Technical Specifications

1. **General:** These Technical Specifications describe details of the proposed improvements (Work/Project) as identified (i) on the Drawings titled "Oriole Beach Boat Ramp Improvements for Santa Rosa County, Florida" by Coastal Technology Corporation (Coastal Tech) dated 11/18/2024, (ii) in these Technical Specifications, and (iii) in the Contract Documents. The Project Site (a) fronts the Santa Rosa Sound at 3187 Linden Avenue in Gulf Breeze, Florida, 32563, and (b) is to be closed to the public and controlled by the CONTRACTOR during construction.

   In general, the Project consists of removal of an existing aged, deteriorated concrete boat ramp and site features with construction of a new concrete boat ramp and site improvements. As shown on the Drawings, the Project consists of:
   a) demolition and removal of existing dilapidated concrete site features including:
      - concrete boat ramp,
      - concrete sidewalk with detectable warning,
      - concrete handicapped parking pads,
      - seawall as required for construction of the new seawall,
      - signage,
      - a Pine Tree, and
      - concrete rubble and debris;
   b) construction of:
      - new concrete boat ramp – via:
        - removal and replacement of segments of existing docks,
        - installation of temporary sheet pile cofferdam to support dewatering during new ramp construction,
        - forming and pouring of new concrete ramp,
      - vinyl sheet pile seawall to stabilize the shoreline;
      - stormwater collection system including:
        - catch basins,
        - manholes,
        - reinforced concrete culverts (RCP), and
        - an underground stormwater retention system
      - curbing,
      - asphalt and gravel parking areas,
      - landscaping with irrigation water for establishment, and
      - signage.

2. **Permit Compliance:** The CONTRACTOR shall abide by all notes and conditions indicated on the Drawings, Technical Specifications, and as cited in the permits associated with the work including:
   - the COUNTY building permit to be obtained by the CONTRACTOR, and
   - the permits attached to these Technical Specifications including:
     - FDEP Permit 0374762-003;
     - USACE permit SAJ-1999-05080, and
     - COUNTY Development Order PZ-2024-1-SP.

Any deviations from the Drawings, Technical Specifications, and/or permits may be subject to enforcement actions and/or permit revocation. If the CONTRACTOR violates any condition of the permits and the Work is stopped by any public entity, then any additional costs incurred by the CONTRACTOR in association with stoppage of the work shall be paid by the CONTRACTOR and not charged to the COUNTY. The CONTRACTOR shall notify the COUNTY within 24 hours of the CONTRACTOR's recognition of any discrepancies in deviations the Drawings or these Technical Specifications. A complete copy of all permits must be maintained by the CONTRACTOR at the work site.

3. **Preconstruction Conference:** Prior to commencement of construction, the CONTRACTOR shall meet onsite with the ENGINEER to:
    - review the Project details,
    - review the CONTRACTOR's proposed Phased Construction Schedule,
    - establish the construction access locations, and upland construction staging areas, as proposed by the CONTRACTOR,
    - review the CONTRACTOR's proposed MOT plan – including measures for maintenance of traffic and public safety, and
    - document pre-construction conditions of the site and adjacent properties with photographs to be taken by the ENGINEER and the CONTRACTOR.

    Prior to the pre-construction meeting, the CONTRACTOR shall submit the CONTRACTOR's proposed work schedule with a list of subcontractors, a brief description of their expected work, and emergency contacts and their phone numbers.

4. **Staking:** Prior to initiation of construction, staking of the proposed construction and upland survey control is to be performed by the CONTRACTOR and shall be subject to acceptance by the COUNTY and the ENGINEER. The CONTRACTOR shall stake the configuration of the Work consistent with the Drawings and these Specifications.

5. **Schedule & Notification:** At least two (2) weeks prior to the start of construction, the CONTRACTOR shall notify the ENGINEER and COUNTY of the expected dates for the start and completion of construction. The CONTRACTOR will notify the ENGINEER as to the time and date of the following events at least three (3) days prior to the event:
    (a) Mobilization onto the site
    (b) Preparation of the CONTRACTOR's access and staging areas
    (c) Installation of Erosion Control Measures
    (d) Demolition and removal of existing structures and debris
    (e) Temporary removal of existing dock segments and installation of temporary cofferdam
    (f) Seawall Construction
        i. Installation of sheet piles
        ii. Completion of forms and reinforcement placement for concrete cap and deadmen
        iii. Pour of concrete cap and deadmen
        iv. Removal of forms
        v. Placement and compaction of seawall backfill
    (g) Ramp Construction
        i. Excavation and compaction of subgrade

ii. Completion of forms
iii. Concrete pour
iv. Removal of forms

(h) Drainage Improvements
i. Excavation and construction of underground retention system
ii. Excavation and installation of drainage culverts and structures
iii. Site grading

(i) Parking Lot
i. Compaction of subgrade
ii. Placement and compaction of Gravel Parking Area
iii. Forming and pour of concrete pavement
iv. Completion of pavement joints
v. Installation of curbing and wheel stops
vi. Completion of pavement markings

(j) Ancillary Improvements
i. Planting of landscaping and installation
ii. Forming and pour of concrete sidewalk
iii. Installation of signage

(k) Site Restoration

(l) Completion of all construction activities

(m) Demobilization

Failure to comply may be taken as cause for rejection of work completed.

6. **Construction Access & Staging Areas:** The CONTRACTOR may obtain access to the site either by vessel via the navigable waters of Santa Rosa Sound, or by vehicle via the entrance to the Project site at 3187 Linden Avenue in Gulf Breeze, Florida, 32563. The CONTRACTOR may store materials and equipment within the Project site – subject to acceptance by the COUNTY and ENGINEER. The CONTRACTOR will (a) place temporary barricades and/or fencing surrounding the area of construction, and (b) control these areas with signage and the CONTRACTOR's personnel to restrict public access to these areas. The CONTRACTOR may utilize temporary fencing and signage onsite to restrict public access to the area of construction – subject to acceptance by the COUNTY. Upon completion of construction, the CONTRACTOR will remove all temporary barricades, fencing, and signage installed by the CONTRACTOR. CONTRACTOR is responsible for monitoring the tides and conditions which may affect construction access and the CONTRACTOR's operations.

7. **Public Safety:** The CONTRACTOR shall exclude the public from the Project site during construction - for public safety purposes – until the work has been accepted by the COUNTY and ENGINEER. The CONTRACTOR shall be solely and completely responsible for the safety of all persons and the Project site during performance of the Work during construction and all the CONTRACTOR's operations. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall make all necessary provisions to ensure public safety; this may include the use of construction fencing, signs, barricades, warning signals, other measures, and personnel to prevent damage to persons and property. If the CONTRACTOR is not able to keep and maintain the public at a safe distance from construction activity, the CONTRACTOR is to notify the ENGINEER and COUNTY and request assistance in controlling public access to the active construction site. The CONTRACTOR is responsible for meeting all

OSHA requirements that might apply to this work.

8. **Impacts to Resources:** If prehistoric or historic artifacts are encountered at any time within the project site area, all activities involving subsurface disturbance in the vicinity of the discovery shall cease. The CONTRACTOR shall contact the COUNTY, the ENGINEER, and the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S.

   In addition, the CONTRACTOR shall perform the work so as to avoid adverse impacts to sovereignty submerged lands and associate resources including seagrass, oyster beds, or other benthic resources. If any adverse water resource-related impact occurs as a result of construction activities, the CONTRACTOR shall immediately notify the ENGINEER and COUNTY.

9. **Avoidance of Protected Species:** The CONTRACTOR shall avoid impacts to any threatened or endangered species including manatees, sea turtles and sawfish during construction activities. The CONTRACTOR shall follow the Standard Manatee Conditions for in-water Work (2011) as required by the FDEP permit Specific Condition 24.

10. **Standard Specifications:** Construction shall be consistent with Florida Department of Transportation "Standard Specifications for Road and Bridge Construction FY 2024-25" (FDOT Specifications) unless specified otherwise in these Technical Specifications.

11. **Payment:** The COUNTY shall make payment to the CONTRACTOR for all materials and labor according to the unit prices and lump sum prices indicated on the Bid Schedule. The COUNTY shall make final payment for each item of the Work upon completion of the Work by the CONTRACTOR and acceptance of the Work by the ENGINEER and the COUNTY. The CONTRACTOR shall provide all materials, labor and equipment needed to perform the work required by these specifications for each Bid Item (as described below), with no additional cost to be incurred by the COUNTY.

12. **Bid Items:**

    12.1. Mobilization/Demobilization: All costs connected with the one (1) time mobilization and demobilization of all the CONTRACTOR'S employees and equipment and all costs connected to obtainment of a performance bond for the work are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 1. The CONTRACTOR is to (a) determine the location of any underground or overhead utilities at the Project site, and (b) propose adjustments to work locations as may be needed to avoid damage to existing utilities. The CONTRACTOR must contact Sunshine Utilities (1-800-432-4770) prior to the commencement of construction. Santa Rosa Sound bottom elevations indicated on the Drawings is as of the date of the survey and may not reflect conditions at the time of construction; the CONTRACTOR is to verify water depths and bottom conditions at all work locations. All other costs associated with performance of the work (including bonding and insurance requirements) and not addressed in other bid

items – shall be included in the CONTRACTOR's proposal for Bid Item 1.

After the CONTRACTOR's mobilization onto the site and installation of the temporary cofferdam, 50% of the CONTRACTOR's bid for Bid Item 1 shall be qualified for payment. The balance shall be qualified for payment after acceptance of the Work by the COUNTY and ENGINEER and demobilization by the CONRACTOR is complete.

12.2. Maintenance of Traffic: The CONTRACTOR shall provide a maintenance of traffic plan (MOT plan) for acceptance by the COUNTY and ENGINEER. The MOT plan shall include work proposed within the Sound, on the shore and on upland areas. The CONTRACTOR shall furnish, install, and maintain traffic control and safety devices during construction in accordance with Section 102 of the FDOT Specifications. Maintenance of Traffic includes all facilities, devices, and operations as required for safety and convenience of the public within the work zone. The CONTRACTOR shall not obstruct or create a hazard to any traffic – outside the Project site - during performance of the work and shall repair any damage to existing pavement open to traffic. All costs associated with maintaining public safety and traffic surrounding the Project site and adjacent roadways for the duration of the construction period are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 2.

12.3. Prevention, Control, and Abatement of Erosion and Water Pollution: In accordance with Section 104 of the FDOT Specifications, the CONTRACTOR shall conduct construction activities in a manner that does not cause or contribute to violations of state water quality standards or cause detrimental effects to public or private property adjacent to the Project. The CONTRACTOR shall develop a Stormwater Pollution Prevent Plan (SWPPP) and apply for and obtain authorization under the FDEP NPDES program. The CONTRACTOR shall provide and install Silt Fence, the double layer of turbidity curtain, and construction access as shown on the Drawings. Turbidity curtains and erosion/sediment control measures shall be (a) installed by the CONTRACTOR immediately prior to the start of construction activities, and (b) maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Stabilization measures shall be implemented by the CONTRACTOR for erosion and sediment control on areas disturbed by the CONTRACTOR prior to construction activities. Such measures and practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation, June 2007 Updated July 2013), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, July 2008 Updated October 2018). All costs associated with the prevention, control, and abatement of erosion and water pollution are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 3

12.4. Demolition: As shown on the Drawings, the CONTRACTOR shall provide all necessary equipment and labor to demolish existing structures and site features to clear the site to allow for construction of the proposed improvements. Existing features to be removed include a portion of the wood docks to allow for installation of the seawall, the existing concrete boat ramp, concrete sidewalk, concrete handicapped parking pads, seawall,

signage, a Pine Tree, and concrete rubble.

As shown on the Drawings, the CONTRACTOR shall remove existing structures and site features as needed to (a) allow construction of the proposed improvements, and (b) leave no obstructions to the proposed improvements or the adjacent waterways. All associated materials – obtained from removal of the existing structures are to become the property of the CONTRACTOR for salvage, or otherwise the CONTRACTOR shall dispose of the materials at an upland disposal site in accordance with applicable local and state laws – subject to acceptance of the COUNTY. The COUNTY is not responsible for the quality or quantity of any material salvaged by the CONTRACTOR. The CONTRACTOR may temporarily store materials in an accessible location on the Project site – subject to acceptance by the COUNTY and ENGINEER. The CONTRACTOR shall conduct demolition activities so as to minimize disturbance or interference with existing facilities – beyond that necessary for demolition. The CONTRACTOR shall protect all existing trees and adjacent features outside of the Project Limits that are not to be damaged or removed. The CONTRACTOR shall locate all existing utilities prior to beginning demolition and protect existing utilities during demolition and construction.

As part of this Bid Item:

- The CONTRACTOR shall remove a portion of the deck and stringers of the existing docks to allow for installation of the turbidity curtains and subsequent installation of the temporary cofferdam, seawall, and boat ramp.
- After construction of the seawall and boat ramp, the CONTRACTOR is to restore the docks to the pre-construction condition or better – subject to acceptance by the COUNTY and ENGINEER.

All costs connected with removal and disposal (or salvage) of existing structures and site features are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 4.

12.5. Earthwork, Grading and Compaction: The CONTRACTOR's bid price for this item shall include, but not be limited to the required manpower, equipment, materials, and all applicable safety measures necessary for all required clean fill material, excavation and trenching, backfilling, embankment and grading, compaction, testing, and all other items necessary as indicated on the plans, technical reports, and specifications. This includes the cost of overburden material required to construct drainage improvements; grading and other earthwork activities required to achieve design pavement grades, running slopes and cross slopes; design elevations, cross slopes and running slopes for all sidewalk, paving, and other fine and finish grading around structures that is required to finish the Project as shown on the Drawings. This bid item shall also include all required professional geotechnical testing and reporting in accordance with the geotechnical recommendations specified in the "LMJ Geotech Report", attached to these Specifications. Any required fill shall be clean fine sand materials ("granular fill materials") from the site excavation or from an off-site borrow source – subject to acceptance by the COUNTY and ENGINEER. Earthwork and Related Operations shall be consistent with:

- Santa Rosa County Design and Development Standards of Land Development

Code, and

- FDOT Specifications - Sections:
  - 120 Excavation and Embankment, and
  - 125 Excavation for Structures and Pipe.

All costs connected with the earthwork, grading, testing, and related operations as required for construction of the Project are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 5.

12.6. Dewatering: The CONTRACTOR - via dewatering operations - shall at all times during construction provide and maintain proper equipment and facilities to remove promptly and dispose of properly all water entering excavations, and keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition or structure subgrade foundation condition. The CONTRACTOR's dewatering method shall prevent disturbance of in-situ earth below the excavated grade. All water pumped or drained from the excavated area shall be disposed of in a suitable manner without undue interference with other work, without damage to surrounding property, and in accordance with pertinent rules and regulations. The CONTRACTOR shall treat the pumped water by one or more of the following methods prior to discharge from the Project site – subject to acceptance by the ENGINEER: pumping into (a) grassed swales or appropriate upland vegetated areas, or (b) waters within the double turbidity barriers. In no case shall water that does not meet State water quality standards be discharged back directly into the Santa Rosa Sound.

The dewatering of any excavation areas and the disposal of the water shall be in strict accordance with the latest revision of all local and state agency rules and regulations including FDOT Specifications – Sections 120 and 125.

The Contractor shall be responsible for acquiring all permits required to discharge the water and shall protect waterways from turbidity during the dewatering operation. The CONTRACTOR's plan shall include temporary culverts, barricades, and other protective measures to prevent damage to property or injury to any person or persons. No flooding of streets, roadways, driveways, or private property will be permitted. Engines driving dewatering pumps shall be equipped with residential-type mufflers or shall be electric motors. Upon completion of construction, dewatering shall cease in a manner to allow the subsurface water to slowly return to normal levels. All costs associated with the dewatering of any excavation areas and the disposal of the water are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 6.

12.7. Stormwater Management System: The CONTRACTOR shall provide and install the Stormwater Management System - including all Drainage Structures, RCP culverts, and underground stormwater retention – as shown on the Drawings. The System shall be constructed consistent with Sections 425, 430, and 449 of FDOT Specifications.

The underground stormwater retention system shall be a Chambermaxx Retention System distributed by CONTECH or near equivalent as may be accepted by the COUNTY and ENGINEER. The retention system shall provide for the volume at each stage elevation as shown on the drawings. The system shall have each individual chamber within an individual stone perimeter trench and non-woven geotextile surrounding each chamber as required by the FDEP and as shown in plan views on the drawings. The chambers shall be designed to AASHTO LRFD Bridge Design Specifications (Section 12), as applied to material and performance requirements for buried thermoplastic pipes. Design live load shall be the AASHTO HS-20 and HS-25 truck, including multiple lane presence factors, over a minimum cover and chamber row spacing as shown on the plans.

The CONTRACTOR shall provide the following from the chamber system distributor: (1) retention system shop drawings signed and sealed by an Engineer Licensed in the State of Florida for approval by the ENGINEER; and (2) retention system distributor representative to participate in person at the pre-construction meeting and oversee the Construction oversight for all components provided by the distributor. Subgrade compaction and testing shall be per the drawings, geotechnical report and Bid Item 5 Earthwork, Grading, and Compaction. All costs connected with the Stormwater Management System shall be included as a lump sum cost on the CONTRACTOR's bid proposal for Bid Item 7.

12.8. Temporary Cofferdam: As shown on the Drawings, the CONTRACTOR shall install a temporary cofferdam in order to install the proposed seawall and boat ramp. The cofferdam shall be (a) designed by the CONTRACTOR, and (b) sufficient to allow for safe construction of the boat ramp "in the dry". All costs associated with the installation and removal of the temporary cofferdam are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 8.

12.9. Vinyl Sheet-Pile Seawall with Concrete Cap: The CONTRACTOR shall construct the vinyl seawall as shown on the Drawings and per the following:

Sheet Piles: The CONTRACTOR shall install Shore Guard SG–750 vinyl synthetic sheet piling manufactured by CMI Limited Co., ESP 8.5 vinyl synthetic sheet piling manufactured by EverLast Synthetic Products, LLC, or near equivalent as may be accepted by the ENGINEER. The minimum length of the vertical piles and cap elevation shall be as shown on the Drawings.

In the event the CONTRACTOR encounters rock or other obstruction during pile placement, the CONTRACTOR must excavate to remove the obstruction above elevation -5.0 ft NAVD88, and the CONTRACTOR shall place the piles to full embedment or until refusal, as accepted by the ENGINEER. It is expected that full penetration may be achieved via use of a vibratory hammer and/or water/air jetting and standard

construction techniques. Piles shall be placed to their full penetration unless specifically otherwise accepted by the ENGINEER. Sheet piles may not be cut without prior acceptance of the ENGINEER; the CONTRACTOR shall record all sheets cut including the length of the cut and the tip elevation of the sheet. The piling should achieve full penetration without damaging the pile or adjacent structures by transference of hammer loads through subsurface materials to the foundations of adjacent structures. The CONTRACTOR will perform construction within the standards acceptable in the industry so as to avoid damage to existing structures; any damage that occurs outside the standards of the industry shall be the responsibility of the CONTRACTOR to repair. In the event that driving causes unacceptable damage to adjacent structures as determined by the COUNTY and ENGINEER, the CONTRACTOR shall cease driving operations and mobilize additional equipment and hammer as necessary to complete construction at no additional cost to the COUNTY. Unless otherwise specifically accepted by the ENGINEER, individual piles shall be placed within the maximum tolerances recommended by the manufacturer.

Concrete Cap: Under Bid Item 9, the CONTRACTOR shall form and pour the concrete cap of the seawall as shown on the Drawings. The cap shall be formed in straight segments as indicated on the Drawings – subject to acceptance by the ENGINEER. Concrete for the seawall cap shall be FDOT Type II, Class IV for Extremely Aggressive Environments with a minimum 28-day compressive strength (fc') of 5,500 psi. The CONTRACTOR shall submit a concrete mix design for acceptance by ENGINEER. Concrete shall have a maximum water/cement ratio of 0.41 lbs/lbs, a maximum chloride content of 0.40 lbs/cubic yard of concrete, and a minimum total cement content of 600 lbs/cubic yard of concrete. Concrete, when placed in the forms, shall have a target slump of three (3) inches unless otherwise accepted by the ENGINEER. Concrete for the Cap shall be comply with Section 12.10 Concrete Work.

All reinforcing of the proposed concrete cap shall be fiberglass as manufactured by Tuf-Bar or near equivalent as accepted by the ENGINEER and COUNTY. All reinforcing shall have a minimum cover of 3". All reinforcing shall be placed according to ACI and Florida Building Codes.

Tie-rods & Deadmen: The CONTRACTOR shall form and pour the deadmen as shown on the Drawings with the seaward face of deadman against the ground. The CONTRACTOR shall temporarily excavate landward of the seawall to install the tie-rods and deadmen. The excavation shall be the minimum necessary to accurately install the tie-rods and deadmen ("tieback" system) without undermining or damaging any existing upland improvements. The deadmen are to be located thirteen feet (13') clear from the landward dry face of the seawall to the seaward wet face of deadmen as shown on the Drawings. The deadmen shall be connected to the seawall with one inch (1") diameter 316 stainless steel tie-rods, 3/8"x3"x3" 316 stainless steel plate within the cap, 1/2"x5"x5" 316 stainless steel plate on the landward face of the deadmen, stainless steel nuts, and stainless steel washers as shown on the Drawings. All tie-rods, nuts, washers and plates shall be grade 316 stainless steel (f_y = 30 ksi). All reinforcing steel of the proposed deadmen shall be grade 60 (fy = 60 ksi). All reinforcing shall be placed according to ACI and Florida Building Codes. No laps in reinforcing shall be allowed in

pre-cast or pre-stressed members.

Upon placement of the tieback system, and after a minimum of seven (7) days of the pour of the concrete cap, the CONTRACTOR shall place and grade sand fill (under Bid Item 5) to achieve finished grades. After the CONTRACTOR has constructed and compacted the grades on the seaward side of the deadmen, and no sooner than 7 days after pour of the concrete cap, the CONTRACTOR shall tighten the nut on the landward side of the deadman to a minimum torque of 200 foot-pounds or as otherwise may be accepted by the ENGINEER.

All costs connected with providing and installation of the seawall including the sheet piles, deadmen, tie rods, and reinforced concrete cap are to be included in the unit price indicated on the CONTRACTOR's bid proposal for Bid Item 9. Payment for construction of the seawall will be based upon the length of seawall measured along the center of the concrete cap constructed by the CONTRACTOR and accepted by the ENGINEER.

12.10. Concrete Work: Concrete: All concrete materials, placement, finishing, and curing must conform to requirements of Sections 346 and 400 of FDOT Specifications. The CONTRACTOR shall provide and place visqueen against the grade prior to a concrete pour against compacted subgrade. The CONTRACTOR shall employ a vibrator as necessary to ensure filling of the forms with concrete – subject to acceptance by the ENGINEER

The CONTRACTOR shall provide concrete cylinder tests for each concrete pour - as accepted by the ENGINEER. The CONTRACTOR shall provide one set of four cylinders for (a) each 50 cubic yards, or fraction thereof, and (b) for each day's placement of each mix design. Samples shall be in accordance with ASTM C172, processing and curing in accordance with ASTM C31, and testing in accordance with ASTM C39. One cylinder shall be tested at three days or seven days, as required by job conditions, and two cylinders shall be tested for one valid test at 28 days. The fourth cylinder is to be cured and held for testing at 42-days, if 28-day test indicates deficient results, or as a spare in case of cylinder damage.

12.10.1. Reinforced Concrete Ramp: The CONTRACTOR shall provide all materials, labor, and equipment to construct the new Concrete Ramp - as (a) shown on the Drawings, and (b) identified in these Specifications. Concrete shall be FDOT Type II Class IV Extremely Aggressive with minimum compressive strength of 5,500 psi (minimum) at 28 days. Concrete reinforcing shall be Glass Fiber Reinforced Polymer (GFRP) reinforcing bars meeting FDOT Specifications Section 932. The ramp subgrade shall be compacted to a minimum of 95% of the soils maximum density as determined by ASTM D-1557 (Modified Proctor Test) and achieve a minimum LBR value of 40 to a depth of one foot. The ramp base course shall consist of 6-inch graded aggregate base (GAB) meeting the requirements of FDOT Standard Specification 204. Base material shall achieve a minimum LBR value of 100 and be compacted to a minimum of 100% maximum density as determined by the Modified Proctor Test. The CONTRACTOR shall maintain the required density and compaction of the subgrade and base course until the subsequent base or pavement is placed. The graded aggregate base shall be separated from the subgrade soil by a medium weight woven geotextile fabric with an equivalent opening

size of a #70 sieve. Ramp shall include grooving as shown on the Drawings. This bid item shall also include all required professional geotechnical testing and reporting (including providing a sample of the proposed base material to LMJ for testing and approval prior to shipment to the site) in accordance with the geotechnical recommendations specified in the "LMJ Geotech Report", attached to these Specifications. All costs connected with the reinforced concrete ramp are to be included in the unit price indicated on the CONTRACTOR's bid proposal for Bid Item 10.1.

12.10.2. Type "D" Curb: The CONTRACTOR shall provide all materials, labor, and equipment to install, FDOT type "D" Curb and curb joints as shown on the Drawings - consistent with FDOT Specification Sections 520 and 347. Concrete shall have a minimum compressive strength of 2,500 PSI (minimum). All costs connected with the concrete curb are to be included in the unit price indicated on the CONTRACTOR's bid proposal for Bid Item 10.2.

12.10.3. Sidewalk: The CONTRACTOR shall provide all materials, labor and equipment to install the sidewalk and sidewalk joints as shown on the Drawings and as consistent with FDOT Specification Section 522. Concrete for the sidewalk shall be with a minimum compressive strength at 28 days of 3,000 PSI. To deter cracking, the sidewalk shall be reinforced with fiber reinforcement in the form of Fibermesh 300® fibers at a minimum of 1.5 lbs/yd3 (0.9 kg/m3) of concrete – mixed and installed per the manufacturer's recommendations. The CONTRACTOR shall install joints consistent with FDOT Specification Section 522. All costs connected with the sidewalk are to be included in the unit price indicated on the CONTRACTOR's bid proposal for Bid Item 10.3.

12.11. Asphalt Parking Area: The CONTRACTOR shall provide all materials, labor, and equipment to construct the proposed asphalt pavement as shown on the Drawings. Construction shall be per FDOT Section 234, 327, 330, 337, except as may be otherwise (a) shown in the drawings, and/ or (b) identified in these Specifications. Asphalt should be FDOT structural course Superpave Asphaltic Concrete meeting the requirements of Section 334 (SP-9.5 or SP-12.5). Recycled Asphalt Pavement (RAP) shall be limited to no more than 25% of the mixture. The asphalt should be compacted to a target of 92% of the laboratory maximum specific gravity (Gmm or Rice Specific Gravity) as determined by FM 1-T 209.

The subgrade shall be stabilized with 4-6 inches of aggregate base material or limerock, meeting the requirements of FDOT Standard Specification Section 290, mixed into the upper one foot of subgrade as needed to achieve a minimum Limerock Bearing Ratio (LBR) of 40. The existing limerock topping used at the Project site as the parking area may be used to stabilize the subgrade. Stabilized subgrade shall be compacted to a minimum of 98% maximum density as determined by ASTM D-1557 (Modified Proctor Test). The CONTRACTOR shall maintain the required density and compaction of the subgrade and base course until the subsequent base or pavement is placed.

The base course shall consist of 6-inch graded aggregate base (GAB) meeting the requirements of FDOT Standard Specification 204. Base material shall achieve a minimum LBR value of 100 and be compacted to a minimum of 100% maximum density as determined by the Modified Proctor Test. See Technical Specification Section 12.5 Earthwork, Grading and Compaction for required testing. All costs connected with the asphalt pavement are to be included in the unit price indicated on the CONTRACTOR's

bid proposal for Bid Item 11.

12.12. Gravel Parking Area: The CONTRACTOR shall construct gravel pavement parking areas consisting of graded aggregate or recycled concrete aggregate supported on stabilized subgrade over well-compacted subgrade as shown on the Drawings. Stabilized subgrade to a depth of 12 inches shall have a minimum LBR of 40 and be compacted to at least 98 percent of its modified proctor (AASHTO T-180 or ASTM-D1557) maximum dry density. The CONTRACTOR may substitute geogrid in lieu of the stabilized subgrade – subject to acceptance by the ENGINEER and COUNTY

The Gravel Parking Area surface course shall consist of properly graded aggregate with a minimum LBR value of 100 and shall be installed in a minimum of two layers of equal thickness each compacted to a firm and unyielding state. All costs to provide and install the gravel parking areas shall be included in the unit price indicated on the CONTRACTOR's bid proposal for Bid Item 12.

12.13. Landscaping and Irrigation System: All costs connected with materials, labor, equipment, construction, installation and irrigation water and systems for establishment of landscaping trees, and shrubs – as shown on the Landscape Plan in the Drawings - are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 13.

12.14. Pavement Markings and Signage: Following construction of Asphalt Parking Area, the CONTRACTOR shall apply new thermoplastic pavement markings in accordance with the FDOT Specification 711 Thermoplastic Traffic Stripes and Markings and per the Manual on Uniform Traffic Control Devices (MUTCD) - as shown on the Drawings. The CONTRACTOR shall provide and install signs that meet the requirements of the "Federal Highway Administration Manual of Uniform Traffic Control Devices", latest edition as shown on the Drawings.

The CONTRACTOR shall notify the ENGINEER prior to placement of the materials and submit a certification to the ENGINEER with the APL number and the batch or Lot numbers of the thermoplastic to be used.

The CONTRACTOR shall not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry. The CONTRACTOR shall remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause at no additional cost to the COUNTY.

Pavement markings are subject to a 180 day observation period under normal traffic. The observation period shall begin with the satisfactory completion and acceptance of the work. Pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of retroreflectivity, or vehicular damage. The COUNTY reserves the right to check the retroreflectivity any time prior to the end of the observation period. The CONTRACTOR shall replace any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period at no additional cost to the COUNTY.

The CONTRACTOR shall provide and install the signs and monofilament line required by the FDEP and USACE permits. The CONTRACTOR shall install a metal sign on each dock indicating the seaward limit of the boat ramp.

All costs connected with the pavement markings and signage are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 14.

12.15. Site Restoration: The CONTRACTOR shall restore the site to a pre-construction condition or better – subject to acceptance by the ENGINEER and COUNTY. Restoration shall include all grades and repair of any existing structures, pavement, grading, landscaping, or vegetation (damaged by CONTRACTOR) as may be accepted by the ENGINEER and COUNTY. All costs connected with site restoration are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 15.

12.16. As-Built Survey: CONTRACTOR shall provide a final "as-built" Drawings certified by a Professional Land Surveyor licensed in the State of Florida in AutoCAD and PDF format. The "as-built" plans shall include field measurements, after construction, of all improvements as-constructed features (seawall, concrete paving, Stormwater Management System - including inverts, site perimeter elevations, ramp elevations) and their surroundings, locations, and dimensions, and elevations with information noted on copies of the Drawings. All costs connected with the as-built survey are to be included in the lump sum price indicated on the CONTRACTOR's bid proposal for Bid Item 16.

Attachments:

1. County Permit PZ-2024-1-SP
2. FDEP Permit 0374762-003-EI/57
3. USACE Permit SAJ-1999-05080
4. Geotechnical Report by LMJ Titled "Oriole Beach Boat Ramp Improvements" dated 9/28/2022.
5. Contech Chamber Maxx Product Specification
6. Survey by Ruben Surveying & Mapping dated 3/23/2022