

***Virgin Islands Multi-Park
Museum Collection Management Facility
CHRI PMIS# 119182***



Held at Christiansted National Historic Site
July 31 - August 4, 2006
St. Croix, Virgin Islands

Value Analysis Study # 2006 - 14
Final Report, April 24, 2007

Denver Service Center
National Park Service

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FOREWORD

This Value Analysis Report presents the recommendations of the Value Analysis Study for the Value Analysis Study for *Christiansted NHS, Buck Island Reef NM, and Salt River Bay NHP & EP*, *Virgin Islands Multi-Park Museum Storage Facility*, CHRI PMIS# 119182.

This is to certify that the Value Analysis Study was led by the undersigned National Park Service Value Analysis Technical Expert and was conducted in accordance with National Park Service value analysis principles and guidelines.

Patricia J. Sacks
Value Study Facilitator

VALUE STUDY

BACKGROUND



Christiansted National Historic Site (CHRI) was established in 1952 through the initiative of concerned local citizens. The park's mandate is twofold - to preserve the historic structure and grounds within its boundaries, and to interpret the Danish economy and way of life here between 1733 and 1917. The park consists of seven acres centered on the Christiansted waterfront/wharf area. On the grounds are five historic structures: Fort Christiansvaern (1738), the Danish West India & Guinea Company Warehouse (1749), the Steeple Building (1753), Danish Custom House (1844), and the Scale House (1856). The National Park Service uses these resources to interpret the drama and diversity of the human experience at Christiansted during Danish sovereignty – colonial administration, the military and naval establishment, international trade (including the slave trade), religious diversity, architecture, trades, and crime and punishment.



Buck island Reef



Buck Island Reef National Monument (BUIS) was established by Presidential proclamation in 1961, and expanded in 2001, in order to preserve "one of the finest marine gardens in the Caribbean Sea." The park is now one of only a few fully marine protected areas in the National Park System. The 176-acre island and surrounding coral reef ecosystem support a large variety of native flora and fauna, including several endangered and threatened species such as hawksbill turtles and brown pelicans. The elkhorn coral barrier reef that surrounds two-thirds of the island has extraordinary coral

formations, deep grottoes, abundant reef fishes, sea fans and gorgonians. Although mainly known for its coral reef and nesting sites for turtles and birds, Buck Island has a rich cultural history as well.



Salt River Bay

Salt River Bay National Historical Park and Ecological Preserve (SARI) was created in 1992 as part of the National Park System. The National Park Service and the Government of the United States Virgin Islands jointly manage this 1,015-acre park. The area's blend of sea and land holds some of the largest remaining mangrove forests in the Virgin Islands, as well as coral reefs and a submarine canyon. Salt River Bay's natural history, its vitally important ecosystem of mangroves, estuary, coral reefs, and submarine canyon, has witnessed thousands of years of human endeavor. Every major period of human habitation in the Virgin Islands is represented: several South American Indian cultures, the 1493 encounter with Columbus, Spanish extermination of the Caribs, attempts at colonization by a succession of European nations, and enslaved West Africans and their descendants. More than a dozen major archeological investigations since 1880, together with historical research, reveal this remarkable story.



Storage Rooms for Oversized Architectural Objects



Current Storage Conditions

Collection storage for CHRI/BUIS/SARI is currently located in an historic structure under substandard conditions. The majority of collection is inaccessible for research, education, and management purposes because collection is not fully processed and cataloged. Both the 2004 Park Collection Management Plan and the 2006 SER Museum Collection Curatorial Facility Plan recognized the need to improve collection storage conditions and access to the collections. To address these needs NPS funded and conducted this Value Analysis for a museum collection facility. A three-day Museum Facility Value Analysis Study was conducted on August 1-3, 2006 to assess requirements and location for a permanent museum collections facility that meets standards for park collections and possibly other partner museum collections. An interdisciplinary VA study team included professionals and partners from NPS, Denver Service Center, US Fish & Wildlife Service, Government of the Virgin Islands, Department of Planning and Natural Resources/ State Historic Preservation Office, Department of Education, University of Virgin Islands, St. Croix Foundation, St. Croix Landmark's Society, and the St. Croix Archeological Society. The VA team analyzed the risks and advantages unique to operating and locating such a facility in a tropical island environment for several locations to determine where best to site the facility. Using the VA methodology the team performed a functional analysis for the project and discussed special criteria for building on islands and how to meet DOI and NPS museum facility requirements for the project. Five alternative locations were evaluated using Choosing by Advantages methodology, including new construction on NPS property, purchasing a historic property, and a leasing option. Three locations were selected through the CBA process as the highest value in absence of cost – 1) Privately owned historic property adjacent to CNHS, (2) Salt River Bay Visitor Contact Station (VCS) grounds, and (3) the proposed Salt River Marine Research Education Center (MREC).

PMIS Summary Description of Original Project

There are two PMIS statements relating to this project. PMIS 119182 covers funding to perform the VA Study and PMIS 96145 covers funding for the Museum Curatorial storage planning, design and construction.

Virgin Islands Multi-park Museum Collection Storage Facility Study – PMIS#119182

Description: Conduct a study to assess location and design requirements for a permanent museum collections management facility to house collections from Christiansted NHS (CHRI), Buck Island Reef NM (BUIS), Salt River Bay NHP & EP (SARI), and Virgin Islands NP (VIIS) and Virgin Islands Coral Reef NM (VICR). Study will determine the best location for a permanent museum facility for park collections also providing museum exhibit/public access space. CHRI has several possible locations to be explored including existing park property in the center of the island, private property adjacent to Christiansted NHS, and SARI new visitor center located at Salt River Bay. This building will provide the park units with a storage building that meets all the NPS Museum Standards for storage of its irreplaceable pre-historic and natural history archives and collections materials and provide research and public exhibit area. CHRI CMP in 2003 determined that park space estimates for operational and storage space for the facility (including an estimated 25 year growth) suggest the facility needs to be 4000-5000 square foot. This building must withstand hurricane conditions, provide constant environmental control, and must meet NARA standards for archive storage. It will have a state of the art fire suppression (water tank reservoir) and security system; provide public and ADA access to view the collection through exhibits and public programs to educate the visiting public. It will offer research space for visiting researchers and students, office

space for park curatorial and museum staff, storage space for curatorial supplies. And above all it will have electrical system with automatic electric generator backup to maintain the environmental control of the collections even during extended power outages. This study will determine where to site the facility and provide critical information for its design and construction elements.

PMIS 96145 Construct Multi-Park Museum Collection Management Facility \$1,090,000

Description: Museum collections are managed, not warehoused. This project will design and construct a permanent museum management facility to house collections from Christiansted NHS, Buck Island Reef NM, and Salt River Bay NHP & EP. The proposed facility for three St. Croix parks was to be located on existing park property at Sion Ridge located in the center of the island of St. Croix, Virgin Islands. The facility will be staffed by Museum Specialist/Curator position. This building will provide the park units with a storage building that meets all the NPS Museum Standards for storage of its irreplaceable pre-historic and natural history archives and collections materials. Currently the park cannot meet GPRA (Govt Performance Results Act) Goal Ia6 automated museum checklist program for preservation and protection standards for park museum collections. This requires moving collections out of sub standard historic building to a facility that meets NPS Standards for museum collections storage. CHRI CMP in 2004 determined that park space estimates for operational and storage space for the facility (including an estimated 25 year growth) suggests the facility needs to be 4000-5000 square feet. This building will be hurricane proof, environmentally controlled, and be concrete block walls and steel construction and must meet NRA standards for archive storage. It will have a state of the art fire suppression (water tank reservoir) and security system, provide public and ADA access to view the collection through exhibits and public programs to educate the visiting public about the park collections and how they help meet the park's program goals. It will offer research space for visiting researchers and students, office space for park curatorial and museum staff, storage space for curatorial supplies. And above all it will have an excellent electrical system with automatic electric generator backup to maintain the environmental control of the collections even during extended power outages. This is a multi-year project, consisting of value analysis, design and construction elements. Prior to construction, designs and architectural drawings will be finalized and Section 106 compliance for the new facility completed.

VALUE ANALYSIS STUDY OBJECTIVES

The purpose of this Value Analysis Study (VA) is to initiate the project planning and site design. Prior to the VA, Park and regional office staff met to determine museum curatorial storage needs for Virgin Island parks. A facility model was run to determine initial space programming and square footage requirements for the facility. The VA study builds off this initial work by way of conducting initial site planning for the project.

Study Objectives

1. Discuss merits of on-island versus off-island curatorial storage, make recommendation based on understanding, acceptance and support of the VA study team
2. Develop a range of alternative site locations for the curatorial storage facility
3. Complete risk analysis for alternative sites under consideration
4. Capital cost and life cycle cost evaluation. Discuss building considerations on St. Croix Island Refine square foot building costs

5. Develop and refine CBA evaluation criteria
6. Evaluate a range of alternatives and recommend a preferred alternative using CBA methodology
7. Identify and document alternatives considered but dismissed for purposes of completing the Environmental Assessment.

SPECIAL CRITERIA

Planning Criteria:

- NPS Management Policies
- NPS WASO Standards for Curatorial Storage
- Southeast Regional office (SERO) Plans
 - 2006 SER Museum Collection Storage Facility Plan
 - Initial recommendation for consolidation of curatorial storage of the 3 parks on St. Croix (CHRI, BUIS, and SARI) with 2 parks on St. John (VIIS and VICR)
- Park Plans (List)
 - CHRI General Management Plan (GMP) 1983, Does not specifically address curatorial storage needs
 - Collection Management Plans (BUIS/CHRI/SARI), August 2004, Allen Bohnert, lead preparer
 - New Long Range Interpretive Development Plan stresses greater integration between use of collections and interpretation & education
 - Buck Island has no visitor center or visitor contact facility, (but does have associated need for storage of natural history and cultural resource (NH + CR) specimens/collections) A GMP is in progress for this park.
 - VIIS and VICR have separate GMPs
- Draft Feasibility Study for a Proposed Marine Research and Education Center, Salt River Bay National Historical Park and Ecological Preserve, St. Croix, Virgin Islands, by NPS (list consultant preparer)

Special Considerations for NH and CR collections currently housed off site

The following collections are currently housed off site because there is no “in house” park storage facility for them. (Park currently has no place to store wet specimens – which need to be stored in isolation, due to cross contamination concerns):

- Current Status BUIS NH collections: currently located at Univ. Florida for fishes (20,000 objects), Fairchild Tropical Gardens, Florida (flora), Montana State Univ. (beetles); Oberlin College, Ohio (coral reef cores), National Marine Fisheries Service, CA (sea turtle genetic issue bank),
- There is an initiative in Virgin Islands to repatriate Virgin Islands archival collections stored in other countries.
- The Danish National Archives and the Danish Museum currently hold the Salt River Bay NH + CR collection. Neither VI Territorial government nor NPS has funded an effort to retrieve and store these artifacts on St. Croix.
- The Gudmond Hatt Collection, stored at the Danish National Museum's Brede Collections Facility, is massive. Well over 12,000 objects. In 2002 and 2004, the collection was being completely inventoried for the first time; there were multiple wooden crates of artifacts that had not been unwrapped (some since

1924, others since the 1950s). And, the museum will never turn over the collection unless there's a finished facility ready for them. That being said, they are willing to return them, and NPS is in a better position to obtain and house the collection than the VI government. See comment below. The question is – does NPS get only Salt River and/or St. Croix materials, or go ahead and get the entire Virgin Islands collection (Magens Bay, Krum Bay, and others). I think at the very least, all the St. Croix materials should be returned. It's not that much more than Salt River.

- The VI Government-Department of Planning and Natural Resources has archaeological collections on St. Croix that are stored in deplorable conditions. They're in a warehouse that is the "junk" storage facility that's more like a graveyard, with no climate control, furniture and other things are thrown on top of boxes of artifacts, which are crushed, bags penetrated, etc. and includes damage from termites and other critters. Through an MOA or some cooperative agreement these objects could be housed at the proposed NPS facility, as long as DPNR helps pay for their cleaning, rehousing, analysis (none have been analyzed adequately), cataloging, etc. This would go a long way in building/maintaining the relations between VI Government and the NPS (and feds in general).
- Locations of other collections. If it's only NPS accessioned collections, since the creation of the park, then they include those here at SEAC (a couple of projects from each park unit). Some of these older projects (1980s) were never finished, and are only now being inventoried and analyzed. I don't know of anyone else that's done archaeological work at the parks since their creation. If we're talking about all objects (no NPS accession, collected/excavated prior to the park's creation), then the collections are housed at: the Smithsonian Museum of Natural History, the National Museum of the American Indian, Yale University Peabody Museum, and the small Bullen Collection at University of Florida (which they've given to SEAC on loan, currently stored at SEAC). These collections are mostly from Salt River, but some are from other sites. The Yale Collection is part of a large Caribbean collection that is renowned and constantly being used. The others are parts of smaller Caribbean collections, and I don't think many people look at them (at the St. Croix portions). The Bullen Collection only has site location for provenience, and is useful as a basic study collection. No one at Gainesville uses it, and they may give it to the NPS.

The following data identifies the museum collection holdings at SEAC from CHRI, BUIS, and SARI:

Park	Archeology	Archives Total
CHRI	11,332	3,619 14,951
BUIS	652	1,132 1,784
SARI	5,590	346 5,936

For the purposes of planning space, linear feet of archives are more useful. SEAC holds about 4 linear feet of archives (project documentation) for the three parks combined. Additionally, the Andersen drawings collection is housed in 16 boxes of the following size: 21" x 17" x 3". These boxes were specially prepared for housing these drawings and are

designed for long term storage and preservation. (Source Richard Vernon, Supervisory Museum Specialist, National Park Service, Southeast Archeological Center)

Regulatory and Environmental Considerations:

- Coastal Zone Management Act requires NEPA environmental compliance and places restrictions on development.
 - International Building Code (IBC) requirements for “critical facility:” St Croix island is Zone 5 seismic would apply to this curatorial storage facility. “Hurricane” and “Seismic F” design criteria for 145-200 mph winds apply.
 - NEPA
 - Section 106 NHPA
- Previous Decisions and Rationale: SERO curatorial storage planning recommendation to consider consolidating collection facilities from parks on St. Croix and St. John on one island. This recommendation was re-examined as part of this Value Study. There are no documented management decisions for locating curatorial storage on St. Croix. This VA Study initiates the effort.

PHASE I - INFORMATION

A range of material was available to the value study team including:

- Studies identified under Planning Criteria (above)
- Information generated from site visits/site analysis during the VA Study session
- Information on risks associated with hurricanes/wind, storm surge, flood risk, slope stability, and earthquakes/tsunamis (gathered from phone interviews with Dr. Dennis Hubbard, Oberlin College, Research Scientist, former Fairleigh Dickenson University West Indies Laboratory.)



VICINITY MAP
ST.CROIX, VIRGIN ISLANDS

Stakeholder Analysis

The VA Study team identified 14 categories of stakeholders. These are primarily persons, agencies and organizations with an active interest in the outcome of decisions relating to development of an on-island curatorial storage facility for CHRI/BUIS/SARI.

#	Stakeholders	Primary Interest
1	<i>Visitors:</i> <i>CHRI: 109, 300 2002-2004 Avg. recreational visits</i> <i>BUIS: 43,450 2002-2004 Avg recreational visits</i> <i>SARI: Not available</i> <ul style="list-style-type: none"> • <i>Day Users (Locals)</i> • <i>Educational Groups</i> • <i>Repeat visitors</i> 	<ul style="list-style-type: none"> • <i>Visitor experience and quality</i> • <i>Protection of resources</i> • <i>Access to resources</i> • <i>Local economy</i>
2	<i>Business Owners</i>	<i>Economic development</i>
3	<i>Local Chamber of Commerce</i> <i>Department of Tourism</i>	<i>Tourism</i> <i>Improved economy</i>
4	<i>Partnering Universities</i> <i>Local Universities</i>	<ul style="list-style-type: none"> • <i>Educational Opportunities</i> • <i>Access to Collections</i> • <i>Dedicated space for education and research</i>
5	<i>Local citizens</i>	<ul style="list-style-type: none"> • <i>Improved facilities</i> • <i>Access to Heritage</i>
6	<i>Saint Croix Foundation (501c3 Non Profit) - provides seed monies and conduit to granting organizations</i>	<ul style="list-style-type: none"> • <i>Historic Preservation for Christiansted and entire island</i> • <i>Interested in improving heritage component of town</i> • <i>Good financial grants</i>
7	<ul style="list-style-type: none"> • <i>Archeological Society</i> • <i>Researchers</i> • <i>Society of Virgin Islands Historians</i> • <i>Friends of Denmark</i> • <i>Saint Croix Landmarks Society</i> • <i>Virgin Islands Cultural Heritage Institute</i> • <i>Chant Caribbean Heritage</i> • <i>Saint Croix Library Association</i> • <i>University of Virgin Islands</i> 	<ul style="list-style-type: none"> • <i>Access to collections</i> • <i>Protection of Resources</i> • <i>Conservation</i> • <i>Interpretation and education</i>
8	<ul style="list-style-type: none"> • <i>Environmental Groups</i> • <i>St. Croix Environmental Assoc.</i> 	<ul style="list-style-type: none"> • <i>Natural and Cultural Resource Protection and Advocacy</i>
9	<ul style="list-style-type: none"> • <i>VI State Historic Preservation Office</i> 	<ul style="list-style-type: none"> • <i>Museum Collections</i> • <i>Archives (Public Libraries)</i> • <i>Partnership opportunities</i> • <i>Sharing resources</i>
10	<ul style="list-style-type: none"> • <i>Territory Government</i> • <i>Division of Fish & Wildlife</i> • <i>Department of Planning and Natural Resources</i> 	<i>Fiscal responsibility, improved facilities, community relations, maintaining collections on site</i> <ul style="list-style-type: none"> • <i>Protection of Resources, resource management</i> • <i>Regional Economy</i>

#	Stakeholders	Primary Interest
		<ul style="list-style-type: none"> • <i>Local Economy</i> • <i>Protection of Resources - Water Quality</i>
11	<ul style="list-style-type: none"> • <i>Office of Insular Affairs, DOI</i> 	<ul style="list-style-type: none"> • <i>Education of Territorial Students</i> • <i>Salt River Bay NHP & EP, co- managed park</i> • <i>Contributed \$50K for training made possible by a cooperative agreement between OIA and NPS</i>
12	<ul style="list-style-type: none"> • <i>Department of the Interior</i> • <i>US Fish & Wildlife Service</i> • <i>National Park Service</i> • <i>Service wide</i> • <i>Park</i> • <i>Superintendent</i> • <i>Resource Management</i> • <i>Interpretation</i> • <i>Facility Management</i> • <i>Operations</i> • <i>SERO Support Office</i> • <i>Denver Service Center</i> 	<ul style="list-style-type: none"> • <i>Protection of Resources (Natural and Cultural)</i> • <i>Visitor Experience</i> • <i>Public accommodation</i> • <i>Park Operations, operational efficiency</i> • <i>Local Economy</i> • <i>Project Cost</i> • <i>Visitor and employee safety</i> • <i>Accessibility</i> • <i>Sustainability, project quality/image</i> • <i>Partnerships</i>
13	<ul style="list-style-type: none"> • <i>NGO's (Non Government Organizations)</i> • <i>EDC – Economic Development Corporation</i> • <i>HOVENSA – Oil Refinery</i> • <i>Cruzan Rum Company</i> • <i>Salt River Task Force</i> 	<ul style="list-style-type: none"> • <i>Mandated to put money back into communities</i> • <i>Hovenssa/Cruzan Rum (Potential partners/donors to the park, sponsor cultural programs)</i>
14	<ul style="list-style-type: none"> • <i>Virgin Island Legislature Reps</i> 	<ul style="list-style-type: none"> • <i>Preservation/Conservation Education and Branding</i>

PHASE II - FUNCTIONAL ANALYSIS

The study team reviewed a functional analysis of the proposed alternatives identifying the key functional objectives and elements. The information, presented in a Functional Analysis System Technique diagram (FAST) portrays a functional description of this project and reflects the VA Study team's initial effort. The diagram presents how and why a function exists. Using the functional analysis the study team validated the general project purposes. (The FAST Diagram is included in the Appendices of this document.)

The functional analysis discussion during the VA Study highlighted key reasons for completing this project as:

- Protect Collections
- Preserve Collections
- Store Collections
- Document Collections
- Protect Other Park Resources
- Control Hazardous Materials (Relates to construction of isolation room to avoid contamination of stored materials)
- Encourage General Access
- Develop Interpretive Programs (Develop Exhibits with stored materials)
- Ease Staff Access
- Improve Staff Efficiency
- Improve Sustainability
- Improve Emergency Procedures
- Increase Partnership Opportunities (with Universities and other agencies/organizations interested in preserving island collections)
- Link Collections to Site "Power of Context"
- Improve External Awareness
- Implement Value Analysis & Related Studies

PHASE III - CREATIVITY

Participant Discussion

National Park Service (NPS) Museum Collection Repositories in the Virgin Islands Repository Location Discussion Summary

The overwhelming consensus among the interdisciplinary team assembled for the VA was to have separate repositories for the museum collections related to the St. John Island affiliated NPS units and to St. Croix Island affiliated NPS units.

Discussion covering the following points supported two rather than a single repository.

A. Virgin Islands National Park (VIIS), along with Virgin Islands Coral Reef National Monument (VICR), have active natural history research programs. VIIS is designated a Man and the Biosphere Reserve; this recognition is accompanied by international scientific research interests. Additionally, VIIS has an active cultural history research program. Museum collections (archives, artifacts, and certain specimens) are needed locally on a regular basis to support the current and future research efforts and cultural heritage activities.

Similarly, Christiansted National Historic Site (CHRI), Buck Island Reef National Monument (BUIS) and Salt River Bay National Historical Park and Ecological Preserve (SARI) have active natural history and/or cultural history research programs. Museum collections (archives, artifacts, and certain specimens) are needed locally at St. Croix on a regular basis to support the current and future research efforts for natural history and cultural heritage activities. VA participants felt that museum collections should not simply

be locked up and 'warehoused'. They must be accessible; the dispersal of museum collections was not in the best interest of the respective islands or the NPS.

B. The Virgin Islands (VI) government locates museum collections on the respective islands to which they directly relate. The materials related to St. Thomas are on St. Thomas and the materials related to St. Croix are on St. Croix, for example. The VA participants were of the opinion the NPS approach should be consistent with the VI government's approach to locating territorial collections.

C. VIIS has a very supportive local friends group. The group actively supports the VIIS museum management program by funding several interns and seasonal each year. The friends group is in the process of raising money to support a museum facility for the park. The VA team members felt that moving the VIIS museum collections to St. Croix would, seriously jeopardize the future of this local support.

D. The majority of the land on St. John is managed by the federal government and local sentiment continues to question the manner in which lands were obtained by the government. Removing the island's cultural patrimony to another island would be viewed St. John residents as more 'government taking'.

E. Each of the Virgin Islands has unique cultural heritage. Each island's residents wish to maintain their cultural heritage distinct from the other islands. The interdisciplinary team assembled for the VA was unanimous in acknowledging the critical importance of island-specific heritage. [Note: Island-specific heritage is also a strong principle in the Hawaiian Islands.]

F. Both the St. John and the St. Croix parks have been improving their museum collection management programs, particularly in the areas of accountability, data management, research, conservation treatment, pest management, and storage.

G. The 2 facility approach recommended by the VA is consistent with recommendations in the Southeast Region's 2006 approved Curatorial Facilities Plan. The regional plan includes an option of locating NPS curatorial storage facilities on St. John and on St. Croix.

Participant Discussion (construction costs, program requirements, and partnership potential)

Alternative Site Construction Costs

The task for the VA Study team was to focus on recommending an alternative that is the best solution for location of the Museum Collection Management Facility (MCMF). Additional cost modeling will be necessary when the design phase for the preferred alternative progresses. The VA Study team developed the following costs and used them in the Choosing by Advantages (CBA) Evaluation and Importance to Cost Graphing exercises.

1. Projected Construction Costs for Sites Under Consideration (Based on input from VA Study participant experienced in Construction Management)

Captain Weeks site in Christiansted

For new construction, a 3 story building in Christiansted run \$300-\$400 per square foot for building only.

The MCMF would be categorized as a “critical structure” under the International Building Code (IBC).

Ruins would be preserved to tell the story, but not be used as structural components of the new building

No staging area is available. The parking area across the street is available and would have to serve this purpose.

Added costs to the base building cost include:

- Architectural surveys
- Site work
- Equipment and Furnishings
- Standby generator
- Fire suppression
- Elevator (\$200 K for hydraulic cabling system)
- Cistern Cost (Size varies according to building program)

Cost implications for other sites

A single story structure (10% less than building up or building could be terraced to fit the slope, such as a Salt River Bay VCS.

- For marine sites, epoxy coated re-bar required, encapsulate 3 inches. Need to exceed ACI Code for marine construction, use bronze or stainless steel hardware.
- Air conditioning must be manufactured for corrosive environment.
- Recommendation to include extensive independent testing and on site inspection for quality control.

2. Rehabilitation Costs

A comparable rehabilitation cost is \$600 per square foot alone for the building. Masonry wall systems are very expensive to rehabilitate. Generators would cost extra.

3. Requirements for Building and Site Program

The Facility Model was run for the MCMF. The model generated a building program of 3000 square feet. This does not include the following:

- a cistern,
- space for natural resource collections (wet specimen storage). These are typically archived for the long term and include natural science specimens currently housed off island. Though the park may not be able to maintain wet specimens, the proposed site should have the flexibility to accommodate wet specimens.

- Visual and Electronic/Digital Data: media vault for video, slides, and GIS data could effectively quadruple the space needs for this facility (1000-1500 SF additional SF required that wasn't initially considered in the Facility Model.)
- archives (documents)
- 3-dimensional curatorial architectural object and elements
- Museum research space (separated from storage in environmentally controlled area.)
- Space for marine research (laboratories) and Visitor Center function is covered under other programmed facilities associated with the MREC. There is currently no conservation lab in the VI, and one would be used, with all the underwater archaeological work that goes on in both the U.S. VI and BVI.

Based on above considerations 4500 Square feet was used as an estimate for the MCMF to be co-located at SARI MREC.

NPS would want to install exhibits in any museum collection management facility constructed, but depending on location space requirements would vary.

The Sion Farm site would not have an interpretive function

Salt River Bay VCS already has a natural and culturally focused VCS component

A source of water will be a requirement for this facility, whether cistern, well water, or portable water. Estimate \$2 per gallon for a cistern, typically assume \$200K to include a cistern.

Consider water treatment and alternative energy option such as passive and active solar and wind generated power. All should be included in the building/site program.

GO GREEN! Build a sustainable facility! The Florida solar energy center in Gainesville offers a solar AC system available at \$5000 per ton. Price may have dropped and there are maintenance considerations. The Nature Conservancy structure on St. Croix has a green solar AC system.

Consider geotechnical requirements in cost estimate.

4. Partnership Potential

Federal and Territorial Agencies: USFWS/Refuges and Dept Planning and NR/Div of Fish & Wildlife and VI SHPO (spell out acronyms) could share or lease the facility with NPS. The lack of on island state of the art curatorial storage is a problem for many agencies and organizations.

Alternatives Development

The value study team visited sites under consideration for the curatorial storage facilities, and then brainstormed additional sites that merited further discussion and consideration. The following sites were tested against evaluation criteria during the evaluation phase of this study.

Alternatives Considered but Dismissed by the VA Study Team

A number of alternatives were considered and dismissed during the VA Study:

1. Estate Thomas: owned by USFS, this is the site of an experimental forest. Forest Service has discussed possibility of transfer of property to NPS.
 - Would require new construction for curatorial facility
 - Access is difficult
 - Personal and site security threats would be an issue at this location
 - Acquisition by DOI is questionable
 - Low income housing is encroaching this site and could be associated with increased crime rates. Potential for security threats to the site and potential users.
 - Existing housing development and elementary school might experience impacts from additional traffic generated by this facility
2. “Great House” at Estate Thomas is located on the route to Sion Farm, though a beautiful site, located close to the main access road, it was never considered as an option for the curatorial storage facility.
 - Even though it is suitable for interpretation and education purposes and is centrally located and protected from the sea, the estate is not connected to any NPS resources.
 - It was initially programmed as an event center for the government.
 - A key risk to this site is the uncertainty of future ownership and its future use.
3. Old “Cost-U- Less” Retail Store Site:
 - This option was not considered viable due to documented existing maintenance problems at the site, which caused the last tenant to move out.
 - Could be a “build to suit” situation
 - There are problems with existing storm drainage system that have resulted in flooding at this site
 - The cost of leasing in Frederiksted is roughly \$10 per square foot. Lessee is not considered a desirable party
 - There is no “power of site context” at this location; it is on a main highway in a strip mall area.
4. Schuster’s: This is the old “Marko” building. It is 2 to 3 stories and historically significant. The exterior has been renovated and the interior renovation is either underway or pending rehabilitation. It is located in the downtown Christiansted historic district.
 - Not appropriately sized for the curatorial storage building program
 - Parking is problematic (not available)
5. Convert Sion Farm Warehouse to Museum Collection Management Facility. It is located mid-island behind a shopping district.

- Existing NPS warehouse, located on the 20 acre Sion Farm site, is a cinder block structure currently used to warehouse NPS maintenance and natural resource division property, including buoys, equipment, shingles, hinges, boat and vehicle storage during hurricanes.
 - No environmental control inside the warehouse. It is essentially a “hot box.” Extensive work would be needed to provide for a stable environment for curatorial storage.
 - The “recent idea” to turn the warehouse into an active maintenance facility for NPS has more merit than turning this warehouse into a curatorial storage facility, as rehabilitating the structure would not make sense. NPS would be better off to start anew.
6. “Estate Grange”: This 100 acre property includes a home and separated outbuilding. Alexander Hamilton’s mother, “Rachel”, Alexander himself, and his brother James, resided there for a short time, and Alexander Hamilton’s mother is buried there.
- At the time of the VA study session there was a willing seller, however the property needs extensive work. It would require a huge investment as well as would have high operating costs.
 - This property is not currently associated with any NPS area on St. Croix.

Alternatives under consideration for the VA study



Alt 1: Sion Farm Site:



- NPS housing and maintenance storage existing on this 20 acre site
- Site is located inland on high ground
- There is good ground water available at the site.
- New construction for the Museum Collection Management Facility is anticipated, might need to clear additional land

Alt 2: “Old Captain Weeks,” otherwise known as the Clintworth property: This is located in the Christiansted business District adjacent to Christiansted NHS, Steeple Building.



- Originally there were three structures on this property. it was an historic building. (NPS would have to locate photos and document the site development
 - NPS could purchase this property or build to lease. Anticipated cost of purchase could be in excess of \$800,000. The appraised value in 2002 was \$350,000, but property values are increasing in Christiansted.
-
- New Construction of Curatorial Storage Facility anticipated
 - NPS parking exists across the street
 - The first floor of the building would have to be elevated to avoid issues with floodplain and storm surge.
 - Use of this facility would be good for the town, in which redevelopment is sorely needed. The town has never recovered from the economic hardships brought about by Hurricane Hugo, Marilyn and Luis, in the late 1980’s – 1990’s.
 - Staging area could use NPS parking area
 - Steeple Building – church yard adjacent to the property could be impacted by construction at this site.

Alt 3: Old Chase Bank/Theater: This building was formerly a police station and is located in the heart of the Christiansted business district, at the Sunday Market area. It includes a movie theater and parking area (and even has an old bank vault.) At the time of the VA study session it was being refurbished (build to suit) and soon to be leased. The St. Croix Foundation, a non profit organization committed to restoring buildings and community services on St. Croix, has an interest in this facility.



- Sunday market area adjacent to this facility was restored in 2005
- Two properties would be leased or acquired; leasing could run \$20 per square foot (educated guess based on experience of VA Study team member with experience in rehabilitating buildings in Christiansted.)
- Parking exists behind the buildings

- This site has “Power of Context”

Use of this facility would be good for the town, in which redevelopment is sorely needed. The town has never recovered from the economic hardships brought about by Hurricanes in the 1980’s – 1990’s.

Alt 4: SARI Marine Research Education Center (MREC)



- As currently planned (prior to the VA) MREC will not be NPS focused, nor managed by NPS, but NPS will have VCS/Education and outreach focus on site.
- Its location close to the water could be problematic for museum collection storage. Cost of constructing Museum Collection Management Facility would be higher, due to its location near the water (salt spray, winds and storm surge).
- Use of this property would require permission from the University partners
- Co-locating CR with NH storage does make sense, and could result in maintenance and operating efficiencies. It would necessitate increasing the current building plan by 3000 square feet
- At the time of the VA study session alternatives for the MREC project were under public review

Alt 5: Salt River Bay Visitor Contact Station



- Site is 7 acres, which would provide space for Museum Collection Management Facility to grow with collections
- Site is easily accessed by vehicle
- Site possesses “Power of Context” (for the Salt River Collection)
- Would be expensive to build storage facility to mitigate effects of the salt air, but it is located above the flood plain
- Facility could be built into hillside, out of view and reduce environmental impacts and viewshed concerns.

PHASE IV - EVALUATION

Risk Analysis

Risk Analysis: Museum Collection Management Facility - August 2006						
	Evaluation Criteria	Alternative 1: Sion Farm Warehouse Site	Alternative 2: Old Captain Week's (Clintworth property)	Alternative 3: Old Chase Bank/Theater	Alternative 4: Marine Research Education Center	Alt 5: Salt River Bay VCS
1	Is location above 100 year floodplain?	Yes	No, but can be mitigated and follow historic configuration of the building	Yes	Yes	Yes
2	Maintains or enhances storage facilities that meet NPS Storage Standards	Given	Given	Given	Given	Given
3	Optimizes operational efficiency (efficiencies gained by combining facilities)	Given	Given	Given	Given	Given
4	Reduces or eliminates risk of natural disasters.	Yes				
5	Hurricane (145mph winds)	Yes	Build to code, mitigate	Renovate to code	Build to Code	Build to code
6	Storm surge	Not an issue at this site	No documented evidence of storm surge at this site	Not an issue	Not an issue	non issue
7	Flooding (<100 yr "Guts")	Not an issue at this site	Flooding potential from hill, build to mitigate from "gut" runoff	Low Flooding potential from "gut" hill	Not an issue	non issue
8	Earthquake Seismic	Good Bedrock	Not on fill, Not issue	Meets IBC	Cannot determine, need geotech, Build to IBC code	Good Bedrock
9	Tsunami	Not an issue at this site	Potential for Tsunami	Not an issue	Yes, but mitigable	non issue

Risk Analysis: Museum Collection Management Facility - August 2006						
	Evaluation Criteria	Alternative 1: Sion Farm Warehouse Site	Alternative 2: Old Captain Week's (Clintworth property)	Alternative 3: Old Chase Bank/Theater	Alternative 4: Marine Research Education Center	Alt 5: Salt River Bay VCS
10	Wind Damage susceptibility	Not susceptible	Build to code	Low	Not an issue, build to IBC code	Build into hill and to IBC code
11	Accessibility of collection					
12	To Researchers	Rent a car to access, 1/2 mile from stop	Very good	Very good	Very Good	Very good
13	To community	Requires car or 1/2m from bus	Very good	Very good	Very Good	Very good
14	To Employees	Requires car or 1/2m from bus	Very good	Very good	Very Good	Very good
15	Location retains "Power of Context"	No	Very good	Very good	Very Good, historical & Arch sites on site, national natural landmark	Very good same as research center
16	Potential for Partnerships					
17	Educational Institutions	Some	Very Good	Very good	Very Good	Very good
18	Non NPS institutions	Some	Very Good	Very good	Very good	Very Good
19	Development minimizes impacts to Natural Resources	Yes	Yes	Yes	Yes	Yes
20	Resources of Concern?	No	Archeology, could be mitigated	Not an issue	Previously disturbed land, NEPA states all mitigable	Previously disturbed could improve habitat
21	Development Minimizes impact to Cultural Resources	Yes	Yes, would contribute to historic scene	Would occupy historic structure, a good thing	Archeology surveys all bldg sites, can be avoided, mitigated	Same as alt 4

Risk Analysis: Museum Collection Management Facility - August 2006						
	Evaluation Criteria	Alternative 1: Sion Farm Warehouse Site	Alternative 2: Old Captain Week's (Clintworth property)	Alternative 3: Old Chase Bank/Theater	Alternative 4: Marine Research Education Center	Alt 5: Salt River Bay VCS
22	Sustainability Considerations	Requires new/Additional Infrastructure	Infrastructure available	Infrastructure available	Off the grid/LEEDS project planned	Infrastructure on site
23	Type of Development					
24	Rehab Existing			Yes		
25	Build New	New Construction	New Construction		New construction	New Construction
26	Lease Option			Lease		
27	Property Ownership (NPS owned, need to purchase?)	NPS owned	Requires purchase \$800,000	Determine if lease option to buy	Land owned by NPS, facility ownership unknown at this point	Owned by NPS
28	Improves educational and interpretive opportunities	Yes	Yes	Yes	Yes	Yes
29	Multi-park research potential	Yes	Yes	Yes	Yes	Yes
30	Opportunities for ecosystem based research	Yes	Yes	Yes	Yes	Yes
31	Access Considerations	Traffic issues with other development, could develop new shorter access with easement	No	Parking behind bldg	Good	Good
32	Security	Security: Threats to Personal safety	Nothing unusual	Rough neighborhood at night	Very Good, opps to separate public and education functions	Good

CBA Evaluation Factors

The VA Study team developed the following evaluation factors. (Does not list criteria not evaluated due to no appreciable difference in alternatives to meet the criteria.)

Protect Resources

Prevent loss of resources

Factor 1: Maintains and Improves condition of Natural and Cultural Resources (includes securing collections.)

Attributes considered:

Considers potential Impacts from Land Development to:

Natural Resources

Cultural Resources

- Archeology
- Historic Resources
- Cultural Landscape

Factor 2: Minimizes risk to museum collections from natural disasters (Location influences this, and in all alternatives considered, appropriate design can mitigate risks from natural disasters.)

Attributes considered:

Considers potential risks related to:

Hurricane & Tropical Storm

- Storm Surge
- Wind related

Seismic

- Tsunami

Flood

- Runoff from “Guts” (adjacent hillside drainages)

Provide for Visitor Enjoyment

Factor 3: Provide visitor service and visitor education through interaction with exhibits, artifact viewing area and education. Encourage access for park visitors to general interpretive programs, (includes a parking evaluation component.)

Attributes considered:

- Museum Collection Management Facility interpretation and education access for park visitors
- Availability of parking nearby

Factor 4: Site expresses “Power of Context”

Attributes considered:

- Proximity of Museum Collection Management Facility to Park's natural and cultural resources

Protect Public and Employee Health, Safety and Welfare

Factor 5: Protect Public and Employee Health, Safety and Welfare

Attributes considered:

- Ensures public and employee safety
- Risk to personal security

Improves Efficiency and Sustainability of Park Operations

Factor 6: Improves Efficiency and sustainability of maintenance operations, including functional efficiency of facility

Attributes considered:

- Ability to build "Green" LEEDS Building/Site
- Maintenance efficiency (facility/ and components)

Factor 7: Optimizes staffing efficiency (Built into design)

Attributes considered:

- Location of facility allows for flexibility to share staffing among NPS offices/locations

Other Management Objectives

Factor 8: Increase partnership opportunities

Attributes considered:

- Likelihood of current partners to participate in project
- Partnership potential

Factor 9: Provides benefits to the community

Attributes considered:

- Supports Historic preservation in community
- Supports local economy

Factor 10: Develops on available land

Attributes considered:

- Availability of property
- Current property ownership

	Alternative 1 Sion Farm New Construction (Assumed Easement)		Alternative 2 Old Captain Weeks (Clintworth Property) New Construction on Historic Site + Land Purchase		Alternative 3 Old Chase Bank Theater Rehabilitate Interior + Lease Space		Alternative 4 Co-Locate with/at Marine Research Center New Construction on NPS Land		Alternative 5 Salt River Bay VCS Site New Construction on NPS Land	
Attributes	<ul style="list-style-type: none"> No general visitor access Good availability of parking 		<ul style="list-style-type: none"> Good access to all Parking available at Fort Christiansted 		<ul style="list-style-type: none"> Good parking Good access for visitors 		<ul style="list-style-type: none"> Good access to educational Good parking access 		<ul style="list-style-type: none"> Good access Good parking availability 	
Advantages	<i>Least Preferred Set of Attributes</i>	0	Significantly better access than Alternative 1	100	Much better access than Alternative 1	75	Better access than Alternative 1	85	Much better access than Alternative 1	90
FACTOR 4 – Site expresses “power of context”										
Attributes	<ul style="list-style-type: none"> Poor No CR or NR context 		<ul style="list-style-type: none"> Excellent Power of Context 		<ul style="list-style-type: none"> Excellent Power of Context 		<ul style="list-style-type: none"> Good to Excellent POC (Nat Re <i>Least Preferred Set of Attributes</i> Pre-Danish, Little Columbian, Little Pre-colonial) 		<ul style="list-style-type: none"> Excellent POC (Nat resources & Pre-Columbian, Early colonial and Pre-Danish) 	
Advantages	<i>Least Preferred Set of Attributes</i>	0	Significantly better POC than Alternative 1	85	Much better than Alternative 1	75	Significantly better than Alternative 1	85	Significantly better than Alternative 1	85
FACTOR 5 - Protect Public and Employee Health, Safety and Welfare										
Attributes	<ul style="list-style-type: none"> High security risk to personnel 		<ul style="list-style-type: none"> Medium security risk to public and personnel 		<ul style="list-style-type: none"> Medium risk to public and personnel 		<ul style="list-style-type: none"> Low risk 		<ul style="list-style-type: none"> Low risk 	
Advantages	<i>Least Preferred Set of Attributes</i>	0	Slightly better HSW than Alternative 1	40	Slightly better HSW than Alternative 1	40	Much better than Alternative 1	65	Significantly better than Alternative 1	70
IMPROVE EFFICIENCY OF PARK OPERATIONS										
Factor 6 – Improve efficiency and sustainability of maintenance operations, including functional efficiency of facility										
Attributes	<ul style="list-style-type: none"> Ability to build “green” Maintenance efficiency (facility & components) 	<ul style="list-style-type: none"> Excellent opportunity to build “green” Low maintenance due to less salt air 	<ul style="list-style-type: none"> Moderate opportunity to build “green” Low maintenance 		<ul style="list-style-type: none"> Moderate opportunity to build “green” if purchased Low opportunity if leased (less control) Moderate maintenance requirement 		<ul style="list-style-type: none"> Excellent opportunity to build “green” High maintenance requirement 		<ul style="list-style-type: none"> Excellent opportunity to build “green” High maintenance requirement 	
Advantages	Significantly better than	75	Much better than	70	<i>Least Preferred Set of Attributes</i>	0	Slightly better than Alternative 3	50	Slightly better than Alternative 3	55
Factor 7 – Optimizes staffing efficiency (Built into design)										

	Alternative 1 Sion Farm New Construction (Assumed Easement)	Alternative 2 Old Captain Weeks (Clintworth Property) New Construction on Historic Site + Land Purchase	Alternative 3 Old Chase Bank Theater Rehabilitate Interior + Lease Space	Alternative 4 Co-Locate with/at Marine Research Center New Construction on NPS Land	Alternative 5 Salt River Bay VCS Site New Construction on NPS Land					
Attributes • Extent to which location allows for flexibility of staffing	<ul style="list-style-type: none"> Low potential for staff sharing Less need for interpretive facility 	<ul style="list-style-type: none"> High potential to share staff 	<ul style="list-style-type: none"> Medium potential to share staff 	<ul style="list-style-type: none"> Medium potential to share staff (Split form VC) 	<ul style="list-style-type: none"> Medium + potential to share staff (VC+Curatorial) 					
Advantages	<i>Least Preferred Set of Attributes</i>	0	Significantly better staffing flexibility than alternative 1	65	Much better staffing flexibility than Alternative 1	50	Slightly better than Alternative 1	40	Much better than Alternative 1	60
PROVIDES FOR OTHER MANAGEMENT OBJECTIVES										
FACTOR 8 – Increases partnership opportunities										
Attributes • Likelihood of partners to participate in storage • Enables other partnership possibilities	<ul style="list-style-type: none"> Medium likelihood of storage related partnerships.) 		<ul style="list-style-type: none"> Excellent opportunities for partnerships 		<ul style="list-style-type: none"> Excellent opportunities for partnerships 		<ul style="list-style-type: none"> Excellent opportunities for partnerships 		<ul style="list-style-type: none"> Excellent opportunities for partnerships (less “image” than MRC) 	
Advantages	<i>Least Preferred Set of Attributes</i>	0	Much better than Alternative 1	70	Better than Alternative 1	60	Significantly better than Alternative 1	85	Much better than Alternative 1	80
FACTOR 9 – Provides benefits to the community										
Attributes • Supports community historic preservation and economy	<ul style="list-style-type: none"> Low benefits to community 		<ul style="list-style-type: none"> Excellent benefits to community (History + economy) 		<ul style="list-style-type: none"> Good benefits to community (History + economy) 		<ul style="list-style-type: none"> Excellent benefits to research community (researchers may stay on site) 		<ul style="list-style-type: none"> Excellent benefits to community 	
Advantages	<i>Least Preferred Set of Attributes</i>	0	Significantly better than Alt 1	80	Better than alternative 1	40	Better than Alternative 1	50	Much better than 1	60
FACTOR 10 – Develops on available land										
Attributes • Availability of property • Ownership characteristics	<ul style="list-style-type: none"> 20 acres available NPS owned property 		<ul style="list-style-type: none"> Available Privately owned 		<ul style="list-style-type: none"> May not be available Leas able property 		<ul style="list-style-type: none"> ___ acres available NPS owned property Build out must coincide with MRC development 		<ul style="list-style-type: none"> __ acres available NPS owned property NPS can build now, given funding 	
Advantages	Better than Alternative 3	80	Slightly better than Alternative 3	30	<i>Least Preferred Set of Attributes</i>	0	Much Better than Alternative 3	85	Significantly better than Alternative 3	90
TOTAL IMPORTANCES OF ADVANTAGES		285		685		460		585		655
Initial Cost (Net)	\$1,799,999		\$2,800,000		Cost not determined		\$1,750,000		\$1,800,000	

Choosing by Advantages Analysis

The following section summarizes the characteristics of the alternatives evaluated the CBA exercise. The alternatives are ranked in order CBA total importance points, high to low score.

Alternative 2, the Captain Weeks Property, scored the highest total importance value at 685 points. It scored the paramount advantage (100 points) under “site access” as its location adjacent to the Christiansted NHS, Park Headquarters and associated NPS parking area optimizes staffing efficiency and access to the public. Rehabilitating a previously impacted site lessens impacts to park resources and also helps historic preservation efforts in the town of Christiansted. It offers good potential to promote partnerships with local partners seeking high quality storage and exhibit space for museum collections.

Alternative 5, the Salt River Bay Visitor Contact Station site, scored the second highest importance value at 655 points. This site expresses “power of context” for the Salt River Bay Museum Collections. Though not located in town it is still easily accessible off paved roads, has potential to optimize staffing efficiency, and offers a safer (personal security) environment than in town sites. It offers good potential to promote partnerships with local partners seeking high quality storage and exhibit space for museum collections.

Alternative 4, co-locating the curatorial facility with the Marine Research Education Center ranked third in terms of total importance points, with a score of 585 points. This site expresses “power of context” for the Salt River Bay Collections (Pre-Danish influence). Though not located in town it is still easily accessible off paved roads, has potential to optimize staffing efficiency, and offers a safer (personal security) environment than in town sites. It offers good potential to promote partnerships with local partners seeking high quality storage and exhibit space for museum collections. It lost points due to the need to develop on previously undisturbed land, but it should be noted that this land is owned by NPS and planned for future development. Because it is new development there is excellent opportunity to build with sustainable consideration in mind.

Alternative 3, Leasing the Old Chase Bank and Theater, scored 460 points. It offered the opportunity to maintain and improve condition of historic resources and minimize impacts to natural resources within the park sites. Its location in town recognizes an opportunity to improve Christiansted and recognize the potential for local partnerships. With on site parking, there is good access to the site, but one drawback is the risk to personal security associated with this urban neighborhood, primarily after nightfall. The property, though an attractive in town location may not be available – and terms of the lease were an unknown at the time of the VA. One drawback to retrofitting a rehabilitated structure is the high cost of construction for an environmentally controlled museum collection management facility.

Alternative 1, the NPS Sion Farm Warehouse site, scored the least amount of importance points at 285. Though it was initially considered attractive by the team because it is a park owned site and is located on high ground (minimizing the need to mitigate risk from natural disasters) it is a really isolated site, with poor access for the public and researchers and site security and personal security risk issues. It would also require clearing and developing previously undisturbed land. Concurrent with the VA, park went under a Core Operations evaluation and space utilization study (with a CBA to

evaluation public space versus administration space), this facility was slated for a critical maintenance facility role as maintenance moves out of Fort Christiansvaern CNHS.

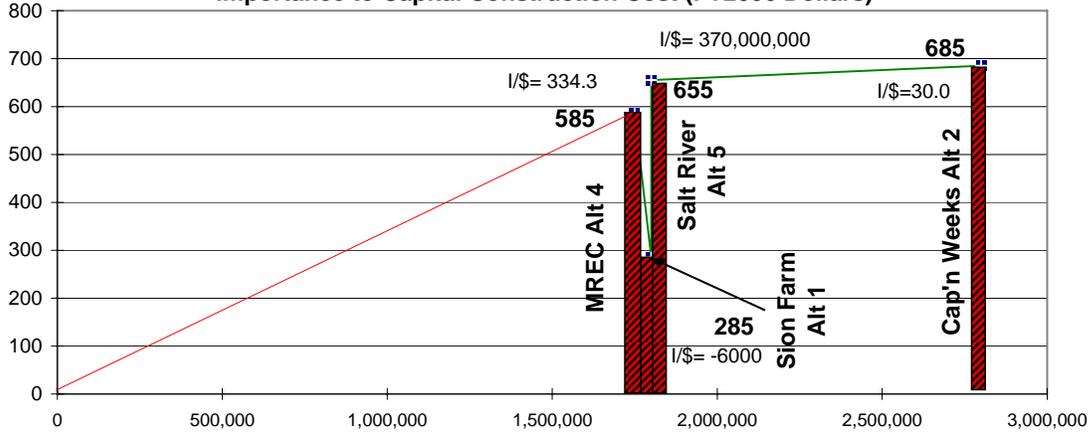
When importance value to capital cost of development was graphed for all the sites under consideration, Alternative 5, the Salt River Bay VCS site option had the highest importance to cost value (.00036), recognizing economies of scale with respect to development and staffing, very slightly edging out the Marine Research Education Center (.00033). These are two viable alternatives. There is a synergy between natural and cultural resource preservation initiatives and partnerships that evolves from co-locating cultural and marine artifact storage and research on the same site. Both of these sites are owned by NPS. The Captain Weeks/Clintworth Property (Alt 2) site proved cost prohibitive because NPS would have to pay market value for the site, estimated at \$800,000. The study team was not able to develop a life cycle cost for leasing the Chase Bank site. When the Sion Farm Warehouse site (Alt 5), was compared with the Salt River Bay VCS Site, the Sion Farm Warehouse site had so few advantages for the same cost of development that it wasn't worth considering.

After continued discussion, the VA Study team re-considered the advantages of the MREC site. The team recommends the MREC site because some of the functions the team thought important to include were already going to be there, so the Sq. Ft. needed was less than at other locations like Sion Farm or the SARI VC locations. The VA team recommended 4500 SF for the facility to accommodate the range of collections (objects, archives, video etc.)

The cost estimate included in the appendix for MREC started with 4500 SF and backed off square footage that was covered in other associated facilities and that recommendation was 3440 Square feet. Locating the MCMF at the MREC facility enables overall reduced costs (i.e., reduced sq/ ft/) along with reduced duplication of infrastructure (such as fire protection, security, power back up, etc.), for the museum collection management 'facility' than did other options. The IMR briefing statement rounded this figure up to 3500 SF for the MCMF located at the MREC facility.

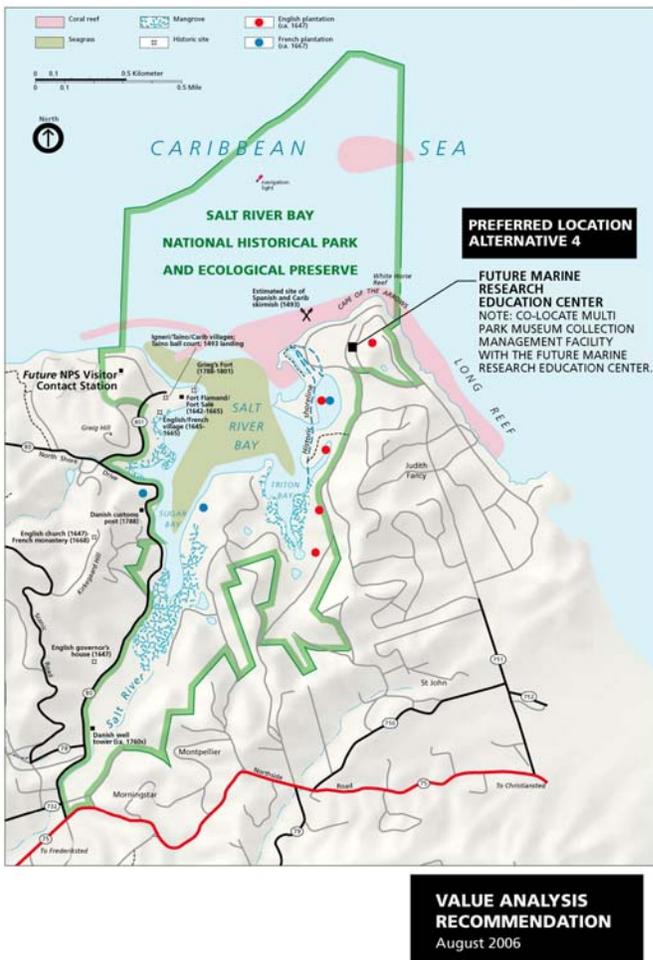
If circumstances make locating the MCMF at the MREC facility infeasible then the SARI facility location is the fallback option. The square footage estimate for locating the MCMF at the SARI VCS site is 4020 SF due to the need to build infrastructure to support the MCMF so there is a related cost difference associated with a shifting the location of the MCMF from the MREC facility site to the SARI VCS site.

**CHRI/BUIS/SARI Museum Collection Management Facility
Importance to Capital Construction Cost (FY2006 Dollars)**



PHASE V – DEVELOPMENT and PHASE VI - RECOMMENDATIONS

VA Study Team Recommendation for the Preferred Alternative



In summary, the VA Study team recommended Alternative 4, the MREC site, as the preferred alternative for development of the Museum Collections Management Facility because it provides the best value for the project for the following reasons:

- (1) it consolidates the functions of two critical NPS mission related developments, i.e. preservation of park collections and research and education opportunities,
 - (2) it expands partnership opportunities beyond NPS and Government of Virgin Islands,
 - (3) it creates a venue for multi-disciplinary education providing on site context (pre-Columbian, pre-Colonial, historic and natural resources) which will directly support education and research,
 - (4) sustainable development is already planned for this site providing education, exhibits, and research functions,
 - (5) and addresses local heritage concerns by keeping island collections on island.
- (6) Benefits and efficiencies gained by co-locating facility include construction staging area requirements, mobilization, project oversight, site planning and development, road construction, parking and other infrastructure costs. Once the MCMF facility is constructed it will provide improved access to heritage assets for the local and international community and economic benefits.

- Museum Collections Management Facility Size: 3500 square foot
- Facility Functions: Museum collection storage, field collection processing, research space, wet specimen preparation and storage, archives, cultural artifacts, holding area i.e. isolation and treatment, data management and storage for digital and electronic data, and exhibits.
- Proposed site of Salt River Bay NHP & EP Marine Research Education Center, St. Croix, Virgin Islands

Other VA Study Recommendations

1. Build Green, keep sustainability a priority.
2. Utilize expertise on the VA Study participant team to develop partnership strategies for facility funding.
3. Follow up with additional studies necessary to move this project forward.
4. Continue with pre-design and schematic design for the Museum Collections Management Facility.
5. Update the PMIS project statement narrative cost estimate (completed by park in November 2006.)
6. Refine costs for Captain Weeks and Salt River Bay VCS options to more effectively understand true costs.
7. Lease versus owning cost analysis should be performed during the next phase of work.
8. Complete Operating Financial System (OFS) request for storage facility. NPS will request funding to support MCMF through OFS (operations and staffing) for CHRI.
9. Perform a life cycle cost analysis for the facility as design moves forward
10. Underwater archeology should “rise to the surface” at MREC. Park should explore partnership opportunities to generate interest and funding for conservation of marine artifacts.
11. The anticipated costs for building the curatorial storage facility at MREC could really come down when design considerations and economies of scale are fully understood and documented.

12. Incorporate Value Analysis and value-based decision making into the next phase of design for the facility.
13. Prepare a business plan that addresses project implementation.
14. Explore possibility to establish Archeological Field Study Station at SARI/MREC to provide ongoing education to students from the field to curation.

PHASE VII – IMPLEMENTATION

Implementation of the value study recommendations will rest with CHRI/BUIS/SARI Managers, as work progresses on the next stages. Value engineering may be required as design progresses.

APPENDICES

- A: Value Study Agenda
- B: Value Study Team/Participants
- C: General Value Analysis Methodology
- D: Value Analysis Job Plan
- E: FAST Diagram
- F: Class C Construction Cost Estimates (VA Alternatives)
- G: Value Analysis Results
- H: Briefing Statement

NATIONAL PARK SERVICE
VALUE ANALYSIS STUDY
CHRI Museum Collections Management Facility Value
Analysis Workshop Agenda

August 1-3, 2006

Draft AGENDA

Meeting Location: National Park Service, Christiansted NHS, Division of Resource Management Offices, Guinea Company Warehouse (former US Post Office), Second Floor, Conference / Training Room, St. Croix, Virgin Islands. (Parking will be provided in NPS Parking lot at Fort Christiansvaern.)

Study Team Leader/Facilitator: *Pat Sacks 303/969-2431*

Project Manger: *Zandy Hillis-Starr, 340/719-7042*

Tuesday, August 1, 2006

Phase I – Information and Feedback

The goal for this phase is for the team to develop a clear understanding of the project, through review of base data and a functional analysis. A functional analysis diagram will be prepared as part of the VA Study.

- 8:30 Participant Arrivals (coffee, tea, and breakfast treats)
- 9:00 P. Sacks/Workshop start & Introductions
Value Analysis Overview
Objectives for this Study
Workshop Schedule
- 9:30 Z. Starr/ RM CHRI Museum Facility PPT (20 min)
Goals, Project History, Sites under consideration, timeline, needs, staffing (current and projected future – must meet WASO Standards) and museum operations
Managing the risks – hurricanes, tsunami, electric service, etc
- 10:15 A. Bohnert/ Set the ground rules –
Planning Guidance and criteria for project – Confirm consistency with SE
Regional Museum Collection Curatorial Facilities Plan & NPS Washington Office
Museum Standards
CHRI GMP, Museum Guidance
- 10:30 Tour CHRI Museum Facilities
- LUNCH & Site Visits (Zandy to confirm locations the week of July 24)
NPS Sites – NPS will provide transportation
CHRI Old Captain Week’s restaurant
SARI VCS (Spell out?)

Sion Farm Warehouse

Other area facility – ask participants where we could go look? State of the art facilities to use as examples? STT? Other islands?

Fort Frederik Museum
VI Govt DPNR – storage area
Abandon VI Government properties
Gallows Bay warehouse area – TipTop
Federal Building? New construction
Libraries, University facility, Whim Landmarks

5:00 Close for the Day

Wednesday, August 2, 2006

Phase II –Functional Analysis

- 8:30 Stakeholder’s Analysis (Pat)– Who are the people/organizations with a vested interest in the project and what are their primary interests? Who will use and need this facility?
- 9:00 Functional Analysis /Flow Chart exercise(Pat)– Anchor project in NPS and park related Purpose and need, project objectives, etc. confirm if the alternatives and their associated action items are anchored in the NPS mission and project goal and objectives.
- 10:00 Building in the Territory (Zandy) – Expensive to build new, lease facility, renovate? Design consultant & permitting requirements? Costs per square ft. (We might want include a couple of contractors for 30 minutes or so, but we need to be careful about conflict of interest.)
- 11:00 Cost Modeling/Cost discussion (Pat): The team will strive to understand the value of the proposed capital investment and validate the initial estimate for this project. Are there cost differences between the alternatives under consideration by the park? Has the park participated in a Core Operations Evaluation yet? If so, what was the outcome of the study? Other information DAB will be looking for is “What are other assets held by the park and how important are those assets.” (Asset Priority Index and Facility Condition Index from FMSS.) Is this project in the current 5 year line item priority plan? Note the PMIS is only park approved at this point. One outcome of this workshop will be better information to include in the current PMIS statement.

We’re essentially completing a pre-design exercise for CHRI. For Pre-design and Schematic Design, the DAB submittal package must include a completed Scope and Cost Validation Report Form – The basis for this report could be one outcome of this workshop. The report generally includes:

- Proposal: True functional scope of the facility, General footprint, sites/alternatives considered
- Capital and Life Cycle Costs, Comparable costs for similar facilities
- Funding (Capital and Operations)
- Schedule
- Risk Model (for each site under consideration)

Determine Areas of Focus for the VA Study: Outcomes for the week.

LUNCH Harvey Restaurant – pre-order

13:00 **Phase III – Creativity**

Building on alternatives developed by the park, the value study team will brainstorm alternative ways and operational options of achieving the functions identified for the facility. This process involves the development of ideas without judgment at this point. (Pat and VA Team)

What other options are out there? Best value for the quality

Project Cost Validation. Is cost of the project in the ball park.

Develop Evaluation Criteria

Risk Analysis - What are some of the pitfalls that could prevent smooth implementation of this project? We need to look at overall risks to the project as well as risks for each alternative under consideration. The intent of risk analysis is to identify high risk areas and concentrate project planning, design and management efforts to minimize these risks.

Limitations and Risk Analysis for this project may include: Ownership, Hurricanes and tsunamis, Power outages, Flexibility of location to expand the facility

4:00 PM Phase IV – Evaluation

Finalize Evaluation Factors for the CBA exercise

Screening of Alternatives to run through Choosing by Advantages Analysis: Are any alternatives fatally flawed?

Identification of alternative to develop further if necessary

Development of Alternatives (Refinements to existing Alts. or New Ideas)

CBA PPT Training of what it is and how it works (Pat)

Close for Day: *Approximately 5:00*

Thursday, August 3, 2006

Phase IV – Evaluation (Continued) and Phase V – Development

8:30 AM- Noon Final Evaluation using Choosing by Advantages (Pat and VA Team)

Lunch

Phase VI – Recommendations and Wrap Up

1:00 PM This phase consists of recording the value study recommendations. Opportunities for and impediments to implementation are identified. (Pat)

4:00 PM Next Steps in process (Allen/Zandy and Pat)

Close for the Day: 4:00 PM

Friday, August 4, 2006

Phase VII – Implementation Phase

8:00 – 10:00 Close-out with park staff. Pat Sacks to meet with Allen Bohnert and park staff to discuss method of documentation for the Value Analysis Report and next steps in the process.



Value Analysis Study Team – August 2006



Southeast Region – CHRI/BUIS/SARI Museum Collections Management Facility
Appendix B: Value Analysis Study Team
 August 1-3, 2006

Name	Representing/Title or area of expertise	Telephone No.
Allen Bohnert	Chief, Museum Services Southeast Region, NPS	404-562-3117 x665
Patricia Sacks	Value Analysis Facilitator, Project Specialist, National Park Service - Denver Service Center Transportation Division 12795 W. Alameda Pkwy, Lakewood, CO 80228 /	Phone: 303.969.2431 Fax: 303.969.2930
Zandy Hillis-Starr	Chief Resource Management Christiansted NHS/Buck Island Reef NM/Salt River Bay NHP-EP 2100 Church Street, #100, Christiansted, VI 00820- 4611	340-773-1460 x 235 ph/ 340- 773-2950 fax/ 340-277-6932 cell
Stennett Dariah	St. Croix Foundation	340.773.9898 773.8727 (Fax) sdariah@stxfoundation.org
Bruce Tilden	Fort Frederick, Museum Curator	340.772.2021 Bruce_tilden@vishpo.com
Daniel Coughlin	STX Archaeological Society, Engineer/Architect	340.772.1436 eireengineer@Gmail.com
John Farchette III	STX Archaeological Society	340.713.1369/332.2312 johnfarchette@msn.com

Name	Representing/Title or area of expertise	Telephone No.
Edgar O. Lake	Federal Lands project Manager, Cultural Writer, VI Dept. of Education	340.773.1095 Edgar_lake@hotmail.com
Levi Farrell	Curator, Fort Christian	340.773.8605
Judith Rogers	Librarian, University of the Virgin Islands	
Carol Wakefield	Librarian/Archivist, WHIM Museum, NPS	340.772.3658 crwakefield@earthlink.net
Thomas Kelley	Virgin Islands NP/VI Coral Reef NM, St. John, US virgin Islands	340.693.8950 x225 Thomas_kelley@nps.gov
Robert V. Vaughn	St. Croix Landmarks Society	340.778.8465
Michael Evans	USFWS, Federal building	340.773.4554 690.9451
Joel A. Tutein	Superintendent, CHRI/BUIS/SARI	340.773.1460

Appendix C: GENERAL VALUE ANALYSIS METHODOLOGY

Value analysis is not a critical review, constructability review, or cost cutting exercise. It is a problem solving and decision making technique that bypasses learned responses to produce alternative solutions achieving all required functions of the original design at the least cost over the life of the facility. It is a team effort which follows an established, organized, job plan, and problem identification format that promotes objectivity and stimulates creativity. When the value analysis methodology is followed precisely, beneficial results are ensured.

A value analysis team must be willing to challenge criteria and opinions, many of which may have been maintained by historical continuity or outdated policy. Value analysis follows a methodology of distinct phases, relies upon teamwork, and the increase in creativity resulting from the synergism of a multi-disciplined group. It searches for and uses current technology to achieve the value analysis goal: To creatively furnish technically sound alternatives to satisfy the user's needs at the lowest life cycle cost.

Value analysis examines systems of design and breaks them into components which are then described in terms of intended use. The intended use (the purpose for the component's existence) called a function, is described in just two words, an active verb, and measurable noun.

These two-word functions are separated into categories by type:

1. Higher order functions define the user's needs.
2. Basic functions present the performance feature which must be achieved to satisfy this need. Without this quality the item ceases to be useful for whatever purpose it is required.

Secondary functions result from the method chosen to accomplish the basic function or functions. These can be further categorized into essential, desired, or non-essential. Unless they are essential, they have zero value and can be eliminated without affecting the required performance of the system or design.

Functions are arranged into two word pictures describing the project under study. The result is a FAST Diagram, an acronym for Function Analysis System Technique. It verifies the correctness of the function definitions and shows their interrelationships. It identifies and separates them into higher order, basic, and required secondary functions.

A Cost Model of a design's components, including the identification of the component's function, prioritizes opportunities for value improvement. A function

analysis, including cost/worth ratios, further pinpoints poor value in greater detail. When cost exceeds worth (when the cost worth ratios exceeds unity), it indicates critical areas for the Value Engineering team to concentrate on during their alternative development efforts.

Focused by the cost model and the functional analysis, alternatives are generated through brainstorming. Generally, ideas are put through two sieves: (a) an initial judgmental level screening against evaluation factors followed by and a final more rigorous evaluation using Choosing by Advantages or other decision making method. The top three alternatives surviving these procedures are identified. The top-ranked of these is developed as the recommended solution, and estimates are prepared. Redesign costs and hours are estimated to reflect implementation impacts to assist management in their decision-making process. Estimated savings resulting from the use of the recommended alternatives are calculated, using life cycle costs, recognizing the time value of money where applicable and redesign costs are subtracted to show net savings.

The Value Analysis process, described above, has been structured into a job plan that deals with seven phases.

Appendix D: VALUE ANALYSIS JOB PLAN

Phase I - Information Phase

This phase ensures that all team members completely understand the objectives of the project and purpose of the project by gathering relevant information. Data is used to focus the study team on areas of highest potential for improved project value. Correct information is essential to making a sound decision. **Keywords:** Cost Model, Quality Model, Design Presentation

Phase II - Functional Analysis Phase

This phase ensures that all team members completely understand the functions required. The team paints a functional portrait of the project and evaluates program needs versus wants. **Keywords:** Functional Analysis, FAST Diagram, 75% of Net Available Alternative.

Phase III - Creativity Phase

This is the creative phase where the team "brain-storms" alternative methods of achieving the required functions of a project. At this point ideas are not evaluated, since criticism of an idea could discourage participation, decrease the flow of alternatives, and inhibit the creative endeavor. **Keywords:** Brainstorming, Deferred Judgment, Options, Alternatives, 90% of Net Available Alternative.

Phase IV - Evaluation Phase

This phase may occur in two steps. 1) An initial phase, where the study team eliminates alternatives that are not feasible or are otherwise unsuitable, and documents the rationale. 2) A final stage, after development, where advantages are weighed using specific evaluation factors. Cost is evaluated on an initial and life-cycle basis. **Keywords:** Evaluation Factors, Importance, Choosing by Advantages, Importance to Cost Ratio

Phase V - Development Phase

This is the designated study phase, where the best alternatives are developed into proposals for final evaluation and presentation. Alternatives are developed sufficiently to (1) demonstrate technical viability, (2) permit accurate estimates of their costs, (3) determine advantage, and (4) facilitate design documentation and construction. **Keywords:** Cost Estimates, Life-cycle Cost, Design Development

Phase VI - Recommendation/Presentation Phase

This phase consists of presenting the recommended proposals to decision makers at the end of a value study workshop. The presentation must be clear and concise, present factual data, and clearly demonstrate reasons for the recommendations to the decision makers. Opportunities and impediments to implementation are identified. **Keywords:** Sound Decisions, Recommendations, Commitment.

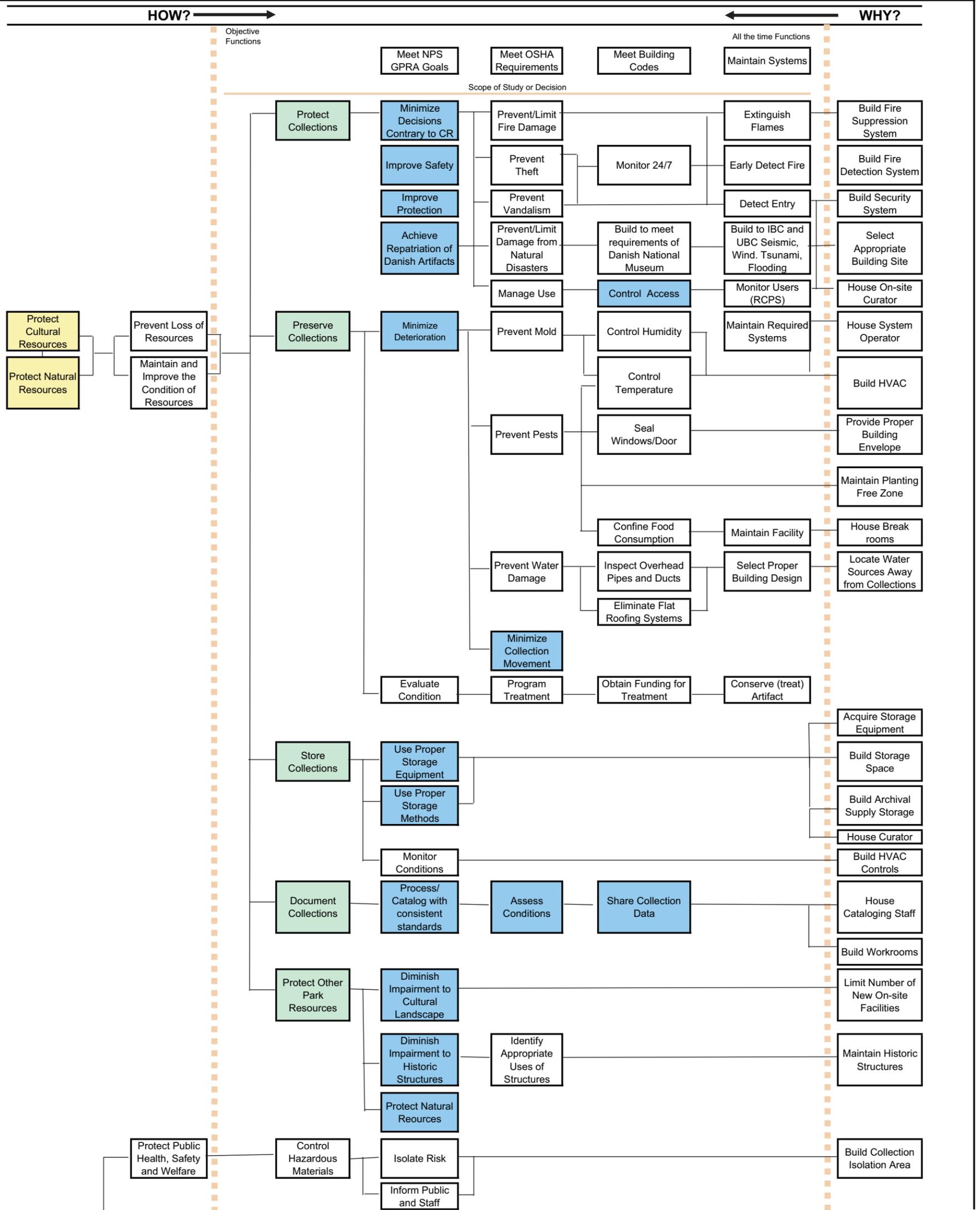
Phase VII - Implementation Phase

This phase occurs outside the workshop and provides for follow-up and implementation of accepted VA proposals. Actions by the planning/design team and managers are typically required. **Keywords:** Follow-through, Monitoring, Documentation

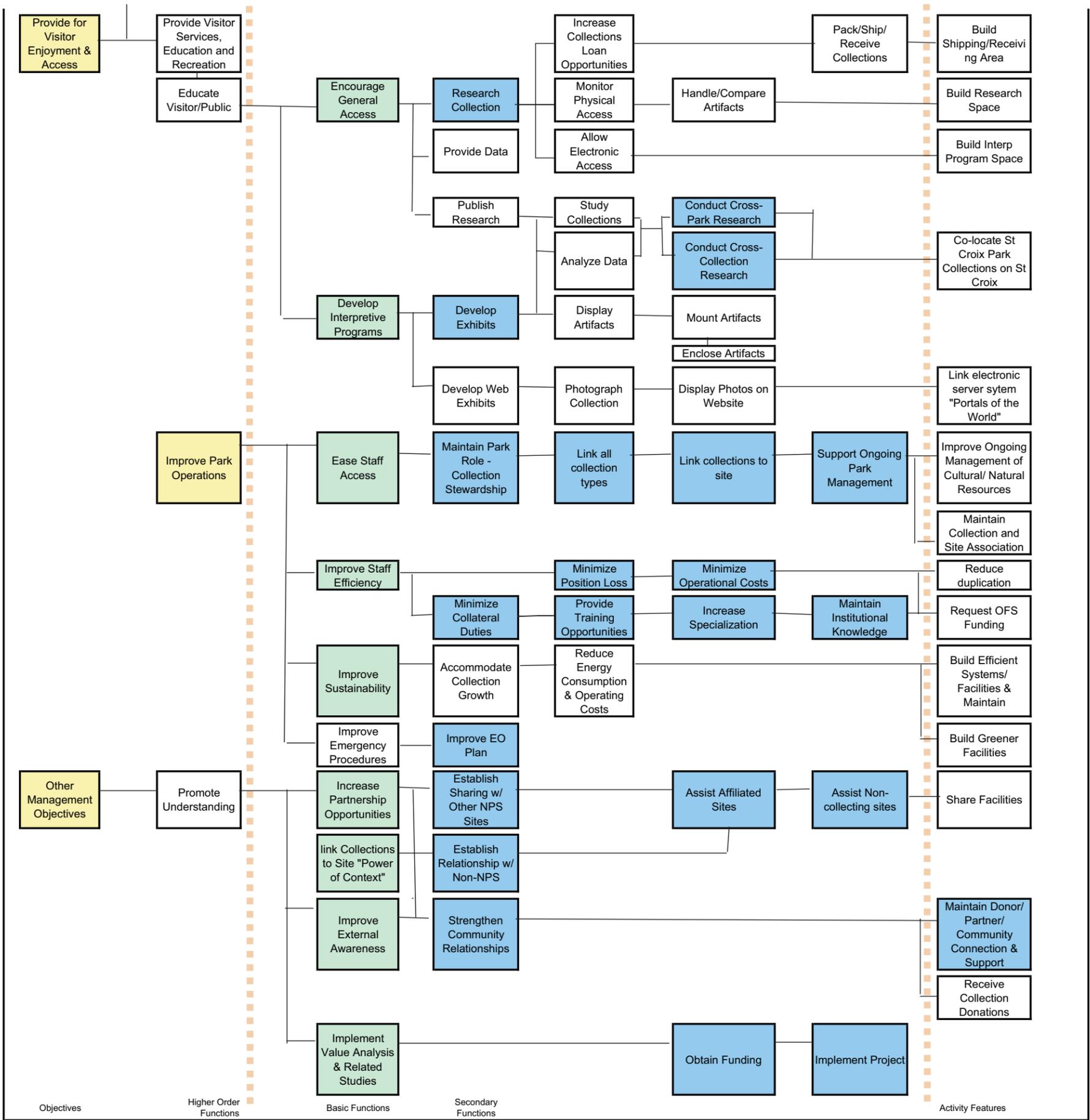
Appendix E: FAST Diagram

Function Logic Diagram

Function Analysis System Technique (FAST) Diagram



(Diagram continued on following page)



Appendix F COST ESTIMATES

Value Analysis Cost Estimate Order of Magnitude Costs

This cost estimate was developed by the VA Study team. It was adapted using the initial cost estimate from the Draft SARI Feasibility Study (August 2006) It is based on an estimate of \$450 per square foot to build new and \$650 per square foot for rehabilitation of historic buildings. The team felt that using \$225 per square foot to build (based on Marine Research Education Center VA cost estimate) was too low.

	Sion Farm	Captain Weeks	Chase Bank	Marine Research Education Center	Salt River Bay VCS
Proposed Square Footage	4500 SF - 240 SF 4260 SF No educational space included	4500 SF Two buildings anticipated would have about 4500 SF	4500 SF	4500 SF - 240 SF (Education space covered at MRC) - 580 (Bath/admin space covered at MRC) -240 (<u>Exhibit space covered at MREC</u>) 3440 SF	4500 SF -240 SF (<u>Have ed space</u>) 4260 SF -240 SF (<u>Already have exhibit space</u>) 4020 SF
Anticipated SF Cost to Construct	\$450	\$450	\$650	\$450	\$450
Land Cost	\$0	\$800,000	Lease @ \$20 per SF	\$0	\$0
Estimated Cost FY 2006 Dollars	\$1,800,000	\$2,780,000	\$9000/mo Or \$108,000 per yr. does not include cost to retrofit	\$1,548,000 \$1,750,000 (Figure with cost contingency presented to SERO Regional Director)	\$1,800,000

Appendix G: Value Analysis Results

CHRISTIANSTED NHS MUSEUM FACILITY VALUE ANALYSIS WORKSHOP

St. Croix, U. S. Virgin Islands

August 1-3, 2006

The National Park Service, Christiansted NHS/Buck Island Reef NM/Salt River Bay NHP & EP's conducted a three day Museum Facility Value Analysis Study workshop to assess design requirements and location for a permanent museum collections facility to house collections from the National Park units in St. Croix and possibly other partner museum collections. This facility will provide a building that meets the DOI and NPS Museum Standards for storage of its irreplaceable cultural and natural history collections and archival materials, while providing for research and public exhibit areas. This study team analyzed several locations to determine where best to site the facility and provided critical information for its design and construction elements unique to operating and locating such a facility in a tropical island environment.



ACCOMPLISHMENTS

- Project Overview, Orientation to Value Analysis Process, and Site visits on St. Croix
- Discussed special criteria for building in islands, DOI and NPS museum facility requirements and planning guidance for project
- Identified stakeholders and listed primary interests for this project
- Conducted a functional analysis to ensure goals are tied to NPS mission and scope of project is anchor to those goals
- Developed range of alternative locations and completed pre-screening
- Evaluated alternatives using Choosing By Advantages (CBA) methodology
- Conducted Risk Analysis for each alternative
- Developed preliminary order of magnitude costs for alternatives and graphed importance to cost
- Developed and listed recommendations from the Value Analysis study
- Identified steps for future implementation of project



RESULTS & RECOMMENDATIONS

- Island heritage was expressed as a critical criteria for locating collection
- Five alternative locations on St. Croix were evaluated, including a leasing option
- Three locations were selected through the CBA process as the highest value in absence of cost – Privately owned historic property adjacent to CNHS (1), Salt River Bay

VCS grounds (2), and Proposed Salt River Marine Research Education Center (MREC) (3)

- After factoring in estimated capital and other costs the MREC gave the best value for cost
- Identified future actions including, but not limited to, refine costs, update project funding proposal, and conduct preliminary and schematic design for museum curatorial storage facility

ADVANTAGES TO CO-LOCATE MUSEUM FACILITY WITH MREC

- Consolidates the functions of two critical mission related developments
- Expand partnership opportunities beyond NPS and Government of VI
- Creates a venue for multi-disciplinary education
- Sustainable development already planned
- on site context (pre-Columbian, pre-Colonial, historic and natural resources are present) directly supports education and research
- Improved access for local and international community and economic benefit



Proposed site of Salt River Bay NHP & EP Marine Research Education Center, St. Croix, Virgin Islands

MUSEUM FACILITY VALUE ANALYSIS TEAM

Allen Bohnert, Chief Museum Services, Southeast Regional Office, National Park Service
Daniel Coughlin, Engineer/Architect, St. Croix Archeological Society
Stennett Dariah, Project Manager, St. Croix Foundation
Michael Evans, Refuge Manager, Sandy Point NWR, U. S. Fish & Wildlife
John Farchette III, St. Croix Archeological Society
Levi Farrell, Museum Curator, Fort Christian, Government of the Virgin Islands
Thomas Kelley, Biologist, Division of Resource Management, Virgin Island NP, NPS
Edgar Lake, Federal Grants Project Mgr/ Historian/ Writer, VI Department of Education
Judith Rogers, Librarian, University of the Virgin Islands
Patricia Sacks, Project Specialist/Landscape Architect/Facilitator, Denver Service Center, NPS
Zandy Starr, Chief Resource Management, CHRI/BUIS/SARI, NPS
Bruce Tilden, Museum Curator, Fort Frederik, Government of the Virgin Islands
Joel Tutein, Superintendent, Christiansted/ Buck Island Reef/Salt River Bay, NPS
Robert V. Vaughn, Board of Directors, St. Croix Landmarks Society
Benito Vegas, Interpretive Ranger, Christiansted NHS/Buck Island Reef/ Salt River Bay, NPS
Carol Wakefield, Librarian/Archivist, St. Croix Landmarks Society

Appendix H: Briefing Statement

Briefing Statement

Bureau: National Park Service
Issue: Museum Collection Storage Facility
Park Site: Christiansted NHS/Buck Island Reef NM/Salt River Bay NHP & EP
Date: August 9, 2006

Issue: CHRI/BUIS/SARI Museum collections consist of 440,000 objects, both natural and cultural materials, including pre-historic, colonial, militaria, archeological, wet specimens, flora, herpetological, insect, geological, and archival. Most natural history collections are currently stored off island as are a large portion of the archeological materials. CHRI museum collections stored at the park are in a historic structure under substandard conditions. The majority of this collection is inaccessible for research, education, and management purposes because it is not fully processed and cataloged.

Background: The 2004 NPS Christiansted NHS Collection Management Plan recognized the critical need to improve collection storage conditions and access to the collections. To address these needs, NPS conducted a Museum Facility Value Analysis Study on August 1-3, 2006 to assess requirements and location for a permanent museum collections facility that meets standards for park collections and would allow for the inclusion of other local partner museum collections. An interdisciplinary VA study team included professionals and partners from NPS, Denver Service Center, US Fish & Wildlife Service, Government of the Virgin Islands, Department of Planning and Natural Resources/ State Historic Preservation Office, Department of Education, University of Virgin Islands, St. Croix Foundation, St. Croix Landmark's Society, and the St. Croix Archeological Society. The VA team analyzed the risks and advantages unique to operating and locating such a facility in a tropical island environment. Using the VA methodology, a functional analysis was performed discussing the special criteria for building on tropical islands and how to meet DOI and NPS museum facility requirements for the project. Five alternative locations on St. Croix were evaluated, including new construction on NPS property as part of a multi-party complex, purchasing a historic property, and a leasing option. Three locations were selected through the CBA process as the highest value in absence of cost – 1) Privately owned historic property adjacent to CNHS, (2) Salt River Bay Visitor Contact Station grounds, and (3) the proposed Salt River Marine Research Education Center (MREC).

Recommendation: After factoring in estimated capital improvement and other costs, the MREC option came out as the preferred alternative. MREC gives the best value for the project for the following reasons: (1) it consolidates the functions of two critical NPS mission related developments, i.e. research and education opportunities, and preservation of park collections (2) it expands partnership opportunities beyond NPS and Government of Virgin Islands, (3) it creates a

venue for multi-disciplinary education providing on site context (pre-Columbian, pre-Colonial, historic and natural resources are present) at SARI which will directly support education and research, (4) it joins a sustainable development already being planned which will provide education, exhibition, and research functions, and (5) it addresses local heritage concerns by keeping island collections on island. (6) Benefits and efficiencies gained by co-locating the facility include construction staging area requirements, mobilization, project oversight, site planning and development, road construction, parking and other infrastructure costs. Once the facility is constructed it will provide economic benefits and improved access to heritage assets for the local and international community.

Museum Collections Facility Size: 3500 square foot

Facility Functions: Museum collection storage, field collection processing, research space, wet specimen preparation and storage, archives, cultural artifacts, holding area i.e. isolation and treatment, data management and storage for digital and electronic data.

Facility Total Cost (Class C Estimate): \$1.8 million (total construction) 2006 dollars

Operational Funding Cost: \$35K per year (maintenance, overhead, etc)

Staffing Requirements: 2.5 FTE including GS11 Museum Specialist, GS5/7/9 Museum Technician, and GS5 Seasonal Museum Tech (training position)

Point of Contact:

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