sport England
- Port of London Authority
- Crown Estate
- Port Health Authority
- Network Rail
- Metropolitan and City of London Police
- BT Group Plc
- EDF Energy Plc
- National Grid
- British Waterway Board
- London Fire Brigade
- Strategic Health Authority for London
- Health and Safety Executive
- The Commission for Sustainable Development
- The Equality and Human Rights Commission

ANNEX 2 – INITIAL LIST OF DATA SOURCES

Port of London Authority Information on existing wharf and jetty facilities on the tidal River Thames

National planning policy statements and relevant papers, e.g. PPS1 (2005) and Defra's Future of Water

Office for National Statistics

The London Plan (Spatial Development Strategy - SDS), including sub-regions of London (Feb 2008) – relevant policies, specific designated areas, views and protected areas

The Mayor's Office adopted Supplementary Planning Documents/Guidance (SPD/SPGs) and Action Area Plans (AAPs)

Relevant Local Development Documents (LDDs), saved sections of Unitary Development Plans (UDPs), London Borough Supplementary Planning Documents/Guidance (SPD/SPGs) and Action Area Plans (AAPs) - relevant policies, specific designated areas, protected views and local areas

English Heritage records for Schedule Ancient Monuments and Listed Buildings plus London Archaeological Archive and Research centre (LAARC)

Natural England records on international, national, local designations

Environment Agency maps on flooding and watercourses

National Land Use Database (NLUD)

Aerial photographs (Thames Tunnel Project, 2008)

1:25,000 and 1:10,000 Ordnance Survey Sheets

Greater London Street Atlas

One of the main starting points for the collection of relevant data will be the policies in The London Plan and relevant London Borough UDPs. Most plans are under review and UDPs will be replaced LDDs, so the various subsequent draft plans will also be consulted, but only adopted Development Plan Documents will be taken into account. A visual search of aerial photographs will be undertaken.

The Proposals Maps, Ordnance Survey maps and the Greater London Street Atlas will be used to check addresses, grid references, site areas and site access points. All subsequent sites identified will be plotted on an OS base using GIS.

In parallel, all affected London local authorities, LTGDC and, if necessary, ODA will be contacted to obtain up to date lists of vacant and underused land and property. The NLUD database will also be used to help identify any potential sites. Information from different data sources will be cross checked to try to ensure all potential sites have been picked up. In the process of collecting information, other sources may come to light and be used, especially from the EIA baseline research.

ANNEX 3 - REFERENCES

Communities and Local Government (2005). Planning Policy Statement 1: Delivering Sustainable Development [online] available at <http://www.communities.gov.uk/documents/planningandbuilding/pdf/planningpolicystatement1.pdf> (accessed 1 August 2008).

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Defra (February 2008). Future Water; The Government's water strategy for England [online] available at <http://www.defra.gov.uk/environment/water/strategy/pdf/future-water.pdf> (accessed 29 July 2008).

Defra (March 2007); Regulatory Impact Assessment