Environment Agency
NEC4 professional services contract (PSC)
Scope

Project / contract Information

Project name	Inland FCRM Lot 1 Pre_SOC
Project IBIS reference	ENV0003738C
Contract reference	project_32778
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Author	Environment Agency

Revision history

Revision date	Summary of changes	Version number
08/03/2021	First Draft	0.1
29/03/2021	[redacted]	0.2
13/04/2021	[redacted]	0.3
16/04/2021	[redacted]	0.4
19/04/2021	[redacted]	0.5
26/04/2021	Final	0.6

This Scope should 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
LIT13528	Minimum Technical Requirements	02	18/03/2020

1 Details of the *service*

Details of the *service* are:

1.1 Description of the work:

The Environment Agency (EA) are completing a programme of inland flood defence improvements within the north east of England. The overall objective of this contract is to develop a strategic outline case (SOC) for a number of projects however all work will be issued by instruction with specific services needed for each project. Initially the pre-SOC contract will be for triaging and data reviews with some other project specific activities but with potential to add in further works, including but not limited to baseline hydraulic modelling and developing project specific SOC documents. Further instructions addressing specific projects will be provided to allow updated forecasts and programme submission for individual projects.

The Inland FCRM Pre_SOC appraisals will be managed under one overarching SOP code on FastDraft with individual project budgets managed in the background.

The Environment Agency (EA) will act as the *Client* and *Service Manager* in this *service* and manage the contract through their project management team.

1.1.1 The overall objective of the contract is to:

The overall objective is to develop a SOC for inland flood defence projects. In financial year 2021/22 these projects will initially include but is not limited to:

- Skinningrove FAS – catchment review

It is anticipated that a number of additional projects that are currently on the FCRM programme may fall within this FCRM pre SOC package of work.

Should the term of the Service need to be extended to accommodate additional projects this will be managed through the NEC4 compensation event mechanism as outlined within PSC Option E contract and in line with the CDF framework agreement.

1.1.2 Constraints on how the *Consultant* must Provide the Service

1. The *Consultant* shall only carry out work directly associated with the Service as set out in the above.

2. The *Consultant* shall maintain close contact with the *Client* in order that their actions reflect the *Client's* objectives.

3. The *Consultant* shall:

    I. Notify the *Service Manager* of any variation from the specification, including programme, cost and quality.

    II. Following notification of the *Service Manager* cease all work, howsoever arising, associated with the service.

    III. Await the *Service Manager's* written instruction on how to proceed.

1.1.3 Services and other things provided by the *Client*

1. All of the data listed as being supplied to the *Consultant* as part of this study remains the Intellectual Property of the *Client.*

2. The data custodian for project deliverables from this commission will be the EA.

3. Data share agreements for provision of models/reports/data.

4. All model and survey information will be provided to the *Consultant* according to *Client* data security policy. It is expected that once the commission is completed, the original data sent to the *Consultant* which is classed as commercially sensitive, is returned following the *Client* data security policy.

5. Payment is subject to the procedure agreed in or under the framework.

6. The quality management system complies with the requirements of ISO9001 and ISO14001.

1.1.4 Initial Services and other things provided by the *Consultant*

1.1.4.1 Skinningrove FAS – Catchment Review

The following activities are to be completed to help inform the options development of future capital schemes at Skinningrove and Loftus on the Kilton and Loftus becks in the Kilton Beck catchment. The primary cause of flood risk in Skinningrove is blockage of debris on bridges. A log catcher currently exists just downstream of the confluence of the Kilton and Loftus Becks. This collects significant debris and it is difficult to access, with the access track at risk of subsidence. The catchment is typified by very steep wooded slopes either side of the river channel. The slopes are prone to erosion, adding significant sediment and woody debris loads to the watercourse during a flood. Following a landslip which affected the A174 at Loftus a section of the Loftus Beck was culverted just upstream of the confluence with the Kilton Beck. The screen on the culvert is exceptionally prone to blockage and historically this has led to inundation of the valley upstream and the deposition of sediment that berries the screen. The culvert and screen are owned and managed by Redcar and Cleveland Borough council. The Environment Agency and the council are looking for a more sustainable way to manage debris and potentially deliver both environmental and flood risk improvements.

At Loftus the beck flows through a number of culverts and two Environment Agency debris screens. Blockage is an issue but culvert capacity is the main cause of flood risk. Increasing capacity may lead to increased downstream flood risk. The Environment Agency is keen to explore how the flows in the upstream catchment can be slowed to limit the risk of the culverts surcharging.

The hydraulic modelling for Skinningrove is currently in the process of being updated with the baseline modelling due in August this year. The scope for the modelling does not currently include blockage assessments or a Do nothing scenario. Detailed modelling for Loftus will be carried out through the NIDP by Northumbrian Water consultants. It is likely to be at least quarter 3 before there is a baseline model to run scenarios. There is a 2015 model available and the results can be used to help inform the catchment review, note: a review of the 2015 model is not required.

The following activities should be completed to a proportionate level to inform the short listing of options at the SOC stage of the project. The options will be considered in detail during the further appraisal of the project. The specific activities required by the *Consultant* are:

- Carry out a data review (model review is excluded from the scope) and site visit to inform approach.
- Complete a review of the effectiveness of the existing log catcher in a range of flood events (up to the 200 year flood) based on the 2015 model, to determine whether it is offering tangible flood risk benefits. The review will determine potential improvements to the effectiveness to the structure based on the outcome of the site visit and available dimensional drawings of the log catcher.
- Identify additional sites downstream of the existing log catcher, including review of the pre-feasibility work on the log catcher location that could be a supplementary or alternative site for the log catcher. Record the alternatives including the ease with which operational access can be gained and maintained.
- The wooded slopes in the catchment could by more sustainably managed to reduce the amount of debris (both sediment and timber) that flows down the catchment in a flood this may need to consider a high level assessment of reducing the risk of land slips as a source of sediment. The *Consultant* will recommend improved woodland management and soft engineering techniques that could offer a tangible improvement to blockage risk downstream and deliver environmental improvement.
- Provide a high level assessment of whether natural flood management could form a viable option to provide flood risk reduction to Skinningrove. This should be as high level/proportionate as practicable given the 200 year level of protection offered by in town defences already for Skinningrove and it is considered unlikely natural flood management will be a realistic option.
- Upstream of Loftus demonstrate how natural flood management could be used to reduce the risk of culvert surcharging at East Crescent. The risk reduction is to be evidenced by high level natural flood management option viability, using available data such as LiDAR. If a viable option is identified this can then be considered in more detail during later appraisal of a scheme not as part of this project scope.
- The documenting of all the above bullet points in a file note.
- The *Consultant* will complete an assessment using construction drawings and the latest industry debris screen guidance to determine whether the culvert within the Whitecliffe Woods requires a screen at its upstream and downstream ends. If a screen is required it should be determined whether the bar spacing on the existing screen can be increased. This will be documented in a separate file note.

1.1.4.3 The following are other typical activities that are likely to be completed under this contract and for future specific projects to minimise carbon impact in FCRM projects.

Future Inland FCRM Pre SOC projects are likely to include:

- Cockshaw and Halgut Burn Culvert Repair
- Warden FAS
- Croft and Hurworth Place FAS
- Lower Ouseburn Culvert Repair
- Neasham Asset Replacement
- Wylam Oakwood Burn FAS
- Billingham Deculverting
- Bournemouth Rd Culvert
- Shotley Bridge FAS
- Cleasby FAS
- Fatfield FAS
- Low Prudhoe FAS

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- Wooler Water FAS

The *Consultant* is to report on:

a) Why the project is required and the contributing factors to flood risk in the study area;
b) If the project involves existing EA assets, prove the asset still serves a purpose;
c) If an asset is coming to the end of its operational life or requires refurbishment identify what can be reused;
d) Consider if the scheme fits within the current sub-programme and that the commercial route currently proposed remains appropriate
e) Where necessary, flood model updates will be completed to provide a good evidence base and understanding of risk, including do nothing and current do minimum flood scenarios;
f) The *Consultant* shall provide clear recommendations on activities required in line with Environment Agency hydrology and modelling guidance to ensure the Model achieves the required standards for future utilisation. All modelling works and reviews shall be undertaken in line with the requirements of the Environment Agency's NEC4 Minimum Technical Requirements for Modelling Version 2.1;
g) Identify a long list of options (which will consider natural flood management) and identify a likely preferred option for use to consider scheme viability in the SOC and pricing of subsequent CDF contracts;
h) Identify options that minimise whole life carbon impact and aim to increase natural capital where possible;
i) Provide high level cost estimate and spend profile for the works from SOC to project closure.