



COASTAL PROTECTION ENGINEERING

5301 N. FEDERAL HWY, SUITE 335

BOCA RATON, FL 33487

561-565-5100

January 3, 2025

Sent Via Email

Patricia Strayer, P.E.
Town Engineer
Town of Palm Beach
951 Old Okeechobee Road
West Palm Beach, FL 33401

Re: Proposal to Conduct Surveys for Queen Conch within Borrow Areas NBA1, NBA2, and NBA3

Dear Patricia:

This proposal is being provided at your request for Coastal Protection Engineering LLC (CPE) to support the Town of Palm Beach (Town) with professional services on an hourly (time and materials) basis to conduct surveys for queen conch (*Aliger gigas*), which is currently listed as a threatened species under the Endangered Species Act. The surveys will be conducted within (including a 100-foot buffer) North Borrow Area 1, North Borrow Area 2, and North Borrow Area 3. The total cost for these services is an estimated, Not-To-Exceed amount of \$189,299.10 and will be performed in accordance with this proposal and the Professional Services Agreement (PSA) 2020-02 between the Town of Palm Beach and CPE dated May 22, 2020. The scope of services is provided in Attachment 1 and the cost summary is provided in Attachment 2.

The compensation for services rendered under this proposal will be based on the Rate Schedule of the PSA as estimated in Attachment 2. Although this proposal is detailed by separable items and estimated by specific staff and categories, it is anticipated that some work elements will exceed the estimate while others fall below the estimate to complete. Our full staff and sub-consultant will be available and used as needed to achieve the scope of services and to meet the Town's objectives and timelines within the task budget. Should the Town desire additional services beyond this scope, CPE will be available to discuss adjustments as appropriate.

Thank you for the opportunity to serve the Town of Palm Beach. If you have any questions, please feel free to contact me directly at 561-632-1210.

Sincerely,

Stacy Buck
Senior Marine Biologist
Coastal Protection Engineering LLC
Mobile: 561-632-1210
sbuck@coastalprotectioneng.com

cc: Thomas Pierro, P.E., D.CE, CPE
Dylan Nestler, P.E., CPE

Attachment 1 - Scope of Services

Queen Conch Surveys of Borrow Areas

The Queen conch (*Aliger gigas*) was listed as threatened under the Endangered Species Act (ESA) in February 2024 by NOAA Fisheries. In December 2024, NOAA Fisheries Southeast Regional Office provided “Construction Conditions, Relocation and Reporting Guidelines” for minor, routine projects. This type of guidance has not been provided for projects with a footprint exceeding 1,000 m², such as dredging an offshore borrow area as a sand source for beach nourishment.

There are three borrow areas that are being considered for the Town of Palm Beach Mid-Town Beach Nourishment project, which include North Borrow Area 1 (NBA1), North Borrow Area 2 (NBA2), and North Borrow Area 3 (NBA3). Utilizing the published guidance mentioned above as well as discussions with staff from USACE and NOAA Fisheries, a protocol is proposed here to provide reasonable assurance that the borrow areas have been sufficiently investigated for the presence of queen conch. This approach may be modified within the proposed cost based on further discussion and continued coordination with agency staff.

Task 1 – Queen Conch Survey of North Borrow Area 1 (NBA1)

North Borrow Area 1 (NBA1) is approximately 122 acres in size and is located between R-monuments R-64 and R-71 north of Palm Beach Inlet. Qualified marine biologists will use a towed video camera integrated with Differential Global Positioning System (DGPS) to conduct a survey for queen conch within NBA1 and within 100 meters of the borrow area boundary. Based on the dimensions of NBA1, 63 transect lines will be generated in ArcGIS Pro for the towed video survey. The survey lines will be spaced 10 meters (32.8 ft) apart. A topside marine biologist will watch the video in real time to ensure the camera is positioned at the appropriate angle and video is of sufficient quality to identify resources. Biologists will record the coordinates (take a fix) of any potential queen conch that are observed in order to come back for diver verification. Photographs will be taken at each in situ diver verification site.

Discussion with NOAA Fisheries Protected Resources Division (PRD) has indicated that 10 randomly placed 12-m radial surveys should be conducted in each borrow area to investigate for the presence of queen conch. CPE will use ArcGIS Pro to generate 10 random sampling locations for these surveys. Each radial survey will follow the roving dive survey method expanding out in concentric circles. The width of each circle will be based on water visibility. This effort also includes an estimated amount of time for planning and discussions regarding survey protocols up to and including two virtual meetings and one in-person meeting at the Town’s Public Works office.

Raw data will be submitted in the form of scanned datasheets, excel spreadsheets with observed data, and photographs. An observation report will be prepared and provided to the USACE to support ESA Section 7 consultation. The report will include a map of the NBA1 plus the 100-m survey buffer area, the towed video transect lines, in situ diver investigation areas, the location of the 10 radial surveys, adjacent hardbottom resources (if present), and any observed occurrence of queen conch. This information shall be overlaid onto recent, clear aerial photographs.



Task 2 – Queen Conch Survey of North Borrow Area 2 (NBA2)

North Borrow Area 2 (NBA2) is approximately 20 acres in size and is located between R-73 and R-75, immediately north of Palm Beach Inlet. Qualified marine biologists will use a towed video camera integrated with DGPS to conduct a survey for queen conch within NBA2 and within 100 meters of the borrow area boundary. Based on the dimensions of NBA2, 47 transect lines will be generated in ArcGIS Pro for the towed video survey. The survey lines will be spaced 10 meters (32.8 ft) apart. A topside marine biologist will watch the video in real time to ensure the camera is positioned at the appropriate angle and video is of sufficient quality to identify resources. Biologists will record the coordinates of any potential queen conch that are observed in order to come back for diver verification. Photographs will be taken at each in situ diver verification site.

Discussion with NOAA Fisheries PRD has indicated that 10 randomly placed 12-m radial surveys should be conducted in each borrow area to investigate for the presence of queen conch. CPE will use ArcGIS Pro to generate 10 random sampling locations for these surveys. Each radial survey will follow the roving dive survey method expanding out in concentric circles. The width of each circle will be based on water visibility. This effort also includes an estimated amount of time for planning and discussions regarding survey protocols up to and including two virtual meetings and one in-person meeting at the Town's Public Works office.

Raw data will be submitted in the form of scanned datasheets, excel spreadsheets with observed data, and photographs. An observation report will be prepared and provided to the USACE to support ESA Section 7 consultation. The report will include a map of the NBA2 plus the 100-m survey buffer area, the towed video transect lines, in situ diver investigation areas, the location of the 10 radial surveys, adjacent hardbottom resources (if present), and any observed occurrence of queen conch. This information shall be overlaid onto recent, clear aerial photographs.

Task 3 – Queen Conch Survey of North Borrow Area 3 (NBA3)

North Borrow Area 3 (NBA3) is approximately 24 acres in size and is located immediately south of Palm Beach Inlet and very close to shore between R-76 and R-78. Qualified marine biologists will use a towed video camera integrated with DGPS to conduct a survey for queen conch within NBA3 and within 100 meters of the borrow area boundary. Based on the dimensions of NBA3, 55 transect lines will be generated in ArcGIS Pro for the towed video survey. The survey lines will be spaced 10 meters (32.8 ft) apart. A topside marine biologist will watch the video in real time to ensure the camera is positioned at the appropriate angle and video is of sufficient quality to identify resources. Biologists will record the coordinates of any potential queen conch that are observed in order to come back for diver verification. Photographs will be taken at each in situ diver verification site.

Discussion with NOAA Fisheries PRD has indicated that 10 randomly placed 12-m radial surveys should be conducted in each borrow area to investigate for the presence of queen conch. CPE will use ArcGIS Pro to generate 10 random sampling locations for these surveys. Each radial survey will follow the roving dive survey method expanding out in concentric circles. The width of each circle will be based on water



visibility. This effort also includes an estimated amount of time for planning and discussions regarding survey protocols up to and including two virtual meetings and one in-person meeting at the Town's Public Works office.

Raw data will be submitted in the form of scanned datasheets, excel spreadsheets with observed data, and photographs. An observation report will be prepared and provided to the USACE to support ESA Section 7 consultation. The report will include a map of the NBA3 plus the 100-m survey buffer area, the towed video transect lines, in situ diver investigation areas, the location of the 10 radial surveys, adjacent hardbottom resources (if present), and any observed occurrence of queen conch. This information shall be overlaid onto recent, clear aerial photographs.

Town of Palm Beach

Borrow Areas NBA1, NBA2 and NBA3

CPE Cost Proposal		Task Total	LABOR					MATERIALS	SUBCONTRACTOR
			Principal Engineer Hours	Biologist Hours	Jr. Coastal Engineer Hours	Jr. Coastal Scientist Hours	CAD/GIS Operator Hours	Equipment & Insurance diver/day	APTIM Cost
Task 1	NBA1 Queen Conch Survey and Report	\$ 78,086.30	8	124	12	144	8	16	\$ 35,933.00
Task 2	NBA2 Queen Conch Survey and Report	\$ 55,606.40	8	88	12	108	8	10	\$ 24,104.00
Task 3	NBA3 Queen Conch Survey and Report	\$ 55,606.40	8	88	12	108	8	10	\$ 24,104.00
TOTAL			24	300	36	360	24	36	\$ 84,141.00
RATE			\$ 279.00	\$ 153.00	\$ 103.00	\$ 100.00	\$ 95.00	\$ 60.00	\$ 1.10
COST			\$ 6,696.00	\$ 45,900.00	\$ 3,708.00	\$ 36,000.00	\$ 2,280.00	\$ 2,160.00	\$ 92,555.10
LABOR			\$ 94,584.00						
MATERIALS			\$ 2,160.00						
SUBCONTRACTOR			\$ 92,555.10						
TOTAL			\$ 189,299.10						