

HURRICANE IAN BEACH RESTORATION - TRUCK HAUL

TECHNICAL SPECIFICATIONS

TS-1.0 SCOPE OF WORK

The Project is located on Lee County, Florida. The purpose of Project is to import beach compatible sand to restore the dune and beach areas to address impacts from Hurricane Ian as described in these Technical Specifications and as shown on the Contract Plans. The proposed fill quantity total is approximately 70,000 tons to be placed on northwestern Sanibel between R-110.5 and R-112.75 (approx. 2,000') prioritized based on conditions at time of construction.

The following upland sand sources are approved for the Project: Immokalee (Stewart), Witherspoon (Vulcan), Moore Haven (Vulcan), Davenport (Cemex), and Lake Wales (Cemex), subject to the requirements of the Sediment Quality Assurance/Quality Control (QA/QC) Plan. The Contractor may propose an alternate source provided the source has been previously permitted for beach compatible sand by the Florida Department of Environmental Protection (FDEP) and the source can meet the requirements of the Sediment QA/QC Plan.

This Work must be completed according to the Contract Plans and these specifications within the time specified in the Contract and within compliance with the conditions of all applicable permits.

The Contractor is solely responsible for all construction means, methods, techniques, procedures, and sequence of the Work.

The Owner is the Lee County Board of County Commissioners, Fort Myers, Florida.

TS-2.0 WORK PLAN

The Contractor shall develop a written Work Plan which accounts for all of the construction activities required by the Contract Documents. The Work Plan shall include a list of the individual construction tasks to be completed and the estimated dates for beginning and completing the tasks. It shall also include all other items which are applicable to completing the Work such as, but not limited to, the following:

- (a) Typical Form for Daily Progress Report;
- (b) Severe Storm Plan;
- (c) Site-specific Health and Safety Plan;
- (d) Personnel, Materials, Subcontractors, Suppliers, and Equipment;
- (e) Construction Access and Staging Area usage and restoration plan;
- (f) Trucking route;
- (g) Chain of Custody Plan;
- (h) Maintenance of Traffic Plan;
- (i) Dune and beach fill construction plan;
- (j) Environmental protection and pollution control plans;
- (k) Protection of existing structures;
- (l) Survey control, layout, and stakeout plan;
- (m) Sequence of Work;
- (n) Progress Schedule;
- (o) Schedule of Values;
- (p) Specific methods for accounting for all grade stakes and control markers to ensure their removal prior to completion of the Work; and
- (q) Quality Assurance/Quality Control Plan.

The Work Plan shall be submitted to the Owner four (4) days prior to the pre-construction meeting. The Owner shall review the Work Plan and have the Contractor make any necessary revisions prior to acceptance of the Work Plan. No Work shall commence until the Owner has reviewed and approved the Work Plan.

TS-3.0 MOBILIZATION AND DEMOBILIZATION

TS-3.1 GENERAL DESCRIPTION

The Contractor shall provide all labor and Equipment necessary to move personnel, Equipment, construction materials, and incidentals to and from the Work Area. This shall include, but is not limited to, establishing offices and other facilities necessary for the Work. As part of these Bid Items, the Contractor shall obtain bonds, required insurance, and include any other pre-construction expenses necessary to perform the Work. This section shall also include all other items of cost required by these Specifications for which a separate payment is not provided for herein. The Contractor's Daily Progress Report may be used for verification of Work and the Owner, at their discretion, may require additional verification by other means. Unless otherwise indicated within these Specifications, demobilization shall also include final clean-up and restoration activities.

TS-3.2 MEASUREMENT AND PAYMENT

All costs incurred by the Contractor for mobilization and demobilization shall be included in the unit pricing for "Dune and Beach Fill".

TS-4.0 WORK AREA

TS-4.1 SECURITY

The Contractor is permitted to exclude the public from their Work Area as necessary to perform the Work. Enforcement shall be the Contractor's responsibility at the Contractor's expense. The enforcement shall be coordinated with local enforcement agencies and will be subject to approval of the Owner. The Contractor shall erect, maintain, and move as necessary, restrictive barriers and warning signs around the Work area. Additionally, the Contractor shall place appropriate safety personnel who shall be present at all times during sand delivery, placement, and grading.

TS-4.2 CONSTRUCTION ACCESSES AND STAGING AREAS

The primary construction access and staging areas are shown on the Contract Plans generally as the Gulf fronting property adjacent to Sanibel Captiva Road. Alternative and / or additional access and staging areas which meet the requirements of Special Provision SP-12.0 "Private Property" may be proposed by the Contractor but are subject to review and approval by the Owner and permit agencies. Procurement of additional temporary upland construction access areas shall be obtained by and at the expense of the Contractor. A pre-construction video shall be collected by the Owner to document the existing conditions of the construction access and staging areas prior to the Contractor accessing these areas. The Contractor is encouraged to collect their own video. A minimum of 48-hour written notice shall be provided to the Owner for delivery of large equipment to the Project sites including but not limited to dozers, graders, backhoes, loaders, and excavators.

The Contractor shall confine their Plant, Equipment, and operations of personnel to areas permitted by law, ordinances, and the requirements of the Contract Documents. The Contractor may not store Plant or Equipment in excess of what is needed for this Contract. The Contractor shall not conduct their operations or store Project-related Equipment in, on, or over dunes, or otherwise impact dune vegetation. The Contractor must control noise and must control wind-

blown sand and dust while using the construction access and staging areas. The Contractor is responsible for preparation and restoration of the construction accesses and staging areas. The Contractor is responsible for security within the construction accesses and staging areas. The Contractor is required to submit a construction access plan and construction access restoration plan as part of the Work Plan prior to Work. Disposal of any cleared vegetation, debris and rubbish shall be in a manner approved by the Owner. The construction accesses and staging areas shall be restored to pre-construction conditions as part of demobilization. Final Payment shall be withheld until the site is restored in a manner acceptable to the Owner and property managers.

TS-4.3 NOISE

The Contractor shall conduct his operations so as to comply with all Federal, State, and local laws pertaining to noise. Equipment used on this work shall be equipped with satisfactory mufflers or other sound abatement devices to reduce engine noise. The use of horns, the use of whistle signals, and handling of equipment shall be held to the minimum necessary in order to insure as quiet an operation as possible.

TS-4.4 MEASUREMENT AND PAYMENT

All costs incurred by the Contractor for security; construction access and staging area preparations, usage, and restoration; noise control; and protection of existing structures shall be included in the unit pricing for "Dune and Beach Fill".

TS-5.0 CHARACTER OF SEDIMENT

TS-5.1 SEDIMENT QUALITY ASSURANCE/QUALITY CONTROL PLAN

All dune and beach fill sediment shall be free of construction debris, rocks, or other foreign matter, and shall not contain, on average, greater than 3% fines (i.e., silt and clay) (passing the #230 sieve); and shall not contain, on average, greater than 1% coarse material (retained on the #4 sieve); and shall have a mean grain size ranging from 0.25 mm to 0.40 mm and a Munsell color-value of 6 or lighter, as described in the Sediment QA/QC Plan included in the Contract Documents and incorporated into these Specifications by reference.

The Contractor shall be responsible for all inspections and tests as may be necessary to assure compliance with all the requirements of the Sediment QA/QC Plan and the Contract Documents. The Contractor shall report the Mean Grain Size, Phi Standard Deviation (sorting value), Silt Content, Moisture Content, Munsell Color Value, and Carbonate Content of the proposed sand source to the Owner prior to transporting sand to the beach, and for each quality control test during construction. Laboratory sieving of sand shall provide the data for calculation of the Mean Grain Size, Phi Standard Deviation, Silt Content, and Carbonate Content. Moisture Content shall be 6% or less or the load may be rejected by the Owner.

TS-5.2 DEDUCTIONS FOR NONCONFORMING WORK

If the Contractor fails to comply with the Sediment QA/QC Plan and these Specifications to avoid non-compatible dune and beach fill, then non-compatible fill may be required by the Owner to be removed from the dune and beach fill by the Contractor, totally at the Contractor's expense. If the Owner believes that the fill material does not comply with the requirements of the Sediment QA/QC Plan, the Owner may request the Contractor to analyze up to three (3) random samples collected by the Owner. If any of the samples fails to meet the approved criteria, the Owner reserves the right to have the Contractor remove the material from the dune and beach, at the Contractor's expense. If the Contractor fails to remove the non-compatible fill to the satisfaction of the Owner, such material may be removed by the Owner, and the cost of such removal may be deducted from any payment due or to become due to the Contractor or may be recovered

under the Contractor's bond. The volume of material removed from the dune and beach shall be estimated by the Owner and deducted from the pay volume.

In the event the Owner believes for a second time that the fill material does not comply with the requirements of the Sediment QA/QC Plan, the Owner may request the Contractor to analyze additional samples collected by the Owner. If any of the samples fails to meet the approved criteria, the Owner reserves the right to have the Contractor remove the material from the dune and beach, at the Contractor's expense; and to have the Contractor supply sand from one of the other approved sand sources, with certification from the Contractor that the sediment is in compliance with the quality criteria. The requirement to change to an alternate source shall not be the basis of claim for an increase in time or cost.

TS-6.0 DUNE AND BEACH FILL

TS-6.1 GENERAL

The Contractor shall import a total of approximately 70,000 tons of beach compatible sand. Prior to the delivery of any sand to the beach, the Contractor shall furnish the Owner a certificate from the upland sand source evidencing that the sand meets the specifications for beach compatible sand defined in the Sediment QA/QC Plan.

TS-6.2 CHAIN OF CUSTODY

The Contractor shall implement their approved Chain of Custody (COC) Plan that covers the operation and management from the upland sand source to the beach. The COC Plan shall include the methods the upland sand source and truck drivers will use to track the weight, volume, and moisture content of each truck delivered to the beach each day. The COC Plan shall include posting data in electronic and hard-copy format that can be reconciled on a daily-basis.

TS-6.3 MAINTENANCE OF TRAFFIC

The Contractor shall implement their approved Maintenance of Traffic (MOT) Plan for the trucking route, ingress/egress, and damage avoidance. The Contractor shall coordinate the MOT Plan with local enforcement agencies.

TS-6.4 DUNE AND BEACH FILL CONSTRUCTION

All sand shall be transported, placed, and graded within the lines, grades, and cross sections shown on the Contract Plans as prioritized within each area by the Owner at time of construction. The Contractor shall maintain and protect the fill in a satisfactory condition at all times until acceptance of the Work. The Contractor shall, prior to placement of fill, remove from the limits of the fill section all man-made debris including, but not limited to, concrete, rebar, detached seawalls, timber piles, tiebacks, broken concrete sheet pile, broken steel sheet pile, etc. All materials removed shall be disposed of in areas provided by and at the expense of the Contractor and approved by the Owner. Note that the wooden seawall (see below) and associated tiebacks on Sanibel is not considered debris and shall be protected throughout construction.



The dune and beach fill cross sections shown on the Contract Plans are for the purpose of estimating the theoretical amount of fill needed and will be used in making any changes in the lines and grades. The beach is subject to changes and the elevations on the beach at the time the Work is done may vary from the elevations shown on the Contract Plans. The Owner reserves the right to vary the width and grade of the dune and berm from the lines and grades shown on the Contract Plans in order to prioritize dune and beach benefits for the entire length of the property.

Placement of dune fill material shall not encroach landward beyond the existing seaward edge of the healthy vegetation. The Contractor shall exercise due caution when placing material near structures or vegetation. Hand grading shall be conducted as necessary to fill in around existing vegetation and structures.

The Contractor will be responsible for the cost to repair any damage caused by the Work. Final payment shall be withheld until the repairs are made and approved in writing by the Owner.

TS-6.5 GRADE STAKES

Any grade stakes used in the Work Area shall be made of steel pipe or rebar that shall be completely removed intact by the Contractor after filled cross sections have been accepted by the Owner. Any excavation required to remove the stakes shall be backfilled. Grade stakes shall be flagged to increase visibility. The Contractor shall maintain a grade stake log denoting the date of placement, date of removal, station, range, and identifying symbol for each grade stake placed. The log shall be kept up to date and current to within 48 hours.

TS-6.6 DRESSING

Upon completion of construction operations, the beach above the Mean High Water (MHW) line shall be graded and dressed throughout the Contractor's Work Area to remove ruts, humps, and depressions in the beach surface resulting from construction operations. A positive uniform slope shall be created from the dune toe to MHW.

TS-6.7 MEASUREMENT, PAYMENT AND ACCEPTANCE

TS-6.7.1 GENERAL

All costs associated with debris removal and disposal; layout of the Work and construction stake-out; transportation and placement of dune and beach fill; grading and dressing; Sediment QA/QC; sediment testing; and all other appropriate costs in connection therewith or incidental thereto this Work shall be included in the Contract unit price per ton for "Dune and Beach Fill."

Payment for dune and beach fill shall be based upon the tonnage of sand delivered to and placed on the dune and beach as identified via weight tickets. The Owner shall verify the pay quantities provided by the Contractor based on weight tickets. Individual truck identification and certified scale records along with COC documentation must accompany each truck delivery. The Contractor will not be paid for any tons in excess of the bid quantity, unless a written change order is prepared and approved by the Owner. The Owner will retain 5% of the invoiced amount which will be paid to the Contractor upon completion of all punch list items and final cleanup.

TS-6.7.2 TOLERANCE

A tolerance of three-tenths (0.3) of one foot above the prescribed grade and slopes shall be allowed. Any beach compatible material placed above the prescribed tolerance may be left in place at the discretion of the Owner.

TS-6.8 FINAL CLEANUP

Final clean-up shall include the removal of all the Contractor's Equipment either for disposal or re-use and, if required, restoration of landscaping damaged by the Contractor. Equipment to be disposed of shall only be disposed of in a manner and at locations approved by the Owner. Except as noted herein, the final clean-up within the Contractor's Work Area shall be completed within the Contract Time. If not done by the Contractor within two (2) days of the conclusion of the Contract Time, then the Owner may have the said Work completed at the Contractor's expense. Roads and infrastructure impacted by the Contractor's operation shall be repaired to a level acceptable to the Owner prior to final payment.

TS-7.0 ENVIRONMENTAL PROTECTION

TS-7.1 NATURAL RESOURCES

TS-7.1.1 GENERAL

For the purpose of this Specification, environmental protection is defined as the retention of the environment in its natural state to the greatest possible extent during Project construction and to enhance the natural appearance in its final condition. Environmental protection requires consideration of air, water, and land, and involves noise, solid waste-management, as well as, other pollutants. In order to prevent any environmental pollution arising from the construction activities in the performance of this Contract, the Contractor and their Subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement.

TS-7.1.2 SUBCONTRACTORS

Compliance with the provisions of this section by Subcontractors will be the responsibility of the Contractor.

TS-7.1.3 PREVENTION OF LANDSCAPE DEFACEMENT

The Contractor shall not deface, injure, or destroy vegetation, trees or shrubs, nor remove or cut them without the approval of the Owner. Ropes, cables, or guys shall not be fastened to or attached to any existing nearby trees. Where the possibility exists that trees may be defaced, bruised, injured, or otherwise damaged by the Contractor's Equipment or operations, the Contractor shall adequately protect such trees. Monuments and markers shall be protected before construction operations commence.

TS-7.1.4 RESTORATION OF LANDSCAPE DAMAGE

Any trees, beach vegetation, or other landscape features scarred or damaged by the Contractor's Equipment or operations shall be restored to a condition satisfactory to the Owner. Restoration of scarred and damaged vegetation shall be performed in an approved manner by experienced workmen. Vegetation damaged beyond restoration shall be removed and disposed of by Contractor in a manner approved by Owner. Vegetation that is to be removed because of damage shall be replaced at the Contractor's expense by nursery-grown vegetation of the same species or a species approved by the Owner. The size and quality of nursery-grown vegetation shall also be approved by the Owner. Final payment shall be withheld until the restoration activities are made and approved by the Owner.

TS-7.1.5 LOCATION OF STORAGE FACILITIES

The Contractor's storage, which is required in the performance of the Work, shall be detailed in the Work Plan and located only upon existing cleared portions of the Work Area, and shall require written approval of the Owner. The Contractor shall not store oil, fuel, or Equipment on the beach that is not required for the daily construction activities. A metal pan with sides a minimum of four (4) inches in height shall be placed under the Equipment on the beach or adjacent area during refueling. The pan shall have a capacity equal to the capacity of the fuel supply used and catch any spills or leaks during the refueling activity. Fuel caught in the pan shall be contained and either transported off-site or used in the Equipment. Under no condition shall the material be discharged on the beach, adjacent lands, or waters. If the Contractor's fuel cells exceed the thresholds set forth in CFR 20 (100-112), the Contractor shall provide a spill plan and containment equipment accordingly.

TS-7.1.6 POST-CONSTRUCTION CLEANUP OR OBLITERATION

The Contractor shall obliterate all signs of construction Work Areas, waste materials, or any other vestiges of construction as directed by Owner. The area will be restored to near natural conditions.

TS-7.1.7 SPILLAGE

Special measures shall be taken to prevent bilge pumpage or effluent, chemicals, fuels, oils, greases, bituminous materials, waste washing, herbicides and insecticides, and concrete drainage from entering public waters. In the event of a spill, the Contractor shall immediately implement their spill plan and containment equipment, and immediately notify the applicable Federal, State and local agencies, as well as, the Owner.

TS-7.1.8 DISPOSAL

Disposal of any materials, wastes, effluent, trash, garbage, oil, grease, chemicals, etc., in areas adjacent to streams or other waters of the State shall not be permitted. If any waste material is dumped in unauthorized areas, the Contractor shall remove the material and restore the area to the original condition before being disturbed. If necessary, contaminated ground shall be excavated; disposed of as directed by the Owner; and replaced with suitable fill material; compacted and finished with topsoil; and planted as required to re-establish vegetation.

TS-7.2 ENDANGERED SPECIES PROTECTION

The Contractor shall comply with Federal, State and local regulations and the Permits, as applicable to the time of actual construction activities.