



Framework: Collaborative Delivery Framework
Supplier: Jackson Civil Engineering Group Ltd
Company Number: [REDACTED]

Geographical Area: Midlands
Project Name: Uper Framilode Flood Aleviation Scheme Construction
Project Number: [REDACTED]

Contract Type: Engineering Construction Contract
Option: Option C

Contract Number: [REDACTED]

Revision	Status		Originator		Reviewer		Date

ENGINEERING AND CONSTRUCTION CONTRACT under the Collaborative Delivery Framework

CONTRACT DATA

Project Name Uper Framlode Flood Alleviation Scheme Construction
Project Number ENV0000302C

Schedules 1 to 21 Inclusive of the Framework schedules are relied upon within this contract.

Part One - Data provided by the Client

Statements given in all Contracts

1 General

The conditions of contract are the core clauses and the clauses for the following main Option, the Option for resolving and avoiding disputes and the secondary Options of the NEC4 Engineering and Construction Contract June 2017.

Main Option  Option for resolving and avoiding disputes 

Secondary Options

X2: Changes in the law
 X7: Delay damages
 X9: Transfer of rights
 X10: Information modelling
 X11: Termination by the Client
 X15: Contractor's design
 X18: Limitation of Liability
 X20: Key Performance Indicators
 Y(UK)1: Project Bank Account
 Y(UK)2: The Housing Grants, Construction and Regeneration Act 1996
 Y(UK)3: The Contracts (Rights of Third Parties) Act 1999
 Z: Additional conditions of contract

The works are

The construction of the Upper Framlode flood alleviation scheme

The Client is

Address for communications

Address for electronic communications

The Project Manager is

Address for communications

Address for electronic communications

The Supervisor is

Address for communications

Address for electronic communications

The Site Information is in
 ENV0000302C on Auto

The partner contract is

The partner contract shall come into effect upon issue of the Compensation Event for the construction of the Frome bank. Full details shall be provided with the CE.

The language of the contract is English

The law of the contract is
 the law of England and Wales, subject to the jurisdiction of the courts of England and Wales

The period for

The following

Early warning meetings are to be held at intervals no longer than

2 weeks

2 The Contractor's main responsibilities

The key dates and conditions to be met are

condition to be met

'none set'

'none set'

'none set'

key date

'none set'

'none set'

'none set'

The Contractor prepares forecasts of the total Defined Cost for the whole of the works at intervals no longer than

4 weeks

3 Time

The starting date is

The access dates are

part of the Site

Access date

The Contractor submits revised programmes at intervals no longer than

The Completion Date for the whole of the works is

The Client is not willing to take over the works before the Completion Date

The period after the Contract Date within which the Contractor is to submit a first programme for acceptance is

4 Quality management

The period after the Contract Date within which the Contractor is to submit a quality plan is

The period between Completion of the whole of the works and the defects date is

The defect correction period is 2 weeks

a The defect correction period for

a The defect correction period for

except that

is

is

5 Payment

The

The

The

The

Name of the

Name of the

6 Compensation events

The place where weather is to be recorded is Hartpury College

The weather measurements to be recorded for each calendar month are

- the cumulative rainfall (mm)
- the number of days with rainfall more than 5mm
- the number of days with minimum air temperature less than 0 degrees Celsius
- the number of days with snow lying at 09.00 hours GMT

and these measurements:

- 1.
- 2.
- 3.
- 4.
- 5.

The weather measurements are supplied by Met Office

The weather data are the records of past weather measurement for each calendar month which were recorded at

Hartpury College

and which are available from

Met Office

Assumed values for the ten year weather return weather data for each weather measurement for each calendar month are

Jan	Jul
Feb	Aug
Mar	Sep
Apr	Oct
May	Nov
Jun	Dec

These are additional compensation events

- Managing and mitigating the impact of Covid 19 and working in accordance with Public Health England guidance, as may vary from time to time, between 1st July and 31st October 2020
- 60.1 (20) The working area are flooded
- 60.1 (21) When water levels raise above: 9.89m AOD at Heck Ditch; 9.89m AOD at Epney; 8.81m AOD at Orchard
- 'not used'
- 'not used'

8 Liabilities and insurance

These are additional Client's liabilities

- 1 'not used'
- 2 'not used'
- 3 'not used'

The minimum amount of cover for insurance against loss of or damage to property (except the works, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) arising from or in connection with the Contractor Providing the Works for any one event is

The minimum amount of cover for insurance against death of or bodily injury to employees of the Contractor arising out of and in the course of the performance of the contract for any one event is

not less than the amount required by law

The insurance against loss of or damage to the works, Plant and Materials is to include cover for Plant and Materials provided by the Client for an amount of

Receiving and avoiding disputes

The Tribunal/ is litigation in the courts

The Senior Representatives of the Client are

Address for communications

Address for electronic communications

Name

Address for communications

Address for electronic communications

The Adjudicator is

Address for communications

Address for electronic communications

The Adjudicator nominating body is

Z Clauses

Z1 Correctness of Site Information and other documents

Z1.1 Site Information about the ground, subsoil, ducts, cables, pipes and structures is provided in good faith by the Client, but is not warranted correct. Clause 60.3 does not apply to such Site Information and the Contractor is responsible for checking the correctness of any such Site Information they rely on for the purpose of pricing for or providing the works.
Z1.2 Information regarding construction methods or processes referred to in pre contract health and safety plans are provided in good faith by the Client but are not warranted correct (except for the purpose of promoting high standards of health and safety) and the Contractor is responsible for checking the correctness of any such information they rely on for the purpose of pricing for, or providing the works.

Z 2B: Water levels: Contractor's risk

Clause 60.1 (12) second bullet point is amended to: "are not weather conditions or floods and"

Z3 Prevention: No change to prices

Delete first sentence of clause 62.2 and replace with:

"Quotations for compensation events except for the compensation event described in 60.1(19) comprise proposed changes to the Prices and any delay to the Completion Date and Key Dates assessed by the Contractor. Quotations for the compensation event described in 60.1(19) comprise any delay to the Completion Date and Key Dates assessed by the Contractor.

Delete The 'At start of clause 63.1 and replace with:

"For the compensation event described in 60.1(19) the Prices are not changed. For other compensation events the ..."

Z 4 The Schedule of Cost Components

The Schedule of Cost Components is as detailed in the Framework Schedule 9.

Z 6 Payment for Work

Delete existing clause 11.2 (31) and replace with:

"11.2 (31) The Price for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee, not exceeding the forecast provided under clause 20.4 and accepted by the Client."

Z7 Aggregated Contractor's share

Delete existing clauses 54 and 93.4 and replace with:

54.7 The Project Manager assesses the Contractor's share of the difference between the Aggregated Total of the Prices and the Aggregated Price for Work Done to Date. The difference is divided into increments falling within each of the share ranges. The limits of a share range are the Aggregated Price for Work Done to Date divided by the Aggregated Total of the Prices, expressed as a percentage. The Contractor's share equals the sum of the products of the increment within each share range and the corresponding Contractor's share percentage.

54.8 If the Aggregated Price for Work Done to Date is less than the Aggregated Total of the Prices, the Contractor is paid its share of the saving. If the Aggregated Price for Work Done to Date is greater than the Aggregated Total of the Prices, the Contractor pays its share of the excess.

54.9 If, prior to the Completion Date, the Aggregated Price for Work Done to Date exceeds 110% of the Aggregated Total of the Prices, the amount in excess of 110% of the Aggregated Total of the Prices is retained from the Contractor.

54.10 The Project Manager makes a preliminary assessment of the Contractor's share at Completion of the Whole of the works using forecasts of the final Aggregated Price for Work Done to Date and the final Aggregated Total of Prices. This share is included in the amount due following Completion of the whole of the works.

54.11 The Project Manager makes a final assessment of the Contractor's share, using the final Aggregated Price for Work Done to Date and the final Aggregated Total of the Prices. This share is included in the final amount due.

93.4 If there is a termination, the Project Manager assesses the Contractor's share after certifying termination. The assessment uses as the Aggregated Price for Work Done to Date the sum of

• the total of

• the Defined Cost which the Contractor has paid and

• which it is committed to pay for work done before termination

and

• the total of

• the Defined Cost which the Contractor has paid and

• which it is committed to pay

in the partner contract before the date the termination certificate is issued under this contract.

The assessment uses as the Aggregated Total of the Prices the sum of

• the total of

• the lump sum price for each activity which has been completed and

• a proportion of the lump sum price for each incomplete activity which is the proportion of the work in the activity which has been completed

and

• the total of

• the lump sum price for each activity which has been completed and

• a proportion of the lump sum price for each incomplete activity which is the proportion of the work in the activity which has been completed

in the partner contract before the date the termination certificate is issued under this contract.

Add:

11.3(37) The Aggregated Total of the Prices is sum of

• the total of the Prices and

• the total of the Prices in the partner contract

11.3(38) The Aggregated Price for Work Done to Date is the sum of

• the Price for Work Done to Date and/

• the Price for Service Provided to Date in the partner contract.

Z10 Payments to subcontractors, sub consultants and

Subcontractors

The Contractor will use the NECA contract on all subcontracts for works. Payment to subcontractors will be 28 days from the assessment date.

If the Contractor does not achieve payments within these time scales then the Client reserves the right to delay payments to the Contractor in respect of subcontracted work, services and supplies. Failure to pay subcontractors and suppliers within contracted times scales will also adversely affect the Contractor's opportunities to work on framework contracts.

Z11(UK) 3 The Contracts (Rights of Third Parties)

The design consultant employed by the Contractor is required to fulfil the obligations of the warrantor under the primary contract for design works that they complete. This includes:

Transfer of rights clause 211

Professional indemnity insurance cover to same cover as that specified for the Contractor

211.1 The Client (the third party) may in its own right enforce the provisions of this clause, subject to and in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999 and the following provisions:

211.1.1 the parties may not record or vary any provision(s) of this agreement, including this clause, at any time without the consent of the third party; and

211.1.2 each third party's rights against party A under this agreement shall be subject to the same conditions, limitations and exclusions as apply to party B's rights against party A under this agreement.

211.2 Except as provided in clause 21.1, this agreement does not create any right enforceable by any person who is not a party to it (Other Party) under the Contracts (Rights of Third Parties) Act 1999, but this clause does not affect any right or remedy of a other party which exists or is available apart from that Act.

216 Disallowed Costs

Add the following bullets to clause 11.2 (26) Disallowed costs

- was incurred due to a breach of safety requirements, or due to additional work to comply with safety requirements.
- was incurred as a result of the client issuing a Yellow or Red Card to prepare a Performance Improvement Plan.
- was incurred as a result of rectifying a non-compliance with the Framework Agreement and/or any call off contracts following an audit.

218 Payment of pain/gainshare and programme incentivisation

Delete existing clause 54.3 and replace with:

54.3 The Project Manager makes regular assessments of the Contractor's share until the Completion Date using forecasts of the final Price for Work Done to Date and the final total of the Prices. This share is included in the amount due in the following assessment. The Project Manager shall be entitled to take the Contractor's share percentage into account when assessing amounts in clause 50 and clause 51 due for payment at each assessment date thereafter. The Project Manager shall not assess any amount greater than the amount due when the forecast reaches the top share range in the Contract Data Part 1 (120% of the total of the Prices).

Delete existing clause 54.4 and replace with:

54.4 If clause 54.3 does not occur during the works, the Project Manager makes a preliminary assessment of the Contractor's share at Completion of the Whole of the works using forecasts of the final Price for Work Done to Date and the final total of Prices. This share is included in the amount due following Completion of the whole of the work.

Insert the following new clause 54.5:

54.5 If clause 54.3 does not occur during the works, the Project Manager makes a final assessment of the Contractor's share, using the final Price for Work Done to Date and the final total of the Prices. This share is included in the final amount due.

Insert the following new clause 54.6:

Programme Payments will be made under the Framework in accordance with Schedule 17

219 Linked contracts

Delays and additional cost on this contract resulting from the Contractor's fault or error on a previous contract on this project or programme will be a Disallowable cost under this contract and not be a Compensation event under this contract.

221 Requirement for Invoices

Add the following sentence to the end of clause 51.1:

The Party to which payment is due submits an invoice to the other Party for the amount to be paid within one week of the Project Manager's certificate.

Delete existing clause 51.2:

51.2 Each certified payment is made by the later of

- one week after the paying Party receives an invoice from the other Party and
- three weeks after the assessment date, or, if a different period is stated in the Contract Data, within the period stated.

If a certified payment is late, or if a payment is late because the Project Manager has not issued a certificate which should be issued, interest is paid on the late payment. Interest is assessed from the date by which the late payment should have been made until the date when the late payment is made, and is included in the first assessment after the late payment is made.

222 Resolving Disputes

Delete W2.1

223 Risks and Insurance

Replace clause 54.1 with the following

Insurance certificates are to be submitted to the Client on an annual basis.

Secondary Options

OPTION X2: Changes in the law

The *law of the project* is the law of England and Wales, subject to the jurisdiction of the courts of England and Wales

OPTION X7: Delay damages

X7 only Delay damages for Completion of the whole of the works are

OPTION X9: Transfer of rights

OPTION X10: Information modelling

The period after the Contract Date within which the *Contractor* is to submit a first Information Execution Plan for acceptance is

The minimum amount of insurance cover for claims made against the *Contractor* arising out of its failure to use skill and care normally used by professional providing information similar to the Project Information is, in respect of each claim

The period following Completion of the whole of the works or earlier termination for which the *Contractor* maintains insurance for claims made against it arising out of its failure to use the skill and care is

OPTION X11: Termination by the *Client*

OPTION X15: The *Contractor's* design

The *period for retention* following Completion of the whole of the works or earlier termination is

The minimum amount of insurance cover for claims made against the *Contractor* arising out of its failure to use skill and care normally used by professionals designing works similar to the works is, in respect of each claim

The period following Completion of the whole of the works or earlier termination for which the *Contractor* maintains insurance for claims made against it arising out of its failure to use the skill and care is

OPTION X18: Limitation of liability

The *Contractor's* liability to the *Client* for indirect or consequential loss is limited to

For any one event, the *Contractor's* liability to the *Client* for loss or damage to the *Client's* property is limited to

The *Contractor's* liability for Defects due to its design which are not listed on the Defects List is limited to

The *Contractor's* total liability to the *Client* for all matters arising under or in connection with the contract, other than excluded matters, is limited to

The *end of liability date* is
Completion of the whole of the works

OPTION X20: Key Performance Indicators (not used with Option X12)

The *incentive schedule* for Key Performance Indicators is in Schedule 17.

A report of performance against each Key Performance Indicator is provided at intervals of 3 months.

Y(UK)1: Project Bank Account

The Contractor is to pay any bank charges made and to be paid any interest paid by the
project bank

Y(UK2): The Housing Grants, Construction and Regeneration Act 1996

The period for payment is 14 days after the date on which payment becomes due

Y(UK3): The Contracts (Rights of Third Parties Act) 1999

term *beneficiary*

term *beneficiary*

The provisions of
Y(UK)1

Part Two - Data provided by the *Contractor*

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

1 General

The *Contractor* is

Name

Address for communications

Address for electronic communications

The *fee percentage* is

The *working areas* are

The *key persons* are

Name (1)
Job
Responsibilities
Qualifications
Experience

The *key persons* are

Name (2)
Job
Responsibilities
Qualifications
Experience

The *key persons* are

Name (3)
Job
Responsibilities
Qualifications
Experience

The *key persons* are

Name (4)
Job
Responsibilities
Qualifications
Experience

The following matters will be included in the Early Warning Register

Brexit
COVID 19

2 The Contractor's main responsibilities

The Scope provided by the *Contractor* for its design is in

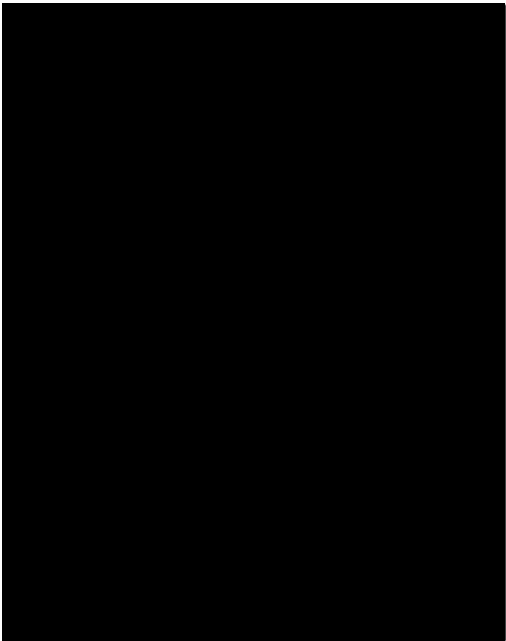
3 Time

The programme identified in the Contract Data is

5 Payment

The *activity schedule* is

Resolving and avoiding disputes



X10: Information Modelling

The *information execution plan* identified in the Contract Data is

Y(UK)1: Project Bank Account

The *project bank* is
To be advised

named suppliers are
To be advised

Contract Execution

Client execution

Signed under hand by

for and on behalf of the Environment Agency

Signature

Contractor execution

Consultant execution

Signed under hand by

for and on behalf of Jackson Civil Engineering Group Ltd

Signature

Project Team

Project	
Contract	
Project Number	
Contract Number	

Delay Damages for whole works/section	This certificate is for the whole of the services.
Contract/section period	[REDACTED]
Expected start date:	
Interest rate	
Inflation assumed	

Sub-To

PM/Supervision Costs (Include Agency and Consultants Costs)

[illegible]

Total of Consequential Costs per Year

Total delay damages per v

Daily

Output

Durata:

ECC Scope Template

NEC4 engineering and construction contract (ECC)

412_13_SD03

Document category: **COMPULSORY**

Environment Agency NEC4 engineering and construction contract (ECC) Scope

Project / contract information

Project name	Upper Framilode FAS
Project 1B1S reference	██████████
Contract reference	
Date	16/07/20
Version number	5
Author	██████████

Revision history

Revision date	Summary of changes	Version number
	First issue	

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 *works* are 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	2.0	18/03/20

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
0845 988 1188

www.environment-agency.gov.uk

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S 200	General constraints on how the <i>Contractor</i> provides the <i>works</i>
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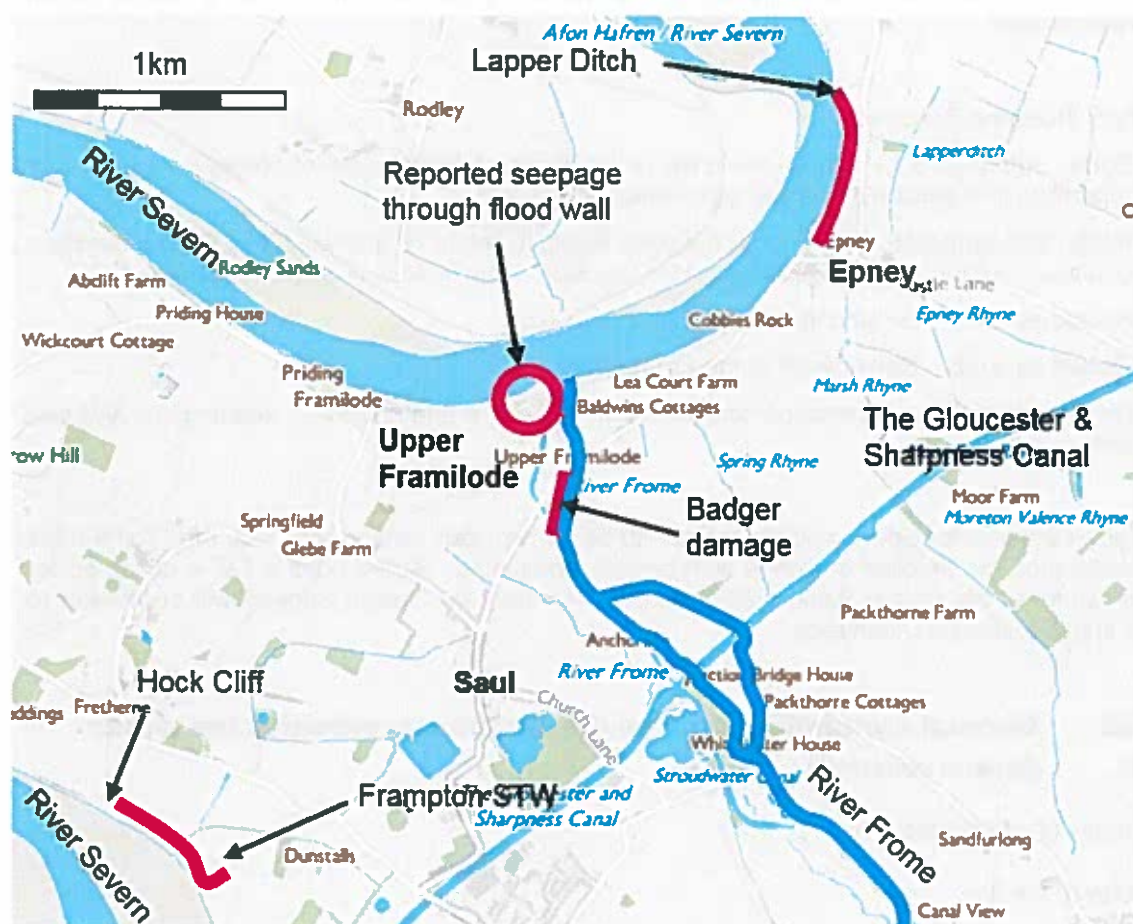
Appendix 1 BIM Protocol – Production and Delivery Table

Appendix 2 BIM Protocol – *Clients* Information requirements

S 100 Description of the works

S 101 Description of the works

The works are split across three site locations; Epney, Hock Ditch (Frampton) and banks of the Frome in Upper Framilode. Following deterioration of the flood embankments to those three sites, there is a requirement to return the assets to the originally designed level of protection. The two sites at Epney and Hock Ditch comprise of a topping up of the existing crest to the flood embankments with some reprofiling of the embankment slope (wet side) to the Epney site. The embankment at the Upper Framilode site, requires a solution to overcome the seepage through the embankment caused by the construction of a badger set. There is also reported seepage to the flood wall at Upper Framilode, but this is to be included as part of the Asset Recovery works.



S 102 Purpose of the Works/ Outcome required

The area around Upper Framilode is naturally subject to significant tidal flood risk from the River Sever and fluvial flood risk from the Rivers Severn and Frome. The existing Severn embankments were constructed in the 1990s and a survey by the Environment Agency (EA) has identified a number of localised low spots. The defences on the Frome were constructed in the 1970s and a section of the left bank embankment in Upper Framilode has suffered damage from burrowing animals. This embankment provides protection to properties in Upper Framilode and Saul, and the existing structural damage increases the likelihood of a breach.

As part of repairs to the existing assets, the feasibility of raising the defence levels and opportunities to deliver environmental enhancements will be investigated. The project will extend the useful life of

the assets, leading to a more resilient scheme in the future – both in terms of flood risk and ecosystem resilience.

FRM investment in the Upper Framilode area strongly aligns with local business strategies for the area and the Severn Estuary Flood Risk Management Strategy (SEFRMS) which says that the Environment Agency aims to raise defences before flood risk becomes greater than a 1 in 75 chance in any year (1.3% AEP). Reduced flood risk is an important outcome of the strategies, with wider economic, social and environmental benefits and enhancements.

In addition to the topping up of the embankments to Epney and Hock Ditch and reconstruction of the bank to the River Frome there will be the Ground Investigation works included as part of this contract. The GI will inform the detailed design for the Frome bank and provide confirmation of the ground conditions to Epney and Hock Ditch.

The detailed design for the Frome bank is being completed by one of the Environment Agency's graduates and peer reviewed and signed off by Arup. As the GI and detailed design for the Frome bank has not been completed then this element of the works will be dealt with as a compensation event to the contract.

Summary of Outcome Required;

1. Epney embankment - Top up the crest levels to return to standard of protection (SOP) and reprofiling to a section of the wet side embankment slope.
2. Hock Ditch embankment - Top up the crest levels to return to SOP and also the construction of a short section of flood wall adjacent to the STW. The flood wall is to be raised as a CE.
3. Raised as a CE – Ground investigation works.
4. Raised as a CE – Repair work to the Frome bank.
5. Raised as a CE – Landscape reinstatement (topsoil preparation and seeding) to all three sites.

The preferred order is for Epney and Hock Ditch to be constructed concurrently with the Frome bank commencing once the detailed design is substantially completed. At the point a CE is accepted for the repair works to the Frome Bank, a PSC option C contract for Design Support will be offered to Arup and linked to this ECC contract.

S 200 General constraints on how the *Contractor* provides the works

S 201 General constraints

Examples of constraints are

- Use of the Site

Epney – These works are to be completed within 4 weeks.

Hock Ditch – The site is adjacent to a SSSI with environmental constraints. The ECoW will support the *Contractor* in working around these constraints.

Frome Bank – Very restricted site with a high proportion of environmental constraints. The ECoW will support the *Contractor* in working around these constraints.

- Access to the Site

Epney – Access is via the North end of the flood defence through Mr Watson's compound.

Temporary fencing to be erected to create a safe access beyond the compound and onto the crest of the flood embankment.

Hock Ditch – Access is via the Severn Trent Water service road and through the gate adjacent to the entrance to the STW sewage treatment works.

Frome Bank – Access will be via Frome House driveway.

- Working hours

Normal working hours are to be observed. No construction works outside of 07.30 – 17.30 Monday – Friday.

At Hock Ditch site there is not to be any construction work or movement (tracking) within 2 hours of a high tide.

- Parking

Epney and Frome bank - Parking is restricted and parking locations to be discussed with EA PM.

- Pollution, ecological and environmental impacts.

All three sites are within sensitive areas. Consultation required with the *Client's* ecological clerk of works Amanda Baker of Jacobs.

The *Contractor* will adhere to the Environmental Action Plan prior to and during construction.

Specific constraints for the *Contractor* at Hock Ditch due to Non-breeding (Wintering) and passage birds are as follows:

- The GI works to be programmed during the summer to avoid the main winter period.
- Construction works are to be programmed during the summer to avoid the main winter period and reduce the exposure to the hazard to non-breeding wintering birds. Programming Hock ditch works ahead of Epney is under consideration.
- No work is undertaken within 200 m of a high tide roost during the two hours either side of high tide during the period of mid-August to May. This means that most of the work is undertaken during low tide, when birds are foraging on mud flats within the estuary.
- Vehicles and mechanical plant employed for any activity associated with the construction works to be, where reasonably practicable, fitted with effective exhaust silencers and shall be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.
- A method statement will be produced detailing measures to reduce, minimise and mitigate noise and vibration as a result of the construction works. This method statement shall be communicated to the appropriate persons through toolbox talks.

- Interfaces between the *works* and existing things.

Epney – Fence line to Dangerfield Farm to be removed and disposed of and like for like reinstatement of existing with new. Temporary fencing required to secure and demark the site working area and the Farm. Temporary fencing to be robust enough to prevent horses from entering working area.

Low level fences to be removed across the flood embankment to allow unrestricted movement in the working area.

Hock Ditch – Structural assessment of the outfall structure may be required. The EA currently tracks 23t vehicles. *Contractor* to confirm site vehicles.

- Occupied premises and users.

Frome Bank – Frome House driveway is being used as access to the works. The works are to the rear of the property. Consideration to be made as this property is occupied. Early engagement meeting with the owner and the EA to be made.

- **Tide Information**

Epney and Hock Ditch sites are along the River Severn and as such high tides need to be observed.

- **Enabling works**

Epney – Boundary fences to Mr Blakemore's land and Dangerfield Farm are to be removed and reinstated like for like, on completion of the works. Temporary fencing is to be installed to protect those properties from the working area. Dangerfield Farm keep horses so suitable temporary fencing will be required. There are also fences that cross over the crest of the flood defence which also need to be removed and reinstated like for like.

Hock Ditch – Installation of a new stock proof fence to the left hand boundary of the field adjacent to the entrance gate near STW.

S 202 Confidentiality

The *Contractor* does not disclose information in connection with the *works* except when necessary to carry out their duties under the contract or their obligations under the contract

The *Contractor* may publicise the services only with the *Client's* written permission.

S 203 Security and protection on the site

All three sites are located in residential areas and have public access so adequate measures to prevent public access needs to be in place.

The *Contractor* shall restore any fencing permitted to be removed, and repair any fencing or gates that may be damaged as a result of construction.

S 204 Security and identification of people

S 205 Protection of existing structures and services

Epney – There are fruit trees to the toe of the flood embankment opposite Dangerfield Farm. These are to be retained and protected from damage during the construction works.

Frome Bank – There are some trees to the orchard which may need to be removed which fall within the new toe of the embankment. All other remaining trees will need to be protected from damage during the construction works.

S 206 Protection of the works

S 207 Cleanliness of the roads

Allowance needs to be made to ensure all site access points are free of site traffic debris.

S 208 Traffic Management

The *Contractor* is responsible for any traffic safety and management.

S 209 Condition survey

The *Client's* Estate Surveyor will carry out a condition survey prior and after construction works.

S 2010 Consideration of Others

Epney – Access to the working area at the North end of the flood embankment is via Mr Watson's field and orchard. He has cattle in adjacent to the access and consideration needs to be given to maintaining a segregation between his livestock and the working area. At the South end of the works secure segregation needs to be installed between Dangerfield Farm and the working area. Works to be completed within a 4 week period.

Frome Bank – Access and working area needs to be clearly segregated from Frome House.

S 2011 Control of site personnel

Nothing specific over and above the usual *Contractor's* site procedures.

S 2012 Site cleanliness

Nothing specific over and above the usual *Contractor's* site procedures. Additional provision of Covid19 protective measures to ensure the construction sites comply with Government guidance.

S 2013 Waste materials

Nothing specific over and above the usual *Contractor's* site procedures.

S 2014 Deleterious and hazardous materials

Nothing specific over and above the usual *Contractor's* site procedures.

S 300 *Contractor's* design

S 301 Design responsibility

Clause 21.1 N/A

S 302 Design submission procedures

Clause 21.2 N/A

S 303 Design approval from Others

Clause 27.1 Design work and checks to be carried out by *Consultant* under their Design Support contract.

S 304 *Client's* requirements

N/A

S 305 Design co-ordination

N/A

S 306 Requirements of Others

N/A

S 307 Copyright/licence

N/A

S 308 Access to information following Completion

Once the Defects Certificate is issued the *Contractor* is to make available to the Client any information in connection to the permanent works.

S 309 Site investigations

1. The *Contractor* obtains soils information as necessary for the design of the *works*. The *Contractor* specifies, procures, manages and undertakes site investigations to inform the detailed design of the *works* and to manage their risk of unforeseen ground conditions during construction. The *Contractor* undertakes laboratory testing of samples, and longer term monitoring of site conditions as required. This supplements the information provided in the Site Information.

2. The *Contractor* obtains all necessary consents and approvals. The *Client* will obtain the necessary NoE.

3. The *Contractor* provides the *Project Manager* with the final Factual Report of the investigation in digital format.

4. The *Contractor* informs the *Project Manager* of the proposed works a minimum two weeks before the investigation is undertaken and complies with the Access to the Site conditions.

S 400 Completion

S 401 Completion definition

The following are absolute requirement for Completion to be certified, without these items the *Client* is unable to use the *works*:

- Provide all information to the Principal designer who will compile the Health and Safety File
- 1 hard copy of Operating and Maintenance Manuals and one electronic version.
- 1 hard copy of As Built drawings and one electronic version
- Population of the *Client's* latest version of the Project Cost Tool, or its successor
- Transfer to the *Client* databases of BIM data
- Delivery of the Final Carbon Report

Clause 11.2(2) Work to be done by the Completion Date.

S 402 Sectional Completion definition

Option X5, X5.1 Work to be done for each Sectional Completion.

The following are absolute requirement for Sectional Completion to be certified, without these items the *Client* is unable to use the *works*:

- Transfer to the *Client* databases of BIM data
- Delivery of the carbon differentials between alternative design solution options at appraisal stage (if appraisal, design and build)
- Delivery of carbon considerations in PAR(if appraisal, design and build)
- Completion and Delivery of Carbon optimisation report at Gateway 3 (if design and build)

S 403 Training

N/A.

S 404 Final Clean

The *Contractor* shall leave the Site in a clean, tidy condition and having removed all Equipment, Plant and Materials not required for the permanent works, to the satisfaction of the *Client*, Landowners and Stakeholders.

S 405 Security

Access keys and reinstated boundary fencing to be handed over to the *Client*.

S 406 Correcting Defects

Access and correction of defect to be arranged with the *Project Manager* and *Client*.

S 407 Pre-Completion arrangements

Prior to any works being offered for takeover or Completion the *Contractor* shall arrange a joint inspection with the *Supervisor, Project Manager, Client* (scheme Project Manager) and Senior User. The initial inspection shall take place a minimum of three weeks in advance of the planned takeover or *Completion*.

S 408 Take over

Once a site location is complete, partial completion can be awarded to the *Contractor* (Epney, Hock Ditch or Frome Bank) then this can be handed back to the *Client*.

S 500 Programme

S 501 Programme requirements

The programme complies with the requirements of Clause 31.2 and includes alignment and submission of the BEP and Master Information Delivery Plan (MIDP).

S 502 Programme arrangement

N/A

S 503 Methodology statement

N/A

S 504 Work of the *Client* and Others

N/A

S 505 Information required

To be provided.

S 506 Revised programme

Any changes made to a programme is to be summarised by the *Contractor*.

S 600 Quality management

S 601 Samples

N/A

S 602 Quality Statement

The *Contractor* shall submit his quality plan for the works to the *Project Manager* within 4 weeks of the starting date.

S 603 Quality management system

State any requirements for a quality management system, including accreditations or legislative standards.

S 604 BIM requirements

The BIM Information Manager is the *Client* Project Manager

S 700 Tests and inspections

S 701 Tests and inspections

Clause 40.1, 40.2, 41.1 and 60.1 (16) Consider the following checklist for the schedule for test and inspection details.

- Objective, procedure and standards to be used,
- When they are to be done,
- Where they are to be done,
- Who does the tests, and who is in attendance,
- Testing and inspection method,
- The Equipment required and who provides it,
- Access arrangements,
- Information or instructions required to be provided,
- Materials, facilities and samples to be provided,
- Involvement of specialists,
- Acceptable results and deviations,
- Test environment,
- Documents to be provided before and after the test,
- Whether or not authorisation to proceed to the next stage of the work depends on the test results.
- Are there any data tests required to ensure data required for BIM archive

S 702 Management of tests and inspections

The *Contractor* shall produce and follow a testing and inspection schedule suitable to confirm that the works have been constructed in accordance with this Scope and the accepted design.

S 703 Covering up completed work

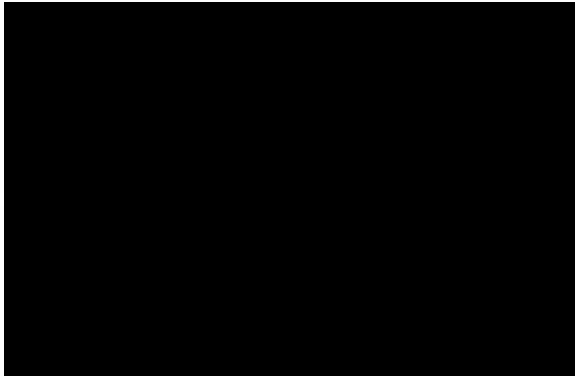
Works can be covered up as soon as they have been tested.

S 704 Supervisor's procedures for inspections and watching tests

Supervisor to give the *Contractor* a minimum of 1 weeks' notice for inspecting any of the works.

S 800 Management of the works

S 801 Project team – Others



S 802 Communications

In managing the services the *Contractor* shall:

- Maintain weekly contact with the *Client's* Project Manager and the *Client's* environmental Project Manager (FBG) such that the *Client* is fully informed of progress and issues.
- Organise and produce an agenda for progress meetings at 4 week intervals. The ECC *Project Manager* shall take minutes and will circulate to both the *Contractor* and *Client* following the meeting. Meetings shall be held by telecon. The *Contractor* shall manage these meetings to best realise the efficiencies of the project and the key personnel involved.
- The *Contractor* shall be responsible for the meeting agendas and shall circulate to both the ECC Project Manager and the *Client* at least 3 working days before the progress meeting.
- The *Contractors* Project Manager and environmental lead shall attend all progress meetings (or arrange suitable replacement with agreement from the *Client's* Project Manager). Any relevant technical staff will be required as appropriate.
- Two clear working days before the progress meetings the *Contractor* shall prepare and issue to the *Client* monthly progress reports to include financial, progress, programme, risk, efficiencies and issue log updates / resolutions.
- The first Friday of every month the *Contractor* shall revise and issue to the *Client* their monthly expenditure forecast. This shall show spend to date and forecast cost to complete, broken down monthly and separately for each project within the package for the duration of the Programme.
- The *Contractor* shall be represented on the Project Board, as requested by the *Client*, by the Project Director or Framework Manager with substantial relevant experience.

S 900 Working with the *Client* and Others

S 901 Sharing the Working Areas with the *Client* and Others

N/A

S 902 Co-operation

N/A

S 903 Co-ordination

Progress meetings as detailed in S802.

S 904 Authorities and utilities providers

N/A

S 905 Diversity and working with the *Client*, Others and the public

Consider the following and document how they are addressed on this contract:

- **Public:** engagement to be managed by the *Client's* PM.
- **Project team:** an inclusive working environment is to be promoted.
- **Framework:** a diverse approach is to be adopted at every opportunity.

S 1000 Services and other things to be provided

S 1001 Services and other things for the use of the *Client, Project Manager* or Others to be provided by the *Contractor*

S 1002 Services and other things to be provided by the *Client*

- Access to the sites

S 1100 Health and safety.

S 1101 Health and safety requirements

The *Contractor* shall fulfil the roles of *Principal Contractor* under the Construction Design and Management Regulations for the duration of the works.

The *Contractor* shall make appropriate arrangements for the control of people working and visiting the Site.

The *Contractor* shall ensure that all persons working on or visiting the Site hold a valid and current Construction Skills Certification Scheme (CSCS) card. Persons without this card shall be escorted at all times by a member of the site team.

A visitors' book will be maintained by the *Contractor* in which the date, the time in, the time out, evidence of a specific Health and Safety induction, CSCS number, and the name and company of the person visiting shall be noted.

S 1102 Method statements

The *Contractor* shall produce Method Statements for all construction works stating how they will undertake each element of the construction works.

Method Statements provided to support a programme for acceptance include full particulars of the methods, timing and sequence of construction, including the use and design of temporary works, Materials and Plant and Equipment proposed by the *Contractor*.

Method statements shall contain sufficient information to enable the *Project Manager* to assess any likely detriment to the proposed or the existing works or to the *Client's* overall objectives.

Method statements shall be submitted for acceptance, to include but are not limited to the following matters:

- Health & safety measures
- Extent of Working Areas and protective barriers
- Access to Working Areas, including confined spaces
- The implementation of relevant statutory regulations
- The design and construction of temporary works/loading conditions and de-watering measures
- How the environmental impact of the activities are to be minimised
- Protection of existing trees and vegetation and other environmental constraints
- Equipment requirements, siting and mode of operation
- Labour requirements and supervision
- Delivery and storage of Plant and Materials
- Provision of access to third parties
- Details of the construction sequence
- Details of working methods
- Detailed programme
- Results of any consultation with third parties
- Contingency plans in the event of flooding, other difficulties or emergencies

- Risk and COSHH assessments
- Assess impact on proposed works.

The *Contractor* shall submit Method Statements to the *Project Manager* at least 2 weeks in advance of carrying out items of work. The *Contractor* allows the period for reply for acceptance or rejection of Method Statements. The works shall not commence until the *Project Manager* has accepted the relevant Method Statements. The *Contractor* provides the works in accordance with the accepted method statement.

All method statements submitted to the *Project Manager* are to include environmental management actions where relevant and will be reviewed by the **Environmental Clerk of Works (ECW)**.

S 1103 Legal requirements

N/A

S 1104 Inspections

If required by the Principal Designer, the *Contractor* must make available for review their Health & Safety procedures.

S 1200 Subcontracting

S 1201 Restrictions or requirements for subcontracting

The *Contractor* must make the *Client* aware of any subcontractors they are intending to employ.

S 1202 Acceptance procedures

Clauses 26.3 and 11.2(25) (Option C) .

S 1300 Title

S 1301 Marking

N/A

S 1302 Materials from Excavation and demolition

Clause 73.2 - any materials arising from excavation and demolition that cannot be reused for the new permanent works are to be disposed of by the *Contractor*.

S 1400 Acceptance or procurement procedure (Options C and E)

S 1500 Accounts and records (Options C and E)

S 1600 Parent Company Guarantee (Option X4)

S 1700 Client's work specifications and drawings

S 1701 Client's work specification

As per detailed design drawings and specification – to be issued. Outline drawings issue at this stage.

S 1702 Drawings

1_UF_EPNEY_PLAN(R1) – Epney Embankment Plan
2_UF_EPNEY_PROF – Epney Embankment Profile
3_UF_HOCK_PLAN – Hock Ditch Embankment Plan
4_UF_HOCK_PROFILE(R2) – Hock Ditch Embankment Profile
14_UF_HOCK_WALL_XS
15_UF_HOCK_WALL
Calculated Quantities for bank reinstatement

(Note: The calculated quantities have been provided by the Environment Agency and if the quantities change up or down, then it will be a change to the WI and therefore will form the basis of a CE.)
** email dated 19 August 2020 - Hock Vis appended*

S 1703 Standards the Contractor will comply with

The Contractor should carry out their work using the following guidance.

Ref	Report Name	Where used
	Project Cost Tool	Costs
	Sustainability Measures Form	
	Timber Policy Documents	
	300_10 SHE handbook for managing capital projects	
	300_10_SD27 SHE Code of Practice	

Appendix 1 BIM Protocol – Information Production and Delivery Table

All *Client* issued information referenced within the Information Delivery Plan remains within the *Site Information* unless it is referenced elsewhere within the *Scope*

www.Pow.bim4.info













































































































Appendix 2 BIM Protocol – *Client's* Information Requirement

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION
We add flow to the majority of our materials a special MSD sheet or MSDS (Material Safety Data Sheet). Note the following information below.

[illegible]

2010 *Small Business* 8th ed. by the author and others. 1st. 2010. 128 p. \$19.95.

2. LOCATION OF SURVEILLANCE IS INDICATED.

1	<p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p>	<p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p>	<p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p> <p>    </p>
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Midlands Region
West Area

PRODUCT/ANALYST/ISSUE
Upper Framilode FAS

RIVER SEVERN FLOOD EMBANKMENT
EPNEY, GLOUCESTERSHIRE
DESIGN FOR REPAIRS
EMBANKMENT PLAN

APPENDIX

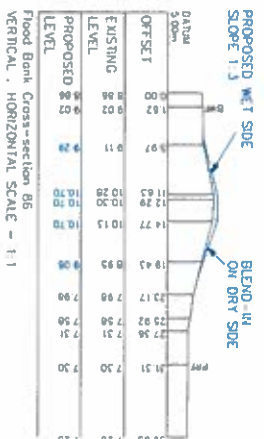
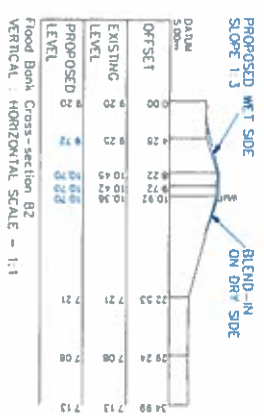
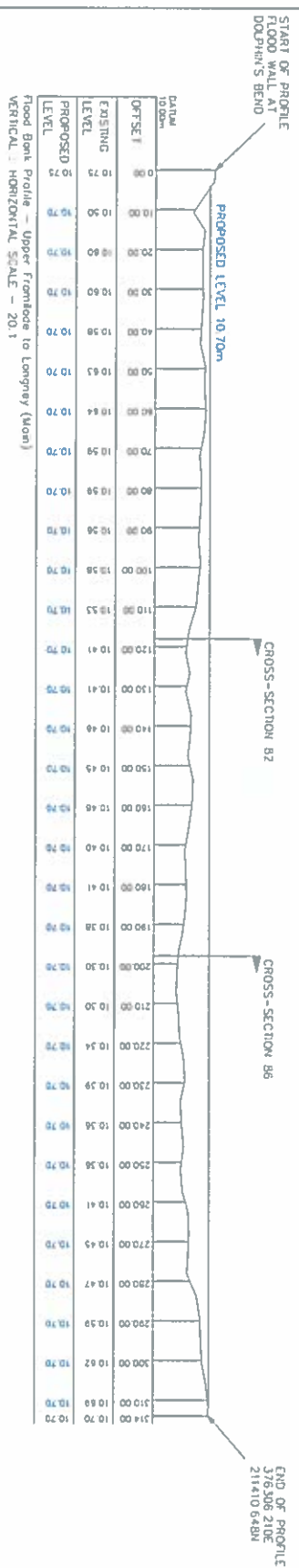
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CRD REUSE: 1, 10, 20, 30, 40, 50		1

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

- IN ADDITION TO THE SAFETY, HEALTH & ENVIRONMENTAL INFORMATION ASSOCIATED WITH THIS DRAWING, THE FOLLOWING INFORMATION IS PROVIDED FOR THE USER'S INFORMATION:
1. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
 2. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
 3. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
 4. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.
 5. THE DRAWING IS THE PROPERTY OF THE CLIENT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE CLIENT.

NOTES

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IN ADDITION TO THE HAZARDS/INJURIES NORMALLY ASSOCIATED WITH THE USE OF WORK DETAILED ON THE DRAWING, THE FOLLOWING SPECIAL PRECAUTIONS:

1. PROPOSED TO DEEP WATER AND COLLECTS IN WATER UP TO TONGS AND FLOODING.

CONCRETE

5 OVERHEAD 14kV ELECTRIC CABLES

5. POSSIBLE IMPLICATIONS OF UNIFORMITY.

1. Not drawing to the right or connecting with glasses a life jacket, not and results of unmet needs.

4. DRASTICALLY TO BE COMPLETED.

6 LOCATION OF SITE (UNION) IS MODERATE.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																																																																																																																																																																																												
Population (millions)	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	35.0	35.1

Category	Item	Value
Category 1	Item 1	100
Category 2	Item 2	200
Category 3	Item 3	300
Category 4	Item 4	400
Category 5	Item 5	500
Category 6	Item 6	600
Category 7	Item 7	700
Category 8	Item 8	800
Category 9	Item 9	900
Category 10	Item 10	1000

1	water floor	1
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99	the only door	1
100	the only door	1

[illegible]

Environmental
Agency

mountain region
West Area

Upper tramkode 1A5

FREIHEIT, GLOUCESTERSHIRE
 DESIGN FOR REPAIRS

[illegible]

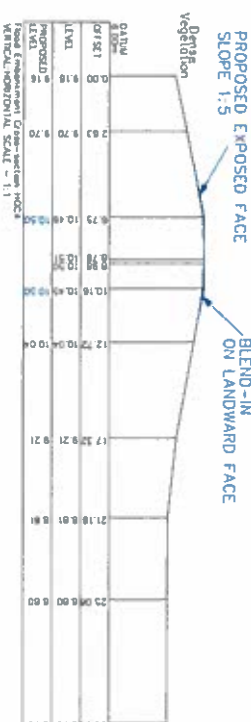
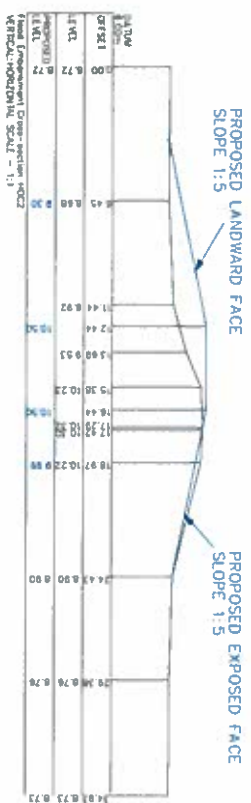
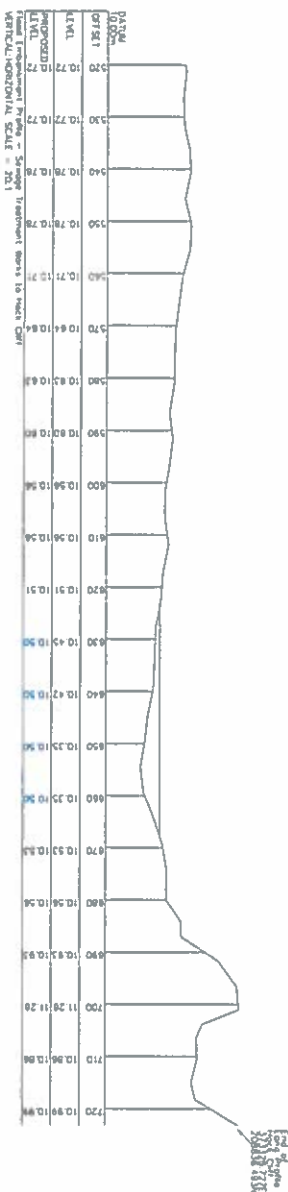
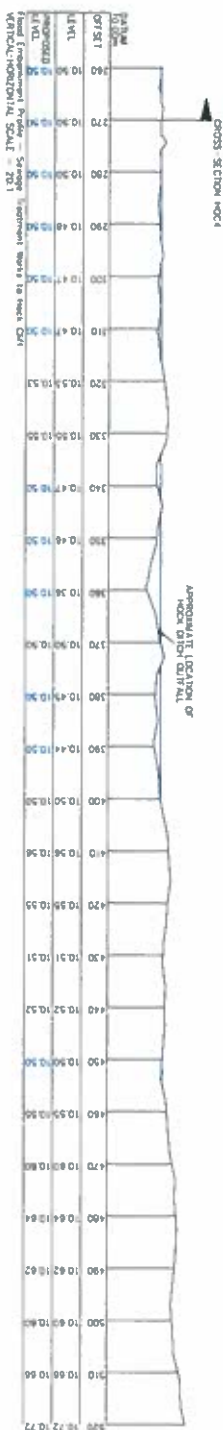
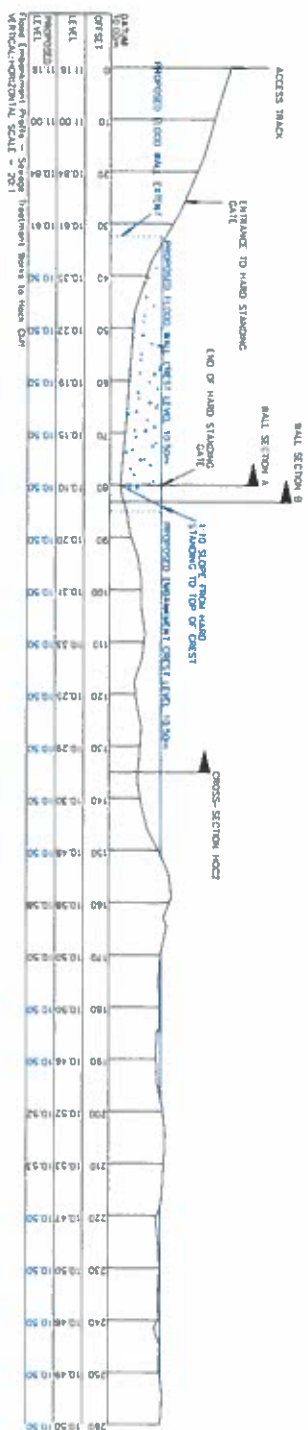
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SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

[illegible]

NOTES

- [illegible]

Midlands Region
West Area

Upper Frontal FAS

Summary

RIVER SEVERN FLOOD EMBANKMENT
FRETHERNE, GLOUCESTERSHIRE
DESIGN FOR REPAIRS
EMBANKMENT PROFILE & CROSS-SECTIONS

ANALYTICAL

SCALE NOT TO SCALE

Draw: C. Toms	Chkd:
---------------	-------

DATE: Nov 1999

DATE: Jun '20	DATE:
---------------	-------

CAO (1999): 418, 422, 423

4

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

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RIVER FROVE
UPPER FRAILADE, GLOUCESTERSHIRE
ORCHARD EMBANKMENT DESIGN PLAN

SURVEYED BY: _____

SURVEY DATE: N/A		ORIG: C	FORM: 10ms	CHRD:
SCALE: NOT TO SCALE		DATE: Feb 20	DATE:	
DATING: Neutron				
ACID: Notation	DRAINING NO.	10		
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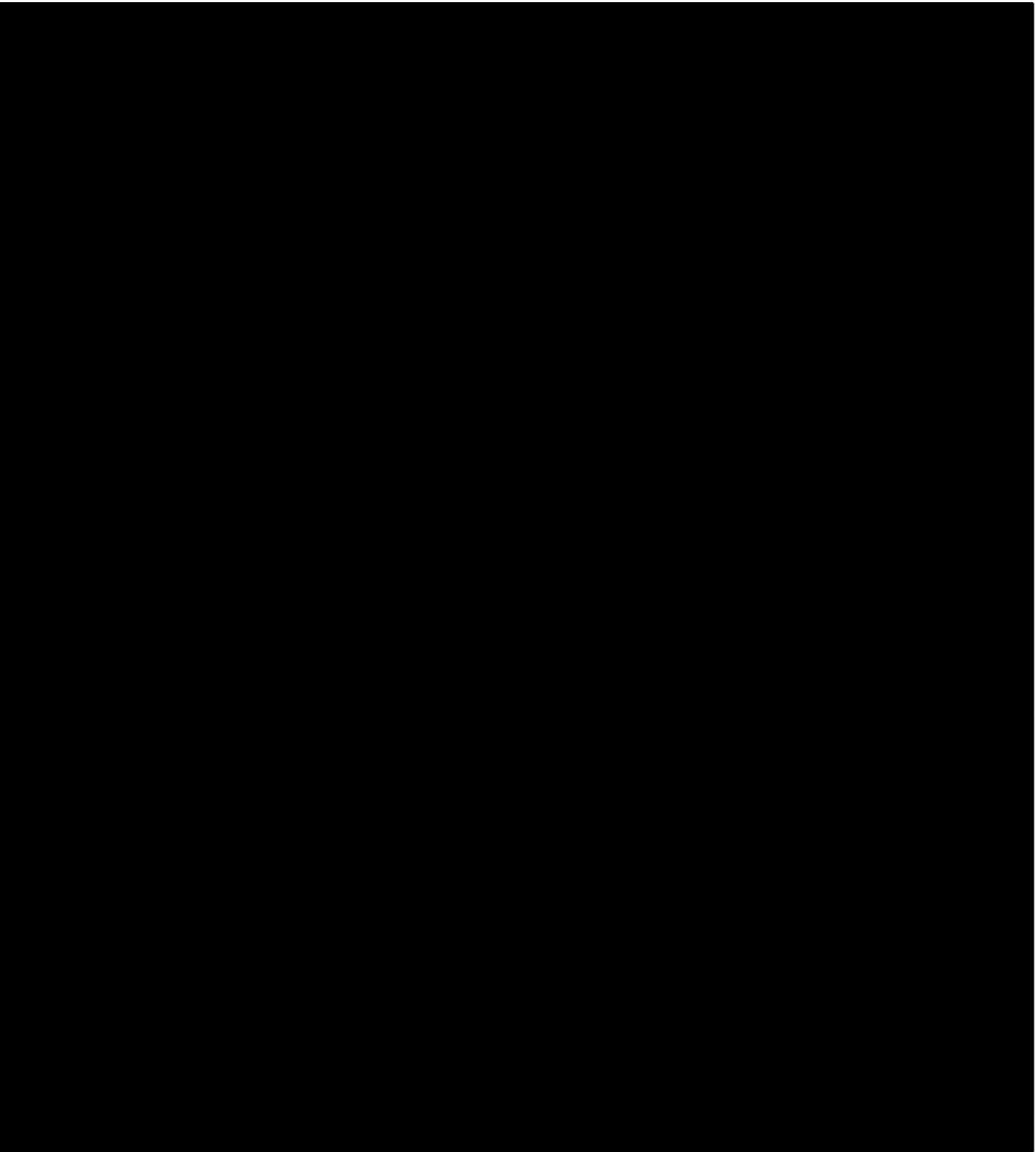
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Upper Frantide FAS

RIVER SEVERN FLOOD EMBANKMENT
FRETHERNE, GLOUCESTERSHIRE
FLOOD WALL PLAN

SURVEYED BY: Logan & Browning		APR 2014	
SURVEY DATE: March 2014		DATE:	C. Items
SCALE: NOT TO SCALE		DATE:	CHAD:
DATING: Neelyn		DATE:	DATE:
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ECC Scope Template

NEC4 engineering and construction contract (ECC)

412_13_SD03

Document category: COMPULSORY

Environment Agency NEC4 engineering and construction contract (ECC) Scope

Project / contract information

Project name	Upper Framilode FAS
Project 1B1S reference	[REDACTED] C
Contract reference	[REDACTED]
Date	[REDACTED]
Version number	[REDACTED]
Author	[REDACTED]

Revision history

Revision date	Summary of changes	Version number
	First issue	

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 *works* are 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	2.0	18/03/20

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
0845 988 1188

www.environment-agency.gov.uk

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S 200	General constraints on how the <i>Contractor</i> provides the <i>works</i>
S 300	<i>Contractor's</i> design
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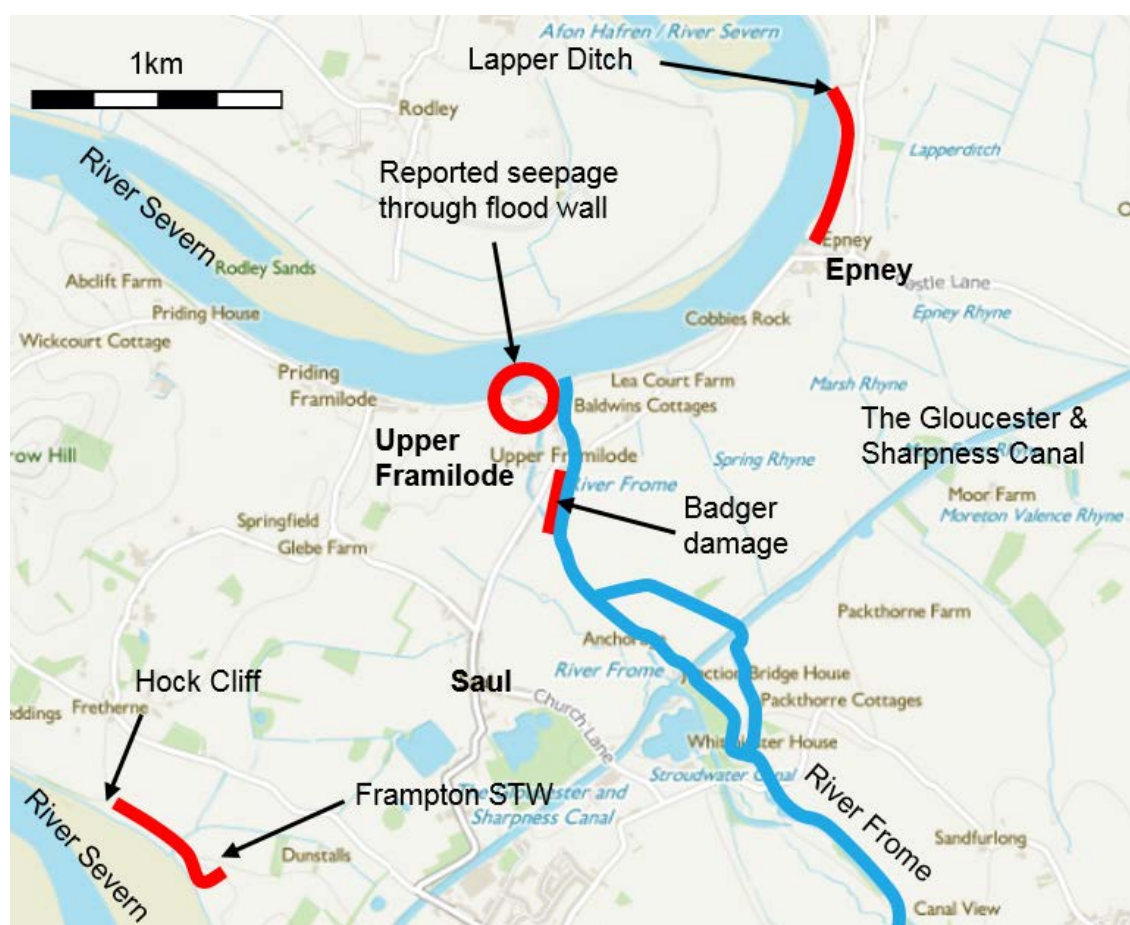
Appendix 1 BIM Protocol – Production and Delivery Table

Appendix 2 BIM Protocol – *Clients* Information requirements

S 100 Description of the works

S 101 Description of the works

The works are split across three site locations; Epney, Hock Ditch (Frampton) and banks of the Frome in Upper Framilode. Following deterioration of the flood embankments to those three sites, there is a requirement to return the assets to the originally designed level of protection. The two sites at Epney and Hock Ditch comprise of a topping up of the existing crest to the flood embankments with some reprofiling of the embankment slope (wet side) to the Epney site. The embankment at the Upper Framilode site, requires a solution to overcome the seepage through the embankment caused by the construction of a badger set. There is also reported seepage to the flood wall at Upper Framilode, but this is to be included as part of the Asset Recovery works.



S 102 Purpose of the Works/ Outcome required

The area around Upper Framilode is naturally subject to significant tidal flood risk from the River Sever and fluvial flood risk from the Rivers Severn and Frome. The existing Severn embankments were constructed in the 1990s and a survey by the Environment Agency (EA) has identified a number of localised low spots. The defences on the Frome were constructed in the 1970s and a section of the left bank embankment in Upper Framilode has suffered damage from burrowing animals. This embankment provides protection to properties in Upper Framilode and Saul, and the existing structural damage increases the likelihood of a breach.

As part of repairs to the existing assets, the feasibility of raising the defence levels and opportunities to deliver environmental enhancements will be investigated. The project will extend the useful life of

the assets, leading to a more resilient scheme in the future – both in terms of flood risk and ecosystem resilience.

FRM investment in the Upper Framilode area strongly aligns with local business strategies for the area and the Severn Estuary Flood Risk Management Strategy (SEFRMS) which says that the Environment Agency aims to raise defences before flood risk becomes greater than a 1 in 75 chance in any year (1.3% AEP). Reduced flood risk is an important outcome of the strategies, with wider economic, social and environmental benefits and enhancements.

In addition to the topping up of the embankments to Epney and Hock Ditch and reconstruction of the bank to the River Frome there will be the Ground Investigation works included as part of this contract. The GI will inform the detailed design for the Frome bank and provide confirmation of the ground conditions to Epney and Hock Ditch.

The detailed design for the Frome bank is being completed by one of the Environment Agency's graduates and peer reviewed and signed off by Arup. As the GI and detailed design for the Frome bank has not been completed then this element of the works will be dealt with as a compensation event to the contract.

Summary of Outcome Required;

1. Epney embankment - Top up the crest levels to return to standard of protection (SOP) and reprofiling to a section of the wet side embankment slope.
2. Hock Ditch embankment - Top up the crest levels to return to SOP and also the construction of a short section of flood wall adjacent to the STW. The flood wall is to be raised as a CE.
3. Raised as a CE – Ground investigation works.
4. Raised as a CE – Repair work to the Frome bank.
5. Raised as a CE – Landscape reinstatement (topsoil preparation and seeding) to all three sites.

The preferred order is for Epney and Hock Ditch to be constructed concurrently with the Frome bank commencing once the detailed design is substantially completed. At the point a CE is accepted for the repair works to the Frome Bank, a PSC option C contract for Design Support will be offered to Arup and linked to this ECC contract.

S 200 General constraints on how the *Contractor* provides the works

S 201 General constraints

Examples of constraints are

- Use of the Site

Epney – These works are to be completed within 4 weeks.

Hock Ditch – The site is adjacent to a SSSI with environmental constraints. The ECoW will support the *Contractor* in working around these constraints.

Frome Bank – Very restricted site with a high proportion of environmental constraints. The ECoW will support the *Contractor* in working around these constraints.

- Access to the Site

Epney – Access is via the North end of the flood defence through Mr Watson's compound.

Temporary fencing to be erected to create a safe access beyond the compound and onto the crest of the flood embankment.

Hock Ditch – Access is via the Severn Trent Water service road and through the gate adjacent to the entrance to the STW sewage treatment works.

Frome Bank – Access will be via Frome House driveway.

- Working hours

Normal working hours are to be observed. No construction works outside of 07.30 – 17.30 Monday – Friday.

At Hock Ditch site there is not to be any construction work or movement (tracking) within 2 hours of a high tide.

- Parking

Epney and Frome bank - Parking is restricted and parking locations to be discussed with EA PM.

- Pollution, ecological and environmental impacts.

All three sites are within sensitive areas. Consultation required with the *Client's* ecological clerk of works Amanda Baker of Jacobs.

The *Contractor* will adhere to the Environmental Action Plan prior to and during construction.

Specific constraints for the *Contractor* at Hock Ditch due to Non-breeding (Wintering) and passage birds are as follows:

- The GI works to be programmed during the summer to avoid the main winter period.
 - Construction works are to be programmed during the summer to avoid the main winter period and reduce the exposure to the hazard to non-breeding wintering birds. Programming Hock ditch works ahead of Epney is under consideration.
 - No work is undertaken within 200 m of a high tide roost during the two hours either side of high tide during the period of mid-August to May. This means that most of the work is undertaken during low tide, when birds are foraging on mud flats within the estuary.
 - Vehicles and mechanical plant employed for any activity associated with the construction works to be, where reasonably practicable, fitted with effective exhaust silencers and shall be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.
 - A method statement will be produced detailing measures to reduce, minimise and mitigate noise and vibration as a result of the construction works. This method statement shall be communicated to the appropriate persons through toolbox talks.
- Interfaces between the *works* and existing things.

Epney – Fence line to Dangerfield Farm to be removed and disposed of and like for like reinstatement of existing with new. Temporary fencing required to secure and demark the site working area and the Farm. Temporary fencing to be robust enough to prevent horses from entering working area.

Low level fences to be removed across the flood embankment to allow unrestricted movement in the working area.

Hock Ditch – Structural assessment of the outfall structure may be required. The EA currently tracks 23t vehicles. *Contractor* to confirm site vehicles.

- Occupied premises and users.

Frome Bank – Frome House driveway is being used as access to the works. The works are to the rear of the property. Consideration to be made as this property is occupied. Early engagement meeting with the owner and the EA to be made.

- Tide Information

Epney and Hock Ditch sites are along the River Severn and as such high tides need to be observed.

- Enabling works

Epney – Boundary fences to Mr Blakemore's land and Dangerfield Farm are to be removed and reinstated like for like, on completion of the works. Temporary fencing is to be installed to protect those properties from the working area. Dangerfield Farm keep horses so suitable temporary fencing will be required. There are also fences that cross over the crest of the flood defence which also need to be removed and reinstated like for like.

Hock Ditch – Installation of a new stock proof fence to the left hand boundary of the field adjacent to the entrance gate near STW.

S 202 Confidentiality

The *Contractor* does not disclose information in connection with the *works* except when necessary to carry out their duties under the contract or their obligations under the contract

The *Contractor* may publicise the services only with the *Client's* written permission.

S 203 Security and protection on the site

All three sites are located in residential areas and have public access so adequate measures to prevent public access needs to be in place.

The *Contractor* shall restore any fencing permitted to be removed, and repair any fencing or gates that may be damaged as a result of construction.

S 204 Security and identification of people

S 205 Protection of existing structures and services

Epney – There are fruit trees to the toe of the flood embankment opposite Dangerfield Farm. These are to be retained and protected from damage during the construction works.

Frome Bank – There are some trees to the orchard which may need to be removed which fall within the new toe of the embankment. All other remaining trees will need to be protected from damage during the construction works.

S 206 Protection of the works

S 207 Cleanliness of the roads

Allowance needs to be made to ensure all site access points are free of site traffic debris.

S 208 Traffic Management

The *Contractor* is responsible for any traffic safety and management.

S 209 Condition survey

The *Client's* Estate Surveyor will carry out a condition survey prior and after construction works.

S 2010 Consideration of Others

Epney – Access to the working area at the North end of the flood embankment is via Mr Watson's field and orchard. He has cattle in adjacent to the access and consideration needs to be given to maintaining a segregation between his livestock and the working area. At the South end of the works secure segregation needs to be installed between Dangerfield Farm and the working area. Works to be completed within a 4 week period.

Frome Bank – Access and working area needs to be clearly segregated from Frome House.

S 2011 Control of site personnel

Nothing specific over and above the usual *Contractor's* site procedures.

S 2012 Site cleanliness

Nothing specific over and above the usual *Contractor's* site procedures. Additional provision of Covid19 protective measures to ensure the construction sites comply with Government guidance.

S 2013 Waste materials

Nothing specific over and above the usual *Contractor's* site procedures.

S 2014 Deleterious and hazardous materials

Nothing specific over and above the usual *Contractor's* site procedures.

S 300 *Contractor's* design

S 301 Design responsibility

Clause 21.1 N/A

S 302 Design submission procedures

Clause 21.2 N/A

S 303 Design approval from Others

Clause 27.1 Design work and checks to be carried out by *Consultant* under their Design Support contract.

S 304 *Client's* requirements

N/A

S 305 Design co-ordination

N/A

S 306 Requirements of Others

N/A

S 307 Copyright/licence

N/A

S 308 Access to information following Completion

Once the Defects Certificate is issued the *Contractor* is to make available to the Client any information in connection to the permanent works.

S 309 Site investigations

1. The *Contractor* obtains soils information as necessary for the design of the *works*. The *Contractor* specifies, procures, manages and undertakes site investigations to inform the detailed design of the *works* and to manage their risk of unforeseen ground conditions during construction. The *Contractor* undertakes laboratory testing of samples, and longer term monitoring of site conditions as required. This supplements the information provided in the Site Information.

2. The *Contractor* obtains all necessary consents and approvals. The *Client* will obtain the necessary NoE.

3. The *Contractor* provides the *Project Manager* with the final Factual Report of the investigation in digital format.

4. The *Contractor* informs the *Project Manager* of the proposed works a minimum two weeks before the investigation is undertaken and complies with the Access to the Site conditions.

S 400 Completion

S 401 Completion definition

The following are absolute requirement for Completion to be certified, without these items the *Client* is unable to use the *works*:

- Provide all information to the Principal designer who will compile the Health and Safety File
- 1 hard copy of Operating and Maintenance Manuals and one electronic version.
- 1 hard copy of As Built drawings and one electronic version
- Population of the *Client's* latest version of the Project Cost Tool, or its successor
- Transfer to the *Client* databases of BIM data
- Delivery of the Final Carbon Report

Clause 11.2(2) Work to be done by the Completion Date.

S 402 Sectional Completion definition

Option X5, X5.1 Work to be done for each Sectional Completion.

The following are absolute requirement for Sectional Completion to be certified, without these items the *Client* is unable to use the *works*:

- Transfer to the *Client* databases of BIM data
- Delivery of the carbon differentials between alternative design solution options at appraisal stage (if appraisal, design and build)
- Delivery of carbon considerations in PAR(if appraisal, design and build)
- Completion and Delivery of Carbon optimisation report at Gateway 3 (if design and build)

S 403 Training

N/A.

S 404 Final Clean

The *Contractor* shall leave the Site in a clean, tidy condition and having removed all Equipment, Plant and Materials not required for the permanent works, to the satisfaction of the *Client*, Landowners and Stakeholders.

S 405 Security

Access keys and reinstated boundary fencing to be handed over to the *Client*.

S 406 Correcting Defects

Access and correction of defect to be arranged with the *Project Manager* and *Client*.

S 407 Pre-Completion arrangements

Prior to any works being offered for takeover or Completion the *Contractor* shall arrange a joint inspection with the *Supervisor, Project Manager, Client* (scheme Project Manager) and Senior User. The initial inspection shall take place a minimum of three weeks in advance of the planned takeover or *Completion*.

S 408 Take over

Once a site location is complete, partial completion can be awarded to the *Contractor* (Epney, Hock Ditch or Frome Bank) then this can be handed back to the *Client*.

S 500 Programme

S 501 Programme requirements

The programme complies with the requirements of Clause 31.2 and includes alignment and submission of the BEP and Master Information Delivery Plan (MIDP).

S 502 Programme arrangement

N/A

S 503 Methodology statement

N/A

S 504 Work of the *Client* and Others

N/A

S 505 Information required

To be provided.

S 506 Revised programme

Any changes made to a programme is to be summarised by the *Contractor*.

S 600 Quality management

S 601 Samples

N/A

S 602 Quality Statement

The *Contractor* shall submit his quality plan for the works to the *Project Manager* within 4 weeks of the starting date.

S 603 Quality management system

State any requirements for a quality management system, including accreditations or legislative standards.

S 604 BIM requirements

The BIM Information Manager is the *Client* Project Manager

S 700 Tests and inspections

S 701 Tests and inspections

Clause 40.1, 40.2, 41.1 and 60.1 (16) Consider the following checklist for the schedule for test and inspection details.

- Objective, procedure and standards to be used,
- When they are to be done,
- Where they are to be done,
- Who does the tests, and who is in attendance,
- Testing and inspection method,
- The Equipment required and who provides it,
- Access arrangements,
- Information or instructions required to be provided,
- Materials, facilities and samples to be provided,
- Involvement of specialists,
- Acceptable results and deviations,
- Test environment,
- Documents to be provided before and after the test,
- Whether or not authorisation to proceed to the next stage of the work depends on the test results.
- Are there any data tests required to ensure data required for BIM archive

S 702 Management of tests and inspections

The *Contractor* shall produce and follow a testing and inspection schedule suitable to confirm that the works have been constructed in accordance with this Scope and the accepted design.

S 703 Covering up completed work

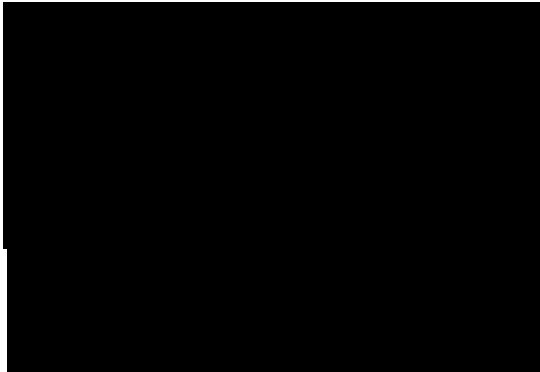
Works can be covered up as soon as they have been tested.

S 704 *Supervisor's* procedures for inspections and watching tests

Supervisor to give the *Contractor* a minimum of 1 weeks' notice for inspecting any of the works.

S 800 Management of the works

S 801 Project team – Others



S 802 Communications

In managing the services the *Contractor* shall:

- Maintain weekly contact with the *Client's* Project Manager and the *Client's* environmental Project Manager (FBG) such that the *Client* is fully informed of progress and issues.
- Organise and produce an agenda for progress meetings at 4 week intervals. The ECC *Project Manager* shall take minutes and will circulate to both the *Contractor* and *Client* following the meeting. Meetings shall be held by telecon. The *Contractor* shall manage these meetings to best realise the efficiencies of the project and the key personnel involved.
- The *Contractor* shall be responsible for the meeting agendas and shall circulate to both the ECC Project Manager and the *Client* at least 3 working days before the progress meeting.
- The *Contractors* Project Manager and environmental lead shall attend all progress meetings (or arrange suitable replacement with agreement from the *Client's* Project Manager). Any relevant technical staff will be required as appropriate.
- Two clear working days before the progress meetings the *Contractor* shall prepare and issue to the *Client* monthly progress reports to include financial, progress, programme, risk, efficiencies and issue log updates / resolutions.
- The first Friday of every month the *Contractor* shall revise and issue to the *Client* their monthly expenditure forecast. This shall show spend to date and forecast cost to complete, broken down monthly and separately for each project within the package for the duration of the Programme.
- The *Contractor* shall be represented on the Project Board, as requested by the *Client*, by the Project Director or Framework Manager with substantial relevant experience.

S 900 Working with the *Client* and Others

S 901 Sharing the Working Areas with the *Client* and Others

N/A

S 902 Co-operation

N/A

S 903 Co-ordination

Progress meetings as detailed in S802.

S 904 Authorities and utilities providers

N/A

S 905 Diversity and working with the *Client*, Others and the public

Consider the following and document how they are addressed on this contract:

- **Public:** engagement to be managed by the *Client*'s PM.
- **Project team:** an inclusive working environment is to be promoted.
- **Framework:** a diverse approach is to be adopted at every opportunity.

S 1000 Services and other things to be provided

S 1001 Services and other things for the use of the *Client, Project Manager* or Others to be provided by the *Contractor*

S 1002 Services and other things to be provided by the *Client*

- Access to the sites

S 1100 Health and safety.

S 1101 Health and safety requirements

The *Contractor* shall fulfil the roles of *Principal Contractor* under the Construction Design and Management Regulations for the duration of the works.

The *Contractor* shall make appropriate arrangements for the control of people working and visiting the Site.

The *Contractor* shall ensure that all persons working on or visiting the Site hold a valid and current Construction Skills Certification Scheme (CSCS) card. Persons without this card shall be escorted at all times by a member of the site team.

A visitors' book will be maintained by the *Contractor* in which the date, the time in, the time out, evidence of a specific Health and Safety induction, CSCS number, and the name and company of the person visiting shall be noted.

S 1102 Method statements

The *Contractor* shall produce Method Statements for all construction works stating how they will undertake each element of the construction works.

Method Statements provided to support a programme for acceptance include full particulars of the methods, timing and sequence of construction, including the use and design of temporary works, Materials and Plant and Equipment proposed by the *Contractor*.

Method statements shall contain sufficient information to enable the *Project Manager* to assess any likely detriment to the proposed or the existing works or to the *Client's* overall objectives.

Method statements shall be submitted for acceptance, to include but are not limited to the following matters:

- Health & safety measures
- Extent of Working Areas and protective barriers
- Access to Working Areas, including confined spaces
- The implementation of relevant statutory regulations
- The design and construction of temporary works/loading conditions and de-watering measures
- How the environmental impact of the activities are to be minimised
- Protection of existing trees and vegetation and other environmental constraints
- Equipment requirements, siting and mode of operation
- Labour requirements and supervision
- Delivery and storage of Plant and Materials
- Provision of access to third parties
- Details of the construction sequence
- Details of working methods
- Detailed programme
- Results of any consultation with third parties
- Contingency plans in the event of flooding, other difficulties or emergencies

- Risk and COSHH assessments
- Assess impact on proposed works.

The *Contractor* shall submit Method Statements to the *Project Manager* at least 2 weeks in advance of carrying out items of work. The *Contractor* allows the period for reply for acceptance or rejection of Method Statements. The works shall not commence until the *Project Manager* has accepted the relevant Method Statements. The *Contractor* provides the works in accordance with the accepted method statement.

All method statements submitted to the *Project Manager* are to include environmental management actions where relevant and will be reviewed by the **Environmental Clerk of Works (ECW)**.

S 1103 Legal requirements

N/A

S 1104 Inspections

If required by the Principal Designer, the *Contractor* must make available for review their Health & Safety procedures.

S 1200 Subcontracting

S 1201 Restrictions or requirements for subcontracting

The *Contractor* must make the *Client* aware of any subcontractors they are intending to employ.

S 1202 Acceptance procedures

Clauses 26.3 and 11.2(25) (Option C) .

S 1300 Title

S 1301 Marking

N/A

S 1302 Materials from Excavation and demolition

Clause 73.2 - any materials arising from excavation and demolition that cannot be reused for the new permanent works are to be disposed of by the *Contractor*.

S 1400 Acceptance or procurement procedure (Options C and E)

S 1500 Accounts and records (Options C and E)

S 1600 Parent Company Guarantee (Option X4)

S 1700 *Client's* work specifications and drawings

S 1701 *Client's* work specification

As per detailed design drawings and specification – to be issued. Outline drawings issue at this stage.

S 1702 Drawings

1_UF_EPNEY_PLAN(R1) – Epney Embankment Plan
2_UF_EPNEY_PROF – Epney Embankment Profile
3_UF_HOCK_PLAN – Hock Ditch Embankment Plan
4_UF_HOCK_PROFILE(R2) – Hock Ditch Embankment Profile
14_UF_HOCK_WALL_XS
15_UF_HOCK_WALL
Calculated Quantities for bank reinstatement

(Note: The calculated quantities have been provided by the Environment Agency and if the quantities change up or down, then it will be a change to the WI and therefore will form the basis of a CE.)

S 1703 Standards the *Contractor* will comply with

The *Contractor* should carry out their work using the following guidance.

Ref	Report Name	Where used
	Project Cost Tool	Costs
	Sustainability Measures Form	
	Timber Policy Documents	
	300_10 SHE handbook for managing capital projects	
	300_10_SD27 SHE Code of Practice	

Appendix 1 BIM Protocol – Information Production and Delivery Table

All *Client* issued information referenced within the Information Delivery Plan remains within the *Site Information* unless it is referenced elsewhere within the *Scope*

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Appendix 2 BIM Protocol – *Client's* Information Requirement