Environment Agency

NEC4 Professional Service Contract (PSC)

Scope

Project / contract information

Project name	Temporary Defence Deployment Plans Update 21/22
Project SOP code	ENV0004514C
Contract number	36032
Date	14/04/2022

Assurance

Consulted	Project Manager [redacted]	Date: 14th April 2022
Consulted	Senior User [redacted]	Date: NA
Consulted	NEAS PEPM N/A	Date: NA
Reviewed	Project Executive [redacted]	Date:
Checked prior to issue	Commercial Services Manager [redacted]	Date:

Revision History

Revision date	Summary of changes	Version number
24/03/22	First draft	P01 – Status S3 – For Review and comment by team

30/3/22	Second Draft	P02 – Status S3 – For Review and comment by team
14/04/22	Third Draft	P03 – Status S3
06/05/22	Fourth Draft	P04 – Status S3
07/06/22	Fifth Draft	P05 Status S3

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
412 13 SD01	Minimum Technical Requirements	11	04/05/2021
BS85118-2:2019	Flood Resistance Products: Part 2: Perimeter barrier systems - Specification		2019

1 Overview

Over the last eighteen years the *Client* has been using temporary flood barriers in places where it is not technically or economically possible or practical to build a permanent flood defence.

These are often used in towns and villages whose economies and communities depend on access to the river (such as riverfront bars and restaurants). The *Client* has detailed deployment plans in place for more than 100 high-risk locations across England

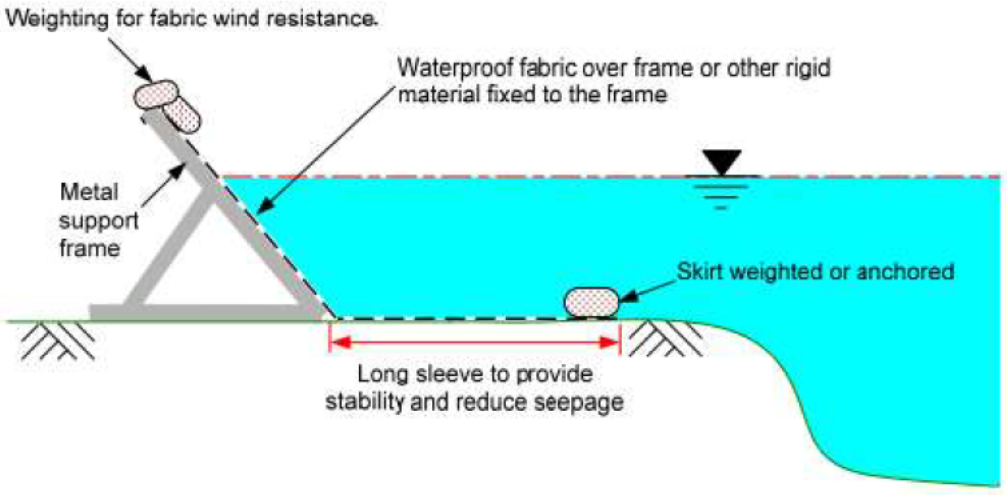
During 2020/2021 on two occasions high water levels against the barriers caused them to slide and, on the second occasion the barriers breached Following this it was recognised that the current temporary defence deployment plans (TDDP's) required design assurance and potential stabilisation measures In conjunction with this the *Client* reviewed issues regarding the design assurance and management systems associated with the barriers, and the *Client* has made the decision to apply the requirement of the Construction Design and Management Regulations (CDM)

This project will require the *Consultant* to undertake an initial assessment and, unless the TDDP is shown to be unviable, update the TDDP's to support the safe deployment of the flood barriers in the future. This is likely to involve the design of additional kentledge to stabilise the barrier and an assessment of the impacts of this change

By Agreement, this scope covers the entirety of Stage 1 (Initial Assessment) and Stage 2 (Deployment Plan Update and FRAP), however the services required are limited to Stage 1 (Initial Assessment) only, and no Stage 2 services are to be carried out without an instruction from the *Service Manager*.

1.1 Background

Barriers used at the sites generally take the form of A-frame barriers. These consist of rigid frames with impermeable membranes or sections spanning between them They rely on supporting frames and the weight of the water to provide stability to the barrier (against sliding and overturning). They are a modular design and are connected together to form a continuous barrier A typical barrier layout is shown below (detail taken from Temporary and Demountable Flood Protection Guide, Environment Agency 2010).



The frames have a tendency to exert high bearing pressures on the bedding surface, in addition, seepage may occur at low water levels To minimise this, weighting is advised at the upstream end of the skirts. The barriers used have been tested in accordance with the relevant standards at the time of purchase (PAS1188 – :2014 - Flood Protection products. Part 2: Temporary and demountable flood protection products) and the *Client* was given assurances that the barriers would meet the relevant standards.

In September 2021 JBA Consulting were commissioned to undertake a review of an initial 42 sites From this review a two-stage procedure for assessing each temporary barrier site has been developed which forms the basis of this scope.

In summary, the *Consultant* will be expected to undertake the following:

- Stage 1 _Carry out an initial assessment of each site to establish whether a temporary barrier is suitable. Depending on the category assigned, the site will either continue to Stage 2 or the existing TDDP will be withdrawn. In some cases, the *Client* may progress with major modifications to the TDDP; this work sits outside the scope of this contract
- Stage 2 Update the existing TDDP to a Temporary Defence Management Plan (TDMP), using supporting design calculations and appropriate site information to support with safe deployment of the barriers in the future. This will include the production and submission of a Flood Risk Activity Permit to secure consent for future deployment of the barriers.

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.

Report	Date	Format E.g. Digital format (enclosed), paper copy (enclosed) or paper copy (available for inspection)	Outcomes of study

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* if the data is incorrect, contains anomalies, is not adequate for the purposes of detailed design or is based on inappropriate assumptions. Following this review, and completion of any work required to rectify the deficiencies identified, the *Consultant* will take the risk of any deficiencies in existing data quality and quantity which have not been notified to the *Client*.

1.2.3 In undertaking the *service* the *Consultant* shall develop and build on the previously developed TDDP's. These provide an indication of the extent and length of the deployment area, the *Client's* resources available to complete the installation and Pre-Construction Information. The Plans are detailed in the table below and the *Client* will provide these in an editable word digital format. The *Consultant* shall assume that any maps or drawings that require updating will not be provided in an editable format.

Site name	EA Site No	Area	Comments, from area team, to aid Consultants understanding	IDT Initial Assessment Needed	IDT TDMP, if passing IA	Stabilisation Design Complete	IDT FRAP if passing IA	IDT Supplier	TDDP in word Format	Historic Information Available	Maps in Editable Format
[redacted]				No	No	Yes	Yes	Arup	Yes	Yes	Yes
[redacted]				No	No	Yes	Yes	Arup	Yes	Yes	Yes
[redacted]				No	No	Yes	Yes	Arup	Yes	Yes	Yes
[redacted]				Yes	Yes		In Place	Arup		Yes	Unknown
[redacted]			Plan used as a contingency for failure of major asset	Yes	Yes		Yes	Arup		No	No
[redacted]			Plan used as a contingency for failure of major asset	Yes	Yes		Yes	Arup		No	No
[redacted]			Is a 'short form' plan Basics only	Yes	Yes		Yes	Arup		No	No
[redacted]			Continency Plan Only	Yes	Yes		Yes	Arup		Yes	Unknown
[redacted]			Continency Plan Only	Yes	Yes		Yes	Arup		Yes	Unknown
[redacted]				Yes	Yes		Yes	Arup		Yes	Unknown
[redacted]			Required - properties flooded in previous tidal events	Yes	Yes		Yes	Arup		No	No
[redacted]			We are awaiting a structural integrity survey of a wall that this ties into	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]				Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			Possibly not required PFR may be an alternative solution	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]				Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			May not be required if a local development is given the go ahead	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			Not tested but on paper and through walkover appears deployable with minimum issues.	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]				Yes	Yes		Yes	Atkins		No	No
[redacted]			This plan still needs to be reviewed and tested it may be that we are unable to do due to the flashiness of the catchment and the long lead in times required	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			This plan would split a community, it hasn't been exercised, it may also drown out, there is some ongoing modelling. Its available in case an option by a planning cell is required	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			This plan still needs to be reviewed and tested it may be that we are unable to do due to the flashiness of the catchment and the long lead in times required	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			This plan still needs to be reviewed and tested it may be that we are unable to do due to the flashiness of the catchment and the long lead in times required	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			This plan still needs to be reviewed and tested it may be that we are unable to do due to the flashiness of the catchment and the long lead in times required	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]			This plan still needs to be reviewed and tested it may be that we are unable to do due to the flashiness of the catchment and the long lead in times required	Yes	Yes		Yes	Atkins		Yes	Unknown
[redacted]				Yes	Yes		Yes	Atkins		Yes	Unknown

Site name	EA Site No	Area	Comments, from area team, to aid Consultants understanding	IDT Initial Assessment Needed	IDT TDMP, if passing IA	Stabilisation Design Complete	IDT FRAP if passing IA	IDT Supplier	TDDP in word Format	Historic Information Available	Maps in Editable Format
[redacted]			Flashy catchment makes lead in times and triggers hard to ascertain and achieve. PLR (sandbags) more viable option	Yes	Yes		Yes	Jacobs		Yes	Unknown
			Area do not believe to be techincally viable due to ground conditions	Yes	Yes		Yes	Jacobs		No	No
				Yes	Yes		Yes	Jacobs		Yes	Unknown
			Analysis of the fluvial modelling required	Yes	Yes		Yes	Jacobs		Yes	Unknown
			Analysis of the fluvial modelling required	Yes	Yes		Yes	Jacobs		Yes	Unknown
			Analysis of the fluvial modelling required	Yes	Yes		Yes	Jacobs		Yes	Unknown
			changes to operational document required to reflect change in alignment following modelling	Yes	Yes		Yes	Jacobs		Yes	Unknown
			Analysis of the fluvial modelling required	Yes	Yes		Yes	Jacobs		Yes	Unknown
			Analysis of the fluvial modelling required	Yes	Yes		Yes	Jacobs		Yes	Unknown
			Need area confirmation on how to proceed	Issued	Yes		Yes	JBA	Yes	Yes	No
			Need area confirmation on how to proceed	Issued	Yes		Yes	JBA	Yes	Yes	No
			Need area confirmation on how to proceed	Issued	Yes		Yes	JBA	Yes	Yes	No
				Yes	Yes		Yes	JBA	Yes	Yes	No
			Believed to be withdrawn	TBC	TBC		TBC	JBA	Yes	No	Unknown
			Needs revised alignment following FAS	TBC	TBC		TBC	JBA		No	Unknown
			Needs confirming if secondary defence	TBC	TBC		TBC	JBA		No	Unknown
				Yes	Yes		Yes	JBA		Yes	Unknown
			Potentially change to capital scheme	Issued	TBC		TBC	JBA	Yes	No	No

1 2 4 The previous plans have been undertaken by, or for, the *Client* using reasonable skill and care and have been accepted. These plans include information on the alignment and type of barrier to be used and site conditions / labour needs. The *Consultant* shall review and develop these plans to support the safe deployment of the proposed barriers The findings from the review shall be presented in an Initial Assessment template to be supplied by the *Client*. During the development of the plans the *Consultant* shall notify the *Client* if the data is incorrect, contains anomalies or consenting issues, is not adequate for the purposes of detailed design or is based on inappropriate assumptions, via a combination of an issues log and using an annotated plan as a review process with a proposal for edits. At each site the *Client* shall provide information on flood levels, duration of flooding, and known environmental issues when in operation (e g wave / debris loading, if the barriers are subject to high flow conditions).

1.3 Objectives

The objectives of this contract are as follows:

1 Undertake an Initial Assessment of existing site TDDPs to classify plans if they are deployable categories This classification will enable the *Client* to decide whether the *Consultant* is to proceed with the second Objective or withdraw the TDDP on a temporary or permanent basis. If the TDDP is withdrawn recommendations for alternative mechanisms for managing flood risk are not part of this scope.

2 Produce an updated management plans for the sites these will be termed Temporary Deployment Management Plans (TDMPs). The updated TDMPs will replace the existing TDDPs. The *Client* will then produce operational documents (Construction Phase Plans, and Operational Action Plans 2, 3 (OAP2 and 3), which describe actions to be undertaken if the barriers operate outside the agreed design parameters or exceed their design water level) to manage the installation of the barrier as specified in the TDMP with support provided by the *Consultant*.

3. Produce and submit an application for a Flood Risk Activity Permit (FRAP) for each site with an updated TDMP The *Consultant* will produce the FRAP but will not be responsible for its approval Detriment hydraulic modelling may be required to support the FRAP The *Consultant* will submit the application as the *Client's* agent , with the *Client* been the named license holder.

2 The *service*

2.1 Outcome Specification

The *Consultant* shall deliver the *service* such that it meets the outcomes listed in this section

2.1.1 The required outcome of this commission is to develop the outline design produced at appraisal stage into a detailed design such that it meets the project objectives and enables the scheme to be priced and constructed under an NEC4 Engineering and Construction Contract

2.1.2 The *Consultant* shall ensure that the detailed design takes into consideration all relevant guidance and legislation and seek to minimise long-term asset/land management, maintenance costs and whole life carbon.

2.1.3 The design will also demonstrate that the *Consultant* has learnt from best practice and demonstrate how optimum flood risk reduction, natural processes, recreation, good ecological water quality and visual amenity can be combined.

2.1.4 Working with the *Client* and Early Supplier Engagement (ESE) contractor, the *Consultant* shall be responsible for ensuring the design is acceptable to the *Client* (gaining approval of Gateway 3), is designed to gain planning approval and any other associated approvals and to be acceptable to statutory and key stakeholders.

2.1.5 The *Consultant* shall prepare a single planning application covering the proposed construction works and shall submit these to the relevant Planning Authority for Planning Consent. The *Consultant* shall be responsible for submitting the required documents through the Planning Authority portal. The *services* exclude the payment of Planning Fees. This commission must result in planning permission being obtained, and all other necessary permissions required for construction being identified. Should the *Consultant* become aware that the Planning Authority is not expected to support the scheme, or if the *Consultant* considers the refusal of the Planning Authority was not reasonably foreseeable, the *Consultant* shall raise an early warning.

2.1.6 Once planning permission has been obtained, the *Consultant* shall apply for protected species licences, on behalf of the *Client*.

2.1.7 The *Consultant* shall seek to develop the detailed design such that the cost and quality of the scheme represents value for money and can be constructed within the approved OBC budget

2.1.8 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.

2.1.9 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.

2.1.10 The *Consultant* shall ensure the design process fully considers and addresses sustainability including carbon reduction as strategic outcomes.