

STATEMENT OF FINDINGS
FOR
EXECUTIVE ORDER 11988 FLOODPLAIN MANAGEMENT

REPAIRS TO ADMINISTRATION BUILDING, DOCK AND GROUNDS AT RED HOOK AREA

PMIS # 244626
PEPC # 86197

VIRGIN ISLANDS NATIONAL PARK
US VIRGIN ISLANDS

Recommended:	<div style="display: flex; align-items: center;"><div style="flex: 1;">NIGEL FIELDS</div><div style="font-size: small; margin-left: 5px;">Digitally signed by NIGEL FIELDS Date: 2022.04.14 10:52:19 -04'00'</div></div> <div style="border-top: 1px solid black; padding-top: 5px;">Superintendent, Virgin Islands National Park</div>	<div style="border-top: 1px solid black; padding-top: 5px;">4/14/22</div> <div style="border-top: 1px solid black; padding-top: 5px;">Date</div>
Reviewed:	<div style="display: flex; align-items: center;"><div style="flex: 1;">FORREST HARVEY</div><div style="font-size: small; margin-left: 5px;">Digitally signed by FORREST HARVEY Date: 2022.04.15 11:31:31 -06'00'</div></div> <div style="border-top: 1px solid black; padding-top: 5px;">Chief, Water Resources Division (Certification of technical adequacy and servicewide consistency)</div>	<div style="border-top: 1px solid black; padding-top: 5px;">4/15/22</div> <div style="border-top: 1px solid black; padding-top: 5px;">Date</div>
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INTRODUCTION

Executive Order 11988, "Floodplain Management" requires the National Park Service (NPS) and other federal agencies to evaluate the likely impacts of actions in floodplains. The objectives of the executive order are: (1) to avoid to the extent possible long-term and short-term adverse impacts associated with occupancy, modification, or destruction of floodplains and (2) to avoid indirect support of development and new construction in such areas wherever there is a practicable alternative.

Director's Order (DO) #77-2: Floodplain Management and Procedural Manual (PM) #77-2: Floodplain Management establishes NPS guidelines for compliance with Executive Order 11988. These guidelines allow construction within a 100-year floodplain for recreational facilities such as parking and trails. The guidelines also state that in coastal areas structures can only be placed in the coastal high hazard area when the structures or facilities are for management and legislated use of the affected area. The guidelines go on to state that "their placement and construction shall be at locations least likely to be affected by the actions of coastal storms and flooding." The purpose of this Statement of Findings is to present the rationale for the location of a proposed action (building a new comfort station and lawnmower shed facility, see Proposed Action, below) in the floodplain, the continued use of existing park infrastructure and development within the floodplain, and to document the anticipated effects on floodplain values.

PROPOSED ACTION

The proposed project would repair major storm damage to Virgin Islands National Park's Red Hook facilities on St. Thomas, including damage to the administration building, dock, and grounds. The proposed work includes replacing the roof, windows, doors, and reconfiguring the interior floor plan in the administrative building, as well as repaving of the road and parking area, and construction of a new combined comfort station and maintenance shed to serve park operations and provide improved services to the community and park visitors while accessing the grounds. Additional sidewalks would be constructed to improve access to both the Administration Building and the proposed new comfort station.

Interior work within the building would allow this building to be functional for park daily operations and to serve as an Incident Command Center during emergency operations. The Administration Building is a historic structure eligible for listing in the National Register due to its importance in the development of Virgin Islands National Park, and as a Mission 66 development on the Island of St. Thomas. The influence of the National Park Service's Mission 66 initiative is evident in the distinctive modern design of the buildings on the property. The property retains integrity in the surviving elements of the property including the former park headquarters building, the landscape, and the dock.

In addition to structural repairs to the administrative building, the proposed project includes construction of a new comfort station on the grounds for public use of the community and park visitors. Although the boat dock is not available for public use, the area is heavily used by the community for picnicking and gathering. This building would be designed to replicate the Mission 66 design of the Administration Building and would also have one side of the building designed as a storage area for the mowing/maintenance equipment.

The preferred location for the comfort Station is adjacent to and west of the Administration Building (See Attachment 1. Project Location Map). The existing sanitary system would be replaced with an

Environmental Treatment Unit (ETU) system in the same location as the existing septic tank. This would include replacement of all underground sanitary piping from the Administration Building to the tank since the condition of the pipe is unknown and may be compromised. The new comfort station and the Administration Building would both connect to a single ETU and would be sized to accommodate both facilities. A new domestic water system would be provided to the new facility. This would include a new backflow preventer and water service valve assembly. A new underground water service pipe would be brought to the building from the northeast adjacent property, and the obsolete existing cistern behind the building would be demolished.

FLOODPLAINS WITHIN THE PROJECT AREA

Nearly all the grounds and structures at Red Hook are located within the FEMA 1% Annual Flood Hazard Area (See Attachment 2, Floodplain Map). Additionally, the entire Red Hook site is below the 100-year base flood elevation (BFE) of 9 feet (NAVD88), and much of it is within the coastal high hazard flood area. This facility is therefore subject to frequent inundation and high wave actions such that drainage and flooding problems often result from storms. The dominant source of flooding is wind-driven storm surge in association with hurricanes and other severe storms.

The existing Administration Building facility is located mostly in Flood Zone AE (low-lying regions subject to inundation), although portions of the ground nearest to the dock and shoreline occur in Flood Zone VE (coastal flood zone with velocity hazard due to wave action). The elevation of the grounds surrounding the Administration Building averages approximately 4 to 5 feet above sea level (NAVD88), and the Zone AE BFE at this location is 9 feet above sea level. Given the low elevation of the site, it is likely that the FEMA floodplain limits are incorrect and that additional areas outside of FEMA's defined flood hazard area are within the coastal floodplain. Therefore, additional floodplain areas below 9 feet elevation have been included in this assessment (see Attachment 2).

FLOODPLAIN VALUES

Floodplain values are generally defined in terms of hydrologic functions such as stormwater retention and infiltration capacity, groundwater recharge, and ability to buffer or dissipate energy from surface flows to prevent erosion. However, in contrast to estuarine and riparian floodplains common throughout the Southeast Region, the coastal floodplains at Red Hook serve a more limited function. Except for a narrow band of mangroves along portions of the shoreline, much of the natural shoreline on this portion of St. Thomas is exposed bedrock and shallow mineral soils. The semi-arid conditions occurring on this side of the island due to a rain shadow effect result in relatively little rainfall. Almost all surface water flows into the immediately adjacent bay. The landscaped lawn and grounds surrounding the Administration Building may provide slightly improved stormwater retention capacity as compared to the native landscape, but this would not contribute meaningfully to flooding and wave energy dissipation. Flooding in this area is infrequent and typically associated with storm surge during hurricanes. During these events, flooding is a short-term phenomenon with flood waters flowing back into the bay as soon as storms dissipate. Neither the existing landscaped grounds nor adjacent undeveloped floodplain areas would be expected to provide significant flood retention capacity. The narrow band of mangroves may provide limited protection against storm surge.

NATURAL RESOURCE VALUES

The floodplains of the Red Hook facility support three distinct habitat types within the proposed project boundary, including developed/landscaped areas, mixed upland shrubland, and vegetated shoreline. Plant species within the landscaped areas are typical for Virgin Islands managed landscape, with palms, fruit trees, and ornamental flowering trees and shrubs surrounded by a managed grass lawn. Ornamental trees occurring at the site include Indian almond (*Terminalia catappa*), tamarind (*Tamarindus indica*), false tamarind (*Lysiloma latisiliquum*), flamboyant tree (*Delonix regia*), coconut palm (*Cocos nucifera*), and pink trumpet tree (*Tabebuia rosea*). In addition to these large trees, numerous small papaya trees (*Carica papaya*) occur throughout the facility grounds. The mixed shrubland is dominated by unassociated woody growth comprised of adventive shrub and vine species typical of disturbed or unmaintained urban areas on the island. The vegetated shoreline includes native coastal shrub species sea grape (*Coccoloba uvifera*), beach maho (*Thespesia populnea*), red mangrove (*Rhizophora mangle*), and white mangrove (*Laguncularia racemosa*), which are indicative of a naturally occurring marine shoreline plant community.

The floodplain areas within the project site provide limited natural resource value as patchy natural habitat areas interspersed among a developed landscape. Green iguanas (*Iguana iguana*) and crested anoles (*Anolis cristatellus*) are abundant throughout the site, and the green-throated carib hummingbird (*Eulampis holosericeus*) is readily observed foraging among the flowering tree blossoms. The greatest habitat value can be found along the vegetated mangrove shoreline. Mangrove shrub stands along the Red Hook shoreline typically support a diverse community of sponges, ascidians, algae, corals, and crabs. They provide habitat for juvenile reef and pelagic fish, as well as lobsters. The roots also trap sediment and associated pollutants to improve offshore water quality. These mangrove trees often provide roosts, nesting habitat, and feeding areas for many bird species.

JUSTIFICATION FOR CONTINUED USE OF THE FLOODPLAIN

PRESERVATION OF HISTORIC RESOURCES

The buildings at the Red Hook Visitor Reception and Sub-maintenance Facility, constructed in 1960, were examples of the Mission 66 design philosophy to bring modern architecture to the national parks. The Red Hook facility is eligible for listing in the National Register of Historic Places for its importance in the development of the Virgin Islands National Park—first as the Mission 66 development on St. Thomas designed to welcome visitors to the newly created Virgin Islands National Park and then as the park headquarters, which moved to this location in 1970, where it served this function until the new headquarters building was constructed on St. John in 2000. The surviving historic resources include the concrete block former park headquarters building, landscape features, and the dock structure, which all date from the period of significance of 1959 to 1970.

The Administration Building has suffered damage due to multiple hurricanes, most recently by the wind, storm surge, and wind-borne debris during Hurricanes Irma and Maria in 2017. This project would repair and renovate the Administration Building located at Red Hook and would also minimize impacts to the building's historic character. The proposed repairs would also provide necessary code compliant fire protection and required compliance with Architectural Barriers Act Accessibility Standards (ABAAS) and would increase resiliency to future storms and flooding. Included in this work is replacing the roof, windows, doors, and interior finishes.

PUBLIC INTEREST AS A RECREATIONAL FACILITY

In addition to the structural repairs, a new combined comfort station and equipment shed would also be constructed. The exterior and the roof of this new structure would be designed to match the existing characteristics of the administrative building. A comfort station is required at this site to restore the amenities and recreational value of the site lost when the Administration Building was closed. The equipment shed is needed to meet the future landscape maintenance and operational needs of the site's historic landscape and grounds.

The Red Hook facility grounds have previously been popular with the local communities for passive recreation, including exercising, birdwatching, and taking family walks, as well as for organized activities, such as school band practices, church picnics, track and field events, and emergency services. Individuals, families, and organizations frequently used the landscaped areas around the Administration Building as a community park. The site closed following Hurricanes Irma and Maria in September 2017 and re-opened for limited public use in January 2021. The National Park Service is working to engage local communities to consider new, more sustainable ways to provide visitor services and protect heritage resources, and the proposed comfort station facility would be an integral component of attracting the community to Red Hook.

EMERGENCY RESPONSE AND OPERATIONAL FLEXIBILITY

The Administration Building was used after the hurricanes in 2017 as an emergency response deployment location to get help to St. John, and NPS employees located on St. Thomas used the Red Hook facilities while they were without electricity and/or water. Since that time, the Administration Building has not been used and is currently in poor condition. The dock at Red Hook is routinely used by park law enforcement, and the continued availability of the site as an alternative base of operations is a key component to law enforcement, emergency response, and continuity of operations plans. Once repaired and fully operational, the Administration Building would serve as a secondary or alternative incident command center in situations where the park headquarters building in St. John is otherwise unavailable.

In addition to the increased operational flexibility that the Red Hook Administration Building would provide, during normal non-emergency operations, this facility would provide additional administrative office space for the park. Virgin Islands National Park is currently operating over-capacity with more staff than offices to accommodate them, and some staff have been displaced to ad-hoc desk locations in maintenance facilities and other park buildings. Additionally, many park staff live on St. Thomas, and must commute to St. John by ferry regularly. Providing additional office and meeting space at Red Hook would greatly ease the demand for limited office space at headquarters while allowing additional commute flexibility for park staff based on St. Thomas.

SPECIFIC FLOOD RISKS

In recent years, severe tropical storms and hurricanes have required the evacuation of personnel and closure of park facilities. Storm damage from extreme wind speeds commonly includes broken doors and windows, damage to or complete loss of roofing, and structural damage associated with impacts from wind-borne debris. Additionally, there are increased risks of flooding and storm surge for facilities in the coastal high hazard floodplain adjacent to coastal waters. During past hurricane events, flood-related damage to facilities included utility outages, potable water contamination requiring a boil water advisory, structural

undermining of building foundations, and mildew and mold damage from residual moisture. During storms, roadways and utility systems may become inundated with surface water. Roadways may be closed to prevent vehicle damage to asphalt surfaces and safety impacts to the public. In addition to immediate flooding risks to facilities, flooding can result in risk to public and park staff safety if evacuation routes are impassable.

MITIGATION

PUBLIC AND STAFF SAFETY

Flood risks to the safety of the visiting public and NPS staff are relatively low at Red Hook, as there are no residences or permanently inhabited structures on site. Hurricanes or other severe storms that lead to high water events, and the scope and duration of these events, are well known by park staff. Ample notice of severe weather is provided by the National Weather Service and other agencies, making warning and evacuation a practical option for protection of human life. The Virgin Islands Territorial Emergency Management Agency publishes and periodically recertifies a Virgin Islands Territorial Emergency Operations Plan which provides the foundation for territorial emergency response and recovery operations, including emergency evacuation of Red Hook. This plan includes early warning procedures and evacuation procedures, pro-active storm protection measures for public infrastructure, and emergency response and recovery procedures for post-event operations.

In addition to this territory-wide emergency planning system, VIIS maintains an active Severe Weather Emergency Action Plan. The plan details responsibilities of individual park employees for advanced preparedness measures at the onset of the hurricane season and covers safety procedures and responsibilities during and after an event. The Emergency Action Plan has proven effective in maintaining safety and reducing property damage during storms and is reviewed and updated regularly (last revision was 2021).

DAMAGE TO NPS PROPERTY

To mitigate against flooding damage to NPS Property, repairs to the Administration Building will include storm-resilient materials and construction methods to minimize damage from future storms. Similarly, the proposed new comfort station would also be designed with future storm resilience in mind. Although placement options were limited, the proposed new structure would be built on the highest possible elevation while still meeting septic connection requirements. There are no viable locations where this facility would be outside of the floodplain, and the building cannot be elevated above the floodplain while meeting accessibility requirements, so some degree of flood risk is unavoidable. To further mitigate severe storm risks, vegetation management at Red Hook will focus on preventing vegetation from impacting structures and becoming a safety hazard. Specifically this would include maintaining landscaping, and targeted pruning to ensure nearby trees do not present a threat during high winds.

LOSS OF NATURAL RESOURCE VALUES

The proposed construction of a new comfort station and associated sidewalks would necessarily result in a loss of approximately 2,750 square feet (0.06 acre) of vegetated land to be replaced with impermeable hardscape, including buildings and sidewalks. The proposed action would address the park's operational needs while preserving historic resources and improving public access and recreational opportunities. The

proposed location for this facility is currently maintained lawn. Because of the site's location adjacent to the ocean and the relatively poor stormwater retention of the surrounding landscape, this loss would have no measurable adverse effect to flooding and floodplain values. Therefore no mitigation is proposed for this negligible loss of natural resource values.

SUMMARY

The National Park Service has determined that implementing the proposed action would not result in any additional disruption of floodplains. Risk to life, property, and natural resources from storms and high water can be mitigated. The proposed repairs to the historic Administration Building would provide additional park office capacity and would allow expanded flexibility during emergency and law enforcement operations. Construction of a new combined comfort station and maintenance building would improve visitor experience and would facilitate long term facility operations. All structural improvements would be designed for resilience against future storm events. Avoidance of floodplains is not possible due to the location of the historic Administration Building in the coastal floodplain. Necessary adverse floodplain impacts have been reduced to the greatest practicable extent while meeting the design requirements and operation needs of the site. With the proposed mitigations applied, the National Park Service finds that the proposed action would not have any additional adverse impacts on floodplains and their associated values.

REFERENCES

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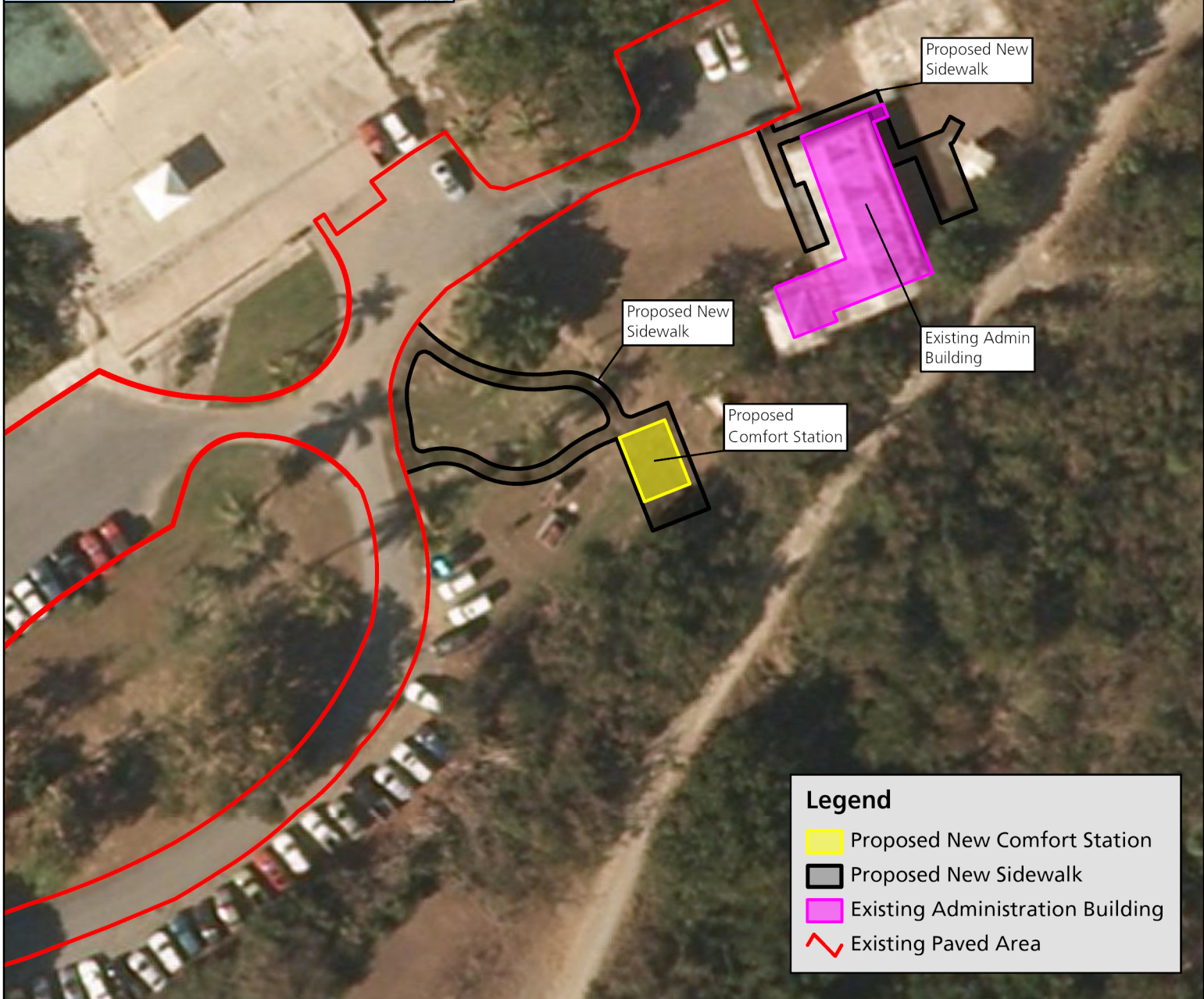
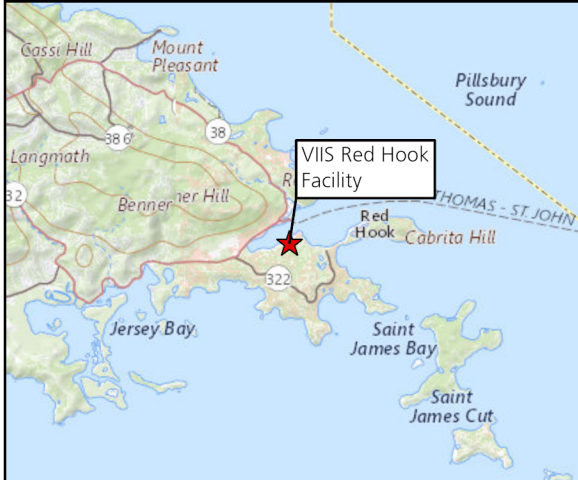
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ATTACHMENTS

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|---------------|----------------------|
| Attachment 1. | Project Location Map |
| Attachment 2. | Floodplain Map |

**VIIS 244626 Repairs to Administration Building,
Dock and Grounds at Red Hook Area (MARIA)**
Project Location Map

Virgin Islands National Park
National Park Service
U.S. Department of the Interior

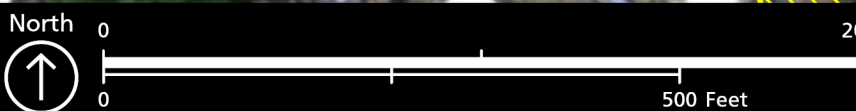
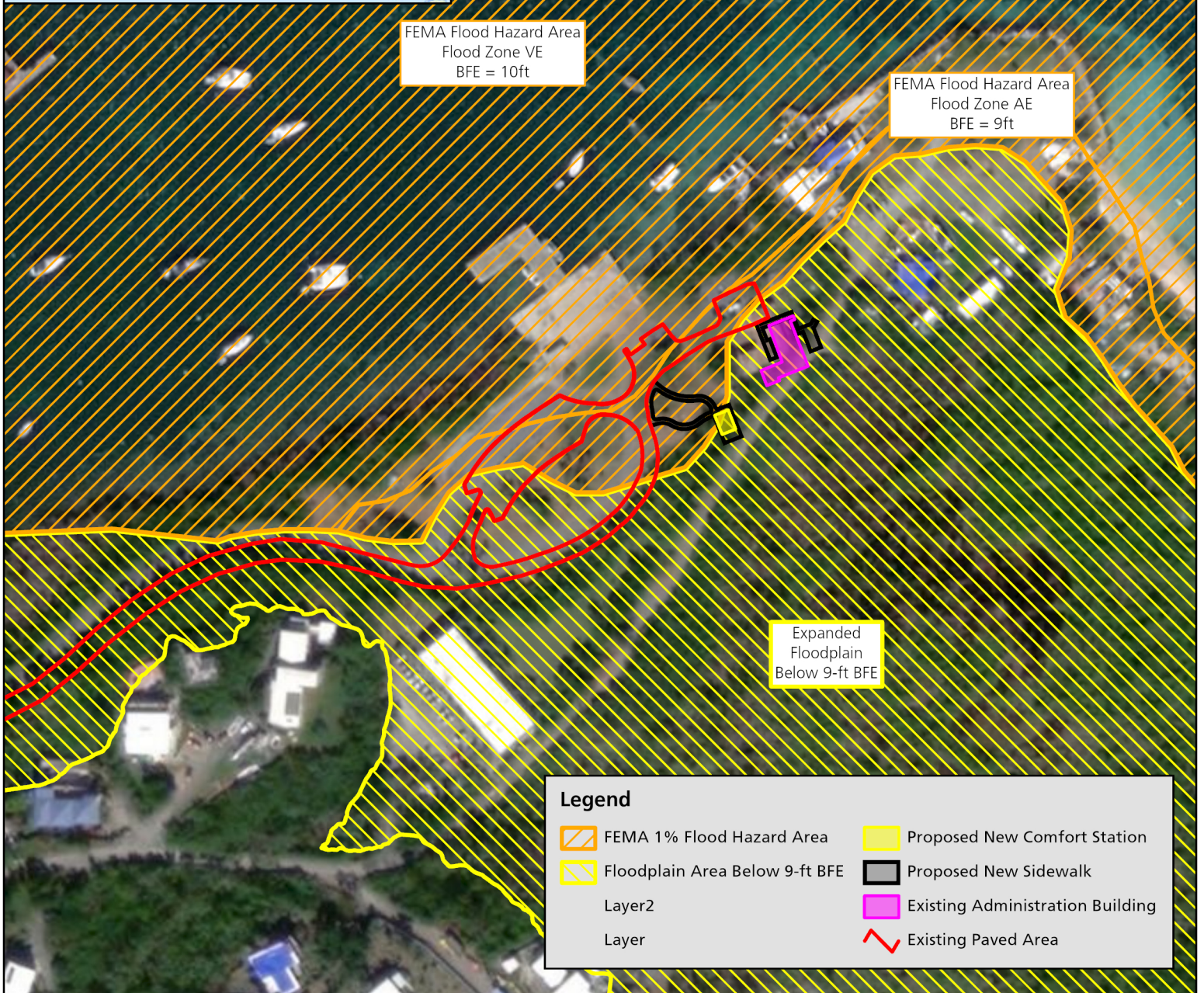


April 2022

Data Sources: ESRI Imagery, USGS National Map, NPS Park Data
Produced by NPS Interior Region 2 Hurricane Recovery Program

VIIS 244626 Repairs to Administration Building, Dock and Grounds at Red Hook Area (MARIA) Floodplain Map

Virgin Islands National Park
National Park Service
U.S. Department of the Interior



April 2022

Data Sources: ESRI Imagery, USGS National Map, NPS Park Data
Produced by NPS Interior Region 2 Hurricane Recovery Program