



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

Geographical Area: Midlands
Project Name: Lowdham Cocker Beck FAS Ground Investigation & ESE
Project Number: ENVIMMI001615

Contract Type: Engineering Construction Contract
Option: Option C

Contract Number: project_29632

Revision	Status	Originator	Reviewer	Date

ENGINEERING AND CONSTRUCTION CONTRACT under the Collaborative Delivery Framework
CONTRACT DATA

Project Name Lowdham Cocker Beck FAS Ground Investigation & ESE
Project Number ENV1MH1001615

- This contract is made on 05 October 2020 between the Client and the Contractor
This contract is made pursuant to the Framework Agreement (the "Agreement") dated 01st day of April 2019 between the Client and the Contractor in relation to the Collaborative Delivery Framework. The entire agreement and the following Schedules are incorporated into this Contract by reference.
Schedules 1 to 21 inclusive of the Framework schedules are relied upon within this Contract.
The following documents are incorporated into this Contract by reference: Lowdham_GI_ESE_Scope v5 dated 11 September 2020

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 C Option for resolving and avoiding disputes W2

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)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

Undertake Ground Investigation and Early Supplier Engagement in support of the Lowdham Cocker Beck Flood Alleviation Scheme

The Client is Environment Agency

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 Scope is in Lowdham_GI_ESE_Scope v5 dated 11 September 2020

The Site Information is in https://adoddleak.asste.com/adoddlepublic/dpd/RE7qakFkByGELuHFj66

The boundaries of the site are https://adoddleak.asste.com/adoddlepublic/dpd/RE7qakFkByGELuHFj66

The partner contract is Contract number project_30754 with Ove Arup & Partners for the OBC phase of the Lowdham Cocker Beck FAS

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 reply is 2 weeks

The following matters will be included in the Early Warning Register

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	key date
'none set'	'none set'
'none set'	'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	05 October 2020
The access dates are part of the Site Access to site	date 05 October 2020
The Contractor submits revised programmes at intervals no longer than	4 weeks
The Completion Date for the whole of the works is	31 January 2021
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 weeks

4 Quality management

The period after the Contract Date within which the Contractor is to submit a quality plan is	4 weeks
The period between Completion of the whole of the works and the defects date is	52 weeks
The defect correction period is 2 weeks except that	is
• The defect correction period for	is
• The defect correction period for	is

5 Payment

The currency of the contract is the £ sterling			
The assessment interval is	Monthly		
The Client set total of the Prices is			
The interest rate is Base rate of the Bank of England	1.00% per annum (not less than 2) above the		
The Contractor's share percentages and the share ranges are			
less than	share range	Contractor's share percentage	0 %
from	80 % to 120 %	as set out in Schedule 17	
greater than	120 %	as set out in Schedule 17	

6 Compensation events

The place where weather is to be recorded is	Sutton Bonington Weather Station (Latitude 52.836 Longitude -1.25)
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	Sutton Bonington Weather Station
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

1. 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
2. 'not used'
3. 'not used'
4. 'not used'
5. 'not used'

6 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

£15,000,000

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 their employment in connection with 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

Resolving 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 'to be confirmed'

Address for communications 'to be confirmed'

Address for electronic communications 'to be confirmed'

The Adjudicator nominating body is The Institution of Civil Engineers

2 Clauses

21 Correctness of Site Information and other documents

21.1 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.

21.2 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.

2.2B: Water levels: Contractor's risk

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

23 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..."

2.4 The Schedule of Cost Components

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

2.6 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."

27 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:

11.2(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

11.2(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.

210 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.

211(UK) 3 The Contracts (Rights of Third Parties) Act

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 Z11

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

Z11.1 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 (Right of Third Parties) Act 1999 and the following provisions:

Z11.1.1 the parties may not rescind or vary any provision(s) of this agreement, including this clause, at any time without the consent of the third party; and

Z11.1.2 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.

Z11.2 Except as provided in clause Z1.1, 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 31 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 in 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.

224 Requirement for Invoice

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

223 Resolving Disputes

Delete W2.1

223 Risks and Insurance

Replace clause 84.1 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 £91.20 per working day

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 2 weeks

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 £5,000,000.00

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 12 year(s)

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 6 years

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 £5,000,000.00

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 12 years

OPTION X18: Limitation of liability

The *Contractor's* liability to the *Client* for indirect or consequential loss is limited to £1,000,000

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

£1,000,000

The *Contractor's* liability for Defects due to its design which are not listed on the Defects Certificate is limited to £5,000,000

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 £5,000,000.00

The *end of liability date* is 6 years after the 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(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

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 Jackson Civil Engineering Group Ltd

Address for communications



Address for electronic communications

The fee percentage is

Option C



The working areas are

The key persons are

Name (1) [Redacted]
Job [Redacted]
Responsibilities Commercial Management
Qualifications BSc (Hons), MCIOB
Experience 21 years

The key persons are

Name (2) [Redacted]
Job [Redacted]
Responsibilities Programme management, resources management, risk mana
Qualifications HND Civil Engineering
Experience 30 years

The key persons are

Name (3) [Redacted]
Job [Redacted]
Responsibilities Key stakeholder management, KPI management, programme
Qualifications CITB Directors Role for Health & Safety, CSCS CE Site Manag
Experience 25 years

The key persons are

Name (4)
Job
Responsibilities
Qualifications
Experience

The following matters will be included in the Early Warning Register
Brexit

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

The *Senior Representatives of the Contractor* are

Name (1) [REDACTED]

Address for communications

[REDACTED]

Address for electronic communications

[REDACTED]@civils.co.uk

Name (2) [REDACTED]

Address for communications

[REDACTED]

Address for electronic communications

[REDACTED]

X10: Information Modelling

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

Contract Execution

Client execution

Signed under hand by

for and on behalf of the Environment Agency

Signature 

Role 

Contractor execution

Consultant execution

Signed under hand by

for and on behalf of Jackson Civil Engineering Group Ltd

Signature 

Role 

Environment Agency NEC4 Engineering and Construction Contract (ECC) Scope

Project / contract information

Project name	Lowdham Cocker Beck Flood Alleviation Scheme Ground Investigation and ESE
SOP reference	ENVIMMI001615
Contract reference	project_29632
Date	11/09/2020
Version number	5.0
Author	[REDACTED]

Revision history

Revision date	Summary of changes	Version number
03/06/20	First issue	1.0
10/06/20	[REDACTED] following	2.0
28/08/20	Update to include ESE elements to allow linked contract	3.0
02/09/20	Minor amendments to reflect DCL, ECC and ESE PM comments	4.0
11/09/20	Final amendments following ESE contractor review	5.0

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
0845 988 1188

www.environment-agency.gov.uk



Part 2: Non-returnable Documents
NEC – ECC 4th Ed.

Section 8 Scope

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 between this Scope shall prevail. The *works* are to be compliant with the Scope

Contents List

- 1.0 Project Objectives and outcomes
- 2.0 GI works
 - 2.1 Description of the *works*
 - 2.2 Management the of works
 - 2.3 Previous Studies
 - 2.4 Services and other things to be provided
 - 2.5 Specifications of standards to be used
 - 2.6 General constraints on how the Contractor provides the works
 - 2.7 Programme
 - 2.8 Services and other things provided by the Client
- 3.0 ESE works
 - 3.1 Description of the *works*
 - 3.2 Management the of works
 - 3.3 Previous Studies
 - 3.4 Services and other things to be provided
 - 3.5 Specifications of standards to be used
 - 3.6 General constraints on how the Contractor provides the works
 - 3.7 Programme
 - 3.8 Services and other things provided by the Client

Appendix 1 BIM Protocol – Production and Delivery Table

Appendix 2 Ground Investigation Specification

Appendix 3 – Archaeological Monitoring

1. 在下列各题中，指出下列命题的真假，并说明理由。

(1) 若 $x > 0$ ，则 $x^2 > 0$ 。
 (2) 若 $x < 0$ ，则 $x^2 < 0$ 。
 (3) 若 $x = 0$ ，则 $x^2 = 0$ 。

解：(1) 真。因为当 $x > 0$ 时， x^2 必大于 0。
 (2) 假。因为当 $x < 0$ 时， x^2 必大于 0。
 (3) 真。因为当 $x = 0$ 时， $x^2 = 0$ 。

2. 在下列各题中，指出下列命题的真假，并说明理由。

(1) 若 $x > 0$ ，则 $x^2 > 0$ 。
 (2) 若 $x < 0$ ，则 $x^2 < 0$ 。
 (3) 若 $x = 0$ ，则 $x^2 = 0$ 。

解：(1) 真。因为当 $x > 0$ 时， x^2 必大于 0。
 (2) 假。因为当 $x < 0$ 时， x^2 必大于 0。
 (3) 真。因为当 $x = 0$ 时， $x^2 = 0$ 。

3. 在下列各题中，指出下列命题的真假，并说明理由。

(1) 若 $x > 0$ ，则 $x^2 > 0$ 。
 (2) 若 $x < 0$ ，则 $x^2 < 0$ 。
 (3) 若 $x = 0$ ，则 $x^2 = 0$ 。

解：(1) 真。因为当 $x > 0$ 时， x^2 必大于 0。
 (2) 假。因为当 $x < 0$ 时， x^2 必大于 0。
 (3) 真。因为当 $x = 0$ 时， $x^2 = 0$ 。

1. Project objectives and outcomes

Project objectives

Lowdham is a village in Nottinghamshire between Nottingham and Southwell and is situated on the Cocker Beck which is a tributary of the River Trent. The Cocker Beck has been acknowledged as the main contributor to flooding in Lowdham on four notable occasions within recent history, in January 1999, in June and July 2007, summer 2013 and November 2019. In response to this, we are appraising a capital scheme to provide a large scale Flood Alleviation Scheme (FAS) for the village.

The Cocker Beck flows in from the north of Lowdham to the west before flowing in a southerly direction through the village before its confluence with the River Trent at Gunthorpe. Lowdham itself is a relatively flat plain, although the Cocker Beck does not appear to flow through the lowest point in the village, consequently, when water comes out of bank it flows away from the river and inundates a large area. The Cocker Beck is classified as a main river through the village.

The Cocker Beck catchment upstream of Lowdham is approximately 12km² in area and flows through a relatively steep sided valley which results in a typically fast catchment response to storm events. Road bridges and culverts along the Cocker Beck result in pinch points for flow within the village. The river is generally surrounded and constrained by mainly residential development with only a few green spaces.

In response to extensive flooding in 1999, a flood alleviation scheme (FAS) was constructed by Newark Area Internal Drainage Board (now Trent Valley Internal Drainage Board) in 2000, using the recreation ground as a flood storage area in addition to bank protection measures, however, further flooding in June and July 2007 showed that the 2000 scheme was not operating to the standard of protection it was intended. A flood event in the summer of 2013 resulted in flooding of many properties in the village, even though the Cocker Beck did not overtop its banks. This highlights that there are other sources of flood risk in the village, namely from surface water and highways related assets. Resolving flood risk from Cocker Beck alone will not necessarily resolve flood risk for the residents of the village, it would require an integrated approach.

Our Natural Flood Management (NFM) Scheme is currently operating in the upper catchment area with further work planned and should be incorporated as much as possible within our Capital Scheme. Details of NFM measures with accompanying design drawings are outlined below.

Outcome Specification

Lowdham has suffered frequent flooding in recent years and remains at risk of flooding from fluvial and pluvial sources. Previous solutions have concluded that a technically viable scheme is achievable, although there is a significant funding gap.

1. Provide an improved standard of protection of ideally 1 in 100yr AEP including climate change such that the properties in Lowdham are moved to a lower flood risk category in line with the new partnership funding rules. The minimum standard of protection targeted is 1 in 75yr
2. Ensure that the benefits of the scheme are maximised against the available funds
3. Progress the previous work produced in the Lowdham Phase 1 study to finalise the OBC
4. Maximise any opportunities to link in with our NFM Scheme (currently in progress) and to provide any wider biodiversity and environmental benefits.
5. Maximise opportunities for environmental and biodiversity improvement.
6. Minimise carbon emissions as part of the design of the construction to help the *Client* meet its carbon objectives.
7. Enhance wider social benefits whenever possible.
8. Minimise future operation and maintenance requirements whenever possible.
9. Embrace sustainability principles with success measured by CEEQUAL.
10. Ensure that all sources of flood risk are considered and that property is suitably protected to appropriate design standards from each source to enable the full amount of FDGIA to be claimed.

The *Contractor* shall undertake a Ground Investigation (GI) and the provision of early supplier engagement (ESE) works to provide support and advice to the *Client* and working collaboratively with the appointed CDF consultant in order to develop a constructible and cost effective solution for the Lowdham Cocker Beck Flood Alleviation Scheme (FAS).

The *Client's* CDF consultant shall produce a feasible outline design for the preferred option which must be supported by economic, social and environmental evidence that will provide the *Client* with an OBC. The *Contractor* will provide key ESE advice and works through this process.

The objective of the *Client* is to achieve final completion of the OBC ready for submission to the EA assurance body by 31st January 2021.

The *Contractor* shall support the selection of the preferred option when considering the *Client* selection criteria. These criteria are listed below and shall be defined in greater detail at a later date:

- carbon,
- sustainability measures
- flood risk
- environmental, including ecology, archaeology and visual impact among others
- health and safety
- stakeholder/landowner/community impact

The *Contractor* shall provide advice to ensure that the preferred option solution considered is compliant with all relevant guidance and legislation given the project stage and seek to minimise long-term asset, land management and maintenance costs and ensure future management is feasible.

The *Contractor* focuses on the following elements of the scheme:

1. Buildability and SHEW considerations

- Provide guidance and advice that the following documents are comprehensive and provide the best information available at this stage, inputting as required, to include suitable assurance for each of the following documents:
- Hazard Plan, Buildability Statement, desktop services searches, Pre-Construction Information Pack, Design Statement, Environmental Action Plan, Construction Method in the EIA, Information Delivery Plan, Carbon Reporting
- Provide comprehensive advice on proposed options such as the impact of potential relevant permissions and consenting application processes including related programme considerations
- Provide the logistics and practical considerations for the [options; preferred option; detailed design], including for the use of supply chain engagement, temporary works, example materials, site compound locations, access constraints, construction logistics, community safety, procurement and sourcing options
- Any proposed project solutions shall have appropriately considered the impact on known and unknown services. The Contractor shall provide Site Investigation scoping including proposals for service location identification to PAS 128, UXO surveys or Asbestos demolition / refurbishment surveys as required [Note – cover any intrusive works under a separate ESE intrusive works contract]
- Championing SHEW, wider sustainability matters and challenging assumptions where applicable

2. Affordability and Risk Management

- Identify opportunities and risks, the measures required to mitigate, quantification, and the allocation of residual risk to the party best placed to manage the residual impacts as part of the integrated project risks register

- Support in the identification of project efficiencies through active contribution to the Efficiency Target and in the Efficiency Register
- Provide market relevant advice to support on project whole life costs (and carbon) , e.g. compensation exposure for third parties, input into the Pricing Strategy, and setting adequate budgets
- Consider where applicable innovation and technology that can be embedded throughout the project, evaluating on a risk and opportunity basis
- Support in ensuring the Project Preferred Option costing is within set tolerances, at the earliest opportunity, including input into funding options where feasible.

3. Programme

- - Develop, maintain and report monthly upon the Whole Life Programme for the project. The Environment Agency Project Manager remains accountable for the programme.
- - Provide a monthly forecast and expenditure profile which is in line with the Whole Life Programme and the Environment Agency Gateways
- - Provide a detailed methodology to support the draft construction element of the Whole Life Programme

4. Contract Documentation

- Review the adequacy and clarity of all documents required for any contracts covering either construction only, design and construction and intrusive investigation works, all developed in accordance with the agreed Pricing Strategy

To aid the management of these related but distinct *works*, these have been split into two sections, section 2 GI works and Section 3 ESE *works*.

2. GI works

2.1. Description of the works

The specification for the GI *works* can be found in Appendix 2 (Lowdham Cocker Beck FAS Ground Investigation Specification, ARP-273624/00-SP-G-001 issue 2 dated 14.08.2020) and has been produced by the CDF consultant Arup. The *Contractor* shall use this scope to manage and procure ground investigation *works* to support the current study of the development of the feasibility study and future outline designs commission that the CDF consultant will deliver.

The *works* include:

- Review of the GI contractor's construction phase plan (technical).
- Supervision of the investigation works.
- The *Contractor* is required to clearly communicate the specifications for ground investigations as identified above to the site investigation sub-contractor (if they are not undertaking these investigations themselves).
- The *Contractor* is required to clearly communicate the relevant results of ground investigations back to Arup and *Client*, the *Contractor* is not responsible for producing the interpretive reports.

2.2. Management of the works

During the works the Contractor shall:

Contribute to the Early Warning Register and updates.

Produce and issue monthly financial updates and forecasts of the total Defined Costs on or before the first Friday of each month.

Contribute to the lessons learnt log during monthly progress meetings.

Co-operate with the Client in the role of the BIM information manager.

Ensure that all the original data sent to the Contractor (i.e. all model and survey information provided by the Client in an encrypted format (using WinZip 128 bit encryption) according to the Client's data security policy), which is classed as commercially sensitive, is returned to the Client in an encrypted format using WinZip 128 bit encryption.

Ensure that project deliverables such as model files, survey data or anything of a personal nature such as questionnaires or address data is returned to the Client in an encrypted format using WinZip 128 bit encryption.

The Contractor will take the risk of the adequacy of existing data quality and quantity. Copies of reports should be issued in digital native format to the Client.

The Contractor is to make full use of the Client's web based project collaboration tool (Asite and Fastdraft). Whenever practical all project and contract communications and records are to be distributed and stored using this project collaboration tool. For contract administration the Contractor utilises the Client's web based contract administration tool Fastdraft.

Provide a brief weekly progress update by email to the Service Manager.

2.3. Previous studies

The table below contains details of previous studies. The Contractor shall review the documents listed below and those within the project Asite and the Sharepoint workspaces.

Report	Date	Format	Outcomes of study
NEAS screening report		Digital format already supplied	Environmental recommendations
Environmental Action Plan	Pending	Digital format to be supplied	Management of environmental issues
Phase 1 Habitat Survey	Pending	Digital format to be supplied	Environmental recommendations

Available on the Asite workspace 'ENVIMMI001615 - Lowdham (Cocker Beck) Flood Alleviation Scheme_BIM2' accessible via <https://adoddleak.asite.com/adoddlepublic/dpd/RE7qakFk8yGELuMFj66> and the Project Works in progress SharePoint space https://arup.sharepoint.com/:f/s/EACDF_SharedPlatform/EnH6G3FNdshLrq4QaO2XqdsBMV3ATnaWc5K5BoYB6v5SkQ.

2.4. Services and other things to be provided

Archaeological services are to be provided by the *Contractor* as per Appendix 3.

2.5. Specifications of standards to be used

EA Minimum Technical Requirements as required.

Health and safety is the number one priority of the *Client*. The *Contractor* will promote and adopt safe working methods and shall strive to deliver solutions that provide optimum safety to all referencing Environment Agency minimum technical requirements, SHEW codes of practice and relevant legislation not limited to the CDM 2015 regulation which the *Contractor* will be appointed as the Principal Contractor

2.6. General constraints on how the *Contractor* provides the works

Use of the Site

Limited to the delivery of the *works* and as agreed by the *Client* with landowners and stakeholders.

Noise

No specific site sensitivities requiring additional mitigation measures for noise and acoustic screening are required. The *Contractor* responds to any requirement negotiated by the *Client* with landowners that allow the *Works* to take place such as those to avoid disturbing livestock or equine activities.

Emergency Procedures

If any emergency should arise in the absence of the *Client*, the *Contractor* shall immediately attempt to establish contact with the *Project Manager* or alternative representative.

An emergency includes an environmental incident (something that has an impact on the environment including a lack of an appropriate environmental permit), an environmental near miss (something that has caused no impact but had the potential to, such as plant working near or on protected species or trees without permission, oil or chemical leaks that are contained and a plant collision with oil tanks with no leak occurring).

When an environmental incident occurs, the *Contractor* should follow the 'Stop – Contain – Notify' actions set out below:

Step Action

- 1 Before you report the incident, stop the work.
- 2 Where safe to do so, carry out any local site pollution prevention or emergency incident measures to prevent any further damage to the environment and to contain the release and remove any ignition sources (if flammable).
- 3 Immediately after step 2, report the incident to:
 - Environment Agency Hotline, Incident Communication Service (ICS) on 0800 807060;
 - The *Client* (*Project Manager* or alternative) and *Contractor's* line management.

4 Give full details of the incident, including location and personnel contact details, to the ICS. Ask for and take note of the NIRS Reference Number to aid subsequent reviews.

If the incident occurs on Site, the *Contractor* reviews the incident and provides a report to the *Client* within 14 days of the incident.

Incidents the *Contractor* is to report seen on Site or any other location include:

- Damage to the natural environment,
- fish in distress,
- pollution,
- collapsed or badly damaged river banks and beds and
- unusual drops in riverflow
- and UXO

Notwithstanding this, the *Contractor* shall continue to attempt to locate the *Client* and to appraise him/her of the emergency.

The *Contractor* shall provide details for inclusion on the "GI Contact List". These details shall be updated, as necessary, during the course of the *Works*.

Working hours

The *Contractor* will be permitted to work between 0700 and 1700 on weekdays (Monday to Friday).

Access to the Site

Is provided by the *Client* and as agreed by the *Client* with landowners and stakeholders.

Liaison with Third Parties

All communications with third parties should be undertaken in conjunction with the *Client* or the *Client* delegate. The *Contractor* notifies the *Client* of any requests or meetings requested by third parties so that the *Client* may attend or send a representative.

The *Contractor* records all meetings and agreements with third parties and notifies the *Client* of the details for inclusion into the *Client* stakeholder log.

Interfaces between the works and existing things.

During any *works*, care must be taken not to damage or alter the existing assets or elements that are not part of the *works*. Familiarisation of the *Site* should be gained prior to access.

Site activities by the *Contractor* is not to hinder other local access route users by inconsiderate means such as poor parking position, or leaving plant equipment running causing unnecessary pollution, disturbance, noise and vibrations.

The *Contractor* notifies the *Client* immediately following any damage or injury arising out of the execution of the works.

The *Contractor* and *Client* notify each other without delay of all complaints, claims or warnings of intended claims which they may receive. The *Client* corresponds promptly with any complaints, claims, damage or injury by owners or other claimants.

Environmental Best Practice

The *Client* is committed to the environmental principles of stewardship and sustainability and has corporate goals to maintain and enhance the water environment. The *Contractor's* plans and methods should assist the *Client* in achieving these goals. Any temporary works design proposals minimise environmental impacts and comply with environmental best practice.

Occupied premises and users

The *Client* will issue the required legal notices to the local landowners to allow the works to be delivered by the *Contractor*. The *Client* will negotiate compound workspace based on the *Contractor's* requirements but these will be subject to negotiation with landowners for size and location and the *Contractor* is to factor this in its methodology

Compound and security

The *Contractor* identifies suitable areas within the Site for use as a compound which are submitted for acceptance by the *Client* to allow the necessary access and negotiations to take place with landowners. The *Contractor* designs, constructs, maintains, and afterwards removes and reinstates temporary welfare, services, compounds, storage areas, site roads and accesses required for the *Works*. The *Contractor* submits details of his design and reinstatement proposals to the *Client* for acceptance. Reinstatement work includes the removal of all materials used in the construction of the roads, and restoring the area to at least its original degree of safety, stability, drainage and appearance.

The *Contractor* fences the Site to minimise risks of security and health and safety to public, *Client* and *Contractor*. The *Contractor* erects fencing and gates for compound and work areas - the layout of which are to be submitted for acceptance to the *Client*. The *Contractor* inspects and maintains all site fencing and gates. If any damage occurs, the *Contractor* repairs this immediately.

The *Contractor* ensures that the site gates are closed after the passage of vehicles or personnel on each occasion. Under no circumstances are the gates to be left open unsupervised. The *Contractor* ensures that the Site is left properly secured at the end of each working day.

Use (or non –use) of explosives

No explosives are anticipated during the delivery of the *Works*.

Pollution, ecological and environmental impacts.

Use of bunds and appropriate spill kits and procedures is to be adhered to when any type of hazardous liquids, fuels or chemicals are stored on site as per the SHEW code of practice.

The *Contractor* is to adhere to the Environment Agency pollution prevention guidelines PPG1, PPG5, PPG6 and PPG21. Copies of these can be obtained from the *Client*.

The *Contractor* ensures all of their staff are inducted into the environmental procedures and / or protection measures operated on site or as instructed by the Ecological Clerk of Works.

The *Contractor's* attention is drawn to the control of pollution provisions in the Water Resources Act 1991. The *Contractor* takes all necessary precautions to ensure that no polluting discharge either of solid or liquids is made to any watercourse or to the underground strata. No work is carried out in any watercourse in such a manner as to cause pollution. Any materials, which accidentally fall into any watercourse are removed immediately.

The *Contractor* takes all necessary precautions to protect all watercourses, together with water in underground strata, against silting, erosion and pollution.

An Environmental Action Plan (EAP) will be prepared by the *Client's* representative. The content of the EAP is to be agreed by the *Client* and the *Contractor* and then incorporated into the *Works* through the PCI to ensure the *Contractor* is obliged to deliver them.

Prior to the commencement of construction works the EAP is to be explained to the *Contractor's* team, for example at the start-up meeting by the *Contractor* or the environmental clerk of works.

Site Waste Management Plans and tidiness

The *Contractor* keeps the Site tidy and shall remove and secure rubbish, waste and surplus. The *Contractor* does not place any waste material in disposal areas not belonging to the *Client* or the *Contractor* without prior written proof of agreement.

Archaeological requirements

As per appendix 3.

2.7. Programme

The *Contractor* shall submit a programme within 4 weeks of the Contract Date.

2.8. Services and other things provided by the Client

Data and information management and intellectual property rights

All of the data listed as being supplied to the *Contractor* as part of this study remains the IP of the *Client*.

Data custodianship

The data custodian for project deliverables from this commission will be the Environment Agency PSO team.

Licensing information

Licences for LiDAR Data, Ordnance Survey mapping, model, survey, hydrometric and historical data will be provided to the *Contractor* upon award of this commission.

Data management and metadata

The *Client* populates a metadata database called the information asset register (IAR). It is a requirement that all information produced by modelling work is appropriately tagged with metadata. The *Client* will supply an IAR spreadsheet (and any supplementary local metadata requirements if appropriate) where all relevant metadata can be recorded and handed over on project completion.

Data security

All model and survey information will be provided to the *Contractor* in an encrypted format (using WinZip 128 bit encryption) according to *Client* data security policy. It is expected that once the commission is completed, all the original data sent to the *Contractor*, which is classed as commercially sensitive, is returned in an encrypted format using WinZip 128 bit encryption.

Project deliverables such as model files, survey data or anything of a personal nature such as questionnaires or address data must also be returned in an encrypted format using WinZip 128 bit encryption.

Further details regarding security measures will be discussed at the start-up meeting for this commission

Client's Advisors

The *Client* has a number of advisory departments. Instructions will only be deemed enacted from them when they are confirmed by an Instruction from the *Client*. These departments include but not limited to Area Asset Performance, Area Partnership and Strategic Overview team, Area Fisheries Biodiversity and Geomorphology team, Field Team, NEAS.

Client Documents the Contractor contributes to;

The *Client* maintains PPMT as a reporting tool, the *Client* will use the *Contractor's* monthly forecasts to enable completion of PPMT.

The *Client* is responsible for reporting efficiencies via the CERT tool – the *Contractor* provides input into this document.

2.9. Completion

Completion definition

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

- Information related to the *works* to be provided to the Principal Designer for compiling the Health and Safety File
- Delivery of the approved Factual Report

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

2.10. Health and safety requirements

The additional health and safety requirements for the project:

- Compliance with Public Health England restrictions related to the Covid-19 epidemic
- Safety management, supervision and qualification,
- Site induction procedures
- Risk assessment and Method Statement: *Contractor* is required to submit method statements and risk assessments to the *Project Manager* for acceptance one week before these *works* commence

3. ESE works

3.1. Description of the works

This section details the provision of ESE works. The *Contractor* is to provide support and advice to the *Client* and working collaboratively with the appointed CDF Consultant in order to develop the most appropriate and cost effective design for the project that achieve the stated objectives and outcomes.

Details of the *Works* are:

- a) To work in collaboration with the *Client* and wider project team to assist in developing the best value design;
- b) The *Contractor* will make site visits with key members of the project team to gain an understanding of site specific risks and constraints, environmental or communication risks and issues such as access requirements, physical constraints, easement requirements, required working areas, compound areas, etc. The number and timings of visits will be identified by the *Contractor* and the *Client* is to be notified. The *Client* will arrange visits when notified. The *Contractor* is to assume 3 no. visits will be required.
- c) The *Contractor* will identify Health & Safety issues, potential value engineering opportunities and efficiencies in delivery;
- d) The *Contractor* will assist the CDF consultant in the identification of project risks and opportunities and the development of the project risk log; including estimating the cost of risks realisation and mitigation measures. The *Contractor* will attend and contribute to risk workshops – the *Contractor* is to assume 2 no. (full days)
- e) Produce a level 3 Whole Life Programme with necessary activities, durations and sequence. This programme considers seasonal impact (e.g. earthworks in the summer months), identification of long lead items, ecological constraints, third party constraints, consents, robust delivery durations considering risk. Early identification of programme constraints that could prevent a scheme from starting or completing as planned.
- f) The *Contractor* will assist the CDF consultant in identifying potential opportunities to create enhancements and improve the local environment/amenity value and contribute to urban regeneration;
- g) The *Contractor* will participate in optioneering and design workshops totalling 4 no. days and assist in the process of short listing options as well as providing option costs for project team review and assessment;
- h) The *Contractor* will be responsible for preparing a detailed Estimate for Completion (Anticipated Final Cost) for the preferred option outline design, working with the *Clients* Cost consultant and the appointed CDF consultant suitable for use in submission of the OBC.

This estimate shall include, but not be limited to;

- Review and update of current costs and rates as necessary.
- Identify costs of innovative and alternative solutions.
- Undertake sufficient work to remove assumptions in the current cost estimate by quantifying or refining site info
- Specifically, with regard to materials management:

1. The rates and volumes of source material that can be utilised free of charge to generate efficiencies
2. The rates and volumes of source material that must be imported
3. Landfill and aggregate levies which will be applied.
4. Investigate the re-use of materials as part of the construction work

If any gaps are identified in the above or site info that prevents an accurate pricing of the scheme, an assessment made by the *Contractor* to recommend to the *Client* as to whether there is value in closing the gaps. At this stage the focus is on the scale and timing of possible costs to be used by the *Client* to review the project mandate and aid planning. This should include socio or environmental mitigation and enhancement costs and an allowance for risk.

- i) The *Contractor* will assist in determining suitable locations for the site compound(s) and other elements required to deliver the construction phase and other necessary temporary works. Consider issues of; area required, including for storage, safe and environmentally acceptable access and egress between the compound and working areas (taking account of the size and nature of plant required). The *Contractor* identifies any significant temporary works designs that need to be considered from a CDM perspective in advance of the works pricing, to ensure sufficiency of resources and time.
- j) The *Contractor* will assist in determining suitable access routes, considering issues of working in a conservation area and working in public spaces.
- k) The *Contractor* will take the lead on approving suitable solutions for items where the *Contractor* is likely to be responsible for design liability as determined by the project risk register.
- l) The *Contractor* will provide comments on the draft Outline Design produced by the CDF consultant by issuing a note or report providing general commentary on the option identified and detailing any issues, opportunities or risks. This review of the outline design options / drawings is required to ensure that there is sufficient information available for the *Contractor* to price the schemes, an activity that the *Contractor* leads as specified in 3.1g.
- m) The *Contractor* will assist with the preparation of the buildability statement for the agreed preferred option and outline design. The *Client's* CDF consultant will be responsible for the production of the buildability statement. The *Contractor* is to support and advise the CDF consultant and *Client* with regards to the production of the buildability statement.
- n) The *Contractor* will attend monthly progress meetings as required – the *Contractor* will assume 4 number (full days) for pricing purposes.
- o) The *Contractor* will review and provide advice to the *Client* with regards to transitional, security and construction risks, opportunities and constraints of the intended Building Information Modelling approach by the CDF Consultant.
- p) Queries log established for response by both the CDF consultant and the *Contractor* to record how issues identified have been incorporated into the project going forward.
- q) The *Contractor* reviews the adequacy and clarity of all documents required for any contracts covering either construction only including where any additional further GI works are required, design and construction and intrusive investigation works, all developed in accordance with the agreed Pricing Strategy
- r)

3.2. Management the of works

The *Contractor* shall:

- a) Provide input to the Combined Efficiency Reporting Tool (CERT).
- b) Attend weekly and monthly progress meetings, the *Client* is to issue meeting minutes.
- c) Produce monthly financial updates and forecasts meeting the *Client's* project reporting timetable together with progress reports.
- d) Deliver a monthly progress report in the *Client's* standard template giving progress against programme, deliverables received and expected and financial summary against programme.
- e) Ensure quarterly input into framework performance assessment/Environmental Performance Measures.
- f) Challenge and review stakeholder engagement and quality.
- g) Ensure that all the original data sent to the *Contractor* (i.e. all model and survey information provided by the *Client* in an encrypted format (using WinZip 128 bit encryption) according to the *Client's* data security policy), which is classed as commercially sensitive, is returned to the *Client* in an encrypted format using WinZip 128 bit encryption.
- h) Ensure that project deliverables such as model files, survey data or anything of a personal nature such as questionnaires or address data is returned to the *Client* in an encrypted format using WinZip 128 bit encryption.
- i) The *Contractor* is to make full use of the *Client's* web based project collaboration tools (A-site/Adoddle and Fastdraft). Project and contract communications and records are to be distributed and stored using this project collaboration tool, in compliance with BIM Level 2.

3.3. Previous Studies

As stated in section 2.3.

3.4. Services and other things provided by the *Client*

As stated in section 2.4.

3.5. Specifications of standards to be used

As stated in section 2.5.

3.6. General constraints on how the *Contractor* provides the works

As stated in section 2.6.

3.7. Programme

Final completion of the OBC ready for submission to the EA assurance body by 31st January 2021.

The *Contractor* shall provide input into a detailed project plan in Microsoft project format version 2016 and PDF, meeting all requirements of Cl.31 of the *conditions of contract*. A baseline plan shall be provided for the project start up meeting and this will be updated monthly for progress meetings with actual and forecast progress against the baseline.

The programme shall cover all the activities to be undertaken by the *Contractor* and other members of the project team. Include all major project milestones from commencement to the end of the design stage and readiness to start on site. The programme shall include the construction period, although will not need to include the detailed construction programme tasks, only an overview.

Include appropriate review and consultation periods for drafts, scoping reports, statutory consultation etc.

Include internal project team/board decision gateways (as a minimum) for:

- a) Gateway 2, to ensure the detailed design is sufficient to allow for works on site
- b) Gateway 3, to ensure the costings are complete and the works can be constructed within the allowed time and budget
- c) Gateway 4, to ensure that construction is complete including all post construction surveys of local structures and as required by any highway agreements;
- d) Gateway 5, to ensure that all information as required by the Senior User in relation to operation and maintenance to successfully and safely operate the new structures is handed over.

All the above gateways are critical in managing project expenditure, programme and scope creep and shall be well considered and managed to ensure project remains on time and cost. The decision gateways identified in bold type are the key decision gateways.

As a minimum, the following consultation periods should be incorporated into the programme, with adequate allowance for review and revision of documents by the project team where appropriate:

- a) *Contractor* internal review (as per your quality review procedures) and *Client* review of all outputs before circulation to the wider project team to ensure high quality of all output;
- b) Sufficient allowance for internal and external consultation. Statutory consultation periods at scoping & draft stages. Note Local Authority approvals through cabinet prior to public consultation can take a long time;
- c) All internal consultation periods should be a minimum of two weeks;
- d) Sufficient time to procure any subcontractor
- e) Consultation with the Principal Designer as required by the Construction (Design and Management) 2015 Regulations;
- f) Sufficient time for all site investigations and surveys;
- g) Local Authority time for planning approval, including time to resolve any planning conditions;
- h) *Client* approvals as required to include for impoundment licence, Flood Defence Consent, and working in watercourse approvals;
- i) Time for pricing up of the works by the *Client* and *Contractor*;
- j) A minimum of two weeks for the *Client's* to be able to produce Notice of Intended Entry letters. The *Contractor* also need to allow for a suitable notification period as required by the law before entry can be taken;
- k) Submission for approval and time allowance for the *Client's* approval process.

3.8. Services and other things provided by the *Client*

As

per

section

2.8.

3.9. Completion

Completion definition

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

- Information related to the *works* to be provided to the Principal Designer for compiling the Health and Safety File
- submission of the OBC to the EA assurance body (whilst this is not a *Contractor* produced deliverable, the submission of this is a clear end point of this commission)

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

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*.

IDP and relevant issued information is accessible via the A-site CDE:
<https://adoddleak.asite.com/adoddlepublic/dpd/RE7qakFk8yGELuMFj66>

You need google chrome for this link to work. Once the table is completed it should be printed for issue in the tender document, so that the correct baseline position can be seen by suppliers

Appendix 2 - Ground Investigation Specification

Refer to separate document ARP-273624/00-SP-G-001.

Appendix 3 – Archaeological Monitoring

Background

The Environment Agency (EA) seek a written scheme of investigation (WSI) for a programme of archaeological monitoring and geoarchaeological assessment for ground investigations (GI). The GI will comprise test pits and bore hole survey for two proposed storage areas, including their associated embankments and control structures, along Cocker Beck (see figures in attached Revise Scope of Works).

No desk-based assessment (DBA) has been undertaken for this area of Lowdham, but there was a cultural heritage DBA produced for flood works affecting the historic core (see CH2M March 2018). This report highlighted the presence of organic rich clays and therefore the potential for deeply buried palaeoenvironmental evidence. The potential to encounter this type of deposit within the two proposed storage areas needs to be evaluated.

A preliminary appraisal of designated and non-designated heritage assets recorded on Heritage Gateway by the NEAS Senior Archaeologist indicates that there is no known archaeology within the two storage areas. However, within the wider landscape there are records of Neolithic stone tools recovered close to Cocker Beck at Lambley (HER no. 1843), and a number of enclosures of unknown date that could be prehistoric located on higher ground. The East Midlands Research Framework indicates that there is little known about the prehistory of this area, and EA interventions here have the potential to reveal further information. In addition, an area to the north-east of storage area A has been suggested as the location of the Woolsthorpe deserted medieval settlement (DMV), but no remains have been recovered to verify this (HER no. 1847). There are also a number of earthworks and cropmarks of unknown date recorded between Lambley and Lowdham that could be of medieval date.

Aim

The aim of this programme of archaeological monitoring and geoarchaeological assessment is to appraise the potential for buried archaeological remains and palaeoenvironmental deposits to inform a subsequent evaluation strategy comprising geophysical survey and trial trenching.

This will be achieved through the:

- 1.) Archaeological monitoring of a sample of 5 test pits across the two proposed storage areas (TP04, TP10, TP15, TP19, TP24).
- 2.) Geoarchaeological assessment of all borehole logs and test pit results from the GI.

Selected Minimum Technical Requirements

All appropriate sources of information should be considered, and as a minimum the following sources will be consulted:

- The Nottingham historic environment record (HER)
- Research Agenda for East Midlands

The following activities will be carried out:

- Preparation and agreement of a WSI for the identified techniques supported by a methods statement.

Standards and Guidance

All work will be carried out by appropriately experienced heritage specialists working to the Chartered Institute of Archaeologists (CIfA) Code of Conduct, the relevant sections of the CIfA standard and guidance for Archaeological Watching Briefs (2017), Historic England's guidance on Geoarchaeology (2015) and Deposit Modelling (2020), and the requirements laid out in this Scope.

The WSI will be reviewed and agreed with the NEAS Senior Archaeologist, Midlands Hub heritage *Contractor* at Arup and the local authority archaeological advisor.