

## ANNEX II: TERMS OF REFERENCE

<b>1. BACKGROUND INFORMATION</b>	<b>2</b>
1.1. Partner country	2
1.2. Contracting Authority	2
1.3. Country background	2
1.4. Current situation in the sector	2
1.5. Related programmes and other donor activities	6
<b>2. OBJECTIVE, PURPOSE &amp; EXPECTED RESULTS</b>	<b>6</b>
2.1. Overall objective	6
2.2. Purpose	<b>Error! Bookmark not defined.</b>
2.3. Results to be achieved by the Contractor	6
<b>3. ASSUMPTIONS &amp; RISKS</b>	<b>6</b>
3.1. Assumptions underlying the project	6
3.2. Risks	6
<b>4. SCOPE OF THE WORK</b>	<b>7</b>
4.1. General	7
4.2. Specific work	8
4.3. Project management	15
<b>5. LOGISTICS AND TIMING</b>	<b>16</b>
5.1. Location	16
5.2. Start date & period of implementation	16
<b>6. REQUIREMENTS</b>	<b>16</b>
6.1. Personnel	16
6.2. Office accommodation	18
6.3. Facilities to be provided by the Contractor	18
6.4. Equipment	18
6.5. Incidental expenditure	18
6.6. Lump sums	19
6.7. Expenditure verification	19
<b>7. REPORTS</b>	<b>19</b>
7.1. Reporting requirements	19
7.2. Submission & approval of reports	21
<b>8. MONITORING AND EVALUATION</b>	<b>21</b>
8.1. Definition of indicators	21
8.2. Special requirements	21

# 1. BACKGROUND INFORMATION

## 1.1 Partner country

Jamaica

## 1.2 Contracting authority

Planning Institute of Jamaica

## 1.3 Country background

Jamaica is highly vulnerable to climate change impacts, and faces direct threats because of its geographical location. All projections indicate that Jamaica will experience an increase in the scale and impact of extreme weather events such as flood rains and droughts, and an increase in the intensity of hurricanes. Coastal areas are likely to see increasingly negative impacts caused by storm surges, sea level rise and saline intrusion that have been exacerbated by climate change.

Jamaica's environment is characterized by a high degree of biodiversity, including a variety of flora and fauna and ecosystem types, which they inhabit and on which communities rely for social and economic benefits. This diversity of ecosystems, climate and terrain in Jamaica is manifested in a high level of endemism. Approximately one third of the estimated 3,304 species of vascular plants occurring in Jamaica are endemic. There is also very high level of endemism in several vertebrate and invertebrate taxa as well as bird species with 36 restricted-range species that define the Endemic Bird Areas, and 30 breeding species confined to Jamaica.

The environmental issues, within watersheds and coastal areas include (among other) the improper disposal of waste such as plastic packaging material (for example polystyrene), as well as sedimentation in the marine and freshwater environment which negatively affect the economic, social and cultural resources within the associated communities.

The livelihoods of many communities particularly in degraded and highly exposed areas are threatened by the impacts of climate change. There is increasing encroachment on the coastal ecosystems from expanding physical developments; the resultant/associated coastal and marine pollution threatens coastal habitats and their species as well as the ecological services provided.

## 1.4 Current situation in the sector

### 1.4.1 A Jamaican Path from Hills to Ocean

The **purpose** of the Hills to Ocean project is to: (a) reduce the vulnerability of the Jamaican ecosystems from the hills to the ocean in accordance with the guiding principles of Integrated and Sustainable Landscape Management; and, (b) strengthen the resilience of communities within the targeted watersheds against the adverse effects of climate change through Integrated and Sustainable Landscape Management.

The **Expected Results** are:

1. Integrated and Sustainable Landscape Management Programmes implemented in degraded Watershed Management Units (WMUs).
2. Integrated and Sustainable Coastal Management Programmes implemented in degraded wetlands and seagrass beds.
3. Knowledge and public awareness of Integrated and Sustainable Landscape Management increased.

The **Expected Outputs** to achieve each of the **Expected Results** listed in the previous section are:

**Expected Result (1)** - Integrated and Sustainable Landscape Management Programmes implemented in degraded Watershed Management Units (WMUs)

**Output 1.1** Rapid Ecological Assessment (REAs) of the Wag Water, Rio Nuevo & Rio Bueno/White River WMUs conducted to establish baseline data and to match resources to identified needs.

**Output 1.2** Integrated and Sustainable Landscape Management/Climate Change Adaptation interventions implemented in the Wag Water, Rio Nuevo & Rio Bueno/White River WMUs.

**Output 1.3** Enhanced food security and sustainable livelihood promoted at the community level.

**Expected Result (2)** - Integrated and Sustainable Coastal Management Programmes implemented

**Output 2.1** Wetland restoration and preservation in Falmouth (Trelawny) and Mason River Protected Area (Clarendon/St. Ann).

**Output 2.2** The health and distribution of seagrass beds in Hellshire Bay \ Half Moon Bay – Portland Bight Protected Area (St. Catherine/Clarendon) and the Ocho Rios Marine Park Protected Area (St. Ann) ascertained and mapped.

**Output 2.3** Comprehensive multi-sensor early warning and monitoring system (smart buoy technology) developed.

**Output 2.4** Underwater drone, GPS Units and data-loggers acquired.

**Expected Result (3)** – Knowledge and Public Awareness of Integrated and Sustainable Landscape Management increased

**Output 3.1** Increase the knowledge and competence of community members and technical staff interacting with the WMUs.

**Output 3.2** RADA and NEPA staff trained in applications/software & equipment

**Output 3.3** Watershed Management Improved

**Output 3.4** Effective Communication and Visibility actions delivered

**Expected Result (4)** - Efficient and Effective Project Management, Monitoring and Evaluation delivered

**Output 4.1** Efficient and effective project management delivered

**Output 4.2** Efficient and effective project monitoring and evaluation delivered

**Output** Effective Communication and Visibility actions delivered

#### **1.4.2 Public Policy Framework**

The Hills to ocean project supports Goal 4 of Vision 2030 Jamaica - National Development Plan - 'Jamaica has a Healthy Natural Environment', particularly Outcomes 13: Sustainable Management & Use of Environmental & Natural Resources and Outcome 14: Hazard Risk Reduction & Adaptation to Climate Change.

The project is also in sync with several policies, strategies and plans of the Government of Jamaica (GOJ), including the Climate Change Policy Framework for Jamaica (2015); National Strategy and Action Plan on Biological Diversity in Jamaica (2016–2021); National Policy on Poverty and National Poverty Reduction Programme; Fisheries Act (2018); Disaster Risk Management Act, (2015); Food and Nutrition Security Policy; Forest Policy of Jamaica (2017), the National Forest Management & Conservation Plan (2016 – 2026); and, the Public Gardens Regulation Act (2008). A Jamaican Path from Hills to Ocean is consistent with the overall thrust of the European Union (EU) funded Global Climate Change Alliance Plus (GCCA+) towards increasing resilience in small island developing states with regard to climate related stresses and shocks.

### **1.4.3 Institutional Framework**

#### **a. Ministry of Agriculture and Fisheries (MoAF)**

MoAF has the responsibility of driving the integration of the production of primary agricultural produce along all the stages of the supply chain through to value added and facilitating full commercialization of outputs of the agriculture, manufacturing, and service sectors.

#### **b. Rural Agricultural Development Authority (RADA)**

RADA is a statutory body under MoAF and is Jamaica's chief agricultural extension and rural development agency. The Authority's vision is to become the leader in the drive towards achieving national economic growth and stability through agricultural development. Its mission is promoting the development of agriculture in Jamaica, as the main engine of economic growth in rural communities, through an efficient, modern and sustainable extension service which will enhance the national economy and improve the quality of life of rural farm families.

RADA will implement Component 1 - Integrated and Sustainable Landscape Management Programmes with the exception of Component 1.1 Rapid Ecological Assessment (to be implemented by NEPA) and Component 1.2.3 Restoration, rehabilitation and climate proofing of Castleton Botanical Gardens, St Mary (to be implemented by Public Gardens Divisions, MoAF). RADA will also implement Component 3.1 - Increase the knowledge and competence of community members and technical staff interacting with the Watershed Management Units.

#### **c. Ministry of Economic Growth and Job Creation (MEGJC)**

MEGJC is charged with drafting the blueprint to drive economic growth and sustainable development in Jamaica. The Ministry has responsibility for four critical portfolio areas: land, investment, water and wastewater and bioengineering and structural works.

#### **d. National Environment and Planning Agency (NEPA)**

NEPA is an Agency of MEGJC and executes the following the technical (functional) and administrative mandate: Conservation & Protection (Natural Resources Management); Environmental Management; Spatial Planning; Compliance & Enforcement; Applications Management; Public Education; Policy and Research; and, Legal Services & Standards Management. The mission of the NEPA is to promote sustainable development by ensuring protection of the environment and orderly development in Jamaica, through highly motivated staff performing at the highest standards with a vision that Jamaica's natural resources are to be used in a sustainable way and that there is a broad understanding of environment, planning and development issues, with extensive participation amongst citizens and a high level of compliance with relevant legislation. NEPA will implement Component 1.1. Rapid Ecological Assessment; Component 2 – Integrated and Sustainable Coastal Management Programmes; Component 3.2 Staff training in applications/software & equipment and Component 3.3 Establishment of a Watershed Improvement Tracking System.

#### **e. Planning Institute of Jamaica (PIOJ)**

The PIOJ is an autonomous agency of the Ministry of Finance and the Public Service (MoFPS) established specifically to strengthen the planning capability of the Government. The PIOJ is the

foremost planning agency of the government that seeks to initiate and coordinate the development of policies, plans and programmes for the sustainable development of Jamaica.

**i. Sustainable Development and Regional Planning Division (SDRPD)**

The Sustainable Development and Regional Planning Division (PIOJ), exists to support Jamaica's drive towards a more sustainable future. The work of the Division is closely related to the goals and targets of various national, regional and international sustainable development policies, strategies and agreements such as Vision 2030 Jamaica - National Development Plan, the UN Sustainable Development Goals, the SAMOA Pathway and the Paris Agreement. Internally, the Division seeks to integrate Sustainable Development principles into development decision-making by liaising with the other Divisions within the Institute. Externally, the Division supports the efforts of Ministries, Departments and Agencies to implement Government's policies towards sustainable development. Operationally, this means providing technical advice on various sustainable development issues; assisting with the co-ordination of policy; programme and project design and implementation; and monitoring.

**ii. External Cooperation Management Division (ECMD)**

The **ECMD** (PIOJ) is the interlocutor between International Development Partners (IDPs) and Ministries, Department and Agencies of the Government of Jamaica and ensures the alignment of Official Development Assistance with the strategic priorities of the Government of Jamaica as articulated in the Vision 2030 Jamaica – National Development Plan as well as the Medium-Term Socio-Economic Policy Framework (MTF) 2018–2021.

The Division identifies financing from the IDPs for public investment projects and budget support programmes, coordinates the respective interventions of the IDPs, provides technical support in project preparation and development, assists in the negotiation of loans and grants with bilateral and multilateral IDPs and monitors the implementation of projects and programmes.

**iii. European Union Unit (EUU)**

The EUU (ECMD, PIOJ) is the Office of the National Authorizing Officer (ONAO) for the Government of Jamaica. In executing the functions of the ONAO, the EUU is responsible for providing technical support to the National Authorising Officer (NAO) (the Minister of Finance and the Public Service) and (the Director General of the PIOJ) the Deputy National Authorizing Officer

**f. Delegation of the European Union**

The European Union (EU) is an invaluable development partner to Jamaica since 1975 and is the largest provider of grant assistance to the country. The cooperation programme with the EU is well aligned with the priorities of the nation as stated in the Vision 2030 Jamaica: National Development Plan and successive Medium-Term Socio-Economic Policy Frameworks.

The EU not only supports the Government of Jamaica, but also offers financial assistance to non-state actors, including non-government and community-based organizations. The EU's development assistance focuses on citizen security, corruption, reform of the justice sector, human rights, gender-based violence and poverty reduction, among other areas.

The Delegation of the European Union to Jamaica, Belize, the Bahamas, Turks and Caicos Islands and Cayman Islands manages the political and economic dialogue with Jamaica, as well as provides technical advice and support in the implementation of the programmes and projects within the cooperation portfolio.

## **1.5 Related programmes and other donor activities**

- a) **Improved Forest Management for Jamaica (EUR16.55 million):** This programme is financed with grant resources from the European Union and is being implemented by the Forestry Department during the period 2018-2022.
- b) **Conserving biodiversity and reducing land degradation using an integrated approach (USD\$6.2 MILLION)** - is financed by the global environment fund, executed by the UNDP and implemented by NEPA in the cockpit country.
- c) **The integrating water, land and ecosystems management in Caribbean small island developing states (IWEco project):** is financed by the Global Environment Facility. IWEco is a five-year project with four components; (1) Development and implementation of integrated targeted innovative, climate-change resilient approaches in Sustainable Land Management (SLM), Integrated Water Resources Management (IWRM) and maintenance of ecosystem services; (2) Strengthening of the SLM, IWRM and ecosystems monitoring, and indicators framework; (3) Strengthening of the policy, legislative and institutional reforms and capacity building for SLM, IWRM and ecosystem services management taking into consideration climate change resilience building and (4) Enhancing knowledge exchange, best practices, replication and stakeholder involvement.

## **2 OBJECTIVES & EXPECTED OUTPUTS**

### **2.1 Overall objective**

The overall objective (Impact) to which this action contributes is: to increase resilience to climate change and reduce poverty through the implementation of an Integrated and Sustainable Landscape Management Methodology in three (3) selected Watershed Management Units.

### **2.2 Specific objective(s)**

The specific objective (Outcome) of this contract is as follows: is to ensure the successful implementation of all bioengineering and structural works and associated services through the effective monitoring and supervision.

### **2.3 Expected outputs to be achieved by the contractor**

The expected outputs of this contract are as follows: to ensure the successful implementation of all bioengineering and structural works and associated services within the approved budget and implementation period in accordance with approved specifications and designs.

## **3 ASSUMPTIONS & RISKS**

### **3.1 Assumptions underlying the project**

- a) All relevant stakeholders on the project are providing timely input and cooperation for the preparation and implementation phases of the intended bioengineering and structural works

- b) The bioengineering and structural works contracts are awarded to technically competent contractors with the necessary financial, human and technical resources that will allow them to complete the foreseen bioengineering and structural works
- c) There is adequate and timely availability of building materials on the local and regional market to facilitate the timely completion of the bioengineering and structural works
- d) The execution of the bioengineering and structural works contracts is free of political interference and extortion
- e) Unfettered access to the bioengineering and structural works being executed
- f) Availability of relevant information on a timely basis
- g) The required permits are granted in a timely manner by the relevant authorities
- h) Engineering drawings, specifications and bill of quantities are sound and technically correct.

### **3.2 Risks**

- a) Failure or delays in the award of the bioengineering and structural works contract(s)
- b) Increasing materials costs and/or lack of competition in the sector leading to high tender prices for the bioengineering and structural bioengineering and structural works
- c) There are administrative delays in the payments of the various contractors
- d) Contractors run into liquidity problems
- e) Contractual disputes leading to delays and increased costs during the construction
- f) Availability of materials and equipment (including spare parts) in the local market
- g) Inordinately high staff turnover.

## **4 SCOPE OF THE WORK**

### **4.1 General**

#### **4.1.1 Project description**

A Rapid Ecological Assessment<sup>1</sup> of the three Watershed Management Units (WMUs) targeted under the project ‘A Jamaican Path from Hills to Ocean’ identified twenty-eight (28) priority areas for integrated sustainable landscape management across the three WMUs. Seventeen (17) priority areas were identified in the Rio Bueno\White River WMU, compared with eight (8) priority areas in the Wag Water WMU and three (3) priority areas in the Rio Nuevo WMU.

These priority areas were determined based on their susceptibility to landslides and flooding, using map algebra techniques. Several indicators were used in the GIS-based multi-criteria approach, including land use, land cover, slope, elevation, topography wetness index, geology, precipitation, drainage density and distance from river. The susceptibility index derived was ranked into four categories, with R1 being the lowest and R4 the highest degree of susceptibility.

Rio Bueno\White River WMU has the lowest percentage of total landslide (56% in the R3 category) and flood risk areas (48% in the R4&R3 categories) exhibiting high degrees of susceptibility, respectively. The Rio Nuevo and Wag Water WMUs have the highest percentage of total landslide risk areas in the high-risk categories, 92% in the R3&R4 categories, respectively.

The REA revealed that the main crop management techniques in the WMUs, were inter-cropping and the planting of drought-resistant crops. Crop rotation and the use of organic and inorganic fertilizers were identified as the main soil management techniques, while rainwater harvesting, trenches and mulching were the main water management techniques utilized.

---

<sup>1</sup> Rapid Ecological Assessment (2022)-UWI (Mona).

Across the three targeted WMUs, farmers' knowledge of most land management practices was generally low, particularly knowledge of agroforestry, and greenhouse technology. Farmers indicated a greater awareness about soil fertility management, climate change and new plant varieties.

#### **4.1.2 Geographical area to be covered**

Wag Water Watershed Management Unit (St. Mary)

Rio Nuevo Watershed Management Unit (St. Mary)

Rio Bueno/White River Watershed Management Unit (St. Ann and Trelawny)

#### **4.1.3 Target groups**

Rural Agricultural Development Authority

Public Gardens Division (Ministry of Agriculture and Fisheries)

National Environment and Planning Agency

Planning Institute of Jamaica

### **4.2 Specific work**

#### **4.2.1 Scope of Civil Works:**

In general, but not limited to, the scope of the Civil Works as outlined below:

##### **4.2.1.1 Works Supervision**

The Contractor is appointed under the respective bioengineering and structural works as the Supervisor's Representative, after a competitive procurement process. The present Terms of Reference, complemented by the following:

(a) General Conditions for Works Contracts financed by the European Union Budget or the European Development Fund;

(b) General Conditions for Service Contracts financed by the European Union Budget or the European Development Fund and

(c) the Delegation of Power from the Supervisor, shall cover the activities of the Supervisor's Representative for supervising the implementation of the works contracts.

The Supervisor's Representative is required to deliver Works Supervision subject to the successful award of the related works contracts for the bioengineering and structural interventions. The Rural Agricultural Development Authority is the Supervisor of the works contract execution, whose role and responsibilities are defined in the General Conditions for Works Contracts financed by the European Union Budget or the European Development Fund.

The Administrative Order to commence the services will be given to the Supervisor's Representative by the Senior Director Strategic Planning Performance and Project Management Directorate **within 3 months** after the signature of the contract by the last party.



Once the Administrative Order instructing the Supervisor's Representative to commence the Supervision Services is issued by RADA, the Supervisor shall immediately inform in writing the Supervisor's Representative indicating which powers under the Conditions of Contract and Technical Specifications are delegated to the contractor as the Supervisor's Representative.

The Supervisor's Representative shall not proceed with the implementation of any activities unless this Delegation of Powers signed by the Supervisor (Senior Director Strategic Planning Performance and Project Management Directorate) is duly received by the Supervisor's Representative.

In the event the Senior Director Strategic Planning Performance and Project Management Directorate wishes to appoint a representative to sign contractual correspondence and orders on his behalf, he will inform beforehand in writing all concerned parties and main stakeholders in the implementation of the bioengineering and structural works contracts of such appointment (i.e. Contracting Authority, respective works contractors, Supervisor's Representative and European Union Delegation).

Upon receipt of the Delegation of Powers from the Supervisor, the Supervisor's Representative shall inform in writing all concerned parties about the names, contact details and specimen signatures of the individuals that are authorised to represent the Contractor in its function of Supervisor's Representative.

The Supervisor's Representative must also comply with and report on compliance with the latest Communication and Visibility Requirements for EU-funded external action, laid down and published by the European Commission.

The Supervisor's Representative shall ensure the capitalisation and sharing of knowledge related to the implementation of the project. It concerns observations of technical and pedagogical value, which are interesting for other professionals, and which do not infringe with the obligations of Article 14 of the general conditions of the contract. For sharing such information, the contractor shall use the capacity4dev.eu web platform.

#### **4.2.1.2 Preliminary services**

Prior the actual commencement of the works, administrative procedures shall be established in coordination with RADA and the respective works contractors for the Preliminary Services as follows:

- i. Health and safety at site;
- ii. Tests on completion;
- iii. Checks for remedial of defects;
- iv. Access requirements in shared entrances and exits, particularly for emergency vehicles;
- v. Establish a disruptive works notice system, including both internal and external notices
- vi. Liaison and communication procedures with other stakeholders, utility providers and local authorities;
- vii. Testing and quality checks;
- viii. Monitor and report on the progress of the works, including frequency/venue of site visits and meetings and the programme of implementation of tasks
- ix. Measurements in accordance with Bills of Quantities;
- x. Verification of interim and final payment certificate submitted for approval of the Supervisor/Contracting Authority;
- xi. Modifications/variations to the works and issuance of administrative orders;
- xii. The monitoring and control of costs to prevent over runs;

- xiii. Process claims in a timely manner in keeping with the requirements;
- xiv. Provisional acceptance procedure;
- xv. Final acceptance procedures.

#### **4.2.1.3. Review of the programmes of implementation of tasks and monitoring of the adherence to these programmes**

The Supervisor's Representative will assess the Programme of Implementation of Tasks ("Works Programme") presented by the respective Works Contractors (Article 17 of the Conditions for Works Contract) and its consistency with that presented in the respective Works Contractors offer.

However, the Supervisor's Representative has, the right to reject a Works Programme that is either felt to be unacceptable, (e.g. it will imply an unacceptable obstruction to the normal operations for the implementation of works) or is unacceptable for other major considerations to be indicated by the Supervisor's Representative with reference to the stipulations of the works contracts.

In parallel, if applicable to the works concerned, the Supervisor's Representative shall ensure that a schedule of services to be rendered by third parties, such as relocation of equipment by public utilities, be submitted by the respective Works Contractors to the Supervisor within a reasonable period of time before the intended works at the Utility's equipment location are scheduled to take place.

The risk of a respective Works Contractors claims, when the responsibility of carrying out public utilities works lies with the relevant services providers, is high. This is because the permanent works to be carried out by the respective Works Contractors could be delayed by the inefficiency in removing/relocating public utilities by the provider. To minimize the risk, it is imperative to organize up to the smallest detail the schedule of services to be rendered by third parties.

The Supervisor's Representative will review the measures proposed by the respective works contractors with regard to the phasing of works to ensure as limited as possible disturbance to the normal operations of the facility and inconvenience to users.

The Supervisor's Representative will review the measures proposed by the respective works contractors with respect to traffic diversions and will ensure as limited as possible disturbance of normal traffic flows. The Supervisor's Representative shall ensure that the measures proposed will in no way compromise the safety of the road users and pedestrians such as patients, visitors, and staff.

Concerning the construction plant, the Supervisor's Representative will carry out a cross-inventory of the plant on site (n° chassis, hours/km of operations, date of purchase, residual value, etc.) and will compare it with that presented in the offer of the respective works contractors in the plant list, in order to assess the respective works contractors capacity to execute the works foreseen in the contract. The conclusions of the assessment will be presented in a special report addressed to the Supervisor.

#### **4.2.1.3 Establishment of a Management Information System**

The Supervisor's Representative shall put in place an adequate Management Information System to inform all parties concerned in a transparent and concise way about the progress of works, the financial situation of the project and possible difficulties encountered.

This Management Information System shall make use as far as considered practical of up-to-date computer facilities. The information processed and archived in the Management Information System shall result in an accurate image of progress made, both in physical and financial terms, making clear distinction between physical progress and payable performance. Formats to be used will be compatible with the formats of the financial documents to be produced for periodical payments. The system shall provide early warning signals (critical path analysis) and information regarding problem areas. "Action by" formats will be used, with reminders if action required is overdue. The information in the Management Information System shall be verified, analyzed and packaged weekly and shall be accessible to all parties concerned.

The Management Information System shall support a digital record of all project data including photographic data. In respect of project data, the system shall include an up-to-date detailed daily Site Diary (which shall be signed daily by the authorized representatives of the Supervisor/Supervisor Representative and respective Works Contractors), which shall record all contractual correspondence and data received; all work stoppages or delays; accidents on site; official visitors to site; observed weather conditions; all activities in progress at any time on site showing the start and end time and full details of the resources employed per activity. It shall also contain detailed records of the respective Works Contractors plant on site and its precise date of arrival or removal from site, its date of manufacture, working condition, the date commissioned to commence work, its availability and utilization. Plant availability figures for each category of plant shall be established and kept up to date.

In respect of photographic data, the Management Information System shall include a formal record of digital progress photographs taken throughout the period of performance of the Contract at set locations and of any construction activity of technical or contractual interest at any time. Each photograph is to be captioned with: reference number, time, date, precise location, subject and points of particular note. These digital data shall be stored together with the captions and shall be made available to the Supervisor on a monthly basis, which will be forwarded to the Contracting Authority.

#### **4.2.1.4 Verification of quality and quantity of works performed and materials used Setting out of the works**

The Supervisor's Representative shall provide to the works contractors the benchmarks and associated information established during the Detailed Design to allow for him/them to proceed with the detailed setting out of works. The Supervisor's Representative shall analyse and compare the results of the detailed survey and setting out of works and will verify their coherence with the construction drawings. The Supervisor's Representative shall ensure that adequate references will be established for the verification of quantities to be brought into the works and will detail in a special report all the technical and financial consequences arising from any change. Note that the GPS surveyors who will provide the coordinates and elevators, will be contracted by the respective work contractors.

The Supervisor's Representative shall ensure that an adequate record of measurements is kept for the purpose of establishing accurate as-built drawings and that a sufficient number of fixed points be consolidated as a permanent reference of coordinates.

### **(a) Quality of materials**

The respective works contractors will test all materials to be used for the works prior to incorporating them into the works. The Supervisor's Representative will verify the quality of these materials in accordance with the Conditions for respective works contracts and the technical specifications in particular. Particular attention shall be paid to possible contamination of materials due to the respective works contractors construction methodologies (e.g. organic pollution and acidity of water for concrete mixes).

The Supervisor's Representative shall ensure that all tests required are carried out and that samples provided for testing truly represent the quality of the materials brought into the works. Types of tests and their frequency will be requested in accordance with the technical specifications of contract and sound engineering practice. A systematic record of all tests performed will be kept in such manner that all test data are accessible for systematic and statistical analysis.

The Supervisor's Representative shall supply staff as necessary to monitor the execution of tests. A financial provision will be made in the works contract for the execution of third-party tests that may be required by the Supervisor's Representative in addition to the tests that shall be done by the respective Works Contractors as required by the works contracts. The additional tests shall be treated as Provisional Sums and will be refunded to the respective Works Contractors, within the limit of the budget provision allocated in this works contract, on the basis of the actual expenditure made supported with an invoice from the testing service provider.

### **(b) Quality of works in all its phases**

The Supervisor's Representative shall verify that all works are carried out in conformity with the specifications. The Supervisor's Representative shall request the respective works contractors to issue written method statements and calculation notes used for each relevant action and shall ensure that the works methods agreed are strictly adhered to.

#### **4.2.1.5 Verification of measurements and issuance of interim payment certificates**

The Supervisor's Representative and the works contractors shall measure jointly all works completed and all materials on site, using mutually agreed methods and frequencies. Wherever the Supervisor's Representative feels fit, additional verifications of the measurements shall be undertaken. Works carried out under "day work" will be checked and recorded daily.

In addition, the Supervisor's Representative and the works contractors shall estimate jointly and on a weekly basis the progress of the works. At the end of each month, these estimates will serve to establish the quantities payable to the respective Works Contractors interim payment certificate for that period.

The Supervisor's Representative shall finalize at regular intervals all measurements taken and agreed with the respective works contractors for well-defined and completed sections of the works and shall prepare accounts for sections of works. The accounts thus created will constitute the basis of the final accounts to be elaborated in draft after the provisional acceptance and in final after the final acceptance. The draft accounts shall be established during the month following provisional acceptance of the works and shall be analyzed in the report on the supervision of works services.

#### **4.2.1.6 Advice on problems arising during the execution of the works**

In the event problems of engineering nature arise during the execution of the works, the Supervisor's Representative will address these problems and suggest solutions. In the event the nature of these problems will justify so, they will be subject to a special report to the Supervisor.

Any instruction to the respective Works Contractors providing a clarification of or a variation to specifications and/or drawings will be given in writing. Administrative Orders shall be issued in respect of variations to specifications and/or drawings. Changes that give rise to additional expenditure and/or an extension of the performance period must be done via an Addendum to the contract, with the formal request coming from the Supervisor's Representative through the Supervisor to the Contracting Authority.

Problems of non-engineering nature shall be brought to the attention of the Supervisor, who will decide whether the Supervisor's representative shall propose solutions to these problems or whether they have to be referred to other competent bodies.

These services are deemed to be part of the responsibilities of the Supervisor's Representative and do not entitle him to any additional fees. In the event that the analysis of these problems requires the involvement of external specialists, an Administrative Order is required, authorizing mobilization of this expertise from the non-key expert's budgetary allocation and fixing its cost.

The Supervisor's Representative shall not be requested to deal with problems related to land acquisition, and right of way.

#### **4.2.1.7 Monitoring of the environment protection**

The Supervisor's Representative shall monitor the implementation of the works in such a way as to ensure that their impact on the environment is strictly limited.

In particular, Supervisor's Representative shall monitor the full respect of the following recommendations for environmental protection during implementation of the works:

- a) Minimize water and soil pollution caused by runoff waters;
- b) Minimize noise, vibration and dust levels;
- c) Locate campsites to an area so as to minimize nuisance and disruption to local fauna and flora and watercourses; provide adequate drainage facilities and treatment of sewage and waste disposals to avoid contamination of farm areas with construction waste or population, dust and ensure that camp areas are dismantled and rehabilitated once construction is completed.

#### **4.2.1.8 Coordination with stakeholders**

Coordination with RADA management representatives is crucial and should be continuous. Thus, the Supervisor's Representative shall ensure that all parties involved in the works will be informed about the developments on site relevant to their respective competences.

#### **4.2.1.9 Analysis of claims submitted by the respective works contractors**

Any claims submitted by the respective works contractors during the course of the works will be analyzed by the Supervisor's Representative and appropriate advice will be given to the Supervisor

on their validity. In the event the nature of the claim will justify so, it will be subject to a special report to the Supervisor (see Appendix III of these TOR). These services are deemed to be part of the responsibilities of the Contractor and do not entitle him to any additional fees. In the event that the analysis of these claims requires the involvement of external specialists, an Administrative Order is required, authorizing mobilization of this expertise from the non-key expert's budgetary allocation and fixing its cost.

#### **4.2.1.10 Other tasks during the execution of works**

The Supervisor's Representative will ensure the compliance by the works contractors to all laws and regulations concerning the labour legislation, and concerning health and safety at the work site, especially on what concerns safety of users. The Supervisor's Representative will report any breach of law or established procedures to the Supervisor.

The Supervisor's Representative shall ensure that all documentation needed by the Supervisor to exercise his/her duties in the time frame required, will be available to him/her in good manner and in good time. In particular the Supervisor's Representative will be responsible for identifying those items requiring the approval of the Supervisor and flag these items clearly for his attention. The Supervisor's Representative will be responsible for informing the works contractors clearly and unambiguously on decisions made by the Supervisor on these and all other issues of relevance to the good execution of the contract.

The Supervisor's Representative shall organize periodic works progress meeting and shall monitor the progress of the works and shall report on these issues to all parties concerned. The Supervisor's Representative shall keep track of all material and expenditure by the respective work's contractors and shall ensure that this information is accessible to the Supervisor. The Supervisor's Representative will also be responsible for all coordination functions within the respective works contracts, including those related to local government issues, utilities, environmental, health and safety considerations. The Supervisor's Representative will be responsible also for all the day-to-day interactions with the works contractors.

The works contractors are responsible for the construction and handing over of the works in accordance with their respective contracts. The Supervisor's Representative will insist that the responsibility for any modifications to the contract, requested by the works contractors, is retained by the works contractors and that the procedures by which he may request these changes are formally presented to and acknowledged by him.

The Supervisor's Representative shall keep a precise record of all modifications to the plans ordered from the works contractors and enter these modifications in electronic format in the relevant drawings. At provisional acceptance of the works the electronic files will be edited by the works contractors and a comprehensive file titled "As built drawings" will be issued to Contracting Authority in electronic format. Two hard copies of the "As built drawings" shall be issued to the Supervisor.

#### **4.2.1.11 Services at provisional and final acceptance of the works**

When the works are nearing substantial completion, the Supervisor's Representative shall inspect the works jointly with the respective works contractors and shall establish lists specifying the remaining works. These works may concern corrections to work already done or completion of outstanding works. The Supervisor's Representative shall call, once these actions have been completed to his satisfaction, a provisional acceptance inspection in which the Supervisor shall be invited to attend at least one week before the intended date of inspection.

The Supervisor's Representative shall prepare a provisional acceptance certificate to be signed by the parties concerned after the provisional acceptance inspection. A list of any defects noted during

the inspection will be appended to the certificate, specifying the time within which these defects have to be corrected.

In addition to the above, the following documentation shall be submitted by the respective works contractors before the Provisional Acceptance Certificate can be issued:

- i. Submission of file records on all equipment and materials supplied and installed on site, as well as “as-built” drawings of all trades, final drawings consistent with contract requirements and work performed
- ii. Submission of Operations and Maintenance Instruction Manuals for installed equipment.

A one-month period is foreseen after the provisional acceptance for the documentation of contractual matters pertaining to the works and completion of the Provisional Acceptance report, and provisional accounts.

Three weeks before the end of the defect liability period, the Supervisor’s Representative will assist the Supervisor in the final acceptance of the works.

The services to be rendered by the Supervisor’s Representative at Final Acceptance of the works will concern without being limited to the following:

- i. An analysis of data made available by the Supervisor regarding the defect liability period
- ii. An inspection of the works jointly with the respective works contractors, in particular items of works that required rectification during the defect liability period
- iii. Assistance in the final acceptance inspection and preparation of the final acceptance certificate
- iv. Preparation of a final acceptance certificate within 30 days following the end of the defects liability period or as soon after any works ordered by the supervisor are completed undertaken during the defects liability period.
- v. Provide support in the review of the final statement of accounts prepared by the various works contactors for approval by the Supervisor

## **5 Project management**

### **4.3.1 Responsible body**

The Deputy Director General, External Cooperation and Project Development (PIOJ) who represents the Contracting Authority or her duly delegated representative, will manage the contract. The Contract Supervisor is the Senior Director, Strategic Planning, Performance and Project Management Directorate (RADA) or his duly delegated representative.

### **4.3.2 Management structure**

The Contracting Authority shall approve any contractual amendment requiring an addendum to the contract. The Contracting Authority shall also approve any payment request of the Contractor and any report as required by Section 7.1 of these Terms of Reference in close collaboration with the Contract Supervisor.

Any Administrative Order under this contract can only be issued by the Contract Supervisor or in his/her absence by the duly delegated representative. The Contract Supervisor or his/her designate shall approve any contractual report, payment request or addendum to this contract before they are transmitted for the Contracting Authority’s approval.

For this contract (Supervision of Works), monthly time sheets shall be prepared by the Supervisor’s Representative and record the daily input and activity worked on by each expert of the team. These

shall be submitted for the approval of the Contract Supervisor, at least one week after the end of the respective month.

#### **4.3.3 Facilities to be provided by the contracting authority and/or other parties**

The respective works contractor(s) will provide a suitable working space on site for the Supervisor's Representative that shall be paid from budgetary provisions made in the works contract documents.

## **LOGISTICS AND TIMING**

### **5.1 Location**

The Operational Base of the Hills to Ocean Project is the Planning Institute of Jamaica, 16 Oxford Road, Kingston 5.

The Supervisor's Representative will be working on structural interventions financed under the project in the following locations:

- Georgia (Trelawny)
- Nonsus, Highgate (St. Mary)
- Castleton Botanical Gardens (St. Mary)
- Mason River Protected Area (St. Ann and Clarendon)
- Winns Morass (Trelawny)

The respective Bills of Quantities are provided in Annex.

### **5.2 Start date & period of implementation**

The intended start date is **April 2, 2024** and the period of implementation of the contract will be **twenty-four (24) months** from this date. Please see Articles 19.1 and 19.2 of the special conditions for the actual start date and period of implementation.

## **6. REQUIREMENTS**

### **6.1 Personnel**

Note that civil servants and other staff of the public administration, of the partner country or of international/regional organisations based in the country, shall only be approved to work as experts if well justified. The justification should be submitted with the tender and shall include information on the added value the expert will bring as well as proof that the expert is seconded or on personal leave.

#### **6.1.1 Key experts**

Key experts have a crucial role in implementing the contract. These terms of reference contain the required key experts' profiles. The tenderer shall submit CVs and statements of exclusivity and availability for the following key experts:

##### **Key expert 1: Team Leader-Civil Engineer**

###### *Qualifications and skills*

- a) A Bachelor's degree in civil engineering or a degree in civil engineering from a course of study accredited by the Professional Engineers Registration Board of Jamaica required for registration purposes
- b) Fluent in English



- c) A valid license to practice in Jamaica (i.e. registered with the Professional Engineers Registration Board of Jamaica)
- d) Proficiency in the use of a Project Management software, as well as a computer aided design software application such as AutoCAD, ArchiCAD or equivalent.

*General professional experience*

- e) At least three (3) years relevant professional post-graduation experience in construction/supervision and works contract administration.

*Specific professional experience*

- f) A minimum of 3 years of relevant work experience in an English-speaking environment is required if English is not the mother tongue
- g) Experience in supervising and coordinating all participants at the different stages of construction of projects, particularly in road, water or Agriculture.
- h) Experience in works execution/supervision with EU/EDF conditions of contract is considered an advantage
- i) Experience in the drafting of technical specifications, bill of quantities and tender dossiers for road, water and Agricultural construction is considered an advantage.

Specific duties

- i. The Civil Engineer/Team Leader will assume overall responsibility for the implementation of this contract and shall organize, direct and motivate his/her team.
- ii. The Civil Engineer/Team Leader will be responsible for planning, executing and directing the implementation of all activities, and controlling the quality of all reports and deliverables issued under this contract.
- iii. For the purpose of the tender preparation, the planned construction activities in Annex should be considered in the Organisation and Methodology and costed in the Budget Breakdown for the input of the Civil Engineer/Team Leader.

All experts must be independent and free from conflicts of interest in the responsibilities they take on.

**6.1.2 Non-key experts**

CVs for non-key experts should not be submitted in the tender but the tenderer will have to demonstrate in their offer that they have access to experts with the required profiles.

The contractor must select and hire other experts as required according to the profiles identified in the organisation & methodology and/or these Terms of Reference. It must clearly indicate the experts' profile so that the applicable daily fee rate in the budget breakdown is clear. All experts must be independent and free from conflicts of interest in the responsibilities they take on.

The selection procedures used by the contractor to select these other experts must be transparent, and must be based on pre-defined criteria, including professional qualifications, absence of conflict of interests, language skills and work experience. The findings of the selection panel must be recorded. The selected experts must be subject to approval by the contracting authority before the start of their implementation of tasks.

**6.1.3 Support staff & backstopping**

The contractor will provide support facilities to their team of experts (back-stopping) during the implementation of the contract.

**Backstopping and support staff costs must be included in the fee rates.**

## 6.2 Office accommodation

Off-site office accommodation of a reasonable standard and of approximately 10 square metres for each expert working on the contract is to be provided by the Supervisor's Representative.

## 6.3 Facilities to be provided by the contractor

The contractor must ensure that experts are adequately supported and equipped. In particular it must ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities. It must also transfer funds as necessary to support their work under the contract and to ensure that its employees are paid regularly and in a timely fashion.

The Supervisor's Representative shall also make available for the exclusive use of his team:

- a) At least one reliable vehicle during the period of implementation for each works contract;
- b) Surveying and testing equipment as required.

**The costs of equipment rental/purchase, stationery, consumables, insurances and vehicular transport, surveying and testing costs are to be covered by the fee rates.**

The Supervisor's Representative is to note that the successful tenderer(s) of the works contracts has to provide the following facilities (stipulated in the works tender document) for the Supervisor's Representative:

- On-site work accommodation including a work table and chair, communications facilities, utility services, equipment/or testing facilities, ancillary support services and facilities, in accordance with the specifications and bills and quantities included in the works tenders.

## 6.4 Equipment

No equipment is to be purchased on behalf of the contracting authority / partner country as part of this service contract or transferred to the contracting authority / partner country at the end of this contract. Any equipment related to this contract that is to be acquired by the partner country must be purchased by means of a separate supply tender procedure.

## 6.5 Incidental expenditure

The provision for incidental expenditure covers ancillary and exceptional eligible expenditure incurred under this contract. It cannot be used for costs that should be covered by the contractor as part of its fee rates, as defined above. Its use is governed by the provisions in the general conditions and the notes in Annex V to the contract. It covers:

- Travel costs and subsistence allowances for missions, outside the normal place of posting, undertaken as part of this contract. If applicable, indicate whether the provision includes costs for environmental measures, for example CO<sub>2</sub> offsetting.

The provision for incidental expenditure for this contract is **zero Jamaica dollars**. This amount must be included unchanged in the budget breakdown.

Per diem are daily subsistence allowances that may be reimbursed for missions foreseen in these terms of reference or approved by the Contracting Authority, carried out by the contractor's authorised experts outside the expert's normal place of posting. The per diem is a maximum fixed flat-rate covering daily subsistence costs. These include accommodation, meals, tips and local travel, including travel to and from the airport. Taxi fares are therefore covered by the per diem. Per diem are payable on the basis of the number of hours spent on the mission. Per diem may only be paid in full or in half (no other fractions are possible). A full per diem shall be paid for each 24-hour period spent on mission. Half of a per diem shall be paid in case of a period of at least 12 hours but less than

24 hours spent on mission. No per diem should be paid for missions of less than 12 hours. Travelling time is to be regarded as part of the mission. Any subsistence allowances to be paid for missions undertaken as part of this contract must not exceed the per diem rates published on the website - [https://international-partnerships.ec.europa.eu/funding/guidelines/managing-project/diem-rates\\_en](https://international-partnerships.ec.europa.eu/funding/guidelines/managing-project/diem-rates_en) - in force at the time of contract signature.

The contracting authority reserves the right to reject payment of per diem for time spent travelling if the most direct route and the most economical fare criteria have not been applied.

Prior authorisation by the contracting authority for the use of the incidental expenditure is not needed.

## 6.6 Lump sums

No lump sums are foreseen in this contract.

## 6.7 Expenditure verification

The provision for expenditure verification covers the fees of the auditor in charge of verifying the expenditure of this contract in order for the contracting authority to check that the invoices submitted are due. The provision for expenditure verification for this contract is **\$900,000 Jamaican dollars.**

This amount must be included unchanged in the budget breakdown. This provision cannot be decreased but can be increased during execution of the contract.

## 7 REPORTS

### 7.1 Reporting requirements

Please see Article 26 of the general conditions. Interim reports must be prepared every six months during the period of implementation of the tasks. The narrative report should be based on the monitoring and evaluation system set up in the contract, using the Logical framework matrix (annex b8g) if included in the contract. In the latter case, a narrative report must inform all the results as measured by the indicators defined in the logical framework. The narrative report must be provided along with the corresponding invoice, the financial report and an expenditure verification report defined in Article 28 of the general conditions. There must be a final report, a final invoice and the financial report accompanied by an expenditure verification report at the end of the period of implementation of the tasks. The draft final report must be submitted at least one month before the end of the period of implementation of the tasks. Note that these interim and final reports are additional to any required in Section 4.2 of these terms of reference.

Each report must consist of a narrative section and a financial section. The financial section must contain details of the time inputs of the experts, incidental expenditure and expenditure verification.

To summarise, in addition to any documents, reports and deliverable specified under the duties and responsibilities of each key expert above, the contractor shall provide the following reports:

DELIVERABLE/REPORT	CONTENT	TIME OF SUBMISSION
Inception report	<p>Analysis of existing situation and work plan for the project.</p> <p>Content to include:</p> <ul style="list-style-type: none"> <li>Works Contract details and particulars (Contracts titles, Names of contractors,</li> </ul>	Within 2 months of the Commencement Order to commence the implementation of tasks

DELIVERABLE/REPORT	CONTENT	TIME OF SUBMISSION
	<p>contract amounts, commencement dates for works and service contracts, periods of implementation, summary description of works)</p> <ul style="list-style-type: none"> <li>• Status of Insurances, Guarantees and Work Programmes required by the works contracts</li> <li>• Status of mobilisation of contractors (site description, equipment, plant, materials, labour and supervisory staff provided to site)</li> <li>• Progress of works against Work Programme</li> <li>• Staff mobilised by the Contractor</li> <li>• Summary of work performed by the Works Contractor during the reporting period</li> <li>• Climatic conditions observed during reporting period</li> <li>• Indicate any difficulty which has hindered, or is likely to hinder, the implementation of the project</li> <li>• Propose ways and means to overcome these difficulties</li> <li>• Site Photographs</li> </ul>	
Report on Periodic Works Progress Meeting	Identify, review/resolve issues on works progress	As required
Monthly Timesheets	Report on daily input and activity of each expert of the Supervisor Representative's Team	Monthly
Special Reports	<p>Assessment of claims presented by works contractors or other issues that may arise. In the first case, the report shall analyse the works contractor's claim and recommend its acceptance/rejection and acceptance/modification/rejection of the requested compensation. If the two parties fail to reach an agreement, the Supervisor's Representative shall build a "claim dossier" to support the administration to prepare and elaborate on its position. This dossier should be ready at the provisional acceptance of works. In the second case the report shall address the identified problems and suggest solutions, including respective duration and cost.</p>	As required
4 – Month Progress Report (Interim Report)	<p>Description of the physical and financial progress of the works including:</p> <ul style="list-style-type: none"> <li>• administrative and financial status of the contracts, variation orders approved/anticipated</li> <li>• financial progress and forecast</li> <li>• progress of works against Work Programme</li> <li>• the resources employed per activity</li> <li>• the equipment and staff on site</li> <li>• work stoppages or delays</li> <li>• issues identified and proposed solutions</li> <li>• weather record</li> <li>• health, safety and environmental issues</li> <li>• minutes of site meetings, site photographs, etc</li> <li>• problems encountered</li> </ul> <p>Report must include planned work for the next 4 months accompanied by an invoice and the expenditure verification report.</p>	This report shall be submitted no later than one month from the end of the reporting period.

DELIVERABLE/REPORT	CONTENT	TIME OF SUBMISSION
Provisional Acceptance Report	Description of the works as completed by the works contractors including: <ul style="list-style-type: none"> <li>• detailed assessment on the quality of works carried out by the works contractor and the synthesis results of the quality control on materials;</li> <li>• An assessment of health, safety and environmental issues</li> <li>• Provisional final accounts</li> <li>• As-Built Drawings in electronic format</li> <li>• Operations and Maintenance Instruction Manual</li> <li>• Provisional Acceptance Certificate</li> </ul>	No later than one month after the provisional acceptance of the works
Final Acceptance Report	<ul style="list-style-type: none"> <li>• An analysis of data made available by the Supervisor regarding the defect liability period;</li> <li>• Supervisor's Representative's findings at final inspection</li> <li>• Final accounts</li> <li>• Final Acceptance Certificate</li> </ul>	12 months after provisional acceptance and no later than one month after the final acceptance of the works
Draft Final Report	Short description of achievements including problems encountered and recommendations.	No later than one month before the end of the implementation period
Final Report	Description of achievements including problems encountered and recommendations; a final invoice and the financial report accompanied by the expenditure verification report.	Within one month of receiving RADA's comments on the Draft Final Report

## 7.2 Submission & approval of reports

Two (2) hard copies and one (1) electronic copy of the reports referred to above must be submitted to the Supervisor (RADA) identified in the contract. One (1) electronic copy of each report shall be forwarded at the same time by the Supervisor's Representative to the Planning Institute of Jamaica.

The reports must be written in English. The Supervisor (RADA) is responsible for approving the reports within **20 calendar days** of submission by the Supervisor's Representative, before submission to the Contracting Authority for payment. The Contracting Authority has **15 calendar days** from submission of the reports with all supporting documents by the Supervisor, to complete payment.

## 8 MONITORING AND EVALUATION

### 8.1 Definition of indicators

The Supervisor's Representative will be monitored constantly by the Supervisor (RADA) and by the Contracting Authority on its capacity and capability to implement the required activities and achieve the expected results of this service contract. In addition, an independent consultant has been contracted to monitor the effective and efficient implementation of the project. External factors which influence the output of the Supervisor's Representative will be taken into consideration.

The Supervisor's Representative will specifically be monitored on the following:

- Meeting the Contract objectives and results
- Capacity on setting achievable project priorities
- Ability on meeting targets and milestones
- Timely submission of deliverables
- Reports quality
- Timely management of contractual obligations.

## **8.2 Special requirements**

The Supervisor's Representative shall perform the services in an independent manner, and shall pay specific attention that third-parties or other stakeholders of the project do not influence his professional judgment, which must be based, to the extent possible, on substantiated facts.

\*\*\*\*\*

**ANNEX**

**PLANNED STRUCTURAL INTERVENTIONS**

**No. 1 Georgia (Trelawny) Pond Catchment Engineer's Estimate**

**Volume of Pond 18367 Cubic Meters (3,384,603 US Gallons)**

Community

-

Descriptions

-

Mobilization & Demobilization

Contractor Supervision

To allow for testing and monitoring of pond to ensure pond is in good condition for a period of six months.

Provide labour and equipment to remove topsoil 86m x 86m x 0.15m thick from pond area and store in spoil heap to be reused along outside slopes of pond to prevent scouring.

To provide labour and equipment, excavate in earth and stone to form rectangular trapezoidal pond. Length at top 64m, Length at bottom 56.8m, Width at top 64m, Width at Bottom 56.8m. Depth of 3.6 meters with 0.6 meter freeboard and 45 degrees sloping sides. Please note excavated material should be stored for reuse to form embankment for sides of pond.

To provide labour and equipment to build compacted Earth Berm around edges of pond making one inside face alignment from bottom to top of pond, rising above ground level.

Supply and Install discharge pipe and valve assembly to extract sediments/silt from sump to include valve key

Provide labour and equipment to excavate Silt Trap 2m x 1m along Inlet Pipe.

To provide labour and material for installing PVC Pipes for Pond to control overflow (150mm dia. Sch 40 PVC Pipe) into embankment.

Provide labour and material to excavate embankment, supply and place into position 250mm Dia. HDPE Pipe to include all fittings to form inlet of sump, complete with saddle 900mm HDPE Pipes and Fittings.

To provide labour and material to place into position 900mm Dia. HDPE Sump Pipe.

To provide labour and materials to construct compacted Earth Sump around 900mm diameter pipe with access to ramp for base to accommodate Fuel Engine Pump.

To provide labour and materials to construct anchor trench for 40 mils liner 0.3m wide and 0.3m depth

To provide labour and materials to apply 40 Mils HDPE Liner completely sealing pond with 150mm Heat Weld Laps ensuring no leaks

Provisional sum for constructing graded stone (150mm - 100m) Filters 1200mm x 1200mm x 1800mm in Inlet Trench



Purchase, Deliver and Install 75mm HDPE mainline from Collection Chamber to Inlet Sump to support Conveyance line.

Supply and Install Multi-Stage Centrifugal Solar Pump with minimum dynamic head of 150 feet to include PV Modules and Racking System around Pond

Provisional Sum for Supplying Five (5) 2000 Gallon Black Tanks, Installing and connecting Multi-Stage Solar Pump system to same and constructing reinforced concrete tank base to support tanks

Supply, transport and Install single sided aluminium sign, size 4 feet by 3 feet, 22 gauge aluminium, 2 inches by 2 inches with aluminium posts to include 5 feet ground clearance

Provisional Sum for Supplying and Installing Six Feet Chain Link Wire Fencing around Pond

**No. 2 Nonsus (St.Mary) Pond Catchment Engineers Estimate**

**Volume of Pond = 5244 m<sup>3</sup> (1385332 US Gal)**

**Description**

1		Mobilization & Demobilization
2		Contractor
3		To allow for testing and monitoring of pond to ensure pond is in good condition for a period of six months.
4		Provide labour and equipment to remove topsoil 80m x 40m x 0.15m thick from pond area and store in spoil heap to be reused along outside slopes of pond to prevent scouring.
5		To provide labour and equipment, excavate in earth and stone to form rectangular trapezoidal pond. Length at top 70m, Length at bottom 63.8m, Width at top 30m, Width at Bottom 23.8m. Depth of 3.1 meters with 0.6 meter freeboard and 45 degrees sloping sides. Please note excavated material should be stored for reuse to form embankment for sides of pond.
6		To provide labour and equipment to build compacted Earth Berm around edges of pond making one inside face alignment from bottom to top of pond, rising above ground level.

7	Supply and Install discharge pipe and valve assembly to extract sediments/silt from sump to include valve key
8	Provide labour and equipment to excavate Silt Trap 2m x 1m along Inlet Pipe.
9	To provide labour and material for installing PVC Pipes for Pond to control overflow (150mm dia. Sch 40 PVC Pipe) into embankment.
10	Provide labour and material to excavate embankment, supply and place into position 250mm Dia. HDPE Pipe to include all fittings to form inlet of sump, complete with saddle 900mm HDPE Pipes and Fittings.
11	To provide labour and material to place into position 900mm Dia. HDPE Sump Pipe.
12	To provide labour and materials to construct compacted Earth Sump around 900mm diameter pipe with access to ramp for base to accommodate Fuel Engine Pump.
13	To provide labour and materials to construct anchor trench for 40 mils liner 0.3m wide by 0.3m depth
14	To provide labour and materials to apply 40 Mils HDPE Liner completely sealing pond with 150mm Heat Weld Laps ensuring no leaks

15		Provisional sum for constructing graded stone (150mm - 100m) Filters 1200mm x 1200mm x 1800mm in Inlet Trench
16		Purchase, Deliver and Install 75mm HDPE mainline from Collection Chamber to Inlet Sump to support Conveyance line.
17		Supply and Install Multi-Stage Centrifugal Solar Pump with minimum dynamic head of 150 feet to include PV Modules and Racking System around Pond
18		Provisional Sum for Supplying Five (5) 2000 Gallon Black Tanks, Installing/connecting same to Multi-Stage Solar Pump and constructing reinforced concrete tank base to support tanks
19		Supply, transport and Install single sided aluminium sign, size 4 feet by 3 feet, 22 gauge aluminium, 2 inches by 2 inches with aluminium posts to include 5 feet ground clearance
20		Provisional Sum for Supplying and Installing Six Feet Chain Link Fencing around Pond
		Volume of Pond = 5244 m <sup>3</sup> (1385332 US Gal)

### No. 3 Structural Works at Castleton (Gabion) – Wagwater River

#### Description

Itm	Descriptions	Qty	Unit
-	-	-	-
	<b><u>Gabion Wall</u></b>		
2	Gabion wall comprising of 3m width x 5m height x 60m length gabions packed with 120mm - 150mm rubble stone. Frame, lace and place stones in position and bind, including all wire works connecting to adjacent bands, excavation to form ditch, disposal of excavated material etc.	900	m <sup>3</sup>
	<b><u>Reno Mattress</u></b>		
3	Reno Mattress for a stream flow section of 15.24m in width x 60.96m in length comprising of galvanized wire mesh and rubble stones to form mattress in river bed. Frame, lace and place stones in position and bind, including all wire works connecting to adjacent bands, excavation to form ditch, disposal of excvated material	929	m <sup>2</sup>
	<b><u>Geotextile Filter Fabric</u></b>		
4	Geotextile filter fabric placed in position underneath gabion walls at width of 1.5m and behind gabion walls at a height of 5m and length equivalent to 60m	390	m <sup>2</sup>
	<b><u>Boulder Packing</u></b>		
5	Boulder packing placed into width of stream i.e 15.24m and height 1.8m to a length of 60m as directed by Engineer	54	m <sup>3</sup>

**No. 4 Repair of Five Gazebos – Castleton Botanical Gardens (St. Mary)**

Item	Description	Qty.	Unit
<b>1</b>	<b><u>Preliminaries</u></b>		
A	Plant and Small Tools	1.00	sum
B	Remove Rubbish and Debris	1.00	sum
C	Foreman on Site	1.00	sum
<b>2</b>	<b><u>Roof Repairs to Gazebos</u></b>		
A	To supply and install 50mm x 200mm Ridge Board	6.00	m
B	To supply and install 50mm x 150 Rafters	34.00	m
C	- To supply and install 25mm x 75mm Lath	27.00	m
D	To supply and install cedar shingles	30.00	m <sup>2</sup>

<b>E</b>	To supply and install Fascia Board	22.00	m
<b>F</b>	To supply and install MS Twisted Hurricane Strap to Rafter ends	18.00	no.
<b>3</b>	<b><u>Frame</u></b>		
	-		
<b>A</b>	To supply and install 100 mm x 100 mm wooden post	30.00	m
<b>B</b>	To supply and install 50mm x 100 mm railing	45.00	m
<b>4</b>	<b><u>Painting</u></b>		
	-		
	<u>Prepare, prime and apply one coat prime and two coats oil paint to the following:</u>		
<b>A</b>	Fascia board	22.00	m
<b>B</b>	Railing	45.00	m
<b>C</b>	Wooden post	30.00	m
<b>D</b>	Ridge board	6.00	m

<b>E</b>	Rafters	34.00	m
<b>F</b>	Lath	27.00	m
	<b><u>Electrical Works</u></b>		
<b>5</b>	Include the provisional sum of One Hundred Thousand Dollars (\$100,000.00) to be used for any electrical works. The sum will only be used in part or full if necessary and as directed by the project manager.	1.00	Sum
	<b><u>Carpentry Works</u></b>		
<b>6</b>	Include the provisional sum of One Hundred Thousand Dollars (\$100,000.00) to be used for additional carpentry works. The sum will only be used in part or full if necessary and as directed by the project manager.	1.00	Sum
	<b><u>Guttering</u></b>		
<b>7</b>	Include the provisional sum of Two Hundred and Fifty Thousand Dollars (\$250,000.00) to be used for the installation of alluminum guttering (white) to gazebos as directed by the Project Manager.	1.00	Sum
	<b><u>Contingency Sum</u></b>		



8	Include the provisional sum of Three Hundred Thousand Dollars (\$300,000.00) to be used as a contingency. The sum will only be used in part or full if necessary and as directed by the project manager.	1.00	Sum
<b>Carried to Summary</b>			

**No. 5 Repair of Two Walkways - Castleton Botanical Gardens (St. Mary)**

Item	Description	Qty	Unit
1	<p><b><u>PRELIMINARIES</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor must carefully read the Clauses and stipulations contained therein and he shall allow hereafter for all costs and charges he may require in complying with any Clauses.</p> <p>All non measurable and other costs specifically so listed and incurred by the contractor to comply with the conditions of contract unpriced, shall be deemed to be included in rates contained elsewhere in the Bill of Quantities.</p> <p><b>SAMPLES AND TESTING</b></p> <p>Ensure that all required testing of works are done.</p>		

2	<p><b>CONTRACTOR'S SUPERVISION</b></p> <p>Provide adequate and suitable supervision to carry out the works in accordance with the schedule and specifications given.</p>		
3	<p><b>INSURANCE -</b></p> <p>Injury to person &amp; property</p> <p>All in accordance with the Special Conditions of Contract Article 16.1 (a) paragraph 2 and Article 16.1 (b) paragraph 2</p>		
<i>Carried to Collection</i>			
Item	Description	Qty	Unit

**PRELIMINARIES CONT'D**

4 **WATER**

Allow for providing water for the whole of the works including removal of all temporary installations at completions or when directed and making good all work disturbed.

5 **TEMPORARY LIGHTING AND POWER**

Allow for all temporary lighting and power necessary for the works including all specialists, including clearing away at completion or when directed.

6 **SAFETY MEASURES**

Provide and maintain all measures which under or by virtue of the provision of any enactment or regulation or the working rules of any industry the contractor is required to take for the safety of the work men employed on the site by himself or by sub-contractors.

7 **REMOVAL RUBBISH**

The contractor shall be responsible for keeping the works in a clean and tidy condition. At completion the contractor shall remove all rubbish, plant, surplus materials etc. unless otherwise directed and shall the site in a clean and tidy condition.

Collection

Page 1

Page 2

*Carried to Summary*

Item

*Description*

Qty

Unit

	<i>Ramp</i>		
A	<i>Allow for the excavation and striping of site.</i>		Item
	<i>To provide labour and material to construct ramp of 1:3 slope inclusive of all reinforcement, formwork and masonry work with broom finish; handrailings to one side finished with two coats oil paint. Size of ramps are as follows:</i>		
B	<i>1.80m wide x 4.00m long</i>	4.00	m
C	<i>1.80m wide x 106.50m long</i>	106.50	m

**National Environmental Planning Agency**

**Engineer's Estimate and Bill of Quantities**

**Winns Morass Property Fencing - Falmouth, Trelawny**

**BILL NO. 1**

ITEM	DESCRIPTION	UNIT	QTY
	<b>CONCRETE FENCE POST</b>		
	<b>Site Clearance</b> Cut and remove all vegetable matter from along fence perimeter and cart away all subsequent debris off-site.	m^2	1500
	<b>Excavation</b> Excavate for terminal posts, 600mm deep in earth and cast in concrete (1:3:6)- footing with mass concrete base 300mm x 300mm with 600mm high cement and sand triangular coping. (consider deeper footing for bog area)	1,000.00 poles	1,000.00
	<b>Stirrup Reinforcement</b> 10mm Grade 400 reinforcement steel to be used as stirrups to secure the vertical reinforcement (0.375m length each) (6 stirrup per column) 1 length of 9m long steel for 10mm equal 7.1kg per bar (1 Ton equal 1000kg)	Ton	1.80

-	1 ton equal 140 bars apx. (24 stirrups from 1 bar) (6000 stirrups for 1000 poles)		
-	(250 bars needed 6000 stirrups)		
-			
-	<b>Vertical Reinforcement</b>		
-	10mm Grade 400 reinforcement steel used as vertical bars in the 2.4m long	Ton	3.20
-	post (2.275m bar length each) (4 vertical bar per column) (4 bar in 9m long)		
-	1 length of 9m long steel for 10mm equal 7.1kg per bar (1 Ton equal 1000kg)		
-	1 ton equal 140 bars apx. (4000 vertical bars for 1000 poles)		
-	(445 bars needed 4000 vertical bars)		
-			
-	<b>Formwork Material</b>		
-	Form Ply to cast concrete and steel reinforcement (4x8x15mm) (60 /pallet)	120	60
-	(8ft x 4ft) (6 pieces per sheet of ply) (1 ply sheet formwork for 2 pole) (120)	poles	
-	(Form Ply to be used to cast all poles approximately 8 times from 1 set of form)		
-			
-	<b>Carib Plus Cement bag</b> 94lb (approx. 1 bag of cement to 1 pole)		1,000.00
-			
-	<b>Gravel</b> material for concrete mixture		
-			



-	<b>Sand</b> material for concrete mixture		
-			
-	<b>Barb wire</b>		
-	15.5 Guage - 825 feet Roll (251 meter)		36
-	6 strands of encased barbwire secured horizontally at 250mm (10") apart.		
-	1.8 meter (6ft) high barbwire concrete fencing		
-	consisting of 2.4 meter (8') high concrete posts planted 0.6m (2ft) deep		
-	barbwire secured horizontally at 250mm (10") apart.		
-			
-	PVC pipe spacers in concrete post formwork		
-			
ITEM	DESCRIPTION	UNIT	QTY
-	<b>Mobilization</b>		
-	Allow for Mobilisation of equipment, machinery and		
-	workforce prior to the construction period.		
-			
-	<b>Site Facilities</b>		
-	Allow for the setting-up, equipping and maintenance of Hoarding,		
-	Containers,		
-	Storage Shed and leveled base platform prepared for concrete casting		
-			
-	<b>Safety Measures</b>		

-	provide and maintain all measure which under or by virtue of the		
-	provision of any enachment or regulation or working rules of any		
-	industry the contractor is required to take for the safety of the work		
-	men employed on the site by himself or by sub-contractors.		
-			
-	<b>Waste Disposal</b>		
-	To take down old chain link fence and cart to municipal dump along with		
-	othet garbage to be disposed. Must show reciept from approved dumping		
-	facility		
-			
-	<b>Labour</b>		
-	Labour cost to install fence (hourly rate @ \$500/hr) (approximately 5		
-	months)		800.00
-			
-			
	<b>PRELIMINARIES Carried to Collection</b>		

Pg # 1

-			
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>
	<b><u>GENERAL SUMMARY</u></b>		

1

-

-

2

-

-

3

-

-

**PRELIMINARIES**

**CONTINGENCY**

**GCT**

**TOTAL**

**N.B. Contingency is to be used in the event of any unforeseen additional works deemed necessary and expanded in whole or part as directed by the project manager / engineer**

**National Environmental Planning Agency**

**Engineer's Estimate and Bill of Quantities**

**Winns Morass Property Fencing - Falmouth, Trelawny**

**BILL NO. 1**

ITEM	DESCRIPTION	UNIT	QTY
	<b>CONCRETE FENCE POST</b>		
	<b>Site Clearance</b> Cut and remove all vegetable matter from along fence perimeter and cart away all subsequent debris off-site.	m^2	1500
	<b>Excavation</b> Excavate for terminal posts, 600mm deep in earth and cast in concrete (1:3:6)- footing with mass concrete base 300mm x 300mm with 600mm high cement and sand triangular coping. (consider deeper footing for bog area)	1,000.00 poles	1,000.00
	<b>Stirrup Reinforcement</b> 10mm Grade 400 reinforcement steel to be used as stirrups to secure the vertical reinforcement (0.375m length each) (6 stirrup per column) 1 length of 9m long steel for 10mm equal 7.1kg per bar (1 Ton equal 1000kg)	Ton	1.80

-	1 ton equal 140 bars apx. (24 stirrups from 1 bar) (6000 stirrups for 1000 poles)		
-	(250 bars needed 6000 stirrups)		
-			
-	<b>Vertical Reinforcement</b>		
-	10mm Grade 400 reinforcement steel used as vertical bars in the 2.4m long	Ton	3.20
-	post (2.275m bar length each) (4 vertical bar per column) (4 bar in 9m long)		
-	1 length of 9m long steel for 10mm equal 7.1kg per bar (1 Ton equal 1000kg)		
-	1 ton equal 140 bars apx. (4000 vertical bars for 1000 poles)		
-	(445 bars needed 4000 vertical bars)		
-			
-	<b>Formwork Material</b>		
-	Form Ply to cast concrete and steel reinforcement (4x8x15mm) (60 /pallet)	120	60
-	(8ft x 4ft) (6 pieces per sheet of ply) (1 ply sheet formwork for 2 pole) (120)	poles	
-	(Form Ply to be used to cast all poles approximately 8 times from 1 set of form)		
-			
-	<b>Carib Plus Cement bag</b> 94lb (approx. 1 bag of cement to 1 pole)		1,000.00
-			
-	<b>Gravel</b> material for concrete mixture		
-			

-	<b>Sand</b> material for concrete mixture		
-			
-	<b>Barb wire</b>		
-	15.5 Guage - 825 feet Roll (251 meter)		36
-	6 strands of encased barbwire secured horizontally at 250mm (10") apart.		
-	1.8 meter (6ft) high barbwire concrete fencing		
-	consisting of 2.4 meter (8') high concrete posts planted 0.6m (2ft) deep		
-	barbwire secured horizontally at 250mm (10") apart.		
-			
-	PVC pipe spacers in concrete post formwork		
-			
ITEM	DESCRIPTION	UNIT	QTY
-	<b>Mobilization</b>		
-	Allow for Mobilisation of equipment, machinery and		
-	workforce prior to the construction period.		
-			
-	<b>Site Facilities</b>		
-	Allow for the setting-up, equipping and maintenance of Hoarding,		
-	Containers,		
-	Storage Shed and leveled base platform prepared for concrete casting		
-			
-	<b>Safety Measures</b>		

-	provide and maintain all measure which under or by virtue of the		
-	provision of any enachment or regulation or working rules of any		
-	industry the contractor is required to take for the safety of the work		
-	men employed on the site by himself or by sub-contractors.		
-			
-	<b>Waste Disposal</b>		
-	To take down old chain link fence and cart to municipal dump along with		
-	othet garbage to be disposed. Must show reciept from approved dumping		
-	facility		
-			
-	<b>Labour</b>		
-	Labour cost to install fence (hourly rate @ \$500/hr) (approximately 5		
-	months)		800.00
-			
-			
	<b>PRELIMINARIES Carried to Collection</b>		

Pg # 1

-			
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>
<b><u>GENERAL SUMMARY</u></b>			

1

-

-

2

-

-

3

-

-

**PRELIMINARIES**

**CONTINGENCY**

**GCT**

**TOTAL**

**N.B. Contingency is to be used in the event of any unforeseen additional works deemed necessary and expanded in whole or part as directed by the project manager / engineer**



**National Environmental Planning Agency**  
**Engineer's Estimate and Bill of Quantities**  
**Mason River Property Fencing - Kellits, Clarendon**

	<b><u>BILL NO. 1</u></b>		
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>
-	<b><u>CHAIN LINK FENCE</u></b>	-	
-	<b>Excavation</b>		
-	Excavate for terminal posts, cast 425mm	Item	396.00
-	deep in concrete (1:3:6)- footing with mass	Total Poles	
-	concrete base 150mm x 150mm with 150mm		
-	high cement and sand triangular coping. (consider deeper footing for bog area)		
-	(0.338 ft^3)		
-	<b>Carib Plus Cement bag 94lb</b>	Item	132.00
-	Gravel material for concrete mixture		
-	Sand material for concrete mixture		
-	<b>Chain Link Fence PVC coated Roll (9 Gauge 6 feet Tall - 50 feet roll (15 meters)</b>	Item	66.00
-	Total perimeter fence considered to be 3300ft {1006m} {1Km} Tubes = (5+1) per chain link roll		

-			
-	<b>Fence Tube</b> 1 5/8 feet dia (16 Gauge - 20 feet length) (6m) (2 post in 1 length) ( <b>Line Post</b> )	item (1/2)	132.00
-	(Fence calculated from the amount of Tube required for 1 Roll of Chain link) (4/6)		
-			
-	<b>Fence Tube</b> 1 5/8 feet dia (16 Gauge - 20 feet length) ( <b>Top Post</b> )	item	164.00
-	(Total perimeter / 1 tube length)		
-			
-	<b>Fence Tube</b> 1 7/8 feet dia (16 Gauge - 20 feet length) (2 post in 1 length) ( <b>Terminal Post</b> )	item (1/2)	66.00
-	(2/6)		
-			
-	Fence <b>Tension Bar</b> 6 feet x 5/8 inch (1 per Terminal Post)	Item	66.00
-			
-	Fence <b>Tension Bands</b> 2 inch (4 per Terminal Post)	Item	264.00
-			
-	Fence <b>Brace Bands</b> 2 inch (2 per terminal post)	Item	132.00
-			
-	Fence <b>Sleeves</b> 1 5/8 inch x 6 inch (2 per Chain link Roll)	Item	132.00
-			
-	Fence <b>Loop Caps</b> 1 5/8 x 1 5/8 inch (1 per Terminal Post)	Item	66.00

-			
-	Fence <b>Rail Ends</b> 1 5/8 inch (1 per Terminal Post)	Item	66.00
-			
-	Fence <b>Galvanized Bolt</b> with nut 1 1/4 x 5/16 inches (6 per Terminal Post)	Item	396.00
-			
-	Fence <b>Barb wire</b> 15.5 Guage - 825 feet Roll	Item (3x)	24.00
-			
-	Fence <b>Razor Blade Wire</b> STD 500MM 825 feet Roll	Item	4.00
-			
-	Fence Aluminium <b>Tie Wires</b> (Binding Wire) 9 guage (1 roll = 50lb) 825 feet Roll	Item	4.00
-			
-	Fence <b>Double Barb Arms</b> 3 Wire (4 per chain link roll)	Item	264.00
-	(Calculated from the amount of arm required for 1 Roll of Chain link)		
-			
-	Aluminium <b>Hog Rings</b> 9 Gauge (per pound) (approximately 100 rings per pound)	Item	66.00
-	(Calculated from the amount of hog rings required for 1 Roll of Chain link)		
-			
-	<b>Chainlink Gate</b>	-	
-	Double Leaf 6m wide x 2.1m high chain-link gates inclusive of all hinges		
-	and locking devices.		

-		
-	<b>Mobilization</b>	
-	Allow for Mobilisation of equipment, machinery and workforce prior to the construction period.	1.00
-		
-	<b>Site Facilities</b>	
-	Allow for the setting-up, equipping and maintenance of Hoarding, Containers, Storage Shed and Sanitization	1.00
-		
-	<b>Waste Disposal</b>	
-	To take down old chain link fence and cart to municipal dump along with other garbage to be disposed. Must show receipt from approved dumping facility	1.00
-		
-	<b>Safety Measures</b>	
-	provide and maintain all measure which under or by virtue of the provision of any enachment or regulation or working rules of any industry the contractor is required to take for the safety of the work men employed on the site by himself or by sub-contractors.	1.00
-		

-	<b>Site Clearance</b>		
-	Cut and remove all vegetable matter from	ft^2	3300
-	along fence and cart away all subsequent debris off-site.		
-			
-	<b>Labour</b>		
-	Labour cost to install fence (hourly rate @ \$650/hr) (approximately 3.5 months)	hr	2376
-			
-	<b>Chainlink Fence Repair</b>		
-	Perform repairs to existing fencing or parts thereof which do not require		
-	complete removal or replacement as directed by client's representative		
-			
<b>ITEM</b>	<b>DESCRIPTION</b>		<b>UNIT</b>
-			
<b>ITEM</b>	<b>DESCRIPTION</b>		<b>UNIT</b>
	<b><u>GENERAL SUMMARY</u></b>	-	
<u>1</u>	<b>PRELIMINARIES</b>		
-			
-			
<u>2</u>			
-			

-  
3  
-  
-

**CONTINGENCY**  
**GCT**  
**TOTAL**

-

**N.B. Contingency is to be used in the event of any unforeseen additional works deemed necessary and expanded in whole or part as directed by the project manager / engineer**