

Programmatic Environmental Assessment Virgin Islands Department of Education – School Infrastructure Recovery and Resiliency USVI

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U.S. Department of Homeland Security Federal Emergency Management Agency Region 2 USVI Recovery Office 4052 La Grande Princesse Christiansted, VI 00820

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URL: VIDE Educational Facility Master Plan - Home

The PEA can also be reviewed at the locations identified in Public Notice, which are also listed in Section 7 of this document.

LIST OF ACRONYMS

§ Section

APE Area of Potential Effects

BBA Bipartisan Budget Act of 2018 BMPs Best Management Practices

CAA Clean Air Act

CBRA Coastal Barrier Resources Act of 1982
CBRS Coastal Barrier Resources System

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulations CGP Construction General Permit

CWA Clean Water Act

CZMA Coastal Zone Management Act

dB, dBA Decibels

dbh Diameter at breast height

DHS Department of Homeland Security

DPNR Department of Planning and Natural Resources

DOH Department of Health

DPW Department of Public Works
EIS Environmental Impact Statement

et seq and the following

EPA U.S. Environmental Protection Agency

ESA Endangered Species Act

ESA Environmental Site Assessment

FEMA Federal Emergency Management Agency

FPPA Farmland Protection Policy Act
FONSI Finding of No Significant Impact
GVI Government of the Virgin Islands
HMA Hazard Mitigation Assistance
HMGP Hazard Mitigation Grant Program

IPaC Information for Planning and Consultation

ICC International Code Council (Years 2018, 2021, and 2024)

LeqEquivalent Noise LevelLdnDay-Night Noise LevelLEALocal Education AgencyMBTAMigratory Bird Treaty Act

NAAQS National Ambient Air Quality Standards NEHA National Environmental Health Association

NEPA National Environmental Policy Act
NFIP National Flood Insurance Program
NHPA National Historic Preservation Act
NMFS National Marine Fisheries Service

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NOAA United States National Oceanic and Atmospheric Administration

NPDES National Pollutant Elimination System

NPL National Priorities List

NRCS Natural Resources Conservation Services

NRHP National Register of Historic Places

NWI National Wetlands Inventory ODR Office of Disaster Recovery OPA Otherwise Protected Areas

OSHA Occupational Safety and Health Administration

PA Programmatic Agreement

PA Public Assistance

PEA Programmatic Environmental Assessment

PM10 Particulate Matter less than 10 micrometers in diameter PM2.5 Particulate Matter less than 2.5 micrometers in diameter

PSD Prevention of Significant Deterioration
REC Record of Environmental Consideration
RCRA Resource Conservation and Recovery Act

SEA State-level Education Agency SFHA Special Flood Hazard Area SIP State Implementation Plan

SOW Scope of Work

SPCC Spill Prevention Control and Countermeasure

SPL Sound Pressure Level

SWPPP Stormwater Pollution Prevention Plan

TPDES Territorial Pollutant Discharge Elimination System

USACE United States Army Corps of Engineers

USC United States Code USCB US Census Bureau

USDA United States Department of Agriculture USFWS United States Fish and Wildlife Service

USVI United States Virgin Islands

V.I.C. Virgin Islands Code

VIDE Virgin Islands Department of Education
VIEMS Virgin Islands Emergency Medical Services
VIHFA Virgin Islands Housing and Finance Authority

VIPA Virgin Islands Port Authority

VISHPO Virgin Islands State Historic Preservation Office

VITRAN Virgin Islands Department of Public Works, Division of Transportation

VIWMA Virgin Islands Waste Management Authority WAPA Virgin Islands Water and Power Authority

1 INTRODUCTION

The Federal Emergency Management Agency (FEMA) makes federal assistance available to state, local, tribal, and territorial governments, and certain private nonprofit entities under the Public Assistance (PA), Hazard Mitigation Assistance (HMA), and Hazard Mitigation Grant Programs (HMGP). The PA Program provides grants to support these organizations' recovery from major disasters or emergencies; the HMA Program provides funding for eligible long-term solutions that reduce the impact of disasters in the future and the HMGP provides funding to communities to develop hazard mitigation plans, assist in mitigating damage caused by disasters, and rebuild in a way that should reduce future losses resulting from natural disasters.

In September 2017, Hurricanes Irma and Maria caused considerable damage to the United States Virgin Islands (USVI). President Donald Trump issued one disaster declaration (DR-4335-VI) for Irma on September 7, and another one (DR-4340-VI) for Maria on September 20, both of which encompassed the entire Territory. These declarations authorized federal assistance to affected communities and certain non-profit organizations under the PA, HMA, and HMGP Programs in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 United States Code [U.S.C.] § 5172), as amended, (42 U.S.C. §§ 5121-5207); the Sandy Recovery Improvement Act of 2013; and the Bipartisan Budget Act of 2018 (BBA) Pub. L. No. 115-123, § 20601, 132 Stat. 64 (2018). The BBA authorizes FEMA to "provide assistance" pursuant to the Stafford Act and allows FEMA to assist in restoring disaster-damaged facilities or systems that provide specifically identified critical services to an industry standard without regard to predisaster condition. Under this authority, FEMA approved funds to replace and rebuild multiple school facilities across the USVI.

In a 2019 Executive Order (EO) signed by the Governor, responsibility for grant management of the FEMA Public Assistance Funds named the Virgin Islands Office of Disaster Recovery (ODR) as the recipient, and the Virgin Islands Department of Education (VIDE) as a subrecipient for the proposed actions.

This Programmatic Environmental Assessment (PEA) is prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 55, *et seq.*); Department of Homeland Security (DHS) Instruction Manual 023-01-001-01, Revision 01, Implementation of the National Environmental Policy Act; FEMA Directive 108-1: Environmental and Historic Preservation Responsibilities and Program requirements; and FEMA Instruction 108-1-1: Instruction on Implementation of the Environmental Planning and Historic Preservation Responsibilities and Program Requirements. In accordance with the above-referenced regulations and FEMA Directive 108-1 and FEMA Instruction 108-1-1, FEMA is required, during decision-making, to evaluate and consider the environmental consequences of major federal actions it funds or undertakes.

This PEA considers the potential environmental impacts of proposed project alternatives, including a no action alternative, to determine whether to prepare a Finding of No Significant Impact (FONSI), or initiate an Environmental Impact Statement (EIS).

1.1 Use of this Programmatic Environmental Assessment

FEMA reviews project proposals at the lowest NEPA level appropriate to the action in accordance with the FEMA Instruction. FEMA evaluates projects under applicable statutory or categorical exclusions first, while also satisfying other applicable compliance reviews. FEMA uses PEAs to evaluate types of activities in advance of receiving complete project applications from subrecipients, to address potential extraordinary circumstances in groups of activities, and to focus on future NEPA concerns that have greater potential impacts. When FEMA has project-specific scopes of work, FEMA evaluates them in similar order of escalating NEPA levels. Those that fall within the limits established in this PEA will conclude the review process with applicable consultations, documented in a Record of Environmental Consideration (REC) as part of the grant package. FEMA evaluates project proposals that otherwise meet this PEA, but exceed the impacts or scale of this document, and determines if the action requires a focused EA tiered from this PEA or a separate project-specific EA. Appendix A presents conditions under which FEMA may tier an EA from this PEA. Projects that cannot be satisfied by statutory or categorical exclusions, this PEA, a tiered EA, or an individual EA, may require an EIS. In accordance with the Sandy Recovery Improvement Act (SRIA) of 2013, as amended (P.L. 113-2), other federal agencies or agencies assuming federal NEPA authority, including but not limited to the Housing and Urban Development (HUD) Responsible Entities (HUD-RE), may choose to adopt this PEA, in whole or in part, according to their respective regulations.

1.2 Streamlining Programmatic Actions

To support compliance and streamlining of the environmental review process in the Territory, FEMA Region 2 has implemented the following programmatic documents that address evaluation and consultation procedures under the National Historic Preservation Act (NHPA), Endangered Species Act (ESA), and Coastal Zone Management Act (CZMA):

- The Programmatic Agreement among FEMA, the Virgin Islands State Historic Preservation Office, and the Virgin Islands, dated June 20, 2023.
- The Endangered Species Act Consultation Matrix for Puerto Rico and USVI implemented by FEMA and the U.S. Fish and Wildlife Service Puerto Rico Field Office in 2019, updated as needed.
- The Coastal Zone Management Act Federal Consistency Determination Letters for various actions such as:
 - o Repair and Restoration of Hurricane Damaged Buildings dated Dec. 7, 2017
 - Repair and Restoration of Roads, Culverts and Bridges to improved pre-disaster conditions on St. Croix, St. Thomas, and St. John USVI dated Nov. 24, 2017, and Jan 2, 2018.
 - o Repair of Water and Wastewater Utility Infrastructure dated Jan. 19, 2018.

2 PURPOSE AND NEED

In 2017, wind, rain, and floodwater from Category 5 Hurricanes Irma and Maria caused widespread damage to schools throughout the USVI. The purpose of the programmatic actions considered herein are to provide increased resiliency, capability, and functionality to school

facilities that meet International Code Council (ICC) codes and standards and includes associated infrastructure modernization and improvements to support the educational success of the Virgin Islands community. Redeveloping education infrastructure to an improved pre-disaster condition would improve public health and safety and increase the community's resiliency to storms. The incorporation of modern technology within school buildings would improve learning environments that would better support educational outcomes for young people territory-wide, facilitating better economic conditions in the territory, and would better prepare students to be competitive within the global economy.

The need for these potential actions or types of activities is to address the shortfalls in existing conditions within education infrastructure. Most VIDE facilities were built more than 40 years ago with an average age of 46 years. Some of these facilities have required repair and/or renovation to appropriately support curriculum and student achievement. Hurricanes Maria and Irma further deteriorated the condition of these facilities. Current facilities do not comply with the most recent building codes and standards, and they are not well-equipped to handle severe storm events. In some cases, since the disasters of 2017, entire school buildings are no longer functional because of structural damage and other issues. Other facilities that are currently in use have poor indoor air quality due to outdated ventilation systems and storm damage resulting in moisture and mold problems. Aging facilities and infrastructure combined with the damages incurred from Hurricanes Maria and Irma contribute to substandard facilities with student, teacher, and faculty health and safety issues, and an educational environment that is not supportive of modern student learning and achievement.

Repairing, renovating, and replacing facilities with added resiliency measures, along with modernizing infrastructure and technology would not only lead to better student learning and achievement, but it would also improve the health, safety, and welfare of students, teachers and faculty, which should in turn foster better health, safety, and welfare within the community.

3 PROJECT BACKGROUND

The USVI is comprised of the four inhabited islands of St. Croix, St. John, St. Thomas and Water Island, and dozens of other surrounding minor islands and cays. The islands are geographically part of the Virgin Islands archipelago and are located in the Leeward Islands of the Lesser Antilles. The total land area of the Territory is 133.73 square miles (sq. mi.) (Britannica, 2025). The USVI is a self-governing Territory with no traditional municipal structure. Administratively, the USVI is divided into two districts: the St. Thomas and St. John District, which includes Water Island, and the St. Croix District. Tourism is USVI's biggest industry, responsible for about 60% of the gross domestic product. The remaining sectors include agriculture, manufacturing, and rum production (Britannica, 2025).

VIDE is an executive branch of the Government of the USVI mandated under Titles 3 and 17 of the Virgin Islands Code (V.I.C.). It is the largest governmental entity in the Virgin Islands, and it functions as both a Local Education Agency (LEA) and a State-level Education Agency (SEA). The Department is headed by a Commissioner at the SEA level and a District Superintendent at the two LEAs.

The Department's role as stipulated by Title 3, Chapter 7, Section 96, V.I.C., encompasses the authority to exercise general control over the enforcement of laws relating to free public education in the Virgin Islands. Its responsibilities include the development, implementation and monitoring of instructional programs for all pre-kindergarten (pre-K)-12 students and adult learners, as well as provision of support services such as child nutrition, pupil transportation, library services, and the maintenance of educational facilities and offices under its purview. The Department of Education provides resources and leadership for more than 60 instruction and support locations (Figures 1 and 2) and more than 10,000 students Territory-wide (VIDE, n.d.) (Figure 3). Within the Territory, St. Croix, St. John, and St. Thomas are the only islands that support public educational facilities.

Following the events of Hurricanes Irma and Maria, local agencies and FEMA collaborated to address short term requirements to facilitate near-term recovery in the USVI. However, a longer term- solution was needed to address the extensive damage from these two events (DR-4335-USVI; DR-4340-USVI), and Congress subsequently provided special authority to FEMA through Section 20601 of the Bipartisan Budget Act of 2018 (Pub. L. 115-123), allowing FEMA to "provide assistance pursuant to the section 438 of Stafford Act, for critical services [including education] as defined in section 406 of the Stafford Act for the duration of the recovery for incidents DR-4335-USVI and DR-4340-USVI". Under Section 20601 Congress authorized FEMA "to replace or restore the function of a facility or system to industry standards without regard to the pre-disaster condition of the facility or system", and "to replace or restore components of the facility or system not damaged by the disaster where necessary to fully effectuate the replacement or restoration of disaster-damaged components to restore the function of the facility or system to industry standard." FEMA subsequently developed an implementation policy that set the criteria for the "prudent replacement of schools." This established the process and definition for robust, resilient schools.

Following an intensive community engagement process from 2017-2019, there were three (3) sessions of three (3) different stakeholder workshops in February and March 2020. Attendees included a broad cross-section of stakeholders and end users, including VIDE leadership, superintendents, principals, union representatives, teachers, facilities staff, and community members. The workshops focused on the following content areas: curriculum and instruction, sustainability, vernacular architecture, program development, and advancement opportunities/community sharing.

Over the last seven (7) years, VIDE leadership, in consultation with local territorial government agencies, semi-autonomous agencies, authorities, and community stakeholders, developed an Educational Facilities Master Plan (Appendix B). The Plan indicates a review of existing data to identify risks posed by natural hazards to identify the mitigation needs that can and should be addressed within the Territory.

Concurrent with the Master Plan Process, "Design Principles" were developed (consistent with the "Industry Standards" approved by FEMA as allowed for in the Bipartisan Budget Act of 2018) that included guidelines for square foot per student, the architectural characteristics that allow for flexibility and adaptability well into the future, and performance criteria for building structures and systems that would withstand the long-term environmental challenges. These principles were

codified and developed to into five (5) sets of "Bridging Documents" to develop a holistic approach to the building designs (Appendix C). This data-driven process, which aligns enrollment, program, and building criteria recognizes not just current ICC requirements (which have continued to evolve from ICC2018, ICC2021, and ICC2024), but the reality of investing and building in a hurricane/seismic/tsunami zone to maximize the value of investment and mitigate risk for the long term.

These guidelines served as the basis for a case-by-case analysis of every building that made up VIDE's portfolio. This analysis resulted in an increase from the projected \$750 million in funding originally estimated to \$3.68 billion in funding being obligated by FEMA for VIDE facilities. The "criteria documents" (Volume 2 of VIDE's Facilities Education Master Plan), bridging drawings, and outline specifications were completed in 2023, with final community meetings on all three (3) islands in October of 2023. A total of 45 facilities were reviewed across the territory leading to the approval of 20-22 replacement and renovations projects for a total of \$3,684,871,394 in late 2023. These approvals were necessary to start additional documentation, including applicable environmental assessments and procurement.

In addition to repairing, renovating, and replacing schools, VIDE also contemplated the consolidation of schools to provide more effective and efficient delivery of educational programs, while also minimizing long-term maintenance and upkeep requirements. As a result, the current plan proposes to reduce the number of campuses from 32 to 18. This is achieved by a combination of actions such as school campus demolition/closures, repairs/renovations/modernizations, relocations, and the construction of new buildings.

4 **ALTERNATIVES**

NEPA guidance requires that federal agencies explore and objectively evaluate reasonable alternatives for proposed actions. NEPA guidance also requires evaluation of a No Action Alternative as a benchmark to evaluate other actions. The subrecipient may determine that a specific proposed action requires implementation of a combination of two (2) or more evaluated alternatives. Decisions regarding action execution include budgetary constraints, but they are not the controlling factor. Results of this and proposed action-specific analysis would also help guide future proposed action decisions.

FEMA's intent in developing the following alternatives is to satisfy the purpose and need for broad categories of actions for which FEMA anticipates receiving project proposals. These alternatives would assist the subrecipient in restoring education infrastructure impacted by Hurricanes Irma and Maria. Within this PEA, "schools" are comprised of the headquarters and curriculum buildings, parking lots, roads, walkways, athletic facilities, landscaping, playgrounds, bus depots, and all other infrastructure maintained by VIDE.

The implementation of these alternatives would support federally funded projects and mitigate future impacts from flooding and wind events by increasing the resilience of schools. The alternatives presented in the following paragraphs include a No Action Alternative and five (5) action alternatives.

4.1 Alternative 1: No Action Alternative

The No Action Alternative describes potential future conditions if no FEMA funding is used to restore and improve the VIDE education infrastructure via renovation, relocation, demolition, and abandonment, or a combination of one or more of these alternatives. Due to budgetary constraints within the USVI, FEMA anticipates these projects would go unfunded or be deferred indefinitely. Under the No Action Alternative, damaged school buildings would remain in their current state, which presents both environmental and structural hazards to both students and staff. The standard of learning environments for USVI children and teachers would remain diminished by the lack of safe infrastructure, and structures would remain in their current vulnerable state.

4.2 Alternative 2: Repair and Renovate with Resiliency and Modernization

Alternative 2 would involve restoring schools to an improved pre-disaster condition to meet post-disaster needs including design, capacity, accessibility, and function, as well as improving their resiliency in response to future disaster events. Principal activities include the repair, renovation, and modernization of buildings and associated features within an existing campus. Under this PEA, repair and renovation projects would maintain the existing campus footprint. This alternative includes the repair and renovation of schools that are within the 100-year floodplain, and schools that are within the 500-year floodplain if the school meets the definition of a critical action, such as those serving as emergency shelters. This alternative does not allow for the reconstruction of schools when the existing campus is within the coastal high-hazard area or the floodway (44 CFR § 9.11(d)(1)). The subrecipient anticipates that repair and renovation projects would be designed to meet modern ICC codes and standards.

The following are common actions that may be associated with repair and renovation of schools with added resiliency measures.

4.2.1 General Renovation and Repair Action Items

4.2.1.1 Selective Demolition

Selective demolition can involve the removal of walls, floors, roofs, or structural elements. This category could also include the demolition of exterior infrastructure items such as parking areas, storage sheds, generator enclosures, and recreational facilities including playgrounds, courts, bleachers, and fields. Construction equipment and materials can be mobilized to project sites, staging areas can be established, and generators could be placed and used during the demolition and construction phases.

4.2.1.2 Earthworks and Associated Ground-disturbing Activities

Ground-disturbing activities can include surface grading, conduit replacements, trenching, concrete and asphalt application, pavement cutting and resurfacing, curb and gutter placement, hardware installation, underground utility placement and upgrades, old piping replacement and upgrades, re-vegetation and vegetation maintenance, cistern re-establishment, installation of concrete slabs, construction and demolition debris generation and disposition, and temporary debris staging and site preparation.

4.2.1.3 Structural Construction

Structural construction can include the repair or reinforcement of structural components such as beams, columns, and foundations. Additional activities could involve the installation of reinforced concrete floors, cast-in-place concrete walls, metal roof decking, standing seam metal roofs, skylights, substructures, building framing, miscellaneous steel, roof access ladders, stairs, intermediate landings, and structural supports.

4.2.1.4 Interior and Exterior Finishes

Interior and exterior finishes can be restored or replaced, including flooring, walls, ceilings, and exterior cladding. Specific tasks could involve the application of resilient bases, glazed masonry, acoustic panels, gypsum walls, polished concrete floors, sealed concrete, painted finishes, and decorative partitions.

4.2.1.5 Interior Construction

Interior construction can include the renovation of interior spaces, such as partitions and layouts. Repairs or replacements could be made to roofs, ceilings, entryways, windows, doors, bathrooms, kitchens, electricity, plumbing, flooring, and paint. Construction tasks can involve replacement of gypsum wallboards, concrete partition walls, aluminum-framed interior glass curtain walls, aluminum-framed exterior curtain walls, single and double-leaf aluminum doors with various glass finishes, and interior doors with full-lite or flush panels.

4.2.1.6 Plumbing and Fire Suppression

Plumbing and fire suppression systems can be repaired or upgraded. Installations could include water heaters, sinks, toilets, showers, grease interceptors, fire suppression systems, fire hydrants, sanitary drainage networks, stormwater systems, lavatories, water closets, floor drains, sump pumps, and expansion tanks.

4.2.1.7 Electrical Systems

Electrical systems can be restored or modernized, including wiring, panels, and fixtures. Comprehensive upgrades could include lightning protection, switchboards, weather heads, transformers, lighting fixtures (vandal-proof LED strip lights, recessed downlights, and parking lot lights), conduit wiring, and fire alarm systems.

4.2.1.8 HVAC and Cooling Systems

Heating, ventilation, and air conditioning systems can be repaired or replaced. Advanced systems could be installed, including air-cooled chillers, fan coil units, ductwork, insulation, and chilled water pumps.

4.2.1.9 Communications and Security

Communication systems, security cameras, and access controls can be installed or upgraded. IT infrastructure, wireless access points, intercoms, paging systems, video cameras, card readers, magnetic door sensors, control panels, fire alarms, CCTV, voice/data systems, and grounding could be deployed.

4.2.1.10 Fixed Furnishings

Built-in furniture and fixtures can be repaired or replaced. Installations could include vanities, cupboards, grab bars, toilet partitions, lockers, refrigerators, microwaves, shelving units, and specialized equipment.

4.2.1.11 External Works

External elements such as landscaping, fencing, and parking areas can be repaired, replaced, or modernized. Construction tasks could include adding additional ornamental fences, security fencing and gates, concrete walkways, synthetic turf fields, playgrounds with cushioned surfacing, parking areas with ADA compliance, basketball courts, dumpster enclosures, landscaping beds, temporary and permanent access roads, and reconfiguration of parking structures and adjacent roadway connections.

4.2.1.12 Site Development and Utility Upgrades

Site infrastructure, including access roads and utilities, can be improved. Existing utility networks could be replaced or hardened, with actions likely involving connections to offsite networks operated by municipal and USVI providers. Utility networks can include telecommunication systems, power, backup power, potable and wastewater systems, stormwater management systems, and HVAC systems. Upgrades could involve open-cut trenching, replacement of existing pipes with right-sized piping, establishment of staging areas, removal of old piping and pumps, installation of new piping and pumps, and disposal of old materials. Stormwater systems can include conduits, water overflow ponds, trenches, gutters, manholes, grates, and appurtenances. Additional site development activities could include storm pipe installation, sanitary sewer systems, fire and water connections, decorative pavers, terraced seating, accessible ramps, reinforced concrete curbs and gutters, parking lot lighting, and signage.

4.2.1.13 Special Construction

Specialized construction can include tasks to maintain the historical integrity of structures and campuses. In an effort to modernize the campuses, the subrecipient may also install or construct trash enclosures, sheds, generator enclosures, sand pits, recreational structures (e.g., athletic fields, playgrounds, basketball courts, bleachers, baseball fields, dugouts, and pools), saferooms, entrance signage, aluminum lettering, informational signage, and parking lot signage.

4.2.1.14 Stormwater Management

Drainage systems can be installed or upgraded to manage stormwater effectively. New systems could include conduits, water overflow ponds, detention and retention ponds, trenches, gutters, manholes, grates, and appurtenances.

4.2.1.15 Concrete Work

Concrete structures such as sidewalks and foundations can be repaired or replaced. Tasks could include constructing elevator pit walls, elevator foundations, foundation walls, columns, slabs on grade, elevated slabs of varying thickness, perimeter turndowns, and miscellaneous concrete work, such as keyways, expansion joints, and stair pan fills.

4.2.2 Upgrades to Codes and Standards and Safety Retrofits

Upgrades to schools to meet current ICC codes and standards and overall safety retrofits focus on enhancing the structural integrity and resilience of school facilities to meet ADA, seismic, wind, fire, and flood safety requirements. These Scope of Work (SOW) upgrades aim to ensure ongoing safety, accessibility, and disaster resilience for school facilities.

4.2.2.1 ADA Upgrades

Modifications and repairs should ensure compliance with ADA standards. Installations may include elevators, ADA ramps and access points, and accessible parking areas.

4.2.2.2 Wind Retrofits

Structural elements can be reinforced or upgraded to withstand high wind events. For wind retrofit projects satisfied by Alternative 2, each SOW may include retrofit measures to address roof retrofits, openings protection, and load path improvements. Additional SOWs under this class of actions would involve mitigating constructed steel frames, concrete, and reinforced masonry construction.

4.2.2.3 Earthquake Retrofits

Structural improvements should meet seismic safety standards. Actions under Alternative 2 may include the application of structural supports to existing school facilities. Some common retrofitting improvements may include foundation stabilization, foundation anchoring, continuous load path integration, and improvements to structural systems

4.2.2.4 Flood Protection

Flood barriers or other mitigation measures would be installed where necessary. Actions under Alternative 2 may include flood mitigation measures such as the installation of floodwalls, floodproofing, and temporary barriers. The subrecipient's engineer would be responsible for the design of flood protection measures and coordination with the VI Department of Planning and Natural Resources (DPNR) to ensure compliance with National Flood Insurance Program (NFIP). The installation of perimeter flood walls may be comprised of either wire mesh-lined flood barriers or concrete walls. Typical construction activities associated with flood protection measures would include excavation, foundation preparation, access road installation, and site boundary establishment.

4.2.2.5 Elevation

Structures can be raised to meet elevation requirements for flood resilience. Alternative 2 actions may involve the elevation of facilities and associated infrastructure above the current Base Flood Elevation (BFE) when no practicable alternate location exists outside of the floodplain. Examples of operational infrastructure include buildings, backup power equipment, elevators, and utilities. For SOW's involving elevating school facilities, subrecipients may need to install new foundations or structural pilings.

Projects involving elevating school facilities may include the following activities:

- Elevating school facilities may include the elevation of slab-on-grade buildings. The subrecipient's engineer would be responsible for inspecting the structural integrity of all buildings to determine whether the slab is sufficient to support the elevated structure without the continuous support of the underlying soil.
- The separation of frame, masonry veneer, and masonry buildings and facilities from their foundations; and use of heavy equipment and hydraulic jacks for the purpose of elevating facilities to their required height above the BFE.
- The installation of a temporary support system that would hold a structure in place while the subrecipient's contractor installs a new or extended foundation below. The new support system may consist of continuous walls or separate piers, posts, columns, or piles.
- Additional actions under this category may include removing a roof and raising a
 building's operational space, either by extending the walls of the building and raising the
 floor or by abandoning the lower level and moving the operational space to an existing
 or newly constructed upper floor.

4.2.2.6 Fire Safety

Fire doors, emergency exits, alarms, and associated safety equipment can be installed.

4.2.2.7 Asbestos and lead-based paint abatement and mold remediation

Hazardous materials such as asbestos and lead-based paint can be abated, and mold remediation could be conducted.

4.2.2.8 Installation of Safe Room or Tsunami Refuge

Actions under Alternative 2 may include the hardening of existing facilities as a whole or in part following FEMA design guidance. Actions may also include the construction of a safe room or tsunami refuge to serve as a safe haven until the most imminent danger has passed. Construction of either would include any associated utility connections for emergency and redundant power, communications, water, wastewater, and any other essential support for the use of the safe room or refuge for the intended populations.

4.3 Alternative 3: New Construction

This category of action includes the construction of a new building or structure that meets current building codes and standards and the construction of a school or campus on a previously undeveloped site. New school construction may include both facilities constructed in-place, as well as the installation of prefabricated modular classrooms or offices. New construction may also include hardened structures intended for dual use as safe rooms or tsunami refuges. New construction within a Special Flood Hazard Area (SFHA) would be subject to compliance with EO 11998.

New construction activities include the following general activities:

4.3.1 General Construction Action Items

4.3.1.1 Site Preparation

Site preparation actions can include clearing and grading the site to prepare for construction, establishing staging areas for materials and equipment, and conducting earthwork activities, such as excavation and soil stabilization. This also includes the development of roads to access the new location. The applicant would implement best management practices to control erosion and sediment, such as silt fences, sediment basins, and straw wattles to prevent soil erosion and control sediment runoff. The applicant would stabilize disturbed areas with vegetation or mulch as soon as possible.

4.3.1.2 Foundation Construction

The foundation can be laid (e.g., slab-on-grade, piers, or pilings) based on structural requirements, ensuring proper drainage and waterproofing measures.

4.3.1.3 Structural Construction

The framework of the building can be constructed (e.g., steel, concrete, or wood framing), and load-bearing walls, beams, and columns can be installed.

4.3.1.4 Mechanical, Electrical, and Plumbing (MEP) Systems

HVAC systems, electrical wiring, plumbing networks, and fire suppression systems can be installed. New generators, enclosures, and associated infrastructure can be installed, ensuring backup power generation capabilities. Backup power capabilities can also include roof-mounted photovoltaic arrays, ground photovoltaic arrays, backup batteries, and associated equipment.

4.3.1.5 Exterior and Interior Finishes

Exterior cladding, roofing, windows, and doors can be installed, and interior finishes, including flooring, walls, ceilings, paint, and fixtures, can be completed.

4.3.1.6 Utility Connections

The building or campus can be connected to municipal or onsite utilities (e.g., water, sewer, power, telecommunications). Telecommunication networks, electrical power, potable water, wastewater, and stormwater systems can be installed, which may involve open-cut trenching and replacement of existing pipes or conduit with right-sized piping that meets current codes and standards.

4.3.1.7 Safety and Resiliency Features

Safety and resiliency features can be incorporated, such as wind- and earthquake-resistant designs, flood protection measures, and safe rooms, along with renewable energy systems like solar panels and microgrids to ensure the school functions during and after disaster events. Sustainable materials and energy-efficient systems (e.g., solar panels, LED lighting) can be utilized.

4.3.1.8 Exterior Site Development and Landscaping

Hardscaping elements, such as sidewalks, retaining walls, and paved areas, can be constructed to provide functional and durable outdoor spaces. Access roads can be developed to ensure safe and

efficient transportation to and from the school, while parking areas and play spaces can be designed to meet operational needs and enhance usability. The site can be completed with landscaping, parking areas, and access roads, ensuring proper drainage and erosion control.

4.3.2 Installation of Microgrids

Alternative 3 can include new microgrid installation to provide more resilient, continuous power for schools when the larger power grid is unavailable. This would reduce learning disruptions from extended power outages. Microgrid systems may include installation of solar panels, wind turbines, or other renewable energy sources and can provide grid resilience, mitigate disturbances caused by natural disasters, and allow for faster system response and recovery. Microgrid systems could include solar panels, battery storage, feeder automation control systems, load control equipment, and other renewable energy sources. The subrecipient would protect any batteries, inverters, and associated equipment for microgrid systems from impact from flooding appropriate to the site.

4.4 Alternative 4: Relocation and Acquisition of New Parcels

Alternative 4 allows for moving the function of a school to a new property which could include consolidation of one or more schools into an existing school facility, or physical relocation of a whole facility to a new location. Relocation of school functions could be to an existing school or to an existing developed site not currently used as a school and would include associated build-out of the site. Relocation of a school within the floodway or coastal high-hazard area is not allowed under this alternative. Relocation of a school into the floodplain would only occur if there were no practicable location that met the needs of the community.

Activities associated with relocation can include one or more of the following activities:

4.4.1 Acquisition of land or structures

Acquisition, purchase or lease, of land or structures for the relocation of an entire school or a component of a school facility. Any acquisition of land would adhere to federal, territorial, and local regulations for the acquisition of land. Acquisition of any land or structures in a SFHA would be subject to compliance with EO 11998.

4.4.2 Relocation of structures

The use of heavy equipment to move existing structures, such as modular units, to a new location. Other than transportation of the structure, these actions would be the same as elevation of structures under Alternative 2. The subrecipient's engineer would design a new foundation sufficient to support the structure to be relocated and would coordinate with appropriate officials to ensure compliance with all local requirements for use of oversize vehicles.

4.4.3 Abandonment

Decommissioning and abandoning existing facilities in favor of a new location. If the subrecipient chooses to abandon a facility, they must render the original site safe and secure to ensure that it

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does not present a threat to public health and safety. Such activities could include, but are not limited to:

- Fencing
- Boarding windows and doors
- Securing utilities, including cisterns
- Providing adequate ventilation
- Potential public health hazard removal
- Structural stabilization
- Maintenance and monitoring plans

Federal and local regulation compliance is required for future use or transfer of property.

4.5 Alternative 5: Demolition

Alternative 5 includes demolition of damaged school infrastructure including existing buildings and legally disposing of all man-made site and building components off-site to return the site to its original condition. Disposal of site and building components include roof and wall structures, finishes, windows, doors, enclosures, mechanical, electrical, plumbing systems, foundations, walls, footings, floors slabs, stairwells, sidewalks, retaining walls, play areas, and steps. After removal of all building materials, topsoil would be installed, graded, and seeded as appropriate to the site, and pavement placed to match the public street, if affected.

The following are common actions that may be associated with the demolition of an existing facility:

- The removal of aboveground structures, removal of associated facilities, backfilling cisterns, removal or capping of utilities and septic tanks, and removal and disposal of asbestos or similar hazardous building materials, temporary fencing, final grading and restoration of the site. Demolition activities under Alternative 5 would likely include the use of heavy machinery for construction and demolition activities.
- Construction and demolition debris generated by Alternative 5 actions would be disposed
 of at permitted disposal staging areas, landfills, and associated recycling facilities, or
 shipped to an off-island facility as needed.

4.6 Alternative 6: Combination of Alternatives

Alternative 6 is inclusive of the SOW presented for Alternatives 2 through 5, allowing the subrecipient the ability to select actions that are applicable to addressing the wide range of VIDE's education infrastructure needs in the USVI. Additionally, it provides the subrecipient the greatest flexibility in how they increase the resiliency of school buildings across FEMA funding sources. FEMA anticipates that VIDE would be using a combination of alternatives for the majority of the infrastructure upgrades.

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4.7 Summary of Alternatives

FEMA and the subrecipient considered six (6) alternatives for evaluation:

- 1. No Action Alternative
- 2. Repair and Renovate with Resiliency and Modernization
- 3. New Construction
- 4. Relocation and Acquisition of New Parcels
- 5. Demolition
- 6. Combination of Alternatives 2 through 5 (Preferred Alternative)

5 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

This section discusses the potential environmental impacts of the No Action Alternative, Alternatives 2-5, and Alternative 6 (Preferred Alternative) on environmental resources. The potential cumulative environmental impacts are also discussed in Section 5.16. When possible, FEMA considers quantitative information to establish potential impacts; the potential qualitative impacts are evaluated based on the criteria listed in Table 5-1.

Table 5-1. Impact Scale and Context Evaluation Criteria for Potential Impacts					
Scale	Criteria				
Temporary	Impacts and recovery occurring only during the construction period.				
Short-term	Impacts that extend beyond the construction period, but where recovery is expected to occur within weeks or months following the completion of construction activities.				
Long-term	Long-term impacts are those that are more likely to be persistent and chronic throughout the life of the Proposed Action or that would last years after an impact-producing activity occurred.				
Direct or Indirect Direct impacts are those that would occur as a result of and at the same time and place each alternative. Indirect impacts are those that would be caused by the Proposed Act but would foreseeably occur at a different time or place and involve dynamic variables.					
None/ Negligible	If there is no impact, the resource would not be affected. The relative term "negligible" is used to describe changes or benefits that would either be non-detectable or, if detected, would have effects that would be slight and localized. Negligible impacts would be well below regulatory standards.				
Minor This relative term describes changes to the resource that would be <i>measurable</i> , and localized. Impacts or benefits would be within or below regulatory standar Management Practices (BMPs) could be used to reduce any potential adverse expressions.					
Moderate	This relative term describes changes to the resource that would be measurable and would have localized or regional impacts or benefits. Impacts would be within or below regulatory standards, but existing, baseline conditions would be altered on a short-term basis. BMPs would reduce any potential adverse effects.				
Major	This relative term describes changes to the resource that would be readily measurable and would be those that, in their context (the geographic, biophysical, and social in which the effects occur) and intensity (the severity of the impact in whatever context(s) it occurs). Mitigation measures to resolve the adverse effects would be required to reduce impacts, although long-term changes to the resource would still be expected. Impacts that are determined to be major would require the preparation of an EIS if they cannot be mitigated to less-than-significant levels.				
Adverse or beneficial	An adverse impact would cause unfavorable or undesirable outcomes on the human-made or natural environment. A beneficial impact would cause positive outcomes on the human-made or natural environment.				
Cumulative	A cumulative impact would be an additive impact when the effects of each alternative are considered in the context of past, present, or reasonably foreseeable future project(s) impacts. Cumulative impacts could be negligible, minor, moderate, major, adverse, or beneficial for a given environmental resource				

FEMA is omitting the following environmental resource topics because they do not apply to the project as covered by this PEA (Table 5-2: Eliminated Resource Topics).

Table 5-2: Eliminat	able 5-2: Eliminated Resource Topics				
Topic	Reason				
Safe Drinking Water Act of 1974	According to the Environmental Protection Agency (EPA) Map of Sole Source Aquifer Locations, there are no such aquifers within USVI.				
Wild and Scenic River	There are no wild or scenic rivers within the USVI that fall under the Wild and				
System	Scenic River designation.				
Bald and Golden	Bald and Golden Eagles are not found in the USVI.				
Eagles					
Essential Fish Habitat	The project site is located inland and is not adjacent to any designated Essential				
	Fish Habitat areas.				

Repair and/or Renovation (Alternative 2), New Construction (Alternative 3), Relocation (Alternative 4), and Demolition (Alternative 5) often have analyses that are the same for all alternatives. In those cases, analysis discussion is combined to avoid unnecessarily repetitive text. The No Action Alternative and the preferred Alternative 6 (a combination of Alternatives 2 through 5) will always have their own analysis discussion.

5.1 Geology, Topography, and Soils

Federal regulations pertaining to this resource area include the Farmland Protection Policy Act (FPPA) of 1981 (7 U.S.C. § 4201). The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey provides the determination of the current classification of prime farmlands. The Federal Register Vol 43, N. 21, January 31, 1978, published the NRCS policy and procedures on prime and unique farmlands. Land that is already in or committed to urban development or water storage is generally exempt from further FPPA evaluation.

In accordance with V.I.C. Title 12, § 533 [2019], the Earth Change permitting program is the primary mechanism to locate and address all land disturbing activities Territory-wide for residential and commercial development. DPNR must issue an Earth Change permit prior to ground disturbance.

5.1.1 Existing Conditions

St. Croix is the largest of the islands with an area of 84 square miles (sq. mi.), St. Thomas covers 32 sq. mi., and St. John is the smallest at 19 sq. mi. Topography varies from shoreline to the highest mountainous peak existing in St. Thomas (Crown Mountain) at 1,555 feet North American Vertical Datum of 1988 (NAVD 88). All three (3) islands have features such as ridges, mountain slopes, hillslopes, terraces, and alluvial fans. According to USDA NRCS soil survey data, bedrock is located between 10 and 80 inches at St. Croix, 10 to 20 inches at St. Thomas, and 10 to 40 inches at St. John (NRCS, 2025).

The Virgin Islands, along with neighboring Puerto Rico, are situated along active plate boundaries between the North American plate and the northeast corner of the Caribbean plate. The USVI's position along the active Caribbean tectonic plate boundary renders it susceptible to earthquakes and tsunamis (USGS, 2018), placing the project area in a seismic hazard zone. The USVI experienced a 7.5 magnitude earthquake in the Anegada Trough, which triggered two tsunamis that impacted St. Thomas and St. Croix on November 18, 1867 (USGS, 2018). In 1943, a magnitude 7.5 earthquake struck northwest of Puerto Rico, followed by 8.1 and 6.9 earthquakes north of Hispaniola in 1946 and 1953 (USGS, 2018). According to the USGS, there is potential for tsunami triggers, including earthquakes, submarine landslides, volcanic eruptions, and tsunamis in the USVI, increasing the risk of building and structure damage (USGS, 2018).

The USDA NRCS characterizes soils by their composition, such as geological origin, chemical, physical, and slope. The USDA NRCS Web Soil Survey online tool provides soil characteristic data. It also offers farmland classifications. There are no soils in the USVI that would qualify as prime or unique farmlands under the FPPA without human intervention such as the installation of flood protection features (e.g. levee, floodwall, etc.), drainage, or irrigation. Such soils that fit in this category amount to the following percentages: St. Thomas (1.2%), St. John (1.3%), St. Croix (14%). Figures 4 and 5 indicate the locations of potential mitigated prime farmland. However, most of St. Thomas is urban, a large portion of St. Croix is also developed, and the majority of land on St. John is National Park Service land. See Figures 6 and 7 for a map of U.S. Census Bureau designated urban areas.

5.1.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact geology, topography and soils:

- Land disturbance associated with new construction, grading, and conversion of existing pervious areas, or well-drained soil, to impervious areas, or compacted soil or pavement, that lead to changes in topography and potential alteration of stormwater flow.
- The potential for pilings required at depth, or into bedrock.
- The potential for conversion of prime farmland to non-farm usage.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, FEMA would not provide funding for education infrastructure improvements, and no construction activities would occur. Therefore, no impacts on soils, topography, geology or Prime Farmland would occur. School buildings would remain in their deteriorated condition, and buildings would be more vulnerable to seismic activity than newer or retrofitted structures.

Alternatives 2-5: Repair and Renovate, New Construction, Relocation, Demolition

FEMA anticipates ground-disturbing activities for all action alternatives described in Sections 4.2-4.5. Heavy equipment may consist of wheeled or tracked construction and transportation, road and non-road, combustion engine, and heavy equipment weighing up to 50 tons. The types of heavy equipment include bulldozers, wheeled tractor-scraper, skid steer loaders, backhoe loaders,

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excavators, trenchers, articulated haulers, asphalt pavers, motor graders, drum rollers, compact track and multi-terrain loaders.

Geology

FEMA expects minor temporary adverse direct impacts to geologic resources if construction requires the placement of pilings or deep foundations. FEMA expects the impact during construction only, as once the pilings and/or foundations have been permanently set, the impact, or vibrations, would cease. Vibrations from such activities would not be seismically significant.

Topography

Topographical disturbance from construction and grading activities could potentially permanently change the flow of stormwater creating ponding and the potential of overland flow of water that was previously able to drain into pervious soil. Compaction of soil or the placement of concrete or pavement, known as hardscape, over previously pervious land would present similar concerns. In all cases (Alternatives 2-5), topographical changes would be permanent and construction plans would include mitigation measures, such as a stormwater management plan and other BMPs, to manage stormwater flow associated with topographical changes. Accordingly, FEMA anticipates minor long-term direct adverse impacts with the implementation of mitigation measures and other BMPs included in construction and final land and hardscaping plans.

Soils

Ground disturbing activities associated with Alternatives 2-5 are expected to result in long-term changes to existing soils.

Repair and Renovations (Alternative 2) involve construction activities within the existing school footprint. Therefore, FEMA anticipates only minor long-term direct adverse impacts to soils with implementation of Alternative 2.

New Construction (Alternative 3) would involve the construction of a new school on a new parcel of land with previously undisturbed soils. Therefore, FEMA anticipates the largest impact on soils with implementation of this alternative, resulting in moderate long-term direct adverse impacts on soils.

Relocation (Alternative 4) would involve the relocation of an existing school to an existing site or a new property. Where an existing site is used, FEMA anticipates minor long-term direct adverse impacts on soils since an existing site would largely include previously disturbed soils. Where a new site is used, FEMA anticipates moderate long-term direct adverse impacts on soils similar to those associated with Alternative 3 (New Construction).

Demolition (Alternative 5) would involve the demolition of an existing school and the restoration of the site to pre-existing contours. Since demolition and restoration activities would occur on an existing previously disturbed site, FEMA anticipates negligible long-term direct adverse impacts to soils with implementation of this alternative.

Prime Farmland

FEMA anticipates negligible to no short or long-term direct adverse impacts to prime or unique farmlands given the small percentages of soils that may qualify as such farmland if drained. Should a project proposal require permanent conversion of prime or unique farmland, the FEMA would consult with the NRCS for any necessary mitigation measures applicable to the respective site.

5.1.2.1 Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on geology, topography, soils and prime farmland are not likely. Therefore, implementing two or more individual actions would have minor temporary direct adverse impacts on geology, minor long-term direct adverse impacts on topography, minor to moderate long-term direct impacts on soils, and negligible to no short or long-term impacts on prime farmland with implementation of two or more proposed individual activities.

5.2 Air Quality

The Clean Air Act (CAA) of 1970 (42 USC 7401–7661) is a comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. The act authorized the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The NAAQS include standards for six (6) air pollutants: lead, nitrogen dioxide, ozone, carbon monoxide, sulfur dioxide, and particulate matter (including both particulate matter less than 10 micrometers in diameter [PM10], and fine particulate matter less than 2.5 micrometers in diameter [PM2.5]). Areas where the monitored concentration of a criteria pollutant exceeds the applicable NAAQS are designated as being in non-attainment of the standards; while areas where the monitored concentration of a criteria pollutant is below the standard are classified as in attainment (EPA, 2025a).

Federally funded actions in nonattainment and maintenance areas are subject to EPA conformity regulations (40 CFR Parts 51 and 93), which ensure that emissions of air pollutants from planned federally funded activities would not affect the state's ability to meet the NAAQS. Section 176(c) of the Clean Air Act requires that federally funded projects conform to the purpose of the State Implementation Plan (SIP), meaning that federally funded activities would not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone.

The conformity requirements of the CAA and its regulations limit the ability of federal agencies to assist, fund, permit, and approve projects that do not conform to the applicable SIP. When subject to this regulation, the federal agency is responsible for demonstrating conformity for its proposed action. Conformity determinations for federal actions other than those related to transportation plans, programs, and projects that are developed, funded, or approved under Title 23 USC or the Federal Transit Act (49 USC 1601 et seq.) must be made according to the federal

general conformity regulations (40 CFR 93 Subpart B). Certain actions and activities are exempted from general conformity review, including the following:

- Stationary source emissions regulated under major or minor New Source Review (air permitting) programs.
- Alteration and additions of existing structures as specifically required by new or existing applicable environmental legislation.
- Actions where the emissions are not reasonably foreseeable.
- Actions that have been defined by the federal agency or by the state as "presumed to conform;"
- Activities with total direct or indirect emissions (not including stationary source emissions regulated under New Source Review programs) below *de minimis* levels. Emissions from construction activities are subject to air conformity review unless they are shown to be below the applicable *de minimis* levels.

The emissions from construction activities are subject to air conformity review unless they are shown to be below the applicable *de minimis* levels.

An EPA-approved SIP implements the USVI's air quality regulations and is located in the Virgin Islands Laws and Rules and Regulations on Air Pollution Control, Title 12, Chapter 9, Subchapters 201-204 and 206. The Air Pollution Control Program of the Division of Environmental Protection of the DPNR manages the USVI air quality program.

Permitting for the Clean Air Act (CAA) in USVI is the shared responsibility of EPA Region 2 and the Air Pollution Control Program of the Division of Environmental Protection of the DPNR. Region 2 EPA issues Prevention of Significant Deterioration (PSD) permits and DPNR issues all other permits for emissions.

In accordance with V.I.C. Title 12, Chapter 9 § 206-220, any, "building, erecting, altering or replacing any article, machine, equipment" which may cause air emissions, must obtain an "Authority to Construct Permit" and a "Permit to Operate," prior to construction. An application form is located on the DPNR website.

5.2.1 Existing Conditions

The EPA designates air quality for a geographic area as being in attainment or nonattainment. If the air quality in a geographic area meets or is cleaner than the NAAQS, it is an attainment area. Areas that do not meet the NAAQS are nonattainment areas. The EPA Green Book, last updated July 31, 2025, reports current nonattainment counties for all NAAQS priority pollutants. The Green Book only reports nonattainment areas, therefore areas that are designated attainment are absent from the list. The three islands of the USVI are not on the current list and therefore designated as attainment areas. General conformity and *de minimis* thresholds do not apply (EPA, 2025b).

In St. Croix, requirements for the Clean Air Non-Road Diesel Rule historically have not been met for sulfur oxides, largely due to the Limetree Bay Refinery. However, the EPA ordered all refinery

operations to cease in 2021 due to multiple air emission incidents, despite the refinery obtaining an exemption (EPA, 2025c).

5.2.2 Potential Impacts

The following criteria would be used to determine if the alternatives may significantly impact air quality:

- Increase of NAAQS priority pollutants, resulting in a status of non-attainment.
- Release of lead paint dust.
- Release of hydrofluorocarbons.

Types of mitigation and prevention:

- EPA mandates the use of ultra-low sulfur diesel fuel sulfur dioxide emitted from construction equipment and vehicles.
- V.I.C. Title 12, Ch. 9 § 204-205, states precautions must be taken to prevent particulate
 matter from being airborne. Preventative measures may include: The use of water or
 suitable chemicals for the control of dust in the demolition of buildings, construction
 operations, grading of roads, or clearing of land. The use of hoods, fans, and fabric filters
 to enclose and vent the handling of dusty materials. Operators should always cover
 open-bodied trucks transporting materials likely to give rise to airborne dust when in
 motion.
- EPA's 2008 Lead-Based Paint Renovation, Repair and Painting Rule, as amended in 2010 and 2011, requires workers to be certified and trained in the use of lead-safe work practices, and requires renovation, repair, and painting firms to be EPA-certified.
- Section 608 of the CAA, EPA prohibits individuals from knowingly venting refrigerants containing ozone-depleting refrigerants, including HCFC-22, as well as their substitutes such as hydrofluorocarbons, including R-410A, while maintaining, servicing, repairing, or disposing of air conditioning and refrigeration equipment.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

No FEMA funding would be provided and therefore no construction activities would occur under this alternative. No action would mean that education infrastructure, specifically school buildings, would continue to use fossil-fuel powered backup generators which would continue to impact air quality with gasoline emissions when in use. FEMA anticipates negligible long-term direct adverse impacts to continue with existing fossil-fuel powered generators.

Alternatives 2-5: Repair and Renovate, New Construction, Relocation, Demolition (St. Croix, St. John, and St. Thomas)

FEMA anticipates potential impacts with the implementation of Alternatives 2 through 5 from the following potential emission sources: mobile generators, painting or paint removal, handling refrigerants, and any necessary demolition, construction access roads, or work that disrupts dirt or particulate matter. Construction and demolition activities are also expected to generate particulate matter, but mitigation and prevention measures as well as BMPs would be implemented to

minimize impacts. FEMA assumes the majority of lead-based paint and friable asbestos would be fully abated (removed) prior to activities that would allow them to become airborne. Ultra-low sulfur diesel fuel would be used, as required by the Clean Air Non-road Diesel Rule (EPA, 1995;2007). Emissions would be below *de minimis* levels.

Since construction activities would be temporary, and contractors would be required to implement BMPs, FEMA anticipates that the implementation of Alternatives 2-5 would result in minor temporary direct adverse impacts on air quality and minor, long-term direct beneficial impacts with the replacement of fossil fuel-driven backup generators with solar or other energy efficient, non-fossil fuel-based energy sources.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on air quality are not likely. Therefore, implementing two or more individual actions would have minor temporary direct adverse impacts on air quality during construction activities, and minor long-term direct beneficial effects of replacing fossil fuel-driven back-up generators with solar or other energy efficient, non-fossil fuel-based energy sources.

5.3 Water Quality

Congress enacted the Federal Water Pollution Control Act in 1948 which was later reorganized and expanded in 1972 and became known as the Clean Water Act (CWA) in 1977. The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the U.S Army Corps of Engineers (USACE) and the EPA.

Section 401 of the CWA requires that an applicant for a federal license or permit provides a certification that any discharges from the facility would comply with the Act, including state- established water quality standard requirements.

Section 402 of the CWA establishes the National Pollution Discharge Elimination System (NPDES). The NPDES allows the EPA to regulate both point and non-point pollutant sources, including stormwater and stormwater runoff, requiring that a Stormwater Pollution Prevention Plan (SWPPP) be prepared. V.I.C. Title 12 requires stormwater permitting for construction activities under the Territorial Pollutant Discharge Elimination System (TPDES) Program, Construction General Permit (CGP) (Permit No. VIGSA0000) (DPNR n.d.b). Discharges define the runoff as any pollutants into waters of the USVI from areas where land disturbing activities occurred, such as clearing, grading or excavation.

Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act.

Section 303(d) of the CWA of 1977, as amended (33 U.S.C. § 1313(d)(2)), establishes requirements to identify and prioritize water bodies that do not meet water quality standards. Total Maximum Daily Loads (TMDLs) represent the highest amount of a pollutant that a stream can receive and still meet water quality standards. A stream that is below the TMDLs typically requires a Water Quality Management Plan (WQMP). Categories incorporate the following:

- Category 5 Waters: Do not meet quality standards and require cleanup
- Category 4 Waters: Do not meet standards, but pollution is being addressed
- Category 3 Waters: Lack enough data to determine if standards have been met
- Category 2 Waters: Water of concern, waters meet some water quality standards
- Category 1 Waters: Meets tested standards for clean water

5.3.1 Existing Conditions

The waters within the jurisdiction of the USVI include: all harbors, bays, streams, ponds, reservoirs, marshes, channels, waterways, wells, springs, irrigation systems, drainage systems and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon USVI, including the territorial seas, contiguous zones and oceans.

There is an absence of large freshwater resources and perennial streams on the USVI. Watershed management is based upon natural or artificial channels and narrow coastal water bodies. Relatively small salt ponds are also scattered across the three main islands. Because of the impermeable underlying volcanic rocks, floodwaters accumulate and recede rapidly, generally in less than one day. During a year of average precipitation, annual runoff ranges from about 2 to 8 percent of the rainfall, which is about 0.5 to 2 inches, depending on conditions in a particular basin. Topography, soil moisture, local evaporation rates, and vegetation cover controls runoff.

V.I.C. Title 29, § 308 [2019] requires self-sustaining water supply systems that typically consist of a well or rainwater collection and a cistern. If a dwelling has access to the potable water system and the appropriate USVI Water and Power Authority (WAPA) officials verified it when service was installed, no cistern would be required.

Construction activities are an inherent source of potential non-point source pollution and erosion. Non-point source pollution is the major source of surface water contamination in the USVI due to improper erosion control and stormwater mitigation. Non-point source pollution sources diffuse in nature with two causes that should be addressed during the implementation of the proposed alternatives. The two causes are: failure to properly install effective silt control devices during construction and failure to contain stormwater run-off from unpaved roads.

The DPNR ranked the waters on its 2020 303(d) list as high, medium, or low priority for improving water quality and identified total maximum daily loads (TMDLs) for that body of water. TMDLs are a calculation of the maximum amount of a pollutant that a waterbody can accept and still meet Water Quality Standards for public health and healthy ecosystems. DPNR developed USVI-specific TMDLs in accordance with the CWA for all the waters identified on their Section 303(d)

list of impaired waters (EPA, 2022), according to their priority ranking on that list. The most recent list of impaired waters within the USVI is located in Appendix D.

5.3.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may significantly impact water quality:

- Increased the amount of impervious surface significantly, creating measurably more stormwater runoff than was originally experienced in the area.
- Results in the creation of a new channel or relocation of a natural drainage channel.
- Results in the discharge of pollutants that exceed federal and state water quality standards such as TMDLs and drinking water maximum contaminant levels.
- Cause the degradation of surface or groundwater quality.
- Threaten or damage unique hydrologic characteristics.
- Violate established Federal, State, or Local laws or regulations that currently protect or manage water resources.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, no FEMA funding would be provided, and no construction activities would occur. Potential sources of contamination from uninhabited schools include leaching of lead from lead-based paint, uncontrolled erosion due to lack of landscaping maintenance, and the potential of other chemicals originally intended for school use unintentionally releasing into the environment due to improper storage and container deterioration. Under the No Action Alternative, further deterioration of damaged school buildings could result in negligible to minor short-and long-term indirect adverse impacts on water quality from worsening conditions.

<u>Alternatives 2-5: Repair and Renovate, New Construction, Relocation, Demolition (St. Croix, St. John, and St. Thomas)</u>

FEMA anticipates both temporary and long-term potential impacts on water quality with the implementation of alternatives 2-5. Anticipated temporary impacts on water quality would be expected to occur during active construction activities with the primary source of potential impacts originating from construction-related erosion. Potential impacts from construction-related erosion are expected to be minimized through the use of a SWPPP, and obtaining applicable NPDES permits. Potential contaminants that stormwater may carry over land from construction activities include petroleum products from construction equipment, gas-powered or diesel-powered portable generators, and vehicles, as well as eroded sediment. Lead-based paint and asbestos would be fully abated, meaning removed and disposed, prior to demolition or generation of construction debris, and therefore no water quality impacts are anticipated from these types of contaminants. The implementation of BMPs and a Spill Prevention Control and Countermeasure (SPCC) Plan would mitigate potential impacts on water quality. As a result, FEMA anticipates minor temporary direct and indirect impacts on water quality during construction activities with implementation of Alternatives 2-5.

Anticipated long-term impacts on water quality would be expected to occur from the transition of the pervious landscape to impervious hardscape (rooftops, concrete and asphalt) from the addition of new buildings, parking lots, and roads associated with school expansion, or new school construction activities. Potential long-term impacts would be mitigated through the implementation of a stormwater management plan included with each project that would address drainage and treatment of stormwater on-site with run-off being directed to appropriate stormwater drains and subsurface drainage systems (DPNR, 2021). As a result, FEMA anticipates minor long-term direct and indirect adverse impacts on water quality from the addition of new impervious hardscapes.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on water quality are not likely. Therefore, implementing two or more individual actions would have minor temporary direct and indirect adverse impacts on water quality during construction activities, and minor long-term direct and indirect adverse effects due to the addition of impervious landscapes.

5.4 Wetlands

Executive Order 11990 Wetlands Management requires Federal agencies to avoid funding activities that directly or indirectly support occupancy, modification, or development of wetlands, whenever there are practicable alternatives, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. FEMA uses the 8-step decision-making process to evaluate potential effects on, and mitigate impacts to, wetlands and floodplains in compliance with EO 11990 and EO 11988.

The DPNR defines a wetland as:

An area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands in the U.S. Virgin Islands generally include watercourses, marshes, swamps, artificial ponds and impoundments, salt ponds, lagoons, shallow seagrass beds, and other similar areas.

Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into waters of the US and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act. The USACE is the primary regulatory authority responsible for issuing permits under Section 404. No dredge to fill within a wetland or other waters of the US without a USACE permit/authorization.

Additional coordination with the DPNR is also required. Amended Virgin Islands Flood Damage and Prevention Regulations, Title 3 V.I.C., Chapter 22, Subchapter 401(b)(15) includes regulations for building or alterations within the floodplain and adjacent to certain waterways, allowing DPNR

to require more stringent buffer protections on watercourses. The subrecipient would be responsible for obtaining appropriate permits prior to the beginning of work and implementing all requirements of the permits. Staging areas and access roads must be located outside the jurisdictional boundaries of wetlands and other waters of the US.

5.4.1 Existing Conditions

FEMA uses the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), state-specific mapping tools and on-site surveys to identify wetlands. Wetlands in the USVI occupy less than 3 percent of the land area (Figures 8 and 9). Types of wetlands systems that occur in the USVI are:

- Inland and contain ocean-derived salts in concentrations of less than 0.05% and are non-tidal situated on a river or riverbank.
- Coastal and contain water that is more salty than fresh with one or more rivers or streams flowing into it, and with a free connection to the open sea.
- Saltwater wetlands exposed to waves, currents, and tides in an oceanic setting, with coral reefs, sea grass, and/or kelps.

As a result of steep terrain, small drainage areas and limited rainfall, freshwater wetlands and deepwater habitats are scarce on the USVI. Most streams on the islands last for a very short time; therefore, wetlands located near or on riverbanks appear as channels of streams, typically flowing during the wet season.

The NWI indicates that the majority of the USVI mapped wetlands for St. Croix, St. John, and St. Thomas are located in one of three environments: 1) where fresh water meets saltwater, 2) marine and ocean deep water or 3) freshwater emergent, which is where plants grow in standing water or in areas that experience periodic standing water (USFWS, n.d.).

In February 2022, the EPA announced that it had awarded a grant for over \$65,000 to the Government of the USVI to update their USFWS NWI maps, which could change wetlands designations in the USVI.

5.4.2 Potential Impacts and Proposed Mitigation

The proposed alternatives may have the potential to impact wetlands, depending on project location. FEMA would conduct the 8-Step Decision-Making Process if there is evidence of a possible wetland in a proposed project area. This process ensures that FEMA considers how its actions affect a floodplain and/or wetlands. In addition, prior to the start of construction, the subrecipient would verify and mark the boundaries of wetland areas and no disturbance would occur within these areas.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

No FEMA funding would be provided, and no construction would occur under this alternative. Under this alternative, damaged education infrastructure would be left in place, and contaminants could leach out into stormwater and be carried overland into wetlands. If wetlands are located

directly adjacent to or downstream of deteriorating or abandoned facilities, there is potential for wetlands to be impacted if these facilities are not properly repaired, renovated, replaced, demolished or abandoned. As a result, FEMA anticipates minor long-term indirect adverse impacts on wetlands to occur under the No Action Alternative.

<u>Alternatives 2-5: Repair and Renovate, New Construction, Relocation, Demolition (St. Croix, St. John, and St. Thomas)</u>

Alternatives 2-5 include common construction activities that have the potential to adversely impact wetlands if wetlands are located within the project site. However, wetlands that may be impacted would be identified prior to the start of work, and measures would be implemented to avoid impacts to those wetlands if possible. If no wetlands are present, or if wetlands are present, but can be avoided, then no impacts on wetlands would occur. If impacts to wetlands cannot be avoided, FEMA would coordinate with USACE and DPNR to minimize or mitigate wetland impacts through applicable permit processes. With application of minimization and/or mitigation measures, FEMA anticipates impacts on wetlands to result in negligible long-term direct adverse impacts with implementation of Alternatives 2-5.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on wetlands are not likely. In addition, FEMA anticipates most, if not all wetland impacts to be avoided, and those impacts that are unavoidable to be mitigated through federal and local permit processes. Therefore, implementing two or more individual actions would have negligible long-term direct adverse impacts on wetlands with implementation of Alternative 6.

5.5 Floodplain

Executive Order 11988, Floodplain Management, requires that a federal agency avoid direct or indirect support of development within the floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps to identify the floodplains for the NFIP and may use Advisory Base Flood Elevations, when present, to serve as best available information for EO 11988 review (Figures 10 and 11). Federal actions within the 100-year floodplain, or 500 for critical actions, require the federal agency to conduct an 8-Step Decision-Making Process under EO 11988. FEMA's floodplain regulations are located in 44 CFR Part 9.

A floodway is the area of the floodplain where floodwater usually flows faster and deeper. The base flood, or the 1-percent floodplain, is the minimal area for floodplain impact evaluation. FEMA defines a 1-percent-annual-chance floodplain, known as the 100-year floodplain, as an area subject to an overabundance of water from a flood that has a 1-percent chance of being equaled or exceeded in any given year. This area defined in flood maps is also known as the SFHA. The elevation of the surface water resulting from a flood that has a 1-percent chance of equaling or exceeding that level in any given year is known as the base flood elevation.

The DPNR Division of Building Permits is responsible for enforcing the USVI Building Code and the floodplain management regulations in V.I.C. Title. 3, § 22, (2019). The Floodplain Management Regulations are comprised of a combination of the DPNR February 2021 amended Flood Damage Prevention Regulations – Rules and Regulations and the flood provisions of the USVI Building Code. The Floodplain Management Regulations and building code apply to all proposed development in established flood hazard areas. The V.I.C. Title. 29, §5, (2019) includes certain provisions that apply to the design and construction of buildings and structures in flood hazard areas.

5.5.1 Existing Conditions

The 2019 USVI Disaster Recovery Action Plan indicates that many of the islands' populous areas are in high-risk flood zones (VIHFA, 2019). These areas include Downtown Frederiksted on St. Croix, Cruz Bay on St. John, and Charlotte Amalie on St. Thomas. A USVI Flood Hazard Resources Map is located on the FEMA website (FEMA's National Flood Hazard Layer (NFHL) Viewer). VIDE facilities occupy approximately 15% of the total landmass of USVI. However, the topography of USVI impacts the amount of buildable area and may limit options for actions outside of the floodplain.

5.5.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact a floodplain:

- The addition of new structures or buildings into a regulated floodway that causes new stormwater runoff or changes normal runoff patterns.
- Alterations to natural floodplains, stream channels and shorelines that change how water is stored or drained.

The proposed alternatives may have the potential to impact floods zones, depending on action location. FEMA prefers total avoidance of a floodplain, but if it is not practicable, FEMA requires projects to incorporate risk minimization measures such as elevation, avoiding areas with higher flood levels, floodproofing, protecting crucial infrastructure in buildings, and so on. Nature-based solutions are another measure, using natural features and processes to reduce flood risks, improve water quality, protect coastal property, restore and protect wetlands, stabilize shorelines, reduce urban heat, and add recreational space. Prior to conducting a proposed repair, renovation, replacement, or relocation action in a given area, FEMA or VIDE would evaluate floodplain impacts associated with proposed actions according to the respective agency regulations to maximize resiliency of the school community.

FEMA anticipates that adherence to NFIP and local floodplain regulations would help to minimize potential impacts from flooding. Additional measures specific to project sites may include maintaining buffers from embankments, limiting construction in or occupancy of floodplains, elevation of lowest habitable floors, use of nature-based engineering practices, and so on. Specific measures would be evaluated with project proposals through the 8-Step Decision-Making Process. Flood resistant construction requirements found in the NFIP and Virgin Islands Building Codes would be incorporated.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, FEMA funding would not be provided, construction activities would not occur, damaged education infrastructure and schools would remain in their current state, and flooding could continue to impact compromised structures. As a result, FEMA anticipates moderate to major, long-term direct adverse impacts with no federal action.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Repairs and Renovations have the potential for temporary indirect impacts if the project site is currently located within a floodplain and equipment or materials are left in the floodplain during construction activities during a flood event. However, the application of BMPs, including locating equipment and materials outside the floodplain when not in use, would reduce the potential for impacts to minor temporary indirect adverse. For all proposed projects within the floodplain, FEMA must follow the 8-Step Decision-Making Process. Project sites that occur outside the floodplain would not have any short-term or long-term direct adverse effects on the floodplain. However, there is potential for long-term impacts on floodplains to occur if external features (e.g. parking lots, fencing, ADA ramps, recreational fields, etc.) are included as part of renovations and are installed within the floodplain. FEMA would not anticipate more than minor long-term direct and indirect adverse impacts on the floodplain from the installation of these features in the floodplain.

Alternatives 3-4: New Construction and Relocation (St. Croix, St. John, and St. Thomas)

New Construction and Relocation activities have the potential for permanent direct impacts on the floodplains if the project site is located within a floodplain and equipment or materials are left in the floodplain during a flood event. However, the application of BMPs, including locating equipment and materials outside the floodplain when not in use, would reduce the potential for impacts to minor temporary indirect adverse. For all proposed projects within the floodplain, FEMA would follow the 8-Step Decision-Making Process. This process would evaluate the action and weigh the benefits of the proposed project relative to the loss of the beneficial values of the floodplain. New Construction and Relocation sites that are located outside of floodplains would not have any short-term or long-term effects on floodplains or flood stages. Where the physical location of structures within a floodplain would result in long-term direct adverse physical impacts to the floodplain, VIDE would incorporate flood resistant construction requirements into the design, including elevating structures above the base flood elevation (BFE), directing storm runoff, constructing stormwater retention basins, or other mitigative measures. As a result, FEMA anticipates only minor long-term direct and indirect adverse effects on floodplains from New Construction or Relocation projects that must be sited in a floodplain. In addition, relocating facilities currently located in floodplain to a non-floodplain area would have moderate to major long-term direct beneficial impacts on floodplains.by increasing groundwater recharge capacity and removing impediments from the floodplain.

Alternative 5: Demolition (St. Croix, St. John, and St. Thomas)

Demolition activities have the potential to result in moderate temporary direct adverse impacts on the floodplain or flood stages if equipment or materials are left in the floodplain when not in use. However, the application of BMPs, including locating equipment and materials outside the floodplain when not in use, would reduce the potential for impacts to minor temporary indirect

adverse. In addition, removing existing facilities located within a floodplain via demolition would have a moderate to major long-term direct beneficial impact on USVI floodplains by increasing groundwater recharge capacity and removing impediments from the floodplain.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive direct and indirect effects on floodplains are not likely. Therefore, implementing two or more individual actions would have no more than minor temporary indirect adverse impacts on floodplains during construction activities minor long-term direct and indirect adverse impacts on floodplains for projects that must be sited in a floodplain , and moderate to major long-term direct and indirect beneficial effects when existing facilities or structures are removed from floodplains.

5.6 Coastal Resources

The National Oceanic and Atmospheric Administration (NOAA) manages the Coastal Zone Management Act (CZMA). States and territories with coastal shorelines administer the CZMA to manage coastal development with a Coastal Zone Management Plan (CZMP). Federal agencies must evaluate actions within designated coastal zones to ensure they are consistent with the CZMP. The USVI is divided into two tiers of the coastal zone, encompassing the entire territory which is administered by the DPNR. Actions receiving federal assistance must follow the procedures outlined in 15 CFR 930.90 – 930.101 for federal coastal zone consistency determinations. Coastal resources typically protected under the CZMA include barrier islands, intertidal shoreline, beaches, salt marshes, fresh and saltwater wetlands, aquatic habitat, and any culturally significant or historic resources occurring in those areas, such as shipwrecks and archeological sites.

The Coastal Barrier Resources Act (CBRA) of 1982 designates relatively undeveloped coastal barriers (Coastal Barrier Resources System [CBRS]) along the Atlantic and Gulf coasts as part of the John H. Chafee Coastal Barrier Resources System. The Coastal Barrier Improvement Act of 1990 amended the CBRA, adding the new designation Otherwise Protected Areas (OPA) which are areas where only federal flood insurance is restricted. FEMA's implementation regulations are more stringent than USFWS's administration of CBRA, prohibiting new expenditures in system units with limited exception for emergency actions essential to saving lives, protection of property, and public health and safety. While there are certain other exceptions possible only after consultation with USFWS, they generally do not include education infrastructure actions like those considered in this PEA.

5.6.1 Existing Conditions

The entire USVI is considered part of the coastal zone with land adjacent to the marine or coastal estuarine environment and consisting of a coastal watershed. The coral reefs provide protection to buildings and millions of dollars of value to the local economy – over \$47 million every year in St. Croix, St. John, and St. Thomas.

Figures 12 and 13 illustrate Tier 1 of the Coastal Zone, the CBRS Units and the OPAs (DPNR, 2025). These figures help to show that education infrastructure and VIDE development is unlikely to occur in these areas, and therefore the potential for alternatives to impact Tier 1 of the coastal zone is very low to nonexistent.

5.6.2 Potential Impacts and Proposed Mitigation

No VIDE properties covered by this PEA are located within the Tier 1 coastal zone. Pressures from increased development of coastal areas, major weather events, spread of invasive species, and increased unsustainable harvest of natural resources have degraded coastal ecosystems of the USVI over the last several hundred years. Due to these changes, coastal ecosystems are in direct threat of fisheries collapse, severe coastal erosion, and loss of cultural and historical heritage associated with people's use of the coastal zones.

Inland construction activities could also have an impact on coastal resources due to land disturbance activities that impact local waterways draining into the coastal areas. Stormwater pollution prevention methods would help prevent these impacts. Section 5.3. Water Quality covers these precautions.

The following criteria would be used to determine if the alternatives may impact coastal areas:

- Compliance with the CZMA.
- Compliance with the CBRA.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, FEMA would not provide any grant funding, and no construction activities would occur. Under these conditions, no direct impact on coastal resources would be anticipated. However, depending on the location of the damaged education infrastructure left in place and the extent of the damage, minor to moderate long-term indirect adverse impacts to coastal resources could occur due to the potential for pollutants to run-off from damaged or abandoned facilities into coastal areas during storm events.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

If repairs or renovation take place within a first-tier coastal zone, the subrecipient must obtain a permit in accordance with V.I.C. Title 12, § 910 (2019). FEMA anticipates no impact as there are no VIDE facilities or education infrastructure within the CBRS or OPAs.

Alternatives 3-4: New Construction, Relocation (St. Croix, St. John, and St. Thomas)

FEMA's implementing regulations for CBRA would prohibit the funding of a new school on a new site or the relocation of an existing school to a new site within a CBRS, and the federal prohibition on federal flood insurance for facilities in OPAs would be a barrier to relocation into an OPA. Any new construction or relocation proposals at new sites within the CZMA would require a favorable consistency determination from DPNR in addition to any applicable permits. FEMA anticipates that these restrictions would limit potential impacts on coastal areas to the

negligible long-term direct adverse level. In addition, any relocation of facilities from coastal areas to areas outside the CZMA would reduce the potential for on-going adverse impacts, resulting in minor long-term indirect beneficial impacts on coastal areas.

Alternative 5: Demolition (St. Croix, St. John, and St. Thomas)

No VIDE structures currently exist in a CBRA or an OPA. Demolition activities associated with the permanent removal of structures near or upstream of a CBRS or OPA would reduce the potential for on-going adverse impacts, resulting in minor long-term indirect beneficial impacts on coastal areas.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on coastal zones are not likely. Therefore, implementing two or more individual actions would have negligible long-term direct adverse impacts on coastal areas, and minor long-term direct beneficial effects associated with the removal of structures adjacent to or upstream of coastal areas.

5.7 Vegetation

The Community and Heritage Tree Law (Act 8149), enacted in 2019 and amended into Title 12 of the VIC as Chapter 3A, safeguards the tree canopy on public lands to promote conservation in the USVI. This law recognizes the ecological, environmental, cultural, and health benefits trees provide. Public trees are located along roadsides and within public property. A permit is required for pruning and removing public trees. Public trees under five inches in diameter at breast height (dbh) and tan-tan trees (*Leucaena leucocephela*) can be removed without a permit. It protects "heritage" trees identified for their intrinsic value due to species, size, age, location, ecological significance, historical and cultural importance, aesthetic appeal, economic contributions, unique characteristics, or community benefits. Heritage trees include those around historic structures, "jumbie trees," and the largest trees of a species. No heritage tree may be pruned, removed or damaged in any way unless a Virgin Islands Urban Forester, a designated arborist or the Territorial Forester determines that there is an overriding need for public improvements, or a severe hardship exists for reasonable use of a site. Trees deemed hazardous by a Virgin Islands Urban Forester may be removed (Legislature of USVI, 2025a).

5.7.1 Existing Conditions

The USVI exhibit diverse tropical vegetation, including dry tropical forests, mangrove forests, and various flowering plants and trees. The islands' flora is influenced by factors like rainfall, climate, and soil conditions. Much of the original vegetation was altered by agriculture, grazing, and development and feral animals like pigs, goats, and donkeys also impact vegetation through grazing and rooting. While much of the original forest was altered by human activity, many areas have returned to forest, showcasing a rich biodiversity with over 700 native or naturalized plant species according to the NPS (NPS, 2023).

Common species include both native and non-native species, such as the turpentine tree (Bursera simaruba), false tamarind (Lysiloma latisiliquum), Spanish lime (Melicoccus bijugatus), sweet lime (Triphasia trifolia), mango (Mangifera indica), false pineapple (Ananas sagenaria), bay rum (Pimenta racemose), autograph tree (Clusia rosea), catch and keep (Acacia riparia), tyre palm (Coccothrinax alta), starvation fruit (Morinda citrifolia), limber caper (Capparis flexuosa), fiddlewood (Citharexylum spinosum), tamarind (Tamarindus indica), monkey no climb (Hura crepitans), ginger Thomas (Tecoma stans), aloe vera (Aloe barbadensis), casha (Acacia tortuosa), tan tan (Leucaena leucocephala) and locustberry (Byrsonima lucida).

5.7.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact vegetation and trees:

- Loss of vegetation or public trees due to construction activities.
- Loss of heritage trees due to construction activities.

The proposed alternatives may have the potential to impact vegetation and trees due to construction activities where ground-disturbing activities are required for project construction. FEMA requires projects to incorporate vegetation and tree restoration/re-establishment plans for projects where more than negligible or minor impacts on vegetation and trees are anticipated and these plans would include the planting of native plant and tree species. For projects that involve the removal of one or more heritage trees, FEMA requires coordination with an Urban or Territorial Forester prior to removal or alteration of a heritage tree and replacement of heritage trees in accordance with the Community and Heritage Tree Law.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

No FEMA grant funding would be provided and therefore no construction activities would occur under the No Action Alternative. Existing trees and vegetation would not be altered or removed. Regular landscaping activities would continue within active campuses. Since no construction activities would occur under the No Action Alternative, no short-term effects would occur. However, moderate long-term indirect beneficial effects may be realized as the existing trees and vegetation would be able to continue to grow and provide the local community with the ecological, environmental, cultural, and health benefits associated with trees.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Under Alternative 2 (Repair and Renovation) only minor impacts to trees and vegetation are anticipated due to construction activities since these activities are expected to be of a smaller scale. However, reasonable attempts would be made to avoid and minimize impacts to public trees, heritage trees, and vegetation to the greatest extent possible. If heritage trees are impacted from construction activities, coordination with an Urban or Territorial Forester would be completed prior to removal or alteration of a heritage tree, and heritage trees would be replaced with the largest available tree of the same or similar species in an appropriate location, as determined by a certified arborist, to ensure that there is no net loss of heritage trees. Provided that the mitigative

efforts described above are followed, impacts on trees (including heritage trees) and vegetation during construction activities are expected to be minor short-term direct adverse.

Alternative 3: New Construction (St. Croix, St. John, and St. Thomas)

Construction of a new school on a new site would involve the largest impact on trees and vegetation, since larger scale tree and vegetation removal would need to occur to construct the new facility. As a result, FEMA anticipates major long-term direct adverse impacts on trees and vegetation with implementation of Alternative 3. However, reasonable attempts would be made to avoid and minimize impacts to public trees, heritage trees, and vegetation to the greatest extent possible and a landscape plan would be developed to replace lost trees and vegetation. If heritage trees are impacted from construction activities, coordination with an Urban or Territorial Forester would be completed prior to removal or alteration of a heritage tree, and heritage trees would be replaced with the largest available tree of the same or similar species in an appropriate location, as determined by a certified arborist, to ensure that there is no net loss of heritage trees. Provided that the mitigative measures described above are implemented, FEMA anticipates impacts on trees (including heritage trees) and vegetation to be reduced to moderate long-term direct adverse impacts.

Alternative 4: Relocation (St. Croix, St. John, and St. Thomas)

Alternative 4 includes two potential avenues for relocation activities: relocation to an existing site, and relocation to a new site. Potential impacts associated with relocation to an existing site where renovation is required would be similar to impacts described in Alternative 2 above. Provided that similar mitigative measures described in Alternative 2 are implemented, FEMA anticipates minor short-term direct adverse impacts on trees and vegetation with implementation of the relocation to an existing site component of Alternative 4. Potential impacts associated with relocation to a new site where new construction is required would be similar to the impacts described in Alternative 3 above. Provided that similar mitigative measures described in Alternative 3 are implemented, FEMA anticipates moderate long-term direct adverse impacts to trees and vegetation with implementation of the relocation to a new site component of Alternative 4.

Alternative 5: Demolition (St. Croix, St. John, and St. Thomas)

Demolition activities would occur on an existing, previously disturbed site. Therefore, potential impacts to trees and vegetation associated with this alternative would be limited to the areas directly adjacent to existing structures. As described above, reasonable attempts would be made to avoid and minimize impacts to public trees, heritage trees, and vegetation to the greatest extent possible, and heritage trees would be replaced in accordance with the protocols described in Alternative 2. Demolition sites would be restored to pre-exiting contours and re-planted with native vegetation and heritage trees where appropriate. As a result, FEMA anticipates minor short-term direct adverse impacts to vegetation and trees associated with demolition activities. However, restoration and replanting efforts associated with this alternative would also have moderate long-term direct beneficial effects on vegetation and trees if restoration efforts are successful.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to

result in higher overall environmental impacts. However, the implementation of two or more alternatives on a given projects site or the combination of two or more projects is not expected to have a significant impact on trees and vegetation on the island. Therefore, FEMA anticipates the implementation of two or more alternatives or two or more projects to result in no more than moderate long-term direct adverse impacts on trees and vegetation within the USVI, while moderate long-term direct beneficial effects could be realized with successful restoration efforts associated with demolition activities.

5.8 Threatened and Endangered Species, Migratory Birds and Invasive Species

The ESA of 1973 [16 U.S.C. § 1531 et seq.] provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing ESA are the United States Fish and Wildlife Service (USFWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitats of such species. The law also prohibits any action that results in "take" of any listed species of endangered fish or wildlife. Under the ESA, "take" is defined as actions that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempts to conduct such actions. Section 7(a)(2) of the ESA requires lead federal agencies to consult with the USFWS and NMFS when an action may have the potential to impact designated critical habitat.

The Migratory Bird Treaty Act (MBTA) of 1918 provides a program for the conservation of migratory birds that fly through lands of the United States. The USFWS is the federal agency delegated with the primary responsibility for protecting migratory birds. The law requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any migratory birds or result in the destruction or adverse modification of designated critical habitats of such species. The law makes it illegal for anyone to "take," possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, any migratory bird, or their parts, feathers, nests, or eggs. The USFWS Information for Planning and Consultation (IPaC) database comprises the Migratory Bird Resource List from USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in the action location. BCCs are birds that are not designated threatened or endangered but still represent the USFWS highest conservation priorities. 50 CFR 10.13 is the most recently updated list from July 31, 2023, incorporating the most current scientific information on taxonomy and natural distribution, known as the "10.13 list." The USFWS also publishes a list of *Birds of Conservation Concern*. The most recent list published by the USFWS was in 2021 (USFWS, 2021).

EO 13186, dated January 10, 2001, directs federal agencies to take certain actions to implement the MBTA. The EO requires that each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations is directed to develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (Service) that shall promote the conservation of migratory bird populations.

In EO 13112, Invasive Species are defined as "those species (native or non-native) whose establishment causes economic damage, environmental harm to ecosystems, habitats, or species, or harm to human health." It requires federal agencies, to the extent practicable, "to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause (Legislature of USVI, 2025b)."

5.8.1 Existing Conditions

The USVI's biodiversity faces threats from habitat loss, development, predation, invasive species, and hurricanes. FEMA uses the USFWS IPaC online service to identify federally listed threatened and endangered animal species and plants within the USVI. According to the USFWS IPaC website, there is a total of 15 listed animal and plants species, two proposed species, and 8 designated critical habitats within the USVI, including:

- One threatened marine mammal: West Indian manatee (*Trichechus manatus*);
- Two species of birds: Black-capped Petrel (*Pterodroma hasitata*), and the Roseate Tern (*Sterna dougallii dougallii*);
- Five species of reptiles: Green Sea Turtle (*Chelonia mydas*), Hawksbill Sea Turtle (*Eretmochelys imbricata*), Leatherback Sea Turtle (*Dermochelys coriacea*), the St. Croix Ground Lizard (*Ameiva polops*), and the Virgin Islands Tree Boa (*Chilabothrus granti*);
- Seven plant species: *Agave eggersiana*, *Calyptranthes thomasiana*, *Catesbaea melanocarpa*, Marron Bacora (*Solanum conocarpum*), St. Thomas Prickly-ash (*Zanthoxylum thomasianum*), Vahl's Boxwood (*Buxus vahlii*), and Wheeler's Peperomia (*Peperomia wheeleri*).

Proposed Species

- Lesser Virgin Islands Skink
- Virgin Islands Bronze Skink

Eight critical habitats have been established for the following species:

- Agave eggersiana
- Catesbaea melanocarpa
- Leatherback Sea Turtle (*Dermochelys coriacea*)
- Marron Bacora (Solanum conocarpum)
- St. Croix Ground Lizard (*Ameiva polops*)

Three critical habitats are currently proposed for the following species:

- Green Sea Turtle (*Chelonia mydas*)
- Lesser Virgin Islands Skink (critical habitat only)
- Virgin Islands Bronze Skink (critical habitat only)

See Appendix E for a list of threatened and endangered species and designated critical habitats.

The 2021 Birds of Conservation Concern published by the USFWS identifies 29 species of migratory birds present in the USVI. These birds are also on the 2023 10.13 list. Regardless of special protection status, the MBTA protects all migratory birds from the more modern threats,

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including potential habitat degradation or destruction due to development consistent with the proposed alternatives.

The main invasive species of concern in the USVI include mother-in-law's tongue (*Sanseveria trifasciata*), tan-tan (*Leucaena leucocephala*), chinaberry (*Melia azedarach*), sweetlime (*Triphasia trifolia*), and water hyacinth (*Eichhornia crassipes*) (Platenberg 2016).

5.8.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact a threatened and endangered species, migratory birds, and invasive species:

- "Take," as defined by the ESA and the MBTA, or potential for "take," of any individual or group of individuals of a listed species.
- The loss or degradation, or potential for such, of any critical habitat, as defined by the ESA.
- Non-compliance with EO 13186 (migratory birds).
- Non-compliance with EO 13112 (invasive species).

Threatened and Endangered Species

Potential impacts on threatened and endangered species could be direct or indirect. Direct impacts are those that would amount to "take" under the ESA. For the proposed action alternatives, activities that harass, harm, wound, or kill endangered or threatened species would be considered direct impacts. Indirect impacts are those that would result in the degradation of habitat, the loss of food sources, or any other important components of a species' life cycle.

To mitigate potential impacts, FEMA would assess the potential for each project to impact threatened or endangered species prior to approving a project for construction and would initiate Section 7 consultation with the USFWS when required in accordance with the July 19, 2019 (updated January 17, 2024), Programmatic Consultation Agreement between FEMA and the USFWS.

Designated Critical Habitat

Potential impacts on designated critical habitats could be direct or indirect. Direct impacts to critical habitats are those that result in the loss of designated critical habitats or the direct degradation of designated critical habitats. Indirect impacts are those that would result in the loss or degradation of habitats directly adjacent to designated critical habitats, such as buffer areas.

To mitigate potential impacts, FEMA would assess the potential for each project to impact designated critical habitats prior to approving a project for construction and would initiate Section 7 consultation with the USFWS when required in accordance with the July 19, 2019 (updated January 17, 2024) Programmatic Consultation Agreement between FEMA and the USFWS.

Migratory Birds

The incidental take of migratory birds is the concern governed by EO 13186. Federal actions that may have a measurable impact on the migratory bird population of species indicated in 50 CFR 10.13 require the development of a Memorandum of Understanding with the USFWS that shall

promote the conservation of migratory bird populations, in particular. Potential impacts on migratory birds could be both direct and indirect. Direct impacts on migratory birds are those that result in "take" as defined by the MBTA. For the proposed action alternatives, activities that result in the death of one or more individuals would be considered a direct impact. Indirect impacts on migratory birds are those that result in loss of habitat, breeding or nesting areas, known roost sites, known forage areas, or any other important components of a species' life cycle.

To mitigate the potential for impacts on migratory birds, FEMA may implement, at its discretion, pre-project bird or nest surveys, or may limit types of work at certain times to accommodate breeding and nesting seasons, and/or migration seasons as appropriate. FEMA may also initiate consultation with the USFWS for projects that may affect protected birds.

Invasive Species

Ground disturbance from each of the proposed action alternatives also has the potential to cause adverse impacts on the surrounding vegetation. Ground disturbing activities and construction of retention ponds to contain stormwater runoff can result in invasive species quickly taking hold, sometimes preying on or crowding out native vegetation.

Mitigation activities to avoid the introduction of invasive species include planting native seed mixes, occasionally clearing the vegetation from ponds, and implementing a maintenance plan to control invasive species, allowing native species to become predominant (USFS, 2022).

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, no FEMA grant funding would be provided, and no construction activities would occur.

Threatened and Endangered Species

No impacts on threatened and endangered species are anticipated.

Designated Critical Habitat

No impacts to designated critical habitats are anticipated.

Migratory Birds

No impact on migratory birds would be anticipated.

Invasive Species

Invasive species would continue to spread at their current rate and vacant, unmaintained buildings and landscaping would provide additional opportunity for these invasive species to spread. Therefore, the No Action Alternative is expected to have minor long-term indirect adverse effects on the spread of invasive species.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Construction activities associated with Alternative 2 would occur within existing facilities and on adjacent lands within an existing campus. Alternative 2 includes common construction activities such as earthwork, building repairs and renovations, the construction of external features, and landscaping activities. Therefore, there is potential for protected species, designated critical

habitats, and migratory birds to be directly impacted if a protected species, designated critical habitat, or migratory birds are in the project area during construction activities. There is also potential for project activities to result in indirect impacts through loss of habitat, loss of breeding or nesting sites, loss of forage areas, or if buffer areas adjacent to designated critical habitat are lost. To minimize impacts on protected species, designated critical habitats, and migratory birds, each project would be evaluated prior to the commencement of construction activities for its potential to impact these resources.

Threatened and Endangered Species

If a protected species has the potential to be present in a proposed action area, FEMA must initiate Section 7 consultation, and any potential impacts would be avoided, minimized, or mitigated through the consultation process. Following these evaluation procedures and abiding by the terms and conditions of the consultation would limit impacts on protected species. Due to the small-scale construction activities associated with Alternative 2, FEMA anticipates negligible short-term and long-term direct and indirect adverse impacts on threatened and endangered species.

Designated Critical Habitat

The Section 7 evaluation procedures also apply to designated critical habitats to ensure that project activities would not impact designated critical habitats. If any projects sites are located adjacent to, or in the vicinity of one or more designated critical habitats, FEMA must initiate consultation with the USFWS in accordance with Section 7. Application of these procedures would limit potential impacts on designated critical habitats to negligible short-term direct or indirect adverse impacts. Due to the small-scale construction activities associated with Alternative 2, FEMA anticipates negligible short-term and long-term direct and indirect adverse impacts on designated critical habitats.

Migratory Birds

FEMA would evaluate each project for its potential to affect migratory birds and initiate consultation with the USFWS if warranted. Due to the small-scale construction activities associated with Alternative 2, FEMA anticipates negligible short-term and long-term direct and indirect adverse impacts on migratory birds.

Invasive Species

Disturbed soils associated with this alternative would be planted with native vegetation and trees. Therefore, this alternative would not promote the spread of invasive species. However, post-construction landscaping that includes the planting of native species in disturbed areas, and subsequent maintenance activities would reduce the spread of invasive species on project sites, resulting in minor long-term direct beneficial impacts on the spread of invasive species in the USVI.

<u>Alternatives 3-5: New Construction, Relocation, and Demolition (St. Croix, St. John, and St. Thomas)</u>

Alternatives 3-5 include common construction activities such as earthwork, building construction, and landscaping activities. Therefore, there is potential for protected species, designated critical habitats, and migratory birds to be impacted if a protected species, designated critical habitat, or migratory birds are in the project area during construction activities. To minimize impacts on

protected species, designated critical habitats, and migratory birds, each project would be evaluated prior to the commencement of construction activities for its potential to impact these resources.

Threatened and Endangered Species

If a protected species has the potential to be present in a proposed action area, FEMA must initiate Section 7 consultation, and any potential impacts would be avoided, minimized, or mitigated through the consultation process. Following these evaluation procedures and abiding by the terms and conditions of the consultation would limit impacts on protected species to minor short-term direct and indirect adverse impacts.

Designated Critical Habitat

The Section 7 evaluation procedures also apply to designated critical habitats to ensure that project activities would not impact designated critical habitats. If any projects sites are located adjacent to, or in the vicinity of one or more designated critical habitats, FEMA must initiate consultation with the USFWS in accordance with Section 7. Application of these procedures would limit potential impacts on designated critical habitats to minor short-term direct and indirect adverse impacts.

Migratory Birds

Alternatives 3-5 may have the potential to result in direct impacts on migratory birds, if migratory birds are present in the project area during construction activities. There is also potential for indirect impacts on migratory birds to occur if construction activities result in the loss of breeding, nesting, or migration habitats. If migratory birds are known to be present in a proposed project area, FEMA would initiate consultation with the USFWS, and any potential impacts would be avoided, minimized, or mitigated through the consultation process. Following these evaluation procedures and abiding by the terms and conditions of the consultation would limit impacts on protected species to minor short-term direct and indirect adverse impacts.

Invasive Species

Construction activities associated with Alternatives 3-5 would have the potential to increase the spread of invasive species by providing disturbed soils that some invasive species could use to expand their range. However, post-construction landscaping that includes the planting of native species in disturbed areas, and subsequent maintenance activities would reduce the spread of invasive species on project sites, resulting in minor long-term direct beneficial impacts on the spread of invasive species in the USVI.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on threatened and endangered species, designated critical habitats, migratory birds, and the spread of invasive species are not likely. Therefore, implementing two or more individual actions is not expected to have more than minor short-term direct and indirect adverse impacts on threatened and endangered species,

designated critical habitats, or migratory birds, and minor long-term direct beneficial effects on the spread of invasive species.

5.9 Cultural Resources

FEMA must consider the potential effects of its funded actions upon cultural resources prior to engaging in any undertaking in accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800. The NHPA of 1966 defines a historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register." Eligibility criteria for listing a property on the National Register of Historic Places (NRHP) is detailed in 36 C.F.R. Part 60.

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. FEMA evaluates impacts on cultural resources prior to the undertaking for both Standing Structures (above ground resources) and Archaeology (below ground resources) within the APE.

The NRHP NP Gallery Digital Asset Management System hosted by the National Park Service (NPS) includes 98 historic properties, including standing historic resources and archaeological resources, listed in the NRHP on the USVI of St. Croix, St. John, and St. Thomas. The Virgin Islands State Historic Preservation Office (VISHPO) at the DPNR also maintains a list of historic properties and sites added to the National Register of Historic Places.

On June 20, 2023, a Programmatic Agreement (PA) among FEMA, the VISHPO and VITEMA was executed for the purpose of efficiency and effective execution of Section 106 implementation. This PA stipulates roles and responsibilities, exempts certain Undertakings from Section 106 review, establishes protocols for consultation, facilitates identification and evaluation of historic properties, and streamlines the assessment and resolution of adverse effects.

5.9.1 Historic (Standing) Structures

5.9.1.1 Existing Conditions – Historic Standing Structures

Beginning with the arrival of Christopher Columbus in 1493, the USVI have been ruled in succession by Spain, England, France, Knights of Malta, France, Denmark, and the United States. As a territory of the United States, governance of the USVI is delegated to the Government of the Virgin Islands.

Perhaps the most consequential and influential period of development for the USVI occurred during the 251-year period of Danish rule (1685-1917). From the islands' historic architecture and land use to the names of streets, towns, and unincorporated areas, Denmark had a significant impact. Danish Classicism is observable in numerous NRHP eligible or listed public and military buildings. This includes the USVI's five historic forts: Fort Christiansvaern (1749, St. Croix); Fort Frederiksted (ca. 1752-60, St. Croix); Fortsberg (1717, St. John); Fort Christian (ca. 1672-80, St. Thomas); and Fort Willoghby (ca. 1777-80, St. Thomas). However, as significant as Danish influence was, the role of exploited and enslaved Black laborers in shaping the cultural and architectural landscape of the USVI cannot be overstated. The La Grande Princesse School on St.

Croix represents a significant intersection between these influences. It serves as one of the first of eight schools built by Danish Governor-General Peter Carl Frederik von Scholten specifically for the education of enslaved children. General von Scholten, who served as Governor-General of the Danish West Indies from 1835 to 1848, is perhaps most well-known for his 1848 abolition of slavery in the islands—an action he took to avert a rebellion, and for which he was later tried for treason in Denmark.

In 1917, the USVI was purchased from Denmark by the United States. As such, structures post-dating Danish rule are, characteristically, more diverse in type, style, and use. This diversity is largely attributable to the United States' influence via governmental policies, culture, and architectural and stylistic currents. Twentieth and twenty-first century ideas about community planning and development, civil rights, historic preservation, and eco-tourism (among others) helped to form the USVI as it exists today. This influence also extends to the USVI's educational system. Shortly after the islands' acquisition by the United States, the VIDE was established and numerous educational reforms were implemented. It was during the early-to-mid-twentieth century that the smaller, more disparate educational buildings (that were based on Danish architectural and educational models) were replaced with modern educational complexes.

St. Croix

St. Croix is the largest of the islands comprising the USVI. It contains the historic towns of Christiansted along the northern shore and Frederiksted to the southwest. An industrial area and airport are located in Limetree Bay on the central south shore. Notable cultural and historic resources include Buck Island National Monument, located to the northeast of the main island of St. Croix, Salt River Bay National Historical Park and Ecological Preserve, Christiansted National Historic Site, St. George Village Botanical Gardens, and the Dutch Whim Plantation Museum.

St. John

St. John is the smallest and most naturally intact of the islands comprising the USVI. It contains a 9,500-acre, NPS-protected terrestrial and underwater reserve, which accounts for approximately two thirds of the island's land area. Notable cultural and historic resources include the ruins of Annaberg Sugar Mill and the downtown districts of Cruz Bay and Coral Bay.

St. Thomas

St. Thomas is the most densely populated of the islands comprising the USVI. It contains multiple scattered communities. Charlotte Amalie serves as both the commercial center of St. Thomas and the capital city of the USVI. This community boasts numerous historic residences, vibrant commerce and industry, and a proliferation of monuments. Notable cultural and historic resources include Plantation Crown and Hawk Botanical Garden and Bluebeard's Castle.

See Figures 14 and 15 for a map of schools 50 years old or older and Figures 16 and 17 for a map of existing historic resources and districts listed in or eligible for listing in the NRHP.

5.9.1.2 Potential Impacts and Proposed Mitigation to Standing Historic Structures

Analysis of potential impacts on cultural and historic resources considers both direct and indirect impacts. Descriptions of what constitutes direct and indirect impacts are as follows:

- Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource or introducing visual, audible, or atmospheric elements that are out of character with the property or altering its setting. Once the subrecipient identifies the proposed action locations, FEMA would assess the locations of direct impacts.
- Indirect impacts may occur by altering the characteristics of the surrounding environment that contribute to the resource's significance as well as neglect of the resource causing deterioration or complete destruction.

Pursuant to 36 CFR §800.14(b), FEMA, in consultation with VISHPO and other consulting parties, developed a PA that provided a strategy for achieving and expediting compliance with Section 106 of the NHPA. This includes exemptions from VISHPO review of certain activities having limited or no effect on historic properties; identification and evaluation of historic properties; and methods of resolving adverse effects. FEMA, VISHPO and other consulting parties initially executed the PA on July 14, 2016, and was amended June 20, 2023. FEMA would use all these tools to meet compliance requirements under Section 106 of the NHPA.

For this project, alternatives could include repair, expansion, abandonment, demolition, and/or installation of new resiliency technologies that could alter or impact NRHP-listed or eligible historic resources. To determine the effect(s) and opportunities to avoid or minimize any adverse effects, FEMA would follow the standard project review as outlined in Stipulation II.D. of the amended PA. FEMA would analyze each project SOW to determine if the proposed actions fall under the programmatic allowances outlined in the amended PA. If the SOW meets a programmatic allowance or stipulation, the project would be compliant with Section 106, and the review process would be complete.

If the proposed SOW does not meet an allowance or stipulation, FEMA would initiate consultation with VISHPO. If FEMA finds, and VISHPO concurs that the proposed action would have an adverse effect on a historic property, FEMA will work with VISHPO, the recipient, subrecipient, and other identified consulting parties to avoid or minimize the adverse effect. If the adverse effect is unavoidable, FEMA would follow the process set forth in Stipulation II.D.6. of the amended PA. FEMA would memorialize the outcome of this consultation using either the Abbreviated Consultation Process or through development of a Memorandum of Agreement. FEMA may elect to develop a Project-Specific PA if an MOA was not appropriate, that would provide a specialized Section 106 compliance strategy designed to meet the compliance needs of those projects.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under Alternative 1, no FEMA-funded action would be taken to improve and/or remediate the condition of education-related buildings and/or structures in the USVI. Properties that have sustained weather damage would remain in their respective current conditions without improvement and without regular, routine maintenance.

For buildings or structures that have been listed in the NRHP, determined eligible for listing in the NRHP, or may potentially be eligible for listing in the NRHP, Alternative 1 has the potential to result in a finding of adverse effect. The partial or total loss of a historic or culturally significant property resulting from the failure to address or remediate damage and/or deterioration has the

potential to result in moderate-to-major long-term indirect adverse impacts to historic standing structures.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Under Alternative 2, FEMA-funded action would include the repair and/or renovation of existing education-related buildings and/or structures in the USVI. Properties that have sustained weather damage would be repaired according to their respective needs and be renovated to support continued use. Alternative 2 also proposes the incorporation of resilient construction methods with the objective of enabling existing education-related buildings and/or structures to withstand future storm events.

For buildings and/or structures that have been listed in the NRHP, determined eligible for listing in the NRHP, or may potentially be eligible for listing in the NRHP, Alternative 2 may require Section 106 consultation with the VISHPO. Any undertaking involving the repair and/or renovation of an existing, NRHP eligible or listed, education-related building and/or structure would follow the Secretary of the Interior (SOI) Standards for the Treatment of Historic Properties. Alternative 2 has the potential to result in a finding of adverse effect, both for NRHP eligible or listed properties and their viewsheds. Research and a comprehensive review—up to and including Section 106 consultation with VISHPO—may be necessary. FEMA will follow the terms and conditions of established Programmatic Agreements to avoid, minimize, and mitigate impacts where necessary. Although negligible-to-moderate long-term direct adverse impacts to historic properties are possible under Alternative 2, impacts are minimized by securing and strengthening existing NRHP eligible or listed buildings and/or structures against future storm events.

Alternative 3: New Construction (St. Croix, St. John, and St. Thomas)

Under Alternative 3, FEMA-funded action would include the construction of new education-related buildings and/or structures that conform to current building codes and standards. New education-related buildings and/or structures would be built on previously undeveloped land.

Alternative 3 is not anticipated to result in direct impacts to buildings and/or structures that have been listed in the NRHP, determined eligible for listing in the NRHP, or may potentially be eligible for listing in the NRHP. However, new construction has the potential to impact both previously identified and previously unidentified NRHP eligible or listed properties that exist in proximity. Specifically, new construction may degrade integrity of setting for nearby NRHP eligible or listed properties or alter historic viewsheds. Research and a comprehensive review—up to and including Section 106 consultation with VISHPO—may be necessary. FEMA will follow the terms and conditions of established Programmatic Agreements to avoid, minimize, and mitigate impacts where necessary. Although impacts on historic properties are not anticipated under Alternatives 3, the application of avoidance, minimization, and mitigation measures in accordance with the Programmatic Agreement will function to address potential adverse effects.

Alternative 4-5: Relocation and Demolition (St. Croix, St. John, and St. Thomas)

Under Alternatives 4-5, FEMA-funded action would include the relocation of education-related function to new sites/buildings and the demolition of existing storm-damaged buildings and/or structures in the USVI.

For buildings and/or structures that have been listed in the NRHP, determined eligible for listing in the NRHP, or may potentially be eligible for listing in the NRHP, Alternatives 4-5 may require Section 106 consultation with the VISHPO. Alternatives 4-5 have the potential to result in a finding of adverse effect, both for NRHP eligible or listed properties and their viewsheds. FEMA will follow the terms and conditions of established Programmatic Agreements to avoid, minimize, and mitigate impacts where necessary. Although moderate-to-major long-term direct adverse impacts to historic properties are anticipated under Alternatives 4-5, the application of avoidance, minimization, and mitigation measures in accordance with the Programmatic Agreement will function to address potential adverse effects.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Under Alternative 6, FEMA-funded action would include a combination of actions proposed in Alternatives 2 through 5, allowing VIDE to realize a wide range of education-related infrastructural needs in the USVI. FEMA anticipates that Alternative 6 would provide the greatest flexibility in increasing the resiliency of school buildings across funding sources.

For buildings and/or structures that have been listed in the NRHP, determined eligible for listing in the NRHP, or may potentially be eligible for listing in the NRHP, Alternative 6 may require Section 106 consultation with the VISHPO. As with Alternatives 2-5, Alternative 6—dependent upon the selected combination of actions—has the potential to result in a finding of adverse effect, both for NRHP eligible or listed properties and their viewsheds. FEMA will follow the terms and conditions of established Programmatic Agreements to avoid, minimize, and mitigate impacts where necessary. Although negligible-to-major impacts to historic properties are anticipated under Alternative 6, the application of avoidance, minimization, and mitigation measures in accordance with the Programmatic Agreement will function to address potential adverse effects.

5.9.2 Archaeological Resources

5.9.2.1 Existing Conditions

Current scholarship indicates that human occupation of the islands comprising the present-day USVI began as early as 2200 BCE with the formation of settlements likely occurring around 1500 BCE. Prior to European contact in the 1490s, the islands are known to have been inhabited by at least three distinct indigenous groups: the Ciboney people (appearing 2200 to 1500 BCE), the Arawak, or Taino people (appearing 100 to 200 CE), and the Carib people (displacing the Arawak (Taino) around 1400 CE). The Ciboney people are understood to have been hunter-gathers, whereas subsequent indigenous groups were agriculturalists. Both the Arawak (Taino) and the Carib peoples are known for pottery-making. The Carib are noted for their skill in stone polishing.

Precontact populations are understood to have used seasonal camps to harvest conch, fish, and forage, both in reef environments and along the wetlands of the coast and the interior forests. Precontact archaeological sites in the USVI consist of village sites, fishing sites, and ceremonial sites in addition to precontact ceramic scatter dating from approximately 1100 BCE to ca. 1490 CE.

The presence of indigenous groups in the USVI declined sharply in the years following European arrival and settlement. During the period of Danish rule (1685-1917, a shift in land use toward

agriculture resulted in the destruction of more than 97% of the island's forests. These Danish agricultural endeavors utilized enslaved Black laborers (and later, the exploited descendants of formerly enslaved communities) to produce sugar cane and rum. Historic period archaeological sites (dating from ca. 1490 to the twentieth century) include encampment foundations, port facilities, shipwrecks, and "slave villages," "inclusive of burial plots," dating from 1600 AD into the twentieth century.

5.9.2.2 Potential Impacts on Archaeological Resources

The processes of renovation, relocation, new construction, or demolition include ground disturbance and therefore could adversely affect archaeological resources. All action alternatives have the potential to disturb archaeological resources because of excavation, construction staging, and site access that disturbs previously undisturbed soils. Actions that include significant ground disturbing activities may adversely affect archaeological resources if they are present. Before ground disturbance occurs because of any action alternatives, the subrecipient would conduct research through the VISHPO office to determine if any archaeological resources exist in the APE. Criteria used to determine impacts include NRHP eligibility of identified archaeological sites. Regulatory or mitigating actions may occur to determine site boundaries, assess eligibility, and ensure protectiveness.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, no FEMA funding would be provided and there would likely be no effort made to restore and improve the education infrastructure via renovation, relocation, new construction, or demolition. Damaged schools would remain in their current state, which in many cases is uninhabitable. Since no construction activities would occur, the No Action Alternative would not have any foreseeable impacts on archaeological resources. This alternative would not require regulatory or mitigation measures of any archaeological resources, should they be present.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Renovation of education infrastructure, if listed or determined eligible for listing in the NRHP, roughly within their existing footprint with resilient and green building methods, including installation of underground utilities, roofs, windows, and other school construction components that can withstand major storms, would likely have a negligible impact, or no adverse effect, on the integrity of archaeological resources, should they exist within the APE. Renovation likely would not require regulatory or mitigation measures. However, if archaeological resources exist within the APE, any ground disturbing activities would require regulatory or mitigation measures to resolve adverse effects to archaeological resources. Since construction activities associated with Alternative 2 would be conducted on an existing school site with previously disturbed soils, and each project would be reviewed for archaeological resources prior to construction, FEMA anticipates no impacts to archaeological resources with implementation of Alternative 2.

<u>Alternatives 3-5: New Construction, Relocation, and Demolition (St. Croix, St. John, and St. Thomas)</u>

New construction, relocation, and demolition of education infrastructure, if archaeological resources are determined to be present within the APE, would likely have moderate to major long-term direct adverse impacts upon those resources because of the significant ground disturbing

components of the work. For any ground disturbing activities that occur where there is potential for archaeological resources to be present, FEMA will follow the terms and conditions of established Programmatic Agreements to avoid, minimize, and mitigate impacts where necessary. The subrecipient would consider regulatory requirements prior to selecting project sites for new construction or relocation and the subrecipient would avoid locations containing below-surface archaeological resources whenever possible. Evaluation of each proposed project site prior to construction, and the application of avoidance, minimization and mitigation measures would reduce overall impacts on archaeological resources to minor or moderate, long-term direct adverse impacts.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes the subrecipient would execute part or all the activities from each of the alternatives for any given education infrastructure action, therefore analysis assumes all of the activities may be applicable. Significant ground disturbing activity would occur with any combination of alternatives, therefore FEMA anticipates moderate to major adverse, long-term impacts on archaeological resources, should they exist within the identified APE. However, prior evaluation of each proposed project site prior to construction, and the application of avoidance, minimization and mitigation measures would reduce overall impacts on archaeological resources to minor or moderate direct adverse impacts.

5.10 Land Use and Planning

FEMA considers local comprehensive plans, land use plans and zoning code, including federal, state, and local overlay environmental and historic districts, when building in local jurisdictions. The USVI has a Comprehensive Land and Water Use Plan that was developed over the last 54 years and was approved by USVI legislature on December 18, 2024. The plan includes a framework for making better decisions regarding land and water use decisions, protecting natural resources, preparing for a more sustainable future, living and thriving together, and plan implementation. The plan also includes tailored objectives for each island. When the subrecipient defines a specific action area, additional research is required as it relates to land use and planning requirements for that jurisdiction (USVI, 2024).

5.10.1 Existing Conditions

Fringing coral reefs surround the USVI within the Lesser Antilles of the Caribbean. The USVI government identifies St. Croix as a cultural destination, St. John as natural, and St. Thomas as cosmopolitan. As of 2018, 96.4% of the population of USVI lives in urban areas and 3.6% in rural areas due to historic land conservation efforts (Britannica, 2025). Based on the economy, land use has evolved from forested during prehistoric occupation, 97% deforested with sugarcane plantations and rum distilling during the historic period from the eighteenth to twentieth century, to 94% deforested with urbanized, agricultural, and industrial pockets among large areas of land conserved for wildlife and tourism. In the late twentieth century, more-diversified crops, including mangoes, bananas, papayas, avocados, tomatoes, and cucumbers as well as fields for cattle, goats, sheep, and pigs replaced sugarcane plantations.

St. Croix

St. Croix is one-fifth farmland, with mountains to the north, rolling-to-level plain to the south, low-density communities interspersed, and the historic towns of Christiansted to the northeast and Frederiksted to the southwest. Infrastructure includes a government constructed dam, paved roads with bus service and ferries, an international airport, former oil refining plant, and two deep water ports--one in Frederiksted for tourism and one in Limetree Bay for container ships in the industrial area to the south.

St. John

St. John has rugged mountainous terrain. Virgin Islands National Park comprises two-thirds of the island. Much of the rest of the island is utilized for resorts and two urban areas, Cruz Bay to the west and Coral Bay to the east. Infrastructure includes paved roads with bus service and ferries.

St. Thomas

St. Thomas has rugged mountainous terrain with low-density communities interspersed. Infrastructure includes a government constructed dam, paved roads with bus service and ferries, an international airport, and a deep-water port in Charlotte Amalie, which serves as the USVI capital.

5.10.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact land use and planning:

- Potential to change the current land use by expanding the construction footprint.
- Potential to move the location to undeveloped land.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, no FEMA funding would be provided, and education infrastructure would not be restored or improved. As a result, current and future populations of children would become vulnerable and less likely to attain high quality education in USVI. Current hurricane damage and ongoing neglect and deterioration would likely result in buildings not being up to code. Lack of adequate school buildings could also result in zoning violations, as illness and injury would be more likely to occur. Therefore, FEMA anticipates that the No Action Alternative would have moderate to major, long-term adverse impacts on land use, planning, and zoning.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Repairs and Repairs and renovations would result in existing education infrastructure being improved to meet post-disaster design, capacity, and function needs. This includes upgrades allowing greater protection against future natural disasters. This alternative would not disrupt the existing land use and supporting infrastructure such as businesses. Therefore, FEMA anticipates moderate to major long-term direct beneficial impacts on land use since buildings and structures would be updated to meet modern construction codes and standards.

Alternatives 3: New Construction (St. Croix, St. John, and St. Thomas)

New construction would result in the construction of new schools on the same parcel or a new parcel of property. New schools would be constructed in accordance with current zoning laws and would include modern building codes and standards in support of existing land use planning requirements and protocols. As a result, the construction of new schools would have a moderate to major long-term direct beneficial impact on land use planning efforts.

Alternative 4: Relocation (St. Croix, St. John, and St. Thomas)

Relocation actions would result in relocating education facilities and services to an existing site or reconstructing the education infrastructure at a new site. The subrecipient would consider the proximity to public transportation with a mix of planning zones that include retail, housing, hospital, and other public services when selecting the appropriate location. Because land use planning would be considered when determining a location, and because facilities would be constructed in accordance with modern building codes and standards, relocation of educational facilities to either an existing site or reconstruction at a new site would likely have moderate to major long-term direct beneficial impacts on land use in the USVI.

Alternative 5: Demolition (St. Croix, St. John, and St. Thomas)

Demolition activities would result in the removal of existing education infrastructure and utilities. The intent of demolition as a final disposition of damaged school structures is to remove unsafe structural and unsuitable conditions. If left in place, land that could be repurposed for other community needs would instead be unusable. FEMA anticipates moderate to major long-term direct beneficial impacts on land use planning and zoning because removal of these damaged, deteriorated, or unsafe structures would have a positive impact on the health and safety of the community, and it would return property to pre-existing conditions so that it can be incorporated into future land use planning efforts.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes that two or more individual alternatives from Alternatives 2-5 would be selected and executed at a given project location. Combining individual actions has the potential to increase overall environmental impacts on a particular project site. However, as described in the previous section, the commencement of individual activities is expected to have moderate to major long-term direct beneficial impacts for each alternative. Accordingly, combining one or more of these alternatives would only serve to increase the collective long-term benefits on land use by providing newer, more resilient structures and eliminating unsafe structures that are otherwise unsalvageable.

5.11 Noise

The Noise Control Act of 1972 required the EPA to create a set of noise criteria. In response, the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* in 1974 which explains the impact of noise on humans. The EPA report found that keeping the maximum 24-hour Day-Night noise value (Ldn) below 70 decibels (dBA) would protect the majority of people from hearing loss. The EPA recommends an outdoor Ldn of 55 dBA. According to published lists of noise sources, sound

levels, and their effects, sound causes pain starting at approximately 120 to 125 dBA and can cause immediate irreparable damage at 140 dBA. The Occupational Safety and Health Administration (OSHA) has adopted a standard of 140 dBA for maximum impulse noise exposure.

Sound pressure level (SPL) is used to measure the magnitude of sound and is expressed in decibels (dB or dBA), with the threshold of human hearing defined as 0 dBA. The SPL increases logarithmically, so that when the intensity of a sound is increased by a factor of 10, its SPL rises by 10 dB, while a 100-fold increase in the intensity of a sound increases the SPL by 20 dB. Equivalent noise level (Leq) is the average of sound energy over time, so that one sound occurring for 2 minutes would have the same Leq of a sound twice as loud occurring for 1 minute. The day night noise level (Ldn) is based on the Leq and is used to measure the average sound impacts for the purpose of guidance for compatible land use. It weighs the impact of sound as it is perceived at night against the impact of the same sound heard during the day. This is done by adding 10 dBA to all noise levels measured between 10:00 pm and 7:00 am. For instance, the sound of a car on a rural highway may have an SPL of 50 dBA when *measured* from the front porch of a house. If the measurement were taken at night, a value of 60 dBA would be recorded and incorporated into the 24-hour Ldn.

Leq and Ldn are useful measures when used to determine levels of constant or regular sounds such as road traffic or noise from a ventilation system. However, neither represents the sound level as it is perceived during discrete events, such as fire sirens and other impulse noises. They are averages that express the equivalent SPL over a given period. Because the decibel scale is logarithmic, louder sounds (higher SPL) are weighed more heavily; however, loud infrequent noises such as fire sirens with short durations would not significantly increase Leq or Ldn over the course of a day.

5.11.1 Existing Conditions

Reference to several metrics occur in noise assessments to account for duration and frequency of noise events.

- Equivalent Sound Level (Leq) is the average sound level in dBA (A-weighted decibels) One sound occurring for 2 minutes would have the same Leq of a sound twice as loud occurring for 1 minute
- Peak sound pressure level (SPL), expressed as decibel peak SPL or dBP, is the maximum
 instantaneous sound level for a sudden, unexpected sound. Audible sounds are typically
 expressed in terms of A-weighting, or dBA.37 The threshold of human hearing is defined
 as 0 dBA
- The day night noise level (Ldn) is based on the Leq and is used to measure the average sound impacts for the purpose of guidance for compatible land use. Ldn is used to measure if noise would be generated in areas that would bother people and wildlife during times when one may expect noise, for example, during the day, versus noise that may be more problematic happening at night

Primary sources of ambient noise, or background sound, in the USVI include transportation such as vehicular traffic and intermittent construction activities. The screening method used in this PEA

to characterize the existing conditions of ambient noise in the USVI is based, in part, on the preliminary screening procedure described in the U.S. Department of Transportation (USDOT) "transit noise and vibration impact assessment manual," September 2018. The screening procedure determines where the sensitive receptors are located in relation to existing, major noise sources, so current noise exposure estimates and distances where impact is likely to occur, are evaluated. Appendix F, Table F-1 lists the major noise sources, and their related exposure estimates which FEMA used to characterize the existing conditions of ambient noise for the USVI.

FEMA evaluated the distances provided in Appendix F, Table F-2 based on proximity to the sensitive receptors to determine the existing ambient noise levels. FEMA used Geographic Information System methods to supplement the screening procedure. Since this is a PEA and the subrecipient has not finalized specific areas and activities, the extent and severity of potential impact is discussed in a general way.

USDOT Federal Highway Administration (FHA), maintains a Construction Noise Handbook that includes construction equipment noise levels based on both equipment type and equipment manufacturer. Noise mitigation considerations and the results of the noise screening procedure are located in the following sections, while Appendix F, Document C includes the estimating methodology details.

Appendix F includes tabular results from preliminary noise screening as follows:

- St. Croix Table F-3
- St. John Table F-4
- St. Thomas Table F-5

5.11.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact noise receptors:

- Increase ambient noise levels.
- Increase in duration of noise levels.
- Increase in nighttime noise levels.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

No FEMA funding would be provided; therefore, no construction activities or improvements would occur under the No Action Alternative. Accordingly, this alternative would have no impact.

Alternative 2: Repair and Renovate (St. Croix, St. John, and St. Thomas)

Renovation activities would temporarily increase ambient noise levels in and around the construction sites. The subrecipient would implement mitigating measures such as engineering controls and administrative controls to both isolate sensitive receptors from the noise hazard and ensure workers have an optimized work schedule to lessen noise effects while they are carrying out the construction activities.

Engineering controls include:

- Choosing low-noise machinery.
- Maintaining and lubricating equipment and machinery.
- Placing a barrier between the noise and sensitive receptor.
- Use of hearing protection for workers.
- Other administrative controls include:
 - o Operating noisy machinery during daytime hours.
 - o Limit the amount of time the noisy machinery is operating.
 - o Establish quiet areas where workers take their scheduled breaks.

Students and teachers would hear noise that is audible to the nearest sensitive receptor only during daytime, which would be intermittent, and limited to the duration of the overall construction and demolition period. Therefore, this alternative would have negligible temporary direct adverse noise impacts and minor long-term direct beneficial noise impacts since school structure upgrades would be compliant with public health and safety building codes.

<u>Alternatives 3-5: New Construction, Relocation, Demolition (St. Croix, St. John, and St. Thomas)</u>

New construction, relocation, and demolition would temporarily increase ambient noise levels in and around the construction sites. Noise mitigating measures would be the same as described in the renovation paragraph above. Accordingly, Alternatives 3-5 would have negligible temporary direct adverse impacts and minor long-term direct beneficial impacts on noise.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on noise are not likely. Therefore, implementing one or more individual actions would have minor temporary direct adverse impacts during construction or demolition activities and minor long-term direct beneficial impacts with implementation of Alternatives 2-5.

5.12 Transportation

The Virgin Islands Department of Public Works (DPW) is mandated to plan, construct and maintain the territory's public roads, highways, storm drainage systems, public transportation systems, public parking facilities, public buildings, and public cemeteries. The DPW's Division of Public Transportation promotes public transit, has the responsibility for transportation planning, highway research, planning and oversight of VITRAN (the VI public transit system), public parking lots, and all traffic control devices, such as pavement markings, signs, and traffic signals. The Virgin Islands Port Authority (VIPA) is an autonomous agency that owns and manages the two airports and most of the public seaports in the USVI. The VIPA also maintains the harbors in the Territory but does not control the mooring and anchoring of vessels which the DPNR coordinates.

VIDE students have some but limited access to school buses as a means of transportation to and from school. Students typically have transportation provided by a parent or guardian or, if possible, they walk to and from school.

5.12.1 Existing Conditions

Roadways, vehicles, sidewalks, parking, ferries and car barges, trails, and airports comprise the transportation system for the USVI. There are no railways, and walking and cycling infrastructure is extremely limited because of topography. Public bus transport, which is often unreliable, taxis, shuttle services, and vehicles support activity within each island. Sea and air transportation carry supplies and daily necessities. Air and sea links also serve as crucial escape routes before major hurricanes for those who want to evacuate.

<u>Roads</u>: The USVI road network includes 1,230 miles of roads--340 miles classified as federal routes, 410 local routes, and 480 private routes. In the USVI, highways which begin with the numbers 1-2 are located on the island of St. John, 3-4 are located on St. Thomas, and 5-8 are located on St. Croix (USVI Task Force 2018). Due to the terrain, roads are often narrow and steep with sharp turns.

Most federal routes and local public roads are two-lane roadways paved with asphalt or concrete, mostly without shoulders. Some street signage exists, as well as "ghuts or guts," which is the common term for watercourse, culverts, inlets, and swales provide drainage. Retaining walls on steep slopes helps to prevent road collapse and landslides. Many of the public roads suffer from deferred maintenance due to planning, lack of resources, and difficult procurement processes. This leads to deterioration of the roadways, potentially making it difficult for emergency services or equipment to use them effectively. This applies to both federal routes and private, multi-household roads which are typically unpaved, semi-paved, or poorly built. Many residents access their homes via private, multi-household roads.

Cycling and Walking: Designated bike lanes do not exist, but the DPW has approved a proposed 15-mile bike lane for St. Croix. Pedestrian access is limited or dangerous; however, St. Thomas does have historical "step streets" which allows quick access up steep hills between streets in the historic Charlotte Amalie district. Most pedestrians walk on the side of the road due to limited sidewalks.

<u>Public Transportation</u>: A public bus system, provided by VITRAN, is available on all three islands. Taxis are available as shared-ride multi-passenger taxis, open-air safari taxis, and private taxis. VITRAN services local residents, cruise ship tourists, and provides transport to or from the airports.

The following sections discuss seaports, ferries, car barges, and airports, which are also available in the USVI along with additional details on major roads in the Territory.

St. Croix

There are two airports on St. Croix:

- Henry E. Rohlsen Airport, located on the south shore of the island, is the second busiest airport in the USVI, serving more than 450,000 passengers a year.
- The Svend Aaage Ovesen Jr. Seaplane Terminal, located in Water Gut in Christiansted offers daily sea plane service to downtown Charlotte Amalie, St. Thomas. Flights are also available to San Juan, Puerto Rico with connections to the British Virgin Islands via interisland ferries.

There are three cargo and ferry terminals operated by the VIPA in St. Croix:

- The Gallows Bay Dock in Christiansted is a vital link for small cargo vessels serving St. Croix and other Caribbean islands. It accommodates mini-cruise vessels, small inter-island sloops, ferries, private yachts, cargo and U.S. Coast Guard vessels.
- The Gordon A. Finch Molasses Pier in Krause Lagoon is under construction. It provides docking space for cable vessels, cable storage, molasses, and aggregate vessels. Current VIPA plans are to shift cargo operations from Gallows Bay Marine Facility to this Pier.
- The Wilfred "Bomba" Allick Port and Transshipment Center in Krause Lagoon, is locally known as "Containerport." This port is the hub for commercial and industrial marine activity on St. Croix and serves as a transshipment center to many other locations.

The major roadways on St. Croix include Queen Mary Highway, a central east-west route, and the Melvin H. Evans Highway, the island's only four-lane, divided highway connecting mid-island to Frederiksted. Other key roads are Centerline Road, also a major east-west route, and the scenic Northshore Road. The island features an extensive system of asphalt roads.

St. John

There are no major airports on St. John. Private ferries and car barges offer passenger services between the islands. Two private franchises, Varlack Ventures and Transportation Services of St. John, operate the most common passenger ferry route between Red Hook on St. Thomas and Cruz Bay on St. John. There is also a car barge on St. John operated by VIPA. There are three cargo and ferry terminals on St. John:

- The Loredon Lawrence Boynes Sr. Dock in Cruz Bay is the main port of entry to St. John. Ferry service runs to Red Hook and the Charlotte Amalie Harbor in St. Thomas.
- The Theovald Eric Moorehead Dock and Terminal at Enighed Pond is now a cargo facility, has 650 lineal feet of berthing space, six acres for cargo handling and storage, and a channel and turn-around area for vessels up to 175 feet in length. An administration building is also here and houses the VIPA dock master's office and public restrooms.
- The Victor William Sewer Marine Facility, also known locally as "The Creek," allows for the berthing of passenger ferries, charters, and tenders. All vessels that require federal inspection must use this facility.

USVI residents refer to Highway 10 as Center Line Road and runs from Cruz Bay at Highway 20 east-west through the center of the island intersecting the Virgin Islands National Park and ends near Round Bay. There are three auxiliary routes, Highway 104, Highway 107, and Highway 108.

St. Thomas

There are two airports in St. Thomas:

- Cyril E. King Airport in Charlotte Amalie is the busiest airport in the USVI, serving more than 1.4 million passengers a year.
- The Charles F. Blair Seaplane Terminal in Charlotte Amalie offers service to St. Croix, San Juan, Puerto Rico, and connections to the British Virgin Islands via inter-island ferries.

There are four cargo and ferry terminals in St. Thomas:

- The Edward Wilmoth Blyden IV Marine Terminal in Charlotte Amalie's waterfront that supports passenger vessels traveling between St. Thomas, St. John, and Tortola. Recent upgrades make it compliant with the Americans with Disabilities Act and includes an elevator and renovated restrooms in the terminal.
- The Charlotte Amalie Waterfront accommodates yachts and other luxury vessels, minicruise ships and cruise ship tenders.
- The Crown Bay Cargo Port is vital to the USVI economy and receives most of its food, materials and other goods.
- The Urman Victor Fredericks Marine Terminal in Red Hook supports passenger travel between St. Thomas and St. John, as well as to and from the British Virgin Islands. Cruise ships arrive either at the VIPA-operated Austin "Babe" Monsanto Marine Facility or the West Indian Company Ltd. dock across the harbor in Havensight.

Highway 30 is a major road on St. Thomas. It begins in the west part of the island where it is also called Fortuna Road and provides access to Cyril E. King Airport via Highway 302. A portion of Highway 30 runs along the Caribbean Sea and to the vicinity of Charlotte Amalie. After Charlotte Amalie, it becomes one of the busiest roads on the island and is prone to traffic jams near Havensight, which is a large shopping center. Beyond Havensight, it quickly becomes a residential road, with many houses on either side and meets with Highway 32 in Estate Nadir where it ends. Major intersections include Highways 301, 302, 33, 313, and 32 where it terminates. There are private ferries and car barges operating out of St. Thomas. The most common passenger ferry route is between Red Hook on St. Thomas and Cruz Bay on St. John. DPW subsidizes the operations and maintenance of the private ferries.

5.12.2 Potential Impacts and Proposed Mitigation

Criteria to determine significance is limited to disruption due to increased construction-related traffic and the potential for detours from normal routes.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, no FEMA funding would be provided, and no construction activities would occur. As a result, no impacts on existing transportation would occur.

Alternatives 2-5: Repair and Renovate, New Construction, Relocation, Demolition (St. Croix, St. John, and St. Thomas)

Alternatives 2-5 would require the use of heavy equipment to restore and improve education infrastructure throughout the USVI. Construction activities associated with these alternatives would result in minor temporary direct adverse impacts on transportation due to the local rerouting of traffic required to complete these projects. However, FEMA does not anticipate that these activities would contribute to major changes in local transportation capacities.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since construction activities would be logically phased, and individual actions would likely take place sequentially on a given project site or potentially simultaneously on two separate sites, additive effects on transportation are not likely. Therefore, implementing one or more individual actions would have minor temporary direct adverse impacts during construction activities.

5.13 Public Services and Utilities

Public services and utilities refer to the generation and transmission of potable water, sanitary wastewater and stormwater, electricity generation as well as natural gas transmission and communications infrastructure, and the management of solid waste. Analyses of the utility conditions address the existing infrastructure such as wells, water systems, cisterns, wastewater treatment plants, current utility use, and any pre-defined capacity or limitations set forth in permits or regulations.

In addition to complying with local zoning regulations and applicable ordnances, other major regulatory requirements and policies anticipated to apply to utility improvements, demolition, and/or construction activities include:

- Federal Clean Water Act
- Title V of the Clean Air Act
- Virgin Islands Air Pollution Control Act Rules and Regulations (V.I.C. Title. 12, § 9 (2019) and the 1995 Rules and Regulations of the Virgin Islands Air Pollution Control Act)
- V.I.C. Title. 19, § 51 (2019) pertaining to the Safe Drinking Water Act, pursuant to Act No. 6433, October 9, 2001
- V.I.C. Title. 19, § 51 (2019) Part VI: Regulatory Provisions Concerning Public Health, Chapter 56 of the V.I.C. pertaining to Solid and Hazardous Waste Management
- V.I.C. Title. 29, § 5 (2019) pertaining to Building Code: Public Planning and Development, Subchapter VIII Water Supply § 308. Water supply, cisterns, gutters, downspouts, wells
- USVI TPDES which regulates the discharge of pollutants into waters of the Virgin Islands
- USVI Underground Storage Tank Act

5.13.1 Existing Conditions

The regulatory body within the DPNR is the Division of Environmental Protection. This Division collaborates with other DPNR divisions and is responsible for environmental protection and enforcement of USVI environmental laws, regulations, and certain national environmental laws, as delegated by the EPA. The Region of Influence (ROI) for potable water, wastewater, stormwater, electrical, natural gas, and communications is comprised of the existing infrastructure and utilities on the USVI. The ROI for solid waste includes the entire USVI and surrounding cays.

<u>Electricity:</u> The Virgin Islands WAPA is an independent agency of the Virgin Islands Government which produces and distributes electricity and drinking water to residential and commercial customers in the Territory. WAPA produces electrical power at plants on St. Thomas and St. Croix and distributes electrical service through smart grids to customers on St. Croix, St. John, St. Thomas, Hassel Island, and Water Island.

The two generating units on St. Thomas and St. Croix include combustion and steam turbines powered with fuel oil or propane, as well as some solar power facilities owned by independent power producers and residents with rooftop solar panels. More than half of the USVI's petroleum-fueled generating units are more than 25 years old. WAPA is replacing some of its older generators with combinations of smaller units for more efficient balancing with renewable energy sources. The two separate island grids maintain their own backup generation. The USVI is shifting from fuel oil to propane to generate electricity and produce public drinking water.

Power systems transmit electricity through feeder power lines. Feeder lines transmit power from generating station or substation to the distribution points.

During the back-to-back Hurricanes in September 2017, 80 to 90% of the USVI transmission and distribution systems were damaged or destroyed. To mitigate future disruption of the islands' grids, WAPA added backup generating units that include battery storage.

The WAPA's Strategic Transformation plan includes making the existing electrical grids far more resilient to major Hurricanes, including extensive undergrounding and installing composite poles. As of October 2025, WAPA installed 9,770 composite poles and is on track to finish the project in December 2026.

In the USVI, most schools are dependent on existing power grids that are substandard due to age and are not reliable due to extensive damage from previous storm and Hurricane events. Some of the schools have back-up generators to address power interruptions, but those that don't are prone to school closures during extended power outages. None of the schools currently have any renewable energy sources.

Renewable Energy: In 2020, renewables were less than 10% of the USVI electricity generating capacity, almost all of it from solar power. Customer-installed, small rooftop panel systems account for almost two-thirds of USVI solar generating capacity, while the other one-third comes from larger solar energy facilities. The USVI plans to add wind energy capacity in the coming years and also has considered other biomass, or organic matter for fuel and energy sources.

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VIDE education infrastructure projects plan to utilize renewable energy, such as rooftop solar photovoltaics (PV), wherever possible. The school buildings would also have battery storage for backup power.

<u>Drinking Water</u>: WAPA produces and distributes drinking water to residential and commercial customers in the Territory. Under long-term agreements with Seven Seas Water Corporation, modern seawater reverse osmosis facilities on St. Thomas and St. Croix produce drinking water. The law requires all residences, hotels, and most public buildings to have cisterns supplied from rooftop precipitation collectors.

Currently, some schools are connected to existing water infrastructure, and some rely almost solely on cisterns and bottled water as their main source of potable water.

<u>Wastewater</u>: The Virgin Islands Waste Management Authority (VIWMA) provides wastewater services including collection, pumping, treatment, and disposal to approximately 60 percent of the residents of the Territory. Through a network of underground pipes and pump stations, wastewater is transported to treatment plants and ultimately treated effluent is discharged into the ocean. The system currently consists of 8 treatment plants and 31 pump stations territorially. Compliance with local and federal regulations and permits issued by the DPNR is a requirement. According to USVI law, if a residence is located within 60 feet of a public sewer line, the subrecipient would be required to connect to the system.

VIDE education infrastructure would be designed with a "one water" approach to capture, store and treat water onsite whenever possible. Currently, most schools are connected to existing sewer infrastructure, but that infrastructure is outdated and needs repair or replacement. One school currently has its own on-site treatment, and one other school is proposed to have on-site treatment when it is constructed due to the rural nature of these schools.

VIDE anticipates three new wastewater treatment plants to be incorporated into VIWMA's system, which will help to support future schools.

<u>Stormwater</u>: Discussion of stormwater resources are in Section 5.3. Water Quality is not discussed further in this section.

<u>Communications</u>: The traditional and largest communications provider in the USVI is Viya, which is a subsidiary of ATN International, formerly known as Atlantic Tele-Network, Inc. Viya serves both businesses and residential markets and includes wireline and wireless voice service, fixed and mobile broadband, and cable television service offered over a hybrid fiber-coaxial wireline network and a state-of-the-art 4G LTE wireless network serving St. Croix, St. John, and St. Thomas. Claro Puerto Rico and T-Mobile U.S. also serve the islands.

Solid Waste: The VIWMA provides waste collection, treatment, and disposal services to the USVI. The VIWMA manages the USVI landfills and transfer station to meet local and federal rules and regulations for compliance. Public dumpsters are situated around the islands for VIWMA pickup for ultimate waste disposal at St. Croix's Anguilla Landfill and St. Thomas' Bovoni Landfill, which also collects waste from St. John via the Susannaberg Transfer Station. The landfills accept

non-hazardous waste only such as household waste, construction/demolition waste, yard waste, inert gas cylinders, etc. The VIWMA is in on-going coordination with EPA on diminishing landfill capacity and ability to accept hazardous waste in the territory that has required shipping of waste outside of the territory for final disposal.

5.13.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine whether the alternatives may impact public services and utilities:

• Potential for the proposed project to change existing public services and utilities.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, FEMA funding would not be provided, and construction activities would not occur. Therefore, FEMA anticipates no impact on public services and utilities.

<u>Alternatives 2-4: Repair and Renovate, New Construction, Relocation (St. Croix, St. John, and St. Thomas)</u>

Alternatives 2-4 include construction activities on either a new site or an existing site that would not have any impact on existing public services and utilities. However, repairing or renovating an existing site, constructing a new site, or relocating an existing site would allow for new utility upgrades that could be connected to the public services and utilities network. Therefore, FEMA anticipates that there would be minor to moderate long-term direct beneficial impacts on public services and utilities with implementation of Alternatives 2-4.

Alternative 5: Demolition (St. Croix, St. John, and St. Thomas)

Alternative 5 focuses on the demolition of an existing property. No public facilities or utilities are expected to be impacted as a result of implementing Alternative 5.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Implementation of two or more individual activities described in Alternatives 2 through 5 would not result in any impacts in utility services, and in all cases, minor to moderate long-term beneficial impacts would be experienced because utilities would be upgraded to modern codes and standards.

5.14 Public Health and Safety

Schools and public health are intrinsically linked. Schools serve as vital settings for promoting public health by offering health education, access to healthcare services, and opportunities for social and emotional development, all of which contribute to the well-being of students and the broader community. Understanding education as a human right creates a legal obligation on states to ensure access to an environment that is accessible to all, safe, resilient and conducive to learning.

Accessibility for schools is primarily governed by the ADA and Section 504 of the Rehabilitation Act, ensuring equal access to educational programs and facilities for students with disabilities.

These laws mandate that schools, whether public or private (if they receive federal funding), must provide reasonable accommodations and ensure their programs and facilities are accessible.

With respect to school accessibility, Title II of the ADA prohibits discrimination based on disability in state and local government services, including public schools. The action alternatives and future proposed actions presented in this PEA would meet Section 504 of the Rehabilitation Act of 1973 by providing accommodations and support for students with disabilities in regular classrooms. Established in February 2019, the USVI Office of Disaster Recovery oversees recovery, designating federal block grant funds for public actions, training staff, using contractors to boost territory government management capacity, making plans to upgrade existing infrastructure, identifying funding options to restore and improve housing conditions, and working to restore natural and cultural resources.

5.14.1 Existing Conditions

Within the USVI the primary protective and health services include fire protection, law enforcement, and medical emergency services. The following describes the primary authorities tasked with ensuring public health and safety:

- USVI Department of Health (DOH) functions as both the state or territory regulatory agency and the territorial public health agency for the USVI. As set forth by the V.I.C. Title 3 and 19, DOH has direct responsibility for conducting programs of preventive medicine, including Environmental Sanitation, providing Emergency Medical Services, and assumes primary responsibility for the health of the community in the event of a disaster. DOH services are administered by 34 activity centers, with three health care facilities, two district offices and field offices, as well as the central office, located on St. Thomas.
- DOH provides emergency care and transport for the sick and injured through its Office of Emergency Medical Services (VIEMS). DOH created VIEMS in 1976 and is responsible for public safety, highway safety, rescue response, health & environmental monitoring, community outreach and emergency medical services (EMS) for children. VIEMS operates on the islands of St. Croix, St. John, and St. Thomas. It also provides EMS to the surrounding cays and waterways via ground and sea transport vehicles. In terms of VIDE schools, each school has at least a school nurse on site to support the medical needs of students.
- The major hospital on St. Thomas is Schneider Regional Medical Center. St. Croix has Governor Juan F. Luis Hospital & Medical Center. On St. John, there are only clinic facilities, not a full hospital; medical teams transfer serious cases to the hospital on St. Thomas.
- The VI Fire Services has total of 11 stations with 4 stations on St. Croix, 5 stations on St. Thomas and 2 stations on St. John.
- The Police Division is organized into five bureaus: Patrol, Criminal Investigation, Traffic, Special Operations and Communications. The Police Division further organizes the bureaus into three Districts: St. Thomas and Water Island District; St. Croix District; and St. John District.

• The United States Coast Guard has personnel stationed on both St. Croix and St. Thomas islands and has jurisdiction over the USVI. The USCG works closely with other government agencies, federal, territorial, and local law enforcement, MSD St. Thomas is responsible for the protection of the marine environment and the promotion of the safe passage of marine traffic, carrying passengers, oil, hazardous products, and consumer goods.

The National Environmental Health Association (NEHA) is working with the U.S. Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry to improve public health, childcare, and building safety. The two-year cooperative agreement directs NEHA to conduct its work in jurisdictions impacted by the 2017 Hurricanes Harvey, Irma, and Maria, notably the USVI and Puerto Rico. The agreement outlines a series of objectives in a variety of areas including developing and maintaining a trained, skilled environmental health workforce. This is essential for hurricane recovery efforts and ensuring preparedness for future emergencies when contagious disease, vector control, and threats to drinking water and food supplies pose increased public risks after a storm.

5.14.2 Potential Impacts and Proposed Mitigation

The following criteria would be used to determine if the alternatives may impact public health and safety:

- Substantially increase risks associated with the safety of construction personnel or the local community.
- Substantially hinder the ability to respond to an emergency.
- Introduce a new health or safety risk for which the community is not prepared or does not have adequate management and response plans in place.
- Result in non-compliance with the ADA.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, no FEMA funding would be provided, and no construction activities would occur. As part of the education infrastructure initiative, FEMA anticipates the infrastructure would be upgraded to meet current standards, thereby improving building safety for students and faculty and accessibility for the disabled. If no action is taken, the standard of learning for USVI children would remain diminished by the lack of safe and accessible school buildings. Further, if no action occurs, actions to restore and improve the education infrastructure in the USVI to meet post-disaster design, capacity, and function needs would not occur. As a result, FEMA anticipates moderate to major long-term direct adverse impacts public health and safety.

<u>Alternatives 2-5: Repair and Renovate, New Construction, Relocation (St. Croix, St. John, and St. Thomas)</u>

Construction activities outlined in Alternatives 2-5 would include appropriate planning, mitigation activities and compliance with safety regulations. Therefore, implementation of these alternatives is not expected to result in an increased risk to public health and safety during construction activities. New or renovated facilities would be constructed in accordance with modern build codes and standards, which includes compliance with the American Disabilities Act. Since these new or

renovated facilities would be built to modern codes and standards, these facilities would provide a much safer environment for students and faculty. In addition, demolishing sub-standard structures that pose a danger to public health and safety would also benefit the community. Accordingly, moderate to major long-term direct beneficial impacts are expected to result from the application of Alternatives 2-5.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. However, since Alternatives 2-5 would result in moderate to major long-term direct benefits on public health and safety, the application of two or more independent alternatives would have a moderate to major beneficial long-term impact on VIDE students, faculty, and by extension, USVI communities.

5.15 Hazardous Materials

49 CFR §171.8 defines hazardous materials as hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR §173. Resource Conservation and Recovery Act (RCRA) defines hazardous wastes at 42 U.S.C. § 6903(5). The Pollution Prevention Act of 1990, 42 U.S.C. 13101(b), established a national policy to prevent or reduce pollution at the source, whenever feasible.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C § 9601 et seq.) RCRA, Subtitle D are the primary Federal laws for the management and disposal of hazardous substances. The EPA regulates the management of non-hazardous solid waste according to the RCRA. Under RCRA, the EPA is also in charge of regulating the handling and disposal of hazardous waste. The DPNR regulates locally.

A considerable number of health and safety laws and regulations exist for a wide variety of activities. With regards to worker safety, the U.S. Congress enacted OSHA of 1970, 29 U.S.C § 651 et seq. to assure safe and healthful working conditions for working men and women. The Virgin Islands Division of Occupational Safety and Health operates an OSHA-approved public sector only State Plan under the 23(g) 50/50 Grant. Safety and occupational health issues include exposure to natural hazards; one-time and long-term exposure to asbestos, lead, mold, radiation, chemicals, and other hazardous materials; and injuries or deaths resulting from a one-time accident.

5.15.1 Existing Conditions

The EPA refers to the CERCLA program as Superfund. A Superfund site is placed on the EPA's National Priorities List (NPL) if it has scored high enough on CERCLA's hazard ranking system. Those sites that are reported, but that do not score high enough, are listed as non-NPL sites. See Figures 18 and 19 for map of NPL and non-NPL sites.

The USVI has one site included on the NPL: Tutu Well Field on St. Thomas. Tutu Well Field has groundwater contaminated with chlorinated volatile organic compounds from multiple sources. This is the former site of the VIDE Curriculum Center. Treatment of the groundwater plume is currently happening. E. Benjamin Oliver Elementary School is currently located adjacent to this contaminated site. At least one other VIDE facility is planned for relocation because of its proximity to this Superfund site.

Three additional VIDE facilities on St. Croix Island are currently listed on the most recent CERCLA map (The former Arthur Richards Campus, Central High, and Alexander Henderson). Though currently listed as non-NPL sites, it is likely that they are still being evaluated. Two of these locations (Central High and Alexander Henderson) are currently scheduled for renovation and the environmental review for those projects are expected to be included under this PEA.

There may be plots of land considered for education infrastructure and the history of what has occurred on that land may be unknown. It may have soil and/or groundwater contamination from past land use including old gasoline stations, industrial use, etc. If needed, land acquisition would include an Environmental Site Assessment (ESA) performed using the ASTM E1527-21 Standard Practice for Environmental Site Assessments: Phase I ESA Process. A Phase I typically occurs at the desktop, reviewing historical records, aerial photographs, and other documentation to determine what activities have occurred on that piece of land in the past. A Phase II ESA occurs if the result of the ESA indicates that past activities may have resulted in the release of contamination into the environment via soil, groundwater, surface water or sediment. A Phase II ESA includes sampling to determine if chemicals above residential regulatory standards contaminated the environment.

Exposure to silica, friable asbestos and lead-based paint from the breaking of building materials into fine particles during demolition or similar activities can release fine particles into the air. Mold may also be present at unmaintained buildings. Long-term exposure to these contaminants can lead to health issues. OSHA requires that contractors use BMPs and wear appropriate personal protective equipment (PPE) to minimize fugitive dust particulate and mold exposure while working with materials that have the potential to become hazardous.

Construction work routinely includes the use of hazardous materials such as aerosols, anti-freeze, fertilizers, motor oil, vehicle fuel, paint supplies, solvents and more. FEMA expects their use and storage on-site as part of the existing conditions for all alternatives and locations.

VIDE schools contain limited amounts of hazardous materials used in the classroom and for other industrial purposes. Schools have and use proper storage and disposal facilities for hazardous materials and waste.

5.15.2 Potential Impacts and Proposed Mitigation

Proposed projects may include the removal and/or demolition of one or more of the following materials, including, but not limited to: painted sheet rock, countertops, flooring, wood, concrete, or asphalt. Removal of these types of materials may require special handling. In addition, many

existing buildings contain lead-based paint and asbestos due to their age, and mold from previous storm damage.

If asbestos is determined to be present, EPA laws and regulations provide worker safety and proper disposal of asbestos containing material. Asbestos exposure can result from the inhalation of dust from a multitude of construction materials or household products (NCI, 2021). Asbestos identification would be necessary which includes having a specialist on-site during or prior to renovation, redevelopment, and demolition activities so the specialist can identify potential asbestos-containing materials, test if present, and potential proper abatement, or cleanup and disposal, activities performed.

Building structures impacted by Hurricanes Irma and/or Maria are susceptible to mold. Construction personnel would limit their exposure to mold by wearing PPE, including an N-95 respirator at a minimum, goggles, and protective gloves, and ensure the mold cleanup is complete before students and staff occupy the structure.

Use of diesel fuel or other fuels for powering equipment used in construction or demolition may occur and it may be necessary to store bulk quantities. Storage of bulk fuels and other regulated materials during construction activities would also need to follow EPA and USVI regulations for storing bulk fuels, container inspection, spill prevention, reporting and cleaning up should a spill occur (V.I.C. Title 12 §17 (2019)). Proper secondary containment for mobile refuelers is necessary to prevent releases to the environment and vary based on volume and type. The EPA website provides details regarding secondary containment requirements.

School renovations and demolition that include the removal of power line transformers would require the subrecipient follow the EPA Regional Polychlorinated Biphenyls Programs regulations and guidelines. The following criteria would be used to determine impacts:

- The generation of new waste streams that cannot be immediately or safely managed, under existing protocols.
- The generation of an excessive quantity of waste that cannot be adequately or safely managed under the current protocols.
- Risk of building structures and other features on contaminated land.
- Risk of exposure to mold, asbestos and lead-based paint.

Alternative 1: No Action (St. Croix, St. John, and St. Thomas)

Under the No Action Alternative, FEMA would not provide funding for education infrastructure improvement actions, leaving children with unacceptable learning conditions and buildings that are vulnerable to future storm events. As part of the education infrastructure action initiative, schools would be upgraded to the point where environmental hazards such as mold, asbestos and lead based paint would no longer be present. Without these improvements, building conditions would remain diminished and existing hazardous materials would remain present, resulting in unsafe conditions for students and faculty. In a worst-case scenario, where damage has caused friable asbestos, mold growth and/or where lead-based paint is accessible to children, the No Action Alternative has the potential to result in major long-term direct adverse impacts due to the potential release of hazardous materials and subsequent exposure to students and faculty.

<u>Alternatives 2-5: Repair and Renovate, Relocation, Demolition (St. Croix, St. John, and St. Thomas)</u>

In the case of renovation or demolition activities, lead-based paint and potentially friable asbestos sources would be fully abated prior to renovation and demolitions activities. Therefore, these activities are not expected to result in any measurable impacts on the environment. In the case of new construction activities, project sites would be evaluated for the presence of contaminated materials and or soils prior to construction activities. Provided that this evaluation occurs and sites selected are free from contaminated materials and soils, no environmental impacts from the release of hazardous materials or contaminated soils are expected to occur by performing these education infrastructure improvement actions. In addition, contractors conducting construction or renovation activities would be required to have a Spill Prevention Control and Countermeasure Plan. Therefore, best management practices would be used in the handling and use of hazardous materials, and if a release occurs, appropriate remediation of the site would occur. As a result, FEMA anticipates only minor temporary direct adverse impacts if a release occurs during construction activities from the implementation of Alternatives 2-5. Conversely, providing students and faculty with school facilities where hazardous materials are not present would have a moderate to major long-term direct beneficial impact on students and faculty.

Alternative 6: Combination of Alternatives 2-5 (St. Croix, St. John, and St. Thomas)

Alternative 6 assumes two or more of the proposed individual activities would occur on a given project site. Combining two or more individual actions on a given project site has the potential to result in higher overall environmental impacts. Since Alternatives 2-5 would result in moderate to major long-term direct benefits to students and faculty and no more than minor temporary direct impacts on the environment from spills with the implementation of two or more alternatives, Alternative 6 would have similar or greater moderate to major long-term direct beneficial impacts on students and faculty since students and faculty would be able to learn and teach in educational facilities where hazardous materials are not present.

5.16 Cumulative Effects

In accordance with NEPA, this PEA considers the overall cumulative impact of the alternatives and other actions that are related in terms of time or proximity. According to the CEQ regulations, cumulative impacts represent the "impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what federal agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The statutory basis for considering cumulative impacts of federal actions is the NEPA of 1969, U.S.C. 4321 et seq. In the context of evaluating the scope of a proposed action, FEMA must consider direct, indirect, and cumulative impacts. In addition to NEPA, other statutes require federal agencies to consider cumulative effects. These include the CAA Section 404(b)(1) guidelines, the regulations implementing the conformity provisions of the CAA, Section 106 of the NHPA, Section 7 of the ESA and Section 6 of the CBRA.

Cumulative effects among VIDE projects and other infrastructure projects implemented at the same time are anticipated to cause some level of cumulative impact. Future projects that may impact the proposed education infrastructure actions include upgrades to the following systems or infrastructure: roadways, stormwater, wastewater, drinking water, electrical, public housing, hospitals, fire stations, police stations, and other infrastructure projects. These projects, like the proposed school infrastructure reconstruction and resiliency actions outlined in this PEA, are needed due to extensive hurricane damage on the island. FEMA will consider specific cumulative effects once the subrecipient identifies individual proposed actions and schedules. As a result, FEMA anticipates that the short-term cumulative adverse effects that result from implementation of the proposed actions would be outweighed by the long-term cumulative beneficial effects of restoring and improving the resiliency of the education infrastructure on the USVI.

6 PERMITS AND PROJECT CONDITIONS

The subrecipient is responsible for obtaining all applicable federal, state, and local permits and other authorizations for project implementation prior to construction and adherence to all permit conditions. Any substantive change to the approved SOW would require re-evaluations by FEMA for compliance with NEPA and other laws and EOs. The subrecipient must also adhere to the conditions identified during project implementations and continuing consultations with resource agencies as they identify specific work sites. Failure to comply with grant conditions may jeopardize Federal funds.

- 1. **The Subrecipient:** Must comply with all applicable environmental and historic preservation laws. Federal funding is contingent upon acquiring all necessary federal, state, and local permits. Noncompliance with this requirement may jeopardize the receipt of federal funds.
- 2. Stormwater and Soils: Under the USEPA NPDES, any project disturbing more than one acre requires an USEPA Construction General Permit, an NPDES Permit, and a SWPPP. The permits and SWPPP plan require BMPs which serve to protect soils, in addition to stormwater. Subrecipient is required to: manage any piles of soil or debris, minimize steep slope disturbance, preserve native topsoil unless infeasible; and minimize soil compaction and erosion.
- 3. **Erosion and Sediment Control:** Each project will implement BMPs, and guidelines recommended by USVI state officials. The subrecipient must obtain all necessary permits such as NPDES and implement required plans such as SWPPP.
- 4. **Endangered Species Act:** All projects will comply with and implement the ESA conditions found in any FEMA programmatic consultation that applies, or those conditions from a project-specific consultation to any actions that may adversely affect federally listed species or designated critical habitat. Impacts not resolved through consultation will require individual NEPA compliance.
- 5. **Work Affecting Water:** USACE will consult on any work that may affect waters of the United States. The subrecipient is responsible for obtaining and implementing all appropriate permit requirements, including pre-construction notification, prior to the beginning of work.

- 6. **Floodplain:** For FEMA-funded projects that are within or may affect a floodplain, FEMA will apply the 8-Step Decision-Making Process. FEMA will assess short-term and long-term effects to floodplains and apply applicable avoidance, minimization, and mitigation measures to limit impacts to less than major. FEMA will consider projects in the V-Zone, those with potential major or greater impacts, or those with the potential to increase flood elevations on a case-by-case basis for whether this PEA applies, or to prepare a tiered EA or Site-specific EA. Projects must also comply with USVI floodplain and flood risk regulations.
- 7. **Wetlands:** For FEMA-funded projects that are within or may affect a wetland, FEMA will apply the 8-Step Decision-Making Process. FEMA will assess short-term and long-term effects to wetlands and apply applicable avoidance, minimization, and mitigation measures to limit impacts to less than major.
- 8. **Historic Preservation/Archaeological Resources:** For FEMA-funded projects, FEMA will review the project site for any historic or archaeological resources listed in or eligible for listing in the NRHP. If there is potential to affect historic or archaeological resources, consultation with the VISHPO must occur and any recommendations implemented.
- 9. **Discovery of Cultural Resources:** If workers discover any cultural materials or human remains during construction, the contractor must halt work immediately and contact FEMA EHP. FEMA EHP staff meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983) will evaluate the discovery in coordination with VISHPO.
- 10. Construction Material and Debris: The subrecipient must remove any materials deposited in eroded embankments before start of work. The subrecipient is responsible for ensuring that final disposal of bituminous and any non-recyclable debris materials resulting from the renovation, redevelopment, relocation, and demolition activities must take place at a properly permitted landfill. If necessary, waste characterization may be required for certain waste types, such as oil, asbestos, lead-based paint, etc., are properly disposed. The subrecipient is responsible for obtaining any permits associated with staging, transportation, and handling of construction debris.
- 11. **Solid and Hazardous Waste:** The subrecipient will handle, manage, and dispose of all solid and hazardous waste in accordance with requirements of local, state, and federal laws, regulation, and ordinances.
- 12. **Clean Air Act:** The subrecipient is responsible for complying with applicable USEPA and USVI requirements for low sulfur fuels and fugitive dust suppression. CAA permitting in USVI is the shared responsibility of USEPA Region 2 for PSD permits and the Air Pollution Control Program of the Division of Environmental Protection of the USVI DPNR for all permits for emission sources that do not require a PSD permit.
- 13. **Invasive Species:** The subrecipient is responsible for restoring disturbed soils with planting native, non-invasive species. Construction equipment should be power washed prior to initial transportation to the construction site and prior to changing locations to prevent spread of noxious weeds.

7 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

This PEA is available for agency and public review and comments for a period of 30 days. The public information process would include a public notice with information about the proposed action in the VI Daily News. The EA is available for download at FEMA's National Environmental Policy Act Repository, the VIDE official website, the VI Office of Disaster Recovery website, and the VI Territorial Management Agency Facebook page.

A hard copy of the PEA will be available at the following locations:

• St. Thomas:

VIDE Headquarters 1834 Kongens Gade, St. Thomas, VI 00802

• St. Croix:

Florence Augusta Williams Public Library 1122 King Street, Christiansted, St. Croix, VI 00820

• St. John:

Julius E. Sprauve School 15-18 Enighed, Cruz Bay, St. John, VI 00830

Interested parties may request an electronic copy of the EA by emailing FEMA at FEMA-4340-Comment@fema.dhs.gov. This PEA reflects the evaluation and assessment of the federal government, the decision maker for the federal action; however, FEMA will take into consideration comments submitted during the public review period. The public is invited to submit written comments by emailing FEMA-4340-Comment@fema.dhs.gov or via mail to:

FEMA Region 2 USVI Recovery Office 4052 La Grande Princesse Christiansted, VI 00820 Attn: USVI Department of Education PEA Comments

If FEMA receives no substantive comments from the public and/or agency reviewers, FEMA will adopt the PEA as final and will issue a Finding of No Significance (FONSI). If FEMA receives substantive comments, it will evaluate and address comments as part of the FONSI documentation or in a Final PEA.

8 LIST OF PREPARERS

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9 SUMMARY OF IMPACTS

Table 9	able 9-1. Summary of Impacts										
Section	Area of Evaluation	Alternative 1: No Action	Alternative 2: Repair and Renovate	Alternative 3: New Construction	Alternative 4: Relocation	Alternative 5: Demolition	Alternative 6: Combination of Alternatives 2-5				
5.1	Geology	No impacts	Minor temporary direct adverse	Minor temporary direct adverse			Minor temporary direct adverse				
5.1	Topography	No impacts	Minor long-term direct adverse	Minor long-term direct adverse	Minor long-term direct adverse	Minor long-term direct adverse	Minor long-term direct adverse				
5.1	Soils	No impacts	Minor long-term direct adverse	Moderate long-term direct adverse	Minor-moderate long- term direct adverse	Negligible long-term direct adverse	Negligible-moderate long-term direct adverse				
5.1	Prime Farmland	No impacts	Negligible to no short or long-term direct impacts	Negligible to no short or long-term direct impacts	Negligible to no short or long-term direct impacts	Negligible to no short or long-term direct impacts	Negligible to no short or long-term direct impacts				
5.2	Air Quality	Negligible long-term direct adverse	Minor temporary direct adverse, minor long- term direct beneficial	Minor temporary direct adverse, minor long- term direct beneficial	Minor temporary direct adverse, minor long-term direct beneficial	Minor temporary direct adverse, minor long-term direct beneficial	Minor temporary direct adverse, minor long-term direct beneficial				
5.3	Water Quality	Negligible to minor short and long-term indirect adverse	Minor temporary direct and indirect adverse, minor long-term direct and indirect adverse	Minor temporary direct and indirect adverse, minor long-term direct and indirect adverse	Minor temporary direct and indirect adverse, minor long-term direct and indirect adverse	Minor temporary direct and indirect adverse, minor long-term direct and indirect adverse	Minor temporary direct and indirect adverse, minor long-term direct and indirect adverse				
5.4	Wetlands	Minor long-term indirect adverse	Negligible long-term direct adverse	Negligible long-term direct adverse	Negligible long-term direct adverse	Negligible long-term direct adverse	Negligible long-term direct adverse				
5.5	Floodplains	Moderate to major long- term direct adverse	Minor temporary indirect adverse, minor long-term direct and indirect adverse	Minor temporary indirect adverse, minor long-term direct and indirect adverse	Minor temporary indirect adverse, minor long-term direct and indirect adverse, moderate to major long- term direct beneficial	Minor temporary indirect adverse, moderate to major long-term direct beneficial	Minor temporary indirect adverse, minor long-term direct and indirect adverse, moderate to major long-term direct and indirect beneficial				
5.6	Coastal Resources	Minor to moderate long- term indirect adverse	No impact	Negligible long-term direct adverse, minor long-term indirect beneficial	Negligible long-term direct adverse, minor long-term indirect beneficial	Minor long-term indirect beneficial	Negligible long-term direct adverse, minor long-term indirect beneficial				
5.7	Vegetation	Moderate long-term indirect beneficial	Minor short-term direct adverse	Moderate long-term direct adverse	Minor short-term direct adverse, moderate long- term direct adverse	Minor short-term direct adverse, moderate long- term direct beneficial	No more than moderate long-term direct adverse, moderate long-term beneficial				

Table 9-1. Summary of Impacts											
Section	Area of Evaluation	Alternative 1: No Action	Alternative 2: Repair and Renovate	Alternative 3: New Construction	Alternative 4: Relocation	Alternative 5: Demolition	Alternative 6: Combination of Alternatives 2-5				
5.8	Threatened and Endangered Species	No impacts	Negligible short-term and long-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse				
5.8	Designated Critical Habitat	No impacts	Negligible short-term and long-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse				
5.8	Migratory Birds	No impacts	Negligible short-term and long-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse	Minor short-term direct and indirect adverse				
5.8	Invasive Species	Minor long-term indirect adverse	Minor long-term direct beneficial	Minor long-term direct beneficial	Minor long-term direct beneficial	Minor long-term direct beneficial	Minor long-term direct beneficial				
5.9	Historic Standing Structures	Moderate to major long- term indirect adverse	Negligible to moderate long-term direct adverse	No impacts anticipated	Moderate to major long- term direct adverse	Moderate to major long- term direct adverse	Negligible to major long- term direct adverse				
5.9	Archaeological Resources	No foreseeable impacts	No impacts		Moderate to major long- term direct adverse (without mitigation), Minor to moderate long- term direct adverse (with mitigation)	Moderate to major long- term direct adverse (without mitigation), Minor to moderate long- term direct adverse (with mitigation)	Moderate to major long- term direct adverse (without mitigation), Minor to moderate long- term direct adverse (with mitigation)				
5.10	Land Use	Moderate to major long- term direct adverse	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial				
5.11	Noise	No impacts	Negligible temporary direct adverse, minor long-term direct beneficial	Negligible temporary direct adverse, minor long-term direct beneficial	Negligible temporary direct adverse, minor long-term direct beneficial	Negligible temporary direct adverse, minor long-term direct beneficial	Negligible temporary direct adverse, minor long-term direct beneficial				
5.12	Transportation	No impacts	Minor temporary direct adverse	Minor temporary direct adverse	Minor temporary direct adverse	Minor temporary direct adverse	Minor temporary direct adverse				
5.13	Public Services and Utilities	No impacts	Minor to moderate long- term direct beneficial	Minor to moderate long- term direct beneficial	Minor to moderate long- term direct beneficial	No impact	Minor to moderate long- term direct beneficial				
5.14	Public Health and Safety	Moderate to major long- term direct adverse	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial	Moderate to major long- term direct beneficial				
5.15	Hazardous Materials	Major long-term direct adverse	Minor temporary direct adverse, moderate to major long-term direct beneficial	Minor temporary direct adverse, moderate to major long-term direct beneficial	Minor temporary direct adverse, moderate to major long-term direct beneficial	Minor temporary direct adverse, moderate to major long-term direct beneficial	Minor temporary direct adverse, moderate to major long-term direct beneficial				

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Figure 1: USVI Location Map with all VIDE facilities (St. Thomas and St. John)

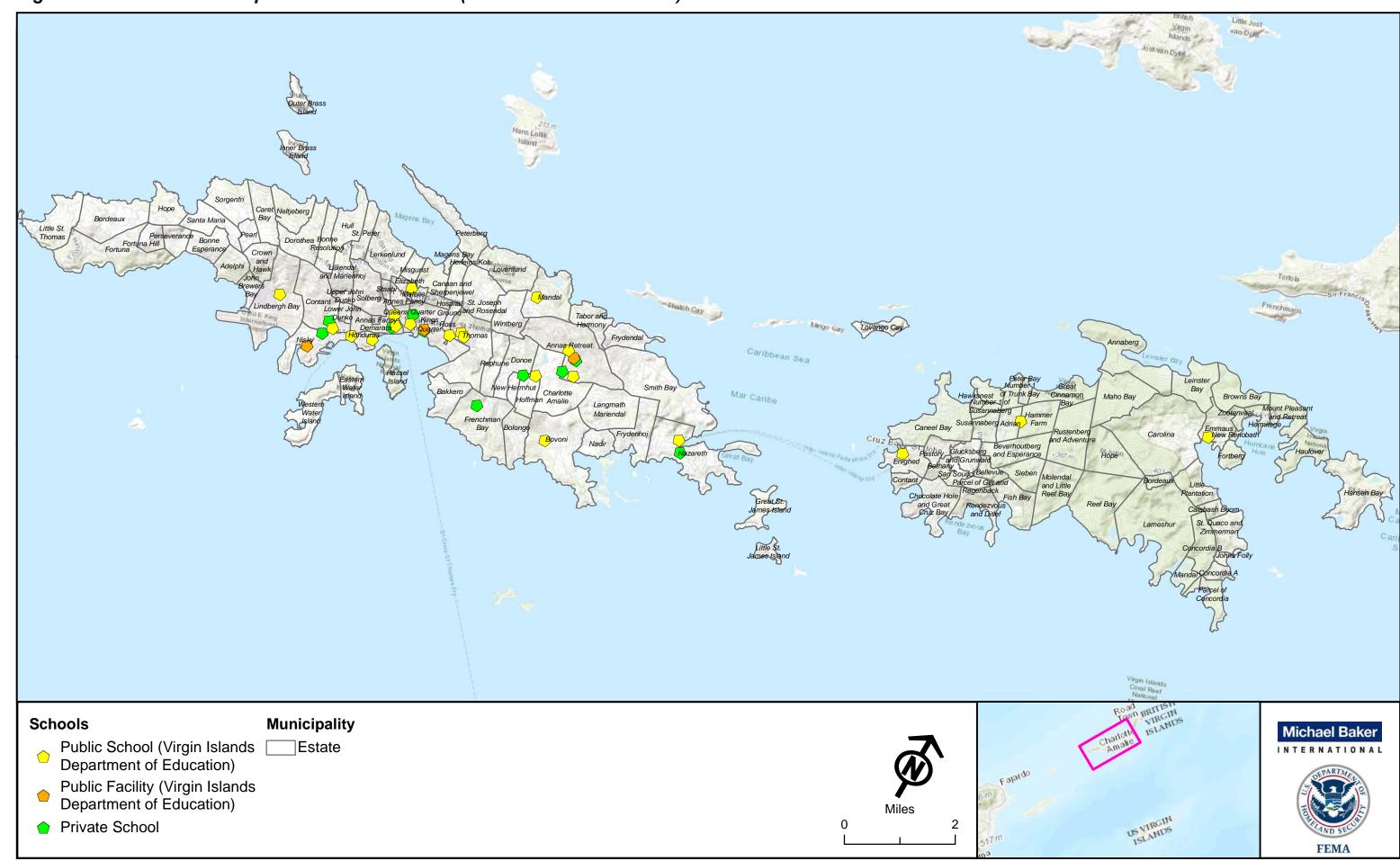


Figure 2: USVI Location Map with all VIDE facilities (St. Croix)

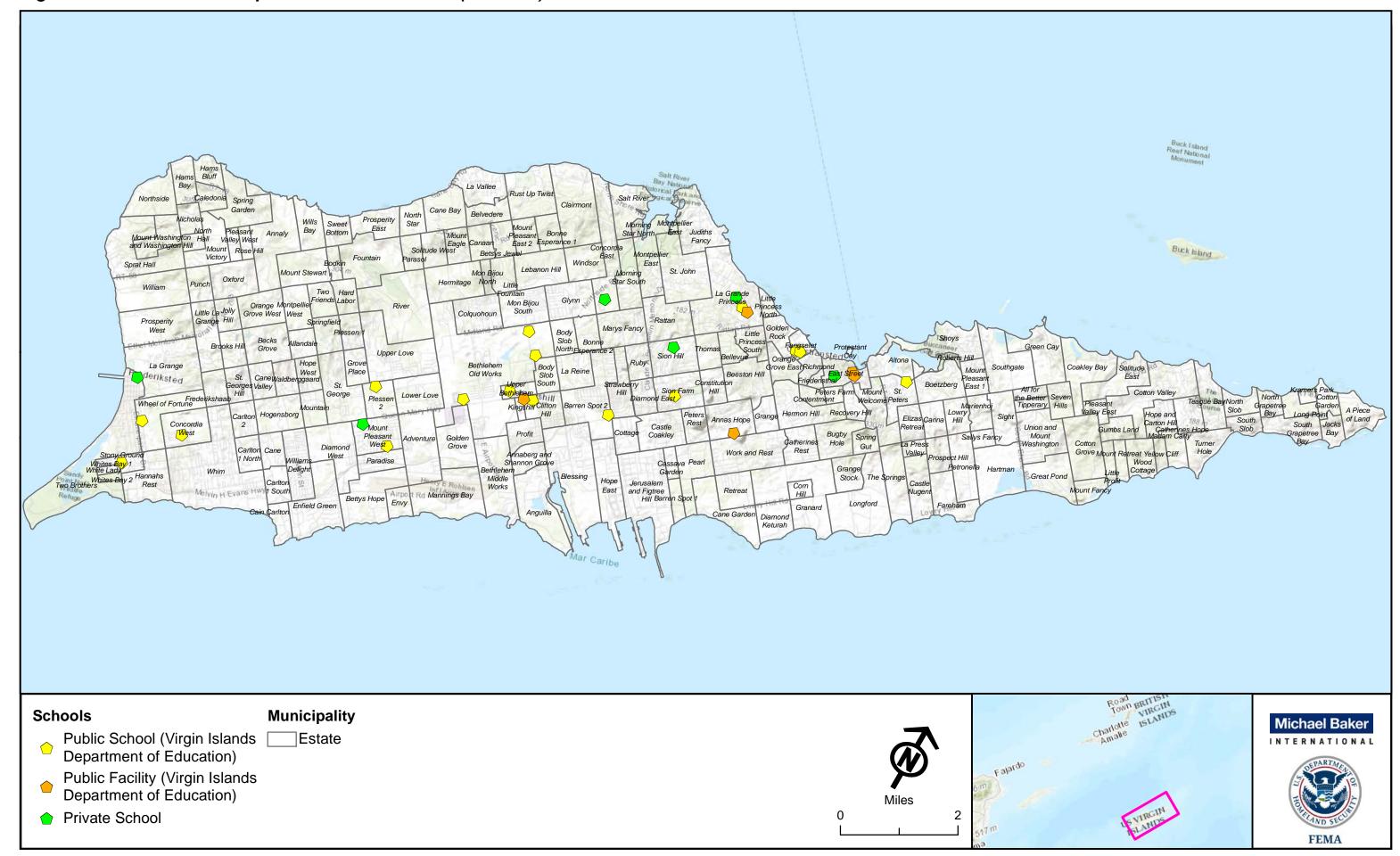


Figure 3: VIDE Enrollment 2024-2025



Virgin Islands Department of Education

Office of Planning, Research and Evaluation Public Schools Enrollment by Grade 2024-2025



Districts\Schools	PK	KG	01	02	03	04	05	06	07	08	09	10	11	12	Total
St. Thomas-St. John District		408	364	372	364	393	366	361	415	386	477	499	416	363	5,265
Jane E. Tuitt Elementary School		30	31	32	32	30	24								179
Joseph Gomez Elementary School	14	97	73	72	80	78	78								492
Joseph Sibilly Elementary School	21	41	37	42	32	37	25								235
Lockhart Elementary School		66	59	72	71	78	66	145	176	171					904
Ulla F. Muller Elementary School	17	71	73	62	72	78	74								447
Yvonne E. Milliner-Bowsky Elementary School	14	64	69	63	58	71	81								420
Julius E. Sprauve School	15	39	22	29	19	21	18	24	27	24					238
Bertha C. Boschulte Middle School								192	212	191					595
Charlotte Amalie High School											254	312	243	209	1,018
Ivanna Eudora Kean High School					ĺ						223	187	173	154	737
St. Croix District	72	380	385	375	359	414	374	388	434	335	468	423	366	372	5,145
Alfredo Andrews Elementary School	14	66	66	76	60	61	58	83							484
Juanita Gardine	9	32	24	31	29	40	26	34	39	32					296
Claude O. Markoe Elementary School	10	58	60	61	47	63	68	44							411
Eulalie Rivera	7	74	73	66	60	70	72	62	80	67					631
Lew Muckle Elementary School	8	55	60	46	50	58	52	34							363
Pearl B. Larsen	11	46	50	49	47	58	39	58	49	41					448
Ricardo Richards Elementary School	13	49	52	46	66	64	59	73							422
John H. Woodson Junior High School									266	195					461
St. Croix Central High School											195	169	152	181	697
St. Croix Educational Complex High School											273	254	214	191	932
Virgin Islands	153	788	749	747	723	807	740	749	849	721	945	922	782	735	10,410

Figure 4: USVI Prime Farmland (St. John and St. Thomas)

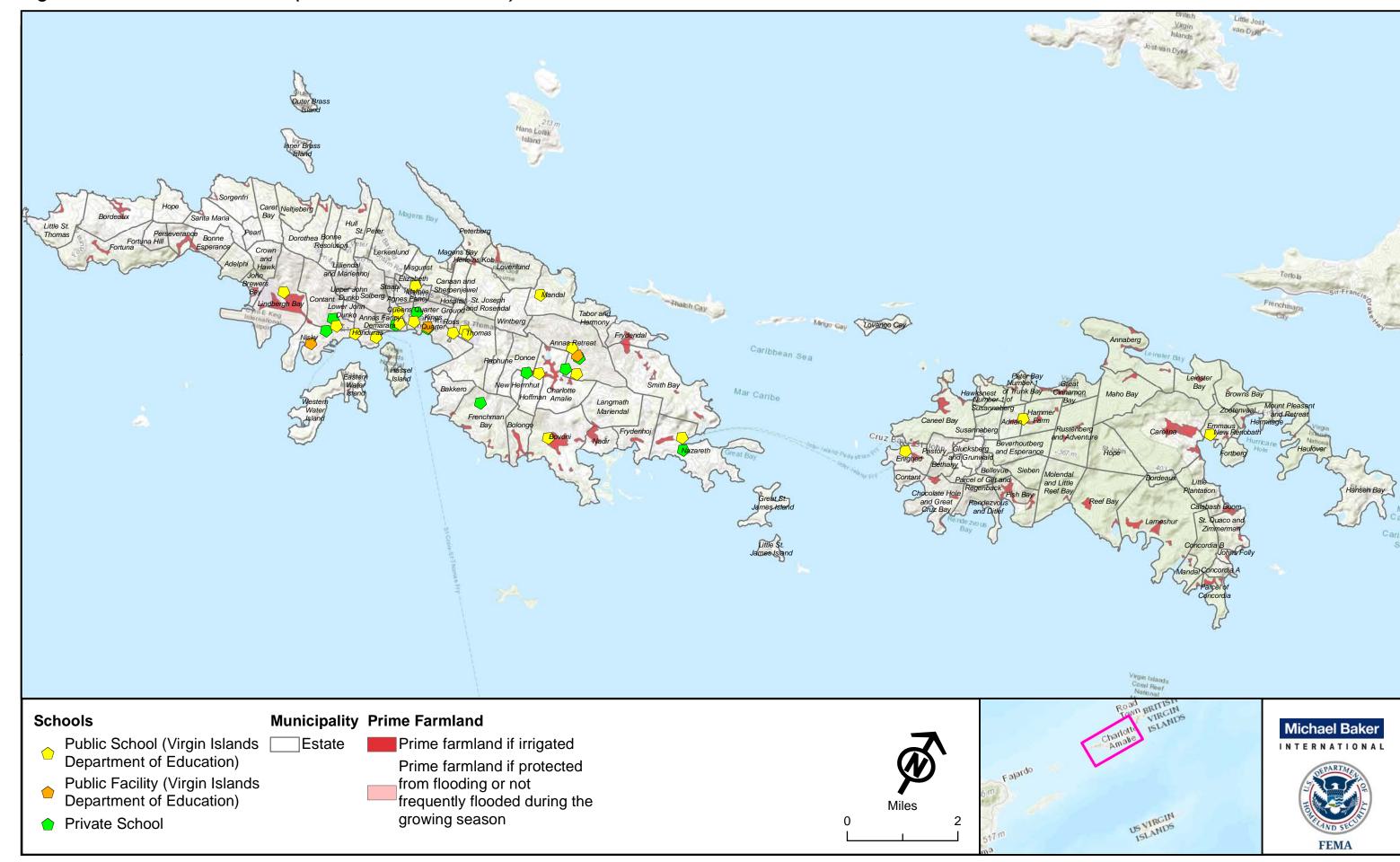


Figure 5: USVI Prime Farmland (St. Croix)

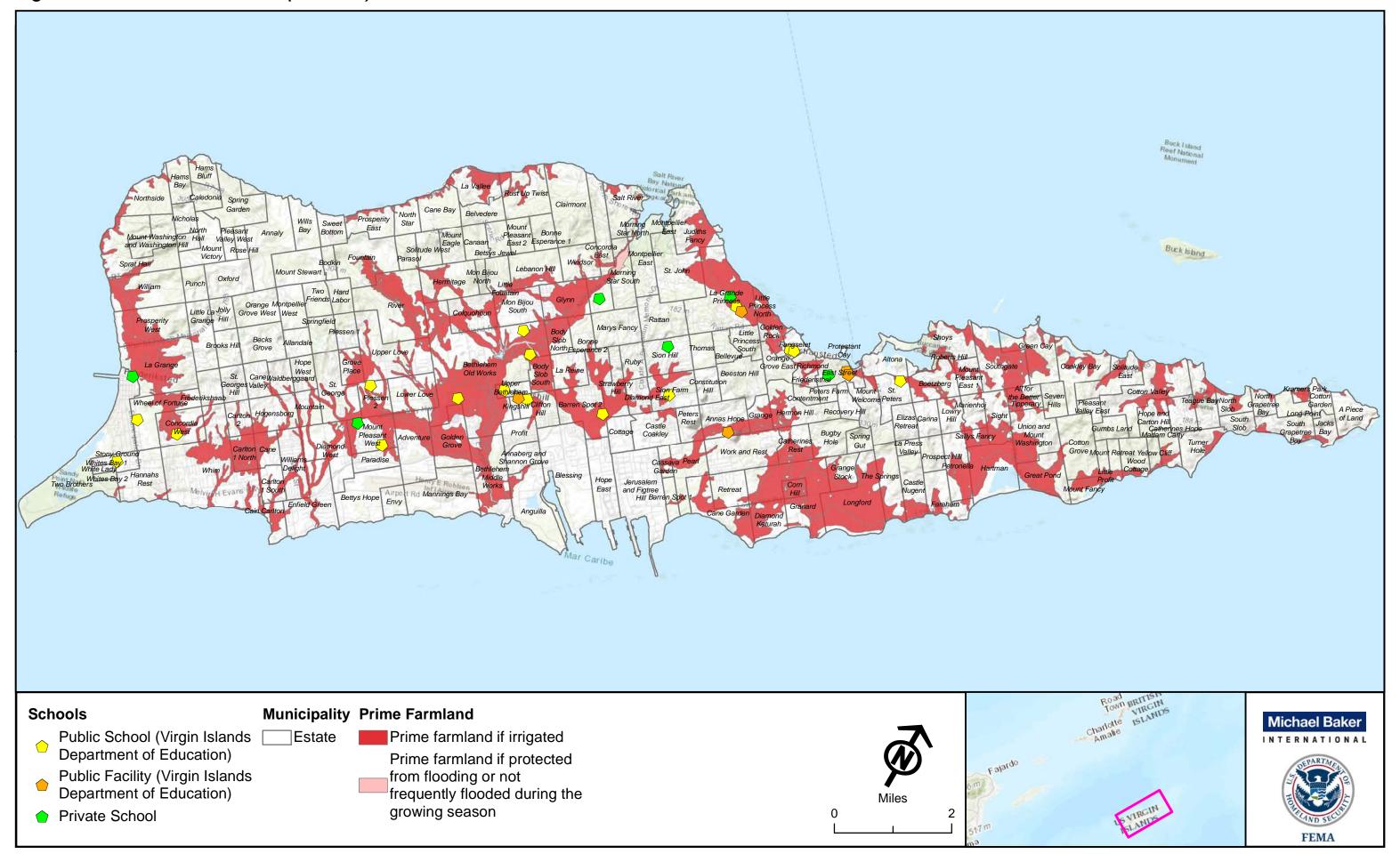


Figure 6: US Census Bureau designated urban areas (St. Thomas and St. John)

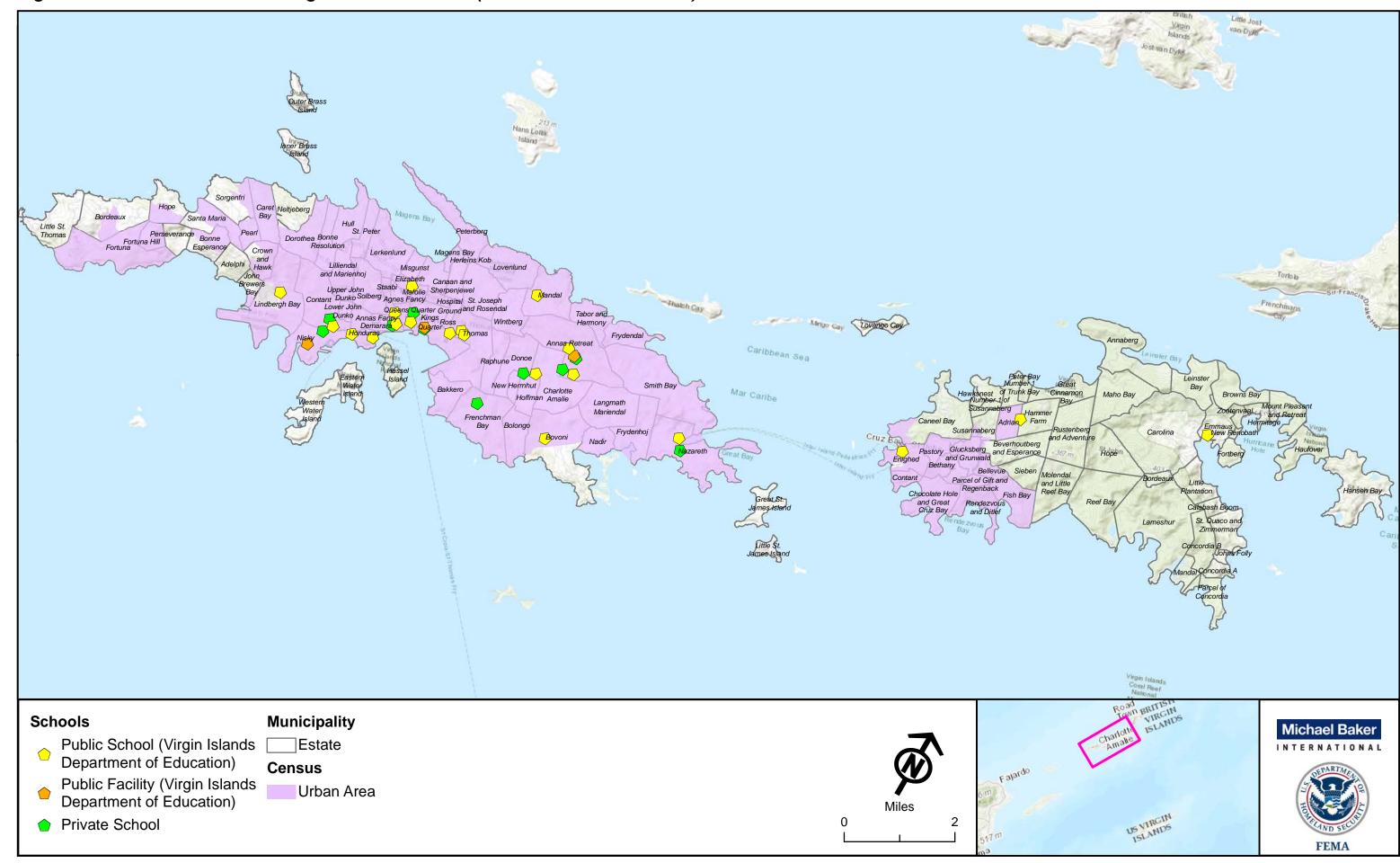


Figure 7: US Census Bureau designated urban areas (St. Croix)

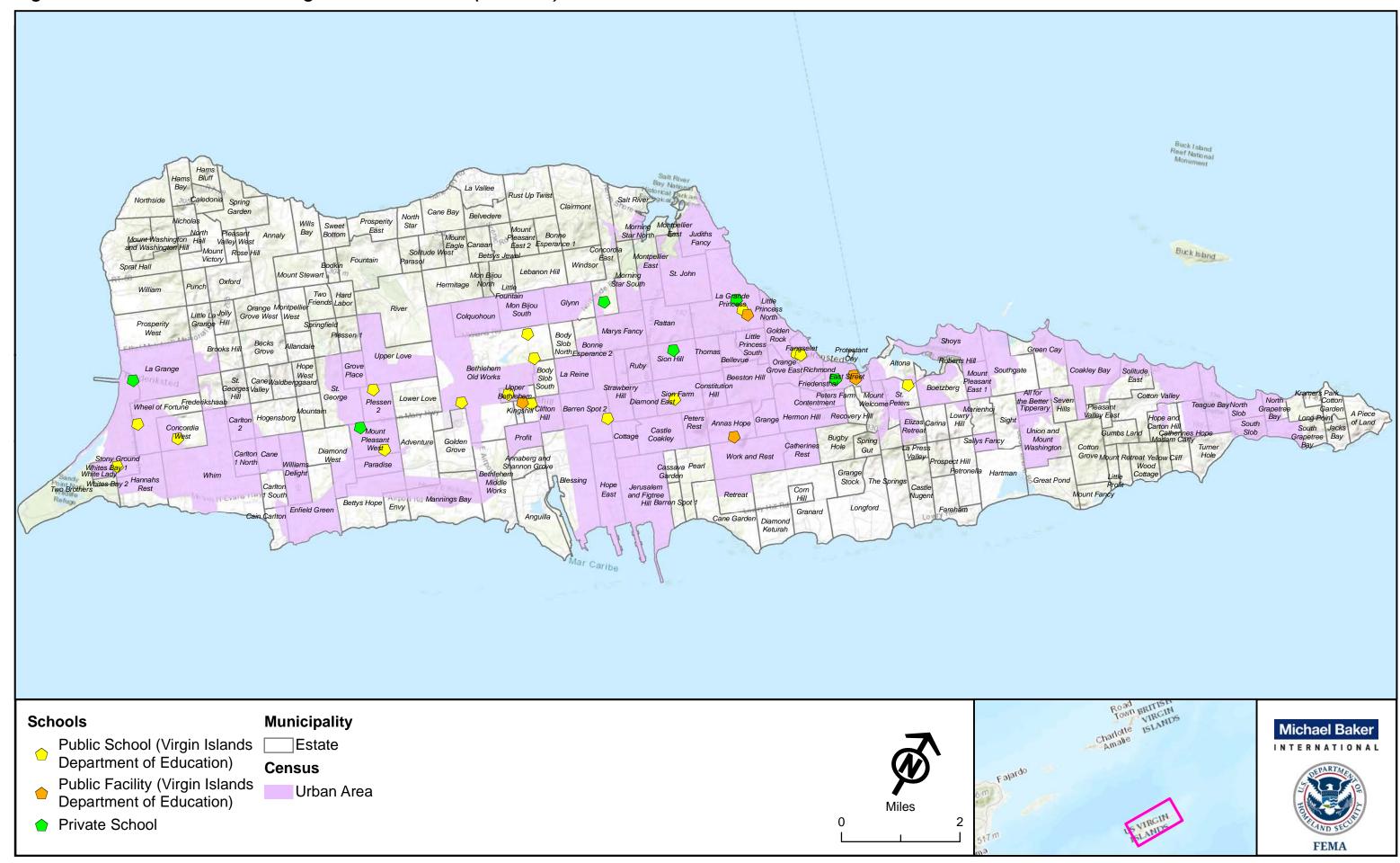


Figure 8: USVI Wetlands (St. John and St. Thomas)

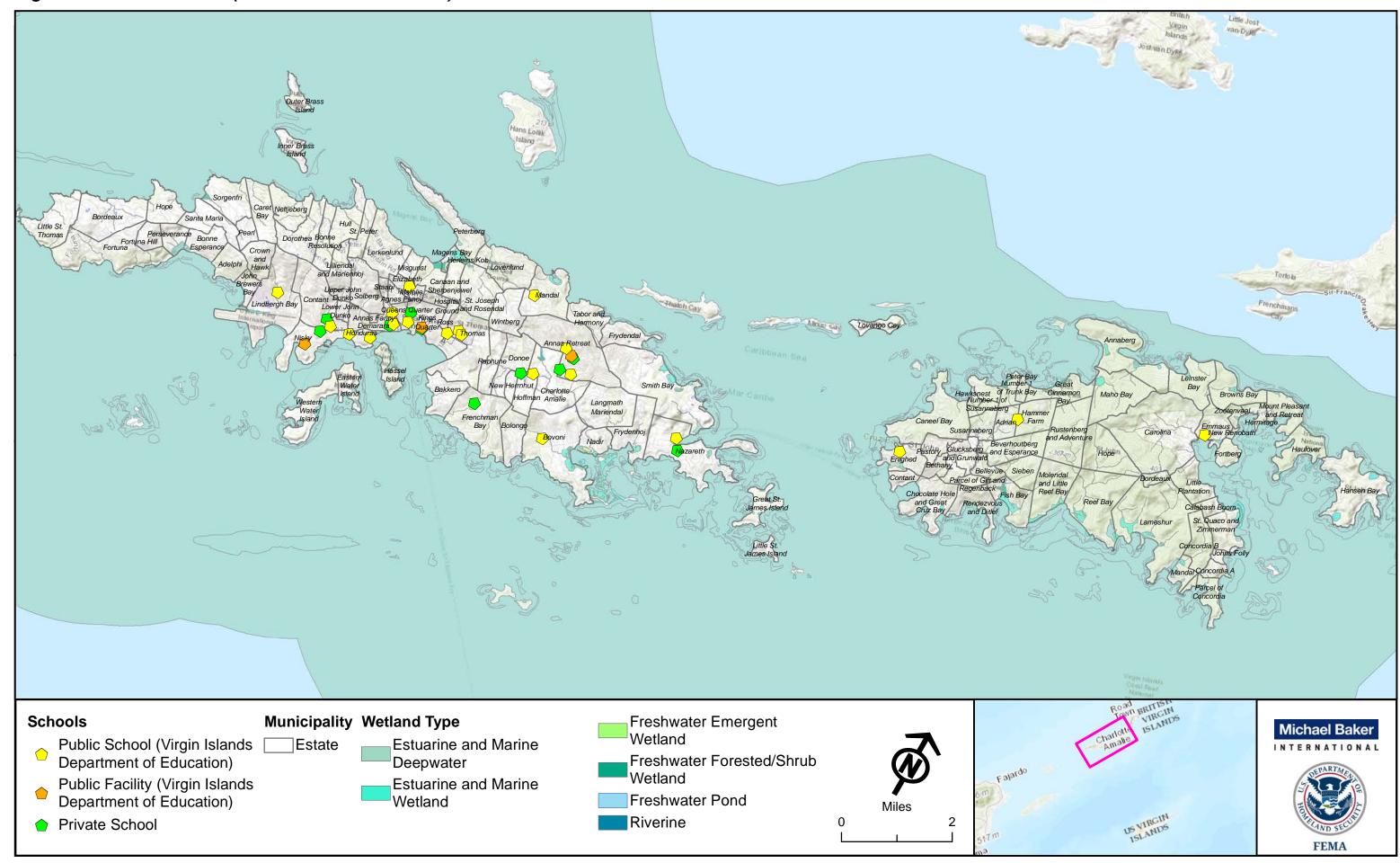


Figure 9: USVI Wetlands (St. Croix)

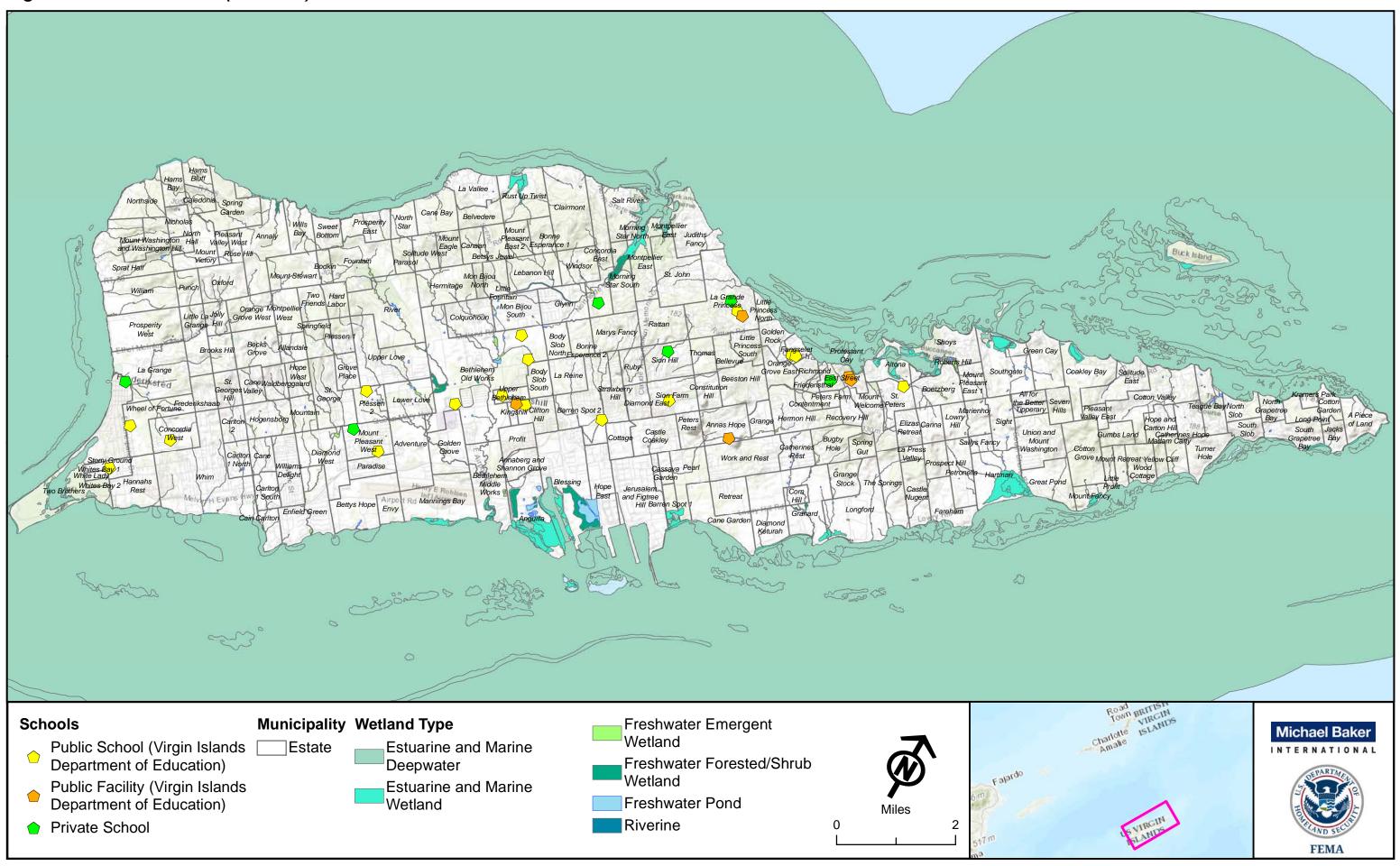


Figure 10: USVI Special Flood Hazard Areas (St. John and St. Thomas)

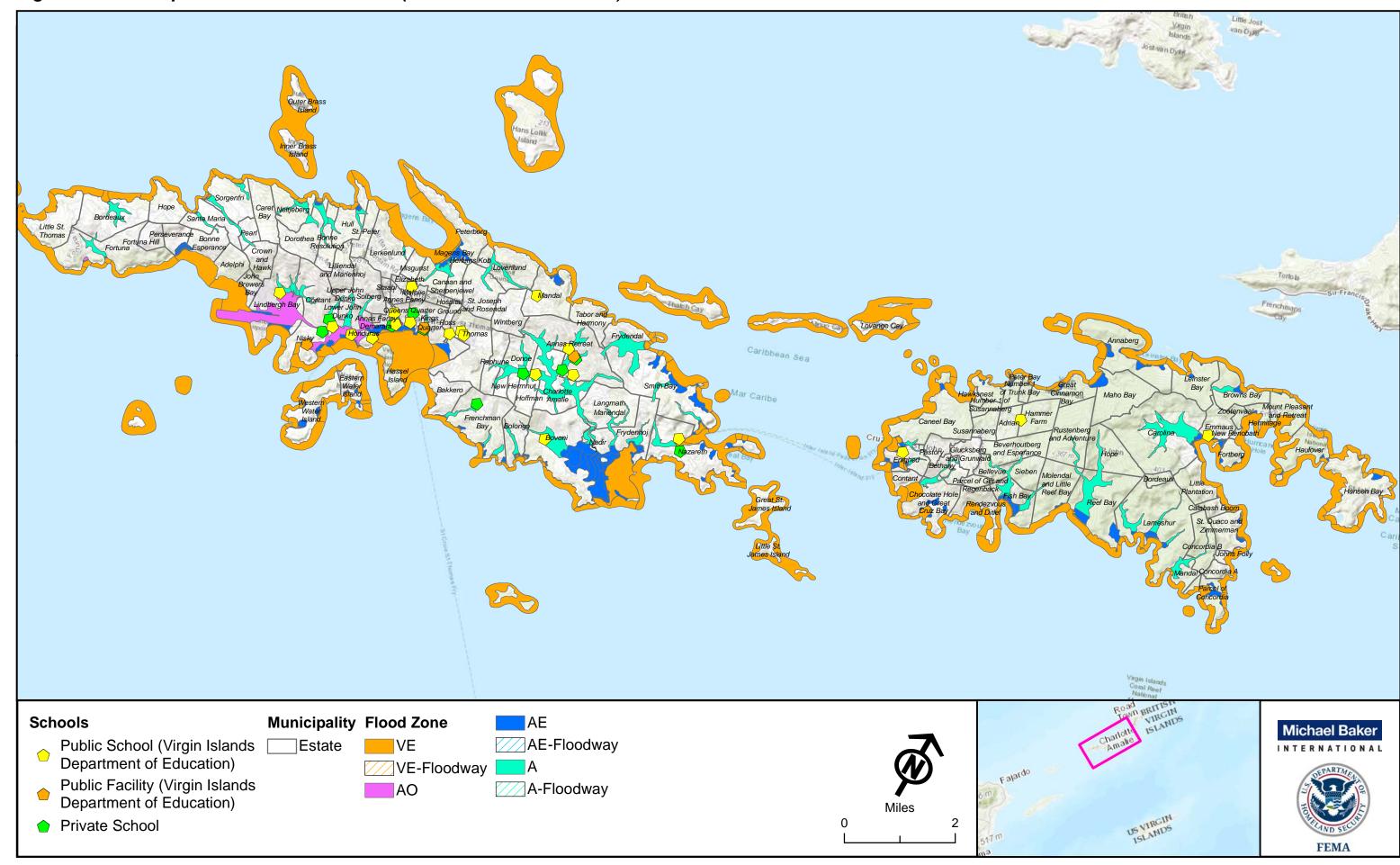


Figure 11: USVI Special Flood Hazard Areas (St. Croix)

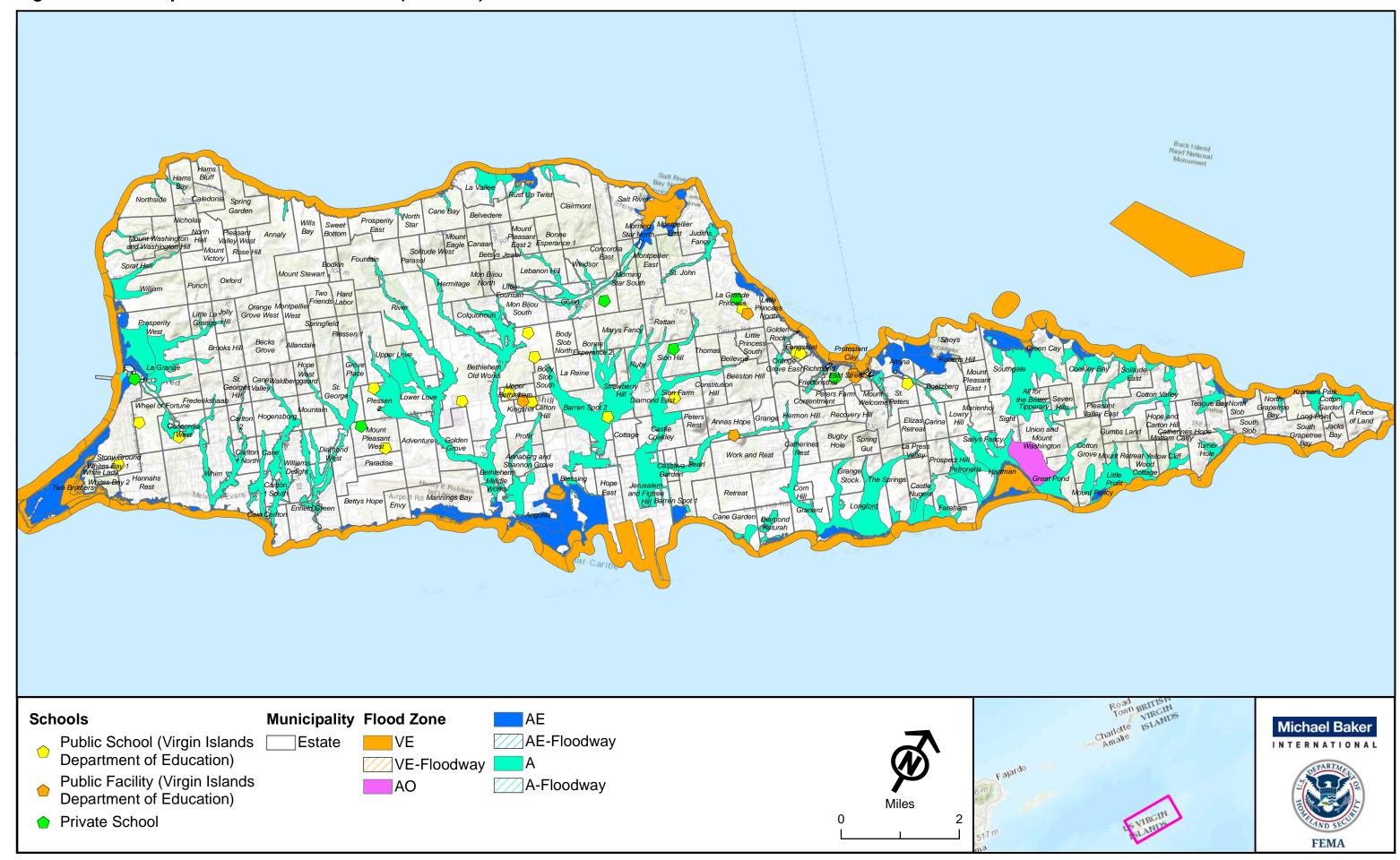


Figure 12: Coastal Zone and Coastal Barrier Resources System Units (St. John and St. Thomas)

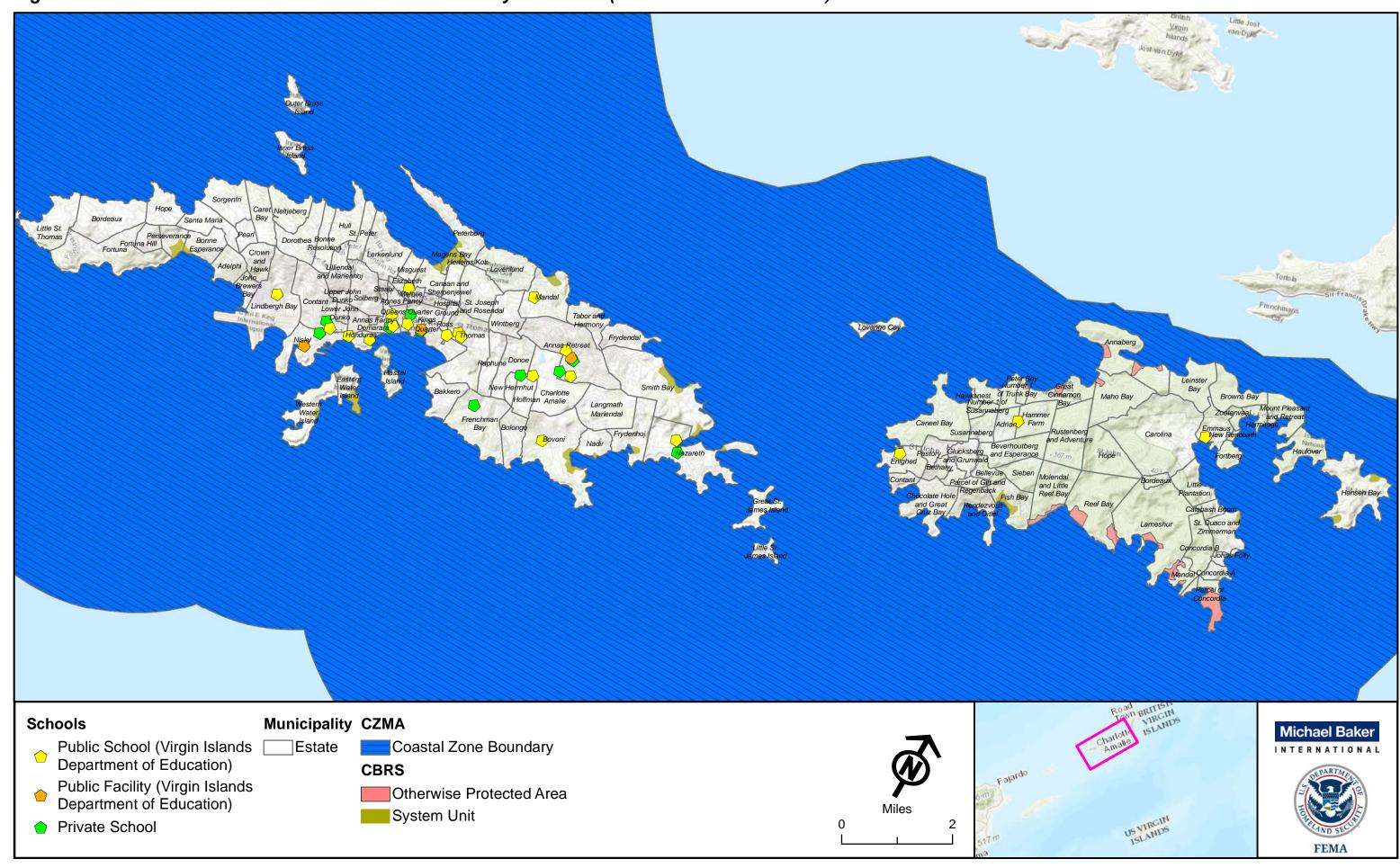


Figure 13: Coastal Zone and Coastal Barrier Resources System Units (St. Croix)

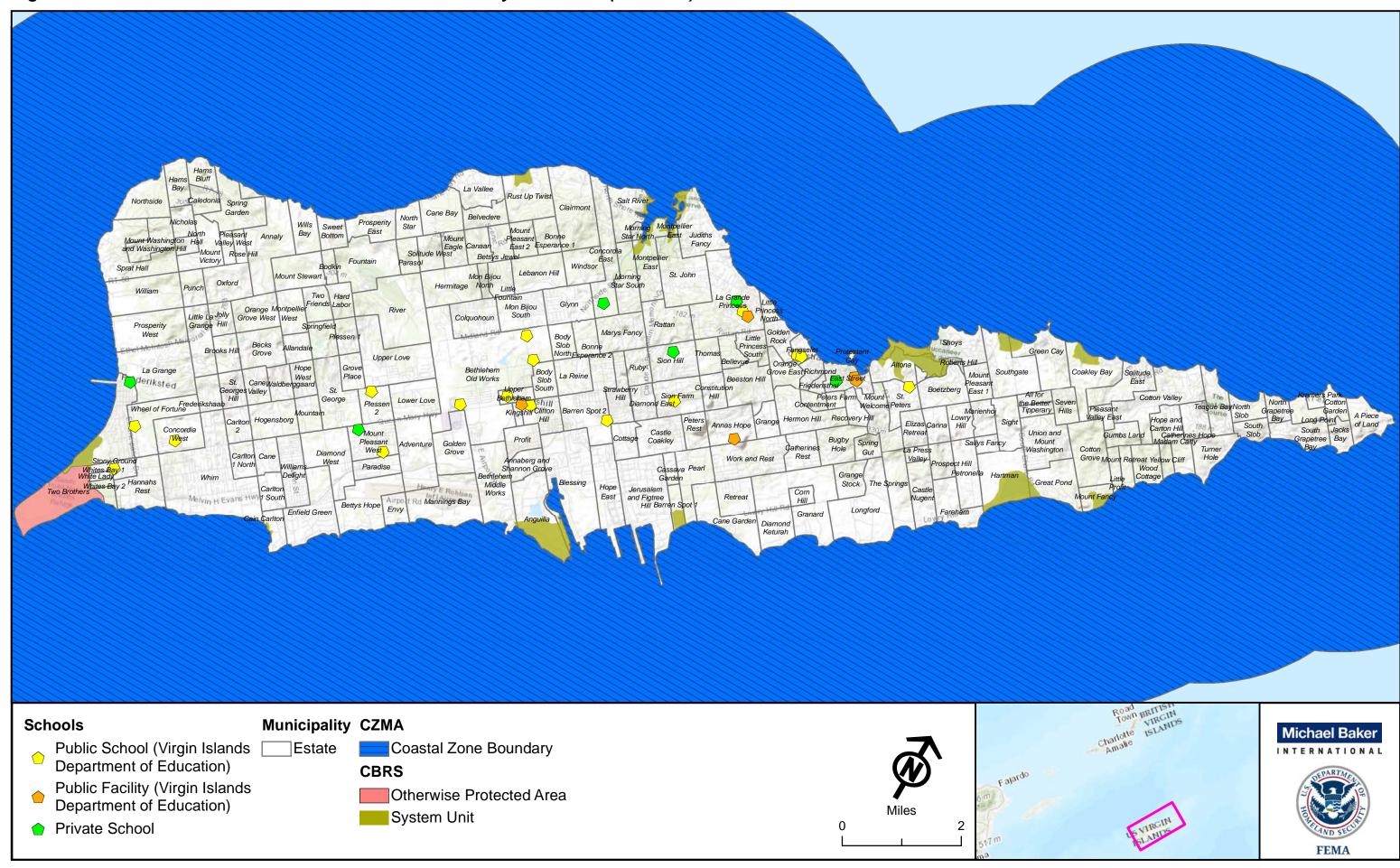


Figure 14: Schools 50 years old or older (St. John and St. Thomas)

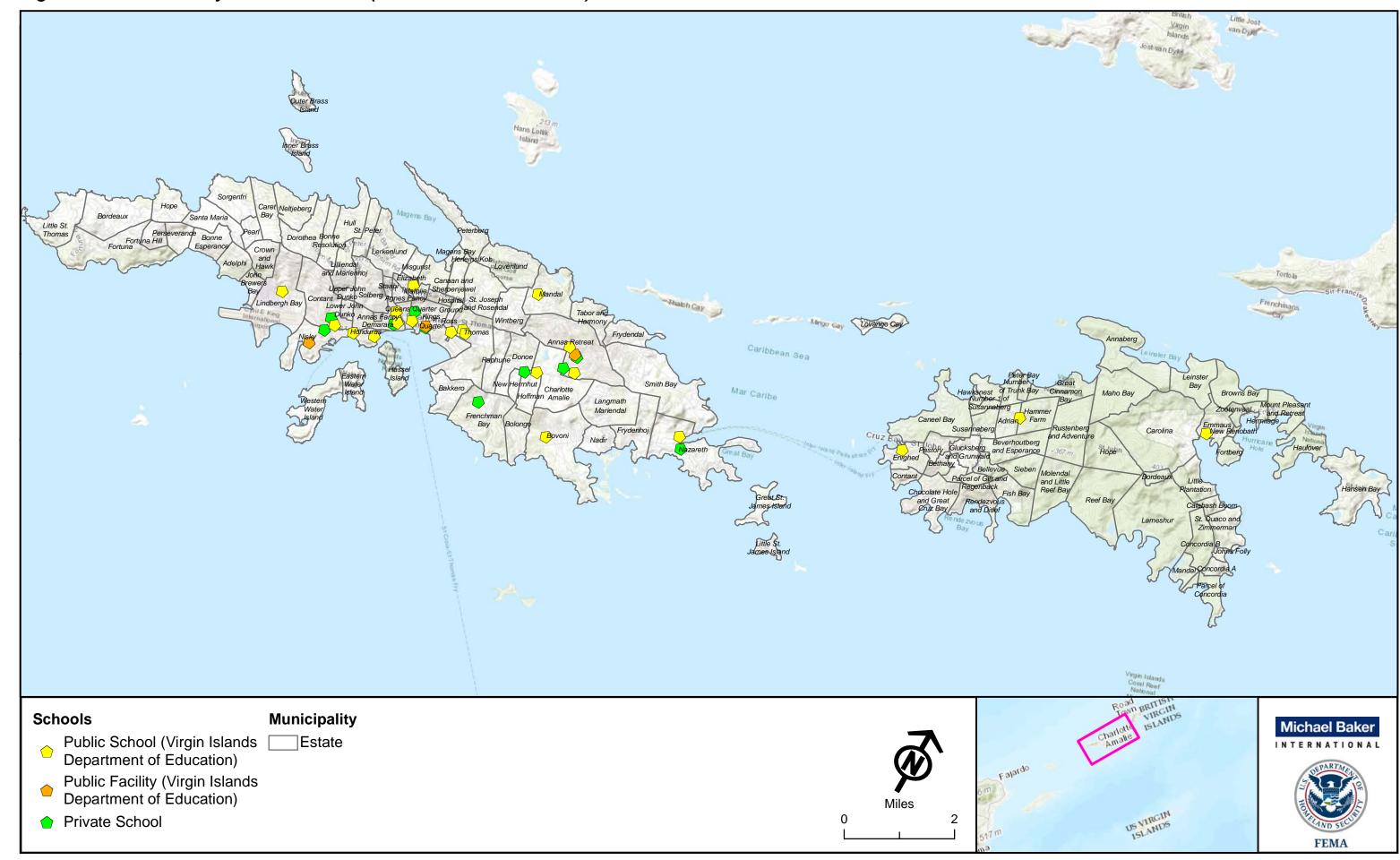


Figure 15: Schools 50 years old or older (St. Croix)

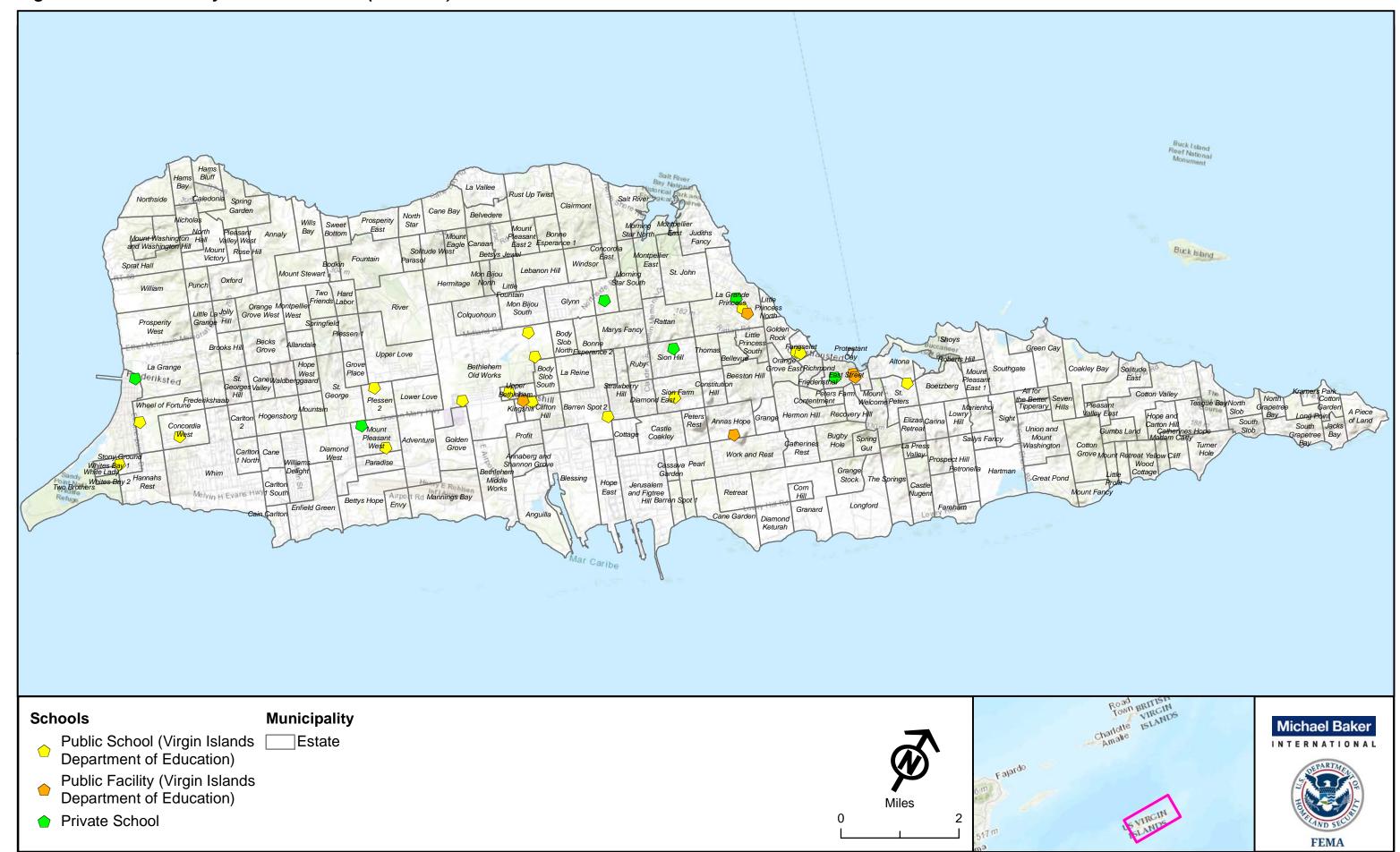


Figure 16: Historic Districts and National Register of Historic Places (St. John and St. Thomas)

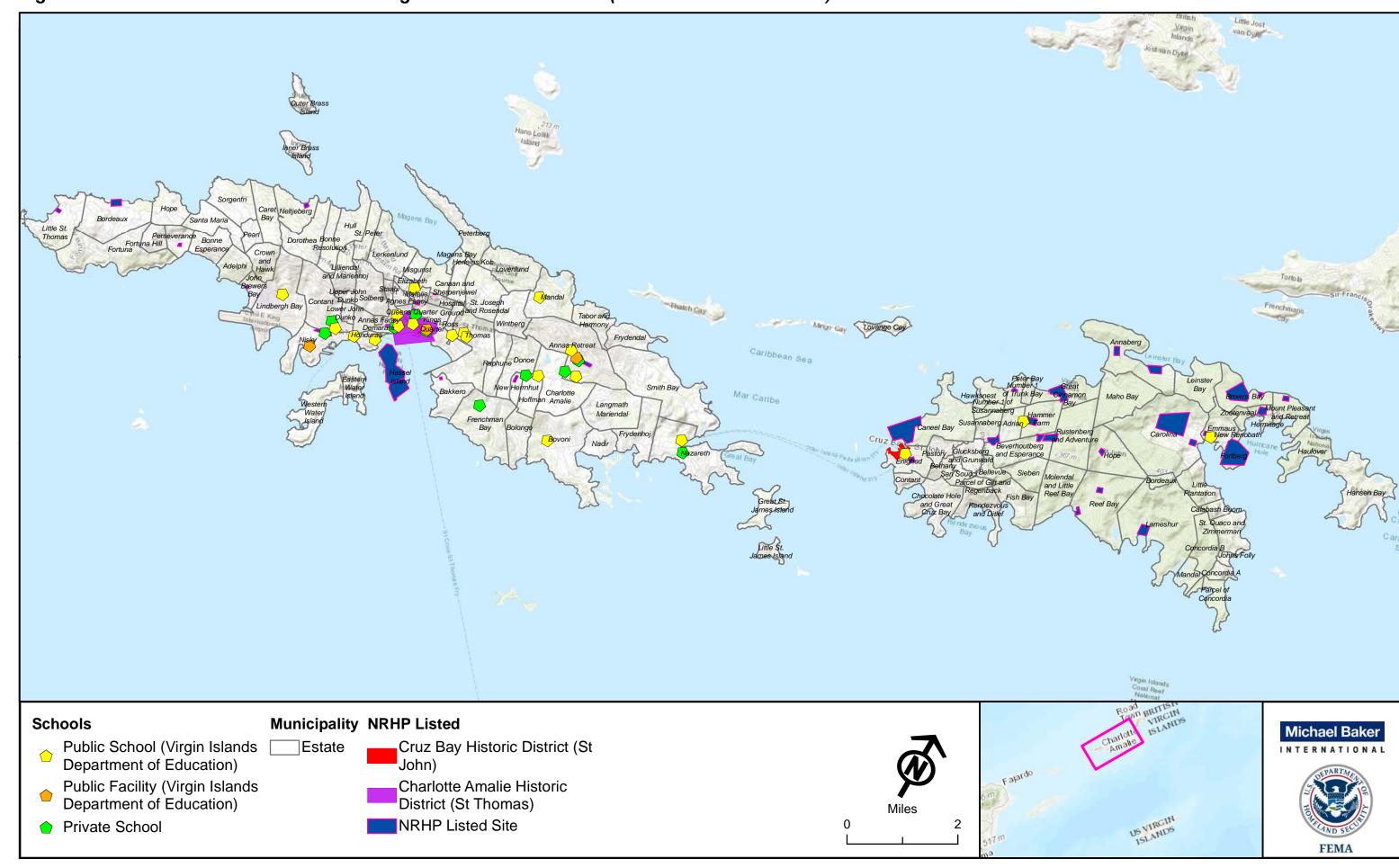


Figure 17: Historic Districts and National Register of Historic Places (St. Croix)

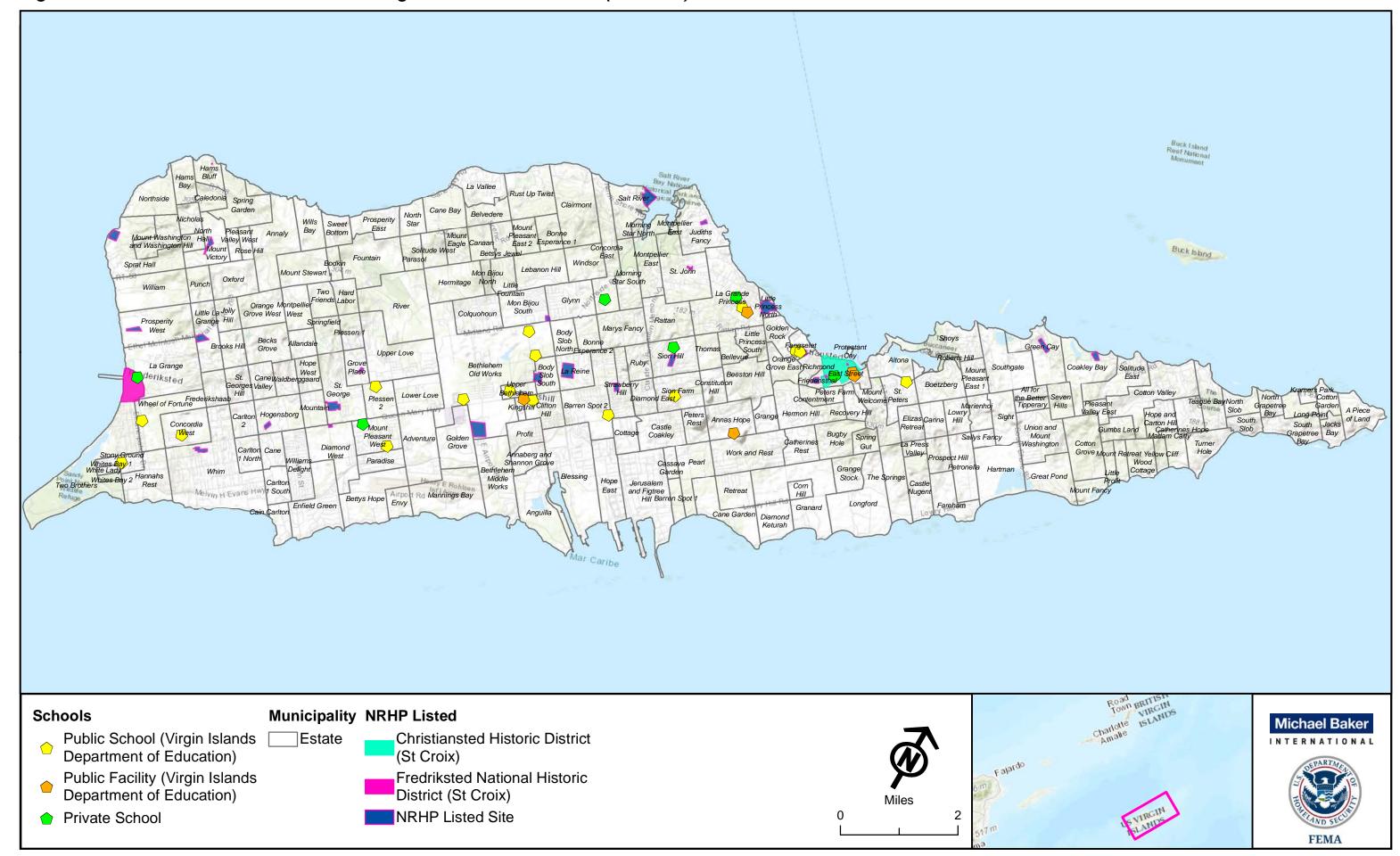


Figure 18: National Priorities List and Non-National Priorities List Sites (St. John and St. Thomas)

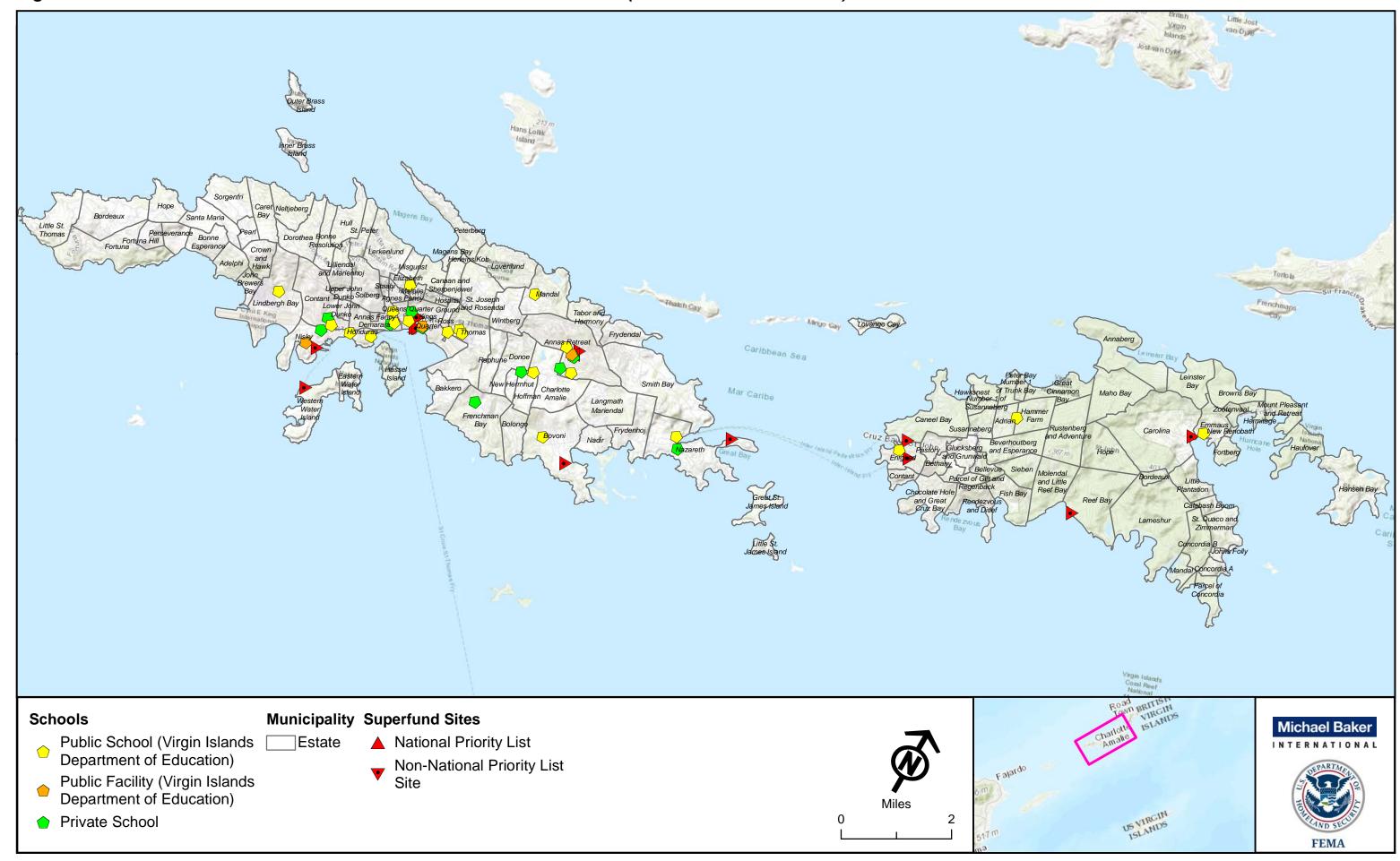


Figure 19: National Priorities List and Non-National Priorities List Sites (St. Croix)

