

**VIRGIN ISLANDS WATER AND POWER AUTHORITY
COASTAL CONSISTENCY DETERMINATION REQUEST
IMPROVEMENTS TO THE FRANK BAY SUBSTATION “E” AND INSTALLATION
OF EMERGENCY POWER GENERATION**

**Diesel Emergency Backup Generator Project
Frank Bay, St. John, USVI
FEMA 4340 PW 86, GM #70346**

INTRODUCTION

The VIRGIN ISLANDS WATER AND POWER AUTHORITY (VIWAPA) is proposing improvements to the Frank Bay Substation “E” and installation of emergency power generation in Frank Bay, St. John, U.S. Virgin Islands. The intention of the project is for St. John to be able to go on emergency backup power generation when there are power outages or rotations from the main Randolph Harley Power Plant.

VI WAPA is deploying five emergency generator units to stabilize power in the St. Thomas-St. John district, with four units specifically allocated to St. John. This is a part of an accelerated emergency reliability initiative approved by the WAPA Board in April 2026.

VIWAPA has been working diligently to make improvements to its power generation and distribution systems throughout the territory a part of FEMA’s two major Prudent Replacement Plans (St. Thomas/St. John District Prudent Replacement Plan and St. Croix District Prudent Replacement Plan).

The Frank Bay improvement includes the installation of a new substation and a new switchgear building and two new diesel emergency backup generators with two above ground diesel fuel storage tanks.

PROJECT LOCATION

The proposed installation is at the existing WAPA Reverse Osmosis Plant site in St. John which is no longer in operation. The project is located on Remainder of Enighed, Estate Contant and Enighed, Cruz Bay Quarter, St. John at Latitude 18.327190° Longitude -64.798295°.

PROJECT OVERVIEW

The Frank Bay Phase 1 project will provide temporary emergency generation capacity at the VIWAPA Frank Bay site, which is the location of the St. John Substation. The Phase 1 installation will consist of two diesel generator packages, generator step-up transformers, a temporary 13.8 kV interconnection to VIWAPA’s existing 13.8kV Air Insulated Switchgear via an existing Feeder breaker, a bulk diesel fuel oil storage and transfer system, civil/site improvements, controls, protection, testing, startup, and commissioning. Also included in the phase 1 project is the demolition of existing de-commissioned buildings and structures on the property. The new system is intended to provide emergency backup generation and limited VIWAPA-directed support during qualifying utility system emergency conditions. Under the final Phase 2 buildout, the existing 34.5 kV AIS and 13.8 kV AIS will be completely replaced by new GIS in a new switchgear building, and the generators will be connected (via their step-up transformers) to new 13.8 kV GIS (HMP 406, GM 70356, PW).



Figure 1. Frank Bay Substation "E" Improvements and Emergency Generator Project

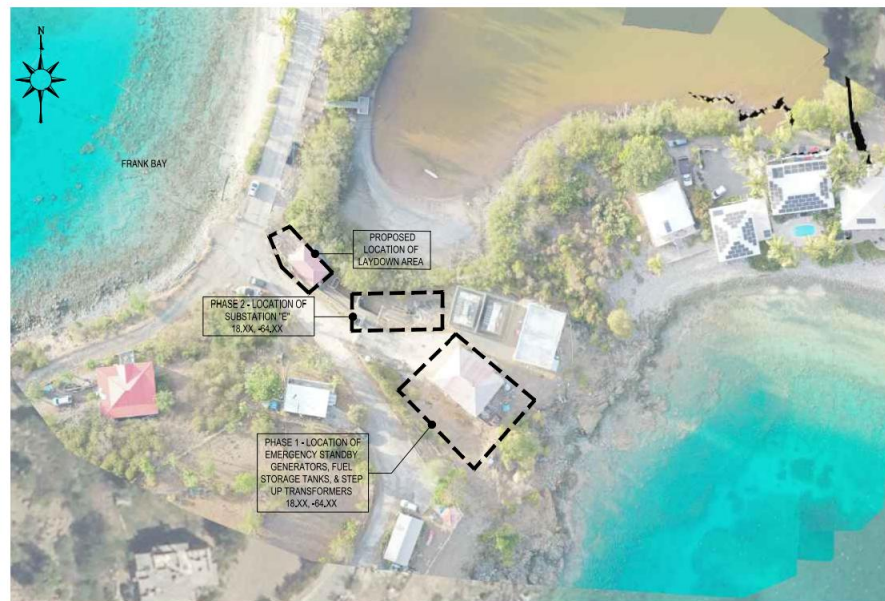


Figure 2. Layout of Components within the Frank Bay Site.

The project is with Coastal Zone Management first tier jurisdiction, however as this project is federally funded it is going through the Federal Consistency Determination request. The project will be subject to required to get an earth change permit.

PURPOSE

The purpose of the project is to provide reliable emergency diesel generation at Frank Bay using two 2,500 kW diesel generators. Enough on-site usable diesel inventory will be provided to support five continuous days of full-load operation for the two Frank Bay generators, including the generators' skid-base tank inventory.

USVI Tier one



Figure 3. The project is within the first-tier boundary of CZM.

PROJECT DESCRIPTION

VIWAPA provides power to the island of St. John by means of submarine cables from St. Thomas originating from Red Hook, and Great Bay. The submarine cables land in Frank Bay which is located to the south of the town of Cruz Bay. The electrical power is generated at the Randolph Harley Power Plant and is transmitted through overhead and underground lines across St. Thomas to the submarine lines. At present St. John does not have the ability to produce its own electrical power. The proposed

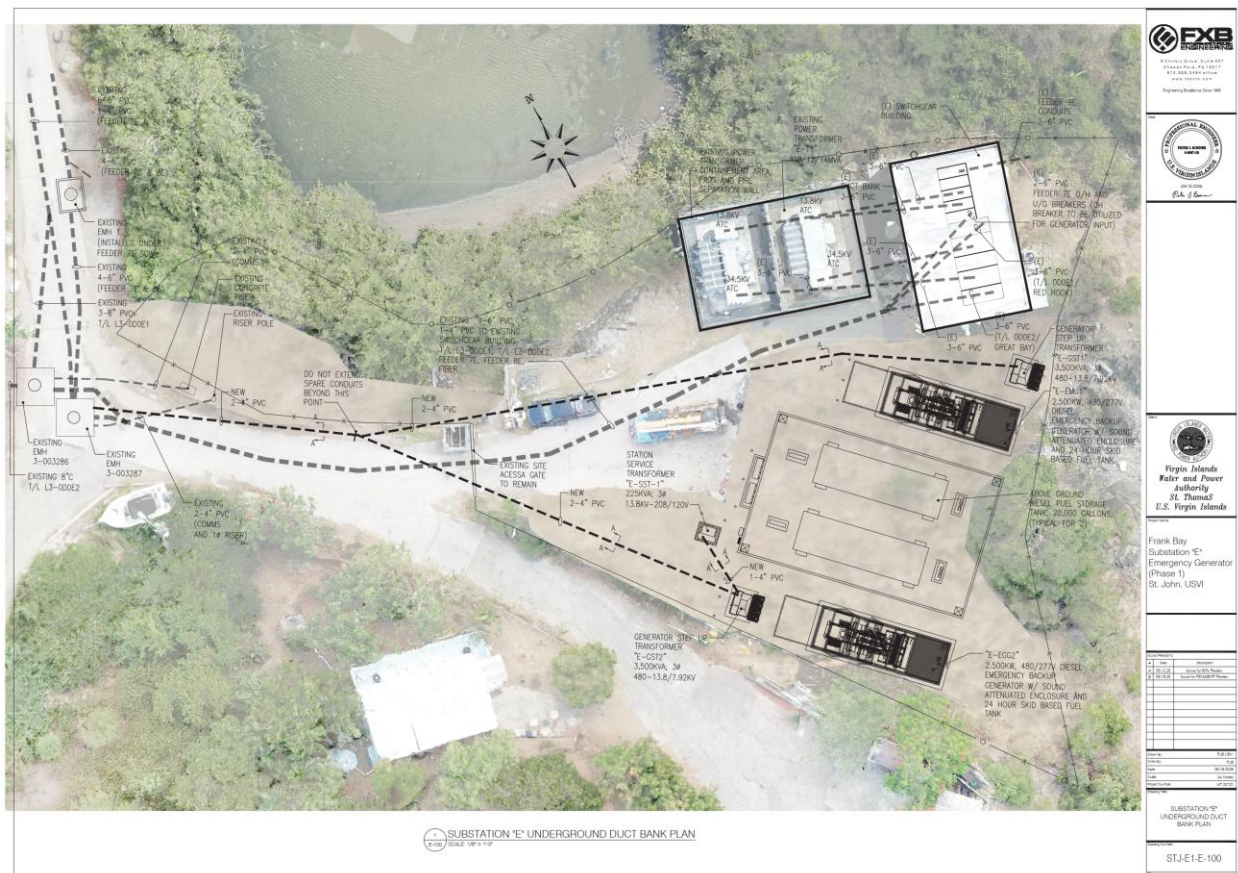
project will allow St. John to have its own emergency backup generation when power fails or is rotating on St. Thomas.

The project will include a new single-story switchgear building with basement, one new power transformer (E-T1:10/12/14MVA), two generator step up transformers (E-GST1 and E-GST2), two 2,500KW, 480/277V diesel emergency backup generators with sound attenuated enclosures and 24-hour double wall skid based fuel tanks, and two 20,000 gallon above ground double wall diesel fuel storage tanks within fuel spill containment. The above ground fuel tanks will be placed on two 24" thick reinforced concrete piers (20'W x 13'-0" each).

This project is planned to be constructed in two phases. Phase 1 will consist of demolition of existing abandoned buildings & structures, and the installation of the two diesel emergency backup generators, step-up transformers, fuel oil system, and all supporting equipment and components to temporarily connect the backup generators to VIWAPA's existing 13.8kV Air Insulated Switchgear (AIS).

Phase 2 will consist of new 34.5kV and new 13.8kV Gas Insulated Switchgear (GIS to replace the end-of-life AIS), and all associated equipment, components, protections & controls, a new switchgear building, and a new power transformer (E-T1). A retaining wall may be constructed during Phase 2 to create the construction footprint for the new switchgear building. No encroachment into the mangroves will occur

The phase 1 generators and fuel oil system will remain in place to serve as the permanent solution for emergency backup generation at the Frank Bay Substation.



Prior to demolition a hazardous materials survey for abandoned VIWAPA water-service buildings will be conducted, including asbestos-containing materials, lead-based paint, petroleum contamination, mold, PCB-containing equipment, universal wastes, and other regulated materials.

Construction demolition limits, staging, and a laydown yard will be established. Dust control, erosion control, safety fencing, utility make-safe, and EHP/DPNR/AHJ requirements will all be implemented before demolition starts and will be maintained throughout the project to prevent debris, sediment,

fuel, oil, concrete washout, and contaminants from entering drainage systems, wetlands, mangroves, or coastal waters.

Facilities designated to remain, including transformers, AIS equipment, grounding systems, communications systems, fences, gates, and underground utilities will be protected during demolition and construction will be protected.

Implement dust suppression, erosion control, stormwater protection, and environmental controls throughout demolition operations. Disposal manifests and records for all regulated materials removed from the site will be maintained by the demolition contractor and provided to VIWAPA.

ENVIRONMENTAL IMPACTS

Climate/Weather

The new facilities are being constructed for extreme weather events. The buildings will be designed for site-specific ASCE 7 wind and seismic criteria for events such as hurricanes and earthquakes. Buildings will be designed as risk category IV with wind loads up to 180mph and seismic site class D criteria. It is probable that this facility will be most used after significant weather events such as hurricanes. The property is on a knoll between a salt pond and the sea and Sedimentation, and erosion will be implemented to ensure rainfall during installation will not impact the marine environment.

Landform Geology, Soils and Historic Land Use

The property crosses a narrow peninsula which divides Frank Bay from Turner Bay. The property sits at approximately 10ft., dropping 10ft to a salt pond to the north, and climbs to 30ft at the southwest side of the site. There is a cobble beach across the street to the north and a rock shoreline to the southwest.



Figure 5. Soils within the Frank Bay Site

Two soil types are shown on the U.S. Department of Agriculture Natural Resources Conservation Service Custom Soil Resource Report for the property. Solitude gravelly fine sandy loam, 0 to 2 percent slopes, frequently flooded which is found in the lower elevations adjacent to the salt pond and Southgate-Rock outcrop complex, 20 to 40 percent slopes are found as the elevation climbs towards the higher elevations. The Solitude gravelly fine sandy loam is composed of alluvial and marine sediments and depth of a restrictive layer is more than 80 inches. The Southgate-Rock outcrop complex is rocky, and it is only 10 to 20 inches to lithic bedrock.

The Frank Bay site was originally developed for water production. The plant had an intake in Frank Bay and produced 300,000 gallons per day.

The site and peninsula were undeveloped but had been cleared and had a few scattered trees as shown in the 1954 USGS aerial of the site.



Figure 6. The 1954 aerial of the site shows that the site is undeveloped but cleared with remaining large trees.



Figure 7. Residential development had begun on the peninsula by 1971 and there appears to be a structure on the property as well as a loop road.



Figure 8. The 1983 infra-red area of the site show more development on the peninsula but not on the site.

Drainage, Flooding and Erosion Control

Sedimentation and Erosion Control will be implemented during demolition and earthwork. Since less than 1 acre of land will be disturbed, coverage under the General TPDES Permit will not be required. The sedimentation and erosion control will be monitored on a weekly basis and after rainfall events of over ½ inch to ensure no sediment laden runoff leaves the site.

Drainage Patterns

The project will not impact on any existing drainage patterns. Once complete stormwater will continue to drain off the site.

Coastal Floodplain

There are two flood zones on the property as shown on FEMA FIRM map 47 of 94, April 16, 2007 (Figure 9). Zone AE EL 7 around the perimeter of the pond, where 100-year coastal flooding is expected to be 7ft, and Zone X which includes the remainder of the property where 100-year coastal flooding is not expected. The USVI Flood Hazard Advisory Maps mirror the FEMA FIRM in this area. The buildings will be outside the Flood Zone, and the switchgear building will have a retaining wall to ensure that the switchgear building the finished floor is at least 8ft of elevation.

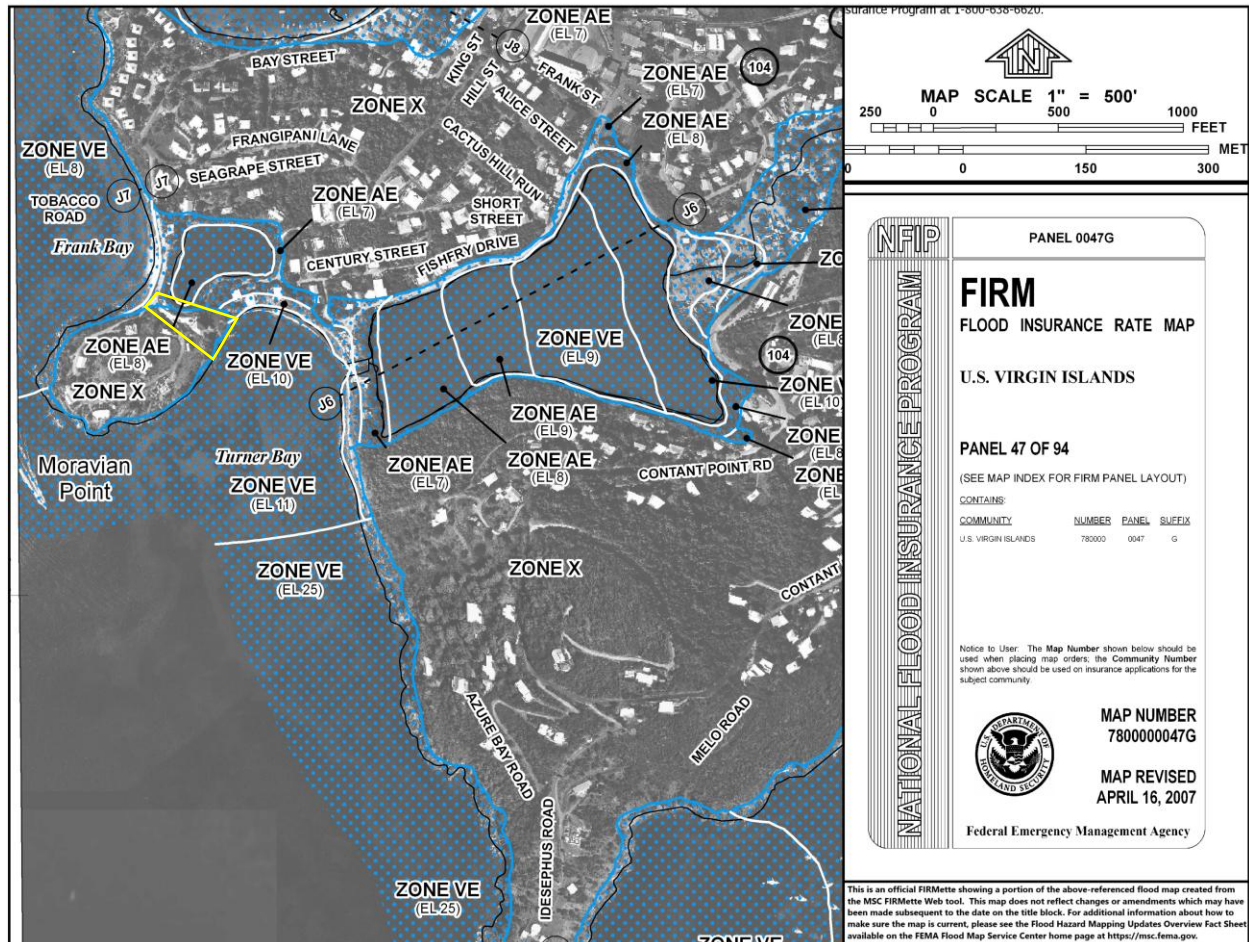


Figure 9. FEMA FIRM 47 of 94.

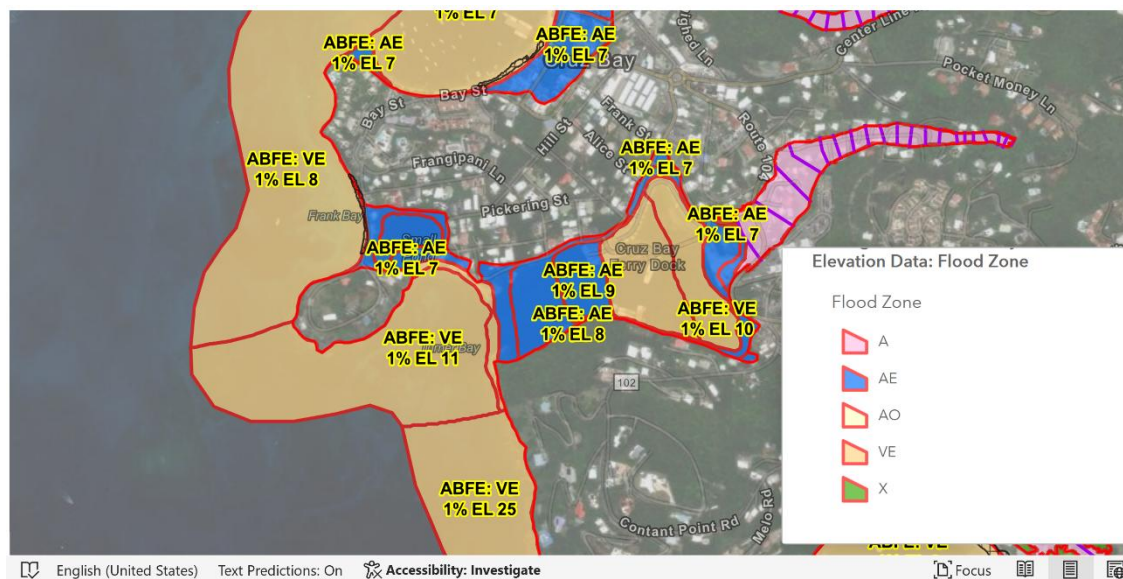


Figure 10. Virgin Islands Flood Hazard Advisory Map

Fresh Water Resources

The project will have no impact on Fresh Water Resources. No freshwater ponds or streams occur within the project footprint. There will be no change in freshwater usage or demand at the site.

Oceanography

The project occurs entirely in upland areas and will only be affected by oceanographic factors during major storm events. It is possible that waves could impact the lower elevations during a major storm event. Because the project is on a parcel that abuts two embayments, the implementation of sedimentation and erosion is paramount to protect offshore water quality and water quality in the salt pond.

Marine Resources

The property is located 100% inland and the development of the new emergency power system will have no direct impact on the marine environment. During excavation at the site, the potential of sedimentation and erosion will exist, and it will be important for BMPs for sedimentation and erosion control be implemented to prevent any impacts to the marine environment due to sediment laden runoff. Offshore to the north there are scattered corals along the rocky cobbly nearshore that grades into dense *Thalassia testudinum* beds intermixed with *Syringodium filiforme*. To the southwest is a narrow rocky shoreline which once had scattered coral colonization, and which was once a part of the recipient site for corals from the Enighed Pond dredging. Large vessels were grounded on the site in 2017 by the Category V hurricanes, and these vessels significantly damaged this area of hard bottom. Surveys were made of both shorelines in June of 2026. Along the north shore there are scattered *Siderastrea siderea*, *S. radians*, *Pseudodiploria strigosa*, *P. clivosa*, *Porites astreoides* and *Diploria labyrinthiformes*. No ESA corals were present. On the south shore there are *Siderastrea siderea*, *S. radians*, *Pseudodiploria strigosa*, *Porites astreoides*, *P. porites* and *Diploria labyrinthiformes*.

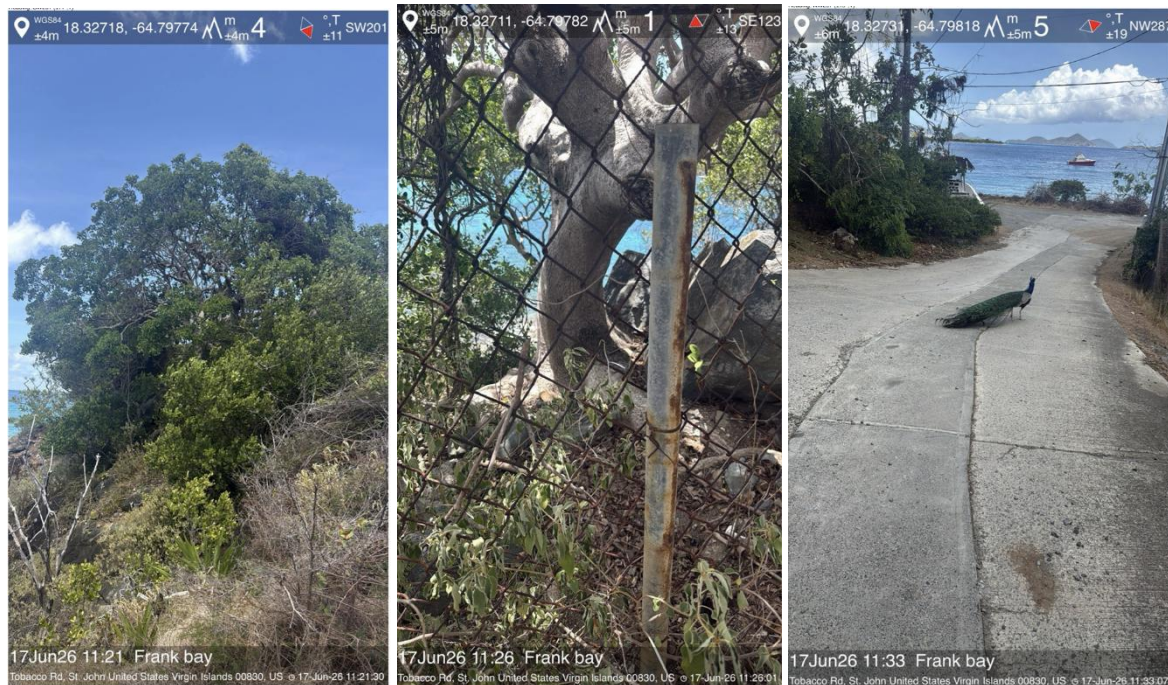
Terrestrial Resources

The project is completely developed with only scattered planted or opportunistic species around the site. There are mangroves along the outside of the fence line adjacent to the pond. There are jumping cactus (*Opuntia rebescens*), tan-tan (*Leucaena leucocephala*), sensitive plant (*Mimosa pudica*), marble-trees (*Cassine xylocarpa*), wild milkweed (*Caloptropis gigantea*), guinea grass (*Megathyrsus maximus*), casha (*Acacia tortuosa*), agave (*Agave missionum*), Bahama nightshade (*Solanum bahamense*), Indian rubber vine (*Cryptostegia grandiflora*), hiati-hiati (*Thespesia populnea*), and variety of other opportunistic species. There is a large water mampoo (*Pisonia subcordata*) outside of the fence which will not be impacted.

Several iguanas (*Iguana iguana*) and peacocks (*Pavo cristatus*) were seen on the site.



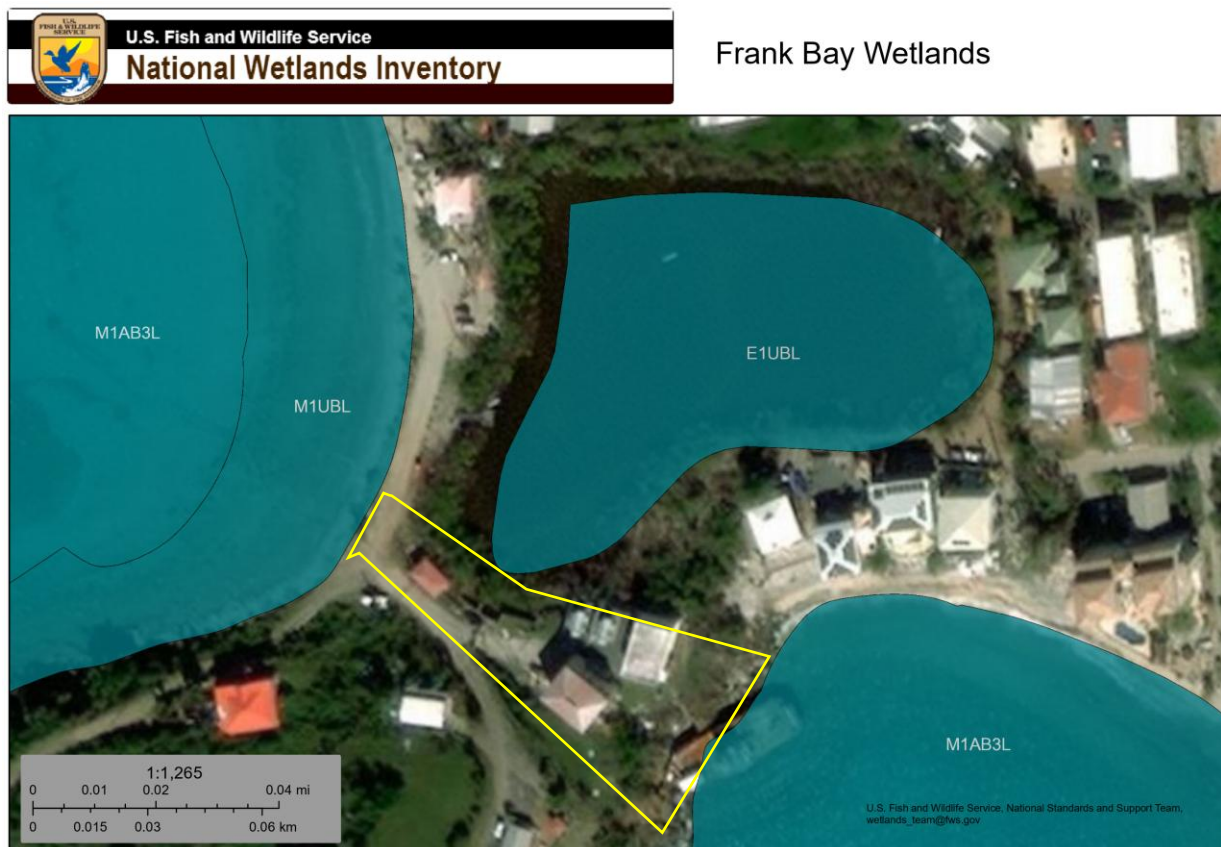
The retaining wall for the switchgear building will be located at the edge of the existing rock shown in the left picture. The yard consists of the existing transformers and the remains of the old water plant.



There is a large water mampoo just outside the fence on the slope over Turner Bay. Peacocks are found on the site from the adjacent property.

Wetlands

There are wetlands adjacent to the property at Frank Bay. These wetlands are outside the properties fence line, and some sedges (*Cyperus odoratus*) are found along the fence line. The wetlands are colonized by white mangroves (*Laguncularia racemosa*), and buttonwood mangroves (*Conocarpus erectus*). The fence line is right at the edge of the mangrove. No mangroves will be impacted and the construction footprint is outside the fence line and wetland. The 1987 wetland limit is as much as 2ft inside the fence at its western end, but the development footprint does not impact the wetland. The salt pond and its mangroves are not currently USACE jurisdictional since they do not have a direct surface connection (Sackett 2023).



June 16, 2026

Wetlands

 Estuarine and Marine Deepwater	 Freshwater Emergent Wetland	 Lake
 Estuarine and Marine Wetland	 Freshwater Forested/Shrub Wetland	 Other
	 Freshwater Pond	 Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Rare and Endangered Species

No endangered species or endangered species habitat exists within the Frank Bay project and no federal or local endangered or threatened species were noted on the site. The Fish and Wildlife service iPaC site list seven species which might occur: the West Indian Manatee (*Trichechus manatus*), Roseate terns (*Sterna dougallii dougallii*), Green sea turtle (*Cheonia mydas*), Hawksbill sea turtle (*Eretmochelys imbricata*) and Leatherback sea turtles (*Dermochelus coriacea*). All of these are species that occur offshore and would not be impacted by the proposed project. The manatee cannot come on land, there are no nesting beaches on the property, and the roseate tern is primarily found offshore. There are two

plant species, Marron Bacora (*Solanum conocarpum*) and St. Thomas prickly ash (*Zanthoxylum thomasianum*) listed on the iPaC report. The surveyor is familiar with both species, and neither was present on the site. The project will have no impact on endangered species.



Zanthoxylum thomasianum



Solanum conocarpum

Air Quality

All of St. John and St. Thomas 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 heavy equipment will be used and will create combustion engine exhaust during use. An air permit was filed for the construction and operation of the new generators and has been issued.

IMPACT ON MAN'S ENVIRONMENT

Land and Water Use Plans

The installation of emergency backup power generation is in keeping with USVI laws and regulations. The project site is zoned P.

Visual Impacts

The current site is in ruins and has scattered debris and equipment around the yard. The cleanup and renovation of the site will be an improvement to the existing viewshed; sound screen is proposed that will help shield the generators and landscaping (planting of additional Indian rubber vine) between the

units and the properties on the peninsula will be done. The residents to the north will be shield by the building which will remain.

Social Impacts and Economic Impacts

The installation of dedicated emergency power generation on St. John has beneficial social and economic impacts by reducing the island's vulnerability to outages caused by disruptions at the St. Thomas power plant or along the undersea cable. Reliable backup generation ensures continuity of essential services—including health care, public safety, communications, and potable water distribution—which directly supports community well-being and reduces the social disruption typically experienced during extended outages. Economically, improved energy resilience decreases business downtime, protects perishable goods and tourism-dependent operations, and reduces the financial losses associated with repeated power interruptions. The project enhances overall stability and supports long-term economic recovery and resilience for St. John.

Historical and Archaeological Resources

The project involves renovations at an existing developed site. A SHPO Clearance letter has been requested from the State Historic Preservation office.

Waste Disposal and Accidental Spills

Throughout the construction equipment will be kept in good operating conditions. Equipment will not be fueled on site. Any excess excavated material and debris will be collected, taken off-site and properly disposed of. The new fuel storage will be in secondary containment, and the plant will have a Spill Contingency and Countermeasure Plan.

The two 20,000-gallon storage tanks shall be UL 2085 / STI F941 double wall tanks, will include interstitial leak detection, and will be located within a liquid tight spill containment pit complying with all applicable SPCC requirements.

The liquid tight spill containment pit has been sized to contain the entire capacity of one of the 20,000-gallon storage tanks, plus sufficient freeboard for precipitation.

The two generators' skid-based fuel tanks shall be UL 142 listed double wall tanks. The two duplex fuel pumps and automatic fuel filtration / polishing systems will be located within the spill containment pit. The fuel oil piping between the containment pit and each generator will be double wall containment piping with leak detection monitoring of the secondary containment pipe.

COASTAL CONSISTENCY

The project has a negligible potential of impacting, environmental resources, or ambient water quality during construction and a sedimentation and erosion control plan will be implemented during construction as necessary to protect the surrounding marine environment and salt pond. The construction is proposed only within previously disturbed areas and has negligible potential of impacting 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 improvements to the Frank Bay Substation "E" and installation of emergency

power generation 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;

- *The project is designed to be within previously impacted and developed areas. The project will not impact any natural resources and will not negatively impact the surrounding viewshed.*

The improvements to the Frank Bay Substation “E” and installation of emergency power generation 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;

Improvements to the Frank Bay Substation “E” and installation of emergency power generation project promotes the economic development and growth in the coastal zone by providing more reliable, resilient electrical energy to the St. John community as a whole including the coastal environment.

(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 improvements to a substation and installation to new emergency power generation on an existing VIWAPA site therefore does not impact other areas which could be used for coastal development.

(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 installation of emergency backup power generations will provide more reliable and resilient power to the citizens of Cruz Bay and therefore will meet and protect the economic needs of the residents.

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 will not impact public trust or other submerged and filled lands of the Virgin Islands.*

(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 not result in an increase in wastewater. During construction, the project will implement BMPs as necessary to prevent loss of sediment from the project site and protect the surrounding marine environment.*

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).