Indian River County

Sector 7 Beach & Dune Restoration Project

ATTACHMENT 2

ENVIRONMENTAL PROTECTION

Applicable to Construction using Upland or Offshore Sand Source

ENVIRONMENTAL PROTECTION

1. SCOPE

This section addresses the prevention of pollution and other environmental damage as the result of construction operations under this contract and for those measures set forth in the Technical Specifications and the permits for the Work. For the purpose of this specification, pollution and other environmental damage are defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes. The control of pollution and damage requires consideration of air, water, land and the marine environment and includes management of construction activities, visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants. The CONTRACTOR shall fulfill these specifications at the CONTRACTOR's expense but compensated within the bid items designated on the Bid Schedule.

2. QUALITY CONTROL

The CONTRACTOR shall establish and maintain quality control for environmental protection for all items set forth herein. The CONTRACTOR shall record on Daily Quality Control reports any problems in complying with laws, regulations and ordinances, as well as Project permits, and corrective action taken.

3. PERMITS

The CONTRACTOR shall comply with all requirements under the terms and conditions set out in all permits applicable to the work including the Florida Department of Environmental Protection (FDEP or Department) Joint Coastal Permit (FDEP Permit Number: 0154626-001-JC) and the U.S. Army Corps of Engineers (USACE) Individual Permit [SAJ 2009 03448 (IP GGL)] for the Project. Note that a copy of the FDEP Permit is included herein and a copy of the USACE permit shall be provided upon issuance. Specifically, the CONTRACTOR will familiarize himself with specific conditions contained in the FDEP and USACE permits and other State approvals for the Project. Any other licenses, easements or approvals required, including, but not limited to those which may be required by the COUNTY shall be secured and paid for by the CONTRACTOR.

4. SUBCONTRACTORS

Assurance of compliance with all sections of the contract by subcontractors will be the responsibility of the CONTRACTOR, including compliance with all environmental and permit requirements.

5. ENVIRONMENTAL PROTECTION PLAN

The CONTRACTOR is required to submit to the ENGINEER an environmental protection plan within twenty (20) days after the Notice of Award and prior to the pre-construction conference. The Notice to Proceed will not be issued until the Environmental Protection Plan is reviewed and accepted by the ENGINEER. Acceptance of the CONTRACTOR's plan will not relieve the CONTRACTOR of his responsibility for adequate and continuing control of pollutants and other environmental protection measures. The Environmental Protection Plan shall include but not be limited to the following:

(a) A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the CONTRACTOR's proposed operations and the requirements imposed by those laws, regulations, and permits.

(b) Methods for protection of features and habitats to be preserved within authorized work areas. The CONTRACTOR shall prepare a listing of methods to protect resources needing protection, i.e. all vegetation, trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archeological and cultural resources, hardbottoms, manatees and all marine hardbottom areas.

(c) Procedures to be implemented to provide the required environmental protection and to comply with the applicable permits, laws and regulations. The CONTRACTOR shall provide written assurance that immediate corrective action will be taken to correct pollution of the environment due to accident, natural causes or failure to follow the procedures set out in accordance with the Environmental Protection Plan.

(d) Drawings showing locations of any proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

(e) Environmental monitoring plans for the jobsite, including land, water, air and noise monitoring.

(f) Oil spill prevention.

(g) Oil spill contingency plan.

(h) A marine (sea) turtle protection plan.

(i) A manatee protection plan.

(j) Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

(k) A statement as to the person who will be responsible for implementation of the Environmental Protection Plan. The CONTRACTOR personnel responsible shall report directly to the CONTRACTOR's top management and shall have the authority to act for the CONTRACTOR in all environmental protection matters.

(l) A statement acknowledging that the CONTRACTOR is responsible for environmental protection, including all of the CONTRACTOR's personnel and subcontractors.

(m) The Environmental Protection Plan will be dated and endorsed by the individual of the CONTRACTOR’s top management in charge of the construction.

6. NOTIFICATION

The ENGINEER will notify the CONTRACTOR and the COUNTY of any observed noncompliance with the aforementioned Federal, State, or local laws or regulations, permits and other elements of the CONTRACTOR's environmental protection plan. The COUNTY will determine what action will be taken and such response will be transmitted to the CONTRACTOR by the ENGINEER which may include stopping construction of the Project until the CONTRACTOR complies with the environmental protection plan. Nevertheless, it remains the sole responsibility of the CONTRACTOR to comply with all applicable Federal, State or Local laws or regulations, permits and all elements of the environmental protection plan. It will also be the CONTRACTOR's responsibility to advise all subcontractors to comply with all applicable laws, regulations, permit requirements and all elements of the environmental protection plan.

7. TURBIDITY MONITORING & CONTROL.

7.1 The CONTRACTOR shall be bound and obligated to maintain the quality of the State's waters as stipulated in Chapter 62-302 of the Florida Administrative Code. The CONTRACTOR will conduct water quality monitoring procedures as defined in the Technical Specifications and the permits for the Project. Water quality monitoring will be included in the Project construction bid as a portion of the unit cost of the Project "Permit Compliance / Turbidity Monitoring" Bid Item. The CONTRACTOR will also provide the ENGINEER with daily water quality monitoring reports immediately after completion of the water quality analysis as prescribed by the Technical Specifications.

7.2 In order to assure that turbidity levels do not exceed the compliance standards established in the FDEP is permit, construction and water quality at the project site shall be monitored closely by the CONTRACTOR via an independent third party with formal training in water quality monitoring and professional experience in turbidity monitoring for coastal construction projects. Also, an individual representing the CONTRACTOR and familiar with beach construction techniques and turbidity monitoring shall be present at all times when turbidity generating activities are occurring. This individual shall have authority to alter construction techniques or shut down the dredging or beach construction operations if turbidity levels exceed the compliance standards established in this permit.

The CONTRACTOR's environmental protection plan shall identify:

i. ***Qualifications***: The names, credentials (demonstrating experience and qualifications) and 24-hour contact information of those individuals performing these functions;

ii. A ***Scope of Work*** for the turbidity monitoring to ensure that the right equipment is available to conduct the monitoring correctly at any location, and under any conditions;

iii. ***Draft turbidity sampling map.*** An example of the geo-referenced map that will be provided with turbidity reports, including aerial photography and the boundaries of biological resources and/or OFW (pursuant to expected FDEP Specific Conditions).

7.3 Water Quality - Turbidity shall be monitored as follows:

Units: Nephelometric Turbidity Units (NTUs).

Frequency: Monitoring shall be conducted 3 times daily, approximately 4 hours apart, and at any other time that there is a likelihood of an exceedance of the turbidity standard, during all dredging and sand placement operations.

At the dredge site, sampling shall be conducted after overflow from the hopper begins and the associated turbidity plume has reached the edge of the mixing zone. At the fill placement site, sampling shall be conducted after discharge from the hopper begins and the associated turbidity plume has reached the edge of the mixing zone.

Sampling shall be conducted **while the highest project-related turbidity levels are crossing the edge of the mixing zone**. Since turbidity levels can be related to pumping rates, the dredge pumping rates shall be recorded, and provided to the Department upon request. The compliance samples and the corresponding background samples shall be collected at approximately the same time, i.e., background sample shall immediately follow the compliance sample.

Location: Background: Sampling shall occur at surface (approximately one foot below the surface), mid-depth (for sites with depths greater than 6 feet), and bottom (approximately 6 feet-above the bottom for sites with depths greater than 25 feet). All background sampling shall occur clearly outside the influence of any artificially generated turbidity plume or the influence of an outgoing inlet plume.

Borrow Site: Samples shall be collected at least 300 meters up-current from the source of turbidity at the dredge site.

Beach Site: Samples shall be collected at least 300 meters up-current from any portion of the beach that has been, or is being, filled during the current construction event, at the same distances offshore as the associated compliance samples.

Compliance: Sampling shall occur at surface (approximately one foot below the surface), mid-depth (for sites with depths greater than 6 feet), and bottom (approximately 6 feet above the bottom for sites with depths greater than 25 feet).

Borrow Site: Samples shall be collected 150 meters down-current from the cutterhead or the hopper dredge overflow point, or at the edge of the nearest seagrass bed/hardbottom in the downcurrent direction, whichever is closest to the cutterhead or overflow point **and** from any other source of turbidity generated by the dredge, in the densest portion of any visible turbidity plume. If no plume is visible, follow the likely direction of flow.

Beach Site (when placing sand from upland source): Samples shall be collected where the densest portion of the turbidity plume crosses the edge of the mixing zone polygon, which measures up to 100 meters offshore or to the landward edge of the nearshore hardbottom, whichever is closer, and up to 150 meters alongshore from the point where the return water from the dredged discharge reenters the Atlantic Ocean. *Note: If the plume flows parallel to the shoreline, the densest portion of the plume may be close to shore, in shallow water. In that case, it may be necessary to access the sampling location from the shore, in water that is too shallow for a boat.*

Beach Site (when placing sand from offshore source): Samples shall be collected where the densest portion of the turbidity plume crosses the edge of the mixing zone polygon, which measures up to 120 meters offshore or to the landward edge of the nearshore hardbottom, whichever is closer, and up to 750 meters alongshore from the point where the return water from the dredged discharge reenters the Atlantic Ocean. *Note: If the plume flows parallel to the shoreline, the densest portion of the plume may be close to shore, in shallow water. In that case, it may be necessary to access the sampling location from the shore, in water that is too shallow for a boat.*

7.4 Calibration: The instruments used to measure turbidity shall be fully calibrated with primary standards within one month of the commencement of the project, and at least once a month throughout the project. Calibration with secondary standards shall be verified each morning prior to use, after each time the instrument is turned on, and after field sampling using two secondary turbidity "standards" that bracket the anticipated turbidity samples. If the post-sampling calibration value deviates more than 8% from the previous calibration value, results shall be reported as estimated and a description of the problem shall be included in the field notes.

Analysis of turbidity samples shall be performed in compliance with DEP-SOP-001/01 FT 1600 Field Measurement of Turbidity:
http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/ft1600.pdf
If the turbidity monitoring protocol specified above prevents the collection of accurate data, the person in charge of the turbidity monitoring shall contact the JCP Compliance Officer to establish a more appropriate protocol. Once approved in writing by the Department, the new protocol shall be implemented through an administrative permit modification.

7.5 The **compliance** locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the **compliance** sites that are greater than 11 NTUs above the corresponding background turbidity levels when the plume extends into OFW, or 29 NTUs above the corresponding background turbidity levels outside of OFW, construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported to the JCP Compliance Officer via email at JCPCompliance@dep.state.fl.us and include in the subject line, "TURBIDITY EXCEEDANCE", and the Project Name and Permit Number. Also notify the Department's Southeast District office.

Any project-associated turbidity source other than dredging or fill placement for beach nourishment (e.g., scow or pipeline leakage) shall be monitored as close to the source as possible. If the turbidity level exceeds 11NTUs above background within OFW or 29 NTUs above background outside of OFW, the construction activities related to the exceedance shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. This turbidity monitoring shall continue every hour until background turbidity levels are restored or until otherwise directed by the Department. The Permittee shall notify the Department, by separate email to the JCP Compliance Officer, of such an event within 24 hours of the time the Permittee first becomes aware of the discharge. The subject line of the email shall state "OTHER PROJECT-ASSOCIATED DISCHARGE, TURBIDITY EXCEEDANCE".

a. When reporting a turbidity exceedance, the following information shall also be included:
   i. the Project Name;
   ii. the Permit Number;
   iii. location and level (NTUs above background) of the turbidity exceedance;
   iv. the time and date that the exceedance occurred; and
   v. the time and date that construction ceased.

b. Prior to re-commencing the construction, a report shall be emailed to the Department with the same information that was included in the "Exceedance Report", plus the following information:
   i. turbidity monitoring data collected during the shutdown documenting the decline in turbidity levels and achievement of acceptable levels;
   ii. corrective measures that were taken; and
   iii. cause of the exceedance.

7.6 Turbidity Reports: All turbidity monitoring data shall be submitted by the CONTRACTOR to the Department and ENGINEER within one week of analysis. The data shall be presented in tabular format, indicating the measured turbidity levels at the compliance sites for each depth, the corresponding background levels at each depth and the number of NTUs over background at each depth. Any exceedances of the turbidity standard (11 NTUs above background within OFW, 29 NTUs above background outside of OFW) shall be highlighted in the table. In addition to the raw and processed data, the reports shall also contain the following information:

a. time of day samples were taken;
b. dates of sampling and analysis;
c. GPS location of sample and source. *When possible, coordinates should be provided in decimal degrees with a 5 decimal level of precision (i.e., 0.00001). Please also indicate the datum*;
d. depth of water body;
e. depth of each sample
f. antecedent weather conditions, including wind direction and velocity;
g. tidal stage and direction of flow;
h. water temperature;
i. a geo-referenced map, overlaid on an aerial photograph, indicating the sampling locations (background and compliance), location of active construction, the visible plume pattern and direction of flow. The map shall also include the boundaries of any benthic resources or OFW. A sample map shall be submitted to and reviewed by the Department prior to construction;
j. a statement describing the methods used in collection, handling, storage and analysis of the samples;
k. a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of

detection, calibration of the meter, accuracy of the data and precision of the GPS measurements;

l. When samples cannot be collected, include an explanation in the report. If unable to collect samples due to severe weather conditions, include a copy of a current report from a reliable, independent source, such as an online weather service.

Monitoring reports shall be submitted by email to the ENGINEER and the Department's JCP Compliance Officer. In the subject line of the reports, include the Project Name, Permit Number and the dates of the monitoring interval. Failure to submit reports in a timely manner constitutes grounds for revocation of the permit. When submitting this information to the Department's JCP Compliance Officer, on the cover page to the submittal and at the top of each page, please state: **"This information is provided in partial fulfillment of the monitoring requirements in Permit No. 0285993-009-JC, for the Indian River County Sector 3 Beach and Dune Nourishment Project"**

8. PROTECTION OF ENVIRONMENTAL RESOURCES

The environmental resources within the Project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract. The CONTRACTOR shall confine his/her activities to areas defined by the Drawings and Specifications. Environmental protection shall be as stated in the following subparagraphs.

8.1 Protection of Land Resources. Prior to the beginning of any construction, the ENGINEER shall identify all land resources to be preserved within the CONTRACTOR's work area, which is defined as the beach seaward of any artificial structure such as a roadway or building. The CONTRACTOR shall not remove, cut, deface, injure, or destroy land resources including sand dune or berm vegetation, trees, shrubs, vines, grasses, top soil, and land forms without direct written permission from COUNTY. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is allowed, the CONTRACTOR shall provide effective protection for land and vegetation resources at all times as defined in the following paragraphs. The CONTRACTOR will be responsible for the replacement of any damaged or destroyed vegetation, to the satisfaction of the COUNTY and ENGINEER. Failure to replace damaged or destroyed vegetation by the CONTRACTOR will result in replacement by the COUNTY; cost of replacement will be deducted from monies due to the CONTRACTOR from the COUNTY.

8.1.1 Work Area Limits: Isolated areas (if any) within the work area which are to be saved and protected shall also be identified by the ENGINEER and marked or fenced by the CONTRACTOR. All reference-monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the marks shall be visible. The CONTRACTOR shall convey to all subcontractors and personnel the purpose of marking and/or protection for all necessary objects.

8.1.2 Protection of Landscape: Trees, shrubs, vines, grasses, land forms, and other landscape features within the work area to be preserved shall be identified by the ENGINEER, and clearly delineated by the CONTRACTOR, by marking, fencing, or wrapping with boards, or any other techniques approved by the ENGINEER. Unless otherwise approved by the ENGINEER, no trees, shrubs, vines, grasses or other vegetation will be harmed or destroyed by the CONTRACTOR for any purpose.

8.1.3 Fill Placement: To avoid damage, no fill will be placed within 25 feet of dunes, seawalls, or vegetation by direct dumping. Mechanical or manual means shall be used to place such material.

8.1.4 Temporary Excavations: Embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment.

8.1.5 Disposal of Solid Wastes: Solid wastes (including clearing debris) shall be placed in containers which are emptied on a regular schedule. The CONTRACTOR will empty containers when three-quarters full and will avoid overflow conditions. All handling and disposal shall be conducted to prevent contamination. No steel, cables, wire, pipe, drums OR ANY OTHER DEBRIS shall be permitted to be disposed into the waters of the Atlantic Ocean or Intracoastal Waterway. If such debris is found, the debris shall be removed by the CONTRACTOR at his own cost, or the cost of removal deducted from the CONTRACTOR's final payment.

8.1.6 Disposal of Chemical Waste: Chemical waste shall be stored in corrosion resistant containers, removed from the work area and disposed of in accordance with Federal, State, and Local regulations. The CONTRACTOR shall perform all maintenance of equipment, including but not limited to refueling, filter changes, and replacement of hydraulic lines in a manner so as not to contaminate soils, ground or surface waters, or any other natural resources.

7.1.7 Disposal of Discarded Materials: Discarded materials other than those which can be included in the solid waste category will be handled by the CONTRACTOR as directed by the ENGINEER or COUNTY.

8.2 Protection of Fish and Wildlife Resources. The CONTRACTOR shall keep construction activities under continued surveillance, management, and control to minimize interference with, disturbance to, and damage of fish wildlife, and associated habitat.

8.2.1 Manatee Protection: In order to ensure that manatees are not adversely affected by construction activities, the CONTRACTOR shall adhere to the following conditions:

8.2.1.1 The CONTRACTOR will instruct all personnel associated with the Project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s), and shall implement appropriate precautions to ensure protection of the manatee(s).

8.2.1.2 All construction personnel will be advised by the CONTRACTOR that there are civil and criminal penalties for harming, harassing or killing manatees which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act. The CONTRACTOR may be held responsible for any manatee harmed, harassed, or killed as a result of construction activities.

8.2.1.3 All vessels associated with the Project shall operate at "idle speed/no wake" at all times while in the construction area and while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

8.2.1.4 If manatees are seen within 100 yards of the active daily construction/dredging operation, all appropriate precautions shall be implemented to ensure protection of the manatee(s). These precautions shall include the operation of all moving equipment no closer than 100 feet of a manatee. Operation of any equipment closer than 100 feet to a manatee shall necessitate immediate shutdown of that equipment. A "spotter" will visually follow the manatee to ensure that the manatee has left the construction area before equipment operation resumes.

8.2.1.5 Siltation barriers, if used, must be properly secured so that manatees cannot become entangled, and are monitored at least hourly to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

8.2.1.6 The CONTRACTOR will maintain a log detailing sightings, collisions, or injuries to manatees should they occur during the contract period. The CONTRACTOR will also report any sightings, collisions or injuries to the ENGINEER in the Daily Quality Control Reports.

8.2.1.7 Any collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol (1-800-DIAL-FMP), and to the Bureau of Protected Species Management (850) 922-4330 and to the ENGINEER.

8.2.2 Sea Turtle Protection: Endangered and threatened species of sea turtles are known to occur, particularly during and around the time of their nesting season (March 1 through October 31), in the Project vicinity. The CONTRACTOR shall comply with all conditions of the Endangered Species Act of 1973. There are civil and criminal penalties for harming, harassing or killing sea turtles. The CONTRACTOR must comply with all Terms and Conditions of: the Florida Department of Environmental Protection (FDEP) Joint Coastal Permit; U.S. Army Corps of Engineers (USACE) Individual Permit; the USFWS's project specific The CONTRACTOR shall follow the applicable Terms and Conditions in the following Biological Opinions (BO) that are incorporated by reference in the USACE Permit: U.S. Fish and Wildlife Service (USFWS) Statewide Programmatic Biological Opinion (SPBO) for sea turtles, dated July 9, 2015; USFWS Programmatic Piping Plover Biological Opinion (P3BO) for piping plovers and red knots, dated May 22, 2013; and the National Marine Fisheries Service (NMFS) South Atlantic Regional Biological Opinion (SARBO). The SARBO can be found at this link: https://www.fisheries.noaa.gov/content/endangered-species-act-section-7-biological-opinions-southeast. Additionally, the CONTRACTOR shall follow and implement the Florida Fish and Wildlife Conservation Commission's (FWC) Standard Manatee Conditions for In-Water Work (FWC, 2011) and the minimization measures outlined for manatees in the 2015 USFWS SPBO. Any other licenses or approvals required for the prosecution of the Work shall be secured and paid for by the CONTRACTOR. Construction on nesting beaches in south Florida is prohibited between May 1st and October 31st. The CONTRACTOR shall instruct all personnel and subcontractors relative to the sea turtle protection regulations. The CONTRACTOR shall be liable for any non-compliance with the conditions of the permits, easements and terms of this contract attributable to their personnel or subcontractors. During the placement of fill material, if work is done during the sea turtle nesting season (March 1 to October 31); (a) the COUNTY shall make daily visual inspections to check for the existence of nests, mark these nests, and subsequently avoid or relocate the nests as required by the permits, and (b) a meeting will be arranged by the COUNTY between representatives of the CONTRACTOR,

the COUNTY, the ENGINEER, the USFWS, FDEP, USACE, and the permitted person responsible for egg relocation at least 30 days prior to (by March 1); the COUNTY shall notify all participants of the meeting at least 10 days prior to this meeting.

8.2.2.1 Nesting Activity. Monitoring sea turtle nesting activity shall be performed by the COUNTY during the nesting season. Any signs of turtle nesting activity observed by the CONTRACTOR shall be reported immediately to the ENGINEER and the COUNTY's sea turtle monitoring agent. No construction activity shall occur in the vicinity of nesting turtles, turtle nests or hatching turtles until (a) the nests have been satisfactorily relocated or (b) the nesting or hatching turtles have been protected by the COUNTY's agent. The CONTRACTOR shall instruct all personnel associated with the construction of the Project, including subcontractors, about the presence of sea turtles and sea turtle nests in the area, stressing the need to avoid disturbance of nesting sea turtles, nests or hatchlings. If the Project proceeds later than March 1, a daily marine turtle nesting survey will be required and performed by the COUNTY to identify and possibly relocate any nests in the Project area. Construction activity may not commence until the completion of the marine turtle survey each day. Nests may be present on the beach outside of the work area at the time of construction. The CONTRACTOR shall not allow equipment on the beach outside of the designated work area.

8.2.2.2 Reporting. All sea turtles sighted during dredging or construction must also be reported immediately to the ENGINEER and the COUNTY's sea turtle monitoring agent. The Sea Turtle Observer's Reports shall be included in the Contractor's Daily Quality Control Report. Any incidental takes or observations of dead, injured, or sick sea turtles shall be reported immediately to (a) the COUNTY's Project Manager (772-226-1648), (b) FDEP (1-800-DIAL FMP), (c) the FWC Bureau of Marine Enforcement (800-342-5367), and (d) the USFWS's South Florida Ecological Services Office in Vero Beach, Florida at (772) 562-3909.

8.2.2.3 Compaction Testing. The COUNTY shall perform compaction testing in accordance with FDEP standard Specific Conditions.

8.2.2.4 Escarpment Formations. The COUNTY shall monitor escarpment formations – after acceptance of the Work - according to standard FDEP Specific Conditions. Prior to acceptance of the Work, the CONTRACTOR shall be responsible for grading escarpments along the Project shoreline in accordance with the

Technical Specifications until the COUNTY's final acceptance of the Work.

8.2.2.5 Lighting. During the marine turtle nesting season, all on-beach lighting associated with the Project shall be limited to the immediate area of active construction only. Such lighting shall be the minimal lighting necessary to comply with safety requirements, and shall be shielded low pressure sodium vapor lights to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all Coast Guard and OSHA requirements. Shielded low pressure sodium vapor lights are recommended for all lights on offshore equipment that cannot be eliminated.

8.2.2.6 Relocation Trawling. In the event that the CONTRACTOR utilizes a hopper dredge, payment for labor, materials, equipment, and all other appropriate costs in connection with sea turtle relocation trawling shall be compensated at the lump sum cost indicated on the Bid Schedule for Permit Compliance/Turbidity Monitoring

In concert with the CONTRACTOR's use of a hopper dredge and use of the offshore borrow area, under Bid Item 4, the CONTRACTOR shall perform marine turtle and Gulf sturgeon relocation trawling prior to the start of dredging in accordance with expected Special Conditions of the USACE permit and the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States (2020 SARBO) dated March 2020.

8.2.2.7 NOAA Observers: In concert with dredging of the offshore borrow area, the CONTRACTOR shall continuously provide trained NOAA Fisheries-approved sea turtle observers onboard the dredge vessel(s) at all times during the excavation of fill material - starting immediately upon project commencement, to monitor for the presence of listed species and/or parts being entrained or present in the vicinity of dredge operations. NOAA Fisheries-approved observers are required on all hopper dredges to visually monitor the dredge area repeatedly prior to and during all hopper dredge operations for sea turtle presence in the area. Observers shall also monitor the hopper spoil, overflow, screening and dragheads for sea turtles and their remains. The CONTRACTOR shall provide NOAA Fisheries-approved observers with demonstrated ability to identify

sea turtle species, starting immediately upon project commencement, to monitor for the presence of listed species and/or parts being entrained or present in the vicinity of dredge operations. In addition, NOAA Fisheries-approved observers will be present onboard the relocation trawler(s), whenever relocation trawling is occurring. Flood lights will be installed on the dredge(s) and the relocation trawler(s) to allow observers to safely observe and monitor the baskets or screens. The NOAA Fisheries-approved observer shall be responsible for implementing the Endangered Species Observer Program and the timely submittal of forms to the USACE (sajdredgenotice@usace.army.mil).

If an endangered species or sea turtle take occurs (either on the dredge or by the relocation trawler), the CONTRACTOR shall immediately notify (within 6 hours of the take event) the NOAA Fisheries' Protected Resources Division at (727-824-5312), the COUNTY (772-226-1648), the Sea Turtle Stranding and Salvage Network (STSSN) (SeaTurtleStranding@myfwc.com), the USFWS's South Florida Ecological Services Office in Vero Beach, Florida (772-562-3909), the USACE (sajdredgenotice@usace.army.mil), and ENGINEER. Notification shall also include submittal of photographic documentation and incidental take reports completed by the observer.

During dredging operations, the trained NOAA observer shall inspect the galvanized screens and baskets at the completion of each loading cycle for evidence of sea turtles. The NOAA observer shall complete for each loading cycle a Load Data Form. Every incidental take (alive or dead) should be photographed. Dredging operations shall not resume until notified by the USACE District Engineer. For each sighting of any endangered or threatened marine species, the information required for the Endangered Species Observer Program shall be recorded and reported.

8.2.3 Hardbottom Protection: Nearshore hardbottom communities extensively exist immediately seaward of beaches in Indian River County including within the Project area. The CONTRACTOR shall avoid contact with any and all hardbottom communities which are to be protected during performance of the work and in mobilization and demobilization to and from the Project site. It will be solely the responsibility of the CONTRACTOR to avoid all hardbottom formations and hardbottom biological communities other than those as may located ***within*** the construction templates and pipeline corridors as shown in the Drawings for fill placement. ENCROACHMENT ON, OR CONTACT WITH, HARDBOTTOM COMMUNITIES LOCATED ***OUTSIDE*** OF THE FILL TEMPLATE IS STRICTLY PROHIBITED. The CONTRACTOR shall

take note that the State of Florida has levied significant fines to contractors who have damaged protected hardbottom communities. The CONTRACTOR will be responsible for any and all fines, or legal expenses, or hardbottom repairs or mitigation requirements incurred by the CONTRACTOR, the COUNTY and the ENGINEER in the event that the CONTRACTOR has damaged hardbottom communities in the Project area.

8.3 Protection of Air Resources. The CONTRACTOR shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes, and work operated or performed by the CONTRACTOR in accomplishing the specified construction shall be in strict accordance with the applicable air pollution standards of the State of Florida (Florida Statute, Chapter 403 and others) and all Federal emission and performance laws and standards.

8.4 Protection of Historical, Archeological, and Cultural Resources. If during construction activities, the CONTRACTOR observes items that may have historical or archeological value, such observations shall be reported immediately to the ENGINEER so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The CONTRACTOR shall cease all activities that may result in the destruction of these resources and shall prevent his employees and subcontractors from trespassing on, removing, or otherwise damaging such resources. The CONTRACTOR shall report any observed unauthorized removal or destruction of such resources by any person to the ENGINEER and appropriate State of Florida authorities.

8.5 Protection of Sound Intrusions. The CONTRACTOR shall keep construction activities under surveillance, and control to minimize damage to the environment by noise.

8.6 Dispensing of Fuel. Secondary containment, which is capable of holding 110% of the tank contents, must be provided by the CONTRACTOR for each fuel storage tank. Fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bibb. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spilling of fuel occur, the CONTRACTOR shall immediately contain the spill and contact the appropriate local authorities. The CONTRACTOR will be solely responsible for any fines, penalties or other legal activities related to fuel spills.

8.7 Temporary Sanitary Facility. The CONTRACTOR shall supply and maintain, at minimum, one (1) temporary sanitary facility for the use of land based employees and subcontractors. The facility shall be conveniently located in the

vicinity of the beach disposal operation, but away from residential buildings along the coastline. The facility shall be removed at the end of the Project.

8.8 Storage of Lubricants. All lubricants and other potential liquid pollutants shall be stored in sealed, non-corrosive containers. Individual containers shall be stored in metal pans with borders banded up and welded at the corners right below the bibb. Pans shall be deep enough to prevent contamination of the ground. Pans shall be kept clean of all spillage or leakage.

8.9 Traffic. The CONTRACTOR is responsible for complying with all Florida Department of Transportation, Indian River County and other local regulations regarding weight limits for roads and bridges utilized for transport of equipment and any sand fill material. The CONTRACTOR is likewise responsible for complying with all applicable traffic, safety and speed laws. Repeated failure of the CONTRACTOR to comply with applicable load and traffic regulations will result in suspension of transport operations until the CONTRACTOR demonstrates to the satisfaction of the COUNTY that the CONTRACTOR has taken sufficient steps to ensure compliance with these regulations. Any reduction in haul capacity of any truck during the duration of the work, required to comply with load restrictions or for other reasons, shall be reported to the COUNTY prior to the next use of that truck (or trucks) for the work.

Suspensions of work described above shall not form a basis for a claim by the CONTRACTOR for time extensions or incurred costs, unless it is later demonstrated that the CONTRACTOR was in compliance with these Specifications and applicable regulations.

The CONTRACTOR shall provide and maintain barricades, warning signals and flagmen as required by federal, state or local regulations and as directed by the COUNTY. The CONTRACTOR, at its own expense, shall repair any damages to private or public property directly resulting from the CONTRACTOR's operations.

To minimize damage and traffic congestion, trucks shall limit their north-south route to I-95, US1 and US A1A whenever possible. The final truck routes shall be subject to approval by the COUNTY at the preconstruction conference. All costs associated with traffic provisions shall be included under the bid item for Mobilization/Demobilization.

9. SITE RESTORATION

The CONTRACTOR shall restore and clean-up any area used for construction to the satisfaction of the ENGINEER and COUNTY; costs for said restoration shall be included in the CONTRACTOR's bid for "Mobilization/Demobilization". The CONTRACTOR shall restore all landscape features and paved surfaces damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be in accordance with a plan submitted for approval by the ENGINEER. This work

will be accomplished at the CONTRACTOR's expense. Final payment to the CONTRACTOR shall not occur until the ENGINEER and the COUNTY are satisfied with the CONTRACTOR's effort to restore landscape and paved surfaces or any other damage caused by the CONTRACTOR or his subcontractors.

10. MAINTENANCE OF POLLUTION CONTROL FACILITIES

The CONTRACTOR shall maintain constructed facilities and portable pollution control devices for the duration of the Contract or for that length of time construction activities create the particular pollutant.

11. TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL AND ENVIRONMENTAL PROTECTION

The CONTRACTOR shall train all subcontractors and personnel in all phases of environmental protection. All personnel and subcontractors will be familiar with permit requirements, and with the necessity of protection of all habitats, including offshore hardbottom communities. The training shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities to insure adequate and continuous environmental pollution control. Quality Control and supervisory personnel shall be thoroughly trained in the proper use of monitoring devices and abatement equipment, and shall be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the CONTRACTOR. Quality Control personnel will be identified in the Quality Control Plan.