

SECTION 01 29 00

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes requirements to be used for the basis of measurement and payment. The Contractor shall receive and accept the compensation provided in the Bid Schedule as full payment for furnishing all materials, labor, tools and equipment for performing all operations necessary to complete the Work under the Contract. Payment for all loss or damages arising from the nature of the Work, or from the action of the elements or any unforeseen difficulties, encountered during the Work until final acceptance by the Owner is also included in the compensation provided in the SECTION 00 41 63A BID SCHEDULE.
- B. Bid prices for the various work items are to establish a total price for completing the project in its entirety. The Contractor shall include in the Bid, any item for which a separate pay item has not been established in the Bid Schedule, to reflect the total price for completing the project in its entirety, as depicted on the Project Drawings and specified herein. Unless there is a specific line item for administrative costs, such as Project Management, Quality Control and Safety, allocate such costs proportionally across all line items. The Contractor must include all costs for this project to complete all work, in total, designated in the project drawings, specifications, and bid schedule.

1.2 SUBMITTALS

The following submittals shall be submitted in accordance with SECTION 01 33 00 SUBMITTAL PROCEDURES. Bring the following administrative submittal items to the Preconstruction Meeting:

- A. Schedule of Values
 - 1. The Contractor will submit a printed schedule on Contractor's standard form in electronic printout for review and approval by the Engineer at least fifteen (15) calendar days prior to the first Payment Application. List payment items sequentially in the same order as they appear in the Bid Form.
 - 2. Lump sum items are to have adequate breakdown of components to facilitate evaluating completeness for payment. Breakdown components shall appear directly under the payment item heading to which they apply.
 - 3. The Contractor will revise the schedule to list approved Change Orders, with each Application for Payment. The Contractor will submit a revised Schedule of Values in accordance with this specification.

- B. Construction Schedule

Prepare draft Construction Schedule for Preconstruction Meeting. At or before the scheduled pre-construction meeting, prepare and submit to the Engineer for approval a construction schedule in the form of a progress chart. The Contractor shall indicate on the progress chart, the bid items contained in the contract, showing the amount of the item and its relative weighted percentage of the total contract. The Contractor may separate features of work under each item to show salient work elements such as procurement of materials, plants, and equipment, and supplemental work elements such as excavation, reinforcing steel, backfill, etc. These salient features shall total to the cost and weighted percentages shown for the major bid item. When

quantity variations impact the weighted percentages of a separate item by five percent or more, the Contractor shall revise the contract progress charts to accurately reflect the impact of such variations.

C. Revised Construction Schedule

1. Submit copies of the updated construction schedule to the Engineer for each Payment Application. Changes that have occurred since the last update shall be clearly marked.

D. Payment Surveys

1. With each Payment Application, the Contractor shall submit both hard and digital copies of payment surveys to the engineer for review and approval. The Contractor will only be paid for the volumetric change between payment surveys as compared to the Engineer-Approved pre-construction bathymetric survey and payment survey within the defined dredged template boundary (see SECTION 35 20 23 DREDGING AND DREDGED MATERIAL PLACEMENT). Surveyor may use single beam or multi beam sonar as long as surveys are certified by a licensed Professional Surveyor in the State of Florida. Specific Survey lines will be made at approximately 50-foot intervals perpendicular to the centerline of the channel. Survey lines shall also be ran along the centerline and the toes of the channel. A before dredging survey will be performed a maximum of 15 days before commencement of dredging operations in each acceptance section. As soon as practicable after the completion of dredging of an acceptance section, but not more than 5 days afterward, an after dredging survey will be performed, weather permitting.

1.3 MEASUREMENT

- A. Measurement for Payment for this Project is based upon completion of the Work in accordance with Project Drawings and Specifications for each of the items. Field measurements will determine the percent complete of work components when listed on the approved Schedule of Values. Measurements will be made using linear, area, volumetric units, or by unit quantity counts, as listed on the SECTION 00 41 63A BID SCHEDULE for unit quantity items and at the Engineer's sole discretion for lump sum items.
- B. The Contractor will take all measurements and compute quantities. The Engineer will verify measurements and quantities as appropriate.
- C. The Contractor will provide all necessary equipment, workers, and survey personnel as required.
- D. Measurement Devices:
1. Weigh Scales: Inspected, tested, and certified by the applicable State Weights and Measures department within the past year.
 2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
 3. Metering Devices: Inspected, tested, and certified by the applicable State department within the past year.
- E. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord, in feet and hundredths of a foot.
- F. Measurement by Area: Measured by square dimension using mean length and width or radius, in feet and hundredths of a foot.

- G. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness, in feet and hundredths of a foot.
- H. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.4 BASIS FOR PAYMENT

- A. Unless indicated on the Contract Documents, all work indicated on the Project Drawings and specified in the Bid Documents and Contract shall be included in the Contract Sum indicated on the Bid Form.
- B. Prices stated in the Bid Schedule shall include all costs and expenses for taxes, labor, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the Work as depicted on the Project Drawings and specified herein. The basis of payment for an item in the amount shown in the Bid Schedule shall be in accordance with the description of that item provided in this Section.
- C. The Contractor's attention is again called to the fact that the quotations for the various items of work are intended to establish a total price for completing the Work in its entirety. Should the Contractor feel that the cost for any item of work has not been established by the Bid Form or Payment Items, the Contractor shall include the cost for that work in another applicable bid item, in order that the Proposal for the project reflects the total price to be paid by the Owner for completing the Work in its entirety.
- D. Changes in the Contract Price and Contract Time require prior authorization in writing from the Owner and the Engineer, in the form of a Change Order or Work Change Directive. The Contractor is responsible for verification of all bid quantities and to report to the Engineer any discrepancies found prior to ordering materials and/or equipment for construction. Refer to SECTION 00 72 00 GENERAL CONDITIONS.
- E. The various major items of Work will be paid for either by 1) the quantity of the actual Work complete by the Contractor and accepted by the Engineer multiplied by the unit price or 2) the lump sum amount indicated for each Bid Schedule Item. The Work shall include all miscellaneous and ancillary items necessary to construct a complete and functional Project.

1.5 SCHEDULE OF VALUES

- A. The below descriptions generally outline the scope of work required for those elements of the Work to be paid for under each item listed in the Schedule of Bid Items. The Contractor shall submit a Schedule of Values per SECTION 00 72 00 GENERAL CONDITIONS and shall be consistent with SECTION 01 33 00 SUBMITTAL PROCEDURES.

1.6 PAYMENT ITEMS

- A. Basis of Payment for Unit Price Items
 - 1. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Engineer determine payment.
 - 2. If the actual Work requires more or fewer quantities than those quantities indicated, the Contractor will provide the required quantities at the unit prices contracted.

3. If the actual Work requires a fifty percent (50%) or greater change in quantity than those quantities indicated, the Owner or Contractor may claim for a Contract Price adjustment for that item.
- B. Basis of Payment for Lump Sum Items
1. Payment for lump sum items for this Project will be made at the lump sum price named in the Contract. The contract price shall constitute full compensation for each item, including all required labor, products, tools, equipment, plant, transportation, services and incidentals, erection, application or installation of an item of the Work, overhead and profit as required to complete the item as indicated in the Project Drawings and Specifications.
- C. Progress Payments
1. One progress payment will be made upon completion of mobilization to the site.
 2. Subsequent progress payments will be made upon receipt and acceptance of surveys used for progress payments. Surveys will be evaluated based on the volumetric change (within the accepted dredge template) between the Engineer-approved pre-dredge bathymetric survey and payment, post-dredge surveys (see SECTION 35.20.23 DREDGING AND DREDGED MATERIAL PLACEMENT). Copies of the original bathymetric surveys, completed by Sea Diversified, Inc., January 2015 and February 2016 are included in **APPENDIX F** of these specifications. An electronic version of this survey is available upon request. The Contractor is required to have all surveys performed by a Florida licensed professional surveyor. Once accepted by the Engineer, the pre-bathymetric survey will be used to evaluate all progress payments in which the Contractor is requesting payment for dredging.
 3. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by a unit price of the item. Final payment for unit price Work will be accomplished by reconciliation Change Orders to adjust quantities at the end of the Project.
 4. No payment, partial or complete, will be made for defective or rejected Work. The Contractor will not receive payment for any material dredged outside of the horizontal or vertical limits of the dredge template nor any material that falls within the setback requirements of the regulatory permits.
 5. No separate payment will be made for additional labor and materials required for accomplishing the Project in its entirety. All labor, materials, and incidental costs shall be included for payment as part of the Proposal and the Contract, under the several scheduled items of the Project.

1.7 DESCRIPTION OF WORK ITEMS AND SCHEDULE OF VALUES

- A. The following Work items are described in order to assist the Contractor in the preparation of the Proposal and to assist the Engineer in the evaluation of Bids and evaluation of progress payments during construction. The Contractor shall submit a Schedule of Values containing the work components of each Bid Item of the Proposal for approval prior to the first Payment Application for Payment for work in progress.
- B. No separate payment will be made for any testing and/or surveying performed to complete the Work; costs for testing and/or surveying (as applicable), are included in the cost to complete the work item.

- C. Submittals are considered part of the Contractor's administrative and overhead costs. The Contractor will not be compensated separately for submittals required by these specifications or those listed on the Project Drawings.
- D. Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated there with shall be included in the applicable unit prices or lump-sum prices contained in the Bid Schedule.
- E. For the purpose of the work items listed below, complete installation will mean the inclusion of demolition work, site restoration to existing or better conditions, and testing, all included in the cost to complete the work item (as applicable).
- F. All work shall be completed in accordance with all applicable permits and owner requirements.
- G. The following provides a description of the Work listed in the Schedule of Bid Items. This description is not intended to be a complete and all-inclusive record of the required work items. Work includes but is not limited to the following:

H. Bid Item Description

1. Lump Sum Items

- a. **Insurance (Bid Item No. 0001)** – Payment will be as a lump sum (LS) for costs associated with and incidental to acquiring and maintaining the appropriate insurance requirements for this project as listed in SECTION 00 73 00 SUPPLEMENTARY CONDITIONS.
- b. **Mobilization and Demobilization (Bid Item No. 0002)** - Payment for this item will be made as a lump sum (LS) for costs associated with or incidental to mobilization, demobilization, and establishment of initial project management and coordination. Sixty percent (60%) of the lump sum payment will be payable to the Contractor upon completion of the mobilization at the work site with the remaining forty percent (40%) payable upon the completion of demobilization. The Contractor shall breakdown the cost for Mobilization and Demobilization in the Schedule of Values for Engineers approval prior to the first Payment Application.
- c. **Environmental Protection and Erosion Control (Bid Item No. 0003)** – Payment will be as a lump sum (LS) for full compensation for furnishing and installing all materials, labor, and equipment required for compliance with all permits and specifications related to environmental protection. This includes, but not limited to, all turbidity, water quality monitoring and testing, erosion control, ~~sediment chemistry testing,~~ and associated reporting of data, etc. The Contractor shall breakdown the cost for Environmental Protection in the Schedule of Values for Engineer approval prior to the first application for payment. See SECTION 01 35 43 ENVIRONMENTAL PROTECTION.

2. Unit Price Items

- a. **Dredging and Dredged Material Placement (Bid Item No. 0004)** – Payment will be made as a unit price (Cubic Yards) for costs associated with or incidental to dredge the Atlantic Intracoastal Waterway Nassau County, Florida within the specified project limits and transfer and dewater the material to the District-owned NA-1 and DU-2 dredged material management areas. These prices shall include all labor, equipment, materials, upland site work, operational costs, and surveys required to complete the dredging and upland work necessary at the disposal area. Work stoppages for manatees, turbidity control, and Maintenance of Marine Traffic must be included in the overall cost. This project is set up with three (3) acceptance sections (A/S) based on defined cuts and stations (i.e., Cut N-FHP-2 STA 2+00– AIW Cut-B STA 0+00; Cut 27-M STA 4+16 – Cut 27-K STA 0+00; and Cut 27-K STA 0+00 – Cut

27-G STA 7+87) in the project. The Owner will base final payment for dredging on an accepted survey conducted within each A/S only. Volumes of material dredged will be based off pre- and post-construction bathymetric surveys approved by the Engineer. See SECTION 01 40 00 CONTRACTOR QUALITY CONTROL, SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS, SECTION 01 78 00 PROJECT CLOSEOUT, and SECTION 35 20 23 DREDGING AND DREDGED MATERIAL PLACEMENT.

H. Alternate Bid Item Description

1. Lump Sum Items

- a. **Mobilization and Demobilization (Bid Item No. 0005)** - Payment for this item will be made as a lump sum (LS) for costs associated with or incidental to mobilization, demobilization, and establishment of dredging operations at the Fernandina Harbor Marina. Sixty percent (60%) of the lump sum payment will be payable to the Contractor upon completion of the mobilization at the work site with the remaining forty percent (40%) payable upon the completion of demobilization. The Contractor shall breakdown the cost for Mobilization and Demobilization in the Schedule of Values for Engineers approval prior to the first Payment Application.

2. Unit Price Items

- a. **Fernandina Harbor Marina Maintenance Dredging Alternative 1 (Bid Item 006A)** – In the event that the alternate bid item is exercised, payment will be made as a unit price (Cubic Yards) for costs associated with or incidental to maintenance dredging of the Fernandina Harbor Marina in Nassau County, Florida within the limits specified on project drawings C-6 (marina in existing condition). Dredged material will be transferred to and dewatered at the District-owned NA-1 dredged material management area. These prices shall include all labor, equipment, materials, upland site work, operational costs, and surveys required to complete the dredging and upland work necessary at the disposal area. Work stoppages for manatees, debris, turbidity control, and Maintenance of Marine Traffic must be included in the overall cost. The alternate bid item will be considered a separate acceptance section. The Owner will base final payment for dredging on an accepted survey conducted within each A/S only. Volumes of material dredged will be based off pre- and post-construction bathymetric surveys approved by the Engineer. See SECTION 01 40 00 CONTRACTOR QUALITY CONTROL, SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS, SECTION 01 78 00 PROJECT CLOSEOUT, and SECTION 35 20 23 DREDGING AND DREDGED MATERIAL PLACEMENT.
- b. **Fernandina Harbor Marina Maintenance Dredging Alternative 2 (Bid Item 006B)** – In the event that the alternate bid item is exercised, payment will be made as a unit price (Cubic Yards) for costs associated with or incidental to maintenance dredging of the Fernandina Harbor Marina in Nassau County, Florida within the limits specified on project drawing C-7 (proposed marina layout). Dredged material will be transferred to and dewatered at the District-owned NA-1 dredged material management area. These prices shall include all labor, equipment, materials, upland site work, operational costs, and surveys required to complete the dredging and upland work necessary at the disposal area. Work stoppages for manatees, debris, turbidity control, and Maintenance of Marine Traffic must be included in the overall cost. The alternate bid item will be considered a separate acceptance section. The Owner will base final payment for dredging on an accepted survey conducted within each A/S only. Volumes of material dredged will be based off pre- and post-construction bathymetric surveys approved by the Engineer. See SECTION 01 40 00 CONTRACTOR QUALITY CONTROL, SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS, SECTION 01 78 00 PROJECT CLOSEOUT, and SECTION 35 20 23 DREDGING AND DREDGED MATERIAL PLACEMENT.

1.8 DEFECTIVE WORK

- A. The Contractor shall replace the Work, or portions of the Work, not conforming to specified requirements as directed by the Engineer.
- B. If, in the opinion of the Engineer or of the Owner, it is not practical to remove and replace the Work, the Engineer will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit or lump sum price for the item will be adjusted to a new price. The adjustment will be performed at the sole discretion of the Owner. The determination for the adjustment will be done by the Engineer, whose determination will be final.
 - 2. The defective Work will be partially repaired to the instructions of the Engineer, and the unit or lump sum price will be adjusted to a new price at the sole discretion of the Owner. The determination for the adjustment will be done by the Engineer, whose determination will be final.
- C. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.
- D. The authority of the Engineer to assess the defect and identify payment adjustment is final.
- E. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products damaged in transit, during handling, or due to improper storage.
 - 4. Products not completely unloaded from the transporting vehicle.
 - 5. Products placed beyond the lines and levels of the required Work.
 - 6. Products remaining on hand after completion of the Work.
 - 7. Removing, demolishing, and disposing of rejected Work.
 - 8. Loading, hauling, and disposing of rejected Products.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 PAYMENT PROCEDURES

- A. Requesting Progress Payment
 - 1. Provide hard copies of supporting invoices and quantity measurements to support all requested earnings. Ensure that sum of payment activities do not exceed contract award funding amounts.
- B. Options and Modification
 - 1. When additional work is added by modification, existing funding amounts must be updated, or new line items for modification will be created. If contract has option line item not yet awarded, option line item will appear as zero dollars until option is awarded by modification. No payment may be requested for Options or Modification until contract modification has been funded and signed.

--End of Section--