

NGSA SOC-OBC PSC Standard Scope - Appraisal

Template: LIT 13261

Published: 31/07/2020

Audience: Project Managers, Delivery Partners, Senior Users

Author: [REDACTED] - Commercial Services Manager Eastern Hub

Description: A standard Scope template for an NEC4 Professional Service Contract for the CDF Lot 1 Delivery partner to undertake a project Appraisal (SOC - OBC).

Guidance

This commission is to produce an Outline Business Case for a project appraisal that follows the HM Treasury Five Case Model. Project Managers should ensure that they are familiar with the three stage approach to the business case described in *Write a Business Case* [LIT 55124](#).

Ensure that the *Consultant* has been sent the SOC including any information on project costs, risks, opportunities, optimism bias and assumptions.

In drafting this Scope consult with your procurement specialist from Defra Group Commercial to ensure that the Procurement Strategy and Contract Strategy have identified the most appropriate framework and contract option for this commission.

This template is a constituent part of a Professional Service Contract (PSC) for services let by the Environment Agency. It is a contract document, following the NEC4 format, which is defined in the Next Generation Supplier Arrangement for use as part of individual call-off contracts let under the framework.

When using contractual terms, ensure that they are written as per the NEC4 PSC contract. For example Scope is always written with a capital initial as it is a defined term in the NEC4. *Client* and *Consultant* are also always written in italics as they are defined in the Contract Data.

Adapt the template in order to define the Scope for your contract. The completed Scope should be inserted into the contract document before being issued to the Delivery Partner on BRAVO.

Use the tables on the front page to record project, contract and version information.

This template has **guidance in red text** that should be deleted or amended prior to issue. The text in the clauses is example text and should be tailored to suit the individual scheme.

As a matter of clarity please define all abbreviated terms. They are prevalent within the Environment Agency but may detract from the clear communication of your requirements unless they are spelled out in full.

The Scope is owned by the *Client* (EA), but the drafting should be collaborative and can be contributed to by any project party prior to pricing. Use the best skilled professional in a technical area. Ensure stakeholders have checked the document for pricing for areas of their interest and that the requirements are proportionate to the project. It is better to resolve differences of opinion prior to contract commitment than after, whether that difference is within the EA, with key stakeholder or with the Delivery Partners. Engage with (as relevant) the Principal Designer, Senior User, end user, Delivery Partners, NEAS, FBG,

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4.0

Security marking: OFFICIAL

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MEICA, commercial lead, estates, ECC PM and reservoir panel engineer. This Scope should be developed in tandem with the associated Lot 2 ESE Scope.

This Scope should be outcome focused. This means that it should focus on what needs to be delivered rather than how it is to be delivered. Specifying the quantity of products to be produced by the *Consultant* such as outline design drawings should be avoided as the quantity will be that required to produce the outcome. Specifying how the *Consultant* completes an activity that they are responsible for delivering should be avoided unless it is a specific requirement for the project.

Additions and Omissions

Any project specific requirements required over and above the standard Scope shall be added at the end of each relevant section and be denoted using a two letter flag as per the example below:

2.2.9 AD: The *Consultant* shall...

Any omissions from the standard Scope that are not required shall be struck through as per the example below.

~~2.2.2 The *Consultant* shall...~~

Additions and omissions will be costed separately by the *Client* so that the Price can be adjusted.

RACI Chart

Ensure that the roles, as identified in the table below, have been involved in the development of this Scope.

Ensure the contract template and the Scope is checked by the Commercial Services Manager before issue for pricing.

Role	RACI	What do they do?
Project Executive	Accountable	Review
Project Manager	Responsible	The EA Project Manager drafts the Scope and must work with the Senior User to ensure the Scope reflects their requirements. Engages with the Commercial Leads. Ensures collaboration between all parties.
Senior User(s) (ensure links to Operations Team)	Accountable for content	Engages with all business areas, PM, PE, etc. depending on risk
Delivery Partner - Consultants	Consulted	Supports the EA Project Manager providing technical insight into the Scope of services required to achieve the desired outcomes. May assist with drafting the text upon request.

Delivery Partner - Contractors	Consulted	Ensures Scope is understood and complements the ESE Scope of works.
Commercial Services Manager	Consulted	Advise and check prior to issue
Defra Group Commercial	Consulted	Advise
NEAS	Consulted	Advise and draft environmental section
Cost and Carbon Estimators	Consulted	Advise and check pricing is possible

Delete content

Delete all content prior to this point before sending to the *Consultant*.

Environment Agency

NEC4 Professional Service Contract (PSC)

Scope

Project / contract information

Project name	Pill Flood Resilience Project
Project SOP code	ENV0001911C
Contract number	31509
Date	10.11.2020

Assurance

Author	Project Manager – [REDACTED]	Date: 14.09.2020
Consulted	Senior User – [REDACTED]	Date: 7.10.2020
Reviewed	Project Executive – [REDACTED]	Date: 10.11.2020
Checked prior to issue	Commercial Services Manager – [REDACTED]	Date: 30.11.2021

Revision History

Revision date	Summary of changes	Version number
10.11.2020	First issue	V1 DRAFT
09/03/2021	Removed replied to comments, Highlighted ADDS	V3 Draft
11/03/2021	Guidance sections removed	V4 DRAFT
23/03/21	CEEQUAL clauses added. NFM Added. One more environmental assessment added.	V5 DRAFT
09.03.21	Commercial Services Manager changes incorporated ie CEEQUAL section	V6 DRAFT
27.04.21	Incorporated Atkins changes, environmental section, removed CEEQUAL; Changes to section 4	V6 DRAFT 270421

06/05/2021	Final changes	V7
07/06/21	Highlighting removed and changes accepted	V7 FINAL

This Scope shall be read in conjunction with the version of the Minimum Technical Requirements current at the Contract Date. In the event of conflict, this Scope shall prevail. The service is to be compliant with the following version of the Minimum Technical Requirements:

Document	Document Title	Version No	Issue date
412_13_SD01	Minimum Technical Requirements	Insert latest version of MTR on Asite	Insert date of latest version of MTR on Asite

1 Overview

1.1 Background

Pill is a harbour village located to the north-west of Bristol, on the south bank of the River Avon within the tidal limit of the Severn Estuary. With a population of 3,525 (2011 census), Pill is increasingly popular as it lies within the commuter belt of Bristol and transport links are excellent. These links will further improve with the MetroWest scheme that includes plans to reopen the railway between Bristol and Portishead, including a new station in Pill.

Previous flood events occurred at Pill in 1981 and 1992. There are 183 properties at risk from coastal and fluvial flooding at Pill.

The Pill Flood Resilience Project seeks to maintain or improve the Standard of Protection (SoP) offered by the Pill pile wall, the Markham Brook pumping station, two flood gates and other key assets including the culverted section of Markham Brook. See Figure 1.

There are a number of issues to be addressed in this area with the assets that are reaching (or have reached) the end of their working life. This project will take action to increase the residual life of these assets to 25 years.

For further information on the flood defence scheme and background to Pill please consult the Strategic outline business case (SOC).

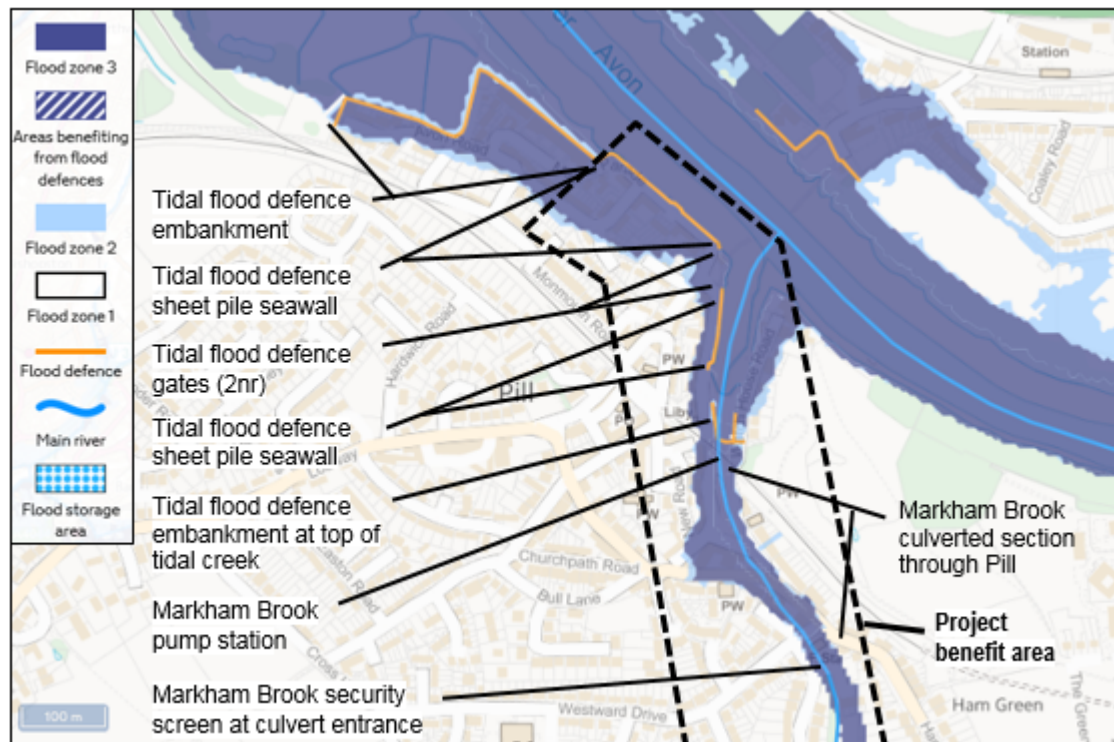
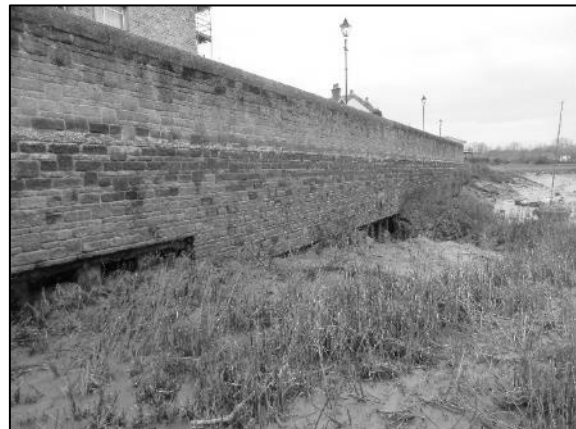


Figure 1. Flood map for Pill locating assets. Source: extract from Environment Agency Flood Map for Planning, available online at <https://flood-map-for-planning.service.gov.uk>.



Bristol Avon Flood Strategy

The Bristol Avon Flood Strategy seeks to protect properties at flood risk in Bristol City Centre through a range of works scheduled to start construction in the mid-2020s. These works have been identified as having an impact on the water levels up and downstream of the city centre, including Pill. Therefore flood defences in Pill will need to be raised to protect properties.

The current project covered within this Scope will extend the life of the assets. Following the BAFS development that will take place in Bristol city centre, additional works will be required to increase the SoP in Pill. These works will be outside of the scope of this current project but are currently forecast to be required in 5-10 years' time depending on the progress of the BAFS works.

1.2 Previous Studies

- 1.2.1 In undertaking the *service* the *Consultant* shall take account of the previous studies detailed in the table below and produce a short technical summary explaining how best use will be made of historical data.

Asite location	Type	Title
File sent separately	Model	Strategic Flood Risk Assessment (SFRA) Model 20.1
File sent separately	Model	Avonmouth Severnside Enterprise Area Model
ENV0001911C-EA-00-00-AS-AM-0004	Model	Markham Brook Pill- Standard of Protection Study, EA (2012)
ENV0001911C-EA-00-00-RP-IM-0005		2006 Crest Level Pill
ENV0001911C-JAC-00-00-RP-AM-0003		Pill Sheet Pile Wall, Jacobs (2018)
ENV0001911C-EA-00-00-RP-AM-0001		Structural Inspection of Pill Pile Walls (2009)
ENV0001911C-EAAP-00-00-RP-AM-EA2259 - 2010		Culvert CCTV 2010
ENV0001911C-EAAP-00-00-RP-AM-EA2259-2014		Fire Station to Pumping Station Culvert CCTV Survey
ENV0001911C-EAAP-00-00-RP-AM-EA2259		Fire Station Culvert CCTV Survey
ENV0001911C-EAAP-00-00-RP-AM-680-8		AECOM Flood Wall Report, 2017
ENV0001911C-EAAP-00-00-OM-AM-630-8-60A		O and M Manual Part 1
ENV0001911C-EAAP-00-00-OM-AM-630-8-60		O and M Manual Part 2
ENV0001911C-EAAP-00-00-RP-AM-1		Markham Brook Pumping Station SAS, Jacobs

Asite location	Type	Title
ENV0001911C-EAAP-00-00-RP-AM-A03		Jacobs Options Assessment Report (2007)
ENV0001911C-EA-00-00-RP-AM-DG005		Pile Sheet Pile Wall- Stability and Durability Assessment, Atkins (2012)
ENV0001911C-EANC-00-00-SG-PM-E0400_1		Strategic Outline Case
ENV0001911C-EA-00-00-RP-IM-0007		Markham Brook Pump Runs
ENV0001911C-EA-00-00-RP-IM-0006		2013 Crest Level Pill
ENV0001911C-EA-00-00-OM-HS-M0100_1		O+M Manual Pumping station
Multiple		Elevation data, Bridgezone (2004)
Multiple		Geomatic Lidar silt monitoring (silt elevation change data)
ENV0001911C-EA-00-00-SU-AM-A1200_9		Crest level of walls (2013)
(ENV0001911C-BVL-00-00-RP-IM-B1300_1		Decision Paper on Illustration of Options
ENV0001911C-EA-00-00-AS-AM-A1200_2		2014 Crest Levels

- 1.2.2 The previous studies have been undertaken by or for the *Client* using reasonable skill and care and have been accepted. The *Consultant* shall review the information provided and notify the *Client* of any deficiencies in its adequacy. Following this review, and completion of any work required to rectify the deficiencies identified, the *Consultant* shall take the risk of any deficiencies in existing data quality and quantity which have not been notified to the *Client*.

1.3 Objective

Overall Strategic Objectives

- Manage the flood risk to people and property, in accordance with the National Flood and Coastal Erosion Risk Management Strategy - by reducing flood risk to people, property and infrastructure in Pill.
- Achieve environmental, social and economic benefits, consistent with the principles of sustainable development, in accordance with the National Flood and Coastal Erosion Risk Management Strategy – by creating a better place and maximising environmental outcomes.
- Reduce safety risks associated with operation and maintenance of structures – currently includes operating one tidal flood gate, accessing drainage pipes at base of pile wall on tidal creek side and accessing security screen at entrance to Markham Brook culvert if necessary to clear blockages during high flows.
- Contribute to the objectives of the Water Environmental Regulations.

Project Objectives

The investment objectives of the project are as follows:

- To increase resilience to current and future flood risk
- To increase the operational safety and reliability of flood risk management assets.
- To promote sustainable solutions, improve eel / fish passage as one of the main environmental outcomes and consider other enhancement opportunities within the project area.
- A key objective of the project is to carry out structural inspections of the sheet piles to assess the rate, reasons and locations of corrosion and to assess the residual life of the sheet piles
- The viability of the development of Natural Flood Management options needs considering to assess its suitability as an option in this location.
- The overall objective of the project is to undertake works to sustain or improve the Standard of Protection within the Pill area through increasing residual life of the flood risk management assets (initially proposed to 25 years).
- The implications of the Bristol Avon Tidal Strategy and detriment mitigation and MetroWest scheme proposals to formalise surface water drainage from the Pill Viaduct also needs considering - potential contributions to this project.

The objective of this contract is as follows:

- Recommend the preferred option based on whole life economic costs and whole life financial costs, including appropriate contributions.
- Demonstrate the case for a FDGiA contribution.
- Demonstrate a minimum 15% efficiency on FDGiA expenditure saving during the course of the appraisal and identify opportunities for a further 15% efficiency saving during the construction stage.
- Demonstrate a minimum carbon saving (target: 45% reduction between SOC and completion of construction) by selecting a preferred option with the least carbon impact then seeking to minimise carbon through future stages of the project.

2 The service

2.1 Outcome Specification

- 2.1.1 The *Consultant* shall demonstrate sustainability leadership through fully considering and contributing to achieving the *Client's* environment and sustainability ambitions and targets. These are set out in the EA2025 Action Plan, e:Mission 2030 Strategy, the Defra 25 Year Environment Plan and are in line with the principles of sustainability as described by the United Nation's Sustainable Development Goals.
- 2.1.2 The *Consultant* shall design the scheme taking into account the environmental sensitivities and opportunities of the sites and involving key environmental specialists as appropriate within the *Consultant* and the *Client's* organisation.
- 2.1.3 The *Consultant* shall ensure the optioneering process fully considers and addresses sustainability including carbon reduction as strategic outcomes. The EA business case template further requires separate option appraisals of sustainability benefits and whole-life carbon to compare with the economic appraisal and promotes a preference for the most sustainable option.
- 2.1.4 The *Consultant* shall ensure the optioneering process fully considers environmental mitigation and opportunities to further conserve and enhance as per our legal and policy obligations but to also contribute to the Environment Agency's ambitions. This includes delivery against OM4, to achieve biodiversity net gain but must also consider wider sustainability opportunities. The *Consultant* shall ensure the optioneering process avoids where possible, minimises and compensates or offsets any adverse environmental effects.
- 2.1.5 The *Consultant* shall produce an outline design which seeks to provide the optimum economic, technical, social and environmental/sustainability/carbon outcomes, supported by evidence that can be used by the *Consultant* to produce an Outline Business Case.
- 2.1.6 The *Consultant* shall produce an appraisal report and outline design that enables the *Client* to achieve efficiency targets set for this commission and future stages of the project using the Combined Efficiency Reporting Tool (CERT).
- 2.1.7 The *Consultant* shall ensure that the options and final solution take into consideration all relevant guidance and legislation and seek to minimise long-term asset/land management and maintenance costs and carbon.
- 2.1.8 The options will also demonstrate that the *Consultant* has learnt from best practice and demonstrate how optimum flood risk reduction, natural processes, carbon reduction, recreation, good ecological water quality and visual amenity can be combined.
- 2.1.9 This commission must consider planning permission and all other necessary permissions/licences being obtained at detailed design stage. The outline design shall feasibly be able to obtain planning permission.
- 2.1.10 The *Consultant* shall demonstrate that consideration has been given to a long list of potential options, identified an appropriate shortlist, appraised these to identify a preferred option and developed this option, its impacts, planning and Environmental Impact Assessment (EIA) requirements scoped to a level that it can be priced. The *Consultant* shall develop a series of options to meet the above objectives.

- 2.1.11 The *Consultant* shall assume that the options shortlisted in the OBC will be aligned with the strategy identified in the SOC. However, the *Consultant* shall not assume that the preferred option will necessarily be the same as that identified at the SOC stage.

The preferred option that has been identified by the SOC has been used as the basis for estimating the fee for this contract. The solutions that form the preferred option are listed below:

- Scour protection measures in front of the existing sheet pile wall.
- Minor remedial works to the existing flood defence embankment.
- Introduction of measures to safely automate closure of existing flood gates.
- Rectify/refurbish defects identified in the 2018 inspection of the Markham Brook Pumping Station.
- Culvert lining to sections of the Markham Brook culvert identified as being in poor condition through previous CCTV inspections.
- Replacement of Markham Brook security screen with modern trash screen.

The preferred solutions listed above are the baseline for any change.

- 2.1.12 The *Consultant* shall compile the supporting technical documentation required for the *Client* to obtain a screening opinion from the local planning authority.

2.2 Constraints

2.3 Dependencies

2.4 *Consultant* Project Management

- 2.4.1 In managing the *service* the *Consultant* shall follow all the requirements as set out in the Collaborative Delivery Framework schedules and the relevant content of the Minimum Technical Requirements.

- 2.4.2 In managing the *service* the *Consultant* shall:

- Contribute monthly to the updates to the project risk register.
- Provide input to project efficiency CERT Form.
- Attend progress meetings and prepare record minutes within a week for the *Client* to issue.
- Produce monthly financial updates and forecasts meeting the *Client's* project reporting timetable together with progress reports. Monthly financial updates and forecasts to meet EA deadlines provided by no later than the 10th day of each month, or otherwise agreed at the project start up meeting.

- Deliver a monthly progress report in the *Client's* standard template ([Link](#)) giving progress against programme, deliverables received and expected and financial and carbon summary against programme. Attend project board meetings as required.
- Ensure quarterly input into framework performance assessment/environmental Performance Measures.
- Ensure the *Consultant's* environmental lead provides monthly progress and risk reviews to the *Client* and attends progress meetings, as invited.
- Maintain and show how accurate and up to date information on the whole-life cost and carbon of options is driving optimum solutions at all stages of design development.
- Capture lessons learnt relevant to scheme delivery for the EA PM to include in the scheme lessons learnt log to be appended to the OBC.

2.4.3 The contract will be administered using FastDraft

2.5 Outputs and Deliverables

2.5.1 The *Consultant* shall provide input to product descriptions for key outputs and deliverables that the *Consultant* shall produce during the appraisal stage. Agree the list of products with the *Client* and submit the product description for the *Client's* approval before commencing work on the product.

2.5.2 The *Consultant* shall produce the following key documents for this commission:

- Modelling report.
 - Economics report.
 - Options appraisal report.
 - Documentation of the environmental process and considerations including risks and opportunities (e.g. Scoping Report).
 - Outline Design(s).
 - Carbon Optimisation Report.
 - Programme showing milestones to construction completion for the preferred option including funding and environmental constraints and opportunities. The Programme shall take account of the timeframe required for all approvals necessary for mitigation and enabling works to be carried out in advance of main construction.
 - Draft text within relevant sections of OBC.
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3 Site Investigation

For any existing topographic or GI surveys please refer to table in Section 1.2.

3.1 Topographic Survey

Please refer to table in Section 1.2 for existing topographic surveys.

- 3.1.1 The *Consultant* will review previous topographic survey to identify gaps in existing data. The *Consultant* will use this to inform the scope of supplementary topographic survey required.
- 3.1.2 The *Consultant* shall work with Fisheries, Biodiversity and Geomorphology (FBG) to ensure that environmental and sustainability constraints within the likely scheme footprint are identified and included in the survey and to determine if efficiencies can be made by joint working.
- 3.1.3 The *Consultant* shall use the outputs from the topographic survey in their modelling and option appraisal.

3.2 Existing Asset Surveys

- 3.2.1 AD: Flood Defence Walls and Embankments: The *Consultant* shall undertake a geotechnical desk study to confirm which surveys and to what level of detail are required.
- 3.2.2 AD: Markham Brook Pumping Station: The *Consultant* shall review the information provided for the Markham Brook Pumping Station and undertake an initial general visual survey.

3.3 Ground Investigation

- 3.3.1 The *Consultant* shall scope the Ground Investigation required to be able to undertake an options appraisal and detailed design and agree the scope with the *Client*.
- 3.3.2 The *Consultant* shall ensure that the environmental risks and opportunities associated with the Ground Investigation, including the collection of environmental evidence to support Appraisal and Assessment, are identified and addressed.
- 3.3.3 In scoping the Ground Investigation works the *Consultant* shall include the necessary works to facilitate efficient and sustainable materials management planning and re-use within the project.
- 3.3.4 The *Consultant* shall identify any contaminated land within the area of the project and specify testing within the Ground Investigation scope such that it can be classified properly for disposal.

- 3.3.5 The *Consultant* shall clearly communicate the scope of the Ground Investigation to the Lot 2 contractor for the Lot 2 contractor to undertake.
 - 3.3.6 The *Consultant* shall supervise the Ground Investigation undertaken by the Lot 2 contractor. The supervision will be subject to a Compensation Event.
 - 3.3.7 The *Consultant* shall produce a summary of key interpretative decisions for the Ground Investigation undertaken by the Lot 2 contractor.
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3.4 Services Search

- 3.4.1 The *Consultant* shall obtain services data from utility companies and shall ensure services data is requested from relevant landowners. This shall include direct costs of obtaining data. This shall be incorporated into the appraisal, including preparation of plans.
 - 3.4.2 The *Client* will arrange for a non-intrusive survey to detect key utilities (e.g. GPR etc.) to inform SI and or options appraisal. The *Consultant* shall determine the extent of the survey and produce a specification for the survey in accordance with EA Guidance and Principal Designer discussion; defining type and purpose of survey including extents and available information.
 - 3.4.3 The *Consultant* shall also provide a site supervisor to manage the survey supplier.
 - 3.4.4 The outputs from this survey shall be included in the appraisal, including revising the plans.
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4 Hydrology and Hydraulics

The existing models are listed in Section 1.2 as follows:

1. Markham Brook Standard of Protection Study,
2. Strategic Flood Risk Assessment (SFRA) Model 20.1
3. Avonmouth Severnside Enterprise Area (ASEA) Model

Note the SFRA model is the same model as is being reviewed by Atkins on the Bristol Frome project and includes Pill. The BAFS model is a separate model which will be provided later.

4.1 General

- 4.1.1. The existing modelling is identified in the table in section 1.2. The extents of the modelling and assumptions made on the Markham Brook Standard of protection study are within the model report.
 - 4.1.2. Since there are three models covering the study area it may be necessary to use a combination of models as part of the OBC.
 - 4.1.3. The *Consultant* shall verify the models with quality and extent checks of the three models listed above. This review will identify if works are required to the models including adaptations and their use/appropriateness for assessing options.
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5 Economics Appraisal

- 5.1.1 The *Consultant* shall undertake an economic appraisal in line with FCERM – Appraisal Guidance (FCERM-AG), Supplementary guidance and the HM Treasury ‘Green Book’. This will include a valuation of all the key benefits, both economic and environmental, carbon assessment and whole life costs in order to produce a cost benefit analysis that will be used to determine the selection of a preferred option.
- 5.1.2 Costs will be the whole life expenditure including, design, investigation, construction, operation and maintenance. Costs can be devised in the most efficient but accurate manner and Early Supplier Engagement (ESE) input is required. The *Client* will provide support and costs where possible to complete this estimate.
- 5.1.3 Carbon will be whole-life emissions of an asset including embodied (construction), operation, maintenance and end of life emissions. The values will be calculated from the carbon tool (OI 120_16) to help optimise all options through all stages of design and business case development.
- 5.1.4 Risk and Optimism Bias allowances shall be calculated in accordance with Risk Guidance for Capital Flood Risk Management Projects. The *Consultant* shall attend risk workshops facilitated by the *Consultant* to deliver the Scope.
- 5.1.5 Selection of the preferred option shall be undertaken in accordance with the FCERM-AG decision rules including consideration of the most sustainable and lowest carbon options following the EA business case template and guidance.
- 5.1.6 The assessment shall include for sensitivity tests to look at the effects of any changes to key parameters / beneficiaries and to demonstrate the robustness of any key assumptions made.
- 5.1.7 The *Consultant* shall produce, and maintain through the project, the FCRM Partnership Funding Calculator for Flood and Coastal Erosion Risk Management Grant in Aid (The PF calculator). The PF calculator shall be updated at the request of the *Client* or when evidence obtained during the project suggests a significant change is likely. The *Consultant* shall inform the *Client* of any expected significant change in scheme choice or affordability at the earliest opportunity as the project develops.
- 5.1.8 The *Consultant* shall use this data to assist the *Client* in identifying suitable sources of external funding.

Economic, Sustainability and Carbon Appraisal Deliverables

5.1.9 The *Consultant* shall provide the results of this section of the study in an economics report which shall feed into the economics appendix of the OBC. This will provide a clear view of the process in order that the economic lead for the review team can review the process. As a minimum this will include, but not be limited to:

- Overview of methodology adopted.
 - Parameters quantified and standards used (e.g. Multi-Coloured Manual).
 - Parameters considered and not used together with reasons.
 - Key receptors/ major beneficiaries.
 - Wider benefits.
 - Assumptions made.
 - How the decision rules have been applied.
 - What sensitivity tests have been applied and why.
 - Treatment of climate change, carbon reduction and sustainability benefits.
 - FCERM-AG spreadsheets and PF calculator.
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6 Environmental Assessment

- 6.1.1 The *Consultant* shall confirm in the activity schedule the expected environmental outputs agreed through engagement with FBG. The activities identified shall take into account proportionality whilst supporting the achievement of the *Client's* wider aspirations.
- 6.1.2 The *Consultant* shall give due consideration of the environment and sustainability risks and opportunities throughout the design evolution of the project to maximise the delivery of *Client* and project objectives.
- 6.1.3 The *Consultant* shall ensure that the project level assessment sits within the context of any previous strategic environmental assessment and supporting information for the area and brings forward all relevant information and conclusions.
- 6.1.4 The *Consultant* shall establish and understand the baseline and the legal and policy context to identify the key environmental/sustainability risks and opportunities. This shall support the options appraisal and justify the need for any future environmental assessment activity.
- 6.1.5 The *Consultant* shall report the findings of the scoping exercise as required which will form an Appendix to the OBC with relevant summary details incorporated into the relevant section(s) of the OBC main text.
- 6.1.6 Environmental deliverables which are included within the scope of this contract will include:
- Environmental / planning considerations inputs to option appraisal (long list and shortlist, Options Appraisal Summary Table or equivalent)
 - Environmental Summary Note (assumed low risk, non-EIA project)
 - Preliminary Ecological Appraisal
 - Preliminary Water Environment Regulations Assessment
 - AD: Habitat Condition Assessment to support Biodiversity Net Gain Assessment
 - AD: Biodiversity Net Gain Assessment to inform options appraisal
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7 Option Development

- 7.1.1 The *Consultant* shall undertake an options appraisal, which will include a review of the previous work, to prepare a long list of options. The long list shall not be constrained by previous work and will be agreed with the *Client* at an options meeting, where the *Client* will invite representation from area FCRM, the ESE contractor's representative, FBG, MEICA, Field Services and the Principal Designer. The *Consultant* shall screen and assess this long list of options for technical, environmental, sustainability, carbon and economic suitability, as considered appropriate.
 - 7.1.2 Following this screening, the *Consultant* shall prepare a short list of viable options for the *Client's* approval, giving reasons for including or excluding each of the long list options. The most sustainable option shall be included in the short list. On the agreement of the *Client*, the *Consultant* shall assess in detail these options for technical, environmental and economic suitability, as discussed in the relevant sections of this brief, utilising the evidence and data collated as part of this commission.
 - 7.1.3 Options appraisal shall include engagement with the ESE contractor on pricing, buildability and maintainability and the *Client* including Field Services and Area FCRM.
 - 7.1.4 The *Consultant* shall analyse and appraise the carbon footprint of options as outlined in Section 11.
 - 7.1.5 The *Consultant* shall seek options that support the e:Mission 2030 sustainability targets.
 - 7.1.6 The *Consultant* shall use these outputs to select a preferred option. The *Consultant* shall facilitate a design workshop facilitate a risk workshop to produce a risk register with analysis in accordance with [LIT 14847](#) Risk Guidance for Capital Flood Risk Management Projects.
 - 7.1.7 The *Consultant* shall develop the business case for the preferred option and the outline design including provision of specification, drawings and documentation required for Early Supplier Engagement.
 - 7.1.8 The *Client* shall draft the scope for the next stage of the project (OBC-FBC) and the *Consultant* shall support the *Client* to produce the scope.
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8 Stakeholder Engagement

- 8.1.1 The *Consultant* shall prepare and maintain a stakeholder engagement plan in accordance with the EA guidance "Working with Others" including agreement of key stakeholders with discussion with the *Client*. The *Consultant* shall ensure that the results from the stakeholder engagement informs the appraisal. This will include the Bristol Avon Flood Strategy as a key stakeholder.

- 8.1.2 **Monthly** circulation of updated communications record at progress meetings.
- 8.1.3 The *Consultant* shall provide technical support, prepare information for and attend a key stakeholder meeting as well as preparing information and reviewing external communications prepared by Others (e.g. quarterly newsletters).
- 8.1.4 The *Client* will arrange and advertise **one** no. public meeting/workshops. The *Consultant* shall provide technical support, prepare information for input into the consultation documents and prepare site plans and typical outline design drawings for public display. Attendance at these meetings shall include the *Consultant* project manager, environmental lead and other roles as necessary.
- 8.1.5 The *Consultant* shall provide technical support and attend **two** no. meetings with key external organisations/individuals impacting upon option selection process. The current known stakeholders are identified in Appendix **J** in the SOC
- 8.1.6 The *Consultant* shall consider the following and document how they are addressed on this contract:
- Public diversity in engagement and perception of the project team.
 - Accessibility.
 - How inclusive environments are created for the project team.
-

9 Health and Safety

- 9.1.1 Health, Safety and Wellbeing (HSW) is the number one priority of the *Client*. The *Consultant* shall promote and adopt safe working methods and shall strive to deliver design solutions that provide optimum HSW to all.
 - 9.1.2 The *Consultant* shall follow and comply with the requirements outlined in the Safety, health environment and wellbeing (SHEW) Code of Practice ([LIT 16559](#)).
 - 9.1.3 The *Consultant* shall supply designer risk assessments, drawings and any other data required to fulfil their duties under CDM.
 - 9.1.4 The works on site included in the geotechnical section will be subject to notification to the HSE. Appraisal work to outline design shall be treated as if it was notifiable.
 - 9.1.5 AD: The *Consultant* shall fulfil the Principal Designer (PD) role and discharge the duties in accordance with the requirements of regulations 8, 9, 11 and 12 of the Construction Design Management Regulations 2015.
 - 9.1.6 AD: The PD must be a lead or active designer and can either demonstrate relevant Skills, Knowledge and Experience to undertake the role or have access to relevant support to discharge their duties.
 - 9.1.7 AD: The PD will demonstrate their compliance with their CDM duties by preparing and updating the Pre-Construction Management Tool on a monthly basis (or more frequently for start of construction activities) and liaising with the CSF Resident Principal Designer.
 - 9.1.8 AD: The PD will identify and track significant risks, scrutinise the quality of treatment of risks with regards to the principals of prevention, co-ordinate other designers' mitigation and handover designs which can be constructed safely.
 - 9.1.9 AD: The PD shall ensure there is effective liaison and coordination between phases with the Principal Contractor.
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10 Business Case Submission

- 10.1.1 The *Consultant* shall aggregate all of the work undertaken from this commission into a business case document – the Outline Business Case. The format of this document and guidance on the contents is detailed in Write a Business Case LIT 55124 ([Link](#)) and the Business Case templates.
- 10.1.2 The *Consultant* shall be responsible for dealing with responses to queries during the approval process and any resubmission required.
- 10.1.3 The OBC Delivery is to be in accordance with the *Client's* submission programme for either the National Project Assurance Service (NPAS) or the Large Projects Review Group (LPRG) for projects costing over £10m. The *Client* shall be kept up to date of progress and submission dates in order that the delivery of this to the review team can be programmed and a place booked at the appropriate review meeting.
- 10.1.4 This section of the study shall conclude with the final approval of OBC using latest EA Guidance including all appendices and FSoD approval following submission to NPAS or LPRG.
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11 Carbon

- 11.1.1 Carbon emissions shall be identified and assessed on a strategic whole life basis (cost and benefit) in the economic appraisal of options and also as a specific operational target (carbon budget) of the *Client*.
- 11.1.2 The carbon budget for the project has been set to **1,105 Tonnes of CO₂** by the Client. The *Consultant* is required to work with the *Client* and the ESE contractor to reduce the project carbon footprint by **45%**. The project team shall work collaboratively to reduce the carbon budget of the project.
- 11.1.3 The *Consultant* shall demonstrate how they have met the corporate requirement for carbon reduction using the Carbon Tool, 'ERIC' and:
- Identifying carbon differentials between alternative solution options at appraisal stage.
 - Ongoing updates to the carbon calculator and use of the carbon calculator to inform design and construction methodology decisions.
 - Completion and submission of the carbon calculator at the pre-defined stages.
 - Inclusion of a whole-life carbon appraisal to ensure optimisation of lowest carbon in short-listed and preferred options in OBC.

- 11.1.4 AD: The *Consultant* shall organise and facilitate a sustainability/low carbon workshop for the project team as early as possible during the commission, and report on how this workshop has influenced the project and its delivery.

12 General

13 Relevant guidance

The *Consultant* shall deliver the *service* using the following guidance:

Ref	Report Name	Where used
LIT 16559	Safety, health environment and wellbeing (SHEW) Code of Practice	Throughout
183_05	Data management for FCRM projects	Mapping and modelling
379_05	Computational Modelling to assess flood and coastal risk	Modelling
LIT 14847	Risk Guidance for Capital Flood Risk Management Projects	Option development
OI 120_16	Whole-life Carbon Planning Tool	Option development
LIT 14284	Whole Life (Construction) Carbon Planning Tool User Guide	Option development
	Access for All Design Guide	Option development
	Project Cost Tool	Costs
LIT 12982	Working with Others: A guide for staff	Consultation & Engagement
Gov.uk	Appraisal Guidance Manual	OBC
LIT 14174	Business case template – 5 case Model	OBC
LIT 14173	Short Form Business case template	OBC
LIT 4909	Flood and Coastal Erosion Risk Management appraisal guidance (FCERM-AG)	OBC
	Flood and Coastal Erosion Risk Management: A Manual for Economic Appraisal (the 'Multi Coloured Manual')	OBC
OI 1334_16	Benefits management Framework	OBC

Ref	Report Name	Where used
Gov.uk	Partnership Funding Calculator Guidance	OBC
LIT 15030	The Investment Journey	OBC
LIT 55124	Write a Business Case	OBC
LIT 14953	FCRM Efficiency Reporting – capital and Revenue	OBC
LIT 12280	Lessons Log template	OBC
LIT 55096	Integrated Assurance & Approval Strategy	Approvals

14 Requirements of the Programme

- 14.1.1 The *Consultant* shall provide a detailed programme in Microsoft Project format version **2016** meeting all requirements of Cl.31 of the Conditions of Contract.
- 14.1.2 The *Consultant* shall provide a baseline programme for the project start up meeting and shall update the programme monthly for progress meetings with actual and forecast progress against the baseline. The programme shall also include alignment and submission of the BIM Execution Plan (BEP) and Master Information Delivery Plan (MIDP).
- 14.1.3 The programme shall cover all the activities and deliverables in the project, and include all major project milestones from commencement to the end of the reporting, consultation and approvals stage.
- 14.1.4 The programme shall include review and consultation periods for drafts, scoping letters, statutory consultation etc.
- 14.1.5 The programme shall identify time risk allowance on the activities and float.
- 14.1.6 The following are absolute requirements for Completion to be certified:
- Population of the *Client's* latest version of the Project Cost and Carbon Tool, or its successor
 - Transfer to the *Client* of BIM data
 - Clause 11.2(2) work to be done by the Completion Date

15 Services and other things provided by the *Client*

15.1.1 Access to Environment Agency systems and resources including:

- Asite.
- FastDraft.
- Collaborative Delivery Community SharePoint access.

15.1.2 Letter of Appointment of Principal Designer.

15.1.3 Site access authorisation letter(s).

15.1.4 Previous studies listed in Section 1.2.1. The *Client* will provide the previous studies within two weeks of contract award.

16 Data

Requirements for the handling of project data are covered by the framework schedules.

17 *Client's* Advisors

17.1.1 The *Client* for the Contract is represented by the Programme & Contract Management (PCM) team, primarily the EA Project Manager, acting as the *Service Manager*, and in their absence the Project Executive. Instructions may only be given by these staff.

17.1.2 The *Client* has a number of advisory departments. Instructions will only be deemed enacted from them when they are confirmed by an Instruction from the *Client*. These departments include Asset Performance, Partnership & Strategic Overview, NEAS, etc.

17.1.3 The *Client's* organisation has a regulatory function. Communications from the Environment Agency in its capacity as a regulator are not to be confused with communications as the *Client*.

18 *Client* Documents the *Consultant* Contributes to

18.1.1 The *Client* maintains several project documents, the *Consultant* is required to contribute to these *Client* owned documents:

- Project Risk Register.
- Project Efficiency CERT Form.
- Scheme Lessons Learnt Log.
- Cost and Carbon Tool (CCT).

Appendices

Appendix 1 – BIM Protocol

The *Consultant* shall adhere to the Environment Agency's Employers Information Requirements (EIR) framework level minimum technical requirements.

All *Client* issued information referenced within the Information Delivery Plan (IDP) requires verifying by the *Consultant* unless it is referenced elsewhere within the Scope.

<https://www.asite.com/login-home>

The *Consultant* shall register for an Asite Account and request access to the project workspace to view the IDP.

Appendix 2 – Modelling Technical Scope

This will be provided in OBC stage.