SCHEDULE 7A

(Form of Agreement - Long Form Call-Off Contract)

FORM OF AGREEMENT

Call-Off Contract Number: ENG Task 346 – DLR to Thamesmead Engineering Feasibility Design

Lot: A2: Multi-disciplinary Rail Engineering Services

Outline Agreement: 4600008337

THIS AGREEMENT is made the day **of** **2024**

BETWEEN:

(1) **TRANSPORT FOR LONDON** whose registered office is at 5 Endeavour Square, London E20 1JN ("the *Employer"* which expression shall include its successors in title and assigns); and

(2) **OVE ARUP & PARTNERS LIMITED,** a company registered in England and Wales (Company Registration Number 01312453) whose registered office is at 8 Fitzroy Street, London, United Kingdom, W1T 4BJ ("the *Consultant*").

WHEREAS:

(A) This Agreement is made pursuant to a framework agreement between the Parties relating to the provision of TfL PSF2 94203 – Engineering Consultancy Services dated 9th August 2021 ("the Framework Agreement").

(B) The *Employer* wishes to have provided Multi-disciplinary Rail Engineering Consultancy Services ("the *services*") for ENG Task 346 - DLR to Thamesmead Engineering Feasibility Design

(C) The *Employer* has accepted a tender by the *Consultant* for the design of the *services* and correction of Defects therein in accordance with the *conditions of contract* (in the form of the Long Form as set out in Schedule 2A of the Framework).

NOW IT IS AGREED THAT:

1. Terms and expressions defined in (or definitions referred to in) the *conditions of contract* have the same meanings herein.
2. The *Consultant* Provides the Services in accordance with the *conditions of contract*.
3. The *Employer* pays the *Consultant* the amount due in accordance with the *conditions of contract*.
4. The documents forming the contract are:

4.1 this Form of Agreement duly executed by the Parties as a deed;

4.2 the *conditions of contract;*

4.3 the attached Call-Off Contract Data Part 1;

4.4 the attached Call-Off Contract Data Part 2; and

4.5 the following documents:

- Employer's Specification – Attachment 1

- Schedules 1, 2A, 6A, 7A inclusive of the Framework Agreement;
- Consultant's Technical Proposal – Attachment 2
- Consultant's Pricing Schedule – Attachment 3

5. Where there is any discrepancy or conflict within or between the documents forming the contract the order of priority shall be as follows:

5.1.1	First	:	This Form of Agreement;
5.1.2	Second	:	The conditions of contract;
5.1.3	Third	:	The Scope and any other documents included in this contract.

6. Notwithstanding the manner of execution of this Agreement it is agreed that:

6.1 the limitation period within which any claim may be brought by the *Employer* for breach of this Agreement by the *Consultant* is 12 years from the date of breach; and

6.2 the *Consultant* agrees not to raise in defence of any such claim a shorter limitation period whether pursuant to the Limitation Act 1980 (as the same may be amended or re-enacted from time to time) or otherwise.

IN WITNESS whereof this Agreement has been signed for and on behalf of the *Employer* and the *Consultant* the day and year written above.

Proforma Call-Off Contract Data

CALL OFF CONTRACT DATA

Part One - Data provided by the *Employer*

Completion of the data in full, according to the chosen options, is essential to create a complete contract.

Statements given in all contracts

1 General

- The *conditions of contract* are the core clauses as may be amended or supplemented by the clauses for Main Option [A] and Secondary Options [X10] [X18] each as may be amended or supplemented by [the LUL Requirements] all as attached to the Transport for London Professional Services Framework Agreement).
- The *Employer* is

  Name: Transport for London
  Address: 5 Endeavour Square, London E20 1JN
- The *Employer's Agent is*

  (1) [redacted]
- The authority of the *Employer's Agent* is
  .[as set out in Option X10]
- The *services* are Multi-disciplinary Rail Engineering Services
- The Scope is in Attachment 1 – Employer's Specification
- The *language of this contract* is **English**
- The *law of the contract* is **the law of England and Wales**
- The *period for reply* is [**2**] **weeks.**
- The *period for retention* is **12 years following Completion or earlier termination**.
- The *tribunal* is **the courts of England and Wales**

2 The Parties' main responsibilities

- The *Employer* provides access to the following persons, places and things

access to	*access date*
TfL Offices (as required for the delivery of services under this contract)	Contract Commencement Date
Access to TfL network and OneLondon account to assist in the delivery of services under this contract.	Contract Commencement Date

3 Time

- The *starting date* is **22nd July 2024**
- The *Consultant* submits revised programmes at intervals no longer than4 weeks

4 Quality

- The quality policy statement and quality plan are provided within **[2] weeks** of the Contract Date
- The *defects date* is **[52] weeks** after Completion of the whole of the *services*.

5 Payment

- The *assessment interval* is **[4] weeks in arrears.**
- The *currency of this contract* is **pounds Sterling (£)**
- The *interest rate* is **[2]% per annum above the base rate of the Bank of England**.

8 Indemnity, insurance and liability

- The amounts of insurance and the periods for which the *Consultant* maintains insurance are

Event	**cover**	**Period following Completion of the whole of the *services* or earlier termination**
Liability of the *Consultant* for claims made against him arising out of his failure to use the degree of reasonable skill, care and diligence normally used by competent professionals experienced in providing services similar to the *services* in connection with works of a similar size, scope and complexity to the Works (professional indemnity insurance)	[redacted] for each and every claim and in the aggregate per annum	12 years
Liability for death of or bodily injury to a person (not an employee of the *Consultant*) or loss of or damage to property resulting from an action or failure to take action by the *Consultant*	[redacted] in respect of each claim, without limit to the number of claims [with financial loss extension cover]	12 years
Liability for death of or bodily injury to employees of the *Consultant* arising out of and in the course of their employment in connection with this contract.	[redacted] in respect of each claim, without limit to the number of claims	12 years

- Option X18 - The *Consultant's* total liability to the *Employer* for all matters arising under or in connection with this contract, other than the excluded matters, is [redacted]

Optional statements

If the *Employer* has decided the *completion date* for the whole of the *services*

- The *completion date* for the whole of the *services* is 8 months ending **21st March 2025**

- The Call-Off Contract may be extended for further 2 years; however, any extensions will be at the Employer's own discretion and subject to appointed Consultants' satisfactory performance, ongoing requirement and funding availability. This will be confirmed and mutually agreed in writing.

- Notice period in accordance with Clause 90.3 of the Long Form Conditions of Contract: 30 days. The Employer reserves the right to terminate the Call-Off Contract at any point in time should the services no longer by required, providing 30 days' notice to the Consultant.

If no programme is identified in part two of the Contract Data

- The *Consultant* is to submit a first programme for acceptance within **[2] weeks** of the Contract Date.

If Option A is used

- The *Consultant* prepares forecasts of the total *expenses* at intervals no longer than those instructed by the Employer's Agent

CALL OFF CONTRACT DATA PART TWO –

Data provided by the *Consultant*

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

Statements given in all contracts

- The *Consultant* is
  Name: Ove Arup & Partners Ltd (Arup)
  Address: 8 Fitzroy Street London W1T 4BJ

- **Consultant's Proposal**

  Consultant's Proposal sets out the technical approach for achieving the objectives for this Project - See Attachment 2.

- The K*ey Persons* are

[redacted]

If the *Consultant* requires additional access

- The *Employer* provides access to the following persons, places and things

access to	*access date*
ASite and Projectwise, MS TEAMS	Contract Commencement Date

If Option A or C is used

- The *activity schedule* is in **Attachment 2 – Consultant's Technical Proposal**

- The tendered total of the Prices is **£356,766.69** (Three Hundred and Fifty Six Thousand, Seven Hundred and Sixty Six Pounds and Sixty Nine Pence)
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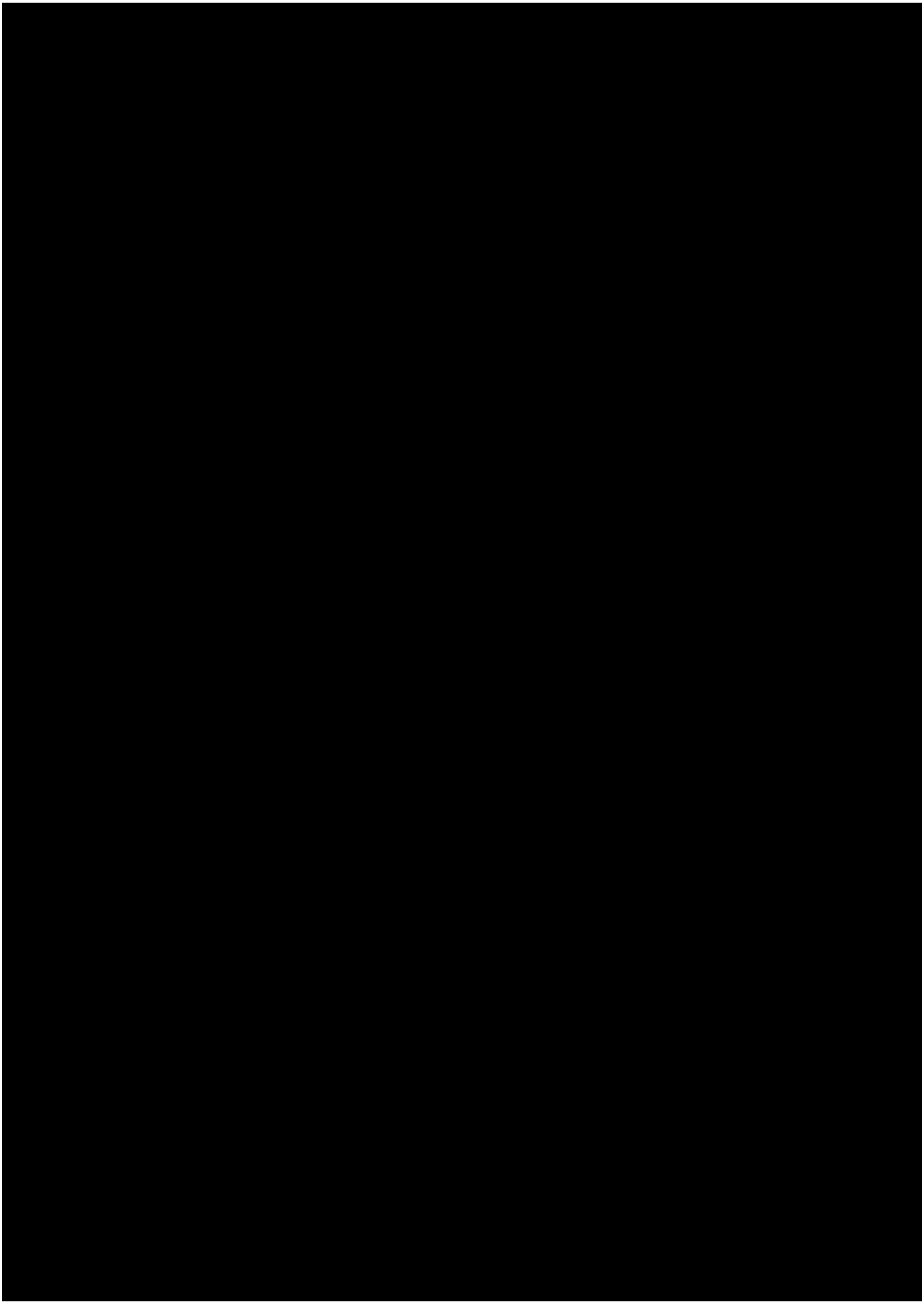
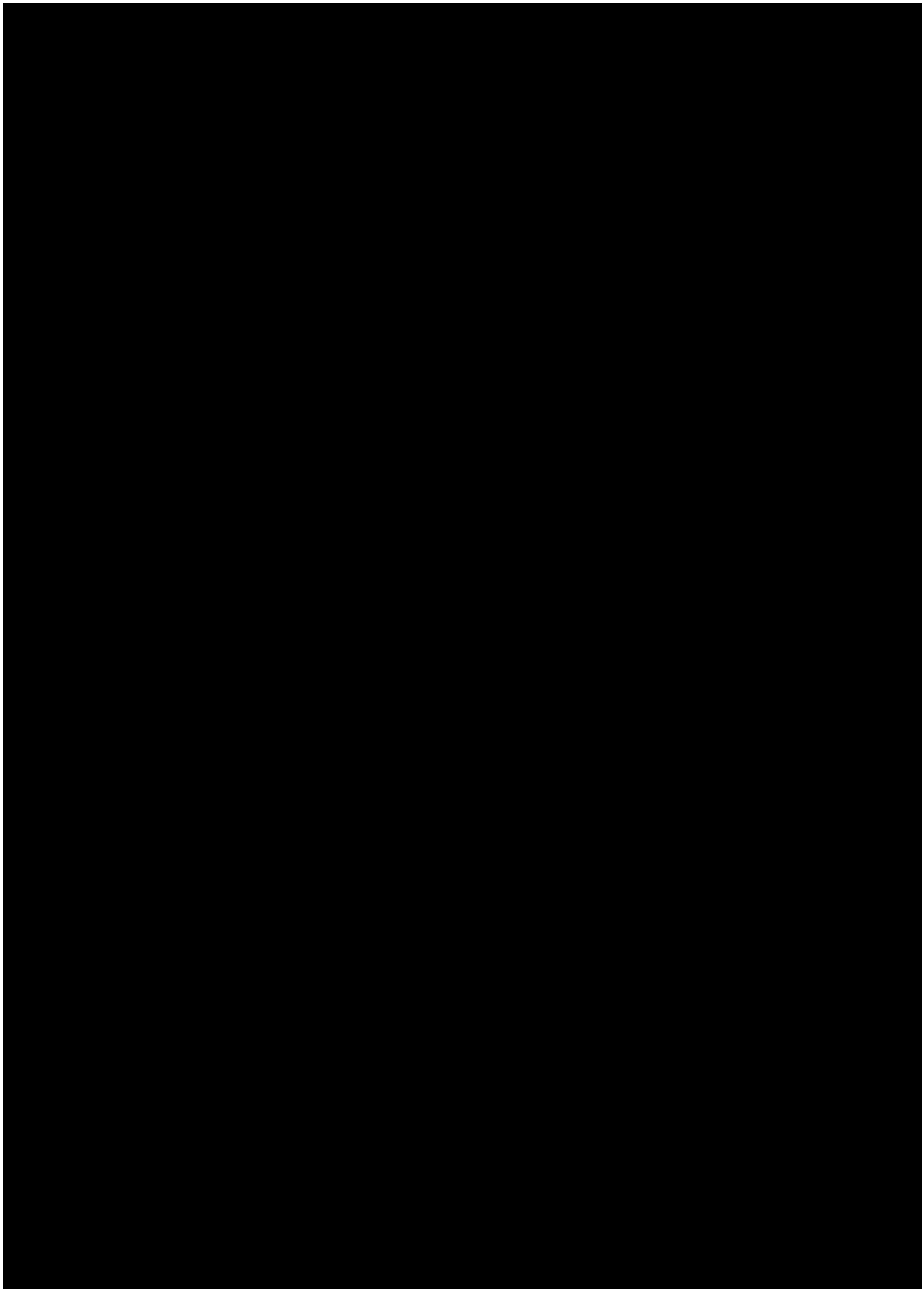
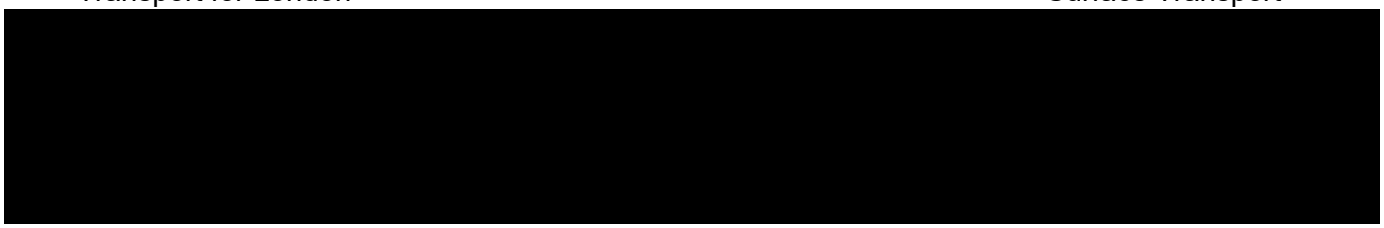
Attachment 1 – Employer's Specification

Procurement & Supply Chain

Scope for Professional Services Contracts







Contents

1. Definitions and acronyms

1.1 Definitions

Term	Definition
Request for Information	The Consultant and Contractor may request any information that may be missing or unclear in the ITT that includes the scope and technical specification.
Technical Requirements Specification	The Employers specification for the work. Any variation to this will require a written proposal to the Project Manager for acceptance.
Technical Query	The Consultant and Contractor may request clarity on technical matters which may be missing or unclear from the ITT or scope of works or technical specification.

1.2 Acronyms

Acronym	Meaning
ALARP	As Low as is Reasonably Practicable
BREEAM	Building Research Establishment Environmental Assessment Method
CAD	Computer-aided Design
CAP	Change Assurance Process
CAPEX	Capital Expenditure
CDM	Construction Design Management
CNRS	Change Notification and Requirements Statement
DLR	Docklands Light Railway
DLR TEX	Docklands Light Railway Thamesmead Extension
DSAS	Document Submission and Approvals Schedule
EA	Environmental Appraisal
EIA	Environmental Impact Assessment
E&M	Electrical and Mechanical
GLA	Greater London Authority
HV	High Voltage
JV	Joint Venture
KAD	Keolis Amey Docklands
L&E	Lifts and Escalators
LV	Low Voltage
MDL	Master Deliverables List
MRL	Master Requirements List
MTS	Mayors Transport Strategy

OA	Opportunity Area
OAPF	Opportunity Area Planning Framework
OPEX	Operational Expenditure
PRS	Programme Requirements Specification
PSA	Passenger Service Assistant
PT	Public Transport
QA	Quality Assurance
RIBA	Royal Institute of British Architects
ROGS	Railways and Other Guided Transport Systems
SHE	Safety Health and Environment
SOBC	Strategic Outline Business Case
SRS	Systems Requirements Specification
V&V	Verification and Validation

2. Organisational Overview

2.1 Business units

2.1.1 The Client's Investment Delivery Planning (IDP) Directorate leads on sponsorship of asset renewals of tunnels and structures on London's road network through the use of 21st century techniques and technology, ensuring road space works efficiently for all users.

2.1.2 This project is sponsored by the Client's Surface Major Project & Renewals team within the IDP Directorate. It is responsible for ensuring all Surface Transport assets: roads, pavements, bridges, lighting, traffic signals, bus stations, bus stops and shelters, and trees, within the boundaries of the TRLN, are provided and managed in a way that is fit for now and for the future, by minimising costs, and creating safe, reliable and cared for infrastructure for our customers.

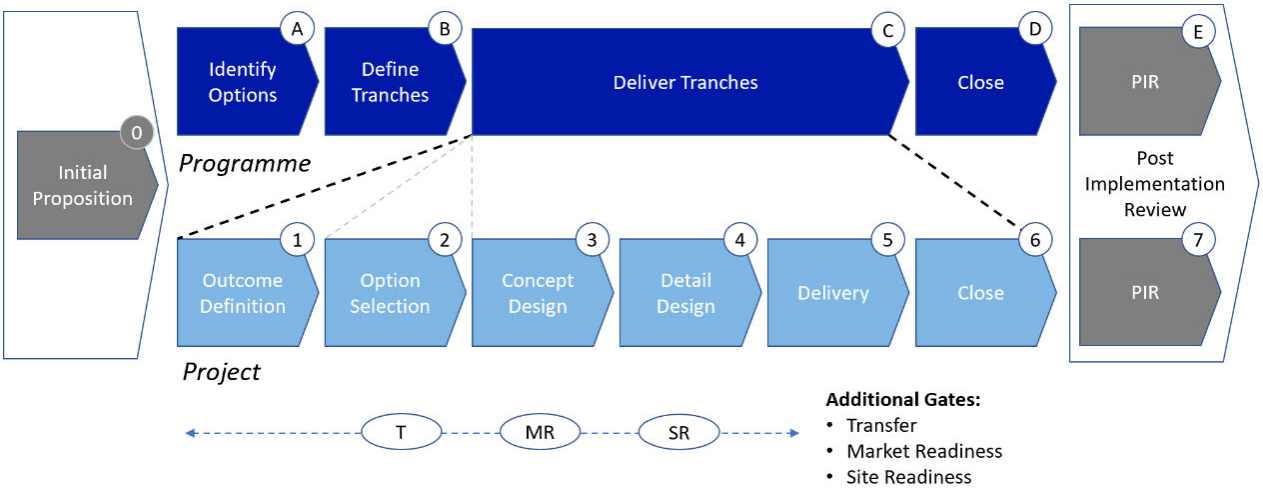
2.1.3 TfL Engineering are the Technical Approval Authority

2.1.4 This project is to be managed and delivered by the Client's Project and Programmes Directorate (PPD).

2.2 Project management methodology

2.2.1 TfL follows an integrated project management delivery methodology known as Pathway. Pathway comprises six stages:

0	Initial Proposition	The problem to be addressed is understood and the proposition has been included in the Business Plan
1	Outcome Definition	Establishes the business outcomes and benefits that the project must deliver
2	Option Selection	Determines whether the proposed outcomes and benefits are achievable and deliver best value – that all the options have been assessed and a single feasible option has been selected
3	Concept Design	Defines the design principles and freezes the scope of the project
4	Detailed Design	Produces a detailed design that delivers the required outcomes and is used as the basis of a contract for delivery of the physical outputs
5	Delivery	Builds the physical outputs of the project, confirms acceptance by end users and hands the outputs over into operational/business use and maintenance, including necessary supporting documentation
6	Project Close	Ensures that the project is closed in a controlled manner



2.2.2 The scope of work for this commission is related to **Pathway Stage A** at a programme level.

3. Purpose of the *Services*

3.1 Scheme description

3.1.1 The London Plan sets out an ambitious vision for housing growth in the Thames Estuary, including large numbers of new homes on brownfield land in Thamesmead and Beckton Riverside. Both sites have been identified in the London Plan as part of Opportunity Areas (OAs): Beckton Riverside is within the eastern portion of the Royal Docks & Beckton Riverside OA while the Thamesmead site is in the northern portion of the Thamesmead & Abbey Wood OA.

3.1.2 The GLA and local planning authorities are working on the vision for the sub-region and have developed two Opportunity Area Planning Frameworks (OAPFs) to plan for future development of the areas guiding where new homes, jobs and infrastructure will be built as well as exploring opportunities for transport schemes that can unlock the development potential. The Thamesmead & Abbey Wood OAPF and the Royal Docks & Beckton Riverside OAPF were adopted in December 2020 and May 2023 respectively. These planning frameworks set out a vision for Good Growth, ensuring that an integrated approach to the delivery of transport infrastructure and new homes and jobs.

3.1.3 However, both development areas are currently poorly served by public transport and have a poor environment for active travel, which reduces residents' access to employment and other public services and social infrastructure compared with other parts of London. The lack of sustainable and inclusive travel options has been a major factor inhibiting development in the area to date (the major brownfield sites have now been vacant for some decades).

3.1.4 The Mayor's Transport Strategy also recognises the potential for new river crossings to reduce barriers between communities on either side of the Thames, and supports the provision of new crossings, particularly where these can provide new links between communities and help unlock new development.

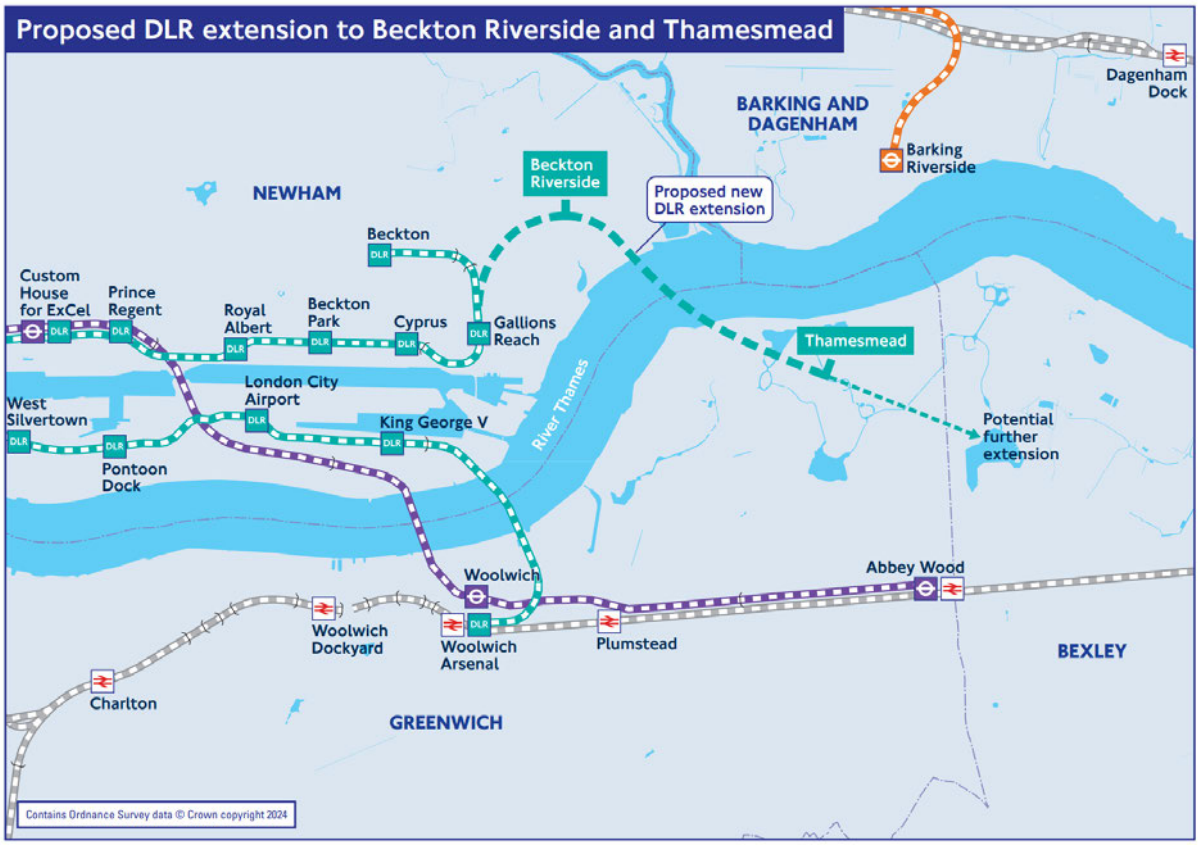
3.1.5 This programme has been established to consider how public transport can best support the ambitious plans for growth in this area, considering TfL's broader goals and the Mayor's Transport Strategy.

3.1.6 A range of strategic concepts were generated by TfL and endorsed as options for initial assessment by the Thamesmead and Beckton Riverside Steering Group and Delivery Board. Following an initial phase assessment of a broad range of range of options, a shortlist of 13 multi-modal concepts was considered to have the potential to deliver the programme objectives and

were selected to proceed to the next stage. These included several bus-based, tram system, DLR and London Overground extension options. The selected options were then taken forward for further development and a shortlist sift. Packages of options were also devised to test whether a combination of low / medium cost options could be as effective in meeting the programme objectives as single higher cost options. The outcome of this process was the selection of three packages for further economic appraisal, each entailing different costs and each having different impact on development of the sites.

3.2 Scheme Location

3.2.1 There are substantial land challenges to the location of the scheme, on both sides of the River Thames. In terms of current conditions, major legacy gas infrastructure, future proofing, master planning for both major housing developments, public parks, legacy riverbank infrastructure and the Beckton DLR depot are just a few of the constraints that have been identified.



3.3 Contract background

3.4 Following initial internal development of DLR extension options, TfL commissioned Arup-Atkins in 2021 to undertake optioneering of a DLR extension to Thamesmead via Beckton Riverside.

3.5 The feasibility study was broken down into two distinct phases, ‘Phase 1’ and ‘Phase 2’. Phase 1 involved the route option development and single option selection against key criteria such as engineering feasibility, environmental impacts, costs, interface with existing DLR network and fit with masterplan principles. Phase 2 involved developing the Single Preferred Option (SPO) to enable a more detailed and robust cost estimate to be produced.

3.6 The purpose of this Specification is to define the overall delivery requirements for the further feasibility study and Early Contractor Involvement (ECI), which are to be delivered as part of the DLR Extension to Thamesmead programme.

3.7 The details within this Specification and appended documentation outlines the additional feasibility work required to be undertaken and complied with by the Consultant.

3.8 It is anticipated that the scope and requirements contained within this Specification and appended documents enables the Consultant to deliver the key outputs outlined below. Should the Consultant believe that this isn’t the case, this will be clarified through consultation with the Employer during the tender stage.

3.9 For ease of identification all requirements within this Specification document will be shown in boxes as shown below:

Unique ID:	This is a requirement. The term ‘shall’ indicates that compliance of this requirement is mandatory.

Further technical requirements to be complied with are outlined in the System Requirements Specification (SRS) in Appendix C, which are mapped back to the strategic objectives and requirements contained within the Programme Requirements Specification (PRS) in Appendix B.

The full suite of feasibility stage deliverables and optioneering is available via Appendix A.

3.10 **Contract objectives**

3.11 **Phase A: Additional Optioneering**

An overview of the proposed phases of this commission is outlined in summary below. The Consultant will review information provided by TfL, utilising the prior Arup-Atkins feasibility work and will undertake further design work to develop and complete the short listing of options, with TfL and other

stakeholders to be considered in this stage. The consultant will be responsible for this updated work.

This work will enable TfL and stakeholders to assess all options against assessment criteria (to be proposed by the Consultant and agreed with TfL) and enable the selection of an SPO for all elements of the Programme.

The culmination of this optioneering will be several Single Option Feasibility Reports - the format of the feasibility reports will be agreed with TfL early in the contract. The Consultant will be responsible for preparing, collating and assessing all information required to carry out single option selection workshops with TfL and subsequently with third party stakeholder representatives.

Further deliverables as stated in the MDL (Appendix D) will need to be provided to further support the selection of the SPO.

3.12 **Phase B: Early Contractor Involvement**

Following the selection of the SPO and subject to the agreement of the third-party funders to the SPO, the Consultant will undertake some further engineering work to enable a more detailed and robust cost estimate to be provided for the SPO.

3.13 The cumulative output

The outputs from this contract will contribute towards:

- Estimating and Programming - Develop a TfL wide estimate & over-arching programme
- Funding - Enable TfL to secure future funds
- Stakeholder Support - Keep momentum and build wider support for the scheme
- TWAO development - Aide the early engagement of specialist resources
- Business Case Development – Enable TfL to update the Strategic Outline Business Case and develop the Outline Business Case

4. Summary of Requirements

4.1 Project scope packages

4.1.1 The project will be separated into the following work packages:

- Programme Wide
- Route Wide Infrastructure - track, power and route wide civils
- Beckton Riverside Station
- Thamesmead Station
- Cross River Tunnel – including portals
- Turnback
- Depot/depot connections
- Connection to network

4.2 Scope background and anticipated outcomes

4.2.1 DLR Extension

In taking forward the development of the DLR extension, prior option development and sifting was undertaken by breaking the scheme into its component parts, and includes the following scope items:

- A turnback located to the west of the extension, situated on the existing DLR network.
- Track connections between the Thamesmead extension, existing DLR East Route and Beckton Depot (extension tie-in, depot junctions & depot capacity).
- Route alignment through the development site at Beckton Riverside and provision of an intermediate station.
- Cross-river tunnel.
- Route alignment through the development site at Thamesmead Waterfront and provision of a terminus station.

The remainder of this section explores each item of scope in more detail, setting out the breadth of options explored as part of the previous Arup-Atkins commission and emerging conclusions in terms of preferences around specific options.

4.2.2 Turnback

Across the DLR network in an area extending from Canning Town to Poplar / Westferry and West India Quay, Arup-Atkins identified seven potential turnback options in the longlist stage of option generation and assessment. Most of these concepts were discounted on feasibility, environmental and operational grounds. A single option situated to the west of Canning Town Station (in proximity to Bow Creek) was taken forward for development and assessment, with two sub-options developed. A review should be undertaken by the design consultant to verify that the

level of design for these sub-options is sufficient to enable the selection of an SPO. In addition, TfL wishes to reopen the longlist assessment of turnback options during Phase A to explore the potential feasibility of a turnback solution at or to the west of Poplar station, given the opportunity for this concept to provide a direct link to Canary Wharf rather than require additional interchange Canning Town.

In Phase B, additional work is required by the consultant to explore the constructability of the selected option, with a focus on the land and environmental impacts, given the interface with adjoining constraints. Consideration should also be given to the likely construction methodology and how the works would be delivered whilst minimising the potential operational impacts on existing DLR services.

4.2.3 Depot connections

Three options were identified for providing a connection between Beckton Depot and the Thamesmead extension in the longlist assessment by Arup-Atkins. Based on analysis of these options during the shortlist assessment stage, this identified that only a connection and new Train Validation Area (TVA) linking Beckton Depot directly with the Thamesmead extension would be able to support the future service launch requirements associated with the extension and DLR Upgrade Plan. This conclusion is supported by TfL.

In Phase A, prior to confirming this option as the SPO for this element of design, the consultant should review the proposed depot connection layout with the existing designs for the expansion of Beckton Depot and the DLR Rolling Stock Replacement Programme to ensure this option remains compatible with the future depot layout and the capacity to stable additional rolling stock that may be required as part of the scheme.

4.2.4 Extension tie-in

The proposed tie-in between the DLR East Route and Thamesmead extension takes account of future passive provision for a grade separated connection between the DLR East Route and an extension to Barking. In addition to this, as the route to Thamesmead continues towards Beckton Riverside, provision is currently made in the design for a future flat junction to provide a connection between a route to Barking and the Thamesmead extension.

Prior to confirming the current arrangement as the SPO, further work should be undertaken by the design consultant to explore how changes to the level of passive provision for a Barking connection between the East Route and Thamesmead extension could result in a more efficient scheme layout for the Thamesmead extension and how this could potentially assist address existing geo-metrical constraints associated with the current alignment.

Potential alternative options should be developed in Phase A in addition to the existing arrangement, with an appropriate feasibility, engineering and environmental assessment undertaken.

4.2.5 Beckton Riverside - DLR alignment and station form

The Arup-Atkins commission sifted five alignment and four station options for the Beckton Riverside design element, with an emerging SPO supported by boroughs and landowners comprising of an alignment option which would run to the south of Armada Way and served by a surface level station (option 3b).

Subject to feedback from Cadent in relation to the proposed relocation of a high-pressure gas main away from its current alignment, it is assumed that the current combination of station and alignment options remain the emerging preference in terms of the SPO.

Prior to confirming this option as the SPO for the Beckton Riverside section of the route, further work is required during Phase A to consider whether an island platform rather than a side platform arrangement would be feasible; with further work also required undertaken by the design consultant to consider station design options to a Feasibility level of design. Given the rail alignment would intersect two development sites, the design consultant will also need to articulate and illustrate points of severance created by new rail infrastructure, as well as identify options for movement corridors between the development sites that take account of the rail alignment's position. This should be a key feature of work in both Phases 1 and 2.

4.2.6 Tunnel

Work undertaken by TfL Engineers has identified the potential to shorten the cross-river tunnel section of the route. The design consultant should integrate these changes into the SPO design for the tunnel section of the route.

4.2.7 Thamesmead Waterfront - DLR alignment and station form

To date, a significant level of work has been undertaken to develop and optimise alignment and station form options for the section of route through the Thamesmead Waterfront site; taking account of the Thamesmead Waterfront's Joint Venture masterplan. Across the longlist, shortlist option sifts and an additional sprint study; a number of horizontal and vertical alignment options across the Thamesmead Waterfront site have been explored, alongside various station form options which included entirely sub-surface, partially covered and elevated station options.

In Phase A, the design consultant should document the selection of an SPO for the position of the horizontal and vertical alignment of the DLR route through the Thamesmead Waterfront, based on existing analysis undertaken by Arup-Atkins. Moving on to the selection of an SPO for station options at Thamesmead Waterfront, the design consultant should draw together existing analysis and additional design

activities (such as the design and assessment of a surface level station as an additional option) to update the existing longlist station option assessment. This will ensure a coherent approach to optioneering which assesses all potential station solutions based on the SPO alignment option. As at Beckton Riverside, the station option assessment should articulate points of severance, movement corridors and potential mitigations associated with specific options to reduce impacts of the railway footprint on the Thamesmead Waterfront Masterplan.

In wrapping up the Phase A works, the design consultant should make a recommendation on a preferred station option from an engineering, operations, and environmental perspective. Given that the selection of a preferred station form represents a significant decision from a rail operation, development, urban design, and placemaking perspective, this will likely involve a broader set of stakeholders beyond TfL including the Thamesmead Waterfront JV and Government stakeholders. The design consultant will need to take forward two station form options for further assessment into Phase B of the commission.

4.2.8 The Service Pattern

- Two service patterns scenarios should be considered - a 7.5tph and 15tph service to Thamesmead. The rest of the DLR network remains unchanged
- The 7.5tph service will not require a turnback
- The turnback will only be required for the 15tph option, and options at Royal Victoria, Canning Town and Poplar will be considered
- The additional trains for each of the service option will be confirmed by the consultant in consultation with PTSP/project team – this will vary for the 15tph options depending on the location of the turnback
- The consultant will determine the level of work required at the depot for each option/sub-option, subject to the turnback options being feasible

4.2.9 Outcomes - Workshops

In refining the longlist and shortlist option assessments and presenting an SPO recommendation to take into Phase B, the design consultant should hold several workshops with TfL. For elements of the scheme which interface with development sites, additional workshop sessions between the design consultant, TfL and developers should be held. These workshops will enable representatives to understand the constraints and opportunities, agree the conclusions and communicate those conclusions to individuals with investment authority.

4.2.10 Outcomes - Deliverables

The option development and sifting process for the project should be documented in multiple SPO reports, building on the work of Arup-Atkins, with this concluding by presenting an SPO recommendation to TfL for each design component. With option

selection then confirmed by TfL, the reports should also detail works undertaken during Phase B to refine the SPO.

5. Constraints on how the Consultant is to Provide the Services

5.1.1 The list below details the known constraints:

- TfL will need the support from several key external stakeholders, including local authorities and landowners to enable the future Concept Design to commence
- Consents for the implementation will be required to be obtained via a Transport and Works Act Order (TWAO), which will include outline planning permission
- The programme will be designed and implemented to minimise the disruption to the wider operation of the DLR services
- Duration of programme – refer to the supplied P6 programme
- Understanding and adoption of previous consultant's output

5.2 Dependencies

The list below details the known dependencies:

- Any land requirement, temporary access agreements or wider consents will have to be defined
- The programme is driven by the associated residential developments in Beckton Riverside and Thamesmead
- The current franchisee, Keolis Amey Docklands, will need to review proposals
- The signalling scope of work and associated cost will be undertaken separately by Thales, as they own, operate and maintain the entirety of the current signalling system on the DLR
- Consultation with Dockland Light Railway Ltd.

6. Deliverables

The Master Deliverables List (MDL) can be found in Appendix D. This will form the basis of the Consultant's scope of works.

Req. ID	Requirement Text
DR01	The Consultant shall complete the deliverables listed in the Master Deliverables List (MDL) appended to this scope document.
DR02	The Consultant shall complete all requirements within this Specification and within the SRS appended to this Specification document.

Should the Consultant believe that deliverables listed in the MDL are not required to achieve the key outputs, then this will be clarified through consultation with the Employer during the tender period.

6.1 Meetings and Reporting

The Consultant will be required to attend meetings with the Employer throughout the duration of the contract. As soon as possible after the Contract Start Date, the Employer will convene a start-up meeting with the Consultant. The meeting will be used to confirm systems for the control, administration, reporting and management of the Project, and to confirm lines of communication, information flows, change control and procedures. Meetings will normally be held via Microsoft Teams or the offices of the Employer.

Req. ID	Requirement Text
MRR01	The Consultant shall hold a progress / commercial meeting every two weeks via Microsoft Teams.
MRR02	The Consultant shall attend a joint periodic engineering review and collaborative working day to be held in-person, to be assumed to be Endeavour Square, Stratford.
MRR03	The Consultant shall attend and prepare all necessary material for the following: • Start-up meeting • Fortnightly project management meeting • Fortnightly engineering meeting • Periodic designer's risk, assumptions and design change review • Periodic requirements development, management and V&V review • Periodic Hazard Log review • Commercial review meeting • At least 2x cost estimate workshops throughout the duration of the contract • At least 2x construction methodology workshops throughout

	the duration of the contract Meetings can be combined where appropriate if approved with the Employer in advance.
MRR04	The Consultant shall submit a periodic progress report, including an update of the Consultants forecast spend profile, to the Employer by close of play on the final Friday of each period.
MRR05	The Consultant shall agree with the Employer the content of the periodic progress report before the submission of the first report.
MRR06	The Consultant shall provide all necessary personnel for the review meetings, which should as a minimum include the project manager and the commercial manager.
MRR07	The Consultant shall provide appropriate discipline engineer attendance at any meeting held to discuss technical issues.

6.2 Project Interfaces

Stakeholder Engagement will be managed by the Employer. Should there be a need to engage with a stakeholder, the Consultant will notify the Employer who will facilitate this.

Req. ID	Requirement Text
PIR01	The Consultant shall support the Employer in engagement with any stakeholder where deemed required by the Employer. This includes but is not limited to: • Participation/Facilitation of meetings (face to face/conference calls) • Production of and delivery of presentation material design/information • Response to questions/queries raised by stakeholder • Execution of relevant actions following stakeholder engagement (to be agreed with the Employer following the engagement)
PIR02	The Consultant shall provide key personnel to support engagement with any stakeholder where deemed required by the Employer – Project Manager, Lead Engineer & technical specialist
PIR03	The Consultant shall participate in any pre-meetings/discussions the Employer deems is required prior to engagement with any stakeholder. Allow for 1 meeting per period, in-person.

6.3 Appointments

It is required that all (Design and Construction) appointment will have the required competencies to fulfil the required roles, with necessary experience of working on DLR multi-disciplinary design and installation projects. All appointments will have the appropriate level of certification and will normally be Chartered Engineers (or working towards) with demonstrable competency and relevant experience.

Req. ID	Requirement Text

AR01	The Consultant shall submit for approval a suitable project team structure. This should clearly demonstrate the roles and responsibilities of the individuals.
AR02	The Consultant shall submit for approval all key personnel and any subsequent changes in personnel.
AR03	The Consultant shall appoint personnel to fulfil the roles of relevant technical disciplines and perform the duties associated with being a Principal Designer under CDM.

6.4 Document Review

Where the Consultant's documents require Employer acceptance, the number of iterations required to achieve acceptance will be at the risk of the Consultant and the Consultant will make an allowance in its price and programme for complying with this. The periods of reply required by this contract are set out in the contract data. The periods of reply stated do not guarantee that the deliverable will be accepted within that timescale should the deliverable not be at an acceptable standard, once the timescale has elapsed.

Req. ID	Requirement Text
DRR01	The Consultant shall allow for approval durations within their programme as stated below and in the contract data: • All deliverable submissions ➢ Employer's Initial Review – 15 working days ➢ Employer's re-work review – 10 working days

6.5 Document Control and Contract Management

Req. ID	Requirement Text
DRR01	The Consultant shall adopt the information management and document control procedures set out in exchange information requirements (EIR) for the following document categories: • Management plans • Engineering deliverables e.g. Design documentation • Nominations for Lead and Discipline Engineers • Reports
DRR02	Asite shall be the system utilised for contract management. This includes the submissions of Request For Information (Technical Queries), Consultants Programme, Early Warnings and Compensation Events. The Consultant will be provided with access to Asite.

The EIR is contained within Appendix E.

6.6 Planning and Programme Development Requirements

Req. ID	Requirement Text
PR01	The Consultant shall submit a programme for acceptance within the period stated in the Contract Data. The first accepted programme shall form the basis of future reporting. For the purposes of reporting, programmes shall not be baselined or re- baselined without the agreement of the Employer.
PR02	The Consultant shall provide, revise and resubmit periodically, the programme for Acceptance by the Project Manager. Once agreed by the Project Manager this programme shall become the Accepted Programme. This shall be issued within the timescales set in the contract data.
PR03	The Consultant shall submit a draft programme with 3 weeks actual and 1 week estimate on Friday week 3 of each period.
PR04	The programme shall be submitted to the Project Manager electronically in P6 (XER) and PDF, using a layout format to be agreed before submission.
PR05	The programme percent complete type shall be set to physical. The method of measurement of physical percent complete shall be proposed to the Project Manager at the start-meeting for acceptance.
PR06	The programme shall clearly identify any obligations of the Employer.
PR07	The programme WBS shall be agreed with the PM and its settings and population of codes shall be subjected to the Project Manager's validation process before acceptance into the Project Manager's database.
PR08	The programme shall include all key milestones and Contract dates for the design, including all dates scheduled in Contract Data Pt 1.
PR09	The programme shall include all deliverables as per the MDL.

6.7 Design Requirements

The following list of design requirements are applicable and should be adhered to for all engineering disciplines:

Req. ID	Requirement Text
DER01	The design shall be developed in accordance with all DLR engineering standards, building regs and associated legislative references with the inclusion of the Fire Safety Bill, British standards and International Organization for Standardization, LUL and pan TFL standards, Railway Safety Principles and Guidance (RSPG), unless explicitly stated in these requirements or challenged by the designer.
DER02	The Consultant shall adopt, utilise and build-upon the work that has been done in the existing 2021 feasibility study by Arup-Atkins and shall be responsible for the final study as a whole.

6.8 Verification and Validation (V&V)

Req. ID	Requirement Text
VVR01	The Consultant shall produce a V&V Matrix / table detailing how each requirement in the TRS has been met.
VVR02	The V&V Matrix shall contain the following information: • Requirements • Consultant Owner • Verification Argument • Verification Method • Verification Evidence • Verification Status (Compliant, Non-compliant, In Progress or Not Started) TfL will provide the Verification Argument & Method.
VVR03	Any non-compliances against the requirements shall be documented and submitted for acceptance by the Employer.
VVR04	The V&V Matrix shall be provided within 8 weeks of commencement of contract for acceptance by the Employer. It shall be updated periodically.

6.9 CDM 2015

Req. ID	Requirement Text
CDMR01	The Consultant shall undertake the duties of Principal Designer under CDM 2015.

6.10 Phase A: Feasibility Requirements - Optioneering and SPO

The Consultant is required to take a fresh perspective by further developing a number of different options to deal with the identified discrete feasibility items outlined in the Summary of Requirements, that adhere to the requirements in this Specification and SRS. These should then be assessed against a predetermined criteria to re-confirm the SPO. The Employer requires that this further feasibility considers the significant work and previously selected SPO from the Arup-Atkins 2021 feasibility study and seeks to minimise proposed amendments as far as reasonably practicable.

Req. ID	Requirement Text
OAR01	The Consultant shall propose and agree the assessment criteria and critical success factors with the Employer, prior to any assessment of options.
OAR02	The assessment criteria shall as a minimum include assessment for construction complexity, operational and maintenance impact (throughout life cycle including decommissioning, construction, and operational service), design, life cycle costs, land take, environmental impact and carbon reduction.
OAR03	The Consultant shall consider the assessment criteria and approach taken in the 2021 Arup-Atkins commission to seek to minimise any conflicts in

	approach.
OAR04	The Consultant shall circulate all material for the option selection workshops to the Employer 2 days before the date of the workshop, which shall include prepopulated scores and commentary to aid discussions.
OAR05	The Consultant shall circulate minutes and workshop scoring from the option selection workshops for Employer acceptance 1 week after the date of the workshop.
OAR06	The Consultant shall facilitate multiple option selection workshops, with both TfL and stakeholder's/funder's representatives, including but not limited to: • A presentation of the assessment completed on each layout option to act as the evidence base to inform option scoring • Mediating the scoring exercise and providing impartial challenge to scoring where relevant Substantial recording of rationale associated with all scoring undertaken. 1 workshop per package should be accounted for.
OAR07	The consultant shall produce presentational materials suitable for the programme's stakeholders/funders to disseminate the final options and to make strategic funding decisions.
OAR08	The consultant shall facilitate additional option selection workshops to present optioneering related to the new DLR stations to external stakeholders, which will follow on from the workshops scheduled with the Employer.
OAR09	The consultant shall retrospectively document all optioneering and SPO decisions taken in the 2021 Arup-Atkins commission, ensuring that assessment tables and documentation is robust, consistent, and detailed, to stand up to scrutiny that may arise through seeking subsequent TWAO powers.
OAR10	The consultant shall check the latest Employer delivery plans for Beckton Depot and re-confirm that the depot connection options and SPO is still viable.
OAR11	The consultant shall assess the capacity of Beckton Depot to ascertain whether current expansion plans will enable the operations needs of the TEX scheme.

6.11 Phase A: Feasibility Requirements - Station Alignment Optioneering

The previous Arup-Atkins work identified the optimal vertical and horizontal alignment for the new DLR stations at Beckton Riverside and Thamesmead Central. This resulted in an at grade option for Beckton Riverside, while two options were progressed for Thamesmead Central of an elevated 1a and sub-surface 5a option.

Req. ID	Requirement Text
SAR01	The consultant shall consider 2 options for Beckton Riverside: a) Side platforms b) Island platform
SAR02	The consultant shall consider 4 options for Thamesmead Waterfront: a) Elevated b) At Grade

	c) Sub surface open d) Sub surface closed
SAR03	The Consultant shall utilise any updated information provided by the Employer regarding Cadent gas utility discussions and amend optioneering drawings and associated assessment tables accordingly.

6.12 Phase A: Feasibility Requirements - Station Configurations Optioneering

Limited consideration of options for the station functionality and configuration alignments were considered for Beckton Riverside 3b and Thamesmead Central 1a and 5a.

Req. ID	Requirement Text
SOR01	The Consultant shall develop a minimum of 4 layout configuration options across both proposed station options.
SOR02	Station options and functionality shall be based on passenger modelling calculations and data.
SOR03	The station options developed shall consider the urban realm and achieve integration, as far as reasonably practicable, with the latest development proposals outlined in the masterplans.
SOR04	The Consultant shall undertake fire evacuation assessment and relevant calculations to inform the SPO: • Confirm station layout (concourse/street and platform level) • Confirm requirement for the provision of a Secondary Means of Escape (SME); • Confirm any requirement for safe refuge areas • Determine any requirement for evacuation lifts • The assessment for this and relative compliance of any of the options shall be outlined in the updated feasibility report.
SOR05	The consultant shall demonstrate the impacts of each option on compliance with BS9992 and DLR standards; covering evacuation including for persons of restricted mobility, fire fighter access and facilities, interfaces with adjacent and proposed developments, fire ventilation and pressurisation systems, passive fire protection, fire detection and alarm, and fire safety management controls and procedures that will be required to support the safe operation of the station in case of fire.
SOR06	The consultant will produce renders to be able to show the pros & cons of the station options.

6.13 Phase A: Feasibility Requirements - Turnback Optioneering

The SPO selected for the turnback as part of the 2018 Arup-Atkins commission was option 1. This was a central turnback siding located between Canning Town DLR

station and the River Lea. However, additional design development and optioneering is required to consider whether this is the SPO.

The Consultant will utilise additional topographical data from TfL conducted aerial surveys in 2013 to verify the viability of options 1 and 7. This additional topographical data will be provided via ProjectWise.

Req. ID	Requirement Text
TR01	The Consultant shall develop three alignment options for a turnback based on: a) Poplar b) Canning Town c) The Royal Victoria area
TR02	The alignment options shall utilise topographical data from 2013 to support the production of general arrangement drawings and identify any constraints.

6.14 Phase A: Feasibility Requirements - Tunnelling Optioneering

The tunnel alignment SPO selected as part of the 2021 Arup-Atkins commission was constrained by the assumed depth of foundations of structures in the River Thames and the need to minimise any interface. However, subsequent reviews by the TfL Geotechnical team have identified that sufficiently detailed archive drawings exist that indicate that it's unlikely that these structures will impact on the tunnel and therefore, to improve the horizontal alignment the tunnel should be straightened.

Req. ID	Requirement Text
TUR01	The Consultant shall develop an optimal tunnel alignment option to avoid the horizontal curve that was introduced.
TUR02	The Consultant shall review and utilise additional survey data and records provided by TfL in preparing the optimal alignment.

6.15 Phase A: Feasibility Requirements - Record requests

The Employer cannot guarantee the availability or accuracy of any records, asset information/data and non-asset information/data.

Req. ID	Requirement Text
RR01	The Consultant shall inform the Employer of any records or other required to undertake these works in a timely manner.
RR02	The Consultant shall inform the Employer of any asset information/data required to undertake these works in timely manner.
RR03	The Consultant shall inform the Employer of any non-asset information/data required to undertake these works in a timely manner.

RR04	The Consultant shall engage with the Employer to discuss and agree appropriate mitigation for the non-availability or inaccuracy of any records, asset information/data and non-asset information/data.

6.16 Phase A: Feasibility Requirements - Utility Requirements

No engagement with utilities providers in relation to design proposals have been undertaken. The Consultant is required to carry out the following:

Req. ID	Requirement Text
BUR01	The Consultant shall make their own further requests for any other information deemed required within 4 weeks of contract award.
BUR02	The Consultant shall use all buried services/utilities information available to provide the Employer with an interpretation of existing and potential buried services/utilities and third-party interfaces through the submission of a combined service drawing.
BUR03	The Consultant shall identify and discuss with the Employer any requirement to divert or relocate any existing or proposed utility services.
BUR04	The Consultant shall seek to limit the impact on buried services/utilities where possible through innovative design proposals where appropriate.
BUR05	Where an impact on buried services/utilities is demonstrated to be unavoidable, the Consultant shall support the Employer with engagement with utilities providers to assess appropriate options for mitigation and/or diversions/relocations.
BUR06	The Consultant shall include final details of impacted buried services/utilities and associated mitigation, diversions or relocation in the relevant engineering deliverable for acceptance by the Employer.
BUR07	The Consultant shall include any assumptions regarding buried services/utilities within their assumptions register for periodic Employer review.
BUR08	The Consultant shall ensure assumptions regarding buried services/utilities are closed by the end of Concept Design as far as reasonably practicable.

6.17 Phase A: Feasibility Requirements - Environmental and Sustainability Requirements

Req. ID	Requirement Text
ES01	The Consultant shall employ an appropriately qualified and experienced environmental and sustainability professional to lead on all environmental and sustainability matters to ensure the full implementation of all the environmental and sustainability requirements. If this person is not a full-time member of the team, the Consultant shall ensure that they have regular involvement with the project and that they take proactive and effective actions to set-up and ensure the full implementation of the environmental and/or sustainability requirements. The Consultant shall allow for the environmental professional attendance at the client office for 1 day a period. It should be assumed the office will be Palestra, Southwark.

ES02	The Consultant shall detail, within their Programme Specific Sustainability Strategy, the iterative process they will use for identifying measures to improve the sustainability of the works and improve the Project's social, economic and environmental performance, this should be submitted within one month of contract award.
ES03	The Consultant shall develop design options and produce a Sustainability Design Considerations Log that takes account of environmental, social and economic risks and opportunities, presented in the Environmental Appraisal and any others that are identified by the Consultant as part of this commission. The Sustainability Design Considerations log should be scheme wide and include design from the first Arup-Atkins 2021 commission.
ES04	The Consultant shall review the Environmental Appraisal to ensure they have a thorough understanding of the environmental issues.
ES05	The Environmental Appraisal shall be a live document, and the Consultant shall refer to, and as necessary update, the Environmental Appraisal.
ES06	The Consultant shall complete the TfL Environmental Evaluation Tool.
ES07	The consultant shall make sure to consider key objectives and targets from TfL's Corporate Environment Plan and Sustainability Report when looking at the engineering and environmental requirements. The consultant shall demonstrate how the whole scheme would comply with policy and shall produce a comprehensive policy tracker.
ES08	The Consultant shall utilise all relevant environmental information, desktop research, reports, surveys, and site visits when undertaking the tasks, including any Green Infrastructure or environmental data that TfL obtains.
ES09	The Consultant shall demonstrate that due consideration is given to ecology and biodiversity in line with current and emerging legislation and applicable strategies and plans. This should include delivering mandatory +10% Biodiversity Net Gain within the development as well as any tree canopy replacement that may affect land take.
ES010	The consultant shall review the provided Preliminary Ecological Appraisal and Biodiversity Net Gain calculation report to be supplied by the employer.

6.18 Phase A: Feasibility Requirements – Carbon Assessment

Req. ID	Requirement Text
ECA01	The Consultant shall ensure that due consideration is given to carbon and the drive to net zero.
ECA02	The consultant shall undertake a high-level carbon assessment for the whole scheme. The consultant shall produce a proxy assessment, using a sensible option at each location, to calculate the embedded and operational carbon. TfL is developing a bespoke carbon tool for early-stage scheme development. The consultant will be expected to use this tool and to work alongside TfL's engineering team throughout the assessment. The consultant may wish to incorporate their own carbon emission data.

ECA03	The consultant should also identify opportunities to reduce carbon utilisation across the whole scheme.

6.19 Phase A: Feasibility Requirements - BREEAM

The DLR extension to Thamesmead programme will require planning permission from the local planning authority, the Borough of Newham & the Royal Borough of Greenwich, prior to any construction commencing on site. To support the planning application a BREEAM assessment is required and a rating of 'Excellent' needs to be obtained.

Req. ID	Requirement Text
BREE01	The Project will participate in the BREEAM assessment scheme and is targeting an 'Excellent' rating in the Whole Team Award. The consultant will gather the necessary stage relevant evidence for the award.
BREE02	The Consultant shall produce a Pre-Assessment report.
BREE03	If the Consultant identifies any concerns with the DLR Extension Programme obtaining a rating of 'Excellent' then this shall be flagged to the Employer, along with proposals on how to rectify any shortcomings.

6.20 Phase A: Feasibility Requirements - Passenger Modelling

To support the develop of station design options, the following modelling requirements will be instigated.

Req. ID	Requirement Text
PM01	The Consultant shall undertake static pedestrian modelling to assess whether there is sufficient space for key locations such as platforms, stairs and lifts, as well as how passengers will access the station. This will consider beyond the immediate station environment and into the layout under and around the raised tracks to ensure there is sufficient space here.
PM02	Static modelling shall be based on the 2041 AM and PM demand data.
PM03	Static modelling shall include sensitivity analysis around development build up rates up to the 2041 level of demand.

6.21 Phase A: Feasibility Requirements - Engineering System Safety Management

For the duration of this contract the Consultant is required to comply with all current safety, health, welfare and environmental legislation and with all current approved Codes of Practice. Should the Consultant deem any requirements not to be applicable to these works then this will need to be discussed and agreed with the Employer.

The Consultant will assess, record and manage design risks and hazards throughout the commission to comply with the Construction Design and Management (CDM)

Regulations 2015. In the first instance hazards and risks will be eliminated where possible, or if this is impractical the control measures will be identified to minimise the hazard/risk.

Req. ID	Requirement Text
SMR01	The Consultant shall attend and prepare all necessary material for periodic designer's risk and assumptions reviews.
SMR02	The Consultant shall detail designer's risks, possible mitigation and the timescale and mechanism for closure (if applicable) within their designer's risk assessment.
SMR03	The Consultant shall detail assumptions and the timescale and mechanism for closure (if applicable) within their assumptions register.
SMR04	The Consultant shall detail how designer's risks and assumptions are being treated within the estimating deliverables.
SMR05	The Consultant shall advise the Employer of any identified opportunities during periodic designer's risk and assumptions reviews.
SMR06	The Consultant shall attend and prepare all necessary material for periodic Hazard Identification (HazID) workshops to develop the design during feasibility and Concept Design.
SMR07	The Consultant shall undertake necessary workshops and assessments to develop the designers risk assessment throughout the commission to develop the design in the feasibility and Concept Design stages
SMR08	The Consultant shall produce a designer's risk log and hazard log, which shall be reviewed throughout the commission to enable the Consultant to close as many risks and hazards before design submissions are made.

6.22 Phase A: Feasibility Requirements - Systems Engineering

Systems engineering activities will be documented in a Systems Engineering Management Plan (SEMP).

Req. ID	Requirement Text
SER01	The Consultant shall produce a SEMP for the Programme.
SMR02	The SEMP shall include (but not limited to) the Reliability, Availability and Maintainability Management Plan, including establishing an apportionment of RAM requirements and targets. 'Human Factors' and 'Security, Terrorism and Vandalism' shall also be included.

6.23 Phase B: Early Contractor Involvement (ECI) Requirements - Constructability

Following confirmation of the SPO the Consultant will engage with a Contractor to undertake and comply with the following requirements.

There will be a number of construction and logistical challenges to manage to construct the DLR extension to Thamesmead. The Contractor will utilise the

constructability work undertaken within the 2021 Arup-Atkins commission and expand upon its findings.

Req. ID	Requirement Text
CR01	The Contractor shall undertake constructability workshop(s) to assess the constructability of the programme. This shall include but is not limited to: • Phasing • Construction sites required for the works • Compound/satellite compounds required for the works • Any possessions of the DLR • Demolition • Road Closures / realignment • Adjoining construction sites/interfacing works
CR02	The Contractor shall provide details of any constraints identified in their review of the Site Information and Works Information, explaining how these could impact the works and outlining their proposed mitigations. This should include (but not limited to) interface with neighbouring/interfacing development sites.
CR03	The Contractor shall identify viable locations to act as a site compound and propose a layout which includes consideration of but not limited to the following elements: • Welfare • Office • Stores • Material lay-down • Access/egress and control • Cognisance of the construction traffic route assessment How materials and labour will be transported from the construction compound to the work site.
CR04	The contractor shall identify sustainable logistics, construction methods and waste reduction and disposal methods.
CR05	The Contractor shall identify any expected long lead materials, plant, trains, resources or subcontractors and provide confirmation of expected lead times.
CR06	The Contractor shall provide a detailed, step by step, description of how the Main Construction Works associated with this project will be delivered.
CR07	The Contractor shall identify a possession strategy.
CR08	To support the Employer's deliverability assessment, the Contractor shall develop a high-level delivery programme, with the TfL Project Team which, will include (but not limited to) future development stages, design stages, TWAO and planning authority, construction and Entry-into-Service.
CR09	The Contractor shall utilise additional information provided by Cadent in regards to the methodology and timeframes for the relocation of the gas mains in the Beckton Riverside area.

CR10	The Contractor shall document actionable recommendations for all elements of the scheme.

6.24 Phase B: Early Contractor Involvement (ECI) Requirements - Estimating

The estimates produced as part of the feasibility stage will be utilised and updated to reflect the development undertaken during the commission. Whole Life costing is to be carried out and included within the updated estimate.

Req. ID	Requirement Text
ER01	The Contractor shall produce a cost estimate compliant with the Rail Method of Measurement that is reflective of the further feasibility design work and the Contractors Cost and Resource Loaded Programme and Construction Plan. It is not necessary to provide an assessment of sunk costs, the Employers costs, or any costs outside of the Contractor's scope.
ER02	The Contractor shall ensure that all Designer's Risks are consistent and costed.
ER03	The Contractor shall ensure that all estimating and design assumptions are consistent and costed.
ER04	The Contractor shall document how outstanding design assumptions are being treated in the estimate.
ER05	All estimates provided by the Consultant shall be in TfL Estimating Report Format and shall be Excel file format only.
ER06	The Contractor shall engage with TfL Surface Estimating representatives to support the estimating assurance process.
ER07	The Contractor shall undertake regular cost reviews with their Cost Consultant and the Employer to review any emerging cost implications/challenges associated with the developing design and discuss possible mitigations.
ER08	The Contractor shall produce estimates for the works including all temporary and permanent works costs, Employer costs, land and legal fees, license fees, charges, statutory costs, compensations, planning permission and the like. Land costs will need to be confirmed by TfL Operational Property.
ER09	The design team and TfL estimator shall be consulted during the preparation of the bill to ensure that the full extent of works is understood.
ER10	The Contractor shall engage with appropriate specialists, including contractors and suppliers, to properly interpret all the data available and ensure that quantities accurately reflect the works required.
ER11	The Contractor shall provide a supporting detailed bill of quantities / schedule of rates or agreed detailed pricing document.
ER12	The estimate shall reflect accurate current prices, based upon: • Quotations and other advice from contractors, subcontractors and other industry specialists • Known, accurate, industry data • Outturn costs of comparable projects • Any other information which may more accurately inform current pricing.

ER13	Before the estimate is issued to the Employer, a full internal review (QA) should be carried out by the Consultant.
ER14	The Contractor shall investigate innovative design and construction solutions that have the potential to lower the project's whole life cost.
ER15	The Contractor shall demonstrate how whole cost has been reduced throughout the development and delivery of the solution.
ER16	The Contractor shall undertake value engineering on the SPO Designs to demonstrate value for money.
ER17	The Contractor shall follow the package description used in for the 'Project scope packages' chapter to devise and communicate the programme estimate.

6.25 Phase B: Early Contractor Involvement (ECI) Requirements - Value Engineering

It is likely that through the production of the other deliverables required as part of this package and review of the SPO that the Contractor will identify areas of the design that can be optimised, or alternative construction methodologies. The Employer requires that the Contractor produces a report summarising these opportunities, which will be discussed with the Employer to consider whether any opportunities should be incorporated into the base project and reflected in the updated cost estimate and EFC for the project.

The Contractor will be expected to facilitate 2 No. 2 hour Value Engineering workshop to help identify areas of the SPO design that can be optimised and/or altered to drive through and realise efficiencies during future design development and construction.

Req. ID	Requirement Text
VER01	The Contractor shall produce a Value Engineering Report to summarise any areas of the design that can be optimised or any alternative construction methodologies.
VER02	The contractor shall document phasing opportunities that tie-in service patterns, housing development timescales and scope and construction phasing.
VER03	The Contractor shall facilitate 2 Value Engineering workshops to help identify areas of the design that can be optimised and/or altered to drive through and realise efficiencies.
VER04	Subject to agreement with the Employer, the opportunities shall be incorporated into the base project and reflected in the updated design drawings and cost estimate for the project.
VER05	The contractor shall challenge and document where DLR standards could be deemed to add an artificial constraint to the project.

Appendix

Separate to this document:

Appendix A	Arup-Atkins Feasibility Study
Appendix B	Programme Requirements Specification (PRS) draft
Appendix C	System Requirements Specification (SRS) draft
Appendix D	Master Deliverables List
Appendix E	Exchange Information Requirements
Appendix F	Development Masterplans
Appendix G	TBR Public Transport Programme Strategic Outline Business Case
Appendix H	TBR Public Transport Programme Initial Sift Option Assessment
Appendix I	TBR Public Transport Programme Second Sift Option Assessment
Appendix J	High-level DLR TEX programme
Appendix K	Carbon Model Tool Template Version 2.0

Attachment 2 – Consultant's Technical Proposal

Attachment 3 – Consultant's Pricing Schedule