

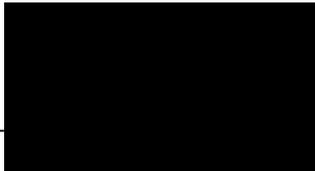
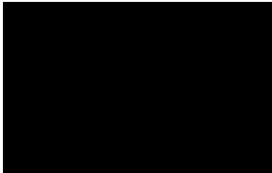
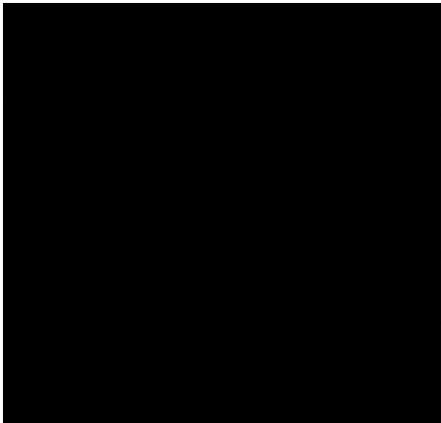


Programme: STRUCTURES AND TUNNELS INVESTMENT PROGRAMME 2 (STIP 2)

Projects: ROTHERHITHE TUNNEL REFURBISHMENT SCHEME and BLACKWALL TUNNEL SOUTHBOUND REFURBISHMENT SCHEME

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### Employer's Information Requirements (EIR)

		Signature	Date
<b>Prepared by</b>	 Client Manager		<u>6/03/17</u>
<b>Checked by</b>	 BIM Manager		<u>06/03/17</u>
<b>Approved by</b>	I confirm that this deliverable meets the requirements of the relevant Pathway Product Description and that all consultation comments have been addressed to the satisfaction of consultees.		
	 Project Manager		<u>26/03/17</u>
	 Project Manager		<u>06/03/17</u>



## Table of Contents

1. BIM Visions and Objectives .....	4
1.1. Purpose.....	4
2. Information Utilisation Planning .....	7
2.4. Level of Definition .....	10
2.5. BIM Execution Plan (BEP) .....	11
2.6. Model Production and Delivery Table (MPDT).....	12
2.7. Master Information Deliver Plan (MIDP).....	12
2.8. Value Engineering.....	13
2.9. HSE & CDM .....	13
2.10. Asset Information .....	13
2.11. Training Arrangements.....	14
3. Standards, Methods and Procedures .....	15
3.1. Standards.....	15
3.2. Security .....	16
3.3. Roles and Responsibilities .....	16
3.4. Naming Conventions.....	17
3.5. Classification.....	17
4. Information Management.....	19
4.1. System Performance and Constraints.....	19
4.2. Massing Strategy .....	19
4.3. Modelling Strategy .....	19
4.4. Volume Strategy .....	19
4.5. Compliance Plan.....	20



4.6. Common Data Environment (CDE).....	20
4.7. Collaboration Process.....	21
5. Digital Engineering.....	21
5.1. Software Platforms.....	21
5.2. Data Exchange Formats.....	22
5.3. Library of Objects.....	23
5.4. Coordinates.....	24
6. Definitions.....	25
7. Appendix A – Stage Gate Decisions and Assurances.....	28

## List of Tables

<i>Table 1 – Primary Uses</i> .....	7
<i>Table 2 - Alignment of Stages</i> .....	8
<i>Table 3 - Design Review Meetings</i> .....	10
<i>Table 4 - Level of Definition</i> .....	11
<i>Table 5 - Asset Information Systems</i> .....	13
<i>Table 6 - Standards</i> .....	16
<i>Table 7 - Software Platforms</i> .....	22
<i>Table 8 - Employer’s Data Exchange Formats</i> .....	23
<i>Table 9 - Definitions</i> .....	27

## List of Figures

Figure 1- Key Decision Gateways.....	9
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## **1. BIM Visions and Objectives**

### **1.1. Purpose**

- 1.1.1. The Employer's Information Requirements (EIR), describes how information models shall be produced, delivered and used on a Project and how data and information about the physical and functional characteristics of the Employer's assets and infrastructure are to be captured, produced, generated, utilised and managed by its suppliers.
- 1.1.2. The EIR prescribes which standards are to be used and identifies key decisions to be made during the project to ensure the engineered solution developed meets project objectives, desired outcomes and benefits.
- 1.1.3. A glossary of key terms used in this EIR can be found in Table 9 - Definitions.

### **1.2. Building Information Modelling Objectives**

- 1.2.1. Transport for London has a strategic approach for the consistent adoption of BIM. The strategy includes an approach to describing information requirements across all aspects of the asset lifecycle.

### **1.3. Employer's Objectives**

- 1.3.1. The Employer's BIM objectives are to drive efficiencies in the production, modification, operation and decommissioning of its engineered assets through data-driven information, improving decision making and delivering best value to its stakeholders.
- 1.3.2. The Employer's key objective is to procure / produce, manage and maintain data and information about its engineered assets that is complete, consistent and can be trusted and re-used for operational purposes and business intelligence.

### **1.4. Project Objectives**

- 1.4.1. The Employer's BIM objectives for the Rotherhithe and Blackwall Tunnel Refurbishment Scheme are to:
  - a) achieve target capital delivery cost
  - b) deliver best value through innovation
  - c) obtain digital assurance and evidence, through the use of Production Information, verifying the integrity and completeness of the design of the engineered solution at each stage of the Rotherhithe and Blackwall Tunnel Refurbishment Scheme as defined in Pathway.



- d) obtain digital assurance and evidence, through the use of Production Information, validating the buildability of the engineered solution
- e) obtain digital assurance and evidence, through the use of Production Information, verifying that (and how) the asset(s) can be efficiently constructed / installed/ maintained
- f) obtain digital assurance and evidence, through the use of Production Information and Handover Information that health and safety and CDM requirements have been identified and met
- g) obtain digital assurance and evidence, validating the integrity and completeness of the Handover Information
- h) obtain structured data to populate its Asset Management Information Systems.
- i) Achieve a more progressive handover and post occupancy assessment in line with a Government Soft Landings (GSL) approach.

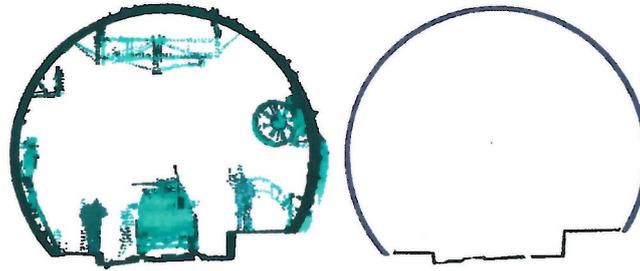
## 1.5. Project 3D Deliverables

### 1.5.1. Laser Scanning & Point Clouds

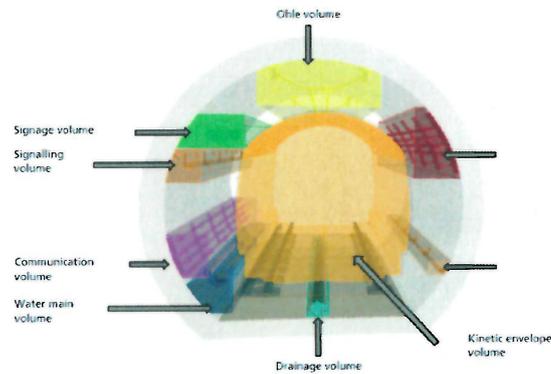
- a) The Consultant shall produce a point cloud survey of the Blackwall Southbound and Rotherhithe tunnels to assist on the Stage 2 Feasibility for the STIP2 projects.
- b) The cloud survey should cover the main tunnel, sub-tunnel, all ventilation shafts & surface structures, all service buildings and approach roads for both tunnels.

### 1.5.2. 3D model

- a) The consultant shall produce Structural Models for the main structures of the tunnels it is expected that the 3D model shall accurately detail overall massing of entities (tunnel, sub-tunnel, vent shafts, staircases, service buildings etc.) – indicative of area, height, volume, location and orientation.
- b) The consultant shall use a meshing software (such as Cloudworx) and the structural models will consist only of a surface mesh based directly on the point cloud information and tidied of any services. It is expected that this model will look like the right side image below.



- 1.5.3. The consultant shall produce MEP models which show the existing size, shape, location and orientation of basic MEP (Mechanical, Electrical and Power) units using rectangular blocks and routes of main pipes, ducts and electrical distribution in such detail as to show the incorporation of the engineering services in the tunnels. (Level of Definition 2 see section 2.4)





## 2. Information Utilisation Planning

### 2.1. Primary use of data / information

2.1.1. The Employer's primary use of the Production Information and Handover Information, throughout the lifecycle of the asset(s), is as detailed in but not limited to Table 1 – Primary Uses.

Reference	Description
PU01	<p><b>Assurance</b></p> <p>Verify that assurance requirements are achieved and Plain Language Question's satisfied.</p>
PU02	<p><b>Programme Coordination</b></p> <p>Verify coordination and integration with interfacing projects and adjacent works.</p>
PU03	<p><b>Business Case and Whole Life Cost</b></p> <p>Validate the business case and whole life cost forecasts, ensuring they are robust and outcomes and benefits can be / will be achieved.</p>
PU04	<p><b>Cost</b></p> <p>Facilitate the population of the cost and estimating system.</p>
PU05	<p><b>Operations and Maintenance</b></p> <p>Validate that the assets meet the operational and maintenance requirements as set out in the Information Model Production and Delivery Table (MPDT).</p>
PU06	<p><b>Asset Registration</b></p> <p>Facilitate the asset registration process and populate the Asset Management Information Systems.</p>
PU07	<p><b>Benefits Management</b></p> <p>Verify that the identified benefits have been achieved.</p>

*Table 1 – Primary Uses*