Spring Point Marina Expansion

South Portland, Maine

WIN's 23276.00 & 23278.00

Bid Addendum #2

January 15, 2020

This addendum provides additional information and clarifications to the Bid Documents for the above referenced project.

1. Verbal discussion at the pre-bid meeting is for reference only. Only written documentation in Addenda and RFI responses is official.

2. The Bids due date has been extended to February 6, 2020 at 3:00pm.

3. Pile anchorage is the preferred anchorage method for the project. Pile anchorage is required for the main walkway floating docks. Bids for pile anchorage of the heavy duty floating docks must be provided in the bid form. Bids for flexible mooring anchorage of the heavy duty floating docks may be provided, but are not required. See item 4 below and attached updated Bid Form and Flexible Mooring Technical Specification for additional clarification.

4. Instructions to Bidders, Section 3.4.5, second bullet is edited to include the underlined language as shown below:

    - *If an alternate <u>flexible mooring</u> dock anchorage type provides a cost savings <u>or other benefit (please specify in Bid)</u> over the preferred pile anchorage, the alternate dock anchorage may be substituted <u>(by the Owner)</u> for base bid consideration.*

5. Bidders shall assume that permit modifications and regulatory timeline extensions/ variances, if required for specific designs and/or installations, shall be acquired by Owner.

6. A new upland transformer will be provided and installed by the Owner for Contractor use on the project.

7. Upland access and laydown is limited to small deliveries only (e.g. power pedestals and electrical system components). All other work shall be from overwater.

8. Liquidated damages. Contractor shall, subject to extensions of time, excused performance, and grace periods determined during contracting, achieve Substantial Completion of the Work by the date set forth in the Bid Documents or pay Owner liquidated damages in the amount of $500 per day.

9. Concrete for non-structural flotation units shall be air-entrained, reinforced concrete (Type II) having a minimum compressive strength of 4,000 psi at 28 days. Concrete shall comply with applicable provisions of American Concrete Institute (ACI) publications and this special provision. Aggregate shall be lightweight type suitable for saltwater exposure conforming to ASTM C 330.

10. Any outstanding queries from the pre-bid meeting or additional questions not addressed herein should be submitted via the official RFI form.

RFI responses are provided as an attachment to this Addendum.

Attachments:

- Responses to RFI's # 2, 3, and 4
- Updated Bid Form document
- Flexible Mooring Specifications

Spring Point Marina Expansion

REQUEST FOR INFORMATION

Date: 1-8-19 Time: _____

Information Requested: **WIN:** _____ **Town(s):** _____

Is a heavy chain and dead weight anchoring system acceptable as an alternitive to the pile moored solution?

Request by: Mason Sears **Phone:** (207) 347 4237

Bid Date: Jan 23 2020 **Fax:** (207) 347 4238

Complete top portion of form and transmit to the number listed in the Notice to Contractors

RFI No: 02 **RFI received:** January 8, 2020

Response: Yes. See Addendum 2 for complete details.

Response By: ATM Date: January 14, 2020

Spring Point Marina Expansion

REQUEST FOR INFORMATION

Date: 1-10-2020 Time: 2:00 PM

Information Requested: **WIN:** 23276.00 23278.00 **Town(s):** SOUTH PORTLAND

WILL ELECTRONIC BID PROPOSALS BE ACCEPTED?

Request by: CPM CONSTRUCTORS **Phone:** (207) 865-0000

Bid Date: 1-23-2020 **Fax:** (207) 865-4836

Complete top portion of form and transmit to the number listed in the Notice to Contractors

RFI No: 03 **RFI received:** January 13, 2020

Response: Hard copy bid proposals are required.

Response By: ATM Date: January 14, 2020

Reed & Reed RFI #1

Spring Point Marina Expansion

REQUEST FOR INFORMATION

Date: 1/13/20 Time: PM

Information Requested: **WIN:** 23276.00 & 23278.00 **Town(s):** South Portland, ME

1. The pile anchorage system is design build and thus may not align with the project permit(s); as such please confirm that we should assume these potential variations from permit(s) will be acceptable with no schedule impact:
   -Design may require impact pile driving in addition to vibratory pile driving noted in the permit(s).
   -Permit(s) note specific size and quantity of piles. Design may require different size & quantity.

2. Are there any "in-water work windows" dictated for this project (i.e. restrictions for pile driving or other activities during specific dates)?

Request by: John Phillips **Phone:** (207) 443-9747

Bid Date: 1/23/20 **Fax:** ( )

Complete top portion of form and transmit to the number listed in the Notice to Contractors

RFI No: 04 **RFI received:** January 13, 2020

Response: See Addendum 2, Item 5.

Response By: ATM Date: January 14, 2020

BID FORM

A. The undersigned proposes to furnish all labor and materials required for the following project:

Spring Point Marina Expansion

in accordance with the accompanying Bid Documents prepared by:

Applied Technology and Management, Inc.
941 Houston Northcutt Boulevard, Suite 201
Mount Pleasant, SC 29464

B. Prices

Having carefully examined the Bid Documents and having visited the project site and evaluated the conditions affecting the work of the proposed improvements, the undersigned proposes to furnish all materials, labor, equipment, plant, supervision, and other items necessary for the execution of the work covered by the specifications and drawings including written addenda for the following unit prices:

BASE BID

The base bid will be as shown and described in the Bid Drawings and Performance Specifications. Each line item includes fabrication, supply, and installation (and design where indicated) of that item and all appurtenances, attachments, connections, etc., as described in the Bid Drawings and Performance Specifications. Bidders shall fill in all applicable quantities and costs where blank.

SOLICITED BASE BID

Item No.	Description	Quantity	Units	Unit Price	Total Price
1	Performance Bond	1	LS		
2	Mobilization/Demobilization	1	LS		
3	Design, Furnish, and Install SF Marina Heavy Duty Floating Concrete Docks and Marine Pile Anchorage		SF		
3a	Design, Furnish, and Install SF Marina Heavy Duty Floating Concrete Docks and Flexible Mooring Anchorage		SF		
4	Design, Furnish, and Install Main Walkway Floating Concrete Docks and Anchorage		SF		
5	Design, Furnish, and Install Dock Transitions	2	EA		
6	Furnish and Install Complete Marina Electrical System (includes fire extinguishers and pedestals)	1	LS		
7	Furnish and Install Marina Potable Water System	1	LS		
	Total Base Bid Price with Item 3 - Pile Anchorage				
	Total Base Bid Price with Item 3a - Flexible Mooring Anchorage				

C. The above prices shall include all labor, materials, dewatering, shoring, debris and trash removal, overhead, profit, insurance, bonds, permit fees if required, taxes, etc., to cover the finished work called for. Design shall also be included where applicable and noted.

D. The OWNER has obtained regulatory permit authorizations for the project from Maine DEP, the Department of the Army and the Portland Board of Harbor Commissioners. Permit documents are attached. CONTRACTOR shall be responsible for any/all local permits, licenses, and certification of completed work.

E. The OWNER requires that the CONTRACTOR provide a Performance Bond of a surety company qualified to do business under the laws of Maine and satisfactory to the OWNER, and in the amount of 100 percent of the Bid Amount.

F. The undersigned agrees that, if he is selected as CONTRACTOR, he will within ten days, Saturdays, Sundays, and legal holidays excluded execute the agreement document, Contract for Construction between OWNER and CONTRACTOR, in accordance with the terms of the Bid.

G. If awarded the Contract, the undersigned hereby certifies to expedite completion of all Work in conjunction with plans presented by the DESIGN CRITERA PROFESSIONAL as herein further described, and further certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed on the Work.

H. The undersigned Bidder further declares that he has examined the site of the work and has informed himself fully in regard to all conditions pertaining to the place where the work is to be done; and has examined the Bid Drawings and Performance Specifications for the work and the Bid Documents relative thereto; and has read and become familiar with the Bid Documents furnished prior to opening of bids, that he has satisfied himself relative to the work to be performed.

I. This Bid includes Addenda listed below and they are hereby acknowledged:

Addendum No. _____ Dated

Addendum No. _____ Dated

Addendum No. _____ Dated

J. Commencement and Completion of Work:

1. The undersigned agrees to commence work on the Contract within ten (10) calendar days from the date established in the Notice to Proceed issued by the OWNER, and to thereafter diligently and continuously carry on the work.

2. Bidder agrees to achieve OWNER required milestones and final completion of the work by July 1, 2020.

K. Bidder understands that the OWNER reserves the right to reject any and all bids, and to waive any irregularities in the bidding and accept the bid, with or without alternates, as deemed to be in the best interest of the OWNER.

L. Bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) days after the scheduled closing time for receiving bids.

BID FORM NOTES:

1. Bidder shall submit a detailed Work Plan and schedule with the Bid. The Work Plan must include all anticipated project milestones, including (at a minimum) dates of commencement, Substantial Completion, and Final Completion. OWNER'S required schedule of completion is as follows:

    - Substantial Completion – Heavy Duty Dock J and Main Walkway Floating Docks, Dock Transitions, and Anchorage in place by June 1, 2020
    - Final Completion – including marina utilities and all other work, by July 1, 2020

    - CONTRACTOR shall propose any suggested alternate timeframes for completion with bid submittal, inclusive of project cost impacts. Additional schedule considerations will be discussed at the pre-bid meeting for the project.

2. Supporting documentation and drawings shall be included as attachments to the Bid Forms, including:

    - Qualifications and experience documentation which shall include:
        - Experience List
        - Reference List
        - Equipment List
        - Subcontractor List
    - Manufacturer's literature/warranties for proposed products and materials;
    - Floating dock manufacturer literature for each dock system quoted, pictures, information, etc.

Corporation is registered in _____

(Seal)

By: _____

(Title)

_____

_____

_____

(Address)

END OF BID FORM

SECTION 02880
FLEXIBLE MOORING SYSTEMS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The work included under this section shall consist of designing, fabricating, and installing the flexible mooring anchor system including all anchors, mooring rode components, connections, and related elements required for a complete mooring system for the heavy duty concrete floating docks as shown on the DRAWINGS.

B. The flexible anchorage system shall be fabricated and installed according to the CONTRACTOR's (ENGINEER OF RECORD) design, drawings, and all applicable manufacturer's recommendations and are subject to acceptance by the DESIGN CRITERIA PROFESSIONAL. An ENGINEER OR RECORD provided by the DOCK MANUFACTURER is considered CONTRACTOR's ENGINEER OF RECORD for the purposes of this specification.

1.2 RELATED WORK

A. Section 02853 - FLOATING DOCKS

1.3 SUBMITTALS

A. To ensure that all specified criteria have been met the CONTRACTOR shall be required to submit the following prior to fabrication or ordering of the anchorage system, during the Shop Drawing Phase:

1. Dimensional layout of the anchorage system to be furnished including anchor and line/rode type, size, locations, and connections to dock modules.
2. Drawings and schematics showing clearances of vessels with mooring system for typical and extreme water levels.
3. Shop drawings and complete engineering calculations showing compliance with the design criteria specified herein and in related Specification sections. All calculations shall be stamped with the seal of a qualified, licensed Maine Professional Engineer.
4. Material specifications and catalog cut sheets for all materials or products proposed for the anchorage system.

1.4 DESIGN LIFE

A. The flexible mooring system shall be designed for a minimum 25-year service life, and the anchorage system components shall be specified with this in mind. If any components are not expected to have a minimum 25-year life then this fact shall be made clear and a detailed maintenance and inspection schedule be outlined as recommended

by the manufacturer and included in the Maintenance Manual for the floating dock system.

PART 2 - PRODUCTS

2.1 ANCHORAGE SYSTEM

A. The flexible mooring system shall be anchored in the most efficient manner as determined by the CONTRACTOR's engineer, considering the geotechnical conditions described in the BID DOCUMENTS. The provided geotechnical information may be referenced in the CONTRACTOR's design, but does not relieve the CONTRACTOR from his responsibility to fully satisfy himself of existing conditions. The installing CONTRACTOR should complete any additional tests or investigations to ensure CONTRACTOR's design meets the specifications, at the CONTRACTOR's cost.

B. All components of the anchorage system shall be new and specifically designed for use in the specific marine and winter conditions of the Project, noting that the system is to remain in the water year-round.

C. Anchors shall be mass anchors per the CONTRACTOR's approved design. All anchors shall be designed to be fit for purpose, resist the extreme design loads imparted by the floating dock system and according to identified occupancy scenarios, and incorporate applicable, industry-recognized design standards and safety factors.

D. Anchorage system shall be designed to ensure the entire floating dock and anchorage system does not impact any pre-existing structures located in the project area during the range of anticipated environmental conditions.

E. Chain Moorings
   1. Mooring rodes shall be chain systems and shall have elements with minimum diameter as determined by CONTRACTOR's engineer to withstand the calculated forces with appropriate factors of safety.
   2. Chains shall have a scope of not less than 3 m (horizontal) for every 1 m of depth (vertical). Chain scope and location shall be designed by the CONTRACTOR's engineer to ensure they pose no impacts to navigation or passing or berthed vessels.
   3. Chain shall be Grade 3 stud link or as approved by DESIGN CRITERIA PROFESSIONAL. Chain shall be sized to account for corrosion in a saltwater marine environment or include appropriate cathodic protection.

PART 3 - EXECUTION

3.1 DESIGN REQUIREMENTS

A. All components of the flexible mooring system shall be designed by the CONTRACTOR in accordance with the minimum design loading described in these Specifications (including related sections). In the event that improper installation of said system is

found, the installing CONTRACTOR shall be responsible for either proper reinstallation of the existing system or replacement and reinstallation of a new system, at no additional cost to the OWNER.

B. CONTRACTOR's engineering designer shall consider that the Working Load Limit or Design Factor of each product may be affected by wear, misuse, overloading, corrosion, deformation, intentional alteration and other use conditions.

C. CONTRACTOR's engineering designer shall consider annual freeze/thaw cycles in system design and selection of anchoring system components. All components shall be designed to remain in the water under all conditions, including hard freeze conditions.

3.2 MOORING LINE REQUIREMENTS

A. The chain system shall comply with the following, in addition to the requirements of the above stated Specifications:

1. CONTRACTOR's engineer shall design the connection detail between the chain system and other system components, specifically addressing the prevention of abrasion, clamping/gripping damage, or other mechanical deterioration.

2. Facilitate adjustment and inspection of chain connections to pontoons, preferably without the use of divers, and without the use of heavy lifting equipment.

3. No component of the chain system shall come in contact with any component of adjacent anchorage systems, vessels planned to be moored on the docks, or cause any physical conflict with permanent or temporary infrastructure elements or users.

3.3 VERTICAL MOVEMENT

A. Flexible mooring system shall allow free vertical movement of the vessels and floating docks while at the same time not applying any forces that may damage the anchor system, vessels or pontoons. Reference Section 02852 – Floating Docks for water level information.

B. CONTRACTOR's engineer shall evaluate vertical oscillation and natural frequency of the floating dock system in conjunction with the flexible anchorage system to identify and minimize potential for vertical resonance including heave and roll. Ensure natural periods of the pontoons and flexibile mooring system do not lie within the range 0.75 – 1.14 T_p, where T_p is the incident wave peak period. Provide a summary of calculated conditions with the Shop Drawings and Calculations submittal.

3.4 HORIZONTAL MOVEMENT

A. The flexible mooring system shall be designed to minimize horizontal vessel and floating dock movement during operational and extreme design loading conditions. Calculations for the expected horizontal excursion of the floating docks under operational and extreme

conditions must be provided for acceptance by the DESIGN CRITERIA PROFESSIONAL. Acceptable x/y horizontal movement is defined as less than 0.9 m (3 ft) in any horizontal direction under extreme loading. CONTRACTOR's design engineer shall specify range of dock motion in response to system loading conditions. The CONTRACTOR must provide calculations and discussion that demonstrate the range of motion of adjacent dock modules and sections, where not rigidly connected, and how this motion will be limited and damage prevented.

3.5 OBSTRUCTION OF NAVIGATION

A. Flexible mooring components shall be designed and laid out to maximize stability. The design of the flexible mooring system shall not impact berthing access or basin navigation. CONTRACTOR shall provide appropriate documentation indicating clearances, etc.

B. Connection points and mooring components (e.g., top of anchor system, chains) shall not protrude above navigation depth in navigable areas in such a manner as to obstruct navigation or vessel clearance. Any protrusions shall be deemed unacceptable, and replaced/modified by CONTRACTOR to allow for unencumbered navigation.

3.6 PRODUCTION AND TRANSPORTATION

A. Concrete mass anchors may be either precast or cast on site depending upon CONTRACTOR's work plan. Concrete for mass anchors shall be per ACI 318 for an extremely aggressive seawater submersion environment. Concrete mix design shall be provided for review to the DESIGN CRITERIA PROFESSIONAL prior to fabrication and include the following as minimums: Type I or II cement; 5,000 psi 28-day compressive strength; maximum w/c ratio 0.45; minimum concrete cover to all reinforcement shall be 3 inches; C3A content 4-10%. Connection detail to anchor rode, and use of skirts/shear keys shall be per the CONTRACTOR's design. All mass anchors shall be designed with appropriate reinforcement and shop drawings with mass calculations provided to the DESIGN CRITERIA PROFESSIONAL prior to fabrication. Inclusion of vertical through-holes in the mass anchors for potential jetting should be considered by CONTRACTOR. Care must be taken to limit the vertical height of any mass anchors (see Section 3.5).

3.7 ANCHOR INSTALLATION

A. Concrete Anchors shall be of sufficient weight and size to provide required holding capacities as provided by the CONTRACTORS engineer. Calculations to demonstrate the holding capacity shall be provided prior to acceptance. Anchors shall be placed within 1 foot of designed location.

B. Gravity anchors shall be fitted with appropriate handling hooks to ensure safe handling during placement.

C. Care shall be taken to ensure that any gravity anchors are embedded into the basin bottom or designed in such a way as to not impede navigation or pose a threat to passing or berthed vessels.

D. Installation of anchors may require multiple lifts and resetting of anchors by various means to ensure appropriate installation into the sea bottom. All resetting shall be recorded and provided to the DESIGN CRITERIA PROFESSIONAL for review.

E. Multiple chain adjustments may be required to achieve floating dock positioning. All field adjustments shall be recorded and provided to the DESIGN CRITERIA PROFESSIONAL for review.

F. CONTRACTOR is responsible for the appropriate design, production, means and methods to install a fully functioning flexible mooring anchorage system that meets all design conditions and capacity requirements.

G. Installation Reporting

1. CONTRACTOR shall provide to the DESIGN CRITERIA PROFESSIONAL and CONTRACTOR copies of anchor installation records within forty-eight (48) hours after each installation is completed. The report shall include all pertinent information including, at a minimum:
   - Name of project and CONTRACTOR
   - Date, time, report number, and name of reporter
   - Weather conditions, windspeed and direction, sea conditions (wave height)
   - Anchorage ID number and locations
   - Anchorage GPS coordinates
   - Anchorage design capacity
   - Installation equipment used
   - Installation duration
   - General comments / remarks
   - Certification that information contained in the report is complete and accurate, and that all material and equipment used and work performed during report period are in strict compliance with the contract plans and specifications, and any exceptions noted within report.

3.8 ANCHOR FIELD TESTS (MASS ANCHORS)

A. CONTRACTOR shall develop a program for testing of a minimum of 10% of the anchors in representative locations throughout the project area to confirm the calculated holding capacity of the CONTRACTOR's design. Proposed test locations shall be provided to the DESIGN CRITERIA PROFESSIONAL for review and approval prior to installation. Final anchor locations, design/test loads, testing procedures, and pass/fail criteria shall be submitted to the DESIGN CRITERIA PROFESSIONAL for review and comment prior to commencement.

B. Anchors shall be tested in accordance with the CONTRACTOR's recommendations and as agreed upon by the DESIGN CRITERIA PROFESSIONAL. Tested anchors shall have less than three inches (3 in.) of vertical displacement or observable dislocation upon application of the minimum holding strength load for a period of 3 minutes using a DESIGN CRITERIA PROFESSIONAL-approved lifting or pulling device. If the test results indicate that the mooring system does not meet the design requirements, the CONTRACTOR shall, at his expense, re-install and re-test the anchor to satisfy the specified minimum loading requirements.

C. In the event of failed test(s), the CONTRACTOR shall conduct additional test(s) until the results indicate a sufficient number of mooring systems, as determined by the DESIGN CRITERIA PROFESSIONAL, meet the testing requirements of the anchorage design.

D. Advance Notice for Testing

1. DESIGN CRITERIA PROFESSIONAL shall be provided at least five (5) days advance notice of CONTRACTOR's proposed tests.

E. Field Test Reports

1. CONTRACTOR shall provide the DESIGN CRITERIA PROFESSIONAL copies of field test reports within twenty-four (24) hours after completion of the load tests. These reports shall include, but are not limited to, the following information:

- Name of project and contractor
- Name of contractor's supervisor during installation
- Name of third party test agency (if applicable)
- Date, time, and duration of test
- Location of ground anchor by assigned ID number
- Type of test (performance, proof)
- Description of calibrated testing equipment and test set-up
- Steps and duration of each load increment
- Details of anchor movement at each load step and throughout the test
- Comments pertaining to test procedure, equipment adjustments, or other relevant information

3.9 INSPECTIONS AND MAINTENANCE

A. The CONTRACTOR shall provide a detailed operations and maintenance (O&M) manual for the flexible mooring system installed that describes the inspection and maintenance requirements, including winterization requirements.

B. Final horizontal location of installed docks shall be within +/-1 ft of location shown in the DRAWINGS, as described in the Section 02852 Concrete Floating Docks and Wave Attenuators. Final freeboard of installed docks shall conform to Section 02852 Concrete Floating Docks and Wave Attenuators.

C. The CONTRACTOR shall include at least one inspection and readjustment of mooring line tension, no earlier than 6 months and no later than 1 year, following completion of the work. This readjustment shall restore all mooring lines to proper tension while maintaining the proper location of all mooring structures, without impacting navigability or introducing any conflicts between mooring elements or with other structures.

END OF SECTION