

FEDERAL CONSISTENCY REPORT

PROJECT:
V.I. DEPARTMENT OF PUBLIC WORKS
MAINTENANCE BUILDING

PROJECT SITE:
6A SUSANNABERG
CRUZ BAY, ST. JOHN, USVI 00830



PREPARED BY:



BUILDTEC

7-1 BONNE ESPERANCE

P.O. BOX 8269

CHRISTIANSTED, ST. CROIX USVI 00820

Email: dcartwright@buildteceng.com

January 24th, 2022

A handwritten signature in blue ink, appearing to read 'Damian Cartwright'.

Damian Cartwright, P.E.
USVI License No. 28851-1B

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INTRODUCTION

The Virgin Islands Department of Public Works (DPW) intends to construct a new Maintenance Facility Building located at 6A Susannaberg, Cruz Bay, St. John, USVI 00830.

The previous facility consisted of two separate structures and measured a combined approximately 4,810 SF and sustained extensive damage during Category 5 hurricanes Irma and Maria in 2017. These storms rendered the structures uninhabitable and as such, they have remained in a state of disrepair up until now. Both of these structures will be demolished, and the programs consolidated into a single state-of-the-art maintenance facility measuring approximately 4,370 gross square feet. The proposed footprint remains virtually the same and consistent with the square footage of the previous facility. Given the current and future programmatic requirements of the Department of Public Works, there is no need to increase the square footage over the previous structures. However, the new design results in a much more efficient and functional layout for current and future operational needs.

PROJECT LOCATION

The project site is located at 6A Susannaberg, Cruz Bay, St. John, USVI 00830. It is located at the intersection of Highway 10 / Centerline Road and Highway 104 / Gift Hill Road. Highway 10 / Centerline Rd. is the main access to the project site leading from Cruz Bay.

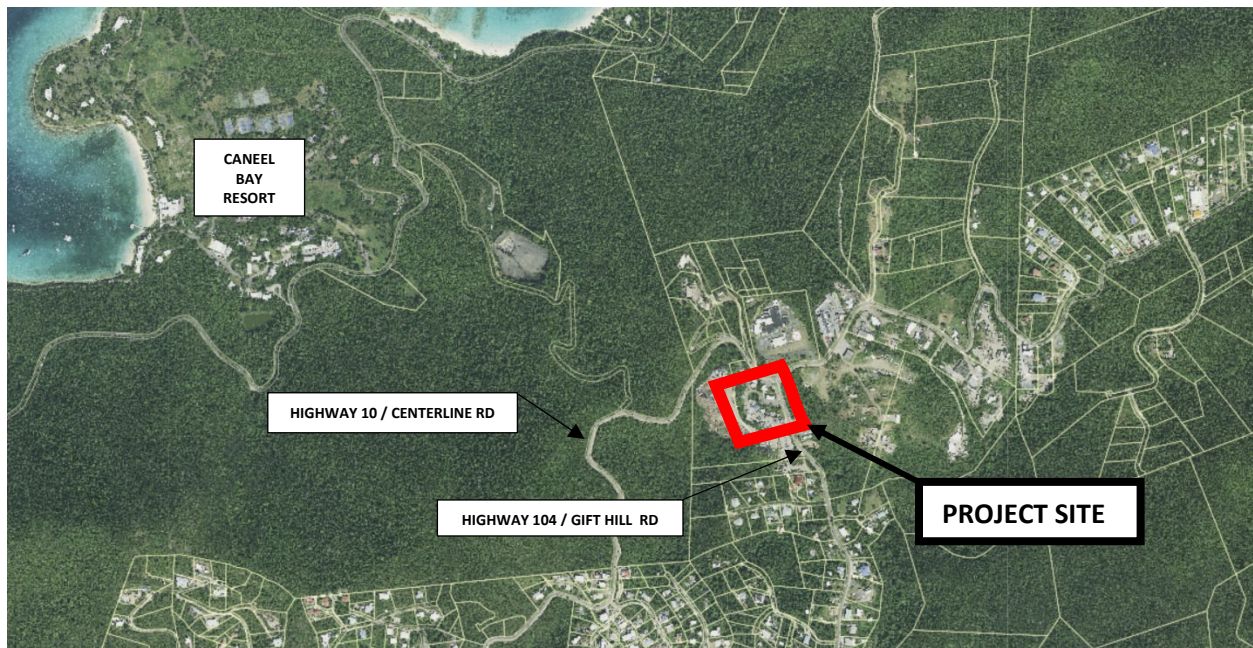


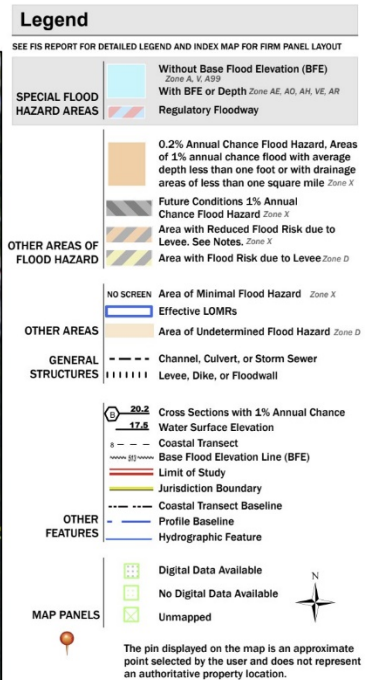
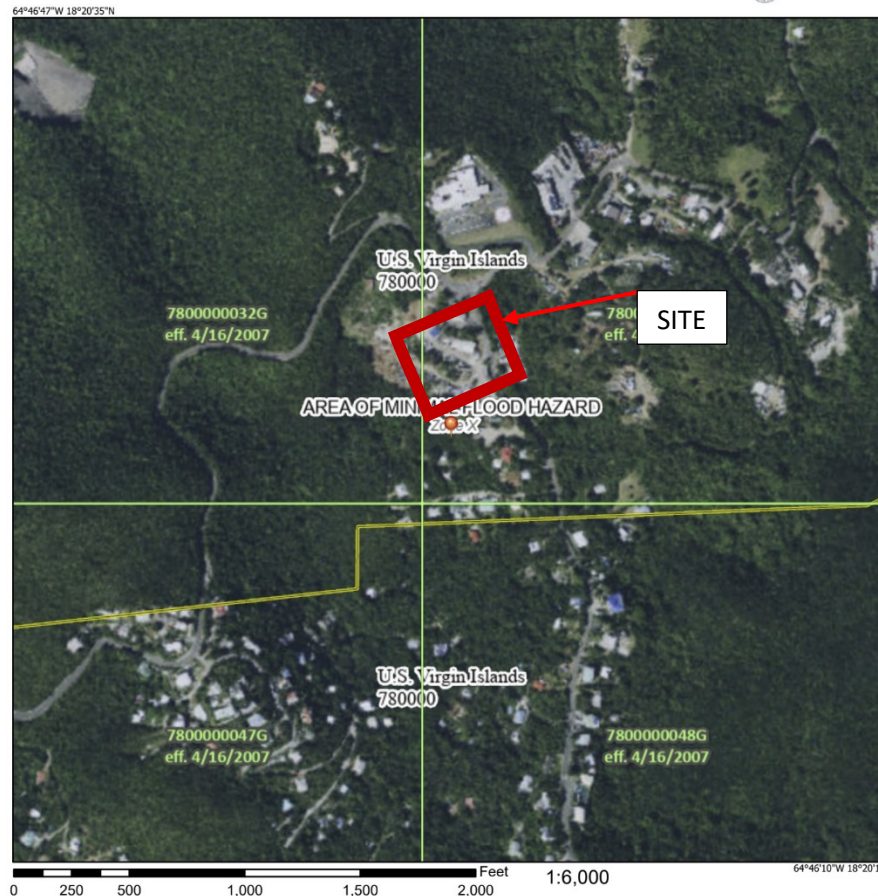
Exhibit 1 – Location Map

PROJECT DESCRIPTION

The disturbed project site measures approximately 0.74 acres and is a part of a larger parcel designated as Plot 6A Susannaberg measuring 2.44 acres in total, zoned Residential (R2) and owned by the Government of the Virgin Islands.

The disturbed project site generally slopes from north to south with the topography ranging from +635ft. MSL to +605 ft. MSL.

National Flood Hazard Layer FIRMette



The existing mechanic shop is a hybrid structure consisting of a pre-engineered structural steel frame wrapped with exterior concrete masonry unit (cmu) to mid height. The remaining height of the building is clad with metal sheathing. The roof consist of steel girders with “Z” purlins and metal sheathing attached. The storage building is a conventional cmu partial two-level structure with a poured concrete above grade cistern at the rear. The roof consist of wood framed rafters with corrugated metal sheathing attached. The mechanic shop is rectangular shaped measuring 40’ x 100’, approximately 4,000 SF. The storage building is square shaped measuring 27’ x 30’, approximately 810 SF footprint.

The exact date of construction of these buildings is unknown, however the result of general inquiry estimates them to be approximately 45 years old. Research of available historical photography on google earth dating to 1985, illustrates that both structures were existing prior to 1985. Building codes were significantly less stringent in the early 1980s having been drastically modified with increased design requirements due to the passing of major hurricanes such as Hugo in 1989, and Irma and Maria in 2017. Both structures sustained significant damage during both storms in 2017 which rendered them uninhabitable. Operations at the facility ceased immediately after the storm. However, this site is essential to the operations for the Department of Public Works on St. John and the need to restore this facility to meet current and future demands is paramount.

A new 4,370 SF facility is being proposed, designed to International Building Code (IBC) 2021 standards.



Photo 1 – Front View of Existing Mechanic Shop to be Demolished – Looking North



Photo 2 – Front View of Existing Storage Building to be Demolished – Looking North



Photo 3 – Front View of Existing Generator Shed to be Demolished – Looking North

The new facility will consolidate four (4) apparatus bays and administrative offices into one structure measuring a gross approximate 38'x115', roughly 4,370 square feet. Given the current and future programmatic requirements of the Department of Public Works, there is no need to increase the square footage over the previous structure. However, the new design results in a much more efficient and functional layout for current and future operational needs. As a part of the Hazard Mitigation Efforts to alleviate any potential for flooding, a fully engineered positive drainage system will be constructed consisting of a combination of bio-swales, storm piping, and three (3) retention ponds.

Other Hazard Mitigation measures include reinforced cmu construction, structural steel, impact resistant glass and hurricane shutters. The mechanical systems proposed are as energy efficient as possible to reduce power consumption and operational cost.

Necessary programmatic functions addressed in the new facility are as follows:

- Office Spaces
- Conference Rooms
- Rest Rooms
- ADA Accessibility
- Apparatus Bays

Construction Plans prepared by Boschulte Architecture – Architects, Engineers and Construction Managers; detail all of the building design elements to include architectural, structural, mechanical, electrical, plumbing, life safety. In addition to the building improvements, major site improvements are also detailed on the construction documents such as new Portland cement concrete parking areas and drive isles, new stormwater management system, new building cistern for potable water, and a new sanitary sewer septic tank and drain field connection.

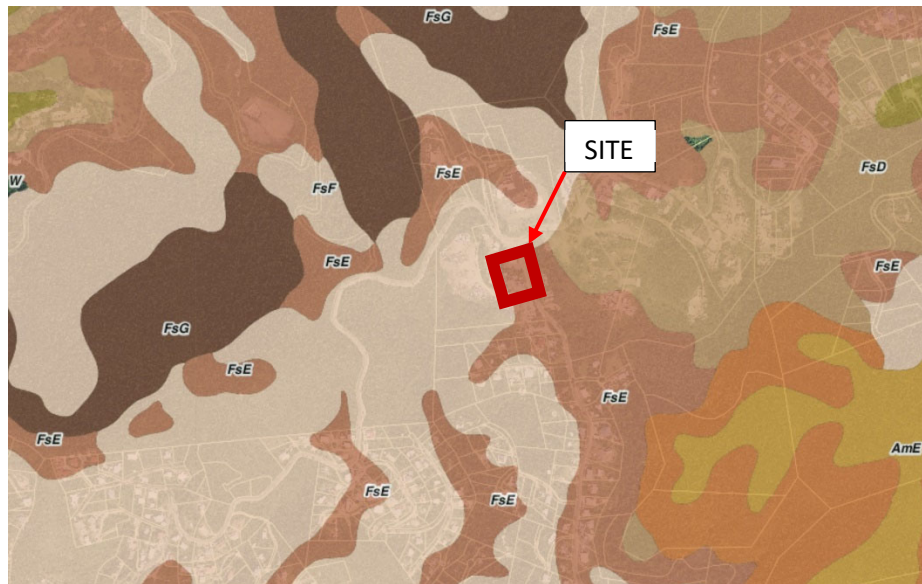
ENVIRONMENTAL IMPACTS

1.0 Climate & Weather

Best Management Practices (BMPs) implementing sediment and erosion control measures will be utilized to ensure that rainfall runoff does not adversely impact adjacent properties. These measures will include a combination of silt fences, gravel construction entrance and egress points with wash down areas, and hay bales. All new structures will be designed to current IBC 2021 building code requirements meeting the regions high velocity hurricane force wind load requirements and earthquake zone seismic requirements. The new construction will incorporate many hazard mitigation measures to account for climate and weather.

2.0 Landform Geology, Soils, and Historic Land Use

The soil type across the project site consists of Fredriksdal-Susannaberg (20-40% slope) (FsE).



The Fredrikstal series consist of the following:

Shallow, well drained, slowly permeable soils on summits and side slopes of volcanic hills and mountains. They formed in material weathered from igneous bedrock. Near the type location, the mean annual air temperature is about 80 degrees F., and the mean annual precipitation is about 40 inches. Slopes range from 12 to 90 percent.

TAXONOMIC CLASS: Clayey-skeletal, vermiculitic, isohyperthermic Lithic Haplustolls

TYPICAL PEDON: Fredriksdal very gravelly clay loam. (Colors for moist conditions.)

A--0 to 7 inches; dark reddish brown (5YR 3/3) very gravelly clay loam; moderate medium and coarse granular structure; firm; many fine roots, common medium roots, and few coarse roots; common very fine and fine interstitial pores; about 40 percent, by volume, pebbles, cobbles, and stones; neutral; clear smooth boundary. (3 to 8 inches thick)

Bw--7 to 12 inches; reddish brown (5YR 4/3) very gravelly clay loam; moderate fine and medium subangular blocky structure; firm; common fine and medium roots; about 5

percent, by volume, flagstones; about 50 percent, by volume, pebbles; common medium faint reddish brown (5YR 4/4) masses of iron accumulation; neutral; gradual smooth boundary. (3 to 8 inches thick)

Cr--12 to 16 inches; yellowish red (5YR 4/6) weathered igneous bedrock; few fine roots; clear smooth boundary. (4 to 12 inches thick)

R--16 to 60 inches; unweathered igneous bedrock.

The Susannaberg series consist of the following:

Shallow, well drained, slowly permeable soils on summits and side slopes of volcanic hills and mountains. They formed in material weathered from volcanic residuum. Near the type location, the mean annual air temperature is about 80 degrees F., and the mean annual precipitation is about 40 inches. Slopes range from 12 to 90 percent.

TAXONOMIC CLASS: Clayey, vermiculitic, isohyperthermic, shallow Typic Haplustolls

TYPICAL PEDON: Susannaberg clay loam. (Colors for moist conditions.)

A--0 to 2 inches; very dark brown (10YR 2/2) clay loam; moderate medium and coarse granular structure; friable; common fine and medium roots, few coarse roots; common fine and medium interstitial pores; few medium wormcasts; about 10 percent, by volume, pebbles, cobbles, and stones; neutral; clear smooth boundary. (3 to 10 inches thick)

Bw--2 to 9 inches; very dark brown (10YR 2/2) clay; moderate fine and medium subangular blocky structure; firm; common fine and medium roots, few coarse roots; common fine and medium tubular pores; few medium wormcasts; about 10 percent, by volume, pebbles; many fine soft masses of iron and manganese; neutral; clear wavy boundary. (3 to 8 inches thick)

BC--9 to 15 inches; dark brown (10YR 3/3) very gravelly clay loam; moderate fine and medium subangular blocky structure; friable; few fine, medium, and coarse roots; common fine tubular pores; many fine and medium wormcasts; about 30 percent, by volume, pebbles; common medium and coarse soft masses of iron and manganese; neutral; abrupt smooth boundary. (4 to 10 inches thick)

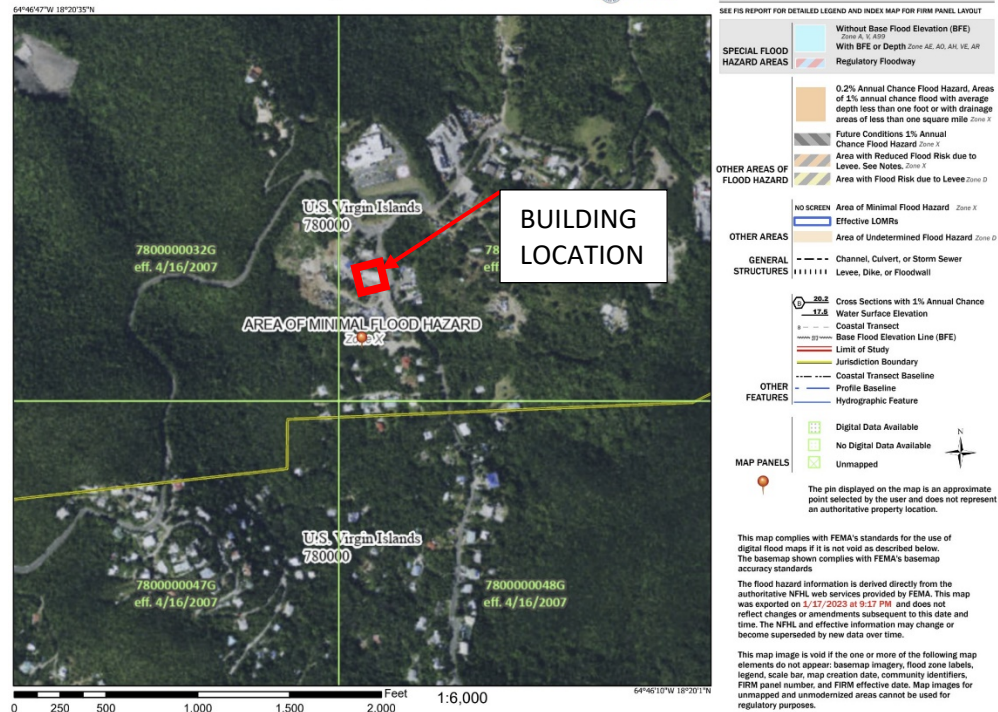
Cr--15 to 21 inches; yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/5) weathered igneous bedrock.

R--21 to 60 inches; yellowish brown (10YR 5/4) unweathered igneous bedrock.

The proposed maintenance building will be constructed in generally the same footprint as the existing structures that will be demolished. All improvements being constructed are on previously disturbed land.

3.0 Drainage, Flooding, and Erosion Control

The actual project site, and more specifically the actual building location, is in FEMA Flood Zone X, an area of minimal flood hazard. To further reduce the chance of flooding, a fully engineered positive drainage system is being constructed inclusive of three (3) retention ponds to provide added storage of stormwater runoff.



Best Management Practices (BMP's) will be implemented from the onset of construction to manage sediment and erosion control.

4.0 Drainage Patterns

The proposed improvements will maintain existing drainage flow patterns from north to south by a combination of sheet flow and piping into newly created onsite retention areas. With the additional onsite storage created runoff from the site will be reduced post-development when compared to the pre-development condition.

5.0 Coastal Floodplain

The project site is located inland away from the coastal waters of St. John. All site stormwater runoff is being collected and piped to retention areas which are designed to filter the runoff through a series of riprap and green ground cover, and percolate into the soil strata below prior to any overflow offsite. As such, most sediments and pollutants will remain trapped in these retention areas/bio swales thereby eliminating any single point pollution source.

6.0 Fresh Water Resources

Best Management Practices (BMP's) will be implemented to manage sediment and erosion control and ensure no adverse impacts to any freshwater resources. All site stormwater runoff will be collected and piped to retention areas which are designed to filter the runoff through a series of riprap and green ground cover, and percolate into the soil strata below prior to any overflow into any offsite freshwater resources. Furthermore, any existing vegetative buffers surrounding the disturbed area will remain intact to further filter any offsite runoff.

7.0 Oceanography

This project is located inland and will not be affected by sea storm surge events.

8.0 Marine Resources

This project is located inland and will not have an impact on marine resources.

9.0 Terrestrial Resources

The project will occur within the footprint of existing buildings, paved roadways, paved and gravel parking lots, concrete sidewalks etc. There will be no significant impacts to existing terrestrial resources or native vegetation.

10.0 Wetlands

The project will have no impacts on any wetlands as no wetlands exist within the project footprint or are adjacent to the project site.

11.0 Rare and Endangered Species

There are no habitats present onsite for any rare and/or endangered species and as such, no federal, local or threatened endangered species will be impacted by this project.

12.0 Air Quality

All of St. John is designated Class II by the Environmental Protection Agency (EPA) in compliance with the 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). Heavy equipment such as excavators, backhoes, dump trucks etc. will be used during construction that will create engine exhaust fumes that will go away upon completion of construction when air quality will be returned to ambient pre-construction conditions. The project will also have a standby generator for which the appropriate air quality permits will be applied for.

IMPACT ON MAN'S ENVIRONMENT

13.0 Land and Water Use plans

The project site is located on Plot 6A, Susannaberg, Cruz Bay, St. John, USVI 00830. The parcel is approximately 2.44 acres and is zoned Residential (R2) and owned by the Government of the Virgin Islands. Neither the existing nor the proposed development land use is consistent with the current zoning. As such, a zoning change to Public (P) will be requested from the Legislature of the Virgin Islands.

14.0 Visual Impacts

The new maintenance facility will be a beautiful state-of-the-art modern contemporary facility that will be an aesthetic statement in architecture.

15.0 Social and Economic Impacts

The new maintenance facility will have a significant social and economic impact on the surrounding community. It is the headquarters for the Department of Public Works (DPW) on St. John. The new state-of-the-art facility will provide a sense of community pride and uplift to the surrounding areas. In addition, the new facility will better serve the DPW's needs, allowing it to be more efficient and effective in administering public infrastructure projects and programs on St. John thereby stimulating economic growth in the local economy.

16.0 Historical and Archeological Resources

The project site is previously disturbed land. As such, there is no known historical and archeological resources in the project footprint.

17.0 Water Disposal and Accidental Spills

All stormwater runoff will be collected into three (3) onsite storage retention systems prior to any overflow offsite.

Equipment and company vehicles will be kept in good operational condition to mitigate any potential leaking of fluids.

COASTAL CONSISTENCY

The proposed St. John Department of Public Works facility will have a negligible impact on environmental resources and ambient water quality during construction. Best Management Practices (BMPs) involving sediment and erosion control devices such as silt fences, hay bales, and gravel construction access driveways will be implemented during construction to negate the potential of adverse environmental impacts. The proposed project will only occur within the footprint of previously disturbed/improved areas and as such there is no anticipated impact on any historical and/or cultural resources.

The Coastal Zone Management Act of 1972 requires that federal actions, within and outside the coastal zone, which have reasonably foreseeable effects on any coastal use (land or water), or natural resources of the Coastal Zone be consistent with the enforceable policies of a state's federally approved Coastal Management Program. The St. John Department of Public Works Maintenance facility is designed to fall within existing roadways and previously disturbed areas. The project will not impact any natural resources and will improve the visual landscape within the St. John Community. As proposed, it will be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the U.S. Virgin Islands' CZM Program. This Federal Consistency Determination demonstrates this Project's compliance with the U.S. Virgin Islands' CZM Program.

The project meets each of the basic goals of the USVI for its coastal zone as set forth in the Virgin Islands Code Title 12, Conservation Chapter 21, Virgin Islands Coastal Zone Management [V.I. Code tit. 12, §903(b)]. Additional details are as follows:

USVI 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 proposed St. John Department of Public Works Maintenance Facility is designed to fall within existing roadways and previously disturbed areas. The project will not impact any natural resources and will improve the visual landscape within the St. John Community.

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 proposed project promotes the economic development and growth in the coastal zone by fulfilling the required programmatic needs for the Department of Public Works. The enhanced and efficient layout of the new facility will allow the Department of Public Works to implement

and execute infrastructure projects and programs which will translate into building a stronger self-sustainable economy that will promote an increase in private sector activity. The new facility itself will employ new technologies to reduce energy cost related to cooling, and also enhance the use of natural lighting.

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.

The proposed project does not impact coastal dependent development within the coastal zone area.

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 proposed project is designed to fall within existing roadways and previously disturbed areas. The project will not impact any natural resources and will improve the visual landscape within the St. John Community. The proposed project will provide critical public services and therefore will meet the economic and social needs of the residents of the St. John Community.

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 proposed project will not impact trust lands or other submerged or filled lands of the U.S. Virgin Islands.

6. Preserve what has been a tradition and protect what has become a right of the public by ensuring 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 proposed project will in no way affect public access to, or use of, the shoreline. The project is located well inland.

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 proposed 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 proposed project is designed so that it impacts only previously disturbed areas like paved and unpaved roadways and parking lots. The project will have no impact on natural resources and will utilize best management practices (BMPs) to minimize areas of disturbance, thereby protecting adjacent habitats.

9. Maintain or increase coastal water quality through control of erosion, sedimentation, runoff, siltation, and sewage discharge.

The proposed project will have no long-term change on sedimentation or erosion. Stormwater will be directed to retention areas/bio-swales for percolation before any overflow offsite.

The proposed project is designed to fall within existing roadways and previously disturbed areas. The project will not impact any natural resources and will improve the visual landscape within the St. John Community. It will maintain coastal water quality through control of erosion, sedimentation, runoff, and siltation. As designed, it 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 USVI. It is therefore consistent with the policy set forth in the Virgin Islands Code Title 12, Conservation Chapter 21, Virgin Islands Coastal Zone Management [V.I. Code tit. 12, § 903 (b)].

END COASTAL CONSISTENCY DETERMINATION REQUEST