NEC4 Engineering and Construction

Short Contract

FCRM Operational Framework	**Central Hub**
A contract between	**The Environment Agency** [redacted]
And	**JBA Bentley Ltd**
For	**Delivery of the Lot 1 2021 2023 Cambs and Beds catchment area package of works**
	Contract Forms **Contract Data** **The *Contractor's* Offer and *Client's* Acceptance** **Price List** **Scope** **Site Information**

Contract Data

The *Client's* Contract Data

	The *Client* is	
Name	Environment Agency	
Address for communications	[redacted]	
Address for electronic communications	[redacted]	
The *works* are	Delivery of the Lot 1 2021 2023 Cambs and Beds catchment area package of works	
The *sites* are	**Welmore Lake Sluice** – Downham Market PE38 0EH - Project Manager Indu Kulasooriya **Kala Jugga Sluice** – Seabank Road, Heacham, King's Lynn (approx PE31 7AR) Project Manager Stephen Green **Head and Tail Sluice** – The Denver Complex, Sluice Rd, Downham Market PE38 0AZ Project Manager Stephen Green **Steel Sheet Piling** – Environment Agency (Ely Depot), Kiln Lane, Ely CB7 4TT Project Manager Indu Kulasooriya **Other un-scoped sites to be confirmed.**	
The *starting date* is	16th August 2021	
The *completion date* is	The contract completion date is 31st March 2023 See separate project information for individual project completion dates. Un-scoped project completion dates to be agreed on addition to programme. Package completion 31st March 2023 or when full value of scoped and un-scoped projects has been utilised, whichever is the earlier.	
The *delay damages* are	Nil	Per day

The *period* for reply is	2	weeks
The *defects date* is	52	weeks after Completion
The *defects correction period* is	4	weeks
The *assessment day* is	the last working day	of each month
The *retention* is	nil	%
The United Kingdom Housing Grants, Construction and Regeneration Act (1996) **does** apply		
The *Adjudicator* is :		
In the event that a first dispute is referred to adjudication, the referring Party at the same time applies to the Institution of Civil Engineers to appoint an *Adjudicator*. The application to the Institution includes a copy of this definition of the *Adjudicator*. The referring Party pays the administrative charge made by the Institution. The person appointed is also *Adjudicator* for later disputes		

Contract Data

The *Client's* Contract Data

The interest rate on late payment is		% per complete week of delay
Insert a rate only if a rate less than 0.5% per week of delay has been agreed.		
For any one event, the liability of the *Contractor* to the *Client* for loss of or damage to the *Client's* property is limited to	£100k	
The *Client* provides this insurance	None	

Insurance Table

Event	**Cover**	**Cover provided until**

Loss of or damage to the *works*	The replacement cost	The *Client's* certificate of Completion has been issued
Loss of or damage to Equipment, Plant and Materials	The replacement cost	The defects Certificate has been issued
The *Contractor's* liability for loss of or damage to property (except the works, Plant and Materials and Equipment) and for bodily injury to or death of a person (not an employee of the *Contractor*) arising from or in connection with the *Contractor's* Providing the *Works*	Minimum £5,000,000 in respect of every claim without limit to the number of claims	
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law	
Failure of the *Contractor* to use the skill and care normally used by professionals providing *works* similar to the *works*	Minimum £2 million. in respect of every claim without limit to the number of claims	6 years following Completion of the whole of the *works* or earlier termination

The *Adjudicator nominating body* is	The Institution of Civil Engineers
The *tribunal* is	litigation in the courts

The *conditions of contract* are the NEC4 Engineering and Construction Short Contract June 2017 and the following additional conditions

Only enter details here if additional conditions are required.

Z1.0	Sub-contracting
Z1.1	The *Contractor* submits the name of each proposed subcontractor to the *Client* for acceptance. A reason for not accepting the subcontractor is that their appointment will not allow the *Contractor* to Provide the *Works*. The *Contractor* does not appoint a proposed subcontractor until the *Client* has accepted them.
Z1.2	Payment to subcontractors and suppliers will be no more than 30 days from receipt of invoice.
Z2.0	Environment Agency as a regulatory authority
Z2.1	The Environment Agency's position as a regulatory authority and as *Client* under the contract is separate and distinct. Actions taken in one capacity are deemed not to be taken in the other
Z2 2	Where statutory consents must be obtained from the Environment Agency in its capacity as a regulatory authority, the *Contractor* is responsible for obtaining these and paying fees (unless stated otherwise in the Scope) The *Client's* acceptance of a tender and the *Client's* instruction or variation of the *works* does not constitute statutory approval or consent.
Z2.3	An action by the Environment Agency as regulatory authority is not in its capacity as *Client* and is not a compensation event.
Z3.0	Confidentiality & Publicity
Z3.1	The *Contractor* may publicise the *works* only with the *Client's* written agreement.
Z4.0	Correctness of Site Information
Z4.1	Site Information about the ground, subsoil, ducts, cables, pipes and structures is provided in good faith by the *Client* but is not warranted correct. The *Contractor* checks the correctness of any such Site Information they rely on for the purpose of Providing the *Works*
Z5 0	The Contracts (Rights of Third Parties) Act 1999
Z5 1	For the purposes of the Contracts (Rights of Third Parties) Act 1999, nothing in this contract confers or purports to confer on a third party any benefit or any right to enforce a term of this contract.
Z6.0	Design
Z6.1	Where design is undertaken, it is the obligation of the *Contractor* to ensure the use of skill and care normally used by professionals providing similar design services

Z6.2	The *Contractor* designs the parts of the *works* which the Scope states they are to design.
Z6.3	The *Contractor* submits the particulars of their design as the Scope requires to the *Client* for acceptance. A reason for not accepting the *Contractor's* design is that it does not comply with either the Scope or the applicable law. The *Contractor* does not proceed with the relevant work until the *Client* has accepted this design
Z6 4	The *Contractor* may submit their design for acceptance in parts if the design of each part can be assessed fully.
Z7.0	Change to Compensation Events
Z7.1	Delete the text of Clause 60.1(11) and replace by: The *works* are affected by any one of the following events • War, civil war, rebellion revolution, insurrection, military or usurped power • Strikes, riots and civil commotion not confined to the employees of the *Contractor* and subcontractors • Ionising radiation or radioactive contamination from nuclear fuel or nuclear waste resulting from the combustion of nuclear fuel • Radioactive, toxic, explosive or other hazardous properties of an explosive nuclear device • Natural disaster • Fire and explosion • Impact by aircraft or other device or thing dropped from them
Z8 0	Framework Agreement
Z8 1	The *Contractor* shall ensure at all times during this contract it complies with all the obligations and conditions of the Framework Agreement made with the *Client*.
Z9.0	Termination
Z9.1	Delete the text of Clause 92.3 and replace with: If the *Contractor* terminates for Reason 1 or 6, the amount due on termination also includes 5% of any excess of a forecast of the amount due at Completion had there been no termination over the amount due on termination assessed as for normal payments
Z10.0	Data Protection
Z10.1	The requirements of the Data Protection Schedule shall be incorporated into this contract
Z11.0	Liabilities and Insurance
Z11.1	Civil data protection claims and regulatory fines for breaches of Data Protection Legislation are excluded from any limit of liability stated.
Z12.0	Packaging
Z12.1	For contracts containing packages of projects the *Client's* Contract Data, Scope and Site Information particular to an individual project is contained within its Site Specific Pack/PCI.
Z7.2	Additional Compensation Event COVID-19 Managing and mitigating the impact of Covid 19 and work in accordance with Public Health England guidance, as may vary from time to time, from 1st July to 31st August 2021.

Contract Data

The *Contractor's* Contract Data

	The *Contractor* is	
Name	JBA Bentley Ltd	
Address for communications	[redacted]	
Address for electronic communications	[redacted]	
The *fee* percentage is	As submitted in the Lot 1 Price workbook	[redacted]
The *people rates* are	FCRM Lot 1 Priced Workbook	
category of person	unit	rate
The *published list of Equipment* is		FCRM Lot 1 Priced Workbook
The *percentage for adjustment for Equipment* is		

Contract Data

The *Contractor's* Offer and *Client's* Acceptance

The *Contractor* offers to Provide the *Works* in accordance with these *conditions of contract* for an amount to be determined in accordance with these *conditions of contract*.	
The offered total of the Prices is	[redacted]
	Enter the total of the Prices from the Price List.
Signed on behalf of the *Contractor*	
Name	[redacted]
Position	[redacted]
Signature	[redacted]
Date	16th August 2021
The *Client* accepts the *Contractor's* Offer to Provide the *Works*	
Signed on behalf of the *Client*	
Name	[redacted]
Position	[redacted]
Signature	[redacted]

Date	24th August 2021

Price List

Item Number	Description	Unit	Quantity	Rate	Price
Welmore Lake Sluice gearbox repairs					
	General Items				
01	Provision of all Insurances as required by the contract.	sum	1		[redacted]
02	Establish and develop all necessary health & safety and operational documentation and method statements (including H&S file as client's new format and Environment permit)	sum	1		[redacted]
03	Mobilise labour, plant and equipment to site, establish a secure compound, office, messing, storage and welfare facilities	sum	1		[redacted]
04	Erect suitable signage and public interface control measures.	sum	1		[redacted]
05	Locate, mark and take any necessary control measures for working near services	sum	1		[redacted]
	Site Specific Items				
06	Design temporary works and obtain confirmation of MEICA Design.				[redacted]
06	Make safe access track prior to mobilisation with suitable material				[redacted]
08	Vertical gates design, supply and install 3 no bevel gear boxes and 3 no. worm/wheel gearboxes. Exeeco MTW9 ratio 60:1 3no bevel gear boxes IB6 ratio 3:1 (pricing purposes assume this ratio client will confirm)	sum	1		[redacted]
09	Design, supply and install a vertical gate portable powered manual drive system to interface with existing drive system for use on each of the vertical gates.	sum	1		[redacted]
10	Design, supply and install Land Drainage penstock actuation upgrade Option 1 (4 no adaptor stem/ 2 no. portable actuators).	sum	1	[redacted]	Rate only
11	Design, supply and install Land Drainage penstock actuation upgrade Option 2 (4 no hard wired actuators).	sum	1		[redacted]
12	Vertical gate – design, supply and install 3 actuators	sum	1		[redacted]
13	Remove and suitably dispose of all generated waste from site.				[redacted]

14	Infill and compact all potholes on access track from the Welmore Lake Sluice to the concrete section at Salters Lode on completion of the work	sum	1		[redacted]
				The total of the Prices	[redacted]

Kala Jugga Sluice: Vee-Door Replacement

Item Number	Description	Unit	Quantity	Rate	Price
	General Items				
01	Provision of all Insurances as required by the contract.	sum	1		[redacted]
02	Establish and develop all necessary health and safety documentation and method statements	sum	1		[redacted]
03	Mobilise labour, plant and equipment to site, establish a secure compound, office, messing, storage and welfare facilities	sum	1		[redacted]
04	Erect suitable signage and public interface control measures including footpath closure.	sum	1		[redacted]
05	Locate, mark and take any necessary control measures for working near services to include any required provision for shut down of overhead power.	sum	1		[redacted]
	Site Specific Items				
06	Undertake photographic survey of the access track prior to mobilisation.	sum	1		[redacted]
07	Design and supply 1 set of vee-doors including the vee doors themselves, their hinges, suitable access platform and all civil elements of the structure, which support the doors and the access platform as well as the downstream culvert and return walls.	sum	1		[redacted]
08	Install new set of vee-doors to Kala Jugga Sluice including works required in item 07 above.	sum	1		[redacted]
09	Undertake remedial works to block revetment upstream and downstream of Kala Jugga Sluice	sum	1		[redacted]
10	Install additional scour protection on the downstream side of Kala Jugga Sluice.	sum	1		[redacted]
11	Remove and suitably dispose of all generated waste from site	sum	1		[redacted]
12	Reinstate private access track upon completion of the works.	sum	1		[redacted]
				The total of the Prices	[redacted]

Head and Tail Sluice: Stop Logs Replacement

Item Number	Description	Unit	Quantity	Rate	Price
	General Items				
01	Provision of all Insurances as required by the contract.	sum	1		[redacted]
02	Establish and develop all necessary health and safety documentation and method statements.	Sum	1		[redacted]

03	Mobilise labour, plant and equipment to site, establish a secure compound, office, messing, storage and welfare facilities	sum	1		[redacted]
04	Erect suitable signage and public interface control measures	sum	1		[redacted]
05	Locate, mark and take any necessary control measures for working near services.	sum	1		[redacted]
	Site Specific Items				
06	Undertake condition assessment of guide rails above and below water line on the upstream side at Tail Sluice.	sum	1		[redacted]
07	Undertake condition assessment of guide rails above and below water line on the upstream and downstream side at Head Sluice.	sum	1		[redacted]
08	Provide a condition report and recommendations for remediation to guide rails at both structures to support installation new stop logs.	sum	1		[redacted]
09	Undertake condition report of the existing lifting equipment at both tail and head sluice	sum	1		[redacted]
10	Design and supply 2 sets of 7 stop logs suitable for use with existing stop log channels and lifting equipment at both structures	sum	1		[redacted]
11	Undertake installation (EA Field Team to undertake installation test observed and guided by the contractor) of stop logs in upstream sluice bay on at Tail Sluice. Contractor to provide haulage and cranage; including any traffic management authorisations.	sum	1		[redacted]
12	Undertake installation (EA Field Team to undertake installation test observed and guided by the contractor) 7 stop logs each on both upstream and downstream side of 1 sluice bay at Head sluice. Contractor to provide haulage and cranage; including any traffic management authorisations.	sum	1		[redacted]
13	Provision of high strength waterproof covers to ensure adequate storage, capable of accommodating each set of stop logs at both sites	sum	1		[redacted]
14	Remove and suitably dispose of all generated waste from the Denver Complex.	sum	1		[redacted]
			The total of the Prices		[redacted]

<u>Steel Sheet Piling Works</u>

Item Number	**Description**	**Unit**	**Quantity**		
	General Items				
01	Provision of all Insurances as required by the contract.	sum	1		[redacted]
02	Establish and develop all necessary health and safety documentation and method statements	sum	1		[redacted]
03	Erect suitable signage and public interface control measures.	sum	1		[redacted]

	Site Specific Items				
	Year 1				
04	Supply, deliver and offload the below quantities and types of sheet steel pile at Ely Depot piling compound. (Ely Depot, Prickwillow Road, Ely, Cambs, CB74TX) Please refer to constraints section regarding access and Network Rail.	sum			[redacted]
05	PAL3040 S235JRC sheet piles @ 3m long.	No.	700		[redacted]
06	PAL3040 S235JRC sheet piles @ 4m long	No.	1100		[redacted]
07	PAL3040 S235JRC sheet piles @ 5m long.	No.	600		[redacted]
	Year 2				
09	Assume similar quantities and requirement for year 2 [redacted]	sum	1		[redacted]
				The total of the Prices	[redacted]
				Complete total of the prices	[redacted]

The method and rules used to compile the Price List are
Civil Engineering Standard Method of Measurement 4th edition (CESMM4) as per the Framework Price Workbook

Scope

Scoped *works* comprising 50% of package value as follows:

Welmore Lake Sluice gearbox repairs

Year 1 completion 31/03/2022

Year 2 completion 15/07/2022 31/10/22

Kala Jugga Sluice: Vee-Door Replacement

Year 1 completion - 01/09/2021 31/03/2022

Year 2 completion – 01/04/2022 – 31/03/2023

Head and Tail Sluice: Stop Logs Replacement

Year 1 completion 31/03/2022

Year 2 completion 01/04/2022 31/03/2023

Steel sheet piling

Year 1 completion 31/03/2022

Year 2 completion 01/04/2022 31/03/2023

As per description of *works* and constraints below

Note target completion date (year 1) of: **31st March 2022.**

Note target completion date (year 2) of: **31st March 2023**

Un-scoped *works* comprising 50% of package value as follows:

Additional un-scoped projects to follow subject to *Contractor* performance, it is anticipated that a minimum of 2 un-scoped projects will be added for completion by 31st March 2023, further un-scoped projects may follow to end of contract. We expect the successful *Contractor* to work in parallel on multiple sites where required to enable the delivery of scoped and un-scoped elements of the package. Constraints as detailed below and in any follow on information

1. Description of the *works*

Welmore Lake Sluice gearbox repairs

Structure location TF 5719298698

Work on vertical gate gearboxes, vertical gate actuators and land drainage pump penstocks actuations are required on site to bring the structure to the required serviceable condition. All design, planning and preparation *works* are to be carried out within year 1 (by 31st March 2022) and construction is to be carried out in year 2 within the environmental working window (15th of July to 31st of Oct 2022).

All 3 gates must be available for the winter discharge (from 1st of November). At least one of the vertical gates must be operable all the time throughout the construction period

Utilities within the site are shown in Drawing: 11.2 Welmore Lake Sluice Topography with services.

Vertical Gate gear boxes

Welmore Lake Sluice has 3 vertical gates. The gates are normally in the closed position during the summer and the open position during the winter

The vertical sluice gate gearboxes have exceeded their design life and show signs of leaking from 2 of the main worm/wheel gearboxes. The *Contractor* is required to replace all 6 gearboxes in the drive system for like for like replacements. Existing worm/wheel gearboxes are Exeeco MTW9 ratio 60:1 and bevel gear boxes are believed to be ratio 3:1 This requires confirming by *Contractor* on site

The shafts do to not need to be supported to allow the gearboxes to be removed as supporting brackets are in place

The counterweights need to be supported during the gearbox replacement. There is a system available on site to support the counterweight, which will be free issued to the *Contractor*. A document detailing the support system will be provided by the *Client* during the pre-tender site visit. All of the physical components of the supporting system will be tested by the *Client* in advance of free issue

Note: existing housing, insulation and driveshaft coupling can be removed and re-used.

Vertical Gate actuator manual drive system

Three actuators to operate the vertical gates are housed at the top of the gantry. The actuators are 3 phase Rotork IQ20, 36 RPM The vertical gate actuators have reached the end of their design life During a power failure, the vertical gates can only be operated by hand winding, this is a difficult manual handling exercise.

The *Contractor* is required to replace the 3 vertical gate actuators with like for like replacements.

The *Contractor* shall provide options and costs for the design, supply and installation of manual drive systems for all 3 gates that will eliminate the risk of manual handing and health and safety concerns

The *Contractor* provides CE marking on instruction manuals and a full declaration of conformity (certification) Installation of CE marking tags to the equipment on site is not required.

Land Drainage Pump Penstock

The *Contractor* is to provide a cost for upgrading the land drainage penstocks with the following two options The *Client* will then select an option for the *Contractor* to proceed with.

Option 1 - Fit 4 no. appropriate flange adaptors to penstock spindles and supply 2 no. portable actuators to operate, including appropriate means of storing and charging on site. This option is for single small gate movements one at a time.

Option 2 - Running electric supply to both piers to feed 4 no. fixed electric actuators *Contractor* to appropriately size, design, supply and install actuators

Access

Access to the structure is shared access and 3rd party access rights exist though the site onto Cradge Bank. The *Contractor* is required to have ongoing liaison with and inform 3rd parties, at the start and during the *works*, of any potential obstructions to access from deliveries / *works* at the site. A public footpath runs across the bridge at site Restrictions to site access must be minimised Any footpath closure will be the responsibility of the *Contractor* to arrange.

The *Contractor* is required to carry out condition survey of the access tracks and compound area before the work commences and any damage / deterioration is to be repaired at the end of the work A post completion photographic survey is required for the access track.

The Welmore pumps need to be operated during summer time and *Client* personnel need access to the pumping station at all times.

The following documents will be required from the *Contractor* upon completion of the project

1. Operation maintenance manuals including new drawings for gearboxes, penstock actuation and manual drive system, with site specific information, not generic manuals
2. H&S file updated in *Client's* new template with site specific information / as built drawings do not include generic information

Note: all drawings to be compliant with specification MEICA standards: 369 13 SD21 documentation

Note: all cabling to the existing actuators is suitable for re-use. Client provides wiring and cabling drawings to allow testing and commissioning of the actuators.

Kala Jugga Sluice: Vee-Door Replacement

Kala Jugga Sluice is located in the second line of coastal defences at Heacham. Access is via a gated private track from Seabank Road, Heacham, King's Lynn (approx PE31 7AR) Land adjacent to the upstream penstock (car parking area) is available for use as a site compound area.

Grid reference:

1. Kala Jugga Sluice NGR: TF6661237874
2. Access Track NGR: TF6665437535

The latest Detail Asset Inspection (DAI) highlighted that the vee-doors are in a deteriorated condition, showing signs of ageing with the right door in particularly poor condition The vee-doors and seals require full replacement to maintain the current standard of service at the structure. The *Client* does not have any as built drawings for this structure An indication of size of each door is provided within the attached DAI (approximately 1.50m high by 1.20m wide). Photos of the upper hinge point are provided also within the attached DAI It is advised that all contractors are to confirm dimensions and fixings onsite

It has also been identified that repair *works* are required to the block revetment on the upstream and downstream side of the sluice as well as some additional scour protection on the downstream side In addition, the downstream platform spanning over the return walls was found to be in fair condition.

The *Contractor* is required to:

- Design and construct the replacement of the Kala Jugga vee doors and the refurbishing (when required) of its supporting civil structure. This shall include the vee doors themselves, their hinges, access platform and all civil elements of the structure which support the doors and the access platform as well as the downstream culvert and return walls;
- Design and construct the repair of the upstream revetment blockwork The *Contractor* shall carry out an assessment of the extent of the repair needed and propose a solution to the *Client* for approval However, for the purpose of the tender exercise, it shall be assumed that a combined area of 5 sqm is to be repaired. The blocks look similar to Armorloc. Block specification details are available at: http://www.armortec.co.uk/downloads/Armorloc.pdf

- Design and construct the repair of the downstream bank The *Contractor* shall carry out an assessment of the extent of the repair required and propose a soft engineering repair solution to the vertical edge for *Client* approval

- The design shall ensure the following objectives are met:
  A) The new vee-doors will have a design life of at least 30 years;
  B) The vee-doors will be designed in such way as to ensure they will automatically seal against the V-shaped downstream culvert and apron in the event of an incoming tide;
  C) The vee-doors will require as little maintenance as possible;
  D) The access platform will be designed in such a way as to facilitate the inspection, maintenance and decommissioning/replacement of the vee-doors;
  E) The final design of the structure, including access platform, handrails, return walls etc. will be subjected to a PSRA carried out by the *Contractor* so to ensure its compliance with public safety In carrying out the design and the subsequent PSRA the *Contractor* shall take into account the specific features of the site, its location and regular use by members of the public, dog walkers etc ;
  F) The civil structure supporting the vee doors and the access platform shall be upgraded to ensure its residual design life matches the one of the vee doors and the access platform, with particular regards to the connection elements (hinges, bolts etc.);

- All *works* to be accordance with the MEICA standards below
  1 369 13 MEICA standard specification
  2. 369_13_SD01 Materials and mechanical installations
  3 369 13 SD02 Painting and protection systems
  4. 369_13_SD04 Water control structures
  5 369 13 SD21 Documentation

- Submit a proposed solution to the *Client* for the delivery of the above design. The solution will be suitably detailed to demonstrate that the *Client's* objectives are met and will require the *Client's* approval before it can be implemented.

- The *Contractor* must provide a pre-*works* photo survey of the access track. The access track must be reinstated to its pre *works* condition when demobilising from site A post-*works* condition survey must be carried out when de-mobilising from site.

The *Contractor* shall identify, plan and undertake all pre-construction activities required to deliver the *works*, such as ecological surveys, utility searches, footpath diversion/closure, traffic management authorisations, etc. Only the crest of the bank is a public right of way. A footpath diversion and temporary access steps may be required to avoid public access close to site. The *Contractor* shall arrange any closure in adequate time for their programme of work Additionally, as the work will be carried out near or in water it is important that all relevant authorisations; for example FRAP applications etc., are obtained by the *Contractor* before commencing with the *works*. As the water course is managed by the local Internal Drainage Board (IDB) it is likely that an authorisation might need to be sought from the IDB itself. All the above will also be dependent on the construction methodology proposed by the *Contractor* who shall be solely responsible for successfully completing these pre construction activities.

There are no existing dam boards available, the *Contractor* uses the upstream penstock to dam upstream flow However any restriction / stopping of flow to the watercourse would need to be agreed with Kings Lynn IDB who look after this watercourse

The *Contractor* shall submit a complete proposed detailed design to the *Client* for review and acceptance before progressing with mobilisation and construction.

Prior to preparing their proposal the *Contractor* must consider that the *Client* has not undertaken a tropical hardwood business case. If the *Contractor* is proposing to use a tropical hardwood material then the *Client* requires a tropical hardwood business case as part of the proposal and the *Contractor* must demonstrate that any potential impacts on the programme for business case approval have been mitigated against. The *Client* informs contractors of the following guidance around Tropical Hardwood Business Cases:

"It should be noted that orders / purchases of tropical hardwood can not be made until this business case has been considered. It requires approval by a Sustainable Procurement Advisor and the Director of Operational Services FCRM before any purchases can be made The business case should be submitted at the earliest possible opportunity normally 12 months in advance as some tropical hardwoods (if cut to order) can take 4 6 months to source and deliver. "

The *Contractor* shall update and complete the Pre-Construction Information (provided as part of the *Works* Information) to reflect the proposed design and construction methodologies and shall submit it for acceptance to the *Principal Designer*.

IMPORTANT: In developing the proposal, the *Contractor* shall provide a clear plan as to how they propose to carry out the *works*, with particular reference to access to the site (and the proposed equipment/plant needed) as well as working within a watercourse

Additionally the *Contractor* shall provide a single delivery programme for the whole package to include this scheme and accounting for the various programme constraints identified in the *Works* Information package

IMPORTANT: All design, specification and construction undertaken by the *Contractor* and/or any Subcontractors shall be compliant with the latest Civil Engineering Specification for the Water Industry (CESWI). In the absence of any meaningful specification elements in CESWI then the relevant series of the latest Highways Specification shall be used

IMPORTANT: Please refer to the Pre-Construction Information and Environmental File Note with regards to access and environmental constraints

The *works* are programmed to be delivered over 2 years between 1st September 2021 31st March 2023, with the *Contractor* required to design and install 1 set of vee doors for Kala Jugga Sluice, undertake repair *works* to the upstream and downstream block revetment and provide additional scour protection to the downstream banks, where required

Works will require:

Year 1:

1. Assess current design of the vee doors and undertake design work for the replacement and the refurbishing (where required) of its supporting civil structure This shall include the vee doors themselves, their hinges, and all civil elements of the structure which support the doors as well as the downstream culvert and return walls
2. Assess the access requirements to undertake the installation of the vee-doors due the presence of electrical overhead cables. Please see project constraints
3. Assess current design of the downstream access platform and undertake design work for the replacement of the access platform and all civil elements of the structure which support the access platform
4 Undertake an assessment of the remedial *works* required to the upstream and downstream revetment blockwork and additional scour protection required on the downstream side of the sluice
5. Once the design is accepted by the *Client* the vee-doors are to be manufactured

Year 2:

6. Undertake installation of vee-doors to downstream side of sluice
7 Undertake installation of the downstream access platform
8. Undertake repairs to block revetment and installation of scour protection, where required
9. Provide copies of the design and specification to the *Client* after installation of the vee-doors
10. Undertake any reinstatement *works* to the private access track as required to return to pre-*works* condition
11. The *Contractor* to dispose of in a suitable manner the old vee-doors. Please consider recycling where possible

Head and Tail Sluice Stop Logs Replacement

The *Client* owns two hydraulic structures whose stop logs are in need of replacement. The sites are located at Tail Sluice, Saddlebow PE34 3AQ and Denver Complex via Sluice Road, Denver PE38 0AZ

NGR: Tail Sluice - TF6051317296

Head Sluice (also known as A G Wright Sluice) TF5898601153

Currently Tail and Head Sluice share 2 sets of 7 stop logs, which are in a deteriorated state with significant corrosion due to weathering These stop logs are currently stored at the Denver Complex (TF5903101136) whilst construction *works* are undertaken at Tail Sluice The stop logs are usually stored at Tail Sluice

The *Contractor* is required to:

- Carry out a thorough investigation to establish the condition of the guide rails for each of the 7 bays at Tail Sluice and 3 bays at AG Wright Sluice The survey shall confirm the condition of the guide rails and of the concrete apron upon which the stop logs rest and will provide an indication of the