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United States Department of the Interior



National Park Service
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Buck Island Reef National Monument
Salt River Bay Historical Park and Ecological Preserve
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MEMORANDUM OF INTENT

To: Regional Director, Southeast Regional Office

From: Superintendent, Salt River Bay National Historical Park and Ecological Preserve

Subject: Memo of Intent between Salt River Bay National Historical Park and Ecological Preserve and the Joint Institute for Caribbean Marine Studies

Date: June 15, 2011

The Salt River Bay National Historical Park and Ecological Preserve (SARI or hereafter referred to as the "Park") and the Joint Institute for Caribbean Marine Studies (JICMS) propose to develop a Marine Research Education Center (MREC) at SARI in accordance with the guidelines set forth in the NPS *Partnership Construction Process* and Director's Order #21 on Donations and Fundraising.

The JICMS is a consortium of four universities: the University of North Carolina Wilmington (UNCW); the University of the Virgin Islands (UVI); Rutgers, the State University of New Jersey (RU); and the University of South Carolina (USC). The JICMS will establish a non-profit research foundation, 501(c)3, to operate the center and raise funds for its construction.

The JICMS is coordinating with partnerships staff from NPS SERO and WASO to complete the requirements of the *Partnership Construction Process*. Upon approval by NPS's Development Advisory Board (DAB) of the MREC concept, the JICMS will move into the next phase of the partnership process, namely to develop a fundraising feasibility study, fundraising plan and donor vetting process; draft with NPS the agreements needed to develop the MREC; and begin to collect funds for the design, construction and operation of the MREC, in keeping with the fundraising plans, with the goal of beginning construction in 2014.

The total cost to design and construct the MREC is estimated at \$64 million (2014 dollars). The JICMS will raise the funds required for the construction and maintenance of the MREC; the buildings will be constructed by NPS with the funds raised by the JICMS and become property of the National Park Service. The JICMS will support the day-to-day operations of the MREC with income from student fees, laboratory fees, research grants, and private philanthropy to cover the approximate \$2.2 million in annual operating costs.

Project Description

St. Croix has a long history of marine research. The world's leading investigators gathered data at the former marine laboratories on St. Croix: Fairleigh Dickinson University's West Indies Laboratory (WIL) from 1971–1990, and National Oceanic and Atmospheric Administration (NOAA) National Undersea Research Program (NURP) habitats *Hydrolab* (1970s–1986) and *Aquarius* (1988–1990).

The loss of these laboratories following Hurricane Hugo in 1989 has hampered scientific research on St. Croix, especially within the national parks. WIL researchers and students completed many Buck Island Reef National Monument (BUIS) marine resource baseline inventories and assessments (1970s–1990s), providing the park with invaluable resource data; NURP performed 103 saturation research diving missions in Salt River canyon providing data on an extensive range of marine research areas.

In the wake of the closure of these marine lab facilities and the continued degradation of coral reef habitat throughout the Caribbean, the partners recognized the need to restore St. Croix's marine research capacity. In 1997, the JICMS was established as a collaborative effort to re-establish this capacity.

In 1998, Executive Order 13089 directed the United States Department of Interior (DOI) and NOAA to "develop and implement, with the scientific community, research aimed at identifying the major causes and consequences of degradation of coral reef ecosystems." The following year DOI entered into a Memorandum of Understanding (MOU) with JICMS and NOAA to establish the MREC. Through the MOU, the partners agreed to cooperate to:

- Aid in the understanding of the marine environment, including coral reef ecosystems;
- Promote marine education and public awareness; and
- Assist in the development of appropriate public policy within the Caribbean.

In 2001, NPS acquired the Hemer's Peninsula property east of Salt River Bay. Also that year, Buck Island Reef National Monument (BUIS) was expanded from 880 to more than 19,000 acres, becoming one of the first fully protected ("no-take") marine protected areas (MPA) managed by NPS. These acquisitions underscored the park's need for increased science-based marine resource management. Given the combination of global and local threats to coral reefs and NPS's new management responsibilities, NPS approached Office of Insular Affairs (OIA) and JICMS about partnering to build the MREC at SARI.

In 2004, OIA provided NPS with \$200,000 to complete a feasibility study to determine the best location within the park for the MREC. In 2006, with input from JICMS, the study identified the east site as the preferred alternative. The peninsula had been the location of a partially-constructed private resort, hotel and marina project, halted in the early 1970s, so the land already had been heavily disturbed. As part of the marina project, developers dredged a salt pond to create a lagoon and boat channel to Salt River Bay; the hotel structure was determined to be unusable for the MREC, but the lagoon is ideal for a dock and dive operations required for the MREC. More importantly, Salt River Bay is at the nexus of ridge-to-reef and reef-to-abyss ecosystems, providing access to a variety of research settings.

Supported by additional OIA funding, the park completed an environmental assessment of the preferred alternative, and a Finding of No Significant Impact (FONSI) was signed in February 2009. Later that year, OIA provided further funding to begin architectural pre-design services. As of May 2011, NPS, in coordination with JICMS, has completed architectural programming, a schematic site plan, and an engineering assessment of utility requirements for the MREC campus.

Meanwhile, NPS has begun restoration activities at the site, working with contractors, the GVI Governor's Office, VI Department of Public Works, and the Virgin Islands National Guard to create public access (by re-opening a disused right-of-way), complete the demolition of the abandoned hotel structure, and remove and re-use the abandoned construction materials and debris. In 2010, the roadway was cleared and stabilized, the proposed MREC site was surveyed, and road engineering design and construction documents were completed. In 2011, the National Guard has committed to continuing site restoration and removal of debris and construction materials through the Department of Defense's (DOD) Individual Readiness Training Program and, in 2012, to begin road construction.

In 2010, Southeast Regional Director Vela signed a Memorandum of Intent (MOI) between NPS and JICMS to construct and operate the facility at SARI; SARI presented the MREC to the NPS Development Advisory Board (DAB) in March 2010 and received support for the project's intent. SARI will return to the Board in July 2011 for a formal concept approval of the MREC partnership construction project.

The building program envisions a 61 thousand square foot facility that includes high-quality wet laboratories, classrooms and lecture spaces, dock and diving operations, museum collection/archive annex, living accommodations, and related support facilities. This footprint is designed to stay within the eight acres identified in the EA. The facility design will reduce the likelihood of significant storm or seismic damage.

The campus is designed to house 48 undergraduate students and 12 researchers/graduate students at one time. Higher occupancies can be accommodated for short-terms, such as a one or two week monitoring projects. The MREC also has 12 lab modules assignable to specific research projects.

The construction project has been registered with LEED™ (targeting Platinum Certification) and the Living Building Challenge. The campus will showcase restorative design and construction through net-zero onsite renewable water and electrical systems, and by incorporating biologically-inspired organization and features. Some of the land within the eight-acre campus will be restored to native habitat, a small plot will be available as garden/orchard for students to grow and harvest food from non-invasive plants, and the site will benefit from stormwater/erosion control improvements implemented during the MREC development process.

Because the MREC is located in a national park, all partners understand its operation must contribute to the preservation of national resources unimpaired for current and future generations. As such, the MREC has an inherently public function. For safety reasons, certain areas, such as the dock, laboratories, residential areas, and utility infrastructures, will be closed to the general public unless on a guided tour.

Although the primary visitor contact area for SARI will remain at the Visitor Contact Station above Columbus Landing, on the west side of Salt River Bay, some areas of the MREC campus will be open to the public. In addition to curriculum-based K-12 programs, the general public will be invited on scheduled and self-guided tours of the MREC to learn about "science in the parks" and see scientists and students working at the marine laboratory. Much of the remaining 88 acres of the Hemer's Peninsula site outside of the MREC campus area will be open to public recreational use, including trails, beach, and water access.

MREC as a Park Priority Project

The MREC is described in Project Management Information System (PMIS) package number SARI 154788. This project is the park's number one priority in PMIS, which is the agency's central database for construction and non-construction projects.

Compliance Requirements

In June 2008, SARI completed NEPA and NHPA compliance to site the MREC in the park, and received a FONSI in February 2009. The preferred alternative will have some short-term adverse effects on natural resources; however, the long-term, beneficial impacts of the project far outweigh the anticipated adverse impacts, the majority of which are minor and short-term. Overall, there would be no impairment to park resources from the development of the MREC but substantial site restoration and storm water/erosion control improvements associated with the project would benefit the site.

Authorities

Several potential authorities have been identified that would allow the partnership. This list includes:

Authorities for Research Facility on NPS Land

- Agreements Concerning Cooperative Research and Training on NPS Resources (16 U.S.C. § 1a-2(j))
- Agreements with Educational Institutions to Study National Park System Resources and Non-Park Service Resources (16 U.S.C. § 5933)

Authorities for Collaborating with Consortium of Universities and Virgin Islands Government to Manage Research Facility

- Authority to Vest Title to Tangible Personal Property for Research (31 U.S.C. § 6306)
- Salt River Bay National Historic Park & Ecological Preserve (16 U.S.C. § 410)
- General Authority to Take Actions That Promote and Regulate Units of the National Park System (16 U.S.C. § 1)
- Grants for Research (42 U.S.C. § 1900)
- Leases of Buildings and Associated Property (16 U.S.C. § 1a-2(k))

Authorities for Consortium of Universities and Department of the Interior to Help Fund the Research Facility

- Acceptance of Contributions to Prosecute Cooperative Projects (43 U.S.C. § 1473a):

- General Authority for NPS to Accept Donations (16 U.S.C. § 6)

Park Planning Documents

As noted above, a Feasibility Study of the MREC at SARI was completed in 2006, with an Environmental Assessment of the preferred alternative completed in 2008. The project is also in conformance with the 1995 Land Protection Plan and the 2009 Cooperative Management Agreement with the Government of the Virgin Islands. SARI does not have a General Management Plan.

Appropriateness for Partnership

The MREC provides an opportunity to leverage the benefits of a partnership between NPS and four major public research universities to: (1) conduct collaborative marine research that will directly benefit the national parks; (2) mentor future generations of marine scientists and resource managers; (3) provide a broad educational program that engages students at all levels about marine science and the natural and cultural resources of St. Croix and the USVI; and (4) demonstrate science and technology through the design and operation of the MREC and its building and site components.

The partnership with NPS provides the JICMS universities with an opportunity to expand their marine research programs in the Caribbean and complement their existing facilities in other locations. Because the SARI site is owned by the Federal government and operates as a national park, it provides the JICMS with long-term stability to protect the infrastructure and operational investments of the universities, their partners and of donors to the facility, and to ensure that the MREC will provide benefits to all partners well into the future.

Because St. Croix is within U.S. territory in the Caribbean, the location reduces the risks, as well as the administrative and logistical challenges involved in operating a field research program outside of the United States. These challenges are not limited to: Customs requirements, the need for currency exchange, security and law enforcement, and the difficulties of shipping sophisticated research equipment and supplies internationally and to remote field locations. The location at SARI also will appeal and give confidence to the parents of undergraduates who are seeking a “semester abroad” type of educational experience because of its connections with NPS and the broader education and research missions of the park.

By locating the MREC within a national park, the JICMS will be able to market the educational program to students in marine science, Caribbean studies and related disciplines, as an immersion experience on St. Croix and opportunity to work with NPS, local students and researchers leading ongoing, long-term projects benefiting the parks, the territory and the region.

The NPS will benefit from capacity of the JICMS to provide scientific, technical and logistical support of the stewardship mission of the national park units in the USVI. The research conducted and the data collected by the JICMS is critical for science-based management of more than 30,000 submerged acres, or 50 square miles, of submerged lands and coastline managed by NPS in the USVI. Moreover, as part of its proposal semester-long curriculum, JICMS undergraduates will perform six credit hours per semester on applied

research and outreach projects, including a minimum of three on research and three on outreach, thereby providing hundreds of hours per year to NPS and the territory.

The 2009 Cooperative Agreement between NPS and GVI allows Federal and territorial agencies to coordinate resources within SARI. Already, this agreement has enabled the National Guard to undertake the hotel demolition, site restoration and the construction of a haul road within the park's boundaries. Further collaborations among NPS, GVI and the JICMS are likely as the MREC project moves forward.

The territory is involved in the MREC through both GVI, as co-manager of SARI, and UVI, as one of the four JICMS partners. The consortium, OIA and NPS have collaborated in the planning of the MREC to ensure that the MREC serves K-12 students on St. Croix and engages local partners in environmental education. An OIA-supported planning effort is underway to document the potential programmatic and infrastructure linkages between the MREC and UVI -- specifically, UVI's St. Croix campus. These programmatic connections will help the JICMS create an integrated educational program that increases UVI's capacity to provide marine science programs on St. Croix, enables the JICMS to utilize existing UVI resources, and help UVI plan for the role of the MREC within its own long-term facility and curriculum programs.

By working together, NPS and the JICMS will create a unique facility that will provide significant benefits to the St. Croix park units, assist in their resource management, and create a capacity to expand research and education in the USVI in the long-term, generating benefits that can be measured in the future as jobs and educational opportunities that do not exist in the Virgin Islands today.

Capacities of Park and Partners

The four public universities that make up the JICMS have nearly 100,000 undergraduate and graduate students, combined, and function as world leaders in marine research and education, investing millions of dollars each year into new and expanded research facilities. The JICMS has a broad capacity to tap into these resources to bring research, teaching, and service programs to bear on Caribbean research priorities, park resource management needs, and science education.

Since the inception of the MREC concept in the 1990s, the four JICMS universities have contributed more than \$700,000 in funding and in-kind services in support of the project. Since 1999, the NPS units on St. Croix have provided more than \$75,000 of in-kind services and \$500,000 for site projects. Since 2004, OIA has provided more than \$3 million to support planning of the MREC. The OIA funding has supported efforts of NPS and the JICMS to coordinate planning and pre-design of the facility with input from DOI and GVI, as well as to develop a curriculum program, define parameters for the MREC's seawater system, and to enable students from Rutgers' landscape architecture studio to develop site concepts, JICMS students to participate in an anthropological field course at SARI, and to launch an international design competition to spur innovative and sustainable approaches to laboratory design with broad application in a tropical marine environment, among other efforts.

The universities have expertise in marine research, marine research facilities, coastal ecology, history and specifically Caribbean studies, social science and humanities; NPS can provide

well established education and interpretive skills to bring research to park visitors and enhance public understanding of park resources.

OIA has played an important role in supporting the partnership. OIA and NPS are sister units of the Department of Interior, and OIA works directly with U.S. territories, including GVI, to improve local management of critical resource areas, which the universities can support through their education and research efforts.

OIA's mission is to improve the standard of living for island residents and promote the economic development and self-sufficiency of the insular areas. OIA's Coral Reef Initiative further recognizes that healthy coral reef resources are an integral part of the economy and culture of island communities. The MREC will significantly raise the USVI's educational and resource management capacities, as well as provide economic opportunities for local residents. It will also serve as a model of sustainable development for the insular areas, particularly as it relates to energy use and development in environmentally-sensitive habitats.

Therefore, given the long-term partnership of OIA, NPS, JICMS and GVI to develop this facility and the significant investment put into the concept to date, all parties would benefit by moving this project forward.

Roles and Responsibilities of Park and Partners

JICMS will have long term use and control of the constructed facilities, including the dock, diving operations, laboratories, classrooms, living accommodations, and common spaces. The term of the use agreement is currently under negotiation, but is anticipated to range from a period of 30 to 50 years. JICMS will maintain the MREC campus, initially utilizing a short-term maintenance account. JICMS will support the day-to-day operation and long term maintenance of the MREC with income from student fees, laboratory fees, research grants, and private philanthropy to cover the approximate \$2.2 million in annual operations and maintenance costs.

NPS will have use of an education/outreach facility, classroom space for K-12 education, an amphitheater, the collections annex, dock, and spaces designed for common use. To support its own ongoing research programs, NPS will have the opportunity to rent living accommodations for visiting project staff. The marine facilities, dock, and associated operations will not be for public use; NPS will provide several types of recreational uses for the public at other locations within SARI, as well as educational programs at and public tours of the MREC complex. NPS remains responsible for park property, trails, and roads outside of the designated MREC campus.

Submerged lands within SARI are the jurisdiction of GVI, which will be responsible for permitting the dock construction and sea-water infrastructure, and as-needed maintenance dredging of the channel into the lagoon for research vessel access.

Financial Goal of the Campaign

The MREC financial requirements fall into two broad types: construction and operations. The fundraising goal includes design services, gross construction, and funding for a 5-year maintenance account.

Project requirements cover all design and construction expenses through final completion of the MREC campus. Explicitly excluded are certain preliminary planning documents that have already been completed, such as the site feasibility study and the environmental assessment. Also excluded are ongoing and potential NPS site developments at Hemer's Peninsula outside of the eight-acre MREC campus, such as the access road and park trail system.

In keeping with standard NPS development policies, total project costs are budgeted based on the net construction estimate. The net estimate is the amount the government anticipates a construction contractor will put on the bottom-line of a bid proposal.

Based on a current net construction estimate of \$44.9 million (inflated to a 2014 construction start) the total not-to-exceed fundraising goal is \$64 million. These figures are subject to refinement during the design process. JICMS need not have all of the monies in-hand to proceed with the predesign and design phases. A portion of the predesign work has been completed with OIA funding.

Long-term Maintenance and Staffing Costs

Prior to initiating a construction contract, JICMS will provide the NPS with funding sufficient to cover the net estimate, construction management services, a contingency reserve. JICMS' fundraising will include establishing an account to cover maintenance during the MREC's start-up period (up to 5 years) and for clean-up and recovery in the event of a moderate storm or unforeseen maintenance event.

Academic and research programmatic, operational, and long term maintenance costs are estimated to be \$2.2 million annually. The majority of these costs will be covered by student and research laboratory fees. In order to assure the fiscal sustainability of the MREC, the campus facilities have been sized with sufficient student and researcher capacity to support them. JICMS will supplement their fee revenue with grants, contracts, and private philanthropy.

The SARI management team has extensive local knowledge and experience in design and construction in the tropical environment, as well as the use of hurricane-resistant materials. Combined with its background in marine research, SARI staff can contribute substantially to the design and construction of the MREC.

The establishment of the MREC will increase the complexity of the St. Croix group of national parks primarily requiring additional coordination between park staff and JICMS in education and outreach, resource management/research programs, and some facility management at the site. However, no additional NPS staff is requested to support the MREC; programs at the center would be supported by NPS staff assigned to the St. Croix national park units.

Requirements of the Partnership Construction Process

The JICMS has been working directly with NPS partnerships staff at SERO and WASO since 2009 to coordinate planning for the MREC within the parameters and requirements of NPS's Partnership Construction Process.

In 2009, the JICMS began to develop a *Strategic Business Plan* for the MREC. During the preparation of this document, the universities had detailed discussions about the MREC, engaged potential partners within Virgin Islands and the marine laboratory community, reviewed comparable facilities in the region, and projected revenues and expenditures estimated for facility operations.

During the process, the consortium engaged researchers and administrators at each of the partner institutions. This led to the establishment of an executive leadership team (ELT) of deans from each university to make policy-level decisions for the consortium. At the same time, a management and operations team (MOT) was created to coordinate MREC-related activities. The JICMS also hired a project manager and set up several teams to work on specific aspects of the project, including the seawater system requirements, the curriculum plan and local outreach. The JICMS project manager is responsible for project scheduling, compliance, coordination of the pre-design and design tasks with the JICMS, NPS and OIA, project communication, as well as fulfilling other requirements as needed.

Beginning in 2010 JICMS efforts have been focused on providing input to the architectural programming and schematic site plan in coordination with NPS, supporting the consortium's work teams, and preparing the documents needed for the DAB's review of the MREC concept.

Upon concept approval from the DAB, JICMS will commence efforts on the fundraising and partnership phases of the Partnership Construction Process. The JICMS will incorporate as a 510(c)3 organization, either in the USVI or as a research foundation within one of the universities. This structure will enable the JICMS to tap into the resources of the partner universities and also provides the opportunity for the four partners to act as one entity in partnership with NPS.

The following sections describe each of the JICMS universities.

University of North Carolina Wilmington

During the past 10 years, UNCW has planned and constructed seven research facilities (total net square feet, approximately 250,000) with a current value of more than \$112 million, including the state-of-the-art Center for Marine Science and aquaculture facility. UNCW has an endowment of more than \$50 million, expends an average of \$20 million annually on research contracts and grants, and has a professional fundraising and contract and grant team of more than 40 individuals.

Researchers from the University of North Carolina Wilmington have taken the lead on developing the MREC since its inception. UNCW's strength in the natural sciences, especially biology and marine biology, chemistry and other disciplines that form the core of its internationally respected niche in the marine sciences, is the result of decades of institutional focus and investment. UNCW offers bachelor's degrees in 52 majors, 35 master's degrees, and a Ph.D. in marine biology, one of only three such degrees offered on the East Coast.

UNCW seeks "to create people who are educated for the 21st century and who have a sense of civic responsibility and leadership," by providing "a unique academic focus that connects

student learning in and out of the classroom across four broad themes: regional engagement, natural environment, information technology and internationalization.”

Faculty, staff and students at UNCW’s Center for Marine Science (CMS) and its state-of-the-art facility on the Intracoastal Waterway in the southern suburbs of Wilmington, N.C., are engaged in a variety of basic and applied research, service and education. These activities have implications for economic development, including marine biotechnology and “pharmaceuticals from the sea,” which have led to active agreements with pharmaceutical companies.

CMS is one of the most technologically advanced coastal ocean science research facilities along the eastern seaboard. It supports research in oceanography, coastal and wetland studies, coral reef ecology, marine biomedical and environmental physiology, marine biotechnology and aquaculture, and marine geology with faculty members from the departments of biology and marine biology, chemistry and biochemistry, physics and physical oceanography and geography and geology. The center fosters research programs of the highest quality and thereby enhances the educational experience provided by UNCW for all students in marine science.

UNCW long has partnered with NOAA, hosting NOAA’s largest Undersea Research Program (NURP) at CMS and maintaining a field station and research program based in Key Largo, Florida. The UNCW program is one of NOAA’s seven regional centers of undersea expertise and technology. NURC/UNCW was one of the original NURP regional centers, established in 1981, based on a peer-reviewed competition with other institutions around the Southeast.

NURC is housed at CMS and the center leases and manages the National Undersea Research Center in Key Largo, Florida. Shore facilities at NURC-Key Largo include: dockage for at least six support vessels, office space to support administrative activities, two labs and work space to support operations and science-related activities, and housing for visiting scientists (up to 16 at one time) and NURC support staff. The base is close to Conch Reef, the deployment site of the Aquarius Reef Base.

Aquarius, formerly in Salt River Bay, is now operated by UNCW/NURC. It is still the nation's only undersea laboratory and has undergone a high-tech overhaul since it was moored off St. Croix, enabling it to better study coral reef habitats and transmits video and other data from the ocean floor. Since 1993, the Aquarius undersea lab has supported more than 90 missions, producing approximately 300 peer-reviewed scientific publications along with numerous popular science articles, educational programs, and television spots.

University of the Virgin Islands

The University of the Virgin Islands was chartered as a not-for-profit educational institution in 1962, opening its first campus on St. Thomas in 1963 and a second on St. Croix in 1964. UVI has a combined enrollment of approximately 2,500 full-time, part-time and graduate students.

In addition to the St. Thomas Wellness Center, which is under construction, the UVI Office of Capital Projects has successfully managed more than \$14 million in new construction and major renovation projects on both campuses during the last four years.

The University of the Virgin Islands is a public liberal arts-based university, a Historically Black College and University, a Land-Grant institution and the only institution of higher learning in the U.S. Virgin Islands. The university's objective is to be recognized as the leading American institution of higher learning in the Caribbean.

UVI's Center for Marine and Environmental Studies (CMES) is a multidisciplinary center that includes two historically important research facilities: the MacLean Marine Science Center (MMSC) on St. Thomas and the Virgin Islands Environmental Resources Station (VIERS) on St. John.

CMES is well positioned to help establish the MREC as a premier research center in the Caribbean. The Center provides logistical support to researchers from UVI and from many off-island institutions and agencies, including the Woods Hole Oceanographic Institution, University of Miami, University of Rhode Island, Auburn University, Nova Southeastern University, University of Hawaii, as well as NOAA and the U.S. Geological Survey (USGS). CMES provides educational services on St. Croix through the Virgin Islands Marine Advisory Services (VIMAS), which is funded by the Puerto Rico Sea Grant agency. CMES supports and is committed to collaborate with its JICMS partners at all levels.

In 2007, UVI established the Masters in Marine and Environmental Science program on St. Thomas. CMES has been instrumental in providing intellectual and infrastructure resources for the graduate students to successfully conduct their research. UVI envisions that expansion of the masters program, including exploring the feasibility of establishing a doctoral program in marine sciences, cannot occur without expanding research facilities as proposed for the MREC.

Any major research infrastructure developed in the USVI requires the support of the Virgin Islands Experimental Program to Stimulate Competitive Research (VI-EPSCoR), which is funded by the National Science Foundation (NSF).

The VI-EPSCoR Governing Committee has recommended that CMES should continue to focus its efforts to: (1) continue to develop CMES as a center of excellence in marine and environmental science by further developing CMES research facilities, recruiting new faculty, and strengthening research collaborations; (2) further strengthen UVI research competitiveness in marine and environmental science by reducing barriers to research participation and strengthening UVI researchers' capacity; (3) strengthen linkages between researchers and decision makers to address critical environmental challenges facing the territory; (4) further develop linkages with UVI and the Department of Education to strengthen the science, technology, engineering, and mathematics (STEM) pipeline in education to recruit researchers; and (5) support the efforts of the Government of the Virgin Islands to strengthen the role of science and technology in economic development. All of these recommendations are in line with the goals and objectives of the MREC.

Rutgers, the State University of New Jersey

Rutgers, the State University of New Jersey (all campuses) has total annual research and development expenditures of \$300 million and an endowment of \$500 million. More than 200 professionals oversee fundraising, grants and contracts. Since 2000, Rutgers-New Brunswick has planned and constructed 11 research facilities (total net square feet,

approximately 405,000) with a current value of more than \$250 million. These facilities include a state-of-the-art Biomedical Engineering building (2007) and Life Sciences complex (2005) and the planned New Jersey Institute of Food, Nutrition and Health (2011).

The faculty and staff at the Institute of Marine and Coastal Sciences (IMCS) at Rutgers University have a number of interests and abilities that can contribute to the research goals of the MREC. Chartered in 1766, Rutgers has a unique history as a colonial college, a land-grant institution, and a state university. With more than 50,000 students, including 12,000 graduate students and 2,645 faculty, Rutgers is one of the nation's major public institutions of higher education and has one of the most diverse student bodies in the country.

The university's 27 degree-granting units offer majors in more than 100 fields, with thousands of courses covering the full range of human experience. More than 100 bachelors, 100 masters, and 80 doctoral and professional degree programs are offered across 10 undergraduate colleges and schools, 11 graduate schools, and six schools which offer both undergraduate and graduate programs.

Research and education at IMCS is conducted by about 50 faculty and 60 technical staff members who reside in 19 research groups. Members of the Coastal Ocean Observation Laboratory conduct research and technology development across a range of topics such as mapping global ocean provinces, developing smart exploration networks, ocean cyberinfrastructure, bio-optical models and ocean forecasting.

Rutgers operates one of the nation's 27 National Estuarine Research Reserves (NERRs), the Jacques Cousteau NERR, which aims to improve the management of coastal environments through science, education and public outreach.

The MREC would draw upon a pool of post-doctoral researchers and graduate students at the IMCS. A strong pool of postdocs conducts research on environmental biophysics and molecular ecology, physical oceanography, remote sensing, ocean modeling, marine biogeochemistry, and paleoceanography, and nutrient biogeochemistry. Rutgers has more than 20 postdocs in this program.

University of South Carolina

The University of South Carolina (all campuses) has total annual research and development expenditures of \$185 million and an endowment of \$400 million. In 2007, USC completed the Horizon Research Facility, which added 125,000 square feet of engineering and basic science research space to the campus and, in 2008; the Discovery Research Facility was constructed as another 110,000-square foot health sciences research facility.

These USC facilities were constructed for the Centers of Economic Excellence Endowed Chairs program to advance university research in support of knowledge-economy jobs. USC focuses its research in the areas of nanoscience, future fuels, health sciences, and environmental science. USC also is developing the Innovista Research campus in conjunction with local governments and private enterprise to create a live, work, learn environment in an urban campus setting.

The University of South Carolina (USC), chartered in 1801, is the flagship comprehensive research university in South Carolina. The university's eight campuses have a student

population of 41,518 (undergraduate and graduate). More than 350 programs lead to baccalaureate, masters, professional, and doctoral degrees. The talent, resources and opportunity in the dynamic research environment have resulted in research support of \$206 million (June 30, 2008). Collaborations with other research institutions and organizations and private partners leverage existing resources to promote discoveries and innovation.

The Belle W. Baruch Institute for Marine & Coastal Sciences (Baruch Institute) at USC is a national leader in research on coastal and estuarine systems and is recognized internationally for long-term research and unique monitoring data. The institute's mission is to conduct research and support education that will improve the management of marine and coastal resources and advance basic science for the well-being of people and their environment.

Headquartered on the Columbia campus of USC, the Baruch Institute operates a modern coastal field laboratory located on the essentially pristine North Inlet Estuary. The dual locations provide expansion of research through interaction with other research and academic units of the university, bringing together researchers in the sciences and in disciplines such as geography, economics, environmental health, policy, and statistics. Collaborative research efforts bring together scientists whose perspectives and expertise enable a more complete approach to wise use and sustainability.

North Inlet Estuary, the Baruch Institute's primary research site, provides the increasingly rare opportunity for comparative studies with more developed estuaries, enabling assessment of impacts associated with human activities. The long-term monitoring of this site, begun in the late 1970s and early 1980s, has resulted in datasets of approximately 100 regularly measured biotic and abiotic components. These datasets support research on environmental processes spanning the molecular to the landscape level, and serving as a barometer of climate change. Studies from this site are providing resource managers with information critical to establishing a healthy balance between maintaining the ecological integrity of systems and satisfying economic interests.

Summary

We have discussed our capabilities to successfully raise funds for the project and to sustain it long-term.

We have discussed and understand Director’s Order #21 on Donations and Fundraising and the need to follow the policies. We understand the NPS’s *Partnership Construction Process* and key responsibilities for both the NPS and the partners at key stages in this process. We understand that this memo does not constitute a commitment on the part of the National Park Service or on the part of the Joint Institute for Caribbean Marine Studies to execute the project described herein.

Recommendation

We recommend that you approve the project and identify it as a Regional Priority so that it can move ahead in the Partnership Construction Process.

Joel A. Tutein
CHRI/BUIS/SARI, Superintendent

Robert I. Wicklund
JICMS, Chairman of the Board

Date

Date

APPROVAL

I approve the recommendation and have established it as a regional priority.

David Vela
Regional Director, Southeast Region

Date

See Attached Scanned Signature Page

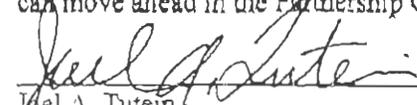
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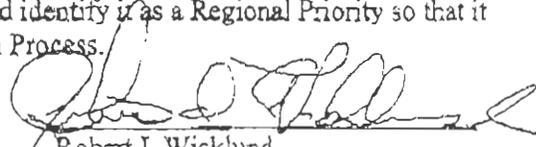
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Joel A. Tutein
CHRI/BUIS/SARI, Superintendent

Date 6/17/11



Robert I. Wicklund
JCMS, Chairman of the Board

Date 6/16/2011

APPROVAL

I approve the recommendation and have established it as a regional priority.



David Vela
Regional Director, Southeast Region

6-17-11

Date