Transport for London

SCHEDULE 7B

Form of Agreement – Short Form Call-Off Contract

Call-Off Contract Number: **ENG Task 277 - Traffic Signals BP RARR & PLI 2023/24**

Framework Lot: **D5 – Traffic Control Engineering**

Outline Agreement: **4600008087**

THIS AGREEMENT is made the 17th **day of** August **2023**

BETWEEN:

(1) **Transport for London (TfL), ("the *Employer"*** which expression shall include its successors in title and assigns); and

[redacted]

WHEREAS:

This Agreement is made pursuant to a framework agreement between the Parties relating to the provision of **TfL PSF2 94203 - Engineering Consultancy Services dated 4th January 2021** ("the Framework Agreement"). The *Employer* wishes to have provided Consultancy Services as contained in Table 3**.** The *Employer* has accepted a proposal (Table 4) by the *Consultant* for the Services in accordance with the Short Form Conditions of Contract (as defined in the Framework Agreement).

NOW IT IS AGREED THAT:

Terms and expressions defined in (or definitions referred to in) the short form conditions of contract have the same meanings herein. The *Consultant* provides the Services in accordance with the Short Form Conditions of Contract, Tables, Schedules and Attachments. The *Employer* pays the *Consultan*t the amount due in accordance with the Short Form Conditions of Contract. The documents forming this Call-Off Contract are:

This Form of Agreement duly executed by the Parties;
Short Form Conditions of Contract;
Table 3, Table 4 and Table 5;
The Attachments;
The Schedules.

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

First	:	This Form of Agreement;
Second	:	Table 5;
Third	:	Table 3;
Fourth	:	The Schedules;
Fifth	:	Short Form Conditions of Contract;
Sixth	:	Table 4.

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

1.1 the limitation period within which any claim may be brought by the *Employer* for breach of this Agreement by the *Consultant* is 6 years from the date of breach; and

1.2 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.

This Agreement has been signed for and on behalf of the *Employer* and the *Consultant* the day and year written above.

Signed by
for and on behalf of
the Consultant

[redacted]

Signed by
for and on behalf of
the Employer

[redacted]

Table 3, *Employer's* Requirement:

See Appendix 1 attached – Full Scope of Works as provided at tender stage. Appointment of a Consultant to design and assure 100 Bus Priority Sites. To obtain full Concept Design, Detailed Design and Commissioning (Local Acceptance Testing - LAT) of 100 signal schemes that form part of the TfL Traffic Signal Route Analysis Recommendations Report (RARR), Performance Led Improvements (PLI) & iBus Redeployment Programmes for 2023/24.

Table 4, *Consultant's* Proposal:

See Appendix 2 attached. Full submission as provided at tender stage.
Charges: Pricing Option: A – Fixed Priced The total cost of the services is fixed at [redacted] and shall not exceed this amount. The Day Rates shall remain fixed for the life of this Call-Off Contract, including any contract extensions. TfL will not reimburse any additional costs for time, input, resource or other without prior written consent from TfL's Employing manager. See Appendix 3 for full breakdown of costs. Full submission as provided at tender stage.

Table 5, Contract Particulars:

Contract Number: **ENG Task 277 - Traffic Signals BP RARR & PLI 2023/24**
The Contract Commencement Date is: 18/08/23 The Service Commencement Date is: 18/08/23 The Call-Off Term is: 9 months Contract shall terminate 30/05/24 The Call-Off Contract may be extended for a further 3 months, however any extensions will be at the *Employer's* own discretion and subject to the appointed *Consultants'* satisfactory performance, ongoing requirement and funding availability. This will be confirmed and mutually agreed in writing.

In accordance with Clause 7.1 of the Short Form Conditions of Contract, the *Employer's* Contract Manager is:

[redacted]

In accordance with Clause 7.1 of the Short Form Conditions of Contract, the *Employer's* Procurement Manager is:

[redacted]

[redacted]

Consultant's Key Persons are:

[redacted]

Notice period in accordance with Clause 25.4 of the Short Form Conditions of Contract (termination without cause): 30 days

Payment Period: (see Clauses 5.1 and 5.4 of Short Form Conditions of Contract)

Clause 5.1 - The invoice period shall be 4-weekly in arrears.

Clause 5.4 - Payment will be made within 30 days of receipt of invoices.

Consultant **must** send invoices via email, in pdf format, to: Invoices@tfl.gov.uk

Invoices should be addressed to:

Transport for London
Accounts Payable
P.O. Box 45276
14 Pier Walk, SE10 1AJ

All invoices must have TfL Contract Reference Number, SAP Purchase Order number, TfL Contact name, a separate calculation of VAT and a brief description of the Services provided.

APPENDIX 1

EMPLOYER'S SPECIFICATION

Transport for London

Appendix 1 – Scope of Works

ENG Task 277 - Traffic Signal BP RARR & PLI 2023/24

Technical Brief

The consultant is required to undertake the Concept Design, Detailed Design and Commissioning (Local Acceptance Testing - LAT) of 100 signal schemes that form part of the TfL Traffic Signal Route Analysis Recommendations Report (RARR), Performance Led Improvements (PLI) & iBus Redeployment Programmes for 2023/24.

1) The Concept Designs are required to be completed, including TfL Engineering & Asset Strategy (E&AS) assurance for all schemes by the 24th November 2023.

2) The Detailed Designs are required to be completed, including TfL Engineering & Asset Strategy assurance for all schemes by the 12th January 2024.

A full programme for the concept and detailed design is to be agreed at the commencement of this commission.

3) The LATs will be programmed in for the Financial Year 2023/24 but a specific programme is currently unavailable.

A list of the signal schemes included within this programme can be found in Appendix A attached to this brief along with the grouping.

E&AS has already undertaken the feasibility design stage assessment of each site and the required changes at each site are specified in Appendix A.

The tasks required to undertake the above brief are shown below:

General:

- Site Survey and Design information (other than approved drawings), including relevant correspondence and logging of design decisions, should be stored in the relevant Executive Summary folder on TfL's servers.
- Approved drawings must be supplied to the [redacted] inbox for upload at the time of approval.
- Attendance will be required at regular project update meetings with E&AS. These will be fortnightly or less frequent.

Site Survey:

Each site is to be visited initially and survey work to be undertaken. The survey work must include:

- Completion of the Stage 1 section of the SQA-8189 Traffic Signal Safety & Quality Check List 1 & 2, as per the process outlined in SQA-0646.
- Check existing documentation is all present and an accurate reflection of site layout and operation.
- Photos of all site approaches relevant to the design proposals, for all road users.

- Where existing equipment is in situ, photos of the inside of the traffic signal controller, inside of the PJL (if present) and controller side panel (if provided). Internal and external photographs of the ESP.
- Any other photos relevant to site specific issues noted at the survey.
- Completion of Risk Assessments (SQA-8700) and Hazard Register (SQA-8701).

Design Process:
Following this initial site assessment the following actions shall be taken (where applicable):

- Summarise Stage 1 visit findings and supply report to EA&S Project lead and other parties as directed by the EA&S Project Lead.
- If current SLD does not accurately reflect site, this should be updated as a proposed (PRO) drawing for the scheme and SLD issue reported to and Drawing Office.
- If required request new PRO drawing number/title from TfL's Drawing Office [redacted]
- If required, produce the PRO drawing, based on the client's design / requirements, otherwise use the existing Site Layout Drawing (SLD).
- The design shall conform to the SQA-0640 series of documents and SQA-0651. The PRO drawing should conform to TfL's drawing layer requirements and be saved in AutoCAD 2020 format or earlier.
- If physical changes are deemed necessary, refer back to EA&S Project lead before submitting scheme for stage 2.
- Any existing departures from standards above, should be detailed and communicated to the corresponding Highway Authority. The EA&S Project Lead can be considered the relevant contact for the TLRN. Any civil changes required are to be detailed in the SQA-8702.
- For junctions:
    - complete part A for the SQA-8448 form, in partnership with the relevant Network Performance Delivery (NPD) contact as detailed in the site list. This process is outlined in SQA-0448.
        - This may sometimes require the production of a skeleton LinSig model and agreement of contingency stages to be included in the proposed method of control.
- For crossings:
    - complete the SQA-8696 form setting outcrossing type, timings, mode of operation/control, working in partnership with the NPD contact advised by the Project Manager.
- Ensure that the design is checked and approved in line with SQA-0646. Submit the site for a Stage 2 Check at:

  [redacted]

- The design pack for Stage 2 Traffic Signal Safety & Quality Check should consist of the following:
    - Commentary and correspondence relating to departures from standards or site specific design considerations, constraints or difficulties – and associated photographs.
    - Draft PRO drawing in .dwg format if required, or the existing SLD
    - SQA-8189 – Stage 1 and 2 Traffic Signal Safety & Quality Check List

- SQA-8700 – Design Hazard Register
- SQA-8701 – Design Risk Assessment
- SQA-8448 – Junction Traffic Signal Design Sheet - Part A completed (Junctions only)
- SQA-8696 – Proposed Crossing Timing Sheet (Crossings only)
- SQA-8702 – Engineering Supplementary information
- SQA-8695 – LAT Attendance Requirement Assessment
- Skeleton LinSig if required

Following the approval of the Stage 2 Traffic Signal Safety & Quality Check:

- Supply the approved PRO or existing SLD (in PDF & DWG format) and SQA forms to Project Manager and copy in the EA&S Project lead
- For junctions, supply the approved PRO or existing SLD and SQA-8448 form to the NPD contact for their completion of Part B, cc'ing the email to the Project Manager. Continue to liaise with NPD contact to resolve any queries around phasing, staging, timings, etc.
- If the scheme involves new or changes to Bus Priority virtual detection points (VDP) the approved PRO drawing is to be emailed to svdibus@tfl.gov.uk to update the iBus datasets
-

Following the approval of the SQA-8448 form with Part B:

- Write a controller specification in the Site & Fault Management Database (SFM)/Maximo incorporating the timings and staging and other details agreed within the SQA-8448, the new approved drawing number and Generic Conditioning List V2
- If required, request a new iBus configuration to include the IP comms address and changes to the VDPs for site on SFM from the EA&S Project Lead
- Ensure the controller specification is audited as per the process outlined in SQA-0646.

Following the audit and approval of the controller specification:

- Supply the approved controller specification in PDF format to the Project Manager
- Respond to any configuration queries/issues raised by the configurator or from the TfL configuration assurance process

Commissioning Process:
The signal contactor will provide at least 5 working days' notice for the LAT

If the proposed date/ time for a LAT falls outside of normal working hours the Project Manager must be notified.

Attend site on date provided to commission/assure traffic signal installation ensuring that all necessary safety and detection checks are carried out.

The following documents are to be completed during the LAT:

- SQA-8704 - ATS LAT Checklist
- SQA-8190 – Stage 3 Traffic Signals Safety & Quality Check List

If LAT is unsuccessful, report reason to the Project Manager to ensure issue is rectified. Re-attend site for LAT once issue has been resolved.

Report any snagging or faults to the Project Manager. If necessary, reattend site following completion of snagging.

Notify the Project Manager and the EA&S Project Lead of any timing changes that have made during the LAT that may result in a new controller configuration being required.

Following a successful LAT:

- Send completed SQA-8704 and SQA-8190 to the Project Manager in PDF format.

Financial Assessment

The consultant is required to provide a total cost to undertake the Concept Design, Detailed Design and attend a single LAT at each site to undertake the necessary checks and complete the required documentation. The consultant should assume that all sites will be commissioned during normal office hours. The total cost is to be comprised of:

1. Cost per junction for:
    a) Concept design
    b) Detailed Design
    c) LAT
2. Cost per pedestrian crossing for
    a) Concept Design
    b) LAT

The consultant should also provide an additional per site cost to undertake a LAT out of office hours, either during the night, on a weekend or public holiday.

The consultant should also provide an additional cost per site to undertake a second LAT where the first LAT has not been successful due to incomplete third party works, incorrect signal installation or incorrect configuration

The financial assessment will be undertaken on a total price for:

95 x complete junction schemes
5 x complete pedestrian crossing schemes
10 x 2nd LATs
10 x out of hours LATs

The consultant is required to submit CVs for their staff who will undertake each commissioning demonstrating their suitability, for approval by E&AS prior to the commencement of the contract.

As part of the invoicing process, the consultant will be required to specify, in a single invoice, the appropriate amount billed to each individual scheme WBS code shown in Appendix A.

Appendix A – 2023/24 Traffic Signal Bus Priority Site List

[redacted]

APPENDIX 2

CONSULTANT'S PROPOSAL

AECOM

Traffic Signals BP RARR & PLI 2023/24

ENG Task 277

AECOM Tender Submission

Transport for London

27th July 2023

Delivering a better world

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Question 1

Understanding and Methodology

Detail your understanding of this requirement and your proposed methodology to carry out all the deliverables

Proposed Delivery Methodology

AECOM's Traffic Signal Team has significant experience working alongside TfL on previous projects in numerous locations, complexities and different types of traffic signal installations. These previous relationships ensure AECOM is uniquely placed to support the TfL Engineering and Asset Strategy team (E&AS) with the delivery of these 100 varied traffic control installations. We have strength in depth with a number of staff members who have previously carried out designs and commissioning of junctions and pedestrian crossings on behalf of TfL. There is a strong local team but also wider support from the AECOM Traffic Signal Group (ATSG) which is made up of over 20 Traffic Signal Engineers.

Earlier this year, AECOM was awarded for the third year running the accolade of being the world's most trusted infrastructure consulting firms (Fortune Magazine, 2023) and embed our certifications in the ISO standards (9001 - Quality, 14001 -Environment and 45001 - Health and Safety) into a single, globally adopted Project Delivery System (PDS). Aligned to PRINCE2 methodology, the PDS delivers consistent, right first time, service delivery. As a client it gives you the confidence that those involved in your projects are trained and certified to adopt a Project Management process that adjusts to the different complexities of the projects as at AECOM, we understand it is not a 'one size fits all.'

AECOM has substantial experience of providing support on schemes with challenging timescales and ensuring delivery to price, quality and programme. Our proposed project team has been specifically chosen due to their innate knowledge of your requirements and expectations, which enables them to hit the ground running and ensure the required programme timescales are met. It is this local knowledge that has allowed us to provide a price and programme that is tailored for this particular work stream as the work requested is already understood in terms of the challenges to deliver the design packages within a short time frame available.

Our team have experience of carrying out both design and commissioning works for TfL previously. Dave Chiu, who will have overall responsibility for the technical delivery of this programme has experience from having been embedded within TfL Engineering & Asset Strategy (E&AS) for over 10 years under previous secondments meaning that we fully understand the 'TfL' way. This working arrangement has created good relationships not only with TfL's E&AS and Network Performance Delivery (NPD) departments but also with TfL signal contractors. Having produced numerous traffic signal designs, controller specifications and bus priority configurations our team is well placed to identify and mitigate any issues during the design and commissioning stages.

We not only bring our knowledge of TfL, but our teams have also carried out design and commissioning works on behalf of local authorities all over the UK. This provides you with a team that has experience working with a variety of Traffic Signal controllers and equipment where we are happy to transfer this knowledge if you wish.

Added value - Our team has previous experience with the application of the LEAN process on TfL schemes, this included the 21st Century Comms programme of works and TfL's Modernisation 2022-23 programme of works. The LEAN process enables work programmes to be completed in a more efficient manner than standard working practices. The application of the LEAN process for this programme of works is essential in ensuring the works are completed within the timeframe expected. It will also help identify any beneficial improvements to the design process

Icon key: Added Value Continuous Improvement

We are able to deliver fully the tender specification as outlined below.

Task 1 - Project Meetings & Reporting

The project will commence with an inception ('Healthy Start') meeting w/c 29th August 2023 to ensure all parties understand the requirements of the project and that the project is set up on the right footing, with the right resourcing, documents and controls in place to drive high quality and performance from the outset, delivering success to the client. AECOM's assigned project manager, [redacted], will attend regular meetings with TfL's assigned project manager, as agreed during the Healthy Start meeting, and provide regular updates on the programme of works. The AECOM team will be available at all times if needed to discuss any issues that arise.

We will ensure that the TfL PM is entirely happy with the process, by offering open feedback opportunities throughout the duration of the project and, if as clients, you have ideas for added value and we can incorporate them then we will do so – we are here to provide customer satisfaction for our clients and ideas can come from all.

Task 2 Desktop Study & Junction Reviews

Prior to carrying out the Stage 1 audit on site a desktop study will be carried out.

- Check existing faults and hazard register.
- Access Sig/Cad and review Site Layout Drawing (SLD)
- Request PRO drawing numbers from drawing office, for those sites that require PRO drawings to be produced
- Timing sheet to be checked for any RAM changes to the timings on site.
- Create folder on executive summary for all sites based on TfL E&AS folder structure, to store site survey and design information.

Task 3 Site Visits

AECOM H&S forms will be completed and approved for all sites to be visited to ensure that our excellent Health and Safety record is maintained but also that we do not compromise your own records. Suitable PPE will be issued to team. Stage 1 audit to be carried out, in accordance with SQ-0646, completing form SQA-8189.

- Check existing documentation is all present and accurately represents the layout and equipment on site.
- Take measurements of Junction elements such as crossing widths
- Photographs of all approaches and signal equipment on site, this will also include the inside of the controller, inside of Post Joint Large (PJL), if present, and internal, external photographs of the Electrical Supply Pillar (ESP)
- Complete Stage 1 of the Traffic Signal Safety & Quality Check List 1 & 2
- Complete SQA-8700 Design Hazard Register and SQA-8701 Design Risk Assessment.
- Record any RAM sheet changes on site.
- Review latest entries in fault logbook.

Task 4 Review Site Data & Departure from Standards

Upon completion of the site visits, the AECOM engineer shall upload all data electronically to the individual Executive summary project folders on TfL's system. We will summarise the findings of the stage 1 audits and produce a report for the TfL project manager and communicated to the corresponding Highway authority, as

instructed by the TfL project manager, highlighting any physical changes and / or changes that fall outside of the current scope of works, including any departures from standard noted during Stage 1 audit.

Task 5 Liaison with Network Performance

For Junction designs, prior to completing the SQA-8448, Network Performance Delivery (NPD) will be consulted to confirm any changes to the method of control. The early engagement with NPD will ensure agreed method of control can be added to the PRO drawing and part A of SQA-8448. A skeleton LinSig model will also be produced. The SQA-8448 will be completed as per the process outlined in SQA-0447.

Task 6 Design Drawings

If the current Site Layout Drawing (SLD) does not accurately reflect the site, this will be updated as a proposed drawing (PRO) and will be produced to TfL's design/requirements, this design will conform to the SQA-0640 and SQA-0651 series of documents. Proposed drawing will conform to TfL's layering requirements and will be saved in Auto CAD 2013 format or earlier. If current SLD reflects site accurately this will be used.

Task 7 Produce Design Pack for Submission

The following to be completed as part of design packs which will be submitted via TfL's SharePoint site once complete and ready for Stage 2 checks:

- Commentary and correspondence relating to departures from standards or site-specific design considerations, constraints or difficulties – and associated photographs.
- Draft PRO drawing in .dwg format 2013, where required, or SLD
- SQA-8189 – Stage 1 and 2 Traffic safety & Quality Check List
- SQA-8700 – Design Hazard Register
- SQA-8701 – Design Risk Assessment
- SQA-8448- Junction Traffic Signal Design Sheet – Part A completed
- SQA-8696- Proposed Crossing Timing Sheet (crossings only)
- SQA-8702 – Engineering Supplementary information
- SQA-8695 – LAT Attendance Requirement Assessment
- SQA-8704 – ATS LAT Checklist
- Skeleton Linsig model

Task 9 Queries from Assurance

It is understood that Stage 2 audit queries will be replied to on the same day and actioned in a suitable time frame, by AECOM, to reduce any delays to the assurance process.

Task 10 NPD completion of SQA-8448-Part B

On approval of SQA-8448 Part A, we will issue the following to NPD:

- Signed off PRO drawing (PDF& DWG format) or SLD drawing
- SQA-8448 Part A approved
- Skeleton Linsig

We will continue to liaise with NPD to resolve any queries relating to phasing, stage, timings, BP, and any other queries relating to Part B.

Task 11 Produce Controller Specification & iBus configuration

Once the SQA-8448 has been approved by NPD and TfL Engineering the controller specification will be produced ready to submit for audit. If required, an iBus configuration/VDP will berequested.

Task 12 Following the Audit and Approval of the Design pack

Following the approval of the design pack the following will be issued to TfL PM - signed off PRO drawing (in PDF & DWG format), approved controller specification in PDF format (where applicable) and SQA forms to project manager, also saved in handover folder. We will respond to any configuration queries raised by the configurator and / or TfL configuration assurance process

Task 13 Attend Commissioning of Junctions & Pedestrian Crossings

Complete AECOM H&S forms for site attendance.

Complete following forms:

- SQA-8704 ATS LAT Checklist.
- SQA-8109 - Stage 3 Traffic Signal Safety & Quality Check List.
- Completed SQA-8704 and SQA-8109 to be sent to project manager in PDF format within one week of successfully completed LAT.
- If LAT unsuccessful, the reason for failure will be reported to the project manager.
- Report snagging to the TfL project manager

Quality Assurance

To achieve TfL's high expectations of quality, our design team will ensure all design work complies with the relevant SQA documentation. All design work will also be subject AECOM's internal Checking, Verification and Approval (CVA) process.

Our commissioning team will work in accordance with TfL TES-303: Local Acceptance Testing for Traffic Signal Assets and UTC commissioning (where required). Our commissioning team are experienced in working in accordance with this process and been previously assessed by TfL on site carrying out commissioning's on TfL's behalf. All team members, not approved by TfL will be approved before they carry out a commissioning.

All of AECOMs traffic signal engineers are registered to the National Highway Sector Scheme 8 (NHSS8) and are Electrical Certification Scheme (ECS) card holders. AECOM have advanced experience in NHSS8 / ECS and able to offer TfL additional services in the form of advice and assistance regarding the registration process.

AECOM's knowledge and experience in applying TfL's methodology throughout the design and commissioning stages can be demonstrated through their recent commission on TfL's 2022/23 Modernisation programme of works.

AECOM have yet again proved to be a highly experienced and professional consultancy. Communication, quality and delivery have been above expectations throughout the delivery of this programme.

[redacted]

Question 2

Programme & Risk Register

Provide a team organogram and a detailed programme identifying:

- **Activity / Deliverables**
- **Resource / Grade of Resource**
- **Effort Days - including explanation of the days allocated to each activity / deliverable**
- **Timescales**
- **Risk Register detailing key risks and assumptions highlighted with mitigations.**

Activity and Deliverables

A full list of deliverables for each stage can been seen in the table below

Deliverable	Concept Design Stage	Detailed Design Stage	Commissioning Stage
SQA-8189 Stage 1 and 2 Traffic Safety & Quality Check List	✓		
SQA-8700 Design Hazard Register	✓		
SQA-8701 Design Risk Assessment	✓		
SQA-8448 Junction Traffic Signal Design Sheet	✓		
SQA-8702 Engineering Supplementary Information	✓		
SQA-8695 LAT Attendance Requirement Assessment	✓		
PRO Drawing (in .dwg format 2013) or SLD	✓	✓	✓
LinSig Model (Skeleton)	✓	✓	
Traffic Signal Controller Specification		✓	
iBus Configuration (If required)		✓	
SQA-8704 ATS LAT Checklist		✓	✓
SQA-8190 Stage 3 Traffic Signal Safety & Quality Check list			✓

Resource and Grades

Our proposed project team can be seen in the organogram below

The proposed team have previous experience with both the design and commissioning of TfL sites. In addition to the proposed project team, AECOM has further resources available to provide resilience and adapt to the needs of the programme through our wider UK team of 20+ experienced traffic signal engineers.

Effort Days (Total days required by grade for each task within the programme)

Activity	Project Role	Effort Days	Rationale
[redacted]			

Timescales

It is understood that concept design stage shall be completed no later than **24/11/2023** and the detail design stage be completed no later than **12/01/2024**. A full proposed project programme can be found in **Appendix A** which will meet these dates.

Risk Identification & Management

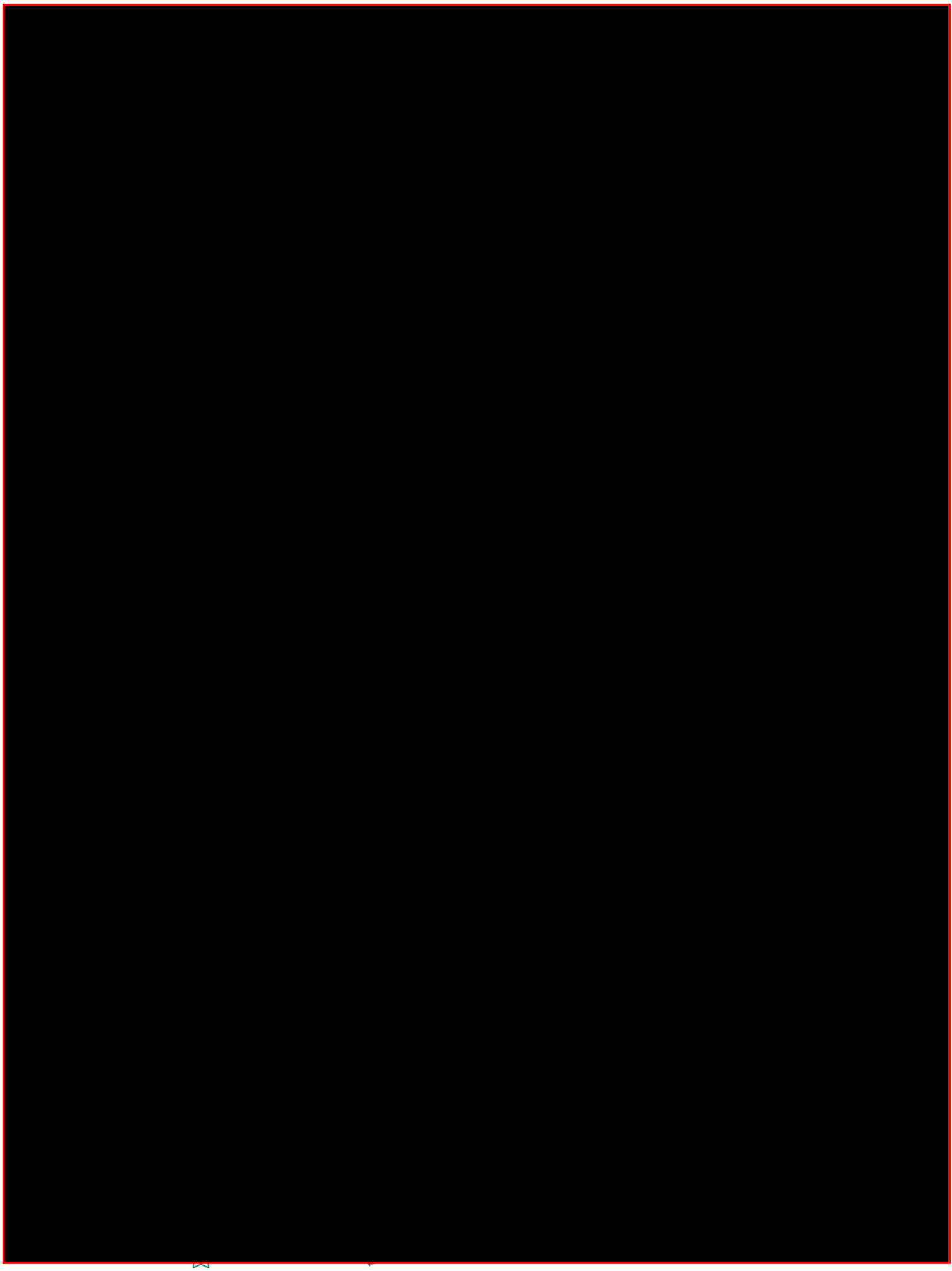
AECOM have undertaken a review of the risks associated with this project, please refer to **Appendix B** for our initial project Risk Register which will be discussed further at the Healthy Start meeting. The risk register will be maintained as a live register and reviewed at regular intervals throughout the project, with any changes highlighted for the TfL Project Managers attention and discussion.

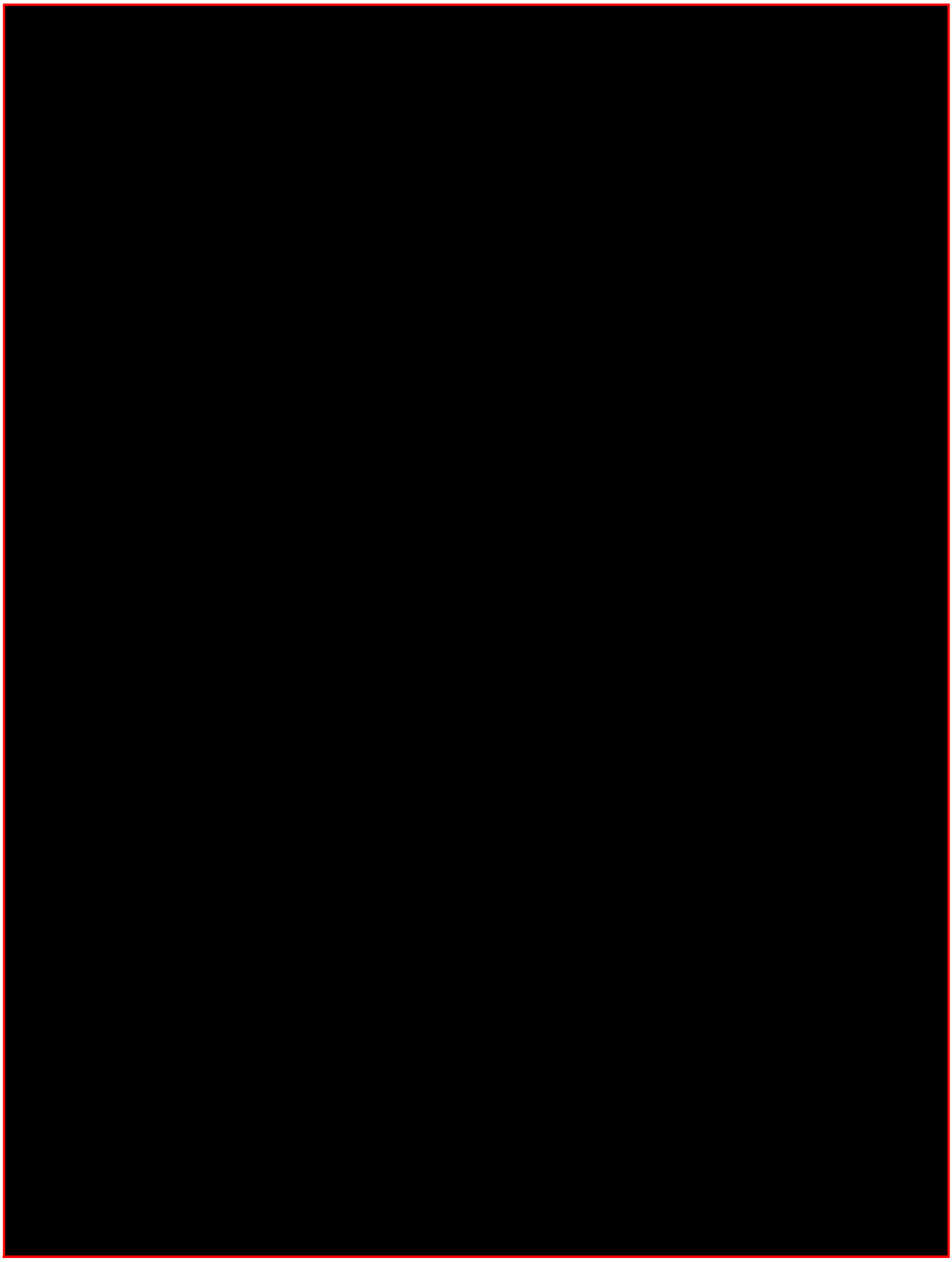
Question 3

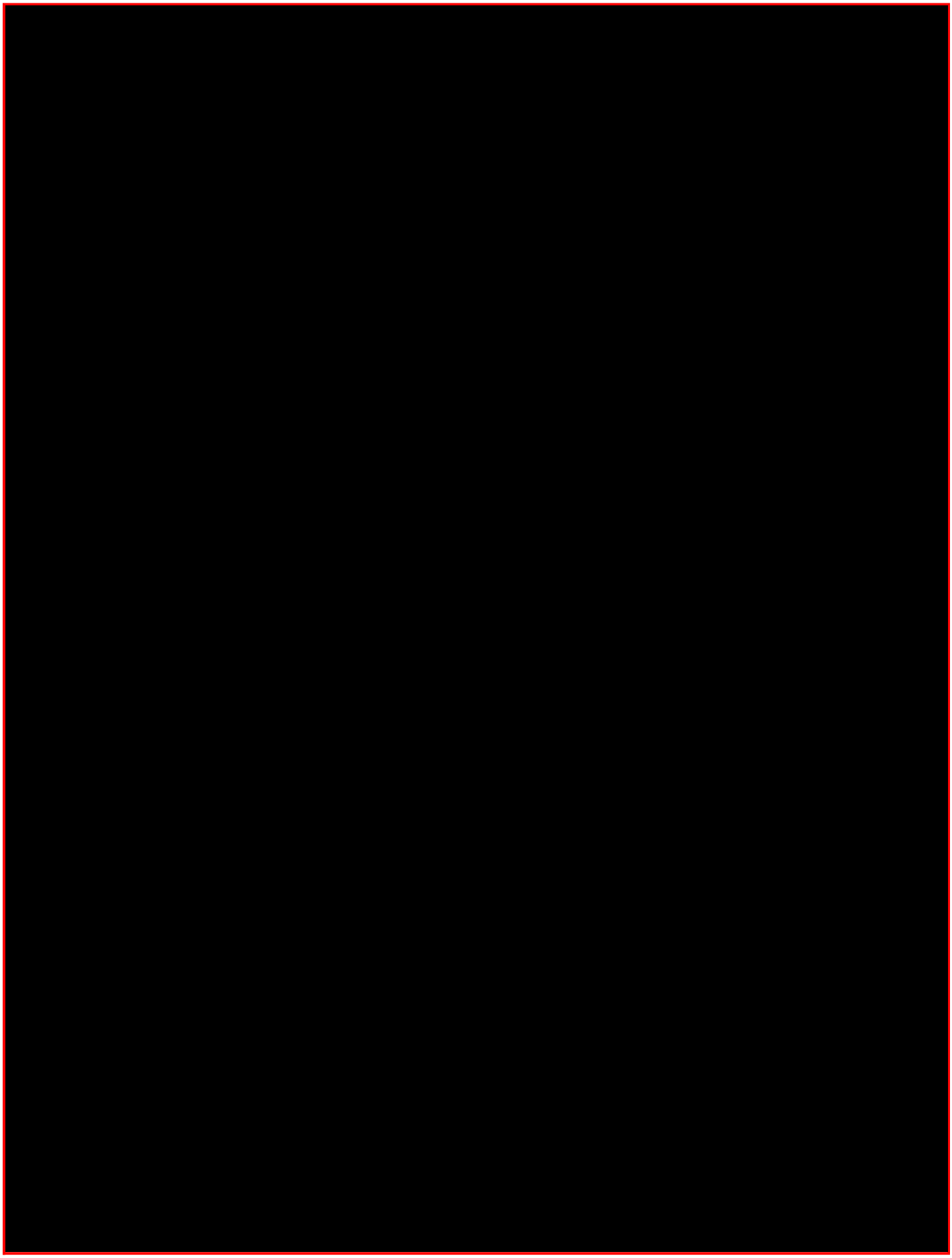
Quality of Resource

For the Proposed resource/s supply:

- **A synopsis of their role and the expertise and added value they would bring to the project**
- **Resource's availability for the duration of the contract**
- **CV detailing relevant experience, qualifications.**







Question 4

Relevant Experience

Detail 3 relevant experiences you have successfully completed in providing similar services

Relevant Experience

Modernisation Programme of Works 2022 - 2023 (& 2014 – 2018)

AECOM's St. Albans signal team have been involved with TfL modernisation programme on a number of occasions. During the period of 2014-2018 we successfully designed, assured, project managed, commissioned and closed down over 100 junctions on behalf of TfL. These sites were procured through the London Highways Alliance contract as part of the Conway/AECOM joint venture.

More recently, AECOM were awarded 40 junction modifications via the Professional Services Framework. This was awarded in December 2022 and commenced on 12th December 2022. The 40 sites needed to be designed and assured by 29th March 2023. AECOM has substantial experience providing support on schemes with challenging timescales and ensuring delivery to price, quality and programme. Our project team delivered the designs, in line with the agreed programme and budget, including E&AS assurance of the Stage2 designs and E&AS assurance of the controller specifications. AECOM engineers attended sites to carry out Stage 1 audits completing SQA-8189 and surveying existing equipment and road markings on site. Any departures from standard were noted and highlighted in SQA-8189. During the design process NPD changes added to SQA-8448 and all relevant SQA forms saved to Executive Summary. New proposed (PRO) drawings were produced based on the required design with ducting details added following Quality Officer discussions. Completed SQA forms and PRO drawing were submitted for Stage 2 assurance.

To ensure the works were successfully delivered, to the TfL programme, AECOM agreed to submit 5 junction designs per week, submit 5 SQA-8448's to Network Performance Delivery (NPD) and submit 5 controller specifications to E&AS for assurance.

As instructed by TfL E&AS Project Lead, any existing departures from standard were detailed and communicated to the relevant Highway authority. This included a letter and drawing highlighting the proposed changes required to mitigate the departure.

AECOM adhered to the TfL Lean Review Process which seeks to obtain approval for the checks and audits within one working day of submission. To achieve this, AECOM relied upon our excellent working relationship with TfL E&AS and NPD and an excellent knowledge and experience of TfL's SQA forms and auditing process.

The commissioning of these 40 junctions are to be programmed for 2023/24.

AECOM have yet again proved to be a highly experienced and professional consultancy. Communication, quality and delivery have been above expectations throughout the delivery of this programme.

[redacted]

The team who delivered this project [redacted] be form part of the proposed team for the RARR works, bring their knowledge & experience of delivering projects with tight deadlines.

Route Analysis Recommendation Report (RARR) 2018-2021

TfL Network Performance Delivery identified a number of junctions that could benefit from changes to the method of control to improve facilities for buses and pedestrians. These included upgrading junctions to SCOOT UTC, kerbside detection for

call/cancel, addition of bus priority, upgrading existing iBus to include differential priority and method of control changes.

AECOM were allocated a total of 20 sites which required site visits to carry out Stage 1 audits and where required siting of Scoot magnetometers, access points and repeaters to ensure good line of site. Proposed drawings were produced for all sites as well as relevant SQA forms including SQA-8189, SQA-8448 and skeleton LinSigs if required. Any departures from standard were highlighted to the project manager and highlighted in the Stage 1Audit. During the design process AECOM worked closely with E&AS and NPD with regards to updating iBUS, Scoot detector locations, method of control and cableless linking plans as required.

Design packs were submitted to E&AS for Stage 2 audit, once approved SQA-8448 and LinSig submitted to NPD. Controller specification would be completed following approval of SQA-8448. iBus configuration updated if required. Relevant forms were then uploaded on to TfL Workflow and submitted to the TfL signal contractor.
AECOM attended commissioning's completing the Local acceptance test SQA-8704, Stage 3 audit and if required UTC commissioning with NPD. All relevant forms associated with commissioning and close down were uploaded onto TfL Workflow and Executive Summary. TfL project manager was informed and close down forms submitted. All 20 sites were successfully delivered within the required time and budget

Carriageway Improvement Programme (CIP) (2020-2021)

AECOM were awarded 60 sites that required the addition of on-crossing detection for call/ cancel operation. The 60 sites were made up of 36 pedestrian crossings and 24 junctions. To ensure the deadline for the completion of this project, AECOM successfully submitted 10 pedestrian crossing designs a week followed by 5 junctions a week for assurance with E&AS. AECOM engineers attended site to carry out Stage 1 audits completing SQA-8189 forms, noting any departures from standards, highlighting any errors in the Site Layout Drawing (SLD), and ensuring the proposed location of the detection would be correctly sited away from obstructions. A proposed (PRO) drawing was produced showing the on-crossing detection. Design packs would be submitted to E&AS for Stage 2 assurance. To ensure TfL programme was maintained, AECOM adhered to the Lean process and answered queries within one working day during the audit process.

For the junctions, NPD were consulted during the design process to confirm any changes they may require, ensuring the submission of the SQA-8448 forms and proposed drawings included any method of control changes. Following approval of SQA-8448 Part B, 5 controller specifications were completed and then submitted per week for audit. On completion of the detailed design these were uploaded onto TfL Workflow and project manager informed.

Following confirmation by the signal company of commissioning dates, our team of engineers attended all 60 commissioning's, liaising with the signal company and NPD if UTC was required. All necessary documentation was completed, SQA-8704 LAT, Stage 3 audit and photographing new equipment on site. Upon successful commissioning the paperwork was uploaded to the executive summary and closed down. TfL project manager was informed and close down form submitted. All 60 sites were successfully delivered within the required time and budget

Conflicts of Interest

AECOM are currently not aware of any conflicts of interest, however, if AECOM do become aware of any such conflicts of interests, we shall notify the TfL Project Manager immediately.

Appendix A – Programme

Appendix B – Risk Assessment

Project Risk Register

Project	TFL - Task 277 Traffic Signal BP RARR & PLI 2022/23						Project Number			
							TBC			
Ref.	**Assumptions**	**Risk (description)**	**Likelihood**	**Project Impact**	**Risk Level**	**Mitigation measures**	**Owner**	**Adjusted Likelihood Impact**	**Adjusted Project Impact**	**Adjusted Risk**
1		**Traffic Signal Works**								
1.1	Access to TfL system and software (Maximo, SIG/CAD/ Executive Summary) will be provided by commencement of the contract on 18/08/2023.	Delay to start of project due to a lack of access to TfL systems	M	H	H	TfL to ensure access to relevant system is available from start of project.	TFL	L	H	M
1.2	The delivery of 10 sites per a week will be required to meet expected programme	Delivery dates not met due to tight programme / deadlines / staff availability	M	H	H	AECOM to use additional staff to ensure programme is met if programme occurs. The application of the LEAN process is recommended.	AECOM / TFL	L	M	M
1.3	Other than for commissionings, there are no approvals required from TfL for the use of any additional staff, not mentioned in this tender, to ensure the deliverable dates are met.	Delay in delivery of design packages due to lack / loss of resource	M	M	M	AECOM have large pool of suitable staff that can be made available if selected project staff are sick / holiday / leave.	AECOM	L	M	L
1.4	TfL shall supply AECOM with sufficient access to any information that may affect the completion of the site visits	Unable to complete site visits as per programme due to third party issues	M	M	M	Any currently known site sccess issues will be accounted for during the planning of the site visists and any new site access issues will be reported to TFL immediately and agree the re-programming of site visit(s)	AECOM/TFL	L	M	L
1.5	All site visits will be carried out during the early stages of the project (September) to avoid carrying out site visits during winter months	Site work delayed due to Inclement weather	M	M	M	Check weather forecast prior to site visits / commissioning's, allow for additional days in programme for inclement weather	AECOM	L	M	L
1.6	TfL shall complete Concept design audits within 5 to 10 days and Detailed design audits with 5 days.	Delay in delivery of design packages due to design audits not being completed as per programme	M	M	M	AECOM to ensure communcation with auditors is suffienct, if no resolution is acheived in reasonable time then highlight delays to TfL project manager.	AECOM/TFL	L	M	L
1.7	All persons attending site will need to be sufficently competent. Those carrying out commissionings are to be approved by TfL Assest team before hand.	Injury or damage to property due to non-competent persons accessing Highway Electrical Equipment	M	H	H	AECOM to ensure only NHSS8 / HERS registered personnel, and TfL approved, carry out site visits / commissioning's	AECOM	L	M	M

Risk Matrix

			Project Impact		
			Minor	**Moderate**	**Major**
	Likelihood	**Likely**	Medium	High	High
		Possible	Low	Medium	High
		Unlikely	Low	Low	Medium

APPENDIX 3

PRICING SCHEDULE

PRICING SCHEDULE

[redacted]

[redacted]