



REQUEST FOR PROPOSAL

The Department of Environment invites interested and qualified persons to submit proposal for a Salt Water Filtration Tank Specialist. Please be guided by the terms of reference below.

Proposals should be accompanied by Curriculum Vitae and must be submitted on or before 28th June 2019 to the contact below:

Electronical Proposals should be sent to: Email: sknprotectedareas@gmail.com

Hardcopy Proposals should be sent to: Conserving Biodiversity Project
Department of Environment
Ursula Amory Building
Corner Central and New Street
Basseterre, St. Kitts
Tel: 869-466-8535

TERMS OF REFERENCE Salt Water Filtration Tank Specialist

Project Title:	Conserving Biodiversity and Reducing Habitat Degradation in Protected Areas and Their Areas of Influence
Duration of assignment:	6 months
Estimated Start Date:	8 th July 2019
Contract Type:	The Government of St. Kitts and Nevis Professional Services Contract
Location:	St. Kitts and Nevis
Implementing Partner:	Department of Environment - Ministry of Agriculture et al

Background

The Marine Management Area Conservation Zone at Keys is located on the eastern coast of St. Kitts, covering a total area of 8,931 hectares. Keys Beach is the only Key Biodiversity Area (KBA) in St Kitts and Nevis, due to its importance as a nesting site for leatherback sea turtles (*Dermochelys coriacea*). The Conservation Zone falls within the St Mary's Man and the Biosphere Reserve. In addition to providing nesting sites for turtles, the area provides habitat for coastal avifauna and encompasses two reef systems located north and south of the Cayon River. The active presence of the St. Kitts Sea Turtle Monitoring Network (SKSTMN), with volunteers and technicians monitoring the nesting of leatherback, loggerhead, hawksbill, and green turtles, helps to reduce poaching of turtles out of season. The marine area is also an important location for research, particularly on humpback, sperm, and Byrde's whales as well as dolphin, mahi mahi, wahoo, and tuna.

The Department of Environment in collaboration with the St. Kitts Sea Turtle Monitoring Network will construct a turtle interpretation / rehabilitation center at Keys Village. The Center will be used by the St. Kitts Sea Turtle Monitoring Network, Department of Environment and Department of Marine Resources for various marine and coastal zone management and conservation activities.

Objective

This consultancy will design, furnish and install salt water tanks and filtration equipment for three (3) turnkey independent systems for turtle holding, treatment and research at the Interpretation /Turtle Rehabilitation Center at



Keys. The Center will be used as a hospital for sick turtles, monitoring and patrol of the turtle nesting beaches and other coastal ecosystems at Keys. The Center will also be used for public outreach and education as well as a visitor center and an observatory to view the care of turtles.

Scope of Work

The Salt Water Filtration Tank Specialist will be responsible for undertaking the following activities:

- i. Design a filtration system for salt water tanks (tanks will be provided) based on the following guidelines and equipment list:
 - Total tank space 40 X 50 ft
 - Boardwalk for viewing turtles in tanks
- ii. Meet with the team for the Interpretation Center to confirm the schematic of the Center.
- iii. Collaborate with the Architect who will design the full-scale plan for the Center to include the tanks and boardwalk into the building.
- iv. Provide design services and the installation of three (3) turnkey independent systems for animal holding, treatment, and research. **Two** circular tanks (one 8 ft and one 10 ft in diameter) for smaller animals or animals needing intensive care. **One** oval tank raceway with a larger system volume and longer glide path for larger animals. Each system will comprise of an animal safe, food grade tank and an associated filtration, LSS (life support system) along with the equipment list below.
- v. Provide design services and the installation of a pre-treatment water sterilization system for incoming seawater using the equipment list below.
- vi. Provide design services and installation of a post-treatment water sterilization system for outgoing streams that will go back to the sea using the equipment list below.

Equipment List for St. Kitts Turtle Hospital

- 1 (One) JCF Round tank 8' dia. w/ adjustable weir box
- 1 (One) JCF Round tank 10' dia. w/ adjustable weir box
- 1 (One) JCF Oval tank 10'x20' w/ adjustable weir box
- 3 (Three) CSK style 100 gpm filter skids w/Bead (or glass) filter, UV and pump
- 2 (Two) RK75PE skimmers and appropriately sized MDM pumps
- 1 (One) RK150PE skimmers and appropriately sized MDM pump
- 2 (Two) 1500 gallon HDPE vertical water holding tanks
- 2 (Two) OY30S speece cone skids
- 2 (Two) UV sterilizers to provide 60mJ dose @ 50 gpm
- 3 (Three) 5g ozone generators w/ORP
- 1 (One) 25g ozone generator w/ORP
- 2 (Two) 2 ton heat pumps
- 1 (One) 5 ton heat pump
- 5 (Five) YSI 5200A units w/4M cables and all probe sets

Outputs

The results to be achieved under this assignment include the following:

- Draft Design Plan for tanks
- Final Design Plan for tanks
- Tanks and filtration system installed



Qualifications and Experience

Academic qualifications	Should hold a Bachelor's Degree in one of the following fields Biology, Zoology or Marine Biology
Experience	<ul style="list-style-type: none">• A minimum of 10 years working experience designing and installing salt water filtration tanks.• Membership in Aquarium and Zoological Association or Aquaculture Engineering Society.• Experience in the design and installation of salt water tanks, aquariums, zoological exhibits, aquaponics, architectural and industrial water treatment.• Experience in similar assignments in the context of Small Islands Developing States (SIDS), preferably in the Caribbean;
Competencies	<ul style="list-style-type: none">• Strong technical report writing skills;• Strong verbal and written communication skills;• Timely delivery of high-quality work;• Ability to work well with other design and construction specialists;• High proficiency with manufactured aquatic ecosystems and all associated equipment;• Fluency in spoken and written English.

Reporting

The successful Salt Water Filtration Tank Specialist will report directly to: The Conserving Biodiversity Project Coordinator at the Department of Environment on the Third Floor of the Ursula Amory Building on the Corner of Central and New Street, Basseterre, St. Kitts.

Deliverables become final once all tasks requirements are completed and approval is granted by the Department of Environment.