INTRODUCTION

The VIRGIN ISLANDS WATER AND POWER AUTHORITY (VIWAPA) is proposing the burial of utility lines from the Melvin Evans Highway to the Wilfred “Bomba” Allick Container Port Facility and the Gordon A. Finch Molasses Dock Terminal. The purpose of the project is to provide improved electrical power resilience to critical infrastructure on the island of St. Croix.

VIWAPA has been working at placing transmission and distribution feeders in areas of essential services underground so that these critical services can be restored immediately after the occurrence of major storm events. Underground lines also provide improved reliability and reduce outage frequency caused by overhead obstructions and faults.

The Authority proposes the installation of an underground distribution lateral line with manholes, pad-mount transformers and other underground devices to replace the existing overhead construction line feeding the Container Port Area.

Virgin Islands Port Authority’s (VIPA) marine terminals, the Wilfred “Bomba” Allick Container Port Facility and the Gordon A. Finch Molasses Dock Terminal are critical to the delivery of essential cargo to the island of St. Croix. The Container Port is the ingress port for the vast majority of all cargo which enters St. Croix. Food stuffs, essential household products, consumer goods, construction supplies and automobiles come through the facility. The Molasses Terminal facility currently is used to deliver molasses for rum (a major economic industry in the territory), asphalt and large machinery and equipment. The facility is currently being renovated to become the interisland cargo hub relocating this activity from Gallows Bay on the northside of the island.

PROJECT LOCATION

The proposed underground project is located on the southside of the island of St. Croix, in the Southshore Industrial Complex. The Wilfred “Bomba” Allick Container Port Facility lies to the west of the Limetree Bay Terminals Marine Port and the Gordon A. Finch Molasses Dock Terminal is located on the southeastern shoreline of the Alucroix Channel.

The Wilfred “Bomba” Allick Container Port Facility is located on Plot 8 Hope (Container Port) and Plot 2 (Limetree Bay Filled Submerged Lands) Latitude 17.699511° and Longitude -64.755915°. The Gordon A. Finch Molasses Dock Terminal is located on Plots 2 and 10 Public Port Site Latitude 17.695048° Longitude -64.762089°. The underground will extend from Latitude 17.720385° Longitude -64.771096°
at the Melvin Evans Highway to Latitude 17.697738° Longitude -64.755402° in the Container Port and Latitude 17.694646° Longitude -64.762053° at the Molasses Dock.

Figure 1. Location of the project on the island of St. Croix, U.S. Virgin Islands

Figure 2. Project location Southshore Industrial Complex, St. Croix.

The project is entirely within the Coastal Zone Management first tier jurisdiction.
Figure 3. Relationship between project and Coastal Zone Management first tier jurisdiction.

PROJECT DESCRIPTION

The Authority proposes the installation of an underground distribution lateral line with manholes, pad-mount transformers, and other underground devices to replace the existing overhead construction line feeding the Container Port Area. Funding for this project is provided in part by FEMA and the Department of Housing & Urban Development Community Development Block Grant Program under the auspices of the Virgin Islands Housing Finance Authority ("VIHFA").

Duct banks will be installed from Manhole F8-49 to JB-11, through manholes JB-6, JB-8, MH-4, JB-1, T-1 (former Hovensa Training Facility), MH-2, t-2 (O’Neal’s Transport), MH-3, T-3 and T-4 (VIPA Warehouse), JB-8, T-5 (VIPA Cranes), MH-4 and JB-11 (VIPA Dock).

The duct banks will consist of (2) - 4 inch Gray Schedule 40 PVC conduits for electrical and (1)-4 inch Gray Schedule 40 PVC conduits for communication.

The top of conduits installed will be 3-feet below final grade and encased in 3,000 psi concrete on conduit saddles and back-filled. Underground electrical red warning tape (6 inches wide) will be installed along the trench route 1-foot below final grade. Trench routes will be returned to pre-construction standard with that lane of road asphalt (asphalt, concrete or dirt, etc), and any backfill with dirt will be pneumatically compacted to 95% density in layers not greater than 6 inches (use caliche). Electrical Manholes (MH 1 to MH 4) will be 4ft x 4ft x 4ft (LxWxH). Communication Manholes will be 3ft x 3ft x 3ft. (LxWxH). Each manhole will have a a ¾” x 10’ ground rod in the floor with 4” stub-up in the floor. Manholes will be constructed with sumps 12” x 12” x 4” for dewatering. Floor of manholes will have a 1-inch slope towards sumps. Standard heavy-duty type H-20 Highway loading manhole covers will be utilized and they shall be marked “ELECTRIC” or “COMMUNICATION” as required.

It is anticipated that the project will take 6 months to construct.
The trench width shall be 16” wide.

CRITICAL FACILITIES TO BE SERVED.

- Limetreer Training School
- M&T Trucking Service, Inc
- O’Neales Transport Inc.
- Nestor’s Trucking
- Ferrol Trucking
- Tropical Shipping
- VI Port Authority Facilities
- Molasses Dock Facilities

ENVIRONMENTAL IMPACTS

Climate/Weather

The burial of the underground lines will not be affected by climate or weather once completed. During construction rainfall will affect trenching activities and burial. Sedimentation and erosion will be implemented to ensure rainfall during installation will not impact the surrounding wetlands or marine environment.

Landform Geology, Soils and Historic Land Use

The utility lines are being buried under the existing Container Port and Molasses Dock Roadways and all work is being done in areas that are already disturbed. The entire area has been completely reworked and the roadways are entirely on land which has been cut or filled. The entirety of the Molasses Dock Road is on filled land as is the Container Port Road over the ~3500ft into the port. The soils within the area are primarily Urban Land, areas that have been completely reworded by man or Aquents (Wetlands – or in this case filled submerged lands).
Drainage, Flooding and Erosion Control

Sedimentation and Erosion Control will be implemented during all phases of the project. Ben Keularts of the Division of Environmental Projection, Department of Planning and Natural Resources was contacted in regard to the need for a Stormwater Pollution Prevention Plan for the underground projects. Mr. Keularts responded that since no more than 1 acre of land would be disturbed at anyone time coverage under the General TPDES Permit was not required.

Drainage Patterns

The project will have no impact on existing drainage patterns once complete the utility lines will be under existing roadways and marine terminal aprons and will not change any existing drainage patterns.

Coastal Floodplain

The entirety of the project route has been designated to flood during the 100-year coastal flood. The presence of the flood zone will not have an impact on the utility burial and once the lines are buried flooding should not impact these utility lines.
Figure 6. FEMA FIRM zones within the project area.

The underground project route crosses through areas where the 100-year flood elevation has not been determined and areas where the 100-year terrestrial flooding has been determined to be 10ft (AE elevation 10ft. (FEMA FIRM 81 and 92 of 94)

**Fresh Water Resources**

The project will occur in previously disturbed areas and involves the burial of utility lines and will have no impact on Fresh Water Resources. No freshwater ponds or streams occur within the project footprint.

**Oceanography**

The project occurs entirely in upland areas and will only be affected by oceanographic factors during major storm events. The proposal is to place the lines underground in existing roadways. The Molasses Dock Roadway is elevated along the coastline and at its western end, the shoreline has been badly eroded and riprap has been placed to protect the edge of the roadway. It is possible that during major storm events stormwater will be impact the roadway. Because the utility lines will be buried this should have no impact on the utility lines.

**Marine Resources**

The property is located 100% inland and will have no direct impact on the marine environment. During excavation immediately along the shoreline, BMPs for sedimentation and erosion control will be implemented to prevent any impacts due to sediment laden runoff impacting the marine environment. The nearshore is densely colonized by seagrass species.
Terrestrial Resources

The project is within existing roadways and previously developed areas. No natural terrestrial resources or any native flora or fauna will be impacted during the installation of these buried utility lines.

Wetlands

There are wetlands adjacent to the route. There are expansive wetlands located adjacent to the Container Port and Molasses Dock Roadways. These wetlands are the remnant of Kraus Lagoon which was dredged and filled to create the industrial areas. Since the alignment is in the existing roadway the project will have no impact on these wetlands.

Rare and Endangered Species

The project is within existing roadways and developed areas. No endangered species or endangered species habitat exists within the roadway and therefore no federal or local endangered or threatened species will be impacted.
Air Quality

All of St. Croix is designated Class II by the Environmental Protection Agency in compliance with National Ambient Air Quality Standards. In Class II air quality regions, the following air pollutants are regulated; open burning, visible air contaminants, particulate matter emissions, volatile petroleum products, sulfur compounds, and internal combustion engine exhaust (Virgin Islands Code Rules and Regulations).

During construction trenchers will be used and will create combustion engine exhaust during use. Upon the completion of the installation air quality will return to pre-construction conditions.

IMPACT ON MAN’S ENVIRONMENT

Land and Water Use Plans

The burial of the utility lines is in keeping with USVI laws and regulations.

Visual Impacts

The removal of the overhead lines and the burial of the utility lines is a visual improvement to the landscape.

Social Impacts and Economic Impacts

Providing more reliable and resilient power to critical port infrastructure on the island of St. Croix is a benefit to all residents of the island. Being able to keep the port operational to be able to receive essential supplies for the public and business is good for the economy of the island and the welfare of all residents of the island.

Historical and Archaeological Resources

The project involves the installation of underground utilities in existing roadways which are on lands that have been extensively altered by cutting or filling. The installation of the underground lines will have no impact on historical or archaeological resources.

Waste Disposal and Accidental Spills

Throughout the project equipment will be kept in good operational condition. Equipment will not be fueled on site. Any excess excavated material and debris will be collected, taken off-site and properly disposed of.

COASTAL CONSISTENCY

The project has a negligible potential of impacting environmental resources, or ambient water quality during construction. A sedimentation and erosion control plan will be implemented during construction as necessary to ensure that no impacts occur. The construction is proposed only within highly altered areas and does not have the potential to impact historical or cultural resources.

The Coastal Zone Management Act of 1972 requires federal actions to be consistent to the maximum extent practicable with the enforceable policies of a coastal state’s federally approved Coastal Management Plan. The Container Port Underground Project as proposed will be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the U.S. Virgin Islands Coastal Zone Management Program. This federal consistency determination demonstrates the projects compliance with the U.S. Virgin Islands Coastal Zone Management Program.
The following policies are set forth in the Virgin Islands Code Title Twelve Conservation, Chapter 21 § 903 (b).

(1) protect, maintain, preserve and, where feasible, enhance and restore, the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the scenic and historic resources of the coastal zone for the benefit of residents of and visitors of the United States Virgin Islands;

- Project is designed to be within existing roadways and previously disturbed areas. The project will not impact any natural resources and will improve the visual landscape of the Industrial Complex by removing overhead utility lines and poles.

The underground project as designed protects, maintains, preserves and enhances the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the scenic and historic resources of the coastal zone for the benefit of residents of and visitors of the United States Virgin Islands and therefore is consistent with this policy of the Virgin Islands Code Title Twelve Conservation, Chapter 21 § 903 (b).

(2) promote economic development and growth in the coastal zone and consider the need for development of greater than territorial concern by managing: (1) the impacts of human activity and (2) the use and development of renewable and nonrenewable resources so as to maintain and enhance the long-term productivity of the coastal environment;

This project promotes the economic development and growth in the coastal zone by providing more reliable, resilient electrical transmission to critical port infrastructure.

(3) assure priority for coastal-dependent development over other development in the coastal zone by reserving areas suitable for commercial uses including hotels and related facilities, industrial uses including port and marine facilities, and recreation uses;

This project involves the burial of utility lines to critical port and marine facilities and is therefore consistent with this policy.

(4) assure the orderly, balanced utilization and conservation of the resources of the coastal zone, taking into account the social and economic needs of the residents of the United States Virgin Islands;

The burial of the utility lines will provide more reliable and resilient power to critical port infrastructure and therefore will meet and protect both the economic and social needs of the residents of the island of St. Croix.

5) preserve, protect and maintain the trust lands and other submerged and filled lands of the United States Virgin Islands so as to promote the general welfare of the people of the
United States Virgin Islands;

- The project does extend through filled lands of the Virgin Islands, this project will help sustain critical public infrastructure which has been developed on these lands by providing more reliable, resilient electrical power.

(6) preserve what has been a tradition and protect what has become a right of the public by insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines consistent with constitutionally-protected rights of private property owners;

- The project will in no way affect public access or use of the shoreline or access to and along the shoreline.

(7) promote and provide affordable and diverse public recreational opportunities in the coastal zone for all residents of the United States Virgin Islands through acquisition, development and restoration of areas consistent with sound resource conservation principles;

- The project will not affect public recreational opportunities in the coastal zone.

(8) conserve ecologically significant resource areas for their contribution to marine productivity and value as wildlife habitats, and preserve the function and integrity of reefs, marine meadows, salt ponds, mangroves and other significant natural areas;

- The project is designed so that it impacts only previously disturbed areas and will have no impact on natural resources. The project will utilize BMPs and will minimize areas of disturbance to protect both terrestrial and marine habitats.

(9) maintain or increase coastal water quality through control of erosion, sedimentation, runoff, siltation and sewage discharge;

- The project will have no long-term change on sedimentation or erosion. The project will result in no creation of wastewater. During construction, the project will implement BMPs as necessary to prevent loss of sediment from the project site.

The project as designed maintains coastal water quality through control of erosion, sedimentation, runoff, and siltation and therefore is consistent with this policy of the Virgin Islands Code Title Twelve Conservation, Chapter 21 § 903 (b).