

**ENVIRONMENTAL ASSESSMENT REPORT  
REQUEST FOR A ZONING VARIANCE FOR  
PARCELS 4I AND 4J REM  
ESTATE ST. JOSEPPH AND ROSENDAHL  
ST. THOMAS, U.S. VIRGIN ISLANDS**

**PREPARED ON BEHALF OF  
A.C. DEVELOPMENT  
ST. THOMAS, U.S. VIRGIN ISLANDS**

**PREPARED FOR  
THE DEPARTMENT OF PLANNING AND NATURAL RESOURCES  
DIVISION OF COMPREHENSIVE AND COASTAL ZONE PLANNING**

**PREPARED BY  
BIOIMPACT, INC.**

**DECEMBER 2024**



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## **1.00 NAME AND ADDRESS OF APPLICANT**

A.C. Development

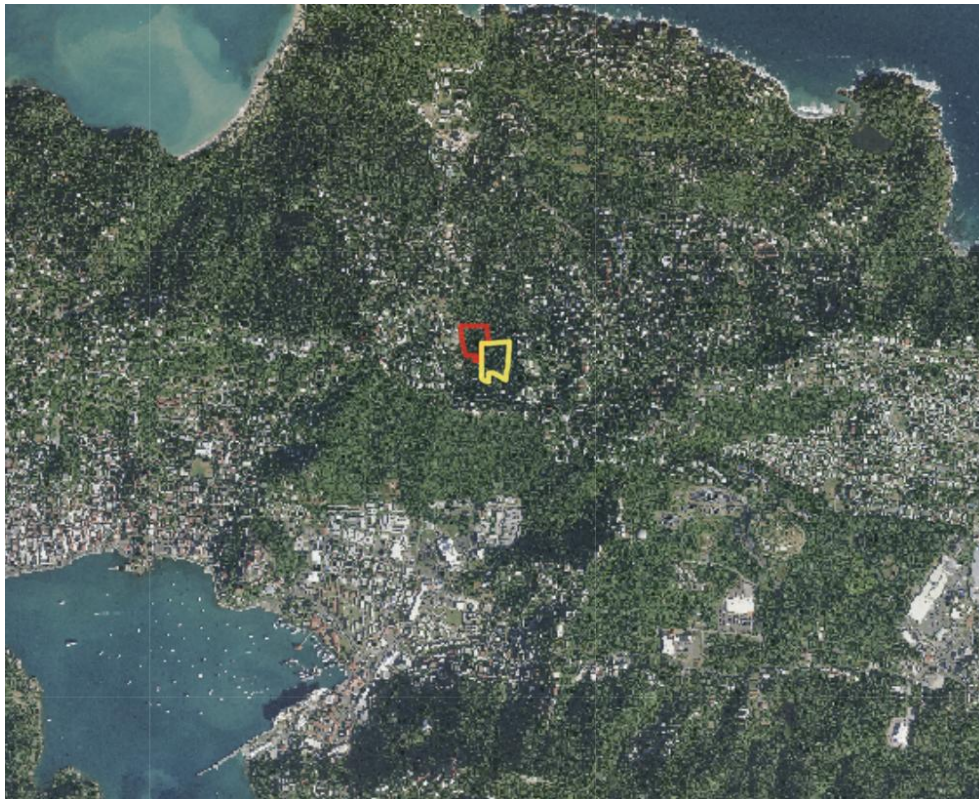
9804 Plowline Rd. Randallstown, MD 21133

St. Thomas, USVI 00802

## **2.00 LOCATION OF PROJECT**

Parcels 4I and 4J Remainder Estate St. Joseph and Rosendahl which are the subject of this zoning variance request are in the middle of St. Thomas to the northeast of downtown of Charlotte Amalie. The property is located at 18.349029°N latitude and -64.911939°longitude. Parcels 4I and 4J are fully shown on OLG D9-7634-T005.

The Location and Agency Review Map in Figure 1 below depicts the parcels location on the island of St. Thomas.



**Figure 1. Location and Agency Review Map**





### **3.00 ABSTRACT**

The subject properties encompass 11.168 acres of land found on the mountain. The property is currently zoned R-3, Residential. A.C. Development would like to rezone the property to a Planned Area Development.

### **4.00 STATEMENT OF OBJECTIVES SOUGHT BY THE PROPOSED APPLICATION**

The objective of the application is to obtain a zoning change for the property so that about eighty (80) units of attached (townhomes) and detached units can be constructed as part of a Planned Area Development. The property is currently Zoned R-3, and A.C. Development is proposing to rezone the property to a Planned Area Development (PAD) which allows for a more efficient method of septic waste disposal and allows for the preservation of larger swaths of open space and preservation of the natural environment.

### **5.00 DESCRIPTION OF PROJECT**

#### **5.01 5.01a Summary of Proposed Activity**

A.C. Development is proposing to develop a Planned Area Development. They propose to construct approximately 80 units of attached townhomes and detached units with combined septic leach fields, a park and preservation of large drainage areas.

#### **5.01.b Presence and Location of Any Critical Areas and Possible Trouble Spots**

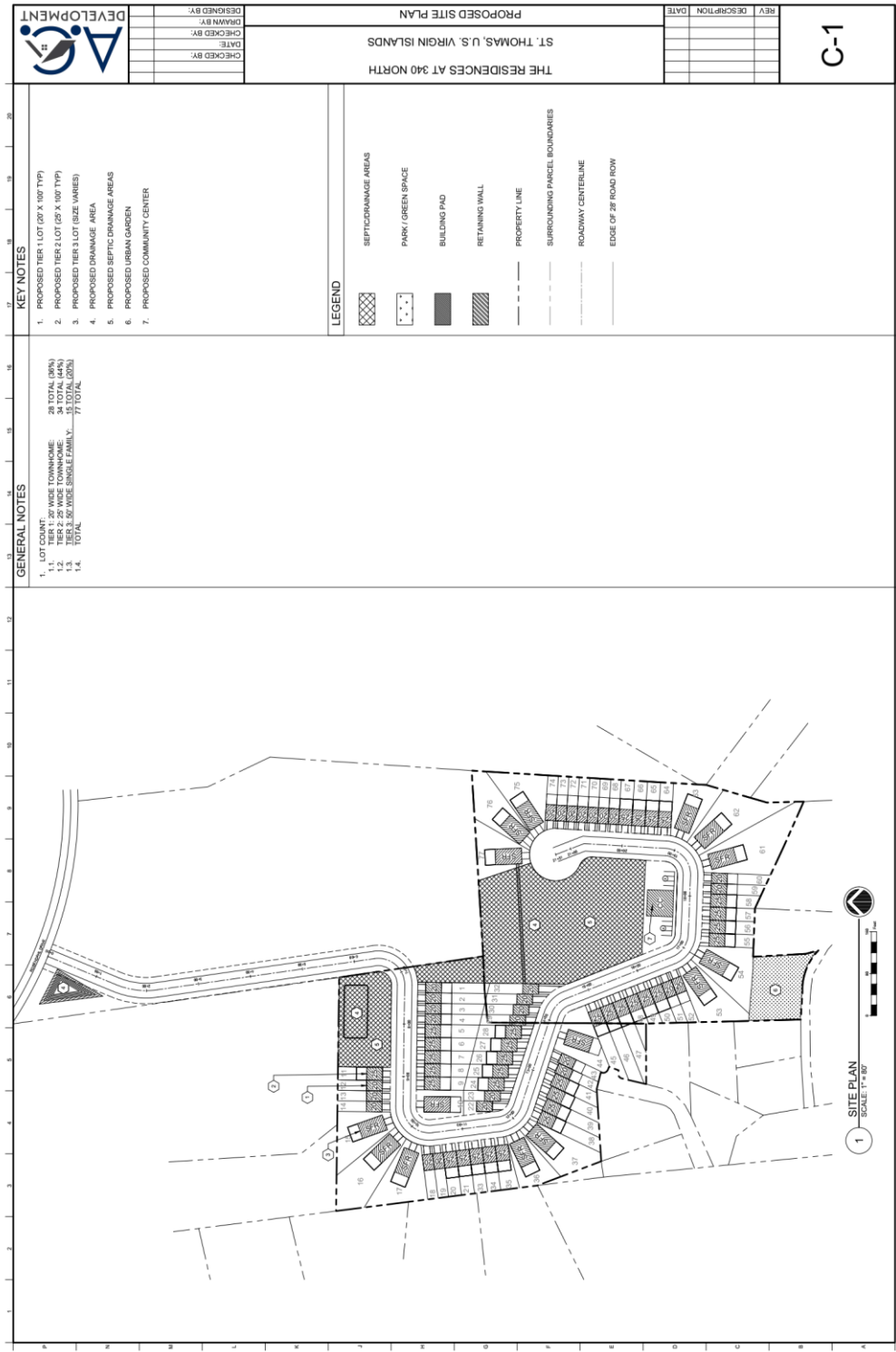
The site has suitable vegetation and prey base for the Virgin Islands Tree Boa and the Fish and Wildlife Service's iPaC site states Virgin Islands Tree Boas could occur on this property. There were no ESA listed plants or animals that were seen within the proposed development parcels. Thorough surveys were done through the parcels and no Virgin Islands Tree Boas were seen. The development areas will need to follow the Virgin Islands Tree Boa Site Clearance Protocol. The project will be preserving large areas of natural environment throughout the center of the property which will preserve large areas of potential tree boa habitat and areas of natural forest.

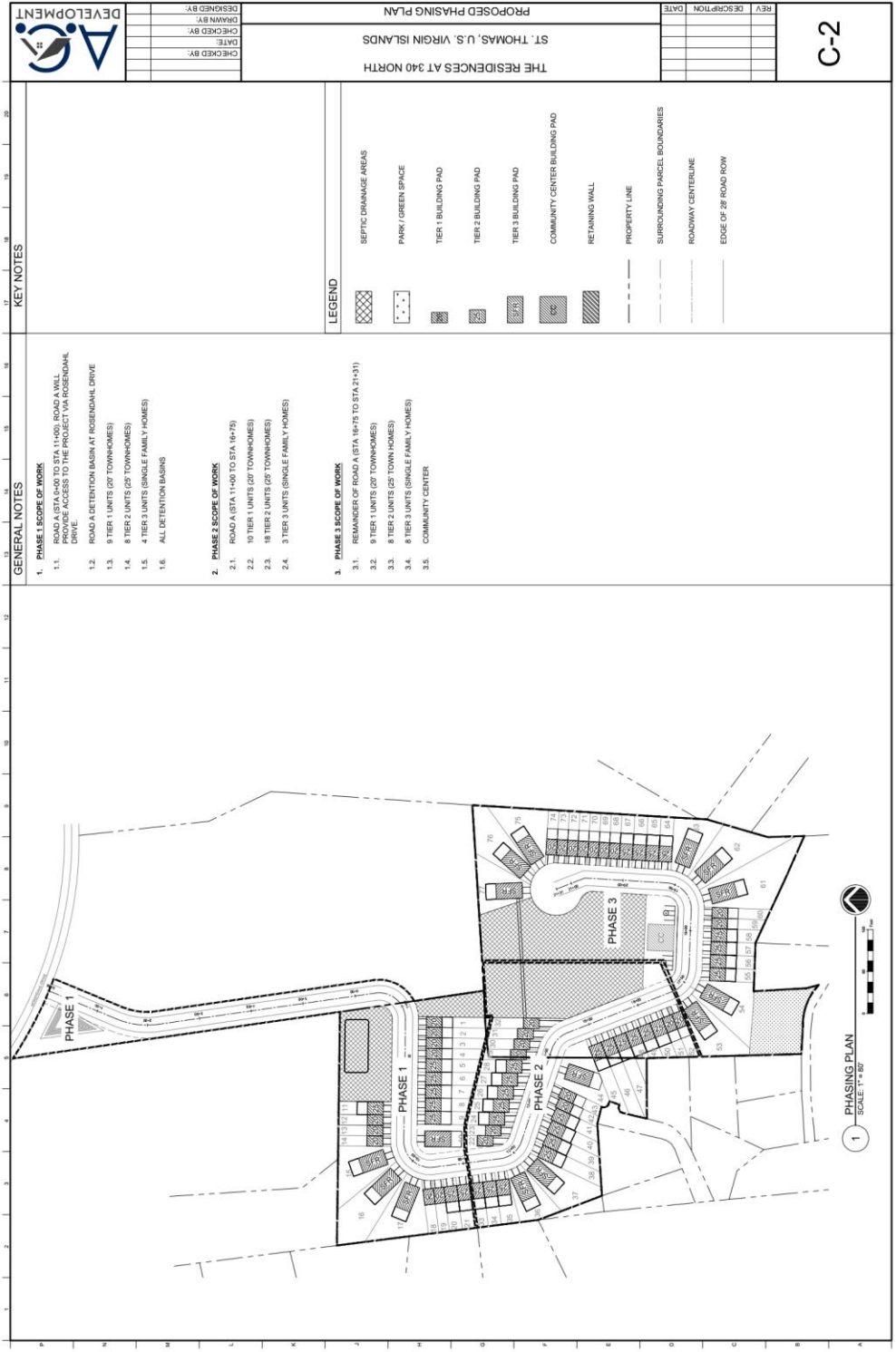
The property is steep with slopes ranging from 40-70% and stringent sedimentation and erosion control will need to be designed and implemented during construction.

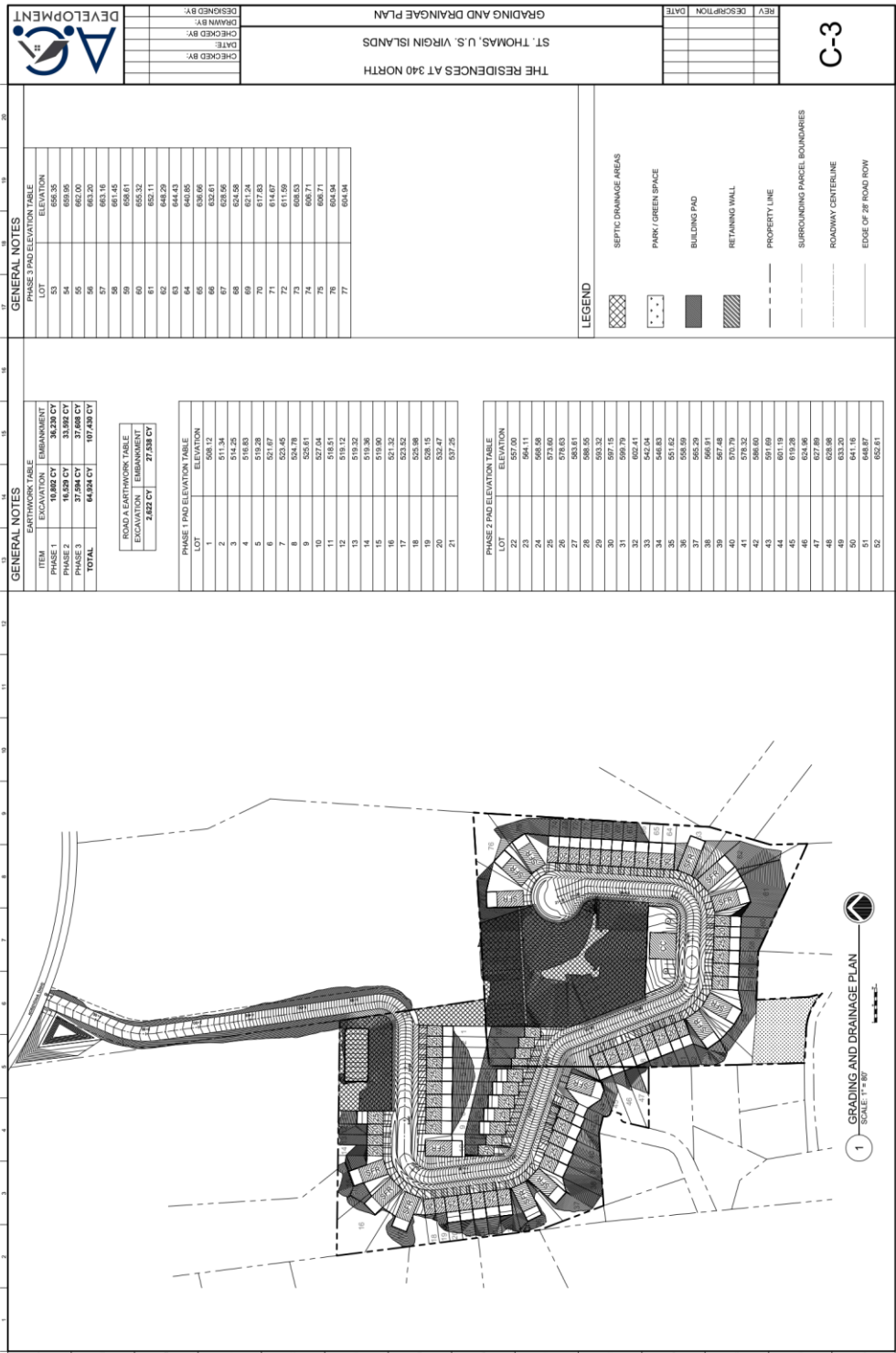
#### **5.02 Site Plans**

The preliminary plans for the project follow:





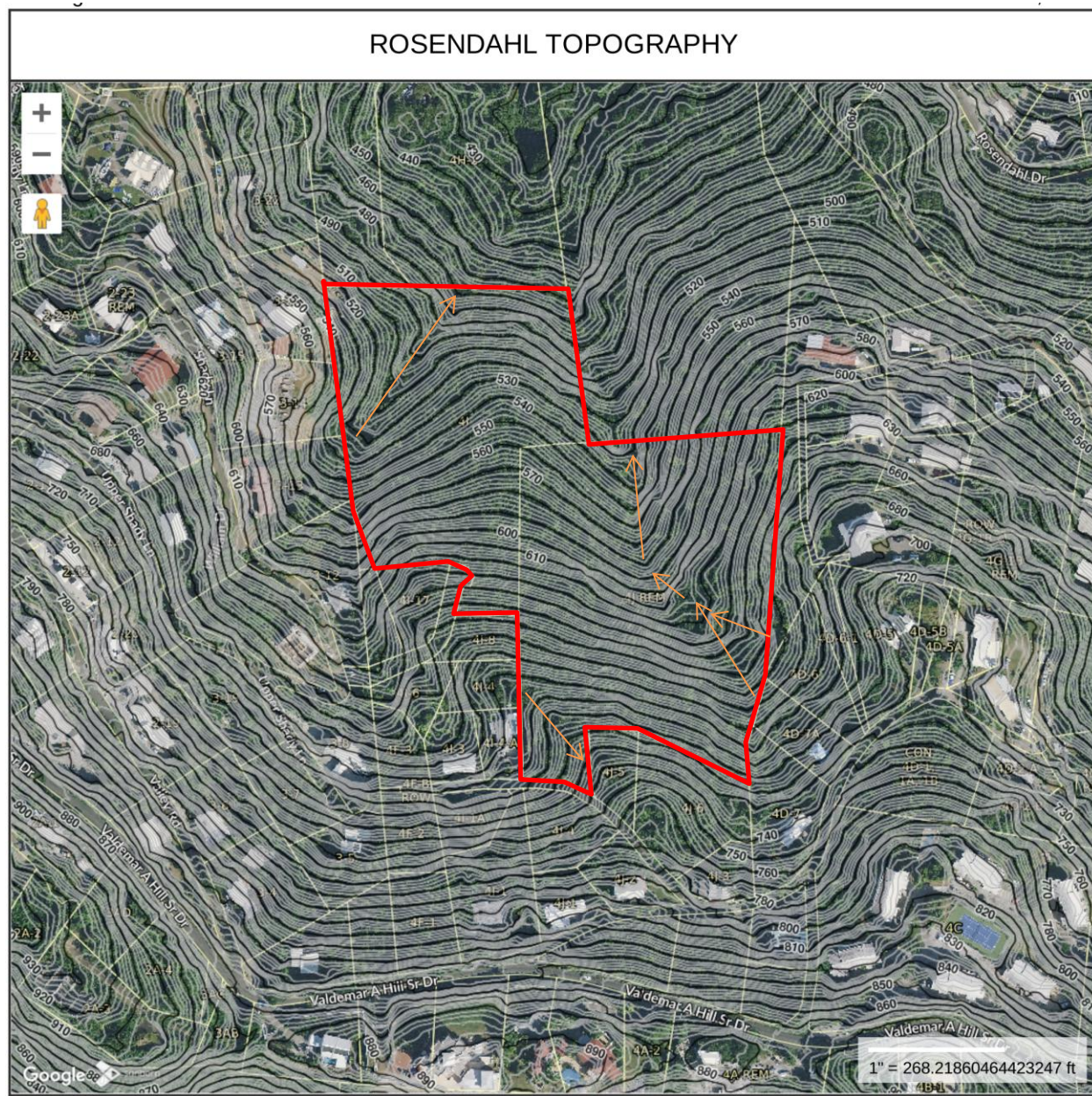






## **6.0 ECOLOGICAL SETTING AND PROBABLE PROJECT IMPACT ON THE NATURAL ENVIRONMENT**

The topography of the subject property is steep with slopes ranging from 40-70 % (Figure 4). The Custom Soil Resource Report for 4I and 4J Estate St. Joseph and Rosendahl prepared by the USDA Natural Resources Conservation Service identifies on soils type encompassing both parcels (Figure 5). Dorothea-Susannaberg complex, 40 to 60 percent slopes, extremely stony is not prime farmland and the mean annual precipitation is 43 to 48 inches. This soil is found on ridges, mountain slopes and hills. The soil is clay loam to a depth of up to 60 inches and restrictive features are greater than 80 inches for this well drained soil. The property is in Flood Zone X where 100yr coastal flooding is not expected according to FEMA FIRM Map 27 of 94 dated April 16, 2007 (Figure 6). There are three defined drainage ways within the property. One is within what will become the park/garden area, one is located in the center of the property and a large section of it will be preserved as part of the drainage area.



**Figure 4. Topography of 4I and 4J Estate St. Joseph and Rosendahl**



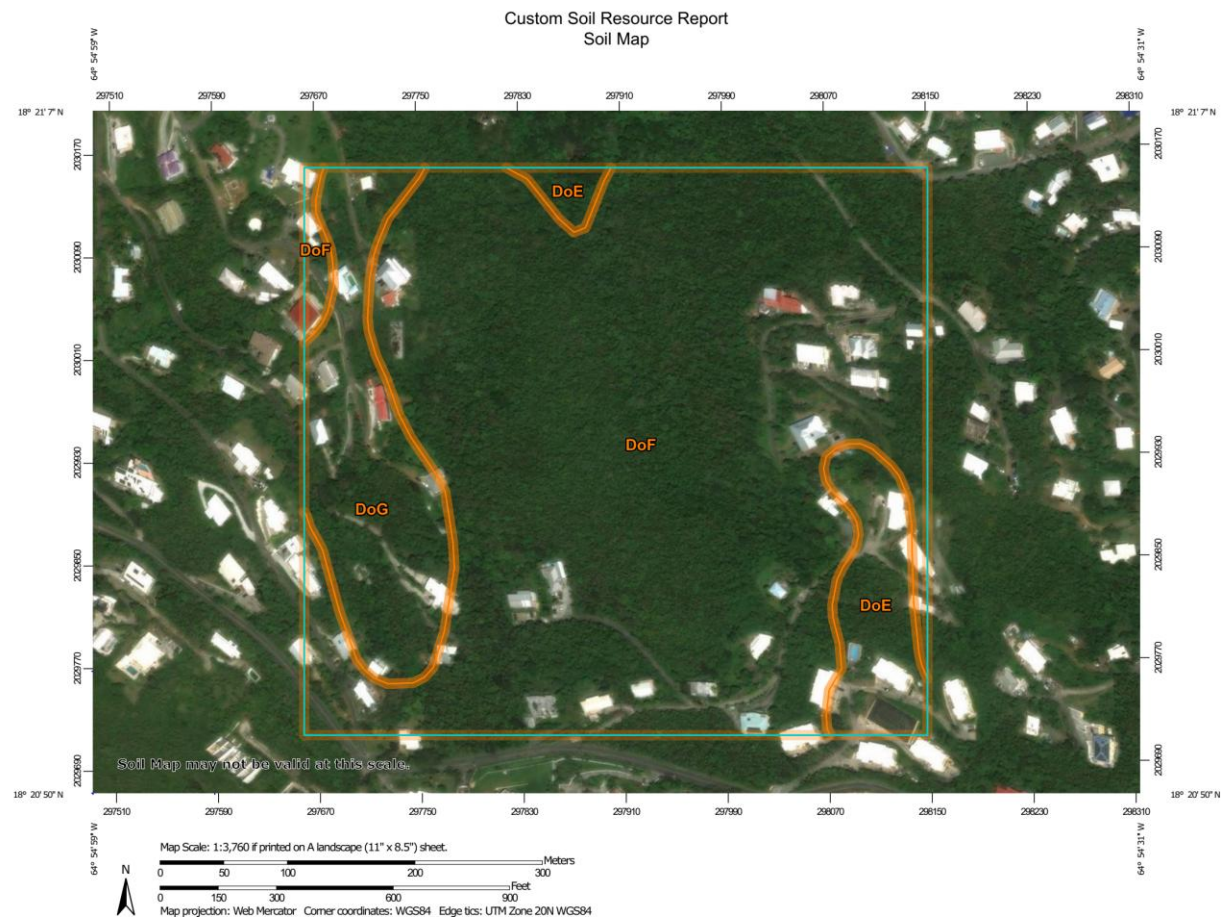


Figure 5. Custom Soils Map of Parcel 4I and 4J Estate St. Joseph and Rosendahl

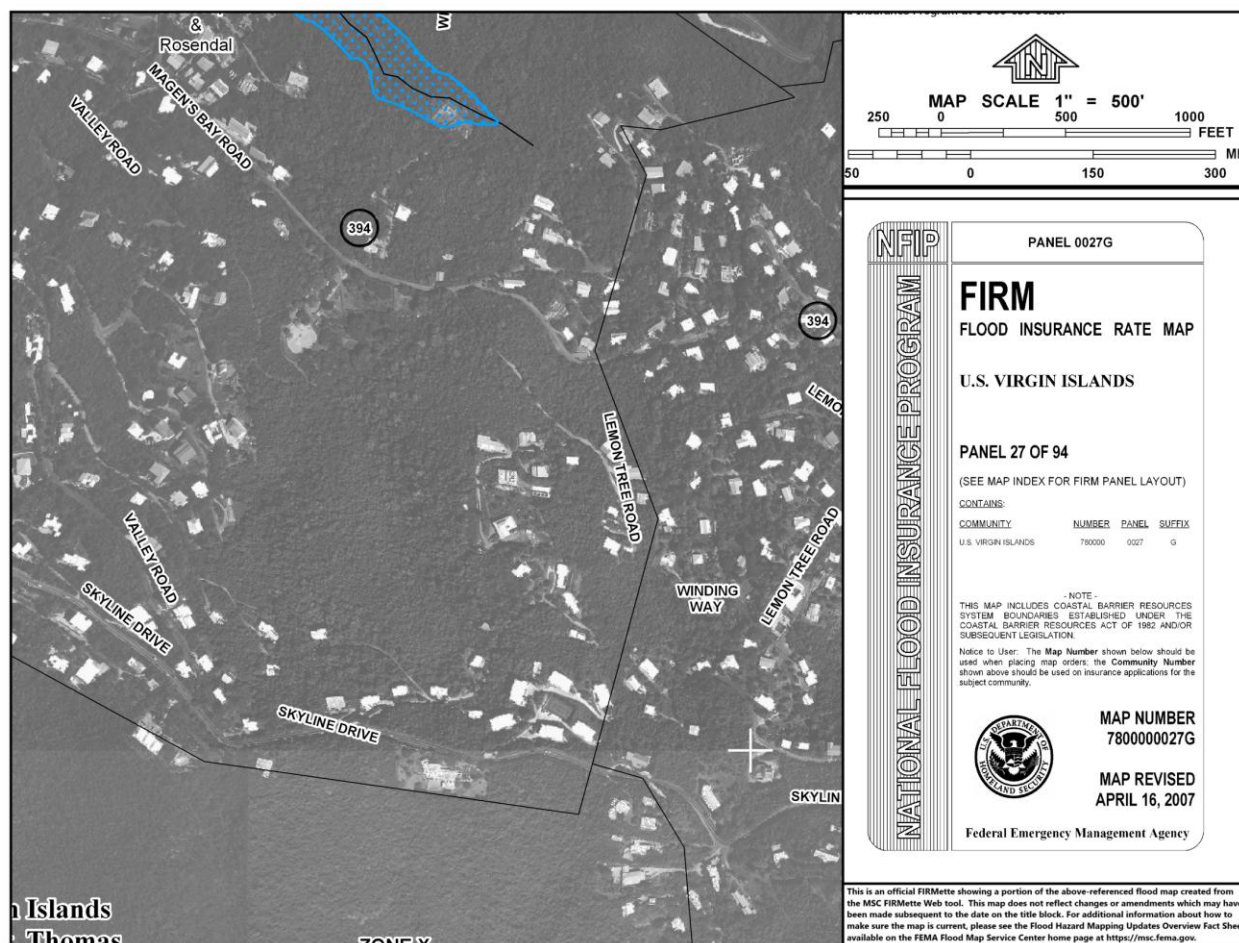


Figure 6. FEMA FIRM 27 of 94, April 16, 2007, the entire site is in Flood Zone X.

### Adjacent Properties and Uses

The properties to the south, east and west are all developed for residential use and are zoned R-2 residential low density. The properties to the north are undeveloped. Parcel St. Joseph and Rosendahl, No. 4 Great Northside Quarter is zoned R-2 and Parcels 4H-2 and Rem 4H are zoned A-2 Agriculture.

### 6.1 Terrestrial Resources

Parcels 4I and 4J Estate St. Joseph and Rosendahl are located on steep north facing slopes. Walk through transects were made throughout the forested site. Flora and fauna on the site were identified and evening surveys were conducted to look for the Virgin Islands Tree Boa (*Chilabothrus granti*). Adequate prey base was found, anoles (*Anolis cristatellus*, *A. acutus* and *A. pulchellus*) and ground lizards (*Sphaerodactylus macrolepis*) and Ameiva lizards (*Pholidoscelis exsul*) were seen but no Tree Boas were seen. A single Puerto Rican Racer (*Borikenophis portoricensis*) was seen. Iguana (*Iguana iguana*) were expected but not seen.



The property was heavily vegetated with a well-developed canopy and understory. The largest trees are water mampoo (*Pisonia subcordata*), black mampoo (*Guapira fragrans*), turpentine (*Bursera sumatrana*) and a single large tamarind (*Tamarindus indica*). There are scattered tyre palms (*Coccothrinax alta*) throughout the property both in the canopy and understory. Wild pineapple (*Bromelia pinguin*) was abundant and made moving through the understory a challenge. Other trees found include, *Cordia Geiger*, *Pisonia subcordata*, *Andira inernis*, *Spondia mombin*, *Cordia ricksickeri*, *Poitea florida*, *Citharexylum fruticosum*, *Capparis cynophallophora*, *C. indica*, *Ficus benjamina*, and *Manilkara bidentata*. There are scattered plants in the understory and along the roadside including, *Lantana camara*, *Leucaena leucocephala*, *Sanserveria trifaceata*, *Gonzalagunia specata*, *Pictetia aculeata*, *Acacia macracantha*, *Acacia muricata*, *Adelia ricinella*, *Amyris elemifera*, *Eugenia biflora*, *C. flavens*, *Eugenia sessiliflora*, *Randia aculeata*, *Rauvaolfia nitida*, *Triphasia trifolia*, and *Haematoxylum campechianum*. There are numerous vines including *Anigonon leptopus*, *Clitoria ternatea*, *Capparis flexuosa*, *Stignophylon enarginatun* and *Momoridica charantia*. Grasses along the roadside include *Urochloa maxima*, *Melinis repens*, *Paspalum spp.*, *Digitaria spp.*, *Dactyloctenium aegyptium*, *Cynodon dactylon*, and *Chloris inflata*.

There is some landscape material dumping evident along the roadside and other developed properties.



From along the roadside



**The property has a dense, diverse canopy and understory.**



**Tyre palms and wild pineapples are common in the understory.**





**There are fallen trees from the hurricanes.**



**There is a heavy carpet of leaf litter and abundant ground lizards.**



There is an old stone wall (common in St. Thomas) and scattered older refuse within the property.

#### Impact of Development

The grading of areas for the development of the roadway, and homes will result in the loss of some areas which are currently heavily forested. A large area of the parcels will be preserved as part of the drainage area, and the park. This will preserve areas of native forest for use by the VI Tree Species and other fauna.

## 6.2 Endangered Species

ESA Species survey was conducted of Parcels 4I and 4 J, Estate St. Joseph and Rosendahl, St. Thomas U.S.V.I. in December of 2024. The U.S. Fish and Wildlife's iPAC website shows one ESA Listed species which could occur within the area, the Virgin Islands Tree Boa, *Chilabothrus granti*. The iPAC site reports that no Critical habitat lies within the vicinity of the subject parcels.

The area will be preserving large areas of forest which can be used as habitat for the tree boa. Hand clearing of areas prior to the development will need to be done in the direction of the areas of undisturbed forest to allow the Boa to move towards the safe areas. The VI Tree Boa clearing protocols are attached in Appendix C.

## 7.0 ARCHEOLOGICAL RESOURCES

The archeological survey resulted in the identification of a dry laid, rubble wall on Plot 4J Rem. This wall has segments that are well preserved, as well as collapsed sections. The rock from the short section of the wall that turns to the south appears to have been robbed of significant parts of the stone. Because of the right angle turn of the wall, it appears as if this was an enclosure for cattle

or perhaps an enclosure for horticultural pursuits to keep cattle out. The dry laid rubble wall is not considered to have the potential to meet criteria (Criteria C or D) of eligibility to the National Register of Historic Places. The remains of the stone enclosure are, however, considered to be significant to the history and archaeology of the USVI as it is a constructed feature likely associated with cattle farming and/or agricultural/horticultural pursuits during the colonial period.

The refuse dump appears to date to the mid-20th century and is a modern site intrusion event and is not considered to have the potential to meet criteria of eligibility to the National Register of Historic Places.

We note that the absence of precolonial and colonial settlements, and/or homesteads on the subject property is attributable to the very steep sloping topography of the subject property.

The archeologist recommends that the Department of Planning and Natural Resources, Virgin Islands State Historic Preservation Office issue a conditioned finding of no objection to the proposed development of Plots 4I and 4J Rem and recommend that the remnants of the dry laid rubble wall are documented by exposure of its horizontal extent and documentation by measured line drawings and photography of representative elevations of the wall. The wall alignment should then be followed by the survey of its alignment by a USVI licensed surveyor.

They note that plans for such additional work would need to be submitted to the VISHPO for their review and comment. The additional work should be of a scope sufficient to meet VISHPO's requirements for preservation or mitigate adverse effects. We understand that the wall may be in the rear of the lot or lots of future subdivisions, as such and if feasible, we recommend preservation of the wall alignment. The area in which the wall is found will be preserved as part of the park/Garden area.

The report will be submitted to the V.I. State Historic Preservation Office (VISHPO).

## **8.00 HUMAN ENVIRONMENT**

Parcels 4I and 4J lie within an area of residential development of single-family homes. The project will be introducing attached residential units and a higher density than currently exists. The property will have to provide its own water and sewer disposal as public service is not available.



## APPENDIX A

**BIOIMPACT, INC.**

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**KINGSHILL, ST. CROIX**

**U.S. VIRGIN ISLANDS 00851**

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**FAX NUMBER: (340) 718-3800**

**EMAIL: [bioimpact@islands.vi](mailto:bioimpact@islands.vi), [bioimpact.islands.vi@gmail.com](mailto:bioimpact.islands.vi@gmail.com)**

### QUALIFICATION STATEMENT

**Bioimpact, Inc.** is a Virgin Islands corporation that has been licensed to do business in the USVI since 1986.

**Bioimpact, Inc.** is qualified to conduct and prepare both terrestrial and marine Environmental Assessment Reports required by the U.S. Virgin Islands Department of Planning and Natural Resources (DPNR), Division of Coastal Zone Management (CZM), and the U.S. Army Corps of Engineers (USACE).

**Bioimpact, Inc.** has wetland delineators certified by the National Wetland Science Training Cooperative to establish wetland jurisdictional limits for the USACE.

**Bioimpact, Inc.** is experienced in the creation and implementation of wetland mitigation programs.

**Bioimpact, Inc.** is experienced in developing and implementing marine water quality monitoring programs and long-term monitoring of the benthic environment.

**Bioimpact, Inc.** has water samplers and analysts certified by the DPNR Division of Environmental Protection (DEP).

**Bioimpact, Inc.** has successfully designed and implemented large scale coral and seagrass transplant programs.

**Bioimpact, Inc.** is experienced in cable landfall studies and the establishment of routes for undersea cables and monitoring of cable installations to minimize impact.

**Bioimpact, Inc.** is experienced in conducting endangered species surveys including corals listed under the Endangered Species Act (ESA) and terrestrial flora and fauna species surveys.

**Bioimpact, Inc.** is experienced in preparing Biological Assessments for the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS).

**Bioimpact, Inc.** is experienced in the transplant and monitoring of ESA-listed corals, as authorized under “Take Permits” from NMFS.

**Bioimpact, Inc.** is experienced in preparing Environmental Assessments for federal permitting and for federal issuance of a Finding of No Significant Impact (FONSI).

**Bioimpact, Inc.** is experienced in conducting Phase I Environmental Site Assessments as set forth in the ASTM International Standard Practice Designation E1527-21 and All Appropriate Inquires and Phase II Environmental Site Assessments as set for in ASTM E1903-11.

**Bioimpact, Inc.** is experienced in the development and implementation of sampling plans to detect and delineation hazardous materials and petroleum products.

**Bioimpact, Inc.** is experienced in conducting deep water remotely operated vehicle (ROV) surveys up to 1,250 feet and has all the necessary equipment to undertake these studies.

**Bioimpact, Inc.** has conducted environmental studies in the U.S. Virgin Islands, Puerto Rico, British Virgin Islands, as well as other parts of the Caribbean and in the Florida Keys.



**PARTIAL JOB LIST**  
Updated March 31, 2022

**MONITORING LARGE SCALE PROGRAMS**

- 2021 – Present** Watershed and Stormwater Sampling on St. Croix and St. Thomas as a Subcontractor to Watershed Consulting Associates LLC.
- 2021 – Present** Development and Implementation of a Water Quality and Environmental Monitoring Plan for Construction of a Private Dock in Chocolate Hole, St. John.
- 2021 – Present** Development and Implementation of a Water Quality Monitoring Plan for the Reconstruction of the Marriott Frenchman’s Reef Dock and Minor Dredging.
- 2020 – Present** Monitoring for the Virgin Islands Tree Boa at the Donoe Housing Redevelopment Site.
- 2019 – Present** Development and Implementation of the Water Quality and Environmental Monitoring Plan for the Installation of a Single Point Mooring at Limetree Marine Terminals, St. Croix.
- 2013 – Present** U.S. Virgin Islands Ambient Water Quality Monitoring Program, Sampling for St. Croix.
- 2018 – 2021** Development and Implementation of the Water Quality and Environmental Monitoring Plan for the Construction of the Veterans Drive Project on St. Thomas for the U.S. Virgin Islands Department of Public Works (VIDPW).
- 2016** Development and Implementation of the Water Quality Monitoring Plan for the West Indian Company Limited (WICO) Emergency Bulkhead Replacement on St. Thomas.
- 2014 – 2018** Development and Implementation of the Environmental Monitoring Plans for the Conversion of U.S. Virgin Islands Water and Power Authority (VIWAPA) to Liquid Petroleum Gas (LPG) for Vitol on St. Croix and St. Thomas.
- 2014 – 2018** Development and Implementation of the Environmental Monitoring Plans for the Creation of a Dolphin Exhibit at Coral World (VI), Inc. on St. Thomas.
- 2013 – 2018** Development and Implementation of the Water Quality and Environmental Monitoring Related to the Dredging of the Crown Bay Marine Terminal and Turning Basin on St. Thomas.
- 2013 – Present** Development and Implementation of the Monitoring Plans for the VIDPW’s Improvements to Veterans Drive on St. Thomas.

- 2013 – 2018** Development and Implementation of the Monitoring Plans for the U.S. Virgin Islands Port Authority's (VIPA) Maintenance Dredging of Crown Bay Marina on St. Thomas.
- 2013 – 2018** Development and Implementation of Monitoring Plans for the Westin Resort's Dock Permit and Improvements of Stormwater Drainage on St. John.
- 2013 – 2015** Implementation and Monitoring of a Wetland Created as Mitigation for the Development of the U.S. Virgin Islands Waste Management Authority's (VIWMA) Transfer Station on St. Croix.
- 2012 – 2018** Development and Implementation of the Monitoring Plans for the Virgin Islands Next Generation Network's (viNGN) Fiber Optic Cable System in the USVI.
- 2011 – 2019** Development and Implementation of a Water Quality and Environmental Monitoring Plan to Assess Impacts of an Increase in Discharge from the Marriott Frenchman's Reef Hotel on St. Thomas.
- 2010 – 2012** Development of the Water Quality and Environmental Monitoring Program for the Development of Thatch Cay with a Special Emphasis on ESA-listed Corals.
- 2009 – 2015** Environmental Monitoring for the Development of Oil Nut Bay and the Yacht Club Costa Smeralda (YCCS) for Victor International on Virgin Gorda, British Virgin Islands (BVI).
- 2009 – 2010** Development and Implementation of a Water Quality Monitoring Plan for the Construction of the Dock at Frenchman's Cove for Marriott Vacation Club, Inc on St. Thomas.
- 2009** Establishment of the Baseline for the Dredging of Charlotte Amalie Harbor and Entrance Channel, and the and the Disposal of Dredged Materials in the Historic Dredging Hole in Lindbergh Bay, St. Thomas for WICO.
- 2008 – 2009** Environmental Monitoring of the Development of Scrub Island in the BVI for Mainsail Lodging and Development.
- 2007 – 2010** Water Quality Monitoring for the Development of the Calabash Boom Affordable Housing Complex for Reliance Housing in Estate Calabash Boom on St. John.
- 2007 – 2009** Water Quality and Environmental Monitoring for Flamboyant Real Estate of a Subdivision of Seventy-seven Acres in Hansen Bay, St. John.
- 2006 – 2008** Water Quality Monitoring for the Dredging of a Sand Channel in St. Croix for VIWAPA.



- 2006 – 2007** Water Quality Monitoring for the Renovations of the Ritz-Carlton Hotel on St. Thomas for the Ritz-Carlton.
- 2006 – 2010** Environmental Monitoring for the Placement of Undersea Cables at the Global Crossing Cable Station in St. Croix for Global Crossing Network, Alcatel, and Tyco Electronics Subsea Communications (now SubCom).
- 2005 – 2007** Water Quality Monitoring for the Dredging of Crown Bay, St. Thomas for VIPA.
- 2005 – 2006** Water Quality and Environmental Monitoring for Improvements to the Redhook Marine Terminal for VIPA.
- 2004 – 2011** Water Quality and Environmental Monitoring for the Construction of the Pond Bay Resort for First American Development Group on St. John.
- 2004** Benthic Habitat Survey of Crown Bay and Gregerie Channel to Supplement the USACE Feasibility Report for VIPA.
- 2003 – 2006** Water Quality Monitoring for the Construction of the Enighed Pond Marine Terminal on St. John for VIPA.
- 2003 – 2004** Water Quality Monitoring for the Development of the Crown Bay Marine Terminal on St. Thomas for VIPA.
- 2002 – 2008** Water Quality and Environmental Monitoring for the Development of Marine Amenities on the Island of Lovango for the Joseph Markus Trust.
- 2002 – 2005** Water Quality Monitoring for the Improvements to the Gallows Bay Marine Terminal on St. Croix for VIPA.
- 2001 – 2008** Coral Transplant Monitoring for the Enighed Pond Marine Terminal on St. John for VIPA.
- 2001 – 2006** Coral Transplant Monitoring for the Mangrove Lagoon Sewage Treatment Plant Outfall on St. Thomas for VIDPW.
- 2001 – 2002** Water Quality Monitoring for Improvements to the Tropical Shipping Dock in Crown Bay, St. Thomas for Meisner Marine.
- 2000 – 2006** Seagrass Transplant Monitoring of the Seagrass Transplanted for the Dredging of Charlotte Amalie Harbor on St. Thomas for VIPA.
- 2000 – 2003** Water Quality Monitoring for the Dredging of Charlotte Amalie Harbor on St. Thomas for VIPA.

- 1999 – 2006** Water Quality Monitoring for Repairs to the Frederiksted Pier on St. Croix for VIPA.
- 1999 – 2002** Water Quality Monitoring for the Construction of Cable Stations at Estate Northside on St. Croix for Global Crossings.
- 1997 – 2005** Development of a Water Quality Monitoring Program for the Construction of the Christiansted Boardwalk on St. Croix Prepared for the Government of the U.S. Virgin Islands.
- 1997 – 2005** Wetland Monitoring of the Tren Urbano, Puerto Rico (PR) 5 and PR 22 Mitigation Sites under Subcontract to Nutter & Associates, Inc. for the Puerto Rico Highway Authority.
- 1997 – 2002** Wetland Monitoring of the Airport Mitigation Site at the Henry E. Rohlsen Airport on St. Croix for VIPA.
- 1997 – 2002** Wetland Monitoring for the Fairplains Mitigation Site at the Henry E. Rohlsen Airport on St. Croix for VIPA.
- 1996 – 1998** Water Quality Monitoring for the Expansion of the Molasses Pier at the Third Port on St. Croix for the VIPA.
- 1996** Development and Implementation of a Water Quality Monitoring Program for the Expansion of, and Improvements to, the Redhook Marine Terminal on St. Thomas for VIPA.
- 1996** Development and Implementation of a Water Quality Monitoring Program for the Creation of the Enighed Pond Marine Terminal on St. John Prepared for the Maguire Group, Inc. and VIPA.
- 1995** Water Quality Monitoring for the Construction of the AT&T Cable Landing Facility in Estate Northside, St. Croix for AT&T Submarine Systems.
- 1992 – 1994** Development and Implementation of a Water Quality Monitoring Program for the Reconstruction of the Frederiksted Pier on St. Croix for VIPA.
- 1992 – 1993** Conducted a Baseline Assessment and Developed a Long-term Monitoring Plan for VIWAPA of the Benthic Community Potentially Impacted the Outfall from the Richmond Power Plant on St. Croix
- 1992 – 1993** Development and Implementation of a Monitoring Plan to Study Algal Blooms within the Alumina Cooling Pond Discharge and Strategies to Alleviate Runoff for V.I. Alumina Corporation LLC (VIALCO) on St. Croix.



**1990 – 1992** Water Quality Monitoring for Dredging Christiansted Harbor on St. Croix for VIPA.

**1989** Development and Implementation of a Turtle Monitoring Program for Manchineel Beach on St. Croix.

## **LARGE SCALE MITIGATION PROGRAMS**

- 2021 – Present** Removal and Relocation of 209 Corals for the U.S. Coast Guard Aids to Navigation (ATON) Replacement Project on St. Croix and Routine Monitoring of a Subset of Corals.
- 2020 – Present** Development and Implementation of the Compensatory Mitigation Plan for the Transplant of 1,700 corals, the Repair of 500 Corals of Opportunity, and the Outplanting of 3,000 ESA-listed corals for Limetree Bay Terminal’s Single Point Mooring on St. Croix.
- 2018 – Present** Development and Implementation of a Compensatory Mitigation Plan for the Relocation of 1.25 Acres of Seagrass and 631 Corals from the Impact Footprint of the Veterans Drive Project on St. Thomas, and the Repair of Damaged Corals on Triangle Reef for VIDPW.
- 2016 – 2020** Development and Implementation of a 190-Coral Transplant for the Stabilization of the Seawater Intake Line for the Marriott Frenchman’s Reef Hotel on St. Thomas.
- 2016 – 2020** Development and Implementation of a Coral Transplant to Minimize the Impacts of Construction for LPG Improvements at VIWAPA Facilities on St. Croix and St. Thomas.
- 2015 – 2021** Development and Implementation of the Mitigation Plan for the Relocation of 10,000 Corals Off the WICO Bulkhead in Havensight for WICO on St. Thomas.
- 2014 – Present** Development and Implementation of a Coral and Seagrass Transplant for Coral World (VI), Inc. in Association with the Development of the Dolphin Exhibit on St. Thomas; 250 Corals were Transplanted and More Than 500 Corals were Repaired after the 2017 North Atlantic Hurricane Season.
- 2014 – 2019** Development and Implementation of the Mitigation Plans for VIPA’s Maintenance Dredging of Crown Bay Marina on St. Thomas.
- 2013 – 2018** Development and Implementation of the Mitigation Plans for the Westin Resort’s Dock Permit and Improvements of Stormwater Drainage on St. John.
- 2013 – 2015** Creation of a Herbaceous Wetland for VIWMA as Mitigation for the Construction of the Transfer Station at the Anguilla Landfill on St. Croix.
- 2009** Transplantation of 300 Corals for Victor International Coral for Impacts Associated with the Development of an Access Ramp and Dock at Oil Nut Bay in the BVI.

- 2008 – 2009** Transplantation of 3,000 Corals for Mainsail Lodging and Development for Impacts Associated with the Development of the Scrub Island Resort in the BVI.
- 2006 – 2011** Planting of 1 Acre of Mangrove Wetland for VIDPW as Mitigation for the Construction of the Mangrove Lagoon Sewage Treatment Plant on St. Thomas.
- 2003 – 2008** Planting of 2.8 Acres of Mangrove Wetland for VIPA as Compensatory Mitigation for the construction of the Enighed Pond Terminal on St. John.
- 2003 – 2008** Removal and Relocation of 3,000 Corals Outside the Area of Impact for the Development of the Crown Bay Marine Terminal on St. Thomas for VIPA.
- 2002 – 2007** Development and Implementation of the Mitigation Plans for VIPA's Dredging of Crown Bay Marine Terminal and Turning Basin on St. Thomas.
- 2002 – 2007** Transplantation of 50,000 Corals for VIPA Outside the Area of Impact for the Enighed Pond Marine Terminal Project on St. John.
- 2002** Creation of Artificial Coral Reefs and *Acropora spp.* Thickets for Joseph Markus Trust as Mitigation for the Construction of a Barge Landing Facility on the Island of Lovango.
- 2000 – 2005** Transplantation of 2 Acres of Seagrass for VIPA to an Area Outside the Dredging Footprint of the Charlotte Amalie Harbor on St. Thomas.
- 2000 – 2001** Transplantation of 7,000 Corals for VIDPW Outside of the Area of Impact for the Placement of the Mangrove Lagoon Sewage Treatment Plant Outfall on St. Thomas.
- 1999 – 2004** Transplantation of 300 Corals for VIPA Outside the Area of Impact for the Mooring Improvements to the Frederiksted Pier on St. Croix.
- 1997 – 2003** Planting of ½ Acres of Mangroves for VIPA/VIDPW as a Mitigation Project for the Construction of the Molasses Dock Road on St. Croix.
- 1997 – 2002** Creation of a 1-Acre Herbaceous Wetland for VIPA as Mitigation for Henry E. Rohlsen Airport Construction on St. Croix.
- 1997 – 2002** Development of a Mitigation Plan for VIPA for the Creation of a 16,000-square Foot Wetland at Manning Bay to Address the Impact Incurred in Fairplains Gut on St. Croix.
- 1996** Development of a Mitigation Plan for VIPA for the Creation of 4.1 Acres of Wetland as Mitigation of the South Shore Power Plant, Third Port on St. Croix.



**1994** Development of a Mitigation Plan for Green Cay Resort for the 12 Acres of Wetland Impacted by the Construction of the Resort on St. Croix.

## ENVIRONMENTAL PLANNING AND STUDIES

A Foundational Blueprint For The Development Of A Comprehensive Pelagic Sargassum Management Plan For The United States Virgin Islands. The U.S. Virgin Islands Department of Planning and Natural Resources Division of Coastal Zone Management. (2023)

Ecosystem Risk Assessment Framework for the Caribbean Marine Fisheries Management Council (in progress).

## ENVIRONMENTAL ASSESSMENT REPORTS 2020– PRESENT

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement most of the environmental assessment reports listed.

*Water Island Development*, Water Island Development Corporation, Environmental Assessment Report for the Development of a Resort and Marina, Water Island

*Villa Olga Shoreline Revetment*, Olga’s Fancy, Environmental Assessment Report for the Restoration and Revetment of the Shoreline, St. Thomas

*Expansion of Yacht Haven Grande Marina*, IGY, Environmental Assessment Report for the Expansion of the Existing Yacht Haven Grande Marina, St. Thomas

*Sapphire Bay Marina Dredging and Installation of Sargassum Barriers and Shoreline Revetment*, SBMCOA, LLC, Environmental Assessment Report for Dredging of the Marina, Revetment of the Shoreline, and Installation of Sargassum Barriers, St. Thomas

*Ritz-Carlton Shoreline Preservation Plan*, Ritz-Carlton Club, Assessment Report for the Installation of Sargassum Barriers and Geotubes, St. Thomas

*St. Croix Yacht Club*, St. Croix Yacht Club, Environmental Assessment Report to Permit the Existing Facility and to Allow for Repair and Maintenance, St. Croix

*Container Port, Golden Grove and Midland Road Underground Projects*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of Underground Power Systems to Improve Resiliency, St. Croix.

*Flamingo Bay Eco-Resort*, BBK Development, Environmental Assessment Report for the Development of the Small Eco-Resort, Water Island.

*Pearl Landfill and Recycling Facility*, V.I. Waste Management Authority, Environmental

Assessment Report for the Development of a Solid Waste Facility in Estate Pearl, St. Croix.

*Charlotte Amalie Harbor Dredging*, V.I. Port Authority, Environmental Assessment Report and HUD Environmental Assessment for the Dredging of the Charlotte Amalie Harbor Channel, Turning Basin, and WICO Inner Berth, St. Thomas.

*Crown Bay and East Gregory Channel Dredging*, V.I. Port Authority, Environmental Assessment Report and HUD Environmental Assessment for the Dredging of Portions of Crown Bay and East Gregory Channel, St. Thomas.

*Frenchman's Reef and Morningstar, Beach Enhancement and Shoreline Stabilization*, CREF3 (Formerly Diamond Rock), Environmental Assessment Report for the Revetement of the Shoreline, the Installation of Offshore Breakwaters and Sand Renourishment, St. Thomas.

*Emergency Response Dock and Shoreline Revetment at the Harley Plant*, V.I. Water and Power Authority, Environmental Assessment Report for the Construction of an Emergency Fuel Spill Response Dock and the Revetment of the Eroded Shoreline, St. Thomas.

*Consolidated Permit for Randolph E. Harley Power Plant*, V.I. Water and Power Authority, Environmental Assessment Report to Bring All Components into Compliance including those Pre-dating CZM, St. Thomas.

*Underwater Memorial Park*, Virgin Islands Underwater Memorial Park, Environmental Assessment Report for the Creation of an Underwater Park to Intern Ashes into Reef Building Structures, St. Thomas.

*Mooring and Operation of a Bar and Restaurant in the Pillsbury Sound*, Cowgirl BeboP, LLP, Environmental Assessment Report for the Installation of Moorings for Vessels and Patrons in the Pillsbury Sound, St. John.

*Cruz Bay Underground*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of an Underground Power Cable System in Cruz Bay Feeder 7E, St. John.

*Tropical Marine Expansion*, Tropical Marine, Environmental Assessment Report to Combine Docks at Mangrove Marine and Off Plot 28 and the Expansion of the Existing Dock, St. Thomas.

*Limetree Resort*, Wyndham Bluebeard's Beach Club, Environmental Assessment Report for the Renovation and Expansion of the Existing Limetree Resort, St. Thomas.

*Repair to Cruz Bay Visitor Center, Docks, and Surrounding Grounds Impacted by Hurricanes Irma and Maria*, Croft Engineering/National Park Service, Environmental Assessment Report for Dredging the Basin and Repairs to the Bulkhead and Renovation and Upgrades to the Existing Visitor Center, St. John.

*Latitude 18 Marina*, Jack Rock EA-C LLC, Environmental Assessment Report for the Development of a Marina and Management of a Mooring Field and Dry Storage for Vessels, St. Thomas.

*Green Cay Marina*, St. Croix Financial Center, Environmental Assessment Report for the Expansion of the Existing Marina, Maintenance Dredging, and Beach and Shoreline Improvements, St. Croix.

*King Christian Dock*, USVI Opportunity Fund LLC, Environmental Assessment Report for the Reconstruction and Expansion of a Hurricane-Damaged Dock, St. Croix.

*Renovations and Expansion of an Existing Dock*, Inter-Island Ferry Service, Environmental Assessment Report for the Expansion and Extension of an Existing Dock to Better Accommodate Vessel Dockage, St. Thomas.

*Repair of a Hurricane Damaged Dock*, Margaritaville, Environmental Assessment Report for the Reconstruction of the Damaged Dock (modified to include a reverse osmosis line extension), St. Thomas.

*Boat Building Facility and Dock*, Gold Coast Yacht, Inc., Environmental Assessment Report for a Boat Building Warehouse and a Launch and Outfitting Dock, St. Croix.

*Turquoise Bay Resort*, VIPM LLC, Environmental Assessment Report for a Glamping Resort and Restaurant, St. Croix.

*Christiansted National Historic Site Existing Wharf Replacement*, HDR, Inc. and National Park Service, Environmental Assessment Report for the Replacement of the Failing Sheet Pile Wall and Bulkhead (and Acoustic Monitoring Plans), St. Croix.

*Lovango Cay Beach Club and Resort*, Lovango Island Holdings LLP, Environmental Assessment Report to Permit the Development of a Beach Club and Resort and Mooring Installation, Lovango Island.

*Wave Attenuation System*, LSJ LLC, Environmental Assessment Report for the Installation of Wave Attenuation Systems, Little St. James.

*Installation of Access Docks, and Barge Landing Facility*, Great St. James, Great St. Jim LLC. Environmental Assessment Report for the Development of a New Dock, the Renovation of an Existing Dock, and the Construction of a Barge Landing, Great St. James.

*Installation of a Single Point Mooring at the Limetree Bay Terminal on St. Croix*, Limetree Bay Terminals LLC, Environmental Assessment Report for the Installation of an Undersea Pipeline, Pipeline End Manifold (PLEM), and Buoy System at a Depth of 650 Feet, St. Croix.



*St. Croix Sports Complex*, Coastal Systems, Environmental Assessment Report for the Construction of the Paul. E. Joseph Stadium, Wetland Delineations, and Endangered Terrestrial and Marine Species Assessments (and Development of a Sea Turtle Lighting Mitigation Plan), St. Croix.

*Installation of a Submarine Cable System*, V.I. Water and Power Authority, Environmental Assessment Report for Submarine Cable Routing and Beach Landfall, St. Thomas.

*Maintenance Dredging of Krause Lagoon Channel*, V.I. Port Authority, Environmental Assessment Report for the Dredging of the Cross-Channel into the Container Port and Molasses Dock, St. Croix.

*Installation of New Reverse Osmosis Discharge and Intake Line*, Westin Resort, Environmental Assessment Report for the Installation of a Saltwater Intake Line Over 2000 Feet Offshore, St. John.

*Shoreline Stabilization Project for Buccaneer Hotel*, The Buccaneer, Environmental Assessment Report for the Placement of a Shoreline Stabilization Structure to Protect the Eroding Shoreline, St. Croix.

*VIWAPA's Conversion to LPG*, VITOL and V.I. Water and Power Authority, Environmental Assessment Report for the Installation of LPG conversion Equipment and Fuel Dock Expansion (and Offshore Deep-Water Buoy Permit for LPG Ships), St. Croix and St. Thomas.

## **ENVIRONMENTAL ASSESSMENT REPORTS**

**2014 – 2019**

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement many of the environmental assessment reports listed.

*viNGN Submarine Cable Network*, Alcatel-Lucent for viNGN, Environmental Assessment Report for the Installation of an Inter-Island Cable System (including a Cable Beach Routing and Landfall Study), U.S. Virgin Islands.

*Improvements to the Frederiksted Pier*, V.I. Port Authority, Environmental Assessment Report for the Installation of a New Tender Landing, St. Croix.

*Improvements to the Red Hook Marine Terminal*, V.I. Port Authority, Environmental Assessment Report for the Construction of a New Customs Building and Shoreline Improvements, St. Thomas.

*Offshore Windmills*, Ocean Energy, Inc., Environmental Assessment Report for the Installation of Offshore Turbines, a Submarine Cable, and Cable Landing (including a Bird Study), St.

Thomas.

*St. John Marina*, Summers End Group, Environmental Assessment Report for the Development of a Marina and Associated Upland Facilities, St. John.

*Maintenance Dredging of the Schooner Channel*, V.I. Port Authority and HUD/V.I. Housing and Finance Authority (VIHFA), Environmental Assessment Report for the Dredging of the Schooner Channel (including an Evaluation of Alternative Alignments), St. Croix.

*Remediation of Hydrocarbon Contamination at the V.I. Seaplane Ramp*, V.I. Port Authority, Environmental Assessment Report for the Installation of Restorative Sheet Piles to Restore (and the Containment of Hydrocarbon-contaminated Soil from a Leaking Underground Storage Tank [LUST]), St. Croix.

*Maintenance of the Existing Bulkhead and Maintenance Dredging of Charlotte Amalie Harbor*, CH2M Hill and WICO, Environmental Assessment Report for the Replacement of the Sheet Pile in the Inner Berth (including the Development of a Coral Transplant Mitigation Plan), St. Thomas.

## **ENVIRONMENTAL ASSESSMENT REPORTS 2009 – 2013**

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement each of the environmental assessment reports listed.

*Dredging of Crown Bay Marine Terminal and Turning Basin*, V.I. Port Authority, Environmental Assessment Report for the Dredging of the Crown Bay Marine Terminal and Basin, St. Thomas.

*Maintenance Dredging of Crown Bay Marina*, V.I. Port Authority, Environmental Assessment Report for the Dredging of Crown Bay Marina (including a Seagrass and Coral Mitigation Plan), St. Thomas.

*Improvements to Bordeaux Road*, V.I. Department of Public Works and Federal Highway Administration in Collaboration with Parsons Brinkerhoff, Environmental Assessment Report for a Finding of No Significant Impact, St. Thomas.

*Improvement to Spring Gut Road*, V.I. Department of Public Works and Federal Highways Administration in Collaboration with Stanley Engineer, Environmental Assessment Report for Improvements to Spring Gut Road for a Finding of No Significant Impact, St. Croix.

*Coral World's Dolphin Exhibit*, Coral World (VI), Inc., Environmental Assessment Report for the Construction of an Offshore Dolphin Pen and Viewing Dock (and ESA Corals Monitoring

and Mitigation Plan), St. Thomas.

*Expansion of the Spratt Bay Homeowners Dock (SBHOA)*, Spratt Bay Homeowner's Association, Environment Assessment Report for the Expansion of the SBHOA Dock, Water Island.

*Expansion of Veterans Drive*, V.I. Department of Public Works and Federal Highway Administration in Collaboration with Parsons Brinckerhoff, Environmental Assessment Report for a Finding of No Significant Impact and Drafting the USACE Statement of Findings, St. Thomas.

*Chiller Cooling System*, BaHaMar and HDR, Inc., Environmental Assessment Report for the Placement of a Saltwater Intake Line at the BaHaMar Resort, Grand Bahama.

*Reverse Osmosis Facility*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation a New Reverse Osmosis Facility at the St. Thomas Power Plant, St. Thomas.

*Submarine Power Cable*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Submarine Power Cable between the Islands of St. Thomas and St. John, Pillsbury Sound, St. Thomas and St. John.

*Chiller System and Dock Repairs at the Marriott Frenchman's Reef*, Diamond Rock, Environmental Assessment Report for the Installation of Saltwater Intake Line and Dock Repairs (and Larval Study for Intake), St. Thomas.

*Expansion of Heavy Materials Krum Bay Facility*, Heavy Materials St. Thomas, Environmental Assessment Report for the Expansion of Heavy Materials Concrete Facility in Krum Bay, St. Thomas.

*Thirty-three-Megawatt Waste-to-Energy Plant*, Alpine Energy Group, Inc., Environmental Assessment Report for the Construction of a 33-Megawatt Waste-to-Energy Plant (including Conducting a Survey of Endangered V.I. Tree Boas in the Area), St. Thomas.

*Eighteen-Megawatt Waste-to-Energy Plant*, Alpine Energy Group, Inc., Environmental Assessment Report for the Construction of an 18-Megawatt Waste-to-Energy Plans (including a Wetland Delineation), St. Croix.

*Reverse Osmosis Facility on St. John*, V.I. Water and Power Authority, Environmental Assessment Report for the Construction of a Reverse Osmosis Facility, St. John.

*Seven Hills Development*, Robin Bay Partners, Environmental Assessment Report for the Development of Seven Hills Residential Community (including a Wetland Delineation), St. Croix.

*Improvements to the Molasses Dock*, V.I. Port Authority, Environmental Assessment Report for Dredging and Improvements to the Molasses Dock Roll-on Roll-off Facility (and Mitigation Plan for the Mangrove Shoreline), St. Croix.

*Dredging of the Charlotte Amalie Harbor Channel and the Filling of Lindbergh Bay*, The West Indian Company Limited, Environmental Assessment Report for the Dredging and Widening of the Charlotte Amalie Harbor to Accommodate Oasis Class Ships at WICO Docks and the Disposal of Dredged Materials in the Historic Dredging Hole in Lindbergh Bay, St. Thomas.

*Fueling Station*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Vehicle Fueling Station in the Richmond Plant Terminal Facility License, St. Croix.

## **ENVIRONMENTAL ASSESSMENT REPORTS**

**2005 – 2008**

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement each of the environmental assessment reports listed.

*Port of Mandahl*, MSJ Realty, Environmental Assessment Report for the Development of the Marina and Resort in Estate Mandahl, St. Thomas.

*North Sound Yacht Club*, Victor International, Environmental Assessment Report for the Development of a Marina and Yacht Club in North South, Virgin Gorda, BVI.

*Reconstruction of the Frenchman's Cove Dock*, Marriott Vacation Club, Environmental Assessment Report for the Reconstruction and Expansion of a Damaged Dock in Charlotte Amalie Harbor, St. Thomas.

*Thatch Cay Development*, Thatch Cay LLC, Environmental Assessment Report for the Development of a Resort Community and Marine Infrastructure on Thatch Cay, St. Thomas.

*Smith Bay Development*, Smith Bay Developers, Inc., Environmental Assessment Report for a Condominium Complex, St. Thomas.

*Subdivision of Great St. James*, Christian Kejer, Environmental Assessment Report for The Development of a Residential Community on Great St. James including Marine Access Infrastructure, Great St. James Island, St. Thomas.

*Subdivision of Inner Brass*, Green Island Developers, Environmental Assessment Report for the Development of a Residential Community on Inner Brass including Marine Access



Infrastructure, Inner Brass Island, St. Thomas.

*Subdivision of Inner Brass*, Bryan Family, Environmental Assessment Report for the Subdivision of Lots for a Residential Community on Inner Brass and the Development of a Dock for Access. Inner Brass Island, St. Thomas.

*Cabrita Point*, Cabrita Point Partners and Lionstone LLC, Environmental Assessment Report for the Development of a Resort Community, a Mitigation and Monitoring Plan for the Endangered V.I. Tree Boa and a Monitoring Plan for a Reverse Osmosis Intake Line, Dock and Swimming Platform, St. Thomas.

*Subdivision of 77 Acres in Hansen Bay*, St. John Flamboyant Realty, Environmental Assessment Report for the Development of Roads and a Subdivision in Hansen Bay, St. John.

*Subdivision of 14 Acres in Hansen Bay*, St. John Hansen Bay Development Group, Environmental Assessment Report for the Development of Roads, and a Subdivision in Hansen Bay (including a Wetland Delineation), St. John.

*Expansions and Improvements to the Ritz-Carlton Hotel*, William Karr and Associates, Environmental Assessment Report for the Expansion and Renovation of the Ritz-Carlton Hotel, St. Thomas.

*Modification to Carden Beach Condominiums*, TK Properties, Inc., Environmental Assessment Report for the Development of Zero Lot Line Homes at the Carden Beach Property, St. Croix.

*Development of Betty's Hope*, V.I. Port Authority, Environmental Assessment Report and Wetland Delineations for the Development of the South Shore Property for Commercial and/or Residential Use, St. Croix.

*Expansion of the Compass Point Marina*, Margate Management, Environmental Assessment Report for the Addition of Docks at the Compass Point Marina in Benner Bay, St. Thomas.

*Improvements, Expansions and Maintenance of HOVENSA Petroleum Refinery*, HOVENSA LLC, Environmental Assessment Reports for the 1) Construction of Maintenance Buildings and Replacement of Existing Stacks, 2) Construction of a Low Sulfur Fuels (LSF) Facility, 3) Construction of Modular Buildings, and 4) Construction of Housing in Estate Blessing (including Permitting of an Existing Borrow Pit), St. Croix.

*Installation of a Permanent Barge Landing Facility on Lovango Cay*, Joseph Markus Trust, Environmental Assessment Report for the Development of a Permanent Barge Landing Facility (including a Compensatory Mitigation Plan for Endangered Coral Species), Lovango Cay.

*Barge Landing, Swim Dock and Beach Enhancement on Little St. James*, LSJ LLC, Environmental Assessment Report for the Relocation of the Existing Barge Landing and the

Construction of a Swim Dock and Beach Enhancing Devices, Little St. James.

*Development of Affordable Housing in Calabash Boom*, Reliance Housing, Environmental Assessment Report for the Development of Affordable Housing in Calabash Boom (and Territorial Pollutant Discharge Elimination System [TPDES] Permits), St. John.

*Demineralized Water System and Storage Tank Upgrades*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a New Storage Tank and Demineralizer, St. Croix.

*Development of a Pizza Bar and Miniature Golf Course*, Divi Carina Bay Resort, Environmental Assessment Report for the Development of Amenities at the Divi Carina Bay Resort and Casino, St. Croix.

*Placement of Fuel Pipelines on the Ann E. Abramson Pier*, Royal Caribbean Cruise Lines, V.I. Port Authority, Environmental Assessment Report for the Installation of Fuel Lines on the Frederiksted Pier, St. Croix.

*Development of a Marina and Related Infrastructure*, Coral Bay Marina LLC, Environmental Assessment Report for the Dredging and Development of a Marina in Coral Bay (including an Alternative Analysis to Reduce Impacts for the USACE), St. John

*Development of a Marine Mammal Encountered Facility*, Coral World (VI), Inc., Environmental Assessment Report for the Development of a Sealion Encounter Facility, St. Thomas.

*Improvements to The Randall “Doc” James Racetrack*, TRAXCO, Environmental Assessment Report for Improvements to the “Doc” James Racetrack Facility (including Wetland Delineations), St. Croix.

*Maintenance Dredging and the Permitting of Permanent Moorings*, Westin Resort, Environmental Assessment Report for Maintenance Dredging of the Existing Channel and around the Dock, and Mooring Installations, St. John.

## **ENVIRONMENTAL ASSESSMENT REPORTS**

### **2000 – 2004**

Water quality, monitoring and/or compensatory mitigation plans were developed to supplement each of the environmental assessment reports listed.

*Compass Point Marina Expansion*, Compass Point Marina in Collaboration with Springline Architects, Environmental Assessment Report for the Expansion of the Existing Compass Point Marina, St. Thomas.

*Emergency Electrical Cable St. Thomas-St. John*, V.I. Water and Power Authority, Environmental Assessment Report for the Placement of a New Submarine Power Cable between St. Thomas and St. John, St. Thomas.

*Richmond Sand Channel Dredging*, V.I. Water and Power Authority, Environmental Assessment Report for Maintenance Dredging of the Richmond Sand Channel, St. Croix.

*Hassel Island Electrical Cable Replacement*, V.I. Water and Power Authority Environmental Assessment Report for the Installation of a New Submarine Cable between St. Thomas and Hassel Island, St. Thomas.

*Golden Resorts Golf Resort, Casino & Conference Center*, Golden Resort, Environmental Assessment Report for the Development of Golden Resorts Golf Resort, Casino, and Conference Center (including a Wetland Delineation), St. Croix.

*Crown Bay Marine Terminal Improvements*, V.I. Port Authority in Collaboration with Adams, Inc., Environmental Assessment Report for Improvements to the Crown Bay Marine Terminal, St. Thomas.

*Global Crossings Point of Presence*, Global Crossings, Environmental Assessment Report for the Placement of a Point of Presence Communications Tower in Frederiksted, St. Croix.

*Burial of Fiber Optic Cables*, Innovative Telephone, Environmental Assessment Report for the Burial of Fiber Optic Cables on the North Shore, St. Croix.

*Burial of Fiber Optic Cables on the West End of St. Croix*, Innovative Telephone, Environmental Assessment Report for the Burial of Fiber Optic Cables on the West End, St. Croix.

*Callaloo Club Blowing Point*, Callaloo Club Peninsula, Environmental Assessment for the Development of a Marina on the Island of Anguilla, British West Indies.

*Installation of a Waterline between St. Thomas and St. John*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Waterline between St. Thomas and St. John, St. Thomas.

*Installation of a Submarine Cable to Little St. James*, V.I. Water and Power Authority, Environmental Assessment Report for the Installation of a Utility Line between St. Thomas and Little St. James, Little St. James.

*South American Crossing Cable Station*, Global Crossing, Environmental Assessment Report for the Construction of the South American Crossing Cable Station at Estate Northside, St. Croix.

*Water Island Ferry Dock*, V.I. Department of Public Works, Environmental Assessment Report

for the Construction of a Ferry Dock on Water Island, Water Island.

*CuisinArt Golf Resort & Spa Beach Enhancements*, CuisinArt, Environmental Impact Assessment Report for Beach Renourishment, Anguilla, British West Indies.

*Cinnamon Reef Resort*, Cinnamon Reef, Environmental Impact Assessment Report for the Development of a Marine Facility, Anguilla, British West Indies.

*Frederiksted Pier Improvements*, V.I. Port Authority, Environmental Assessment Report for Improvements to the Existing Frederiksted Pier, St. Croix.

*Construction of a Private Dock on Little St. James*, LSJ LLC, Environmental Assessment Report for the Construction of a Private Dock on the Island of Little St. James, Little St. James.

*Phase II of the Christiansted Boardwalk*, Government of the Virgin Islands Environmental Assessment Report for Phase II of the Christiansted Boardwalk, St. Croix.

*Construction of a Headquarters*, Beal Aerospace, Environmental Assessment Report for the Construction of Beal Aerospace's World Headquarters in Estate Great Pond, St. Croix.

## **ENVIRONMENTAL ASSESSMENT REPORTS 1988 – 2000**

*Hurricane Damaged Dock Reconstruction*, Divi Carina Bay Resort, Environmental Assessment Report for the Reconstruction of a Dock after Damage Associated with Hurricane Hugo at the Divi Carina Bay Resort and Casino, St. Croix.

*Global Crossing Cable Terminal*, Global Crossing, Environmental Assessment Report for the Construction of a Cable Terminal Building and Corridor for Eight Submarine Fiber Optic Cables (including a Landfall Study) in Frederiksted, St. Croix.

*Construction of a Coker and Coker Dock* at the HOVENSA Petroleum Refinery, HOVENSA LLC, Environmental Assessment Report for the Construction of a Coker and Coker Dock, St. Croix.

*Frederiksted Pier Mooring Dolphin*, V.I. Port Authority, Environmental Assessment Report for the Construction of a Mooring Dolphin at the Frederiksted Pier, St. Croix.

*Seaplane Terminal*, V.I. Port Authority, Environmental Assessment Report for the Development of a Seaplane Terminal at the Old Seaplane Ramp, St. Croix.

*Forest Bay Marina*, Forest Bay Group, Environmental Assessment Report for the Development



of a Marina and Related Facilities in Forest Bay, Anguilla, British West Indies.

*Dolphin Lagoon*, META Resorts, Environmental Assessment Report for the Development of a Dolphin Lagoon at Meads Bay, Anguilla, British West Indies.

*Construction of the Christiansted Boardwalk*, Government of the Virgin Islands, Environmental Assessment Report for the Construction of a Boardwalk in Christiansted, St. Croix.

*Runway Extension of the Henry E. Rohlsen Airport*, V.I. Port Authority in Collaboration with LPA Group, Environmental Assessment Report for the Runway Extension at the Henry E. Rohlsen Airport, St. Croix.

*Red Hook Marine Terminal Expansion*, V.I. Port Authority, Environmental Assessment Report for the Expansion of the Red Hook Marine Terminal (including the Development and Implementation of Mitigation and Monitoring Plans), St. Thomas.

*Enighed Pond Marine Terminal*, V.I. Port Authority, Environmental Assessment Report for the Creation of the Enighed Pond Marine Facility (including the Development and Implementation of Mitigation and Monitoring Plans), St. John.

*Submerged Land Renewal*, Coral World (VI), Inc., Environmental Assessment Report for the Renewal of the Submerged Land Lease for the Coral World Facility, St. Thomas.

*Construction of a Seawall*, Cowpet Bay, Environmental Assessment Report for the Modification of an Existing Permit to Construct a Seawall, St. Thomas.

*Riprap Revetment Installation*, Watergate East Villas, Environmental Assessment Report for the Construction of a Rip-Rap Revetment, St. Thomas.

*Improvements to the Fuel Dock*, V.I. Water and Power Authority, Environmental Assessment Report for Improvements to the Fuel Dock at the Power Generating Facility, St. Thomas.

*Subdivision of Estate Misgunst*, La Domaine, Environmental Assessment Report for the Subdivision of 40 Acres of Land in Estate Misgunst, St. Thomas.

*Expansion of the Alexander Hamilton Airport and Highway 64 Relocation*, V.I. Port Authority, Environmental Assessment Report for the Expansion of the Alexander Hamilton Airport Terminal and Highway 64 Relocation (including a Wetland Delineation, and Development and Implementation of a Wetland Mitigation Plan), St. Croix.

*AT&T Cable Landing Facility*, AT&T, Environmental Assessment Report for the Cable Landing Facility at Estate Northside (including a Beach Landfall Study, a Cable Routing Study, and the Development of a Water Quality and Environmental Monitoring and Mitigation Plan), St. Croix.

*Dredging of the Sand Channel*, DEVCON, Environmental Assessment Report for the Dredging

of the Christiansted Sand Channel, St. Croix.

*Expansion of the Red Mud Storage Ponds*, VIALCO, Environmental Assessment Report for the Expansion of the Red Mud Storage Ponds at the VIALCO Alumina Facility, St. Croix.

*Stormwater Drainage System*, VIALCO, Environmental Assessment Report for the Creation of a Stormwater Drainage System at the VIALCO Alumina Facility, St. Croix.

*Permitting of a Caliche Mine*, VIALCO, Environmental Assessment Report for the Mining of Caliche at the VIALCO Alumina Facility, St. Croix.

*Molasses Dock Expansion*, V.I. Port Authority Subcontracted by Frank Torrez, Environmental Assessment Report for the Molasses Dock Terminal at the Third Port Facility, St. Croix.

**ENVIRONMENTAL ASSESSMENT REPORTS (SELECTED)**  
**1988 – 1993**

*Beach Renourishment, St. Croix by the Sea*, Environmental Assessment Report for a Beach Renourishment and Jetty Construction at St. Croix by the Sea, St. Croix.

*Vieques Shrimp Farm*, Vieques Shrimp Mariculture Project, Environmental Assessment Report for the Creation of a Shrimp Farm in Puerto Ferro, Vieques, Puerto Rico.

*Marine Spill Response Corporation (MSRC) Dock*, Hess Oil Virgin Islands (HOVIC) Petroleum Refinery, Environmental Assessment Report for the Construction of a Pier in the HOVIC West Turning Basin, St. Croix.

*Construction of Eden Beach Hotel and Condominiums*, Eden Beach, Environmental Assessment Report for the Proposed Construction of Eden Beach Hotel and Condominiums, St. Croix.

*Expansion of the Tamarind Reef Hotel*, Tamarind Reef, Environmental Assessment Report for the Proposed Reconstruction and Expansion of the Tamarind Reef Hotel, St. Croix.

*Construction of Gas Turbines at the Third Port*, V.I. Water and Power Authority, Environmental Assessment Report and USACE Application for the Construction of Two Gas Turbines at the Third Port Site, St. Croix.

*Subdivision of Lovango Cay*, Joseph Markus Trust, Environmental Assessment Report for the Creation of a Subdivision on Lovango Cay and Placement of a Private Dock, Lovango Cay.

*Well Water Collection System*, VIALCO, Environmental Assessment Report for the Construction of a Well Water Gathering System for Wells at the VIALCO Alumina Facility, St. Croix.

*Crawl Cay*, Monroe County, Environmental Assessment Report, Wetlands Delineation and Hammock Studies of Crawl Cay, Florida.

*Jack's Bay Subdivision*, Jack's Bay Development Company, Environmental Assessment Report for the Subdivision of Approximately 300 Acres into 64 Lots at Estate Jack Bay and Estate Isaac Bay, St. Croix.

*Bauxite Building*, VIALCO, Environmental Assessment Report for the Expansion of the Bauxite Building at the VIALCO Alumina Facility, St. Croix.

*Carambola Beach Club Improvements*, Danested, Environmental Assessment Report for the Repair and Improvement of the Carambola Beach Club Facilities, St. Croix.

*Salt River National Park*, National Park Service, Environmental Impact Statement for the Proposed National Park at Salt River, St. Croix.

*Desalination Unit*, V.I. Water and Power Authority, Environmental Assessment Report for the Construction of a Desalination Unit on St. John, St. John.

*Construction of Estate Turner Hole Condominiums*, Carmel by the Sea, Environmental Assessment Report for the Construction of a 95-unit Condominium at Estate Turner Hole, St. Croix.

*Very Long Baseline Array (VLBA) Observation Station*, NASA, Environmental Assessment Report and Landscaping Plan for the Construction of a VLBA, St. Croix.

*Buccaneer Hotel Room Expansion*, Buccaneer Hotel, Environmental Assessment Report for a 20-room Addition to the Buccaneer Hotel, St. Croix.

*Construction of a Ritz-Carlton Hotel*, Environmental Assessment Report and Zoning Application for a 350-room Ritz-Carlton Hotel in Estate Davis Bay, St. Croix.

*Frederiksted Pier Expansion*, V.I. Port Authority, Environmental Assessment Report for the Construction of a Second Pier in Frederiksted, St. Croix.

*Construction of the Kingston Hotel*, Kingston Hotel, Environmental Assessment Report for the Construction of a Hotel and Condominium in Kingston, Tortola, BVI.

*Construction of an Airport Warehouse*, V.I. Port Authority, Environmental Assessment Report for Construction of a Warehouse Facility at the Alexander Hamilton Airport, St. Croix.

*Development of the Great Pond Resort*, St. Croix, Environmental Assessment Report, for Golden Gaming, Zoning Application, and USACE Permit Application for a Hotel and Condominium Project at Estate Great Pond, St. Croix.



**ENVIRONMENTAL ASSESSMENT REPORTS**  
**1986 – 1988**

**St. Croix**

**St. Thomas**

**St. John**

Columbus Landing, St. Croix	Blue Beards Beach, St. Thomas	Concordia, St. John
Grapetree Beach, St. Croix		
St. Croix by the Sea, St. Croix		
Ensenada, St. Croix		
Virgin Grand, St. Croix		
Sugar Bay, St. Croix		
Turtle Run, St. Croix		
Palm Shores, St. Croix		
Baobab, St. Croix		
Reflection Bay, St. Croix		
Coakley Bay, St. Croix		
Green Cay, St. Croix		
Turquoise Bay St. Croix		
Eagle Bay, St. Croix		
Granard, St. Croix		
Concordia, St. John		

**Wider Caribbean**

Southeast Peninsula, St. Kitts  
Divi Dive Canal, Nassau, Bahamas

## **ENVIRONMENTAL CONTAMINATION ASSESSMENTS**

### **1990 – PRESENT**

**2022 – Present** Sampling for Heavy Metals Contamination of the Soil in Estate Donoe, St. Thomas.

**2000 – Present** Sampling for Chemical Contamination in Cisterns as a Result of a Hydrocarbon Release in the Air, St. Croix.

**1994 – Present** Periodic Sampling of the Leaking Underground Storage Tanks (LUSTs) at the V.I. Port Authority Seaplane Ramp, St. Croix.

**2019** Sampling for Mold at the Renaissance Hotel, St. Thomas.

**2016 – 2022** Sampling of Underground Storage Tanks (USTs) for Gasoline Service Stations on St. Thomas and St. Croix.

**2012 – 2016** Sampling for Recognized Environmental Conditions in Estate Anna's Hope, St. Croix.

**2006 – 2016** Sampling for Petroleum Product Contamination at Gasoline Stations and Industrial Sites, St. Croix.

**1990 – 2002** Sampling of Residential and Commercial Properties on St. Croix, St. Thomas, St. John and Puerto Rico for Recognized Environmental Conditions.

**APPENDIX B**

**PHASE I (A&B) CULTURAL RESOURCES SURVEY  
PLOTS 41 and 41J REM.  
ESTATE ST JOSEPH AND ROSENDAHL  
ST THOMAS, US VIRGIN ISLANDS**

**Prepared for:**

**AC Development  
9804 Plowline Road  
Randallstown, MD**

**CocoSol International Inc. Project 241030r**

**Prepared by:**

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## 1.0 INTRODUCTION

CocoSol International Inc. (CocoSol) performed a Phase I A & B Cultural Resources Survey (*Survey*) for approximately 10 acres of land located on Plots 4I and 4J Rem., Estate St. Joseph and Rosendahl. St. Thomas, USVI (Figures 1 and 2) on behalf of AC Development of Randallstown, Maryland. The *Survey* was performed during the month of December 2024.

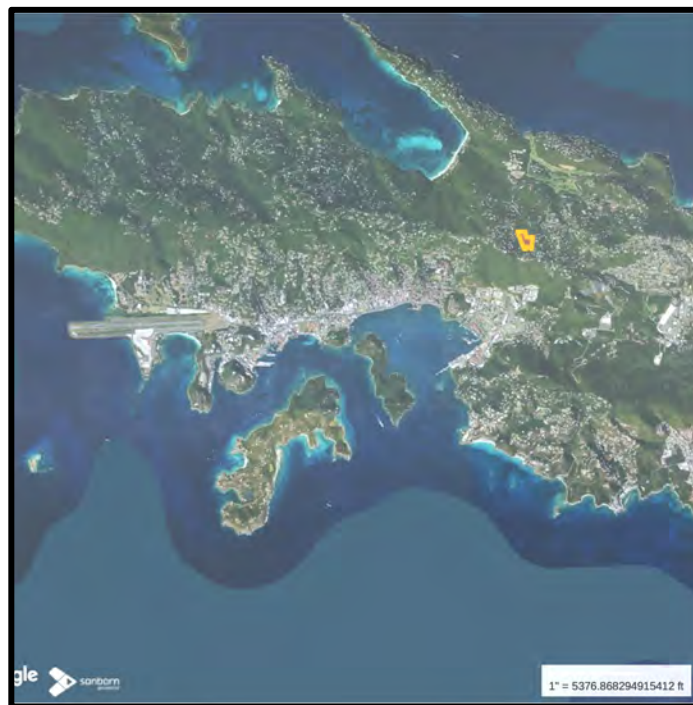


Figure 1: Google Earth image of central St. Thomas depicting the location of the survey area, red polygon.



Figure 2: Google Earth image depicting the location of Plots 4I and 4J Rem.

## 1.1 PROPOSED PROJECT

AC Development proposes to subdivide the property and develop it for residential purposes. The development will require earth change activities.

## 1.2 REGULATORY FRAMEWORK

The Phase I A&B Cultural Resources Survey was performed to comply with Title 29, Chapter 17, Section 959, of the Virgin Islands Code, also known as the Virgin Islands Antiquities and Cultural Properties Act.

## 1.3 ENVIRONMENTAL SETTING

The topography of the subject property is generally steeply sloping containing 40-70 % of slope gradient, (Figure 3). The soils are assigned to the Dorothea Soil Series. These clay loams are shallow (0-18 centimeters below surface and are underlain by clay loam with ubiquitous pebble and cobble sized rock, and subsequently by weathered rock (saprolite) (Figure 4). The ground surfaces are generally littered by pebble, cobble and boulder size rock and rock outcrops (Figure 5). The vegetation consists of pioneer species with mature trees such as manjack, mampoo, turpentine, and one tamarind noted.

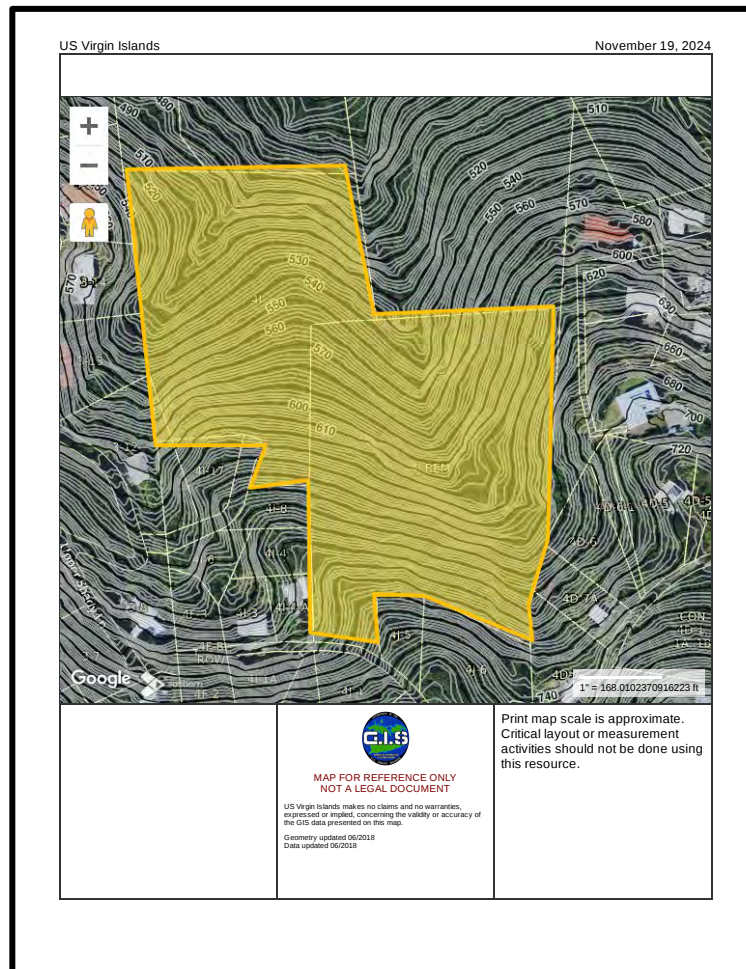


Figure 3: Google Earth image with land elevation contours







Figure 5: Photograph of characteristic ground surface conditions and vegetation.

## 2.0 SURVEY METHODS

The survey methods are discussed in this section.

### 2.1 LITERATURE AND RECORDS SEARCH

At CocoSol's request, the Virgin Islands State Historic Preservation Office performed a site file search to determine whether any cultural resource of record was listed in their data base. Published and unpublished literature was consulted to gain a general understanding of the archaeology and history of the locality and the region in general. LIDAR images for the subject property were also consulted.

### 2.2 FIELD SURVEY

A pedestrian survey of the subject property was performed along transects spaced 30 meters or less. Because of the steep terrain, very rocky surface and dense vegetation (Figure 5), the transects were traversed generally following the contours of the land. We initially began to shovel test at 30-meter intervals along the transects however the rocky nature of the surface and/or near surface soil we encountered refusal. The remainder of the steeply sloping property was performed by visual surface inspections along the transects and adjacent areas for surface manifestations of cultural materials and shovel tested at the discretion of the archaeologist. The shovel tests measured approximately 30 by 30 centimeters and excavated to depths no longer considered to have the potential to contain non-random artifact bearing matrices. The excavated soil was screened through ¼ inch hardware cloth to effect artifact recovery. Figure 6 depicts an example shovel test.



Figure 6: Photograph of example shovel test.



### **3.0 FINDINGS**

No potentially significant cultural resources were identified during the Phase I A&B Cultural Resources Survey for Plots 41 and 4J Rem.

#### **3.1 LITERATURE AND RECORDS SEARCH**

The VISHPO informed CocoSol that their review of the archaeological site files does not indicate the presence of cultural resources of record within Plots 41 and 4J Rem., Estate St. Joseph and Rosendahl, St. Thomas, US Virgin Islands. Our review of the National Register of Historic Places (NRHP) listings for St. Thomas does not indicate any NRHP properties on the subject property. A summary of the culture history of the Virgin Islands follows.

##### **3.1.1 Precolonial Cultural Setting**

The U.S. Virgin Islands (USVI) contains a rich milieu of cultural resources that offer testimony to over three thousand years of human experience. These cultural resources range from habitation sites established during the Archaic Period at Krum Bay and the Magens Bay Arboretum Complex on St. Thomas approximately three thousand years ago, to the multiple village and farmstead sites on all the islands, to chiefly ceremonial centers such as the Salt River Site on St. Croix, which is the site of the first encounter between the Taino and Europeans.

After the Archaic Period, the indigenous people of the Virgin Islands participated in a geographically vast network of social and economic relationships. Recent archaeological research indicates that the insular landscapes were dotted with small and large villages along the coastal section fringes of the islands as well as the uplands. Additionally, small settlements herein characterized as farmsteads are now being discovered in the uplands. These small upland farmsteads have mostly been unrecognized in the archaeological record; however, recent cultural resources surveys for large development projects have resulted in the identification of such sites.

The indigenous people of the Virgin Islands participated within a larger social, religious, and economic network (s), as evidenced by shared stylistic attributes of ceramics from the Saladoid, Ostionan and Chican culture periods across a significant part of the Antilles. Shared cosmological ideas are also evidenced by the presence of cemís and other religious paraphernalia in the Virgin Islands and across large areas of the Caribbean Archipelago.

Long distance trade is evidenced by the presence of jadeite artifacts manufactured from raw lithic sources found in Central America and chert from Puerto Rico and down island. A whole host of cultigens with origins in the continent became part of the quotidian diet; more exotic items such as guinea pig, an Andean domesticate, have been found in Puerto Rico and are likely to be documented by future archaeological studies as also present in Virgin Island archaeological contexts.

Because of the steep topography of the subject property, it is considered to have been an unattractive location for a permanent or temporary settlement.

##### **3.1.2 Colonial Cultural Setting**

Following the brief European incursion on St. Croix in 1493, the islands came to be in the possession of several European nations including Spain, England, Malta, the Netherlands, and France. The colonies that these nations attempted to establish largely failed. Not until Denmark's Danish West Indies Company

settled in St. Thomas in 1672 and on St. John in 1694, did these colonies become viable enterprises. The Danes purchased St. Croix from the French in 1733 and the island, with its larger size, gentler topography, fertile soils, and surface streams, became a dynamic sugarcane-based enterprise that lasted for a century.

The Danes divided the islands into estates that were largely dedicated to agriculture. Although largely owned by Danes, British managers often administered the estates. The early plantations, particularly on St. Thomas and St. John were primarily dedicated to the production of cotton and indigo, but because of competition from the continent, particularly the southern United States, these two agricultural pursuits were largely abandoned in favor of sugar cane. The economies of St. Croix and St. John were primarily based on sugar cane agriculture and the production of muscovado sugar and rum. In contrast, the economy of St. Thomas was primarily based on trade, although agricultural pursuits also formed an integral part of its economy.

### 3.1.3 Estate St. Joseph and Rosendahl

Our review of readily available literature and cartographic sources does not indicate the presence of settlements or buildings on the plots during the 18<sup>th</sup> and 19<sup>th</sup> centuries (Figures 7-10). The 1922 USCGS map of St. Thomas (Figure 10) does not depict settlements or buildings in the general area of the subject property, nor does the 1955 USGS map (Figure 11). The 1982 USGS map does however evidence numerous buildings in central St. Thomas (Figure 12).



Figure 7: Bredal map (1719) depicting the general survey area.



Figure 8: Map of St. Thomas: (1764 *Carte de l'isle St. Thomas l'une des Vierges*)



Figure 9: Hornebeck map (1834-1839) depicting the general area of the subject properties, circled in red.

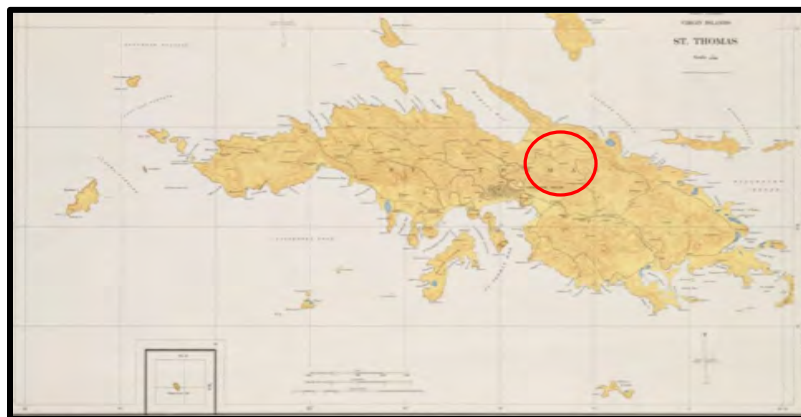


Figure 10: 1922 USCGS map of St. Thomas depicting the general survey area.





Figure 11: USGS quadrangle (1955) of Central St. Thomas depicting the general area for the subject properties

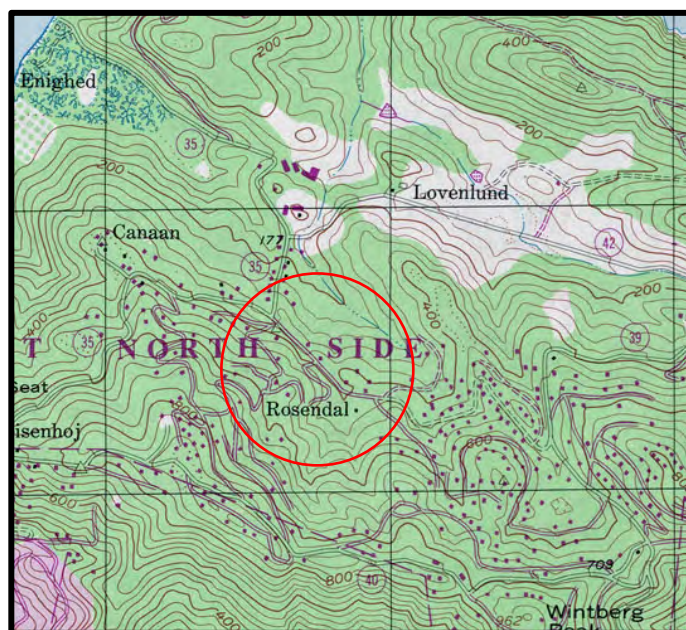


Figure 12: USGS (1982) map of Central St. Thomas depicting the general area of the subject properties.

### 3.2 FIELD SURVEY

The Survey resulted in the identification of what appears to have been a dry laid, rubble wall enclosure on Plot 4J Rem. The wall is oriented northwest to southeast for approximately 45 meters (Figure 13) and turns to the south for approximately 15 meters, the rubble wall varies in height from near the ground surface where the wall has collapsed and/or stones robbed to approximately 60 +centimeters above surface and is approximately 45 centimeters in width. Figures 14 and 15 provide views of the wall.

A refuse dump (Figure 16) consisting of numerous bottles and kitchens utensils was found in the inside corner of the dry laid rubble wall, and on top of the wall (Figure 17). The bottles date to the 20<sup>th</sup> century except for a dark green case bottle (Figure 18) that was found on top of the wall. Areas in the immediate vicinity of the dump were visually surveyed for indications of a house site or other cultural features, none were found. The refuse may have been dumped at this location as part of lot clearing activities for the nearby houses built since 1955.

A 10-fluid ounce, carbonated soft drink bottle bearing the name New Star was also found on top of the dry laid rubble wall. The bottle is partly embossed, and screen printed (Figures 19 and 20). The screen-printing technology appears in the early 20<sup>th</sup> century and is in use until the 1950's when a thermoplastic wax medium was introduced that eliminated the drying time between color applications. This increased production from 25-30 to 100 to 128 bottles per minute (<http://www.antiquebottles.com/soda/ac/hist.html>). The labels (front and back) read, where discernable, as follows:

***Front Label***

New Star  
Johnstown PA

***Back Label***

A Pure and Wholesome Beverage  
Purest Cane Sugar  
Sparkling Carbonated Water  
A Beverage of Exceptional Quality

Clear, light green and amber colored bottles were noted present in the dump site, as were what appears to be a tin chamber pot and cooking pots, and one aluminum cooking pot. Apart from the case bottle which likely dates to the 19<sup>th</sup> century, all other specimens are presently considered to date to the mid- 20<sup>th</sup> century.

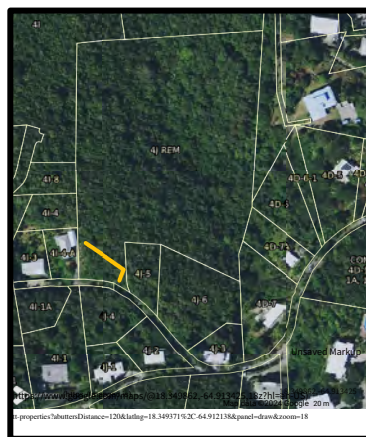


Figure 13: Google Earth image depicting the approximate location of the dry laid, rubble wall remnants.





Figure 14: Photograph of the dry laid, rubble wall alignment, view to the southeast.



Figure 15: Photograph of the dry laid rubble wall, view to the northwest, where significant parts of the wall alignment have collapsed or been robbed.



Figure 16: Photograph of refuse dump



Figure 17: Photograph of bottles on the top of the dry laid, rubble wall





Figure 18: Photograph of case bottle



Figure 19: Photograph of carbonated soft drink bottle



Figure 20: Photograph of the back of the carbonated soft drink bottle

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

Our concluding remarks and recommendations are presented below.

### 4.1 CONCLUSIONS

The *Survey* resulted in the identification of a dry laid, rubble wall on Plot 4J Rem. This wall contains segments that are well preserved, as well as collapsed sections. The rock from the short section of the wall that turns to the south appears to have been robbed of significant parts of the stone. Because of the right angle turn of the wall, it appears as if this was an enclosure for cattle or perhaps an enclosure for horticultural pursuits to keep cattle out. The dry laid rubble wall is not considered to have the potential to meet criteria (Criteria C or D) of eligibility to the National Register of Historic Places. The remains of the stone enclosure are however, considered to be significant to the history and archaeology of the USVI as it is a constructed feature likely associated with cattle farming and/or agricultural/horticultural pursuits during the colonial period.

The refuse dump appears to date to the mid 20<sup>th</sup> century and is considered to represent a modern site intrusion event and is not considered to have the potential to meet criteria of eligibility to the National Register of Historic Places.

We note that the absence of precolonial and colonial settlements, and/or homesteads on the subject property is attributable to the very steep sloping topography of the subject property.

### 4.2 RECOMMENDATIONS

CocoSol recommends that the Department of Planning and Natural Resources, Virgin Islands State Historic Preservation Office issue a conditioned finding of *no objection* to the proposed development of Plots 4I and 4J Rem. We recommend that the remnants of the dry laid rubble wall are documented by exposure of its horizontal extent and documentation by measured line drawings and photography of representative elevations of the wall. The wall alignment should then be followed by the survey of its alignment by a USVI licensed surveyor.

We note that plans for such additional work would need to be submitted to the VISHPO for their review and comment. The additional work should be of a scope sufficient to meet VISHPO's requirements for preservation or to mitigate adverse effects. We understand that the wall may be in the rear of the lot or lots of the future subdivision, as such and if feasible, we recommend preservation of the wall alignment.



# VI Tree Boa: Site Clearance Protocol

Tracts of wooded habitat and associated understory outside the footprint and setback of the building and not required for infrastructure should be retained as tree boa habitat. Connections with habitat on adjacent property should be left intact.

All personnel will be instructed in identifying this harmless snake and photographs of the VI Tree Boa are to be prominently displayed on this notice at the site.

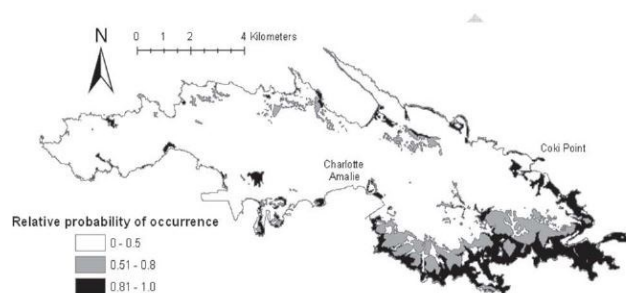
At least 10 days prior (if under 1 acre) to the use of heavy machinery on the site, the site is to be flagged and vegetation cut by hand, saving trees where possible. Any stone walls or naturally occurring rock piles must be carefully dismantled by hand as these are refuges for the snake. This will allow any boas present to vacate the site without injury. If the area to be cleared exceeds 1 acre then the resting period is 14 days.

Any trees with trunks greater than 7 cm diameter that are felled should be placed in a undisturbed location to allow snakes hiding in tree holes to vacate.

The Division of Fish and Wildlife (DFW) or an on-site agent should be notified of any snakes observed or captured. If a snake is in imminent danger, the snake can be moved to undisturbed habitat outside the construction area that has been pre-approved by DFW. If no undisturbed habitat exists near the site, the landowner or agent shall identify a suitable release site in collaboration with DFW prior to any vegetation clearance. A permit from DFW under section 2(b) of the Cooperative Agreement will be required for all personnel involved in any snake handling or relocation activities.

Once these measures have been completed and the hand-cleared site has been inspected for the presence of any boas, heavy machinery may be used to clear the remainder of the site.

All personnel involved in site preparation and construction must be verbally instructed on the importance of snake protection and preservation and all procedures developed for that purpose. Personnel will be informed of the penalties for injury to any snake encountered.



The Division of Fish and Wildlife may be called during any of the above steps to assist with snake removal or to verify compliance with this protocol. Please note that any boas killed or injured at the site will constitute a violation under the federal Endangered Species Act, which can be avoided by carefully following the preceding steps. For further information, please contact the Division of Fish and Wildlife at (340) 775-6762.





# Step By Step guide for clearing in VI Tree-Boa habitat

Division of Fish and Wildlife (DFW)

(340)775-6762

1. Contact DFW for free consultation.
2. DFW will come out for an onsite discussion. We will need a copy of your building plans or at least a narrative of your intended project.
3. DFW will coordinate via email so that all developers, owners, contractors, and other agencies, can follow along and provide input.
4. DFW will conduct a short VI Tree-Boa training session for all individuals conducting hand clearing. This will involve discussions on what to do if a boa is encountered as well as boa identification. This can be done any time prior to hand clearing but is often preformed the first day on site. DFW staff will come to you!
5. Hand clearing is to be performed. This usually allows for chainsaws to cut vegetation down to less than 36 inches off the ground.
6. Vegetation ideally can be removed by hand to reinforce sediment fencing/brush berms.
7. Another site visit will be preformed by DFW to confirm that hand clearing has been completed to our standards. Clock starts after inspection.
8. The site is to sit undisturbed for 10-14 days prior to the use of heavy machinery. However hand work may be performed during this time and any vegetation may be moved by hand.
9. Heavy machinery is only permitted on the agreed upon date.