b) Highlighted dates where information is required from TfL and other parties;
c) Identify Employers acceptance requirements and TAA review periods;
d) Critical path shown as a pdf copy with the periodic submission.
e) Programme narrative explaining progress against agreed baseline.

3.1.10.2 Quality Assurance Plan

Ideally accredited to ISO 9001:2008 or able to demonstrate adherence to quality assurance to an appropriate standard and in line with TfL Pathway Guidance;

a) Health & Safety Plan;
b) Risk register including recommended mitigation strategies (the risk register should mirror the format utilised by the web based risk assessment package "Active Risk Manager" or "ARM" and should include current and target probabilities; minimum, likely, maximum durations and costs. Mitigations should be clearly identified. A Monte Carlo P50 assessment should be carried out;
c) Attend a weekly design progress meeting and provision of a periodic progress report and minutes (see Appendix 1);
d) Provision of a periodic progress dashboard using template within appendix 1
e) CDM2015. All requirements under CDM applicable to the Principal Designer role at Concept Design stage.

Other:

f) Arrange Value Engineering workshops to develop the concept design. Identify suitable timing of these in discussion with TfL. A minimum of two workshops shall be assumed;
g) Attend a lessons learned workshop (to be arranged by TfL towards the end of the concept design work).

3.2 Interfaces

Regular design progress meetings will be required (frequency to be agreed once contract awarded but assume weekly for pricing and programme purposes) and the following internal and external stakeholders shall be invited to ensure that any requirements are included as required. Other stakeholders may be identified and need to be included as the scheme continues to be developed:

3.2.1 Internal Stakeholders include, but not limited to;

a) LBHF Technical Approval Authority (TAA)
b) TfL Engineering
c) TfL PPD Utilities Management

3.2.2 **External Stakeholders include, but not limited to;**

a) Statutory utility companies
b) Port of London Authority
c) Environment Agency
d) Historic England
e) Adjacent land owners
f) LB Richmond

3.3 **Assumptions and Constraints**

Concept Design (Bridge)

3.4.1 Statutory Services – Design shall be optimised to accommodate existing capacity. Diversion of utilities (if required) should be done once to minimise expense wherever possible.

3.4.2 Temporary load restrictions – The current bridge up until its closure had a loading restriction of 7.5 tonnes. Current assessments show that no loading above 2 tonnes is permitted on the bridge. See - *383488-MMD-HSB-REP-SE-ASR-000001 - 03 Assessment Report.*

3.4.3 Design Life - The restored bridge structure is to have a minimum 60 year design life.

3.4.4 Land requirements - The detailed project proposals are not in the public arena. In particular the *Consultant* needs to be aware that directly affected property owners are yet to be fully engaged and appropriate management processes to liaise with these businesses and residents are not in place at present. This commission requires the *Consultant* and their suppliers to treat all information as confidential.

Construction Methodology

3.4.5 Pedestrian access – Pedestrian access across the bridge shall be provided at all times. The requirements for pedestrian routes and crossing points shall be reviewed and agreed with TfL if a footpath closure is required.

3.4.6 Traffic Management - The bridge is currently closed to all carriageway traffic with the exception of cyclists. The intention is for the road to remain closed throughout the duration of the works.

Programme

3.4.7 The delivery of the project will require significant collaboration with LBHF and LB Richmond to agree acceptable temporary restrictions and traffic management regimes to enable progression of construction work. All temporary restrictions and traffic management requirements shall be acceptable to and agreed by TfL and the relevant Highway Authority.

3.4.8 Project interface with 3rd party works – During the design co-ordination will be required with Statutory Services Providers. This shall ensure all necessary advance enabling and diversionary works can be achieved in good time to allow the main construction works to complete within the project timescale.

3.5 Quality

3.5.1 The *Consultant* shall operate a Quality Management System conforming to BS EN ISO 9001. The *Consultant* shall carry out their duties in accordance with the accepted quality procedures forming part of his Quality Statement.

3.5.2 When requested by the Employer, the *Consultant* shall make available the quality manuals and all other relevant information for inspection. The *Consultant* shall provide copies of any technical reviews, audit reports etc. and related documentation.

3.5.3 The *Consultant* may be asked to provide information to enable TfL to develop the business case or obtain other internal or external approvals.

3.6 Design Standards

The design work carried out shall comply with the requirements of the appropriate current design standards, including the Design Manual for Roads and Bridges (DMRB), and the Manual of Contract Documents for Highway Works (MCHW).

Where amendments and revisions are made to such publications during the course of the Project, including during construction, the Designer shall seek an instruction from the Project Manager as to their application.

All materials, workmanship and designs shall comply as far as reasonably practicable with the following standards and good practice guidance:

1) Design Manual for Roads and Bridges (DMRB) published by The Stationery Office and containing the Standards and Advice Notes. The term 'should' in the DMRB is to have the meaning 'shall' ;
2) The Consultant shall take particular note of the latest revision of IAN124 and the Eurocodes;
3) All relevant British or European Standards, including Published Documents, Product Standards and Non-contradictory Complementary Information (NCCI);
4) TfL Asset Management Directorate Guidance Notes (see Appendix 8):
    a) SQA-2022: Requirements for the development and acceptance of proposals for structures & tunnels capital schemes

b) SQA-2025: Technical approval of highway Structures and tunnels schemes

c) SQA-2026: Requirements for Tunnels and Structures Health and Safety Files, Records and Maintenance Manuals.

5) Specification for Highway Works (SHW) published by the Stationery Office as Volume 1 of the Manual of Contract Documents for Highway Works (MCHW);

6) Notes for Guidance to the Specification for Highway Works published by the Stationery office as Volume 2 of the MCHW;

7) Highway Construction Details published by the Stationery Office as Volume 3 of the MCHW;

8) Relevant Marine guidance and legislation (PLA and MMO);

9) Environment Agency standards and guidelines

10) Historic England consents and guidance

11) Relevant Disability Discrimination legislation;

12) Current Road Circulars published by the Stationery Office;

13) TfL's Streetscape Guidance;

14) DfT Manual for Streets;

15) Section 17 of the Crime and Disorder Act;

16) All relevant Health and Safety legislation

17) Equality Act

18) LoBEG Good Practice Guidance;

19) Construction (Design and Management) Regulations 2015 – The TfL Health and Safety Advisor will be involved in the review of the AIP and all design information to ensure health and safety risk management forms a part of the project proposals;

20) Asset Information Modelling and Management

Industry good practice guidance for design, maintenance and management of structures shall be followed and complied with wherever possible. If there are good reasons for deviating from mandatory documents or good practice then justification and/or derogation should be submitted to the *Employer* for agreement before proceeding.

If the *Consultant* becomes aware of changes in statutory requirements that are relevant to an instruction, they shall inform the Employer.

A structural review in accordance with BD 101/11 (Structural review and assessment of highway structures) and BD 79/13 (The Management of Sub-Standard Highway Structures) shall be completed to review all assessment work carried out to date. As part of the *Consultant's* comprehensive review of the feasibility design and assessment reports produced by others. If further action is considered necessary, the recommendations shall be included in the review submitted to the TAA.

Other Standards, departures from Standards and methods of dealing with aspects not covered by Standards etc. shall be agreed with the TAA through the technical approval process.

The category of design check shall be agreed with the TAA as the design details are developed and the AIP is produced.

The design shall also aim to:

- Minimise impact on the environment during construction and operation;
- Minimise whole life costs;
- Minimise disruption during the works;
- Minimise the potential for disruption during routine maintenance operations;

3.7 Technical Approvals

Hammersmith Bridge Concept Design

3.7.1 Technical approval shall apply to all stages of the design and construction process.

3.7.2 Technical approval shall satisfy the TfL guidance as per SQA-2025: Technical approval of highway Structures and tunnels schemes.

3.7.3 The design shall be undertaken in accordance with the requirements of the AIP, the DMRB and the Euro codes and any other relevant standards.

3.7.4 The TfL Technical Approval Authority (TAA) shall be an appointed person on behalf of LBHF.

3.7.5 Where a Category 3 independent check is required, the Employer will ensure an appropriate supplier is appointed to undertake the work.

3.7.6 An independent Peer Reviewer may be appointed by the Employer. The reviewer shall be involved at all stages throughout the design to challenge any assumptions made. The Delivery Team shall assist the reviewer in his enquiries and supply material as requested during the review stage.

3.7.7 The *Consultant* shall provide all calculations, drawings, models and other documents required to ensure that the design is adequately conveyed to the Employer.

3.7.8 Copies of draft calculations, drawings and other documents shall be made available on request, for comment, as the design progresses.

3.7.9 The *Consultant* shall identify potential relaxations and departures from standards for inclusion in the AIP for each scheme. A list of potential relaxations and departures shall be produced at the commencement of the preliminary design, reviewed and updated as necessary throughout the design stage.

3.7.10 The Asset Owner's (LB Hammersmith & Fulham) Operations and Maintenance Team shall be consulted throughout the design stages to ensure that the

maintenance requirements are taken into account and that operational risks are mitigated.

3.7.11 The design shall extend to include all related items required to complete the restoration of Hammersmith Bridge works and allow safe operation of the highway network.

3.7.12 Three sets of documents (AIP and design and check certificates) with original manuscript signatures shall be provided. All elements shall be bound as a single document. Drawings submitted with proposals should be specific, relevant and show the general arrangement and key dimensions.

3.7.13 The technical requirements for design and assessment shall generally comply with the requirements stated in Design Standards above. Other Standards, departures from Standards and methods of dealing with aspects not covered by Standards etc. shall be agreed with the TAA through the technical approval process.

3.7.14 The role of the TAA is to agree the Approval in Principle and subsequently accept the relevant certificates, confirming that the design, assessment and specification complies with the agreed Approval in Principle and design/assessment and specification certificates where appropriate.

3.7.15 The TfL Engineering Team plays a critical role in the Integrated Delivery Team – providing technical guidance to facilitate Technical Approval of the design, specification and works.

3.7.16 The TAA (LBHF) has a distinct role from the Project Manager. The TAA does not issue instructions to the Consultant.

3.8 CDM

For the purpose of CDM Regulations, the *Consultant* will be required to undertake the role of Principal Designer under the CDM 2015 Regulations.

3.9 Asset Information Modelling and Management

Information Management and Modelling (IMM) is a new way of working which will transform the way TfL Surface Transport specifies, manages and uses asset related data and information. It will ensure that we have the right information at the right time to both deliver capital infrastructure projects and to manage and operate the assets through their lifecycle.

At the heart of the IMM requirements is the delivery of projects to Level 2 BIM maturity as documented in PAS 1192-2:2013. TfL has produced an Employer's Information Requirements (EIR) which details as to the who, what, how and when with regards to the generation and management of information. The *Consultant* is required to deliver a BIM Execution Plan (BEP), using a TfL template, as to how they will meet the requirements of the EIR.

Refer to Appendix 1 for BIM Specification, Employers Information Requirements (EIR) and the BEP template.

3.10 Information provided by the Employer

Structure records and scheme base line information and reports listed are available for reference, and will be provided electronically by TfL.

The information is to be reviewed, refreshed and supplemented with new information from the structural surveys, as appropriate, prior to being adopted in the design. Conclusions and recommendations in previous reports shall be verified by the structural design *Consultant* prior to adoption in the Stage 3 concept design.

3.11 Existing Information

See Appendices for a full list of available existing information compiled by TfL and others.

3.12 Report Requirements

Hammersmith Bridge

Reports and other documents produced as part of this commission shall generally be produced in accordance with the TfL Guidance Note SMT/GN/02/14 and any other relevant industry standards and good guidance. Exact requirements of each specific report or document shall be agreed with the Employer prior to commencement of the task.

4. DELIVERABLES / MILESTONES

4.1 Project Management

Project Deliverable Ref.	Title Description (to be provided 2 weeks after appointment unless stated otherwise)	Comments
PM1	Programme	Kick-off documentation to be supplied by the *Consultant* following contract award for acceptance by TfL.
PM2	Quality Assurance Plan	
PM3	H&S file	
PM4	Resource Plan and Cost Forecast	
PM5	BIM Execution Plan	
PM6	Risk & issue management strategy & Risk Register templates	
PM7	Lessons Learned Report	

4.2 Hammersmith Bridge – Concept Design

Project Deliverable Ref.	Title Description	Comments
HB1	Constraints and dependencies log	(updated regularly - ongoing through design)
HB2	Gaps and assumptions log	For review in detailed design. Anything of relevance for the detailed designer to be aware of/to review/to consider. (updated regularly – ongoing throughout design)
HB3	Design Decisions and Actions register/log for bridge design	(updated regularly – ongoing throughout design)
HB4	Client/TAA/*Consultant*/Contractor/Stakeholder comments and responses log for bridge design	(updated regularly – ongoing throughout design)

HB5	Designer's Hazard Log	(updated regularly – ongoing throughout design)
	Appraisal Phase	
HB6	BD 101 and 79/13 Structural Review	Review of assessment, feasibility study etc. completed to date by others.
HB7	Technical Note – Enhanced Loading Capacity Option	
HB8	Number not used	
HB9	Geotechnical Desk Top Study Report	
HB10	Ground Investigations specification	Survey and investigation proposals and specifications o be presented to TfL for review and acceptance prior to implementation by approved sub-contractor. Includes all NR requirements for access if required.
HB11	Ground Investigations factual Report	On completion of the additional trial holes, investigations, testing, sampling, assessments, surveys and the like, a detailed factual and interpretive report shall be provided. The report shall include recommendations for any additional investigations and/or testing required.
HB12	Street lighting assessment specification	
HB13	Street lighting assessment factual report	
HB14	3D structure information model	Using surveys, 3D scan completed by others. Included in Appendix 3.

Concept Design Phase	Interpretive report for all testing, inspections, investigations and surveys	
	HB15	
HB16	AIP documents for concept design	
HB17	Preliminary Design Calculations	
HB18	Preliminary Design drawings	
HB19	Construction Strategy for Concept Design	Undertaken by Buildability contractor - must include construction methodology, temporary works, construction risk register, worksite and site compound locations. Describe the sequence of works with the list of activities required to build and deliver the structure, in sequence and with their durations. Include river closures (if required) and land temporarily required for construction.
HB20	Cost Estimates (using template) for Concept Design	To include whole life costs based upon O&M Plan
HB21	Preliminary Utilities diversions (if required) programme for Concept Design	
HB22	Land and access requirements report	To include plan drawings
HB23	Works Programme (Schedule) for Detailed Design and Construction phases	
HB24	Specification (Works Information) for Detailed Design	
HB25	Traffic Management and Diversion Plans for concept design	Phasing of the works, parking suspensions etc.
HB26	CAD drawings for 3D concept design	

HB27	Pre-Detailed Design H&S and Environment Pre-Construction Information	
HB28	Operation and Maintenance Plan for restored structure	To include maintenance schedule
HB29	Ecological Report	
HB30	Site Waste Management Plan	
Advanced Works Design		
HB31	Detailed Design for Advanced works – Pedestal Repairs	To include, Technical Approval in accordance with standard BD2/12 of the Design Manual for Roads and Bridges, Specification for the works, full Detailed Design Drawings and Calculations

5. KEY PERFORMANCE INDICATORS (KPI'S)

Periodic Reporting	Regular (weekly) progress reporting timed to allow subsequent TfL senior management reporting cycles to be met. Regular (periodic) updated programmes are also expected. The *Consultant* will be expected to present progress meetings and minute all discussions each period. A Cost Forecast will be expected and updates to forecast provided every period by week 2 of TfL's reporting calendar.
Delivery Of Reports	Comprehensive reports are required as per the list of Deliverables found in section 4.0. Output of final reports shall be two weeks after receipt of TfL comments.
Risks	The *Consultant* will be expected to produce a comprehensive risk register to include all aspects of design and construction. These should be reviewed during the contract period and reviewed and submitted along with the periodic progress report with changes highlighted.
Performance Against Baseline Programme	The *Consultant* will be expected to submit a baselined programme 2 weeks after contract award and then demonstrate progress against this. The programme should be updated and submitted every 4 weeks. The Programme is to be reviewed at the weekly progress meetings to ensure upcoming activities are on track.

6. PROJECT PLAN/TIMESCALES

The timescales below are indicative only. The delivery programme will be updated as the project progresses by the *Consultant* and deadlines agreed by the Project Manager.

Milestone	Current Target Date
Kick-off documentation	2 weeks after contract award
Start of commission	21 August 2019
Aspirational completion of Concept Design Phase (Final Concept Design Report including updated drawings and spec as required approved by LBHF TAA.)	31 March 2020

7. APPENDICES

PLEASE NOTE THAT ALL THE APPENDICES WITH THE EXCEPTION OF APPENDIX 3d) (AVAILABLE ON REQUEST) AND 4 (TO BE ISSUED AFTER CONTRACT AWARD) ARE CONTAINED ON THE SHAREPOINT SITE REFERENCED AS FOLLOWS:-

https://transportforlondon-my.sharepoint.com/:f:/r/personal/edwardriddell_tfl_gov_uk/Documents/Hammersmith%20Bridge?csf=1&e=NKIyvp

Appendix 1. Guidance on Deliverables

a) Weekly Design Progress Meeting and Periodic Reporting

The *Consultant* must provide a brief written progress report on the design work prior on a periodic basis to coincide with TfL's internal reporting deadlines. The report should cover updates on progress, programme and spend profile. An updated forecast cost profile should be provided every period in week 2.

The weekly progress meeting will be a design meeting for the entire project that TfL will chair. The *Consultant* will be responsible for taking all minutes/actions, issuing for comment and compiling and issuing the final set for each meeting.

Typical agenda for the progress meeting:

- Introductions
- H&S, CDM
- Minutes of last meeting
- Risks and Issues
- Design Progress Update
    - Progress – review programme. Review work to date and next tasks.
- AOB

b) BIM Execution plan template and guidance notes

a. BIM Concept Design Specification_Content-P02-1 - HB

b. S1760 SMP CDE Standard 2017

c. PD0238 BIM Execution Plan Template

d. Hammersmith Bridge EIR

e. Hammersmith Bridge MIDP template

Appendix 2. Environmental Background Information

Feasibility Stage Environmental Assessment Work:

1. "*383488AD04-Eco1-2 - Preliminary Ecological Appraisal*". February 2018. Mott MacDonald;

Appendix 3. Site Information Documents

a) Various: Historic as-built drawings
   a. 1882 Hammersmith alteration drawings
   b. Clarke Chapman: 1970 Strengthening works
   c. ACME: Surfacing
   d. Bridge lighting
   e. CVU: Surfacing
   f. Hyder: drawings
   g. Rendel Palmer & Tritton: 1972

b) Mott MacDonald: 383488-MMD-HSB-INR-SE-000001 rev 3.0.pdf - Inception Report – October 2018
c) Mott MacDonald: 383488-MMD-HSB-DKS-SE-000001 rev 2.0.pdf - Desktop Study - October 2018
d) Topo/point cloud survey – available upon request and on OneDrive.
e) Boundary site drawing ref. Red Line boundary plan - HB.

Appendix 4. Statutory Utility C2 information

An updated C2 search will be provided by TfL upon appointment.

Appendix 5. Buildability & Feasibility Reports

a) BAM Nuttall: Transport for London. Buildability Report. June 2019.
(To be provided to the Consultant upon appointment.)

b) Mott MacDonald: 383488-MMD-HSB-REP-SE-FSR-00001 – Feasibility Study for Hammersmith Bridge. May 2019

c) Mott MacDonald: Feasibility -AIP_A rev04

Appendix 6. Templates

a) Transport for London - Cost Template for forecast

b) Transport for London – Estimating Template

Appendix 7. Assessments

a) 383488-MMD-HSB-REP-SE-AIP_A-000001-04 Assessment AIP

b) 383488-MMD-HSB-REP-SE-ASR-000001 - 03 Assessment Report

c) 383488-MMD-HSB-REP-SE-RA-000005 - CI Pedestals - NDT Inspections

d) 383488-MMD-HSB-REP-EE-LP-000003 - Hammersmith Bridge Electrical Survey Scoping Document

e) 383488-MMD-HSB-REP-SE-CON-000001 Condition of Ornate Casting Fixings and Towers

f) 383488-MMD-HSB-REP-SE-ITR-000001 Inspections Interpretive Rpt rev 2.0

g) 383488-MMD-HSB-REP-SE-ITR-000004 - Hanger vibration test - Interpretive Report - Rev 02

h) 383488-MMD-HSB-REP-SE-RA-000002_01 - Refined Analysis of Towers

i) App_B03_0001 - 383488-MMD-HSB-TN-SE-00011 - Uneven bearing – Compiled

j) Mott MacDonald – various Technical Notes

k) 383488 - MMD-HSB-TN-SE-00013 Rev A, Condensed Load Scenarios - Feasibility Study

Appendix 8. TfL Asset Management Guidance Notes

a) SQA-2022: Requirements for the development and acceptance of proposals for structures & tunnels capital schemes

b) SQA-2025: Technical approval of highway Structures and tunnels schemes

c) SQA-2026: Requirements for Tunnels and Structures Health and Safety Files, Records and Maintenance Manuals.

SURFACE TRANSPORT

CONTRACT

FOR

Hammersmith Bridge Refurbishment, Concept Design

VOLUME 3 QUALITY AND FINANCIAL SUBMISSION

Call Off Contract under the TfL 91313 Professional Services Framework

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Project Reference Number: tfl_scp_001144_co019
Framework Reference Number: PSF 91313
Outline agreement no. 4600005539

Transport for London
Palestra
197 Blackfriars Road
London SE1 8NJ

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TABLE OF CONTENTS

Pell Frischmann Hammersmith Bridge Refurbishment Concept Design Quality Submission A

Programme

Resource loaded programme

Pell Frischmann Financial Submission comprising:-

- Professional Indemnity insurance evidence of cover
- Employer's Liability insurance evidence of cover
- Public and Products liability insurance evidence of cover
- Freedom of Information – Reserved Information

Pell Frischmann

COSTAIN FREYSSINET

Hammersmith Bridge Refurbishment Concept Design

Quality Submission A

Project Reference Number: tfl_scp_001144_co019
Framework Reference Number: PSF 91313

Date: July 2019

Commercial in Confidence