

Technical Specifications
Isle of Palms Maintenance Dredging Project

TECHNICAL SPECIFICATIONS
Isle of Palms Maintenance Dredging Project

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U.S. Army Corps of Engineers Letter of Permission Permit File No. SAJ-2003-10787(SP-BAL)

Florida Department of Environmental Protection Verification of Exemption File No. 16-22-1376-002-EE

Florida Department of Environmental Protection Original Permit File No. 16-221376-001-EE

Harbour Waterway Special District Upland Spoil Site (HWSD) Agreement

Geotechnical Exploration Report dated March 18, 2020 (Updated March 26, 2020)

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SECTION 1
BID SCHEDULE

1.1 SCOPE

- A. The project consists of the dredging, transportation, and disposal/beneficial reuse of sediments from the Isle of Palms Channels Project area. The project area includes approximately 30,000 linear feet of canals and channels located within Northern, Central, and Southern Isle of Palms Community. The Isle of Palms Special District (District) waterways provides recreational boating access for Isle of Palms Community members to the Intracoastal Waterway. Actual dredge volumes will vary from estimates provided herein, as they are dependent on field conditions. The Contractor is requested to dredge the center of each canal to -4.0 feet referenced to Mean Low Water Datum (MLW) with one (1) additional foot of overdredge allowance. The Contractor shall present alternate costs for dredge scenarios (and volume estimates), as shown in the Bid Form and on the Bid Drawings.
- B. The project will be awarded based on the lowest total bid amount submitted by a qualified bidder.
- C. If the quantity of a unit-priced item in this contract is an estimated quantity which has been specifically identified as eligible for adjustments due to variations in estimated quantities, and the actual quantity of the unit-priced item varies more than 25 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 125 percent or below 75 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing with the demand, an extension of time consistent with associated quantity variation. This variation in the estimated quantity (VEQ) clause does not apply to all bid items. It only applies to the dredge quantity as measured in cubic yards.
- D. This bid shall be for a complete project, and bid item prices shall include all components necessary for successful completion of the work as designed and specified.
- E. This Contract is solicited with bid items. Any bid price for items indicated above, which are considered unbalanced with the opinion of the District, may be rejected. An unbalanced bid is one in which the cost for one or more bid items is considered significantly low and one or more bid items are significantly high.

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SECTION 2
SUMMARY OF WORK

2.1 DESCRIPTION

- A. The District is soliciting licensed and qualified marine Contractors for the maintenance dredging of Isle of Palms channels/canals in Jacksonville, Florida. The work consists of furnishing all labor, materials, equipment, and performing all tasks necessary for the excavation, handling, and disposal/reuse of accumulated sediments within the project area.
- B. The following general information is based on initial hydrographic surveys and permitting conditions. The width of the Isle of Palms Channels varies. The total length of channels and canals is approximately 30,000 linear feet. The design dredge template extends along the center of the channel (not bank-to-bank) to elevation is -5.0 feet MLW with 1 additional foot of overdredge, yielding a total target dredge depth of -6.0 feet MLW. However, alternative dredge templates are included for bid comparison purposes. (Alternate dredge scenarios and associated volumes are included in the Bid Drawing set.)
- C. It is estimated that 88,300 cubic yards of sediment will be removed from along the center of each canal along the project area down to a total target dredge depth of -6.0 feet MLW. Actual quantities will be confirmed by detailed hydrographic surveys performed Arc Surveying and Mapping, Inc. and approved by the District before dredging.
- D. All dredging activities are to be performed using mechanical means. The Contractor shall transport dredged material from the project area to the Harbour Waterway Special District Upland Spoil Site ("HWSD") located on the northwest side of Reed Island in Jacksonville, FL.
- E. The project intends to remove accumulated sediments to the authorized design dredge depth along the length of the Isle of Palms canals, without impacting adjacent natural resources.
- F. Underground utilities and improvements were not located as part of this survey. It will be the Contractor's responsibility to coordinate these locations before construction.
- G. This work must be completed according to the plans and specifications within the time specified in the contract. The Contractor must complete the work while maintaining compliance with the conditions of the Florida Department of Environmental Protection (FDEP), the United States Army Corps of Engineers (USACE), the U.S. Coast Guard, and all local permits.
- H. The District has a current federal permit, U.S. Army Corps of Engineers (USACE) File No. File No. SAJ-2003-10787 (SP-BAL) and a valid state exemption, Florida Department of Environmental Protection (FDEP) File No. 16-221376-002-EE, to dredge its approximately 30,000 linear feet of canals and channels located within Northern, Central, and Southern Isle of Palms Community. The Contractor shall comply with all original permit, and exemption conditions issued for this project.
- I. The Contractor is solely responsible for all construction means, methods, techniques, and procedures, including construction monitoring, permit compliance, and the sequence of the work.
- J. The Contractor shall be responsible for the design, installation, and maintenance of other site elements necessary to support the handling and hauling of dredge material.
- K. The current FDEP permit exemption does not mention turbidity monitoring. However, the District has accepted the FDEP standard for acceptable turbidity above associated background levels, which is 29 nephelometric turbidity units (NTU) for a Class III waterbody. Procedures for turbidity monitoring shall be verified at the preconstruction meeting with the FDEP and USACE. The

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- Contractor must comply with all turbidity standards and monitoring procedures confirmed by the FDEP at the preconstruction meeting.
- L. The Contractor must comply with the applicable Florida Fish and Wildlife Conservation Commission (FWC) Standard Manatee Conditions for In-Water Work.
 - M. The Contractor must comply with the USACE Jacksonville District's Programmatic Biological Opinion (JaxBO) Project Design Criteria (PDC) for In-Water Activities.

2.2 – ORDER OF WORK

- A. The order of work shall generally be:
 - 1- Coordination with the HWSD, to receive dredged sediments.
 - 2- The installation of turbidity controls, sampling, and commencement of dredging.
 - 3- The order and progression of dredging shall be determined by the Contractor to conform to regulatory constraints while maximizing efficiency.
 - 4- The transportation, processing (in coordination with HWSD), and final disposal of dredged sediments.
 - 5- Deconstruction of temporary structures, cleanup, and restoration as required.

2.3 – LAYOUT OF THE WORK

- A. The Contractor shall be responsible for continuously maintaining the position of the dredge or excavating equipment within the prescribed dredging limits. The Contractor shall continuously monitor water levels and depth of dredging to ensure that the designed depth is met. The Contractor shall have adequate personnel on-site with the ability to set accurate controls for continual dredge operations.
- B. The following horizontal dredging limits shall apply unless amended for a site-specific location in writing by the District and the Engineer:
 - 1- Natural Resources: No dredging shall occur within 10 feet of natural resources present at the time of construction. The horizontal limits of dredging shall be adjusted to meet the actual field conditions at the time of dredging.
 - 2- Bulkheads and Structures: The Contractor shall maintain a minimum distance of 10 feet from Bulkheads and other structures unless a property owner waiver has been provided to the Contractor by the District.
- C. Vertical dredging limits are restricted by regulatory authorizations, not to exceed an elevation of - 5.0 feet (MLW), with 1.0 feet (MLW) of overdredge.
- D. The Contractor shall be responsible for the layout of the work per the construction plans.
- E. The Contractor shall use HYPACK® or comparable software to map the project area and continuously monitor dredging coordinates and depths. The Contractor is responsible for accurately dredging within the template, side-slopes, and maintaining setbacks as specified in construction drawings, specifications, and regulatory permits.

2.4 - OBSTRUCTION OF CHANNEL:

- A. The Contractor shall minimize to the greatest extent practicable obstructing channels leading to residential waterfronts. The Contractor shall coordinate all work with the U.S. Coast Guard. The Contractor shall not, under any circumstance, obstruct public access along the Intracoastal waterway.

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- B. Outside the temporarily closed areas, in cases where the Contractor's equipment operation may obstruct navigation or may endanger the passage of vessels, said equipment or operation should be moved as soon as practical on the approach of any vessel to such extent as may be necessary to afford safe passage. Outside the temporarily closed areas, scow barges shall be secured in a position where it does not impede navigation or access to navigational channels, docks, moorings, or other waterfront property.
- C. Upon completion of the work, the Contractor shall promptly remove equipment including markers, buoys, scow barges, and turbidity curtains.

2.5 – SITE CONDITIONS:

- A. The work is located off the Intracoastal waterway, therefore exposed to weather conditions which at times may include storms and rough sea conditions requiring temporary suspension of marine construction activities. Additionally, the work area may be subject to wakes generated by passing vessels. The Contractor is responsible for being familiar with these conditions and for taking these conditions under consideration during pricing and scheduling of work.
- B. The Contractor must record adverse weather conditions that affect the work or schedule in daily reports. These daily reports shall be submitted at weekly progress meetings. The Contractor is responsible for documenting the conditions which shut down work and cannot submit a claim for inclement weather delays beyond the week that daily report submittals are due (each weekly progress meeting). The Contractor is allowed two (2) inclement weather days per month.
- C. It is the Contractor's responsibility to take precautions to ensure that partially complete work is not subject to displacement or damage due to natural site conditions or vessel wakes. Should any such damage or displacement of partially completed work occur, the Contractor is responsible for repairing any such damage or displacement of partially completed work at no additional cost to the District.
- D. Bathymetric data were collected by Arc Surveying and Mapping, Inc. in **March 2018**. Bathymetry of the dredge area has been incorporated into the design. The Contractor shall perform, at the Contractor's expense, any additional such investigations that the Contractor deems necessary to verify sediment characteristics and dredge quantities.
- E. Information and data furnished or referred to herein are provided for the Contractor's information. However, it is expressly understood that the District and Engineer shall not be responsible for any interpretation or conclusion made by the Contractor. It is the Contractor's responsibility to be familiar with local conditions that may, in any manner, affect the performance of the work.

2.6 – HWSD COORDINATION:

- A. The sediments removed from the dredge template shall be transported, handled, and deposited at the HWSD Upland Spoil Site on Reed Island.
- B. The Contractor is solely responsible for all coordination with the HWSD and compliance with the District's contract with HWSD for use of the HWSD Upland Spoil Site.
- C. Transportation, handling, and final disposal of the dredged material shall comply with all applicable permit authorizations, local, state, and federal regulations.

2.7 - NOTICE TO MARINERS:

- A. The Contractor shall be responsible for notifying the Coast Guard in a sufficient period to allow for publication of a notice to mariners. The local Coast Guard District contact is:

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Attn: USCG Local Notices to Mariners
7th Coast Guard District
Brickell Plaza Federal Building
909 S.E. First Avenue, Room 406
Miami, Florida 33131-3028
Telephone: (305) 415-6750

- B. The Contractor shall obtain approval from the U.S. Coast Guard for all buoys, markers, and other dredging aids before installation. Dredging aids, lights, or targets shall not be placed or colored in a manner that they will obstruct or be confused with navigation aids.

2.8 – ENVIRONMENTAL PROTECTION:

- A. The Contractor shall exercise due caution as not to damage existing native vegetation along or near the shoreline, natural resources within and around the project area, access ways, handling areas, and staging areas. Any native vegetation or seagrass outside the dredged template damaged by the Contractor during the course of work shall be restored by the Contractor at the Contractor's expense.
- B. In order to ensure that manatees are not adversely affected by construction activities as described by these specifications, the Contractor is required to strictly adhere to the FWC Standard Manatee Construction Conditions for In-Water Work (latest edition) which identify specific requirements for the protection of manatees.
- C. The Contractor will comply with the National Marine Fisheries Service's "Sea Turtle and Smalltooth Sawfish Construction Conditions" (latest edition).
- D. The Contractor is responsible for the installation of floating turbidity barriers around the dredge area and adhering to all turbidity controls and monitoring as specified by regulatory permits. The District has adopted the FDEP standard of 29 NTU above background as the limit for turbidity in a Class III Waterbody.

2.9 – PERMITS:

- A. The Contractor is required to obtain any permit (Federal, State, and local) required to complete the project as their operations dictate, which has not been previously obtained by the District. Copies of all previously obtained permits are included with the bid documents.
- B. A permit modification for the existing FDEP and USACE permits will be required to accommodate any deviations from means and methods authorized by issued permits (including Federal, State, and local permits). The Contractor is responsible for securing permit modifications.

2.10 - GENERAL CONSTRUCTION NOTES

- A. The purpose of this project is to mechanically dredge accumulated sediments from the Isle of Palms canals to -5.0 feet MLW with 1 foot of overdredge allowance. The Contractor is asked to bid two (2) different dredge templates over the project area: bank-to-bank, centerline only, and each to -5' MLW. All the dredged material quantities presented herein are approximate. The Contractor is responsible for verifying estimated quantities before bidding.
- B. Dredge equipment buffers ten feet (10') from docks, seawalls, and structures will vary based on the final dredge template selected. All dredging activity will maintain buffers from natural resources as specified in permit authorizations.

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- C. Dredging activity will be conducted in designated areas only and in accordance with the permits, plans, and specifications.
- D. The Contractor will strictly comply with standard manatee construction conditions for in-water work, sea turtle and smalltooth sawfish construction conditions, buffers from natural resources, and all other permit conditions.
- E. The Contractor is responsible for restoring any disturbed areas of the offloading area, shoreline, upland, and temporary handling area to original conditions within 48 hours of project completion.
- F. The Contractor shall maintain erosion control and turbidity control measures throughout the project in conformance with conditions for turbidity and water quality, as specified by permit conditions.
- G. The Contractor shall conform to all turbidity sampling, continuous monitoring, and reporting conditions prescribed by the FDEP, referencing permit no. 16-221376-022-EE.
- H. The Contractor shall conform to all requirements of the HWSD, and all conditions set forth by the District's agreement with the HWSD for the use of their Upland Spoil Site on Reed Island.
- I. The Contractor shall comply with the Department of the Army Permit No. SAJ-2003-10787(SP-BAL).
- J. Bathymetric data (March 2018) was collected by Arc Surveying and Mapping, Inc. Bathymetry of the dredge area has been incorporated into this design. The information depicted within these plans represents the existing conditions at the time of data collection.
- K. Grid coordinates are in feet and are referenced to the Florida State Plane Coordinate System, East Zone, North American Datum of 1983 (NAD 83).
- L. Elevations shown within this plan set are in feet and are referenced to MLW datum, as established by the National Oceanic and Atmospheric Administration (NOAA).
- M. The Contractor is responsible for verifying the location of all underground utilities or other objects before commencing work at the site. Any utilities or other items damaged during construction shall be repaired by the Contractor at no cost to the District.
- N. The Contractor is responsible for repairing any damage to existing facilities, above or below ground, which may occur as a result of the work performed by the Contractor at no cost to the District.
- O. It is the Contractor's responsibility to become familiar with the permit, sampling, monitoring, and inspection requirements of the various governmental agencies.
- P. All specifications and documents referred to shall be of the latest revisions and/or latest edition unless otherwise noted.
- Q. The Contractor is responsible for maintaining horizontal and vertical accuracy during dredging, QA/QC procedures must be submitted and approved by the District and Engineer.
- R. All work performed shall comply with the regulations and ordinances of the various governmental agencies having jurisdiction over the work.
- S. Repair and replacement of all private and public property affected by this work shall be restored to a condition of equal to, or better than existing conditions.
- T. The Contractor shall coordinate directly with the HWSD facility to plan offloading and disposal of dredged sediments.
- U. The Engineer of Record is the Engineer responsible for the design of the project

Wood Environment and Infrastructure Solutions, Inc.
6256 Greenland Road
Jacksonville, FL 32258 USA

- V. The Contractor shall not occupy private land outside of any easements or rights of way unless written authorization has been signed by the property owner and provided to the District. Before

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the use of private lands, the Contractor shall submit a copy of the agreement(s) to the District. All agreements shall include language granting the District and Engineer unrestricted rights to access the property in association with the performance of their responsibilities concerning this project. If the Contractor uses the private property for any purpose without first having the necessary approvals from the property owner or provided the necessary agreement to the District, the District will direct the Contractor to cease using such property immediately. Before application for final payment, the Contractor shall provide documentation from the owner of each piece of private property for which an agreement for use was provided, or for which the District has issued a written notification to the Contractor, that each owner is satisfied with the manner in which the Contractor has restored the property. Final payment of or reduction in retainage shall not be paid until such documentation is received by the District.

- W. Under no circumstances will the use of explosives for excavation be permitted.
- X. Material removed from beyond the vertical or horizontal dredging limits as specified on the contract drawings shall be considered excessive dredging for which no payment will be made. The Contractor shall be responsible for all Federal, State, and local regulatory permits, implications, violations, and/or fees as a result of excessive dredging.
- Y. Any dredged materials deposited at locations other than as designated or approved by the District shall be considered misplaced material and shall not be paid for until the Contractor, at the Contractor's expense, removes and re-deposits such misplaced material to the approved disposal site. The removal and the redeposit of the misplaced material and any necessary disposal site restoration work shall not be the basis for a time extension or additional compensation under this contract.
- Z. Debris, such as stumps, rocks, rock fragments, roots, logs, trash, vegetation, etc. And any other objects (except archeological or historical resources) that exist within the project area or are unearthed during the dredging operations, shall be removed, transported, and disposed of at an appropriate disposal site other than HWSD and will not constitute a change of condition to the contract/agreement. Removal and disposal of debris will be the sole responsibility of the Contractor in its entirety. If archeological or historic resources are encountered, the Contractor shall notify the District immediately and stop work until directed to restart. Removal and disposal of debris and obstructions shall not be provided separately from payment. All costs associated with the required disposal of debris shall be included in the contract price for dredging.
- AA. The Contractor shall be responsible for the removal of any material that accumulates in the dredged channel or other areas as a result of the Contractor's activity and/or operations.
- BB. The work is to be completed within the area shown on the plans. If additional area is required for storage of equipment or materials, arrangements for such storage facilities shall be the responsibility of the Contractor. No staging, offloading, or parking may occur on vacant lots within the residential neighborhoods without written permission from the landowner and District for approval.
- CC. Disposal of any materials, wastes, effluent, trash, garbage, oil, grease, chemical, etc., in and adjacent to the project site shall not be permitted. If any waste materials are dumped in unauthorized areas, the Contractor shall remove the material and restore the area to the original condition. If necessary, the contaminated ground shall be excavated, disposed of as directed by the Engineer of record, and replaced with suitable fill material.
- DD. The Contractor shall coordinate temporary removal and reinstallation of all aids to navigation within the dredge template with the asset owner.

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2.11 - SAFETY NOTES:

- A. It shall be the sole responsibility of the Contractor to comply with and enforce all applicable safety regulations. The information herein has been provided for the Contractor's information only. It does not imply that the District, District's Engineer, or Engineer of record will inspect and/or enforce safety regulations.
- B. During the construction and/or maintenance of the project, all safety regulations are to be enforced. The Contractor shall be responsible for the control and safety of personnel. Labor safety regulations shall conform to the provisions set forth by the Occupational Safety and Health Administration (OSHA) in the federal register of the department of transportation.
- C. It is the Contractor's responsibility to ensure that all personnel in the project area wear proper personal protection equipment, including but not limited to safety vests, hard hats, safety boots, eye protection, hearing protection, and personal floatation devices.

2.12 – ADDITIONAL RESIDENTIAL DREDGING:

- A. The base bid for this project is limited to the centerline channel of the Isle of Palms canals and channels. If individual homeowners elect to have the submerged area over which they have a riparian interest dredged, the individual homeowner must coordinate directly with the Contractor to perform this work. The Contractor shall perform the work at the unit price listed on the bid sheet. Contractor will notify the Contract Manager regarding any contracts made between Contractor and an individual homeowner within thirty (30) days following such an agreement. The Contractor is responsible for coordinating pre- and post-dredge surveys of the additional dredge areas. The Contractor shall provide an invoice to individual homeowners, and a copy of the said invoice to the District within thirty (30) days of performing the work. The invoice must include cubic yards dredged, cubic yards transported to the HWSDS from the resident's submerged riparian area, the unit price charged for mechanical dredging (per cubic yard), lump-sum charge for surveys (if the additional amount was charged), and the total sum charged to the homeowner. It shall be the sole responsibility of the Contractor to coordinate with each individual homeowner regarding the limits of the additional dredge area. The Contractor shall comply with all environmental and safety standards as outlined in these specifications while dredging additional residential submerged areas.

SECTION 3

MEASUREMENT AND PAYMENT

3.1 MEASUREMENT OF QUANTITIES

- A. All work completed under the Contract will be measured by the District based on observed and/or measured progress of each item specified on the schedule of values.
- B. This Contract is being awarded on the lowest base bid presented by qualified Contractors. Bid items will be paid on a lump sum cost or measured quantity unit price cost, as identified in the description for each bid item and as provided in the Agreement.
- C. The lump sum and unit prices specified on the Bid Pricing Form shall include all costs necessary for the complete and successful completion of the project, including equipment, labor, direct charges,

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indirect charges, profit, incidental cost, taxes, and/or any other cost associated with that item, whether or not it is specifically identified in the plans or specifications. All appropriate costs shall be applied to the closest applicable item.

- D. The method of measurement and computations to be used in the determination of quantities of material furnished and of work performed under the Contract are identified in the description for each bid item.
- E. The term "lump sum," when used as an item of payment, will mean complete payment for the work described for that item.
- F. The term "unit price," when used as an item of payment, will mean complete payment for the work described for that item.
- G. The Contract Manager designated by the District will observe all work. The Contract Manager shall confirm that work has been completed in accordance with the Contract Documents, and all work has been completed to the satisfaction of the District.
- H. The Contractor is responsible for all work until it is inspected and accepted by the District. This includes replacing or repairing damages from wind, waves, and storms to the satisfaction of the District.
- I. All allowable payable percentages listed in the following bid item descriptions do not account for retainage.
- J. Payment will not be made for work done in any area designated by the District until the full depth required under the Contract is secured in the whole of such areas.
- K. The Contractor shall coordinate separately with individual homeowners for dredging outside of the project area but within permitted submerged areas, adjacent to residential properties and structures. Quantities of dredged material removed from these areas are to be submitted separately to the District and not included in progress payment submittals.

3.2 BID ITEMS

A. GENERAL ITEMS

- 1. Mobilization/Demobilization
 - a) This bid item shall include all costs associated with the mobilization and demobilization of laborers and equipment for all costs associated with the preparatory work and operations necessary in mobilizing and demobilizing the dredge, dredge support equipment, boats, and equipment for the transportation of dredged material to the HWSD Upland Spoil - Ssite. In addition, the cost of bonds and required insurance, required plans and submittals, and any other pre-construction expenses necessary for the start of work (excluding the cost of construction materials) or post-construction expenses necessary for closeout shall also be included in this section. The cost of any items or work not included under a specific lump sum or unit price bid on the Bid Pricing Form shall be included as part of the lump sum price for Mobilization and Demobilization. The price for mobilization shall not exceed 10% of the Total Bid price.

B. DREDGING AND MATERIAL TRANSPORT

- 1. Floating Turbidity Barrier and Monitoring

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- a) This bid item shall include all costs involved in the installation, stabilization, maintenance, and removal of a floating turbidity barrier and associated turbidity monitoring, as specified in permit documents, surrounding the dredging project area.
- b) The work specified under this section shall be paid for at the Contract lump sum price based on the estimated percent complete of that section.
2. Environmental Monitoring
 - a) This bid item shall include all costs associated with environmental monitoring and other measures specified by permits not included in other bid items. This may include, but is not limited to, endangered species observation, spill prevention, and full compliance with Standard Manatee Conditions for In-Water Work.
 - b) The work specified under this section shall be paid for at the Contract lump sum price based on the estimated percent complete of that section.
3. Tow to and from the HWSU Upland Spoil Site (Transportation of Dredged Material)
 - a) This item shall include all quantity-based costs associated with the transportation of dredged sediments from the project area to the HWSU Upland Spoil Site.
 - b) The work specified under this section shall be paid for at the Contract unit price. Progress and final payments will utilize the cumulative quantity/volume based on the sediment dredging quantities.
4. Dredging
 - a) This item shall include all quantity-based costs associated with dredging sediments from the project area. The project area is the centerline of the channels and canals only, as depicted on Bid Drawings.
 - b) The work specified under this section shall be paid for at the Contract unit price. Progress and final payments will utilize the cumulative quantity/volume based on the sediment dredging quantities.
6. Labor
 - a) This bid item includes all quantity-based labor associated with dredging, not included in other bid items.
 - b) The work specified under this section shall be paid for at the Contract unit price. Progress and final payments will utilize the cumulative quantity/volume based on the sediment dredging quantities.
7. Progress Payments

Progress payments will be made as described in Article IV of the Contract.

C. OFFSITE DISPOSAL

1. Disposal
 - a) This bid item includes all quantity-based costs associated with the final disposal of dredged sediments at the HWSU Upland Spoil Site, excluding all tipping fees which is the DISTRICT's responsibility.
 - b) The work specified under this section shall be paid for at the Contract unit price. Progress and final payments will utilize the cumulative quantity/volume based on the sediment dredging quantities.

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2. Debris Removal / Disposal
 - a) This bid item includes all quantity-based costs associated with the removal and disposal of debris encountered within the project area. Specifically, this item includes disposal of all debris and materials not suitable for disposal at HWSD Upland Spoil Site. This may include transportation and landfill tipping fees or other costs associated with disposal.
 - b) The work specified under this section shall be paid for at the Contract unit price. Progress and final payments will utilize the cumulative quantity/volume based on the sediment dredging quantities.

SECTION 4 CONSTRUCTION PROGRESS SCHEDULE

4.1 SUBMITTALS

- A. Within fifteen (15) days of Notice of Award, the Contractor shall prepare and submit to the District for review and acceptance a Construction Progress Schedule in the form of a Bar Chart Schedule.
- B. The Contractor shall provide the District with weekly schedule updates with projected work areas indicated on Construction Drawings, such that the District can inform residents of upcoming dredging near their respective property. The Contractor shall give a minimum of two weeks' notice before dredging along residential canal sections.
- C. The schedule shall include all mobilization/demobilizations and anticipated work schedule in accordance with all regulatory permit restrictions, as well as construction and restoration of the temporary handling site and offsite disposal area. The Contractor shall carefully plan the dredging schedule.

4.2 ACCEPTANCE

- A. The acceptance of a Baseline Construction Schedule is a condition precedent on:
 1. Contractor starting work on the construction stages of the contract.
 2. Processing Contractor's invoice(s) for construction activities/items of work.
 3. Review of any schedule updates.
- B. Submittal of the Construction Progress Schedule and subsequent schedule updates must be understood to be the Contractor's certification that the submitted schedule meets all of the requirements of the Contract Documents, represents the Contractor's plan on how the work must be accomplished, and accurately reflects the work that has been accomplished and how it was sequenced.

4.3 SCHEDULE FORMAT

- A. Bar Chart Schedule: The Bar Chart must show work activities, submittals, District review periods, material/equipment deliveries, temporary handling site preparation, dredging sections, transportation, dredged material removal and disposal/reuse, environmental monitoring, demobilization/mobilization, inspections, and closeout activities. The Bar Chart must be time-scaled and generated using an electronic spreadsheet or scheduling program.

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- B. Schedule Submittals and Procedures: Submit Bar Chart Schedules and updates in hard copy and digital format to District and Engineer. Submit a digital copy of the Construction Progress Schedule in a format that is acceptable to the District.

4.4 WEEKLY SCHEDULE UPDATES

- A. Update the Construction Progress Schedule and submit to the District and Engineer at the weekly Construction Meetings or when the schedule has been revised. The updated schedule must be kept current, reflecting actual activity progress locations and plan for completing the remaining Work. With each updated schedule submitted, the Contractor shall provide a concise report with the following items:
 1. Schedule updates
 2. Critical path
 3. Date/time constraints other than those required in the Contract
 4. Changes in original durations for activities that have not started
 5. Status of completion date and interim milestones
 6. Anticipated delays (and corrective actions to minimize delays)
 7. A description of foreseeable schedule problem areas
 8. The specific stationing of work areas completed and projected project areas to be dredged in the coming weeks.

4.5 WEEKLY PROGRESS MEETINGS

- A. The Contractor shall prepare for and participate in a weekly progress meeting with the District for the purpose of jointly reviewing the actual progress as compared to the planned progress. During the meeting, the parties will review planned activities for the current week and the upcoming two weeks. Use the currently approved schedule update for the purpose of this meeting.

4.6 MONTHLY ISLE OF PALMS DISTRICT (IOPSD) BOARD MEETINGS

- A. The Contractor shall be required to attend all Isle of Palms Special District Board Meetings for the duration of the project. The Contractor shall address community concerns and questions and be prepared to present the most updated project schedule at each Board Meeting.

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SECTION 5
SUBMITTAL PROCEDURES

5.1 SUMMARY

- A. The District may request submittals in addition to those specified when deemed necessary to adequately describe the Work covered in the respective sections.
- B. Units of weights and measures used in all submittals are to be the same as those used in the Drawings.
- C. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with the Contract requirements.
- D. The Contractor's Project Manager is to check and approve all items before submittal and stamp, sign, and date accordingly the action taken. Proposed deviations from the Contract requirements are to be clearly identified. Include within submittals items such as the Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including but not limited to catalog cuts, diagrams, operating charts of curves; test reports, samples; certifications; and other such required submittals.
- E. Submittals requiring District/Engineer approval are to be scheduled and made before the acquisition of the item covered thereby
- F. District or their Contract Manager may develop a project team site to more efficiently track the project submittals. If developed, the Contractor shall use the team site to submit project deliverables.

5.2 SUBMITTALS

- A. Construction Progress Schedule (See Section 01 32 16 Construction Project Schedule)
- B. Weekly Progress Schedule Updates (See Section 01 32 16 Construction Project Schedule)
- C. Daily Progress Reports - The Contractor shall record the following daily information on Daily Progress Reports:
 - 1. Date and signature of the author of the report;
 - 2. Notes on all inspections;
 - 3. Details of Health and Safety inspections and meetings;
 - 4. A brief description of any Change Orders, Field Orders, Claims, Clarifications, or Amendments;
 - 5. Condition of all navigation aids (i.e., warning signs, lighted marker buoys)
 - 6. and any repairs performed on them;
 - 7. Weather conditions (adverse weather day, wind speed and direction, temperature, wave height, precipitation, etc.);
 - 8. Basic production details for dredging.
 - 9. The amount of time lost to severe weather, personal injury, turbidity violations, encounters with threatened or endangered species, etc.;
 - 10. Notes regarding compliance with the Progress Schedule;
 - 11. Visitor log.
- D. A template of the Contractor's Daily Progress Report shall be submitted to the District at least 14 days before the Pre-Construction Conference. The District shall have seven (7) days to perform a review and have the Contractor make any necessary revisions before acceptance of the report template. The daily progress reports shall be submitted to the District at the Weekly Progress Meetings in both hard copy and digital format (Adobe Acrobat® Format, or approved equal). The

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- typical form for Daily Progress Reports shall be developed by the Contractor and incorporated into the Work Plan.
- E. Dredge Plan: The Contractor shall prepare and submit no less than fourteen (14) days before the commencement of dredge activities to the District, a dredge plan that identifies the Contractor's order of execution of the dredging operations.
- E. Hurricane and Severe Storm Plan: The Contractor shall develop and maintain a written Hurricane and Severe Storm Plan. The Plan shall include, but not be limited to, the following:
1. Identify the type of actions that will be taken before a storm strikes at the Project area.
 2. The plan should specify what weather conditions and/or wave heights will require shutdown of the Work and removal of equipment, personnel, etc.
 3. Notes from continuous monitoring of NOAA marine weather broadcasts and other local commercial weather forecasts.
 4. Equipment list with details on their ability to handle adverse weather and wave conditions.
 5. Methods of securing equipment.
 6. Methods that will be used to secure equipment left on-site during adverse weather conditions.
 7. Evacuation or immediate reaction plans to be taken by personnel for sudden storm occurrences.
 8. Operations procedures which will be used to secure critical dredging equipment such as spuds, swing wires, anchor wires, or tugs during adverse weather conditions.
 9. Communications protocol with local law enforcement and fire and rescue agencies.
 10. The Hurricane and Severe Storm Plan shall be submitted to the District at least fourteen (14) days before the Pre-Construction Conference. The Contractor shall incorporate the Hurricane and Severe Storm Plan into a comprehensive Work Plan. The District and Engineer are not responsible for the adequacy of this plan.
- F. Environmental Protection Plan (See Section 01 35 05 Environmental Protection): The Environmental Protection Plan shall be submitted to the District at least fourteen (14) days before the Pre Construction Conference.
- G. Health and Safety (See General Conditions, Safety, and Health Standards): The Health and Safety Plan shall be submitted to the District at least fourteen (14) days before the Pre-Construction Conference.
- H. Quality Control (QC) Plan: The Contractor shall submit a written Quality Control Plan to the District no less than fourteen (14) days before the Pre-Construction Conference. The plan shall include, at a minimum, the following:
1. A description of the QC organization, including a chart showing lines of authority and acknowledgment that the QC staff will implement the three-phase control system for every aspect of the work specified. Include a QC Manager who reports to the District.
 2. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QC function.
 3. A copy of the letter to the QC Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the QC Manager, including the authority to stop work which is not in compliance with the Contract.
 4. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the QC Manager. Copies of these letters must be furnished to the District.
 5. Procedures for scheduling, reviewing, certifying, and managing submittals.

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6. Procedures for tracking deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.
 7. Reporting procedures, including proposed reporting formats.
 8. A list of the definable features of work, which is separate and distinct from other tasks, has separate control requirements and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there is frequently more than one definable feature under a particular section. This list will be agreed upon during the Pre- Construction Meeting.
- J. Turbidity Monitoring Reports: The Contractor shall submit Turbidity Monitoring Reports to the District for review daily. Turbidity monitoring shall be conducted by the Contractor as specified in the FDEP Permit (exemption) and the Specifications.
- K. Work Plan: At least fourteen (14) days before the Pre-Construction Conference, the Contractor shall submit a written plan to the District that details how the Work will be provided, including layout drawings, projected schedule (Initial Progress schedule), and a list of materials and equipment. Other required plans, documents, submittals, etc. may be incorporated into a common comprehensive work plan.
- IL. The Contractor shall review pre – and post-construction surveys of the dredge project area after the completion of dredging. Partial progress payments to the Contractor will be based upon the approval of progress surveys by the District/Engineer. The Contractor shall be responsible for the maintenance of all completed work until the completion of the Project. Final payments to the Contractor will be based upon the approval of the final post-construction hydrographic survey for the entire project area by the District/Engineer.
- M. Site Inspection and Restoration Report: The Contractor shall complete a comprehensive inspection of the dredge area, and associated elements following the completion of dredging and provide a report of the inspection and repair activities as applicable.
- N. The Contractor shall submit copies of invoices issued to individual homeowners for dredging performed outside of the project area, but within permitted submerged areas, adjacent to residential properties and structures. Quantities of dredged material removed from these areas are to be submitted separately to the District, and not included in progress payment submittals. The Contractor shall provide an invoice to individual homeowners, and a copy of the said invoice to the District within thirty (30) days of performing the work. The invoice must include cubic yards dredged, cubic yards transported to the HWSU Upland Spoil Site from the resident's submerged riparian area, the unit price charged for mechanical dredging (per cubic yard), lump-sum charge for surveys (if the additional amount was charged), and the total sum charged to the homeowner.

SECTION 6
ENVIRONMENTAL PROTECTION

6.1 SUMMARY

- A. This section covers the monitoring and prevention of environmental pollution and damage as the result of construction operations under this Contract and for those measures outlined in other technical requirements of these Specifications. For this Specification, environmental pollution and 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 monitoring and control of environmental pollution and damage requires consideration of air, water, and land, and includes management to visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants.

6.2 REFERENCES

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.

U.S. Code of Federal Regulations	
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
49 CFR 171 – 178	Hazardous Materials Regulations

6.3 DEFINITIONS

- A. Environmental Protection: Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- B. Contractor Generated Hazardous Waste: Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of hazardous waste. These waste streams would typically consist of material brought on-site by the Contractor to execute Work, but are not fully consumed during construction. Examples include, but are not limited to, excess paint thinners (i.e., methylethylketone; toluene, etc.), waste thinners, excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.
- C. Land Application for Discharge Water: The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate that allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the State" shall occur. Land Application shall comply with all applicable Federal, State, and local laws and regulations.
- D. Surface Discharge: The term "Surface Discharge" implies that the water is discharged with possible sheeting action, and subsequent soil erosion may occur. Waters that are surface discharged may

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terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

- E. Quality Control: The Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. The Contractor shall record on Daily Progress Reports or attachments thereto, any problems in complying with laws, regulations and ordinances, and corrective actions are taken.

6.4 PERMITS

- A. The Contractor shall be responsible for obtaining all required federal, state, local, and environmental permits not supplied by the District. The Contractor shall familiarize himself and his personnel with all building and environmental protection permits issued for this Project, and shall comply with all requirements under the terms and conditions set forth therein. A copy of all permits shall be kept on-site at all times and shall be attached to the Environmental Protection Plan. Permits shall be displayed in accordance with all federal, state, and local laws.
- B. The District has obtained the following permits:
U.S. Army Corps of Engineers Permit No. SAJ-2003-10787 (SP-BAL)
Florida Department of Environmental Protection Permit Exemption No. 16-221376-002-EE

6.5 SUBMITTALS

The following shall be submitted to the Engineer no less than fourteen (14) days before the Pre-Construction Conference for approval:

- A. Environmental Protection Plan: No less than fourteen (14) days before the Pre- Construction Conference, the Contractor shall submit to the District/Engineer, in writing, an Environmental Protection Plan. Approval 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. A copy of the Environmental Protection Plan shall be kept on-site at all times. The Environmental Protection Plan shall include, but not be limited to, the following:
1. A list of federal, state, and local laws, regulations, and permits concerning environmental resource protection including, but not limited to: protection of fish and wildlife; protection of threatened and endangered species; protection of water quality; and, pollution control and abatement that apply to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.
 2. Methods of protection of features to be preserved within Work areas. The Contractor shall prepare a listing of methods to protect resources needing protection (i.e., trees, grasses and ground covers, air and water quality, fish and wildlife, soil, and archeological and cultural resources).
 3. Procedures to be implemented to provide the required environmental protection and to comply with the applicable 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.
 4. A permit or license for and the location of the solid waste disposal facility to be used for disposal of solid wastes resulting from this Project.

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5. Environmental monitoring plans for the job site, including land, water, air, noise, and protected species monitoring in accordance with permit requirements.
6. Oil spill prevention plan.
7. Oil spill contingency plan.
8. A statement as to the person(s) who will be responsible for the implementation of the Environmental Protection Plan. The Contractor personnel responsible shall report to the Contractor's top management, and shall have the authority to act for the Contractor in all environmental protection matters.
9. The names and qualifications of those entities selected by the Contractor to conduct the turbidity monitoring.
10. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures comply with the erosion and sediment control plan, Federal, State, and local laws and regulations.
11. Turbidity Monitoring and Control Plan: No less than fourteen (14) days before the Pre-Construction Conference, the Contractor shall submit to the District/Engineer, in writing, a Turbidity Monitoring and Control Plan. The turbidity monitoring portion of the plan shall be consistent with, but not limited to, all conditions set forth in the FDEP Environmental Resource Permit (See Appendix).

SECTION 7

QUALITY CONTROL PROCEDURES

7.1 SUMMARY

This section covers the procedures used for quality control required under this Contract.

7.2 SUBMITTALS

Quality Control Plan (See Section 01 33 00 Submittal Procedures)

7.3 REQUIREMENTS

The Contractor shall establish and maintain an effective Quality Control (QC) system to ensure compliance with the requirements of the Contract. QC consists of plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. Cover all operations, both on-site and off-site, and be keyed to the proposed sequence.

7.4 QUALITY CONTROL ORGANIZATION

Personnel Requirements: The requirements for the QC organization are a QC Manager and a sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Safety and Health Manager must report directly to a senior project (or corporate) official independent from the CQC Manager. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly shall also be included as

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part of the QC organization. The Contractor's QC staff shall maintain a presence at the site continuously during the progress of the work and have complete authority and responsibility to take actions necessary to ensure Contract compliance. Provide adequate office space, filing systems, and other resources as necessary to maintain an effective and fully functional QC organization. Promptly complete and furnish all letters, material submittals, schedules, and all other project documentation to the QC organization. The QC organization shall be responsible for maintaining these documents and records at the site at all times, except as otherwise acceptable to the District.

- A. Quality Control Manager: The Contractor shall identify as QC Manager an individual within the on-site work organization who is responsible for the overall management of QC and has the authority to act in every QC issue for the Contractor. The QC Manager shall be a construction person with a minimum of 5 years in related work. This QC Manager shall be on-site at all times during construction and be employed by the Contractor. The QC Manager shall be assigned as QC Manager and may not have additional duties or roles in addition to quality control, except for Safety and Health Manager. Identify in the Plan an alternate to serve in the QC Manager's absence. The requirements for the alternate are the same as the QC Manager.

SECTION 8

MOBILIZATION AND DEMOBILIZATION

PART 1 – GENERAL

8.1 SCOPE

Furnish all labor, materials, tools, and equipment as necessary to transport all equipment and personnel to and from the dredge area for work activities.

PART 2 - PRODUCTS

8.2 GENERAL

The Contractor is solely responsible for providing security for all materials stored ~~on-site~~ on-site during construction activities.

PART 3- EXECUTION

8.3 GENERAL

- A. The Contractor shall provide ten (10) days notification to the District before initiating mobilization to the site and initiating work. The Contractor shall also provide ten (10) days notification to the District before initiating mobilization of dredge equipment to the site and initiating dredging operations. The Contractor will also provide proof that all permits have been obtained before initiating work.
- B. The Contractor shall restrict his operations to the designated work area and ensure that construction activities do not impact natural resources included but not limited to wetlands, seagrasses, or marsh grasses delineated on the Drawings.
- C. The Contractor is responsible for visually inspecting the site to note obstructions or access difficulties.

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- D. The Contractor is responsible for providing and/or maintaining access to the work-site to facilitate all construction, inspection, and testing activities.

SECTION 9

CLOSEOUT PROCEDURES

PART 1 - GENERAL

9.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
1. Inspection procedures.
 2. Project record document submittal.
 3. Final cleaning.

9.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting an inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum. If 100 percent completion cannot be shown, including a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 2. Advise the District of pending insurance change-over requirements.
 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 4. Submit record drawings based on Arc Surveying and Mapping, Inc. final post-dredge surveys (verified post-dredge survey), damage or settlement survey, property survey, and similar final record information.
 5. Discontinue or change over and remove temporary facilities from the site, along with construction tools and similar elements. Repair damages to shoreline and structures, as applicable.
 6. Complete final clean up requirements.
- B. Inspection Procedures: On receipt of a request for inspection, the Engineer will either proceed with inspection or advise the Contractor of unfilled requirements. The Engineer will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued. The Engineer will repeat inspection when requested and assured that the Work has been substantially completed. The results of the completed inspection will form the basis of requirements for final acceptance.

9.3 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting a final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

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2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Engineer's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Engineer.
 4. Submit the consent of surety to the final payment.
 5. Submit a final liquidated damages settlement statement.
 6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Re-inspection Procedure: The Engineer will re-inspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the District.
1. Upon completion of re-inspection, the Engineer will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 2. If necessary, re-inspection will be repeated.

PART 2 EXECUTION

9.4 FINAL CLEANING

- A. General: General cleaning during construction is required. Clean the site of rubbish, litter, and other foreign substances.
- B. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- C. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials within the Project area. Do not discharge volatile, harmful, or dangerous materials into drainage systems or surface waters. Remove waste materials from the site and dispose of it lawfully.
- D. Where extra materials of value remaining after completion of associated Work have become the District's property, arrange for disposition of these materials as directed.

SECTION 10

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

10.1 DESCRIPTION

- A. The work specified in this Section consists of furnishing and installing materials and taking measures required to control erosion on the project and in surrounding areas where work is accomplished in conjunction with the project, including the HWSD Upland Spoil Site. This work intends to prevent pollution of water, detrimental effects on public or private property adjacent to the project right of way, and damage to work on the project. These measures will consist of construction and maintenance of temporary erosion control features.

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10.2 PERMITS

- A. The Contractor shall comply with all requirements of the Florida Department of Environmental Protection, U.S. Army Corps of Engineers and Florida Department of Transportation permits during construction.
- B. The Contractor shall maintain a copy of all permits on-site and available for review by any regulatory agency.

10.3 CONTROL OF CONTRACTORS OPERATIONS WHICH MAY RESULT IN WATER POLLUTION

- A. Take sufficient precautions to prevent pollution of rivers, streams, channels, canals, lakes, and other water impoundments, with fuels, oils, bitumens, calcium chloride, or other harmful materials. Conduct and schedule operations to avoid or otherwise minimize pollution or siltation of such streams, etc. and to avoid interference with the movement of migratory fish. Do not dump the residue from dust collectors or washers into any water body.
- B. Construction operations in rivers, channels, streams, lakes, canals, and other impoundments shall be restricted to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the Contract Documents and to those areas which must be entered to construct temporary structures as soon as conditions permit, promptly clear rivers, channels, canals, streams, and impoundments of all obstructions placed therein or caused by construction operations.
- C. Do not deposit excavated material in streams, rivers, channels, canals, or impoundments, or in a position close enough thereto, to be washed away by high water or runoff.
- D. Do not disturb lands or waters outside the limits of construction, except as may be found necessary to complete the work.

10.4 START OF WORK

- A. Before starting work, the Contractor shall perform the following tasks:
 - 1. Install turbidity barriers and monitoring controls per FDEP Permit Conditions.
 - 2. Initiate permitted operations.

PART 2 - EXECUTION

10.5 GENERAL

- A. Construct temporary and permanent erosion and sediment control measures to prevent the pollution of adjacent waterways in conformance with the laws, rules, and regulations of Federal, State, and local agencies.

10.6 INSTALLATION

- A. Floating Silt Barriers: This work shall consist of installing, maintaining, and removal of floating silt barriers to contain turbidity that may occur as the result of dredging, filling, or other construction activities in waters of the State. The type barrier used, the deployment and maintenance of the barrier will be such as to minimize dispersion of turbid waters from the construction-site. Alternate

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methods or materials may be used provided that compliance with applicable permit conditions and State water quality standards are maintained.

10.7 REMOVAL OF TEMPORARY EROSION CONTROL FEATURES

In general, remove any temporary erosion control in such a manner that there will be no detrimental effect. Removal of such measures shall not occur before receipt of approvals from the District.

10.7 MAINTENANCE OF TEMPORARY EROSION CONTROL FEATURES

Provide continuous routine maintenance of temporary erosion control features until the project is completed and accepted.

10.8 SURFACE WATER MANAGEMENT, STORMWATER RUNOFF CONTROL, AND EROSION CONTROL

- A. The Contractor shall be responsible for all runoff control efforts, including without limitation protecting areas receiving runoff, in accordance with any applicable regulations, codes, plans, and permits.
- B. The Contractor shall furnish, install, and maintain, at no additional cost to the District, all necessary surface for turbidity control and prevent erosion and surface degradation.
- C. The Contractor recognizes and agrees that should any of the ponds, rivers, lakes, channels, canals or other bodies of water adjacent to the site become contaminated due to the actions or inactions of the Contractor, the costs to flocculate, clean or remedy such contamination by any means necessary or required will be borne by the Contractor. The District shall take turbidity readings regularly and shall enforce all applicable environmental regulations.

SECTION 11

DREDGING

PART 1 - GENERAL

11.1 DESCRIPTION

- A. All dredging work for this Contract consists of mechanical or hydraulic dredging of primarily fine-grained sediments within the Isle of Palms Channels/Canals as defined on the Drawings. The dredging depth is set at -5.0 feet MLW with 1 foot of overdredge (final dredge elevation -6.0 feet MLW). All dredged material shall be transported to the HWSD Upland Spoil Site at Reed Island.

10.2 ARTIFICIAL OBSTRUCTIONS

- A. The District has no knowledge of existing wrecks, wreckage, or other material of such size or character as to require the use of a special or additional dredge for its economical removal. Debris encountered in the dredge area shall be removed from the water. Proper disposal shall be the responsibility of the Contractor.

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10.3 QUANTITY OF MATERIAL

- A. This Project intends to remove accumulated sediments from the project area to -5.0 feet MLW with 1 foot of overdredge (final dredge elevation -6.0 feet MLW). Based on the most recent bathymetric survey data collected, for dredging along the center of the canals only, it is estimated that 88,300 cubic yards of sediment will be removed from within the Project Area. This volume is an estimate for bidding purposes only. The Contractor is responsible for verifying all estimated quantities in the field before dredging.

10.4 DREDGING LIMITS

- A. The Contractor shall dredge the project area template. The dredge template will be as shown on the Drawings. When working adjacent to marsh grasses, or any other protected natural resource, setback requirements shall take precedence over the template limits shown in the plan sheets.
- B. The following horizontal dredging limits shall apply unless amended for a site-specific location in writing by the District and the Engineer:
1. Natural Resources: No dredging shall occur within 10 feet of natural resources present at the time of construction. The horizontal limits of dredging shall be adjusted to meet the actual field conditions at the time of dredging.
 2. Bulkheads and Structures: The Contractor shall maintain a minimum distance of 10 feet from Bulkheads and other structures unless a property owner waiver has been provided to the Contractor by the District.
- F. The Contractor shall be responsible for continuously maintaining the position of the dredge or excavating equipment within the prescribed dredging limits. The Contractor shall continuously monitor water levels and depth of dredging to ensure that the design depth is met. The Contractor shall have adequate personnel on-site with the ability to set accurate controls for continual dredge operations.
- G. Vertical dredging limits are restricted by regulatory authorizations, not to exceed an elevation of -6.0 feet (MLW), including overdredge.
- H. The Contractor shall be responsible for the layout of the work per the construction plans.
- I. The Contractor shall use HYPACK® or comparable software to map the project area, and continuously monitor dredging coordinates and depths. The Contractor is responsible for accurately dredging within the template, side-slopes, and maintaining setbacks as specified in construction drawings, specifications, and regulatory permits.

10.5 SIDE CUTS

Side cuts shall be sloped as required to prevent sloughing of material away from channel boundaries.

10.6 PERMIT AUTHORIZATIONS

- A. The Contractor shall be responsible for obtaining all required federal, state, municipal, and environmental permits not supplied by the District. The Contractor shall familiarize himself and his personnel with all environmental protection permits (Appendix) issued for this Project, and shall comply with all requirements under the terms and conditions set forth therein.

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- B. The District has obtained permits or exemptions from the following agencies:
1. U.S. Army Corps of Engineers (USACE)
 2. Florida Department of Environmental Protection (FDEP)

10.7 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall provide and maintain, during the life of the Contract, environmental protective measures consistent with section 01 35 05 ENVIRONMENTAL PROTECTION. Additionally, the Contractor shall provide all applicable and appropriate environmental protective measures required to correct conditions, such as oil spills or debris, which may occur during the dredging operations. The Contractor shall fully comply with Federal, State, and local regulations pertaining to water, air, and noise pollution.

PART 3 - EXECUTION

10.8 INSPECTION

The Contractor shall inspect the work, and keep records of the work performed. The Contractor shall furnish, at the request of the District/Engineer, boats, boatmen, laborers, and materials necessary for inspecting, supervising, and surveying the work. When required, the Contractor shall provide transportation for the District/Engineer and inspectors to and from the area(s) being subjected to dredging and the Contractor's upland access/staging area.

10.9 CONDUCT OF DREDGING WORK

- A. Interference with Navigation: The Contractor shall minimize interference with the use of channels and passages as much as practicable.
- B. Noise: All operations are to be performed in accordance with applicable local noise ordinances.
- C. Method of Communication: The Contractor shall provide a system of communication between the dredge crew and the crew at the temporary handling site. Portable two-way radios are considered an acceptable means of communication between the two crews.
- D. Salvage Material: Anchors, chains, firearms, and other articles of value, which are brought to the surface during dredging operations, shall remain or become the property of the District and shall be deposited on-shore at a convenient location near the site of the work, as directed by the District/Engineer.
- E. Order of Work: the Contractor shall indicate the order of work in baseline and construction progress update schedules in accordance with the requirements of Section 01 32 16 Project Construction Progress Schedule and all of the permitting restrictions.
- F. Equipment Removal: upon completion of the Work, the Contractor shall promptly remove the dredge, barges, and all other equipment or obstructions, from the Project area.
- G. Days and Hours of Operation:
1. Dredge activity, including barge movement, shall occur at least one hour after sunrise to one hour before sunset from Monday to Friday. No night dredging is permitted.
 2. Resource for determining exact times of sunrise and sunset shall be the U.S. Observatory (http://aa.usno.navy.mil/data/docs/RS_OneYear.php)
 3. Work may not be conducted on Saturdays, Sundays, and national holidays.
- H. Lights

Technical Specifications

Isle of Palms Maintenance Dredging Project

1. Each night, between sunset and sunrise and during periods of restricted visibility, the Contractor shall provide lights for floating vessels.
 2. The Contractor shall provide lights for buoys that could endanger or obstruct navigation. Lighting shall conform to United States Coast Guard requirements for visibility and color.
- I. Dredge:
1. The work shall be performed with a mechanical or hydraulic dredge with all dredged material transported and placed at the Harbour Waterway DMMA in accordance with all permit conditions.
 2. Dredger and equipment employed on the work shall be in satisfactory operating condition and capable of safely and efficiently performing the work as indicated or specified and shall be subject to inspection and approval by the District at all times.
 3. Equipment and machinery shall be of sufficient size and kept in good condition at all times. Any leaks or deficiencies shall be promptly and properly repaired. No reduction in the capacity of the dredger employed on the work shall be made except by written permission of the District.
 4. The measure of the "Capacity of Dredge" shall be its actual performance on the work to which these specifications apply. All floating dredges and barges used as access ways or working platforms shall be equipped with walkways and guardrails conforming to Corps of Engineers Manual EM 385-1-1 and meet the latest OSHA requirements for worker safety.
 5. Mechanical dredging operations must have the capacity to dredge and place a minimum of 100 cubic yards of material per day.
- J. Safety of Structures and Marine Resource Areas
1. The prosecution of work shall ensure the stability of channel markers, piers, bulkheads, and other structures that are lying on or adjacent to the site of the work, insofar as structures may be jeopardized by dredging or transportation operations.
 2. The Contractor shall observe a minimum 10-foot buffer during dredging operations around natural resources during the execution of the work.
 3. The Contractor shall repair damage resulting from dredging operations, insofar as such damage may be caused by variation in locations or depth of dredging or both, from that indicated or permitted under the Contract.
- K. Dredged Material Disposal/Reuse
1. The Contractor shall be responsible for any testing of the water content of the dredged material that may be a necessary condition of its transportation, disposal, or beneficial reuse.
 2. The Contractor will obtain all necessary permits, pays all applicable fees and receive District approval in advance of the commencement of any disposal or reuse operations. The Contractor is responsible for coordinating with the authorized DMMA and meeting their requirements for disposal.

11 FINAL EXAMINATION AND ACCEPTANCE

As soon as practicable after the completion of dredging, the project area will be surveyed by Arc Surveying and Mapping, Inc. The Contractor shall remove shoals and lumps by dragging the bottom or by dredging. When areas are found by the District/Engineer to be in a satisfactory condition, the work therein will be accepted as complete. Final estimates will be subject to deductions or correction of deductions previously made because of excessive over-depth, dredging outside of authorized areas, or disposal of material in an unauthorized manner.