



**ENVIRONMENTAL AND SOCIAL
ASSESSMENT
AND
ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN**
**REHABILITATION OF FORESTRY NURSERY -
PONT CASSE**

Disaster Vulnerability Reduction Project

October 2019

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1.0 BACKGROUND

The Rehabilitation of the Forestry Nursery at Pont Casse is one of the projects under Component Two (2) - Capacity Building and Data Development, Hazard Risk Management and Evaluation of the Disaster Vulnerability Reduction Project (DVRP). This is an existing facility under the Forestry, Wildlife and Parks Division which will be rehabilitated and expanded to provide adequate planting material for intensive forest reforestation/agroforestry/vegetative land stabilisation programmes. The Project Coordination Unit (PCU) of the DVRP is the implementing agency.

This document presents the policy, legal and institutional framework that underpins the development of the Environmental and Social Management Plan, highlighting key provisions of the World Bank Safeguards. It pays particular attention to the Grievance Redress Mechanism, the possibility of a labour influx or importation of labour and promotion of worker's rights, in addition to the environmental considerations.

There are several documents which are relevant to the DVRP and the contractor for construction/rehabilitation of the Forestry Nurseries is expected to be familiar with and to comply with the requirements within as necessary. These are:

- Grievance Redress Mechanism
- Resettlement Policy Framework
- Environmental Management Framework
- Environmental and Social Impact Assessment - Forest Nursery (this document contained herein)
- Environmental and Social Management Plan - Forest Nursery (this document contained herein)

2.0 DESCRIPTION OF WORKS

The works are expected to include partial/complete dismantling/demolition of existing structures and retrofitting works. Improvements include rehabilitation of existing support infrastructure including buildings, planting sheds, irrigation, storage sheds and related infrastructure.

Reinforced concrete and hardwood timber construction will be used at the operations and hardening buildings. Roof construction will consist of hardwood timber framed members covered with 24 gauge PVF2 industrial profile sheets and or polyethylene fabric; and reinforced concrete slabs over fuel storage and washroom. Finishing will consist of painting varnishing, floor tiling, wood shake siding, blockwork pointing, etc. External works includes septic tank, soak-away, access road improvement, drainage and site plumbing works. Rainwater harvesting will also be integrated into the improvements.

Potential impacts from the works will be addressed in the Environmental and Social Management Plan (ESMP) contained within this document.

3.0 DESIGN DETAILS (extracted from the Project Design Report)

Site Layout - The layout consists of the following main facilities/features:

- Propagation Building
- Operations Building
- Hardening Building

- Toilet/Washroom Block
- Septic Tanks and Soak Pits
- Access Roads
- Parking Area
- Concrete Platform (loading/offloading of materials)
- Drainage Channels
- Curbs

The site layout was developed by the Architect/Engineer giving due consideration to access around the site and the functional requirements of the facility. Roads have been laid out to provide easy access from one building to the other for supplies, personnel and the public. Roads and parking areas will be finished with a compacted cement stabilised “tarrish” surface course laid on a compacted “tarrish” base course. The access roads will be graded with a cross slope to earthen drains. Erosion protection, including grassing and riprap (stone) has been provided where necessary. A concrete platform has been included adjacent to the propagation area for loading/offloading.

Septic tanks and soak pits are located adjacent to the toilet/washroom block and the Propagation building. The location of these structures ensures that the risk for negatively impacting the environment is kept to a bare minimum and is subject to approval from the Environmental Health Department.

Propagation Building - Preliminary inspection indicated that the structure (floor and walls) of the existing building is in a fair state of repair. However, the building suffered roof damage due to the passage of Hurricane Maria. Consequently, the existing structure will be rehabilitated to improve resiliency to naturally occurring disasters. The floor space has also been redesigned as indicated below. The 1500 square foot (50'x30') structure will comprise the following:

- Training Room and Reception Area (334 sq. ft.)
- Propagation Area (900 sq. ft.)
- Washroom/Shower (42 sq. ft.)
- Chemical Storage Room (57 sq. ft.)
- Locker Room (60 sq. ft.)

Rehabilitation works will include:

- Improving the structural integrity of the building which will render a more resilient structure thereby reducing its vulnerability to natural hazards.
- A new roof structure consisting of translucent roof sheeting in the propagation area and coated corrugated galvanized metal sheeting in the remaining areas supported by timber purlins and trusses. All timber used will be locally produced hardwood by the Forestry Division.
- A suspended ceiling has been designed for the areas not including the Propagation Area consisting of treated plywood on timber ceiling joists.
- The existing external fair face block walls will be clad with wooden shingles for aesthetic reasons. In the Propagation Area the wire mesh will be replaced with vinyl coated (forest green) chain link fence within a timber frame.
- Doors and windows will be timber panel/shutters/ledge and brace.
- The floor surface finish in the propagation area is in a good state of repair, therefore no additional treatment is proposed except probably a sealer/dust proofer.

Operations Building - The existing structure within the proposed location of the Operations Building will be demolished and replaced with a completely new structure with a gross floor area of 1,300 square feet. The building will comprise the following:

- Potting Area (308 sq. ft.)
- Media Preparation and Mixing Area (85 sq. ft.)
- Soil Storage Bay (33 sq. ft.)
- Sand Storage Bay (33 sq. ft.)
- Compost Storage Bay (33 sq. ft.)
- Chainsaw and Tools Storage (68 sq. ft.)
- Chainsaw Repair Area (44 sq. ft.)
- Fuel Storage Room (60 sq. ft.)
- Sawing and Wood Chipping Area (400 sq. ft.)

The main elements of the building have been designed as follows:

- The substructure consists of reinforced concrete foundations and floor. The floor at the western half of the structure is suspended with a crawlspace underneath due to the topography. The remainder of the floor slab is on grade.
- External walls are a combination of reinforced concrete frame and circular timber (walaba) poles with fair face blockwork infill panels and vinyl coated (forest green) chain link fence within timber frames.
- Roof structure consists of coated corrugated metal roof sheeting supported by timber purlins and trusses.
- Doors and windows will be timber panel/shutters/ledge and brace.
- The floor slab finish will be mechanically floated concrete with a sealer/dust proofer.

The fuel storage room will be a fire proof area with a reinforced concrete subceiling and a fire proof metal door. Secondary containment will be provided for fuel storage drums/tanks. Volume of secondary containment will be the volume of fuel stored plus 10 percent.

Hardening Building - This building will be a completely new structure with a gross floor area of 1500 square feet. The building will comprise two hardening areas separated by an elevated water storage tank with a finished washroom/locker room on the lower level. The washroom/locker room has a gross floor area of about 150 sq. ft.

The main elements of the building will be constructed as follows:

- The substructure will consist of reinforced concrete foundations and floor (slab on grade). The existing slab will remain and form part of the floor slab.
- The building will be completely open with no external walls, except for the washroom/locker room.
- Roof structure will consist of coated corrugated metal roof sheeting in one section and mesh fabric in the other, supported by timber purlins and trusses.
- There will be no windows and doors since it will be an open building, except for the washroom/locker room which will be timber panel/shutters/ledge and brace.

- The floor slab finish will be mechanically floated concrete with a sealer/dust proofer. The slab will slope to a drain for power washing purposes. The washroom/locker room floor will be finished with ceramic tiles.

4.0 CLIMATE RESILIENCY

In keeping with the DVRP project objective of reducing vulnerability to natural hazards and climate change impacts in Dominica through investment in resilient infrastructure, the following have been considered in the design:

Materials of Construction - As much as possible, construction materials were selected giving due consideration to:

- Local availability
- Cost effectiveness
- Relatively low recurrent maintenance
- Resistance to natural disasters

The design of structural framing consists of a combination of reinforced concrete, load bearing masonry block walls and hardwood “wallaba” poles and hardwood timber columns. Lumber for the roof structure, windows and doors plus the wooden shingles will be locally produced and supplied by the Forestry Division.

Energy Sources - Renewable energy sources, including solar, wind and hydropower were evaluated giving due consideration to suitability, cost, resilience to natural hazards, among others. However, due to the relatively low power usage anticipated, it would be cost prohibitive and not a viable solution. Consequently, power will continue to be sourced from DOMLEC.

Water Supply - Water supply for the site will be provided via rainwater harvesting. Water will be collected by roof guttering from the two storey Hardening Building and routed to plastic rainwater storage tanks. Water will then be distributed by gravity to the required locations. Rain water from the other structures will be intercepted by guttering and down pipes system and conveyed to natural drainage courses and/or public road drain. This is to minimise as much as possible ponded water within the site.

The existing fire hydrant will be relocated to a strategic point to provide easy access to all structures.

Waste Water and Sewage Disposal - Waste water and sewage disposal will be by means of septic tank(s) and soakpits. These have been designed and located so that there will be minimal risk of negative impacts to the environment.

Climate Resilience - Measures The structures have been designed giving due consideration to the potential natural hazards commonly experienced in Dominica. These hazards include, but not necessarily limited to, the following:

- Earthquakes – seismic activity
- Hurricanes
- Extreme rain events causing flooding

- Landslides

Earthquakes: Dominica is part of the Eastern Caribbean islands arc that is located at a convergent plate boundary between the Caribbean Plate and the subducting Atlantic Plate. Movement on this plate boundary is the cause of seismic activity off the east and south coast of Dominica. As such, Dominica is considered to be located in a medium-high hazard seismic zone. The edge of the Caribbean plate is about 50 miles east of Dominica. The majority of on-land earthquakes experienced are shallow. The types of hazards associated with seismic activity include ground shaking, liquefaction (including flows and lateral spreading), surface faulting, landslides, subsidence, tsunamis and fires. Therefore, structural and geotechnical designs must take cognizance of this. However, the rehabilitation of the Pont Casse facility includes relatively light structures constructed mainly of timber and some reinforced concrete and masonry block walls. Therefore, the peak ground acceleration from a seismic event is likely to exert relatively minimal horizontal loads on the structures. This has been taken into consideration in the design of the reinforced concrete components for the structures.

Hurricanes: These are systems that form off the coast of West Africa and travel across the Atlantic Ocean heading west. In the summer months (dry season) when the waters are warm, this gives energy to the systems to form into Tropical Waves, Storms and sometimes Hurricanes. The hurricane season in Dominica is from June 1st to November 30th. Dominica is located in the middle of Hurricane Alley and is therefore prone to being impacted by hurricanes on a regular basis. The island was devastated by two major hurricanes, David in 1979 and Maria in 2017. Consequently, it is of paramount importance that the buildings are designed and constructed to ensure resilience during a hurricane. The structural elements of the buildings have been designed to resist the forces imposed by wind speeds of 150 mph (70 m/sec.) in accordance with approved Codes of Practice. Particular attention has been given to the roof structures since these are usually the most vulnerable elements.

Floods: Flooding from extreme rain events is unlikely due the location of the facility and the existing topography. Moreover, the design of the storm water management system included drains that intercept surface runoff that discharge into existing natural water courses and drain located alongside the main public road.

Landslides: The location of the site is not prone to landslides given the topography and soil type.

5.0 LEGAL AND REGULATORY FRAMEWORK - RELEVANT LAWS/LEGISLATION

General Context

In Dominica, responsibility for environment and resource management falls under the mandate of various Government Agencies and Statutory Organisations, governed by about 105 pieces of legislation. In the absence of comprehensive legislation, environmental management continues through the legislation that presently exists. Additionally, Dominica is party to several international conventions/protocols and there are several environmental policies and plans which have been developed and/or approved by the Cabinet of Ministers that serve to guide environmental management in Dominica through the development of strategies that aim at mainstreaming climate change into national development.

Recently, post Hurricane Maria the GoCD declared a policy to become the first climate resilient country in the world. In keeping with this a new Ministry was established to focus on climate resilient efforts.

This ministry incorporates several existing departments and is called the Ministry of Environment, Climate Resilience, Disaster Management and Urban Renewal. Almost all of the government departments concerned with the DVRP are now located under this Ministry.

The contractor is expected to comply with all national laws and the World Bank Safeguards.

Key Regulatory Legislations which apply are listed below:

Physical Planning Act (2002) provides inter alia for the orderly and progressive development of land and for the grant of permissions to develop land and for other powers of control over the use of land. This Act details the application and approval process which is executed through the Physical Planning Division of the Physical Planning and Development Authority. The Act states that 'No person shall carry out any development of land except under and in accordance with the terms of a development permission granted in that behalf prior to the commencement of such development.'

It makes provision for the Authority to consult with local authorities where such consultation is desirable in the interests of good planning. Further, 'Unless the Authority otherwise determines, environmental impact assessment shall be required in respect of any application for development permission to which the Second Schedule (Refer to Appendix 2) applies.'

Forestry Act (1959), **Forest and Wildlife Act (1976)**, **National Parks and Protected Areas Act** - provides for the protection of Dominica's biodiversity, National Parks and protected areas system. The act authorizes the Minister to designate Government lands as protected areas for the preservation of natural features and for the conservation of historic sites and landmarks. No person shall deposit any deleterious substance in or near water frequented by fish, shrimps or crabs. No person engaged in land clearing operations shall put any debris into any water.

Water and Sewerage Act (1989) - the water management authority is vested in DOWASO which includes among its functions water conservation and the preservation and protection of catchment areas. Responsibility for catchment areas is shared with the Forestry and Wildlife Division.

Water and Sewerage (Catchment Area) Regulations (1995) - These rules were made under section 5 of the Act. The rules prohibit certain acts in water catchment areas including washing equipment used for applying pesticides and containers which contain or have contained pesticides in any river or stream in the area. Of note is the requirement that there must be no direct discharge of household or industrial waste, sewerage or sludge into any stream or river.

Water Catchment Rules (1995) declares all water catchment to be protected forests and makes it an offense to, among other things, apply or store pesticides, capture or hunt wildlife without a permit a license, build any living space, burn, fell or remove any forest produce, carry out any planting other than reforestation on slopes over 20°, graze livestock, set or cause fires, wash in any stream or river, any equipment or contain that has had contact with pesticides.

Solid Waste Management Act No. 1 (2002) establishes the Solid Waste Management Corporation and vests solid Waste Management facilities in the corporation. It requires the Corporation to develop a National Waste Management Strategy for approval by the Minister after public comment. It sets out requirements for Waste Management licenses and permits. It prohibits the importation of waste and establishes liability and ownership of waste. It outlines requirements for the handling of waste, and

provides for the management of used oil. It also addresses derelict motor vehicles, white goods and other scrap metal.

Pesticides Control Act (Cap. 40:10) provides for the control of the importation, sale, storage and the use of pesticides. It creates a Pesticides Control Board to advise the minister and to carry out provisions of the Act and its Regulations. It gives power of entry to an inspector. The minister may make regulations to effect the provisions of the act. Subsidiary legislation includes the Pesticides Control (Labeling of Pesticides) Regulations and the Pesticides Control (Registration and Licensing) Regulations.

Other national laws relevant to this project include the Employment Safety Act Ch 90:08, the Labour Contracts Act 89:04 and the Social Security Act Chapter 31:01. Contractors are expected to comply with these laws and the associated policies.

6.0 WORLD BANK ENVIRONMENTAL AND SOCIAL SAFEGUARDS POLICIES

In addition to the relevant laws of the GoCD, the project activities are governed by the World Bank Environmental and Social Safeguards Policies, five (5) of which will be applied during the DVRP project implementation. These Safeguards are applied to assure that project funds are engaged in a manner consistent with Bank institutional policies with respect to social and environmental protection and management and that any negative impacts are eliminated or alleviated. The Safeguards which apply include the following:

Environmental Safeguards

OP/BP 4.01 - Environmental Assessment – The DVRP has been classified as Category B and, as such, an environmental assessment (EA) is required. An EA examines the project's potential negative and positive environmental impacts and recommends measures needed to prevent, minimise, mitigate, or compensate for adverse impacts and improve environmental performance.

OP/BP 4.04 - Natural Habitats - This safeguard seeks to support the protection and rehabilitation of natural habitats associated with project activities. This safeguard applies when activities are identified that may significantly affect the quality of natural habitats, which are defined as land or water areas where the biological communities are formed largely by native plant and animal species where human activity has not essentially or heavily modified the area's primary ecological functions.

OP/BP 4.09 - Pest Management - Activities involving the use of pesticides or pest control measures are subject to the application of this safeguard. As a matter of policy, the safeguard promotes the use of appropriate biological or environmental pest control measures such as Integrated Pest Management and seeks to minimize the potential health risks associated with pest management activities. Additionally, the safeguard prohibits the use of internationally banned pesticides and promotes the safe application and applicator training when pesticides are employed.

OP/BP 4.11 - Physical Cultural Resources - This safeguard is designed to avoid/ mitigate adverse impacts on cultural resources from development projects that the World Bank finances. Cultural resources are defined as objects, sites, structures, natural features or landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. They are important as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The loss of such

resources is irreversible, but fortunately, it is often avoidable. Under this project, no known cultural sites would be impacted; however, this safeguard provides a mechanism for ensuring that in the event of 'chance findings', such resources are protected.

Social Safeguards

The Forest Nurseries project is expected to comply with the Social Safeguards Policies of the World Bank which provide guidelines for mitigation or prevention of possible negative social impacts of the project. Contractors employed on World Bank funded projects are expected to comply with the following policies prepared for the general Disaster Vulnerability Reduction Project and the Forestry Nurseries project, specifically, and which can be accessed at the link www.dvrp.gov.dm

- Resettlement Policy Framework
- Grievance Redress Mechanism
- Environmental and Social Impact Assessment

Labour and Working Conditions are expected to comply with the World Bank's Environmental and Social Standard (ESS) #2 from the Environmental and Social Framework (ESF). This standard focuses on Occupational Health and Safety and addresses:

- Hazards in the workplace
- Organization and staffing
- Protective measures for hazardous conditions or substances (such as protective gear, fire control)
- Worker training
- Accident and incident reporting procedures
- Health screening and monitoring where appropriate
- Emergency response procedures
- Remedies for adverse environmental and social impacts

Implementation of plans to address these issues is mandatory.

Labour Influx - Reference must also be made to a possible labour influx to meet the labour requirements of the project, since the adjacent community is sparsely populated. The contractor would most likely need to bring in workers from other communities. Where accommodation for workers is arranged by the employer, this must meet acceptable standards for human habitation, particularly regarding amenities and disposal of solid and human waste.

ESHS in Procurement

The new Procurement Regulations (2016) which includes provisions for Environmental, Social and Health and Safety (ESHS) as part of the requirements are now applied to all relevant sub-projects, including the Forestry Nurseries. These requirements are included within the Bid Document which the Bidder/contractor is expected to comply with. These include:

- Code of Conduct (Appendix I) which includes several documents which the bidder/contractor must provide and/or comply with the stated requirements:-

- Traffic Management Plan
- Health and Safety Management Plan
- Environmental and Social Management Plan
- Grievance Redress Plan
- Project ESHS Policy
- Metrics for Progress Reports (Reporting on ESHS)

7.0 DESCRIPTION OF EXISTING ENVIRONMENT

Geography of the Area

The site is located in the foothills of the Morne Trois Pitons National Park and on the outskirts of the water catchment area in what is considered allocated State Lands for the Forestry, Wildlife and Parks Division. The area is a heavy rainfall area. The topography of the site is gently sloping and can be soggy due to the area being a hardpan area. As such water does not readily percolate into the soil but runs off and forms natural streams (small waterways).

Site Location and Description *(Refer to Appendix II - Photos of Site)*

The site is located in the Parish of St Paul approximately 300 yards Northwards from the Pont Casse Round-about and situated on the compound of the Waitukubuli National Trail Facility (WNTF) and Interpretation Centre. This site which is selected for this project currently has a similar existing nursery facility at this location but is in a severe state of disrepair due to damage sustained during Hurricane Maria. This is the main facility which will be rehabilitated as part of the Forest Nursery Project under the DVRP. It is expected that the inner walls of this building will be demolished. On the site also are two (2) sheds for storing material and drying lumber. These structures will be improved under the project as indicated in the description of the project above.

Vegetation on the site includes some trees planted as plantation type trees. The plantation extends beyond the site boundary and the stock is used mainly to supply hardwoods for the Furniture Cottage industry. Therefore, any trees required to be removed to facilitate construction of the facility will be replanted by the Forestry, Wildlife and Parks Division. Most of the plants present on site are for the purposes of reforestation and are currently growing in potting bags.

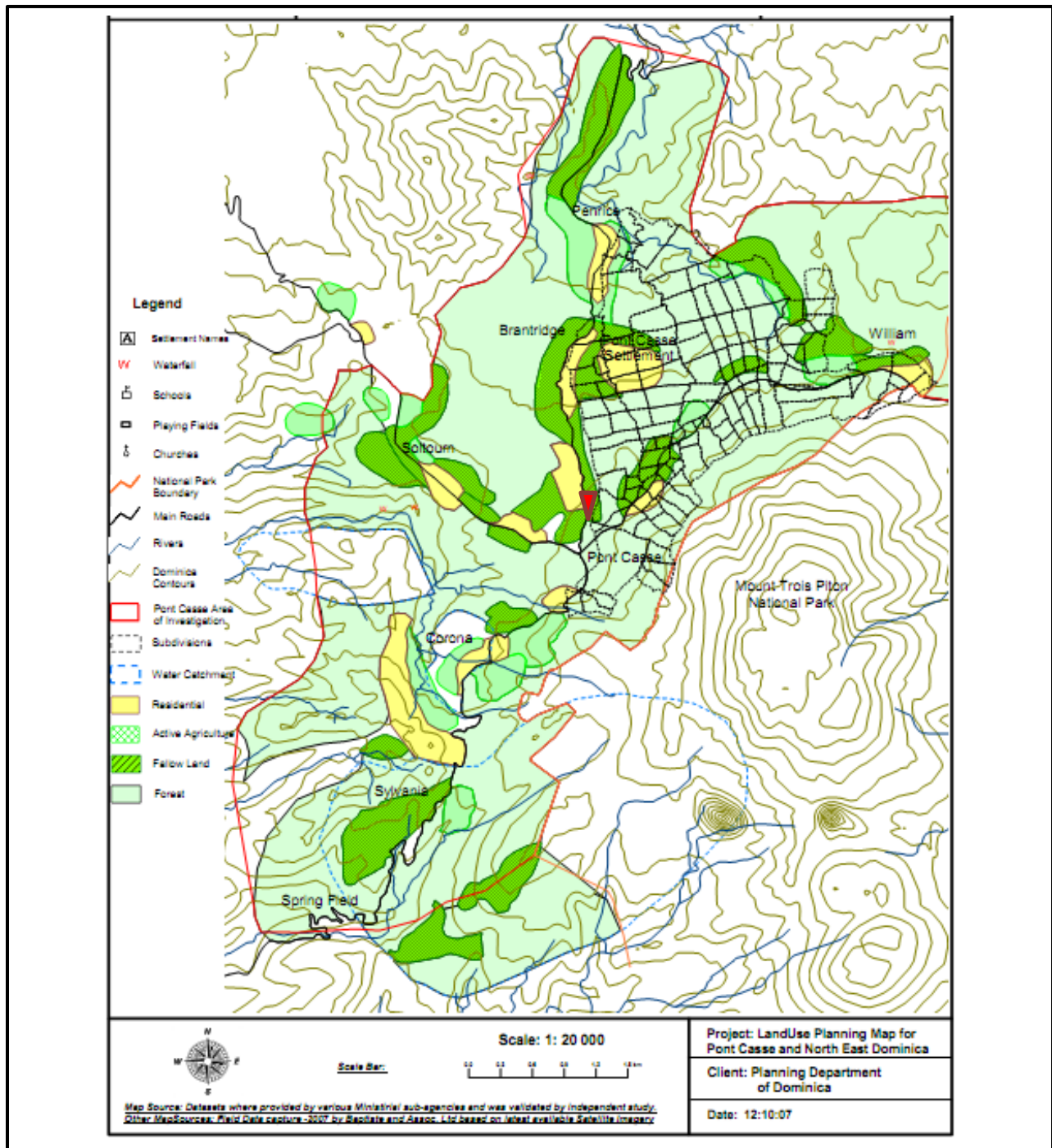
The existing dirt road on the site will remain and be improved with the use of compacted tarrish or concrete. Another small access road made of similar material will be cut to facilitate movement around the compound. The area for this is already clear of most vegetation, except for the mahogany trees noted previously.

A caretaker hut is also located on the compound, but is not expected to be impacted or to impede any works.

A meteorological station is also located on the same compound but will be beyond the construction site boundary.

Just outside of the construction area, located on the same property is the WNTF and Interpretation Centre, through which a section of Segment 5 of the WNT passes. This trail is used by tourists and locals alike and passes behind the construction site. Therefore, the works will not impede access to the trail.

Map showing land-use in vicinity of Forestry Nursery Site (red triangle)



Source: dominica.gov.dm

Photo: View of the area where the Nursery and Associated Facilities will be constructed



Photo: Propagation Building to be rehabilitated and upgraded



8.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

Construction activities for rehabilitation of the Pont Casse Nursery Facility are expected to occur over a nine (9) month period. The environmental and social impacts are expected to be seen mostly during the construction period and would be mainly those associated with typical construction works. Due diligence has already been taken by the project to inform nearby residents of the impending works.

Environmental Considerations

Given that the topography of the site is gently sloping, there is not expected to be any major issues regarding land slippage during the works. However, excavation works should ensure that there is adequate shoring to prevent any adverse impacts of land slippage within any excavated areas.

Since this is such a high rainfall area with a potential for flooding, care should be taken not to store any material in a way to impede the flow of water and to ensure that there is adequate drainage on site. During heavy rains care would also need to be taken that runoff from the site does not result in flooding and/or pooling of water. This precaution is also required generally during works in order to protect the site from standing water and potential flooding which may also impact on the neighbouring property. The contractor must make every effort and put all necessary measures in place not to pollute any water source or sites, either on the property or beyond the boundaries.

Clearing for construction may require removal of three (3) young mahogany trees and one mature one. It is anticipated that these trees would be used for charcoal and lumber once suitable. There is one non-bearing mango tree on site, which may or may not require removal.

Excavated material will be used for landscaping of the site. Materials from the demolished sections of the existing buildings will be repurposed as far as possible, such as the wood beams and concrete blocks. Demolition will be mainly of the internal areas; all external walls on the main building will remain. The raised propagation beds will also remain. Any items which require disposal will be done with approval of the Project Engineer in collaboration with the Safeguards Specialists, at an approved site.

Given that there is a caretaker hut and other facilities in the vicinity, if the area becomes dusty it would be required to wet the area to keep the dust down.

Although construction will occur outside of the main road, traffic management will still be required regarding movement of heavy vehicles entering and exiting the site to/from the main highway. This will require safety signage to be placed at strategic points on the highway and may necessitate the use of flag men/women at times of heavy movement of construction equipment/trucks and as required. Signage on site would also be required especially regarding to health and safety.

Since a section of Segment 5 of the WNT passes behind the construction site, it is highly recommended that clear signage be placed for restricting access to unauthorized personnel. It is possible that access to the site from the trail could be cordoned off as an additional safety precaution. The construction site should be fenced as an added security measure and as a safety precaution.

Pesticide treatment of the site and lumber to be used will be done. The contractor is expected to follow the manufacturer's recommendation for use and relevant instruction from the Project Engineer.

Additionally, the contractor is expected to comply with the Pesticide Management Plan (guidelines) contained within this report in order to protect the environment, both physical and human.

Social Impact Assessment

Purpose - A Social Impact Assessment (SIA) is a Social Safeguard requirement of all World Bank funded civil works projects which are likely to have an impact on people. The primary objective of the SIA is to assess each aspect of the project and determine the ways the project communities may be impacted. The report produced following the assessment will present the findings and mitigation strategies for significant negative impacts associated with the project.

Methodology - The Social Safeguards Specialist of the Project Coordination Unit conducted site visits to the project area and interviewed residents. Face to face surveys were conducted with the residents of the adjacent community utilizing a prepared questionnaire (Appendix III). Follow-up calls were also made to those who were not present for the face to face interviews.

The Waitukubuli National Trail Research and Interpretation Centre Facility - The Waitukubuli National Trail is a long-distance hiking trail, covering one hundred fourteen miles (114 miles) divided into fourteen (14) segments. This facility is located on the compound of the Central Forest Nurseries located in the Central Forest Reserve. Segment 5 of the Waitukubuli National Trail (WNT) traverses the back of the compound and hikers use that portion of the Trail to get to Castle Bruce, located on the East Coast of Dominica.



The compound also houses the office of the Central Forest Reserve Nursery and the Caretaker's quarters nearer the back of the property and away from the project site.

Residential and Commercial Structures

The project area is forested with tropical plantation trees for use in the Furniture Cottage industry and located along the Nicholas J Liverpool Highway, with eight (8) residential structures dispersed within a few kilometres from the project site, along the roadside. A structured survey was conducted with six (6) of the eight (8) property owners, since two (2) currently reside overseas (Appendix 1).

There are two homes bounding with the Forestry facility. Additionally, there is a shop located on the side of the road directly opposite the entrance to the facility, which is the property nearest to the project site. Another of the properties located in the area is a three (3) bedroom concrete structure which operates as a guest house/apartment building. This is normally rented to hikers on the Waitukubuli National Trail. The other properties are residential. All properties are mostly concrete with wooden components (doors, windows, etc.).

Socioeconomic Baseline

The village located within the project area is sparsely populated with a population of nineteen (19). There are eight (8) residential structures, one organic mushroom farm and two (2) apartments within one of the residents. The homes are spread out up to about a quarter of a mile from the site, with two homes on the northern boundary. The current Forestry Nursery buildings are located above these houses and they are separated by a wide expanse of trees. None of the houses are visible from the Nursery facility, hence the same from the project site.

Health and Education

The area is part of the St Joseph Health District and is served by the Belles Health Center located along the Nicholas J Liverpool Highway, which is manned by a Registered Nurse and Community Health Aide. The most common health concerns for the entire health district are the non-communicable diseases such as diabetes and hypertension. There is one primary school located along the same highway but several miles away from the project site.

Demographic Information of Residents of The Project Area

The tables below present the demographic information of the residents of the community located in the vicinity of the project site.

Age and Gender Distribution

Age Range	Gender	
	Male	Female
Under 15 years	3	0
15-29 years	1	5
30-44 years	1	2
45-59 years	2	1
60-74 years	0	1
75-89 years	2	1
90+ years	0	0
Total	9	10

Levels of Education

Level Attained	Total Number
Primary	4
Secondary	8
Tertiary (College)	6
Daycare	1

Occupation Distribution

Occupation	Total Number
Retired Civil Servant	3
Student	4
Handyman	1
Domestic Workers	2
Chainsaw Operator/Security Guard	1
Store Clerk	1
Teacher	1
Farmer	3
Out of State	3

Survey Results

The majority of the respondents were unaware of the project and found out about it from the information given at the interview. One of the residents attended a seminar where the Disaster Vulnerability Reduction Project was mentioned, but no specifics were given on the Forest Nurseries Component. When asked to rate the list of impacts, the responses were mainly positive.

Potential Positive Social Impacts

During Construction The respondents gave top ratings for impacts related to them as individuals and their households. Additionally, it was generally felt that the project would have a positive impact on the economic level of the community. This would arise out sales at the nearby shop or possible rental of the apartments owned by one of the residents, by the labourers on the project.

Post Construction Two (2) of the respondents interviewed felt that value of land in the area and property ownership would increase. The location of the improved facility would also reap positive benefits for the farmers in the area since the plantlets would be more accessible. The others felt that there would be no impact on land value. Ownership of land would not be impacted because the site is located on state property so there is no land acquisition. The improvement in the tourism potential of the area was also seen as a possible benefit of the project. One of the residents mentioned the increase in visitors for a tour of an organic farm located about a quarter ($\frac{1}{4}$) mile from the project.

Operational Phase The close proximity of the nursery is seen as a benefit by the people of the community due to the potential ease of access to plantlets for purchase for domestic and commercial uses. The financial benefits to the community would be realized due to the increase in the number of people coming to the Nursery to purchase plantlets or for other purposes.

Potential Negative Social Impacts

During and Post Construction Though the general opinion within the community was that the project would have a positive overall social impact, one area of concern was the possible interruption of or diversion of the water supply to two of the private properties near the Forestry Compound. One of the owners stated that her water supply originates from a source located to the rear of the Compound, near the hiking trail. She stated that since a previous project above the project site, the water supply has diminished from a constant flow to only when there is rain in the area. She therefore hopes that this situation is not further compounded by this project. For another owner, the water actually flows through her property and she expressed similar sentiments. Another who owns an organic mushroom farm also stated that the farm's water supply originates from the same source.

Minimal concern was raised about dust and noise levels. However, the possible increase levels of dust and the effects on respiratory illnesses like asthma were mentioned by two of the respondents. Dust was believed to be controllable since the area is heavily forested and there is frequent rainfall which would assist in keeping the levels down.

Reference was also made to the use of dynamite for blasting rocks on a previous project on the site. This resulted in cracks in nearby houses.

The Security Guard for the Central Forest Reserve Nursery who lives directly opposite the site has two (2) young grandsons who sometimes visit or accompany him while on duty. There are concerns for their safety should they continue this practice.

The Nicholas Liverpool Highway is also the main route to the Douglas Charles Airport in Marigot. Taxis to the airport and commuters to the villages within the Central Forest Reserve and the North East of Dominica use this road on a daily basis. The heavy equipment and trucks engaged in the civil works on site will also be utilizing the same road and in some cases will need to cross the highway to get to the project site.

Operational Phase There was concern about the possible leakage of hazardous chemicals into the water supply during propagation of plants.

Environmental Impacts

Positive Impacts

Construction of this facility will have significant and far reaching positive impacts as indicated below:

- Upgrading of the facility
- Adequate facilities for propagation of nursery plants
- Generation of more forestry stock
- Secondary benefit of re-forestation and its added benefits to the environment as a whole
- Employment generation during construction

Negative Impacts

Much of the potential negative impacts are anticipated to occur during construction can be mitigated and the contractor is expected to ensure that mitigation measures are complied with at all times. The potential negative impacts are indicated below:

- Generation of waste material, including from demolition works, excavation and construction debris
- Potential water or land pollution from equipment leaks or accidental spills of fuels, oils, chemicals and cement products
- Erosion of excavated areas and sedimentation
- Over-excavation of soil and unnecessary clearance of vegetation
- Terrestrial ecologies impacted by sediments and pollutants
- Access roads adjoining, temporarily compromised by works causing some restriction to access and traffic delays
- Occupational health and safety issues for workers engaged in construction, e.g. working from heights, operating machinery, working alongside heavy equipment
- Worksite accidents/personal injury due to lack of use of Personal Protective Equipment (PPE)
- Health and safety regarding to the community and visitors to the Forestry compound
- Generation of noise and dust, and the effect on workers, road users, communities near the work site and sensitive fauna that breeds or feeds in the adjacent vegetation
- Mobilisation of sediments by erosion of exposed soils within the works and the impact of these on downstream water quality in waterways/streams

- Potential impact on spring water sources given the area
- Mud being tracked onto the roadway from construction vehicles especially during excavation, potentially leading to slippery and unsafe road conditions
- Inadvertent interruption of existing utility services during excavation or movement of equipment below overhead services
- Inadequate reinstatement of disposal site where required
- Loss of Physical Cultural Resources (*if found as chance finds*) - the unplanned or unintentional destruction of historical, religious or culturally significant sites/artifacts, could result in the loss of valuable physical cultural resources. Excavation could destroy artifacts of prehistoric age, and cause the loss of irrecoverable archaeological information, unless properly avoided.

Summary of Impacts

The potential negative impacts described above would be the result of the civil works described under the forestry project. In large part the negative effects are minor and reversible, occurring mainly during construction, and can be avoided or minimized by the application of standard environmental and management methods as described in the “Mitigation Measures” and the use of due diligence in construction best practice.

Mitigation measures are provided in the Environmental and Social Management Plan below.

9.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

This Environmental and Social Management Plan (ESMP) presented here identifies the appropriate measures to be taken in order to minimise or eliminate negative impacts and enhance positive impacts. However, the application of good operation and construction management practices is of utmost importance. The absence of any specific mitigation measure does not exclude the contractor or his agents from applying the necessary mitigative or corrective measures to ensure that the ESHS requirements are met.

The ESMP consists of an impact risk mitigation plan, based on the findings of the Social Impact Assessment and the Environmental Impact Assessment and the proposed designs and associated works. Potential risks identified by the community are limited but include slightly elevated levels of dust and noise and reduction in water supply. The mitigation measures proposed centre on proactive actions, effective communication and placing of appropriate safety signs at strategic locations at or near the project site.

The implementation of effective communications plans, timely sensitisation of the community about the project activities and a dust reduction strategy are recommended among others detailed in the ESMP. The detailed mitigation and associated action plans are also prescribed.

Responsibility for Environmental, Social, Health and Safety Mitigation

The Contractor is the main party responsible for ensuring mitigation. During project implementation, the contractor shall collaborate closely with and adhere to all instructions provided by the Project Manager in regard to Environmental, Social, Health and Safety (ESHS) requirements of the Project and must ensure compliance to the ESHS requirements as per the ESMP and contract. The contractor is expected to work in close collaboration with the Supervising Engineer and the DVRP Environmental Safeguards

and Social Safeguards Specialists. The Supervising Engineer is responsible for ensuring compliance by the contractor and the DVRP is for monitoring compliance and effectiveness of measures in place.

Permits and Approvals

The contractor shall be responsible for ensuring that all relevant legal approvals and permits required to complete the works have been obtained. The Project Coordination Unit can provide assistance where needed.

Specialised Mitigation Measures for Works in Forest Areas - Given that the work site is in proximity to forested areas, it is important that the following should be complied with:

- There must be no unnecessary clearing of vegetation, especially natural vegetation
- Any negative effects on nearby forest areas are prohibited
- Avoid the use of herbicides or other chemicals
- Any works that may affect the forest area must be done under the supervision of a representative of the Forestry Department
- There must be minimal impact to flora and fauna
- All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity must not be damaged or exploited. The contractor must ensure that all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities
- Large trees in the vicinity of the construction activity shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided. This should be done in collaboration with the Forestry Division.
- There will be no unlicensed borrow pits, quarries or waste dumps in the forested areas.
- Upon completion of works, all wastes must be immediately removed and disposed of at a site approved by the Client/Project Engineer.

Specialised Mitigation Measures for Pest Management and Use of Pesticides - OP 4.09 on Pest Management seeks to ensure that projects avoid using harmful pesticides. A preferred solution is to use Integrated Pest Management (IPM) techniques. Under this project it is not expected that significant quantities of pesticides will be used, only small amounts for such activities as building extermination, termite foundation treatments and treatment of wood. For these routine activities, the following procedures are expected to be applied:

- Any use of pesticides shall be approved by the contracting officer and shall conform to the manufacturers' recommendations for use and application
- Any person using pesticides shall demonstrate that they have read and understood these requirements and are capable of complying with the usage recommendations to the satisfaction of the contracting officer
- All pesticides to be used shall conform to the list of acceptable pesticides that are not banned by the relevant local authority
- If termite treatment or vector control treatment is to be utilized, ensure appropriate chemical management measures are implemented to prevent contamination of surrounding areas, and use only licensed and registered pest control professionals with training and knowledge of proper application methods and techniques.

Specialised Mitigation Measures for Use of Explosives - No explosives are expected to be used on this project. However, if this becomes a necessity, its use shall be at the approval of the relevant local authority and shall be supervised and undertaken by a qualified explosives technician. Any use of explosives shall be permitted only after an explosives management and blasting plan has been approved by the relevant local authority and the Client (Refer to the DVRP Environmental Management Framework for more details).

Social Issues and Considerations - The project is not expected to cause much disruption to the community. However, the new construction activity will result in changes to the regular patterns and as such need attention to ensure smooth and effective project execution.

Grievance Redress Mechanism - The DVRP has an established system for the management of grievances of external stakeholders to minimize the environmental, health, safety and social risks resulting from the project. The grievance process provides an avenue for external stakeholders to voice their concerns and gives transparency on how grievances will be managed internally aimed at reducing conflict. The Grievance Redress Mechanism is an established World Bank Social Safeguard. The procedures developed for the DVRP is available on the DVRP website at www.dvrp.gov.dm. The signage for the project should display the contact details for lodging grievances, as outlined in the Grievance Redress Mechanism and is as follows:

The Project Coordination Unit:	767 266 3139
The Safeguards Specialists:	767 266 3133
The Communications Specialist:	767 266 3158
Email:	ppcrdvrp@dominica.gov.dm

Communication and Public Awareness - An effective communications channel between the members of the community and the assigned Technical Officers at the Project Coordination Unit will allow for quick and efficient exchange of information for efficient and effective settling of matters.

The contractor is responsible for airing of public announcements about project activities, for example road closures and traffic diversions, among others.

Labour Influx - Due to the small population size, the contractor may need to bring in labour from outside of the community. However, an effort can be made to recruit labour from within the community. The small scope of the project does not dictate widescale labour importation and would not have any adverse social impact on the social and other services available.

The Health Center serving the area is adequately staffed to deal with emergencies. The national hospital is located about 30 minutes' drive from the project site and can handle more serious matters.

Social Impact Mitigation Plan

Mitigation Strategies for Negative Social Impacts - Adequate advanced notice needs to be given to the residents prior to the commencement of civil works. Though the majority noted that the project site is far enough from their properties not to cause any major concern, the few mentioned need to be properly managed so that there is no escalation of minor impacts.

Traffic and caution signs and/or tape should be erected in the appropriate locations where they are clearly visible to pedestrians and drivers. This includes the both entrances to the compound. Staff of

the facility need to be cautious and not venture near the actual site, unless necessary. Frequent communication would also reduce the dangers of injury to non-project staff who may be unaware of ongoing activity which may affect them.

Following investigations with the staff of the Nursery Facility it was discovered that the water source is a far distance away from the project site and would not be affected in any way (See Figure 3). The disruption of the water flow is therefore not an issue to be concerned about. The same goes for possible hikers on Segment 5 of the Waitukubuli National Trail.

The Security Guard of the Facility should be informed of the impending works and be advised to discontinue the practice of having his grandsons on the Compound during the project and discourage them from using the area as a playground. He should also be advised of his need to use reflective vests and other protective wear while on the compound.

Safety signs will need to be erected to inform persons accessing the site of the ongoing civil works and to proceed with caution.

Because the area is heavily forested there is frequent rainfall thus making the need for watering to keep the levels of dust down minimal. However, should there be periods when there is no rain, the contractor is responsible for periodic wetting at the site during work daily and at the end of the day.

Costs Associated with Social Impact Mitigation - Public announcements on the radio and other media to alert the general community about interruptions to traffic flow, diversions or increased heavy equipment using the road will be necessary. Costs related to these announcements and the necessary caution and safety material would reduce the possibility of injuries occurring to members of the community and workers on the site.

Costs to be considered also include the provision of PPE for workers and safety and caution material on site.

Overall the ESHS is mainly outcome based and the contractor is expected to employ best construction practices in implementation of the project.

NURSERY REHABILITATION - SPECIFIC ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Impact/Activity	Action	Responsible Party
Security of Site	<p>Maintain security over the construction site including protection of stored materials and equipment</p> <p>Barricading/Fencing of open excavations</p> <p>Erecting safety signage at site access and around site and use of caution tape and cones where necessary</p> <p>In case of severe weather - the construction site and associated equipment must be secured in such a manner as to protect the site and adjacent areas from consequential damages. For instance, securing construction materials, construction and sanitary wastes, and strengthening of erosion control and soil stabilisation systems.</p>	<p>Contractor for putting measures in place</p> <p>Supervising Engineer to ensure adequate measures are in place</p>
Noise Control	<p>Ensure all equipment are in good working order.</p> <p>Schedule construction activities during normal working hours (8:00 a.m. to 5:00 p.m. Mon to Fri).</p>	Contractor
Dust Control, Prevention of Air Pollution	<p>Sand, cement, or other fines should be kept properly covered</p> <p>Constant wetting of affected area as needed</p> <p>Vehicles maintained in good working order to prevent air pollution from smoke and exhaust fumes</p> <p>No burning of wastes</p>	Contractor
Mud Control	Any mud tracked onto the road pavement during excavation works or other construction activity should be immediately cleaned-up by the contractor to prevent unsafe road conditions for vehicular and pedestrian traffic.	Contractor
Disposal of excavated material	Excavated soil will be stockpiled at approved location on site to be used for landscaping of site during/after works. To be done with advise of Forestry Division in collaboration with Supervision Engineer	Contractor
Use, management and disposal of solid waste/construction wastes from demolition of existing buildings	<p>Demolition should be done in a manner to be able to re-use/repurpose some of the material, e.g. wooden beams.</p> <p>Material from demolition of internal concrete walls could be integrated into landscaping and road works</p>	Contractor Supervising Engineer Forestry Division
Use, management and disposal of hazardous materials, fuels, solvents and petroleum products	Except for the use of pesticides for termite treatment of the building site, no hazardous material shall be used during the construction process nor generated by construction activity. Any use of hazardous materials including pesticides, oils, fuels and petroleum products shall conform to the proper use recommendations of the product and wastes shall be disposed of in accordance with local government regulations.	Contractor

Impact/Activity	Action	Responsible Party
Use of preservatives and paint substances	Storage, use, and disposal of excess paints and preservatives shall be managed in conformance with the manufacturers' recommendations and as approved by the Project Manager.	Contractor
Site stabilisation and erosion control	Institute appropriate stabilising techniques to prevent cave-in or land slippage Proper site drainage and prevention of drains being clogged by construction material or sediment to prevent overflow and flooding Sedimentation traps where needed	Contractor
Management of standing water	No standing water should be allowed to collect on site Adequate drainage must be in place	Contractor
Water Pollution	Every effort must be made to avoid contamination of any water sources or water ways which may be in the vicinity of the works	Contractor
Management of trash and debris	Construction wastes must be stored in a designated area and removed at least once a week to an approved dump site Trash/ food materials should be disposed of in designated bins and removed daily	Contractor
Occupational Health and Safety	Prepare Health and Safety Plan which shall include emergency response and first aid procedures Designate person for dealing with emergencies Regular tailgate meetings for workers to ensure awareness Use of Personal Protective Equipment (PPE) Provision of hard hats, work boots, protective eyewear and gloves to workers Zero tolerance for non-use of PPE by workers Proper footing for working at heights (from man height) and use of scaffolding with backing and/or use of body harness Adequate supply of drinking water	Contractor
Traffic Management	Prepare a Traffic Management Plan This plan shall consider time of day for planned disruptions and shall include consideration for access to essential services such as medical, disaster evacuation, and other critical services. Appropriate safety signage and barriers shall be used to ensure the safety of any foot traffic or vehicular traffic. If trenching/excavation is exposed to foot or vehicle traffic appropriate restrictive barriers, taping, and warning signage shall be used. Traffic shall be controlled and stopped as necessary on public thoroughfares by flag persons and stop/go signs in accordance with traffic regulations	Contractor
Transportation of material for construction and/or disposal	Material should be covered during transport as necessary and spillage should be avoided and cleaned up immediately if occurs	Contractor

Impact/Activity	Action	Responsible Party
Worker Sanitation	Sanitation facilities shall be provided to site workers. All sanitary wastes generated shall be managed in a manner approved by the Supervising Engineer and Environmental Health Department (EHD)	Contractor
Impact on Utilities	Care should be taken during excavation not to disrupt utilities that may be buried or to affect those overhead from activities such as lifting of the bucket from excavator or high construction equipment	Contractor
Unnecessary clearance of vegetation	No vegetation outside of the project site shall be removed Only vegetation/trees as approved by the Supervising Engineer to facilitate the works shall be removed Any (approved) trees which are cut will be utilized as per direction from the Forestry Division	Contractor Forestry Division
Impact on Private Property including stockpiling of material	Keep all works within the project designated area Written permission must be received from owners before storing materials/equipment on private property	Contractor
Physical Cultural Resources – Chance Finds	If in the unlikely event any material is discovered onsite which may be considered of historical or cultural interest, all work shall stop and the supervising engineer shall be notified immediately. The area in which the material was discovered shall be secured and no item shall be removed or disturbed by any of the workers.	Contractor Supervising Engineer DVRP Safeguards Specialists for follow-up action
Community Relations	Inform community and public of expected delays or inconveniences through Public Service Announcements - Radio, Fliers, etc. Grievance should be immediately reported to the PCU	Contractor
Construction Site Closure	A final site cleanup is required by the Contractor. The Contractor upon approval of the Project Manager shall ensure that the site is cleared, cleaned and revegetated as necessary after the project is completed before demobilisation.	Contractor
Disposal Site Closure	Reinstatement of drainage, ensuring adequate drainage, leveling and grading of site	Contractor
Post-Construction: Soak pits and Septic tanks	These would require regular maintenance once in use	Forestry Division

Monitoring and Reporting

The contractor will be required to provide monthly environmental, social, health and safety monitoring reports (refer to Appendix - Metrics for ESHS Reporting in the Contract). The report must include the nature of any incidents or complaints, how it was addressed, and the corrective action taken, etc. However, if a specific incident occurs on site this must be reported forthwith.

The Project Manager/Supervising Engineer shall include a section on ESHS in the monthly report to the Client.

Emergency Procedures

Emergency Procedures for addressing incidents during working hours and outside of working hours must be detailed in the contractors C-ESMP. Outside of normal working hours the Contractor shall maintain arrangements whereby he/she can call out within no more than three (3) hours relevant qualified workers and access critical equipment and materials outside normal working hours to carry out any work needed for an emergency associated with the works. The Contractor shall provide the Project Manager at all times with the names and telephone numbers of at least two (2) senior members of the Contractor's site team who are responsible for organising emergency work.

The Contractor is required to familiarise himself and his employees with any relevant emergency arrangements including those of the Client and legal authorities. The Contractor shall provide emergency vehicle access to properties at all times.

10.0 APPENDICES

APPENDIX I - CODE OF CONDUCT

The Contractor is expected to have a Code of Conduct that will apply to their employees, sub-contractors and other personnel to ensure compliance with good Environmental, Social, Health and Safety (ESHS) practice and Best Practice for construction.

Minimum Requirements for the Contractor's Code of Conduct

A satisfactory Code of Conduct will contain obligations on all Consultants'/Contractors' personnel (including sub-contractors/sub-consultants and day workers) that are suitable to address the following issues, as a minimum. Additional obligations may be added to respond to particular concerns of the region, the location and the project sector or to specific project requirements. The code of conduct shall contain a statement that the term "child" / "children" means any person(s) under the age of 18 years.

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations of the Commonwealth of Dominica
2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Employer's Personnel, and the Contractor's Personnel (including wearing prescribed personal protective equipment [PPE], preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
3. Compliance with environmental requirements identified in the EMF and ESMP including erosion control, storm water control, noise and dust control, site cleanliness and disposal of excavated materials and construction wastes
4. Respecting reasonable work/ site instructions (including regarding environmental and social norms)
5. The use of illegal substances
6. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
7. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Employer's Personnel, and the Contractor's Personnel (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction)
8. Interactions with community members and any affected persons (for example to convey an attitude of respect and non-discrimination, including to their culture and traditions)
9. Sexual harassment (for example to prohibit use of language or behaviour, in particular towards women or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
10. Violence, including sexual and/or gender-based violence (for example acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty)
11. Exploitation including sexual exploitation and abuse (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading behaviour, exploitative behavior or abuse of power)
12. Protection of children (including prohibitions against abuse, defilement, or otherwise unacceptable behavior with children, limiting interactions with children, and ensuring their safety in project areas)

13. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favours, are not provided to any person with whom there is a financial, family, or personal connection)
14. Avoidance of issues associated with influx of labour, both social and environmental
15. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
16. Duty to report violations of this Code
17. Non retaliation against workers who report violations of the Code, if that report is made in good faith.

The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- Received a copy of the code;
- Had the code explained to them;
- Acknowledged that adherence to this Code of Conduct is a condition of employment; and
- Understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the code must be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor's personnel (including sub-contractors, day workers, suppliers and equipment operators), Employer's and Project Manager's personnel, and affected persons.

APPENDIX II - PHOTOS OF SITE

Photo: View of site (some buildings to be partially or fully demolished)



Photo: Caretaker's House (green) and Drying Shed



Photo: Existing access road on site to be improved



Photo: Trail along Segment 5 (behind the project site)



Photo: Trail access above project site



Photo: View of site from trail point



Photo: Access to site from main highway



Photo: Existing access road on site to be improved



APPENDIX III - SOCIAL IMPACT ASSESSMENT HOUSEHOLD SURVEY

DVRP- CONSTRUCTION OF FORESTRY NURSERIES COMPONENT																											
SOCIAL IMPACT ASSESSMENT HOUSEHOLD SURVEY																											
Questionnaire #		Physical Description of Dwelling Unit																									
Address of Household _____ Community _____ Main Town or Village _____ Parish _____		RECORD OF VISIT <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Number of Visits</th> <th style="width: 30%;">Results</th> <th style="width: 40%;">Visit Result Code</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>.....</td> <td>1. Completed</td> </tr> <tr> <td>2.</td> <td>.....</td> <td>2. Partially completed</td> </tr> <tr> <td>3.</td> <td>.....</td> <td>3. Dwelling Closed</td> </tr> <tr> <td>4.</td> <td>.....</td> <td>4. Dwelling Vacant</td> </tr> <tr> <td></td> <td></td> <td>5. No. Contact</td> </tr> <tr> <td></td> <td></td> <td>6. Refused</td> </tr> <tr> <td></td> <td></td> <td>7. Other (Specify)</td> </tr> </tbody> </table>		Number of Visits	Results	Visit Result Code	1.	1. Completed	2.	2. Partially completed	3.	3. Dwelling Closed	4.	4. Dwelling Vacant			5. No. Contact			6. Refused			7. Other (Specify)
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		5. No. Contact																									
		6. Refused																									
		7. Other (Specify)																									
Interviewer say : I would like to get some information about the social impact of the proposed Forest Nurseries of the Disaster Vulnerability Reduction Project.																											

HOUSEHOLD COMPOSITION AND PARTICULARS OF EACH PERSON IN THE HOUSEHOLD

Please give the name and surname of every person who usually resides in this household at least four nights a week on average and has so done over the last four weeks. Do not forget to include babies, the bedridden and the elderly persons. By household I mean all persons who live together in the same dwelling, who provide themselves jointly with food or other essentials for living, or a single person living alone.

1.1a First Name and Surname Write down first name and surname of each member of the household, starting with the Head of the Household. If the Head of Household has been away for more than four weeks, record the Acting Head of Household as the Head.		1(Head)	2	3	4	5	6	7
First Name								
Surname								
Gender (M/F)								
Marital Status (Married, Single, Divorced, Separated, Widowed, Common-law Union)								
Age Categories(Place a tick)	Under 15 years							
	15-29 years							
	30-44 years							
	45-59 years							
	60-74 years							
	75-89 years							
	90+ years							
Highest Level of Education Attained (Primary, Secondary, College, University, Other)								
Current Occupation								
Disabled/Impaired (State Yes or No. If yes, please explain)								

FOR ALL PERSONS FIFTEEN YEARS AND OVER (IN THE HOUSEHOLD)

PERSON # _____

1a Are you aware of the Disaster Vulnerability Reduction Project? Yes [] No []

1b If yes, how did you find out about this project? _____

If yes, what do you know about this project? _____

2a Are there any aspects of this project that concern you? Yes [] No []

2b If yes, indicate your main areas of concern:

3 On a scale of 1 to 10, rate three anticipated impact of this project on the following:
(1 being extremely negative and 10 extremely positive)

ANTICIPATED IMPACT	RATING	ANTICIPATED IMPACT	RATING
On you as an individual		Noise	
On your Household		Health	
Community		Dust	
Your Income		Culture	
Overall Household Income		Housing	
Land Value		Business	
Land Ownership		Other (Specify)	

Further comments _____

4. Taking three areas that you anticipate this project will most negatively affect you/your household/community, please explain HOW you think the project will negatively affect these areas:

5. Taking three areas that you anticipate this project will most positively affect you/your household/community, please explain HOW you think the project will positively affect these areas.

6. Make three recommendations as to how the project designers could reduce these negative impacts.

Thank you for your participation in this survey!