A-16, A-17 & A-18 WATER CONTROL STRUCTURE REPLACEMENTS

TECHNICAL SPECIFICATIONS

PREPARED FOR:

CITY OF PORT ST. LUCIE
PUBLIC WORKS DEPARTMENT

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1. **STANDARD SPECIFICATIONS** - All work shall conform to the "Florida Department of Transportation Standard Specifications for Road and Bridge Construction" (Standard Specification, Latest Edition at time of bid), City of Port St. Lucie Engineering and City of Port St. Lucie Utilities Standards unless stated otherwise. Any reference in the FDOT and CITY Standard Specifications to the ENGINEER or Department shall mean the ENGINEER on this project. Specific references are made to certain portions of the FDOT and City Standard Specifications to facilitate the CONTRACTOR.

   Any reference to "FDOT Standard Indexes" shall mean the FDOT Standard Plans (Latest Edition at time of bid).

2. **SCOPE OF WORK** – This contract covers the proposed improvements to existing Water Control Structures (WCS) located within the City of Port St. Lucie Watershed A Basin. The CONTRACTOR shall dewater the excavations to provide a dry condition during construction and account for site drainage management. All improvements will require the installation of coffer dams for dewatering pumping to allow for construction to take place. All improvements may include exotic vegetation removal, which is included and incidental to the project.

   A-16 : Steel Sheet Pile Weir WCS A-16 will be removed and replaced due to irreversible loss of functionality, replace the operable gate to include an electric motor actuator (for remote control from the City's Public Works Department), replace/upgrade of the existing culverts under Parr Drive downstream of the A-16 WCS, remove broken revetment/regrade the channel and side slopes, install rip rap armoring and sodding to arrest erosion problems. Installation of electric service, electrical controls, lighting, camera, cellular service for SCADA control functionality of proposed operable gate electric actuator and for CCTV monitoring. The proposed sheet pile weir will be similar in design to the existing weir, with regards to type of materials, dimensional sizes, grades, and elevations.

   A-17 : Steel Sheet Pile Weir WCS A-17 will be removed and replaced due to irreversible loss of functionality, replace the operable gate to include an electric motor actuator (for remote control from the City's Public Works Department), replace/upgrade of the existing culverts under Parr Drive downstream of the A-17 WCS, remove broken revetment/regrade the channel and side slopes, install rip rap armoring and sodding to arrest erosion problems. Installation of electric service, electrical controls, lighting, camera, cellular service for SCADA control functionality of proposed operable gate electric actuator and for CCTV monitoring. The proposed sheet pile weir will be similar in design to the existing weir, with regards to type of materials, dimensional sizes, grades, and elevations.

   A-18 : Steel Sheet Pile Weir WCS A-18 will be removed and replaced due to diminished functionality, replace the operable gates to include an electric motor actuators (for remote control from the City's Public Works Department), regrade the channel and side slopes, replace/upgrade existing rip rap armoring and sodding to arrest erosion problems. Installation of electric service, electrical controls, lighting, camera, cellular service for SCADA control functionality of proposed operable gate(s) electric actuator(s) and for CCTV monitoring. The proposed sheet pile weir will be similar in design to the existing weir, with regards to type of materials, dimensional sizes, grades, and elevations.

A-19 : Install new electrical service extension from the A-18 WCS to the A-19 WCS.

3. MEASUREMENT AND BASIS OF PAYMENT

Progress Payments

1) Measurement of quantities for progress payments shall be made by the CONTRACTOR. Such measurements are subject to the ENGINEER's review and correction.

2) Measurements for progress payments shall be made on in-place quantities in accordance with the Contract Form General Requirements. Requests for partial payment for materials on order, in warehouse or yard, or stockpiled on the project site will be accepted or denied at the CITY's discretion.

3) No item will be accepted for progress payment until all required testing has been successfully completed.

Final Payment

1) Final payment will not be made on any portion of the contract until the entire scope of work under this contract is complete.

4. PROJECT SCHEDULE - Within twenty-one (21) calendar days after the execution of the Contract, or at the pre-construction meeting whichever is earlier, CONTRACTOR shall submit for approval, three copies of a schedule of work showing in detail satisfactory to the ENGINEER and CITY, the order in which the CONTRACTOR proposes to carry on the work, the interdependence of activities, the date on which it will start the individual activities, including procurement of materials, plans and equipment, submission and receipt of shop drawings, duration, monetary value, resource allocation, earliest and latest starting and completion dates for each operation. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work schedule for completion at any time. All activities are to be described so that the work is readily identifiable and progress on each activity can be readily measured. The schedule shall be prepared in such a manner that all elements are contained in the schedule diagram (i.e., Early Start, Late Start, Early Finish, Late Finish and Duration). Separate detail sheets containing this information are not acceptable. If CONTRACTOR elects to use a computer-generated critical path method schedule (CPM) the selected software and output format (including size, color, order, etc.) is to be approved and accepted by the ENGINEER before CPM preparation. The schedule shall be accompanied by a working plan, which is a concise written description of CONTRACTOR's construction plan. This plan shall include but not be limited to the phasing, sequence, identification of work crews and summary of the work. CONTRACTOR shall resubmit a revised schedule whenever requested to comply with such comments as may be required by the ENGINEER and/or CITY.

The CONTRACTOR shall enter on the above-mentioned chart the actual progress accompanied by a written description at monthly intervals and shall immediately deliver to the ENGINEER three copies thereof along with each progress payment request. If CONTRACTOR fails to submit a progress schedule within the time prescribed, the ENGINEER may withhold approval of progress payment request until the CONTRACTOR submits the required progress schedule.

If a majority of the activities have a float period of less than ten (10) days, then the CONTRACTOR must provide complete details on the resource allocation as requested by the ENGINEER.

The CONTRACTOR must provide letters from his sub-contractors that indicate their acceptance of the proposed schedule.

The CONTRACTOR shall submit a concise written explanation of the schedule impacts attached to the delay claim and the next schedule update.

All material, labor and equipment required to perform the work effort for this item shall be carried out by the CONTRACTOR as incidental to the bid price of the various bid items of this contract, with no additional cost to be incurred by the CITY.

5. WATER RESOURCES – The CONTRACTOR shall not discharge without permit into the waters of lakes, rivers, canals, waterways and ditches, any fuels, oils, bitumen's, garbage, sewage, or other materials which may be harmful to fish, wildlife, or vegetation, or that may be detrimental to outdoor recreation. The CONTRACTOR shall be responsible for investigating and complying with all applicable federal, state and local laws and regulations governing pollution of waters. All work under this contract shall be performed in such a manner that objectionable conditions will not be created in waters through or adjacent to the project areas. If a violation is noted during construction, all construction shall cease until the condition is corrected, at no additional cost to the CITY.

The CONTRACTOR shall exercise extreme care to minimize degradation of water quality at the site. All necessary provisions shall be taken to ensure compliance with the water quality standards of the State of Florida. Attention is called to Chapter 17-3, Florida Administrative Code. Adequate silt containment procedures and equipment shall be used to control turbidity within state standards.

When required by any Governmental Agency, the CONTRACTOR shall make water quality measurements and submit them to the Agency and ENGINEER, in addition to those required herein, assuring construction operations complies with the Standards of 17-3, F.A.C. All water quality measurements shall conform to the test methods specified in Chapter 40, Part 136 of the Code of Federal Regulations.

If any waste material is dumped in unauthorized areas, the CONTRACTOR shall remove the material and restore the area to the condition of the adjacent undisturbed area. If necessary, contaminated ground shall be excavated, disposed of as directed by the ENGINEER and replaced with suitable fill materials, compacted and finished with topsoil, all at the expense of the CONTRACTOR. Any notification for waste material dumping to Regulatory Agencies is the responsibility of the CONTRACTOR.

All materials, labor and equipment needed to prosecute the work required by this Specification shall be carried out by the CONTRACTOR as incidental to the bid price of the various bid items of this Contract, with no additional cost to be incurred by the CITY.

6. FISH AND WILDLIFE RESOURCES - The CONTRACTOR shall at all times perform all work and take such steps required to prevent any interference or disturbance to fish and wildlife. The CONTRACTOR shall not be permitted to alter water flows or otherwise significantly disturb native habitat adjacent to the project area, which are critical to fish, and wildlife except as may be indicated or specified.

All materials, labor and equipment needed to prosecute the work required by this Specification shall be carried out by the CONTRACTOR as incidental to the bid price of the various bid items of this Contract, with no additional cost to be incurred by the CITY.

7. ENVIRONMENTAL PROTECTION - In order to prevent and to provide for abatement and control of any environmental pollution arising from the work of the CONTRACTOR and his Subcontractors in the performance of this Contract, the CONTRACTOR shall comply with all applicable federal, state and local laws and regulations concerning environmental pollution control and abatement, and all applicable provisions of the Army Corps of Engineers manual, EM 385-1-1, entitled General Safety Requirements, in effect on the date of the work, as well as the specifications, including the Corps of Engineers and Florida Department of Environmental Protection permits, if applicable to this project.

The CONTRACTOR shall provide and maintain environmental protection during the term of the Contract. Environmental protection measures shall be provided to control pollution that develops during normal earthwork, dredging and/or construction practices. The CONTRACTOR's operations shall comply with all federal, state, and local regulations pertaining to water, air, solid waste and noise pollution. Compliance with the provisions of this Specification by Subcontractors shall be the responsibility of the CONTRACTOR.

All materials, labor and equipment needed to prosecute the work required by this Specification shall be carried out by the CONTRACTOR as incidental to the bid price of the various bid items of this Contract, with no additional cost to be incurred by the CITY.

8. DUST CONTROL - The CONTRACTOR will be responsible for continuously providing adequate dust control of the project. The CONTRACTOR at a minimum is required to provide watering of the project limits to avoid excessive dust. The CITY requests the use of non-potable water for dust control. The ENGINEER will only notify the CONTRACTOR one time of inadequate dust control. If the CONTRACTOR fails to respond within two (2) hours, then the CITY will provide dust control and back charge the CONTRACTOR. This item is considered incidental to the work.

9. MOBILIZATION – In accordance with Section 101 of the FDOT Standard Specifications, the CONTRACTOR shall perform preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities. This item includes the costs of bonds, Right-of-Way Permitting (CITY and/or FDOT), compliance with noise ordinance requirements, construction surveying and record drawings (as-builts), any required insurance, and any other pre-construction expense necessary for the start of the work, including the cost of construction materials and services purchased between the Notice to Proceed and the first

Pay Request. This item will be paid as a portion of the percentage of completed items until balance has reached total lump sum of completed project. The item will be paid as LUMP SUM under the bid item Mobilization.

10. SURVEY WORK - CONSTRUCTION LAYOUT, AND AS-BUILT DRAWINGS

Construction layout for horizontal and vertical control shall be performed by the CONTRACTOR. Horizontal and vertical control points are shown on the Construction Plans. CONTRACTOR shall keep one record copy of all specifications, prints, drawings, addenda, modifications and shop drawings at the site in order, and annotated to show all changes made during the construction process. CONTRACTOR shall provide ENGINEER and CITY one (1) digital file in AutoCAD format of the As-Built drawings for the entire project as well as six sets of prints signed and sealed by a licensed surveyor. The ENGINEER will provide a CADD drawing in AutoCAD as a basis for the record drawings. The As-Built drawings are to be delivered by the CONTRACTOR to the ENGINEER within seven (7) days of *Substantial* Completion. This is critical for the certification of the facilities to the CITY and various regulatory agencies. Final payment will not be made until As-Built drawings are received and approved by the CITY. For the purpose of this specification, the measurement unit is LUMP SUM and payment for this item will be based on the percentage of project completion. The item will be paid as LUMP SUM under the bid item Mobilization.

11. PRE-CONSTRUCTION VIDEO - The CONTRACTOR is required to videotape the project area prior to construction commencement. CONTRACTOR shall provide a copy of the videotape/DVD of the Project site to ENGINEER for approval once complete and prior to issuance of Notice to Proceed. Payment for this work shall include all related items in the LUMP SUM cost for **Pre-Construction Video**.

12. EXISTING UTILITY POTHOLE LOCATES WITH SURVEY - The CONTRACTOR shall be required to coordinate all work, when necessary, with the various utility companies in order that utility service may be maintained. The CONTRACTOR shall exercise due caution when working adjacent to such utilities. Any damage to the utilities resulting from the CONTRACTOR's operations shall be repaired at his expense. The ENGINEER has reflected on the plans those utilities he is aware of; the locations shown are approximate only. Any work involving conflict with utility companies shall be coordinated promptly without any delay to the project. The CONTRACTOR shall perform Utility Pothole Locates with Survey at the locations shown on the plans. Payment for this work shall include all related items for Each pothole location cost.

13. MAINTENANCE OF TRAFFIC / PARKING / DETOURS - The CONTRACTOR shall submit Maintenance of Traffic (MOT) Plan for the project, in accordance with FDOT and City of PSL requirements, for approval by the ENGINEER and prior to issuance of Notice to Proceed. The MOT Plan shall address the CONTRACTOR's material laydown, storage areas, and workmen parking areas, in addition to public roadway temporary traffic MOT patterns. Once ENGINEER's comments are addressed, the ENGINEER will forward the MOT Plan to the CITY for approval. Payment for this work shall include all related items in the LUMP SUM cost for **Maintenance of Traffic / Parking / Detours**.

14. EROSION & SEDIMENT CONTROL - Earthwork brought to final grade shall immediately be finished as indicated and specified. All earthworks shall be planned and conducted in such a manner as to minimize the duration of exposure of unprotected soils. Protection to erosion shall be furnished by grassing exposed slopes and unprotected soils.

Such methods as may be necessary shall be utilized on areas to effectively prevent erosion and control sedimentation.

The CONTRACTOR shall employ adequate silt containment measures and/or procedures during construction activities to control turbidity within the limits required by local, state and/or federal law and/or permit requirements.

Separate pay items for some Temporary Erosion control items may be included in this Contract. The quantities to be paid under these items will be for the contract Unit Bid price for the specific item. When other items for temporary erosion control are needed, but no provision has been made for separate items in this Contract, all materials, labor and equipment needed to prosecute the work required by this Specification shall be carried out by the CONTRACTOR as incidental to the bid price of the various bid items of this Contract, with no additional cost to be incurred by the CITY.

The ENGINEER'S (SWPPP) is an example of items that may be needed to prevent erosion. The CONTRACTOR is responsible for enhancing these items as needed to comply with the NPDES and State Water Quality Guidelines. Any enhancements are considered incidental to the cost of Erosion / Sediment Control. The CONTRACTOR is responsible for any fees associated with the NPDES permitting process. (The CONTRACTOR shall further; provide, install, maintain, monitor, and remove the required erosion and sediment control measures on and around the project site as needed to prevent pollution of water, detrimental effects to public or private property or damage to the work of the project. CONTRACTOR shall construct and maintain temporary erosion control features or, where practical, construct and maintain permanent erosion control features as shown in the plans or as may be directed by the ENGINEER). The CONTRACTOR shall use temporary erosion and water pollution control features that consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, sediment checks, berms, baled hay or straw, floating turbidity barrier, staked turbidity barrier and silt fence. 50% of the cost of this item is to be paid at installation, with 40% to be paid in equal monthly payments spread out over the remaining contract time, beginning in the 2nd month, and a final 10% paid at substantial completion.

Temporary Silt Fence: The CONTRACTOR shall furnish, install, maintain, and remove temporary silt fences in accordance with the manufacturer's directions, these Specifications, the details as shown on the plans. The item will be paid as LUMP SUM under the bid item **Silt Fence & Turbidity Barrier** based on silt fence installed during the construction period.

Turbidity Barrier: The CONTRACTOR shall install, maintain, and remove turbidity barriers to contain turbidity that may occur as the result of dredging, filling, or other construction activities, which may cause turbidity to occur in the waters of the State. Barriers should be placed prior to the commencement of any work that could affect the area of concern. Barriers shall be constructed and installed in accordance with the details shown in the plans, or as approved by the ENGINEER. Ensure that the type barrier used and the deployment and

maintenance of the barrier will minimize discharge of turbid waters from the construction site. The ENGINEER may approve alternate methods or materials. Operate turbidity barriers in such a manner to avoid or minimize the degradation of the water quality of the surrounding waters. The item will be paid as LUMP SUM under the bid **item Silt Fence & Turbidity Barrier** based on barriers installed during the construction period.

Stabilized Construction Access/Roadway Sweeping: The CONTRACTOR shall be responsible for the control of dust and erosion created by vehicle and construction traffic entering or exiting the various construction areas as required by the CONTRACTOR's NPDES permit. Existing driveways and points of access may be utilized and modified for this use. The work area shall be stabilized to reduce the tracking of mud and dirt onto the public right of way; and additional sweeping will be required on a daily basis. This item will be included and paid for as LUMP SUM under the bid item **Soil Tracking Prevention Device**.

Turbidity Monitoring: After all rain events, CONTRACTOR shall test the outfalls of the improvement area for turbidity. The Contract stipulates that the CONTRACTOR is responsible to make certain that during construction activities turbidity shall not exceed 29 NTU's above background for discharge into surface waters or 0 NTU's above background for discharge into Outstanding Florida Waters. CONTRACTOR shall determine background for turbidity monitoring upstream of the improvements. The cost of this item is incidental to the project work and should be included in the line item for **Silt Fence & Turbidity Barrier**.

The CONTRACTOR shall, as "operator of the facility" obtain an NPDES permit through the Florida Department of Environmental Protection for the Project. The ENGINEER'S erosion control plan is an example of items that may be needed to prevent erosion. The CONTRACTOR is responsible for enhancing these items as needed to comply with the NPDES and State Water Quality Guidelines. Any enhancements are considered incidental to the cost of Erosion / Sediment Control. The CONTRACTOR is responsible for any fees associated with the NPDES permitting process. (The CONTRACTOR shall further; provide, install, maintain, monitor, and remove the required erosion and sediment control measures on and around the project site as needed to prevent pollution of water, detrimental effects to public or private property or damage to the work of the project. CONTRACTOR shall Construct and maintain temporary erosion control features or, where practical, construct and maintain permanent erosion control features as shown in the plans or as may be directed by the ENGINEER). The CONTRACTOR shall use temporary erosion and water pollution control features that consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, sediment checks, berms, baled hay or straw, floating turbidity barrier, temporary pipe plugs, staked turbidity barrier and silt fence.

All required NPDES monitoring and inspection requirements shall be considered incidental to the LUMP SUM cost of the pay item for **Erosion & Sediment Control**.

15. CLEARING AND GRUBBING / DEMOLITION / DISPOSE OF DEBRIS - This item includes the clearing, grubbing, removal, demolition and disposal of all trees, bushes, shrubs, grass, structures/valves, piping, and other vegetation/debris which is located within the limits of construction for the entire project including, but not limited to, the existing lateral ditches, proposed detention pond areas, and off-site construction areas unless

otherwise specifically noted on the plans. This item also includes the leveling of the work area as depicted in the construction plans. This item shall include all costs associated with the proper removal and disposal of each item, including sanitary landfill fees. All work shall be performed in accordance with the appropriate governing jurisdictional requirements for material handling and disposal.

The construction site shall be cleared, grubbed, and leveled as required to complete all work described on the plans and all areas upon which utility piping, structures, concrete slabs, foundations or pavement is to be placed shall be cleared and grubbed. The CONTRACTOR is expected to visit the site of the work and determine for himself the extent of clearing and grubbing necessary for his construction operations. This item will provide proper tree protection to include fencing, root pruning, water, root barrier and tree pruning.

Clearing and grubbing shall be as defined under Section 110 of the FDOT Standard Specifications. Standard Clearing and Grubbing shall be done in accordance with Sub-Sections 110-2 and 110-4 of the FDOT Standard Specifications. Debris resulting from clearing, or clearing and grubbing, operations shall be removed from the site and disposed of in an approved manner. Grubbing includes stripping or otherwise removing any soils that are not suitable for berm construction, as well as demucking of existing ditches and/or work areas.

Wastes shall be picked up and placed in containers that are emptied on a regular schedule. All handling and disposal shall be so conducted as to prevent contamination of the site and any other areas. On completion, the areas shall be left clean and natural looking. All sights of temporary construction and activities incidental to the construction of the required permanent work in place shall be obliterated. CONTRACTOR shall transport all waste off CITY property and dispose of it in a manner that complies with federal, state and local requirements.

When other clearing and grubbing or demolition items are needed, but no provision has been made for separate items in this Contact, all materials, labor and equipment needed to prosecute the work required by this Specification shall be carried out by the CONTRACTOR as incidental to the bid price of the various bid items of this Contract, with no additional cost to be incurred by the CITY.

There will be no additional compensation beyond the bid price of the Clearing and Grubbing pay item. The item will be paid as LUMP SUM under the bid item **Clearing & Grubbing / Demolition / Dispose of Debris**.

16. EXOTIC VEGETATION REMOVAL

- CONTRACTOR shall remove all woody exotic vegetation, mostly Brazilian pepper and Peruvian primrose willow, within the project limits during the clearing and grubbing phase, if required. CONTRACTOR to up-root exotic vegetation and dispose off-site. The Contract Price for this work will be included and paid as LUMP SUM under the bid item **Clearing & Grubbing / Demolition / Dispose of Debris**.

17. DEWATERING

Dewatering for Construction Operations consists of all materials, equipment and labor to perform the work described in the plans. It shall also include (1) the construction and

removal of cofferdams, sheeting, bracing, etc.; (2) pumping or otherwise dewatering foundations, including rock for dewatering; (3) the removal and disposal of any existing structures or portions of structures not covered by other items in the contract, including foundations, abutments, piers, wings, obstructions, etc., found necessary to clear the site for the proposed work which are not otherwise covered under other bid items; (4) backfilling, disposing of surplus material and final cleaning, as may be necessary for the proper execution of the work.

The CONTRACTOR shall provide adequate equipment for the removal of storm or subsurface waters that may accumulate in the excavation. If subsurface water is encountered, the CONTRACTOR shall utilize suitable equipment to adequately dewater the excavation so that it will be dry for work and pipe laying. A well point system or other ENGINEER approved dewatering method shall be utilized, if necessary, to maintain the excavation in a dry condition for preparation of the trench bottom and for pipe laying.

Dewatering by trench pumping will not be permitted if migration of fine-grained natural material from bottom, sidewalls or bedding material will occur. In the event that satisfactory dewatering cannot be accomplished due to subsurface conditions or where dewatering could damage existing structures, the CONTRACTOR shall obtain the ENGINEER's written approval of wet trench construction procedure before commencing construction. Dewatering shall cease in a manner to allow the subsurface water to slowly return to normal levels.

Water pumped from the trench or other excavation shall be disposed of in storm sewers having adequate capacity, canals or suitable disposal pits. CONTRACTOR is responsible for acquiring all permits required to dewater and to discharge the water and shall protect waterways from turbidity during the dewatering operation. In areas where adequate disposal sites are not available, partially backfilled trenches may be used for water disposal only when the CONTRACTOR's plan for trench disposal is approved in writing by the ENGINEER. 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.

It should be anticipated that the water table may need to be drawn down during excavation & filling. Therefore, the CONTRACTOR may be required to dewater in order to **maintain the water level at or below the required minimum of two (2) feet below the minimum elevation at which work will occur**. This dewatering shall be continuous until construction in the subject area is complete.

At the Pre-Construction meeting, the CONTRACTOR shall submit a sketch or detailed written description of the proposed dewatering system to the CITY/ENGINEER.

The basis of payment for **Dewatering** and associated activities shall be paid as LUMP SUM under the bid item Dewatering.

18. EXCAVATION & EMBANKMENT – Earthwork cut and fill consists of all materials, equipment and labor to perform excavation and embankment as defined in Section 120 of the FDOT Standard Specifications. In addition, the work covered under this specification

consists of excavating, removing, regrading and satisfactorily disposing of all materials of whatever nature, within the limits of construction. Included in this specification is all excavation and finishing necessary for the construction, preparation and completion of all sub-bases, shoulders, ditches, slopes and intersections, all in accordance with the required alignment, grade and cross sections shown on the drawings or as directed by the ENGINEER.

The CONTRACTOR shall perform all excavation and embankment necessary to accomplish the construction indicated on the plans. The CONTRACTOR shall do all shoring necessary to perform and protect the excavation and, as necessary, for the safety of the workers and any existing facilities. Wherever excavations are made below the grades indicated on the plans, suitable material shall be used to restore the area to the proper grade and shall be compacted in accordance with these specifications. All excavation and embankment work shall conform to the Trench Safety Act Chapter 90-96 Laws of Florida. Trench safety shall be included in the overall bid incidental to the bid price of the various bid items of this Contract, with no additional cost to be incurred by the CITY.

The CONTRACTOR shall provide adequate equipment for the removal of storm or subsurface waters that may accumulate in the excavated areas. If subsurface water is encountered, the CONTRACTOR shall utilize approved means to adequately dewater the excavation so that it will be dry for working and pipe laying. A well point system or other approved dewatering method shall be utilized if necessary to maintain the excavation in a dry condition for preparation of the trench bottom and for pipe laying.

All existing improvements such as pavements, conduits, poles, pipes and other structures shall be carefully supported and fully protected from injury and, in case of damage; they shall be restored without compensation. Existing utilities and other underground obstructions are shown on the plans but the accuracy of the locations and depths is not guaranteed. The CONTRACTOR shall be responsible for damages to these existing utilities and restore them to their original condition in case they are damaged.

Unless specifically authorized by the ENGINEER, all pipe shall be laid in the dry, and the CONTRACTOR shall do such pumping as is required for proper execution of the work. The CONTRACTOR shall dispose of the water without damage or undue inconvenience of the work, the surrounding area, or the public. The CONTRACTOR shall not dam, divert or cause water to flow in excess in existing gutters, swales, pavements or other structures, and to this end may be required to transport or pipe the water to a suitable place of discharge. Well point systems or other approved equipment shall be used to maintain excavations in a dry condition for pipe laying.

Where muck, rock, clay or other material within the limits of construction is, in the opinion of the ENGINEER, unsuitable in its original position, the CONTRACTOR shall excavate such material and backfill the excavated area with suitable material, which shall be compacted and shaped to conform to the required section.

The CONTRACTOR is responsible to construct a berm section of uniform material. There will be no additional cost for any mixing of materials that may be needed to achieve a berm of uniform material that is acceptable to the CEI and EOR.

It is the intent of this specification that all pipe and other structures shall be provided with a stable foundation and that any material, due to kind or condition, is not or cannot be made stable by drainage or compaction shall be removed or replaced. Any material encountered at the elevation shown on the drawings or specified for pipe that will not or cannot be improved to provide a stable foundation for the pipe shall be removed and replaced. All unstable material below the grade line of the pipe shall be removed for the full width of the trench and replaced with suitable select material, compacted as specified elsewhere in these specifications. For the purpose of this specification, muck, peat and other highly organic soils shall be considered unsuitable materials. In addition, any soil that is or might become wet to such a degree that its moisture content is equal to or greater than 90 percent of its liquid limit will have to be specifically approved by the ENGINEER with regard to stability, or it shall be considered unsuitable and required to be removed and replaced.

All backfill material shall be clean and free of lumber, trash or other debris and shall be thoroughly compacted in layers not to exceed six (6) inches and brought to an elevation above the finished grade sufficient to allow for settlement. Prior to placing backfill, the areas around structures upon which the backfill is to be placed shall be cleaned of all trash and debris of any nature. Any sheeting and bracing allowed to be left in place shall be cut off a minimum of 2.5 ft. below finished grade.

Finishing shall consist of the preparation, trimming and shaping to the lines and grades shown on the drawings, and all areas outside the paved areas in such a manner to receive grassing, sod or planting without additional work.

Areas to be compacted shall be moistened or dried, as needed to satisfy moisture content requirements, and compacted by either rolling, tamping or any other method approved by the ENGINEER in order to obtain the desired density. The CONTRACTOR shall inspect all compacted areas prior to further construction operations to ensure that satisfactory compaction has been obtained.

All embankments, including backfill and embankment adjacent to structures, shall be compacted to a density of not less than 100 percent of the maximum density as determined by AASHTO T-180. If in the ENGINEER's opinion additional density tests are required, such tests shall be made as directed by the ENGINEER at the expense of the CITY. The CONTRACTOR shall instruct the testing laboratory to forward copies of all test reports to the ENGINEER.

Payment shall be made under: **Item 999-4 – Earthen Coffer Dam(s)**
Item 999-5 – Fine Grading

The method of measurement shall be final grade and the quantity to be paid will be LUMP SUM. Payment will be made ***only*** for the temporary coffer dam(s) needed to construct the new sheet pile weirs and the fine grading of all work areas and canals.

19. OPEN CUT ROADWAY REPAIR – Open cut roadway repairs shall be constructed in accordance with the City of PSL specifications, details, and requirements. Saw cutting pavement, removal and disposal of old pavement and base, backfill and compaction, new asphalt and new base rock shall be included in this cost. All required CITY permits for this work shall be obtained and paid for by the CONTRACTOR under this pay item.

Payment will be full compensation for all work and materials specified in this specification. The item will be paid as LUMP SUM under the bid item **Open Cut Roadway Repair**.

20. PIPE CULVERTS - The work specified under this paragraph shall be in accordance with Section 430 of the FDOT Standard Specifications. Payment of pipe will be based on Linear Foot installed.

21. ENDWALLS & MITERED END SECTIONS - Construct in accordance with the Plans and Standard Plans, Indexes 430-021, 430-022 and 430-030. Payment of Endwalls and Mitered End Sections will be per EACH Mitered End Section or Endwall.

22. PZ-22 STEEL SHEET PILE WEIR

The work specified shall consist of the construction of the sheet piling weir for the control structure. The work effort shall be in accordance with Section 455 B. Piling of the FDOT Standard Specifications and the Construction Plans.

The quantities to be paid under this paragraph shall include all materials, labor, and equipment needed to prosecute the work required by this specification and will be paid for at the contract unit bid price for the specific item with no additional cost to be incurred by the CITY. Price and payment will be full compensation for all work specified in this Section, including furnishing and installing steel sheet piling including pre-formed holes and coating, but will not include furnishing and placing anchors when an anchored wall system is designed and detailed in the Plans. In such cases, furnishing and installing anchors will be paid separately. All steel sheet piling shall be manufactured entirely from steel that meets or exceeds the characteristics listed in this specification. All sheet piling shall be wholly and completely manufactured in an ISO certified production facility and MADE IN AMERICA.

The alignment of the sheet pile and concrete cap shall be installed true to the lines and grades given. Ensure that the horizontal tolerances of the sheet pile CAP shall not exceed more than 1 inch when measured with a 50' string line. CONTRACTOR will not be compensated for installation or removal of sheet piling or CAP that does not comply with this specification.

Steel sheet piling shall contain a shop applied S-4 Protective Coating System before construction with touch up in field after installation as listed in SFWMD Specification Section 09900, Protective Coatings.

All construction shall be in accordance with FDOT Standard Specifications, SFWMD and/or City of Port St. Lucie Construction Standards (most stringent criteria applies).

Payment will be full compensation for all work and materials specified in this specification. Payment will be made under the LUMP SUM bid item for **PZ-22 Steel Sheet Pile Weir**.

23. CONCRETE CAP

The work specified shall consist of the construction of the bulkhead wall concrete cap on top of the sheet piling. The work effort shall be in accordance with Section 400 of the FDOT Standard Specifications and the Construction Plans.

The quantities to be paid under this paragraph shall include all materials, labor, and equipment needed to prosecute the work required by this specification and will be paid for at the contract unit bid price for the specific item with no additional cost to be incurred by the CITY. Price and payment will be full compensation for all work specified in this Section, including all materials, transporting, formwork, work required to obtain the required concrete finish, pumping or other methods to place concrete.

Payment will be full compensation for all work and materials specified in this specification. Payment will be made under the LUMP SUM bid item for **Concrete Cap (Class II)**.

The work specified shall also consist of the construction of the reinforcing steel and the steel weir blade to be placed within the concrete cap on top of the sheet piling. The work effort shall be in accordance with Section 415 and 931 of the FDOT Standard Specifications.

The quantities to be paid under this paragraph shall include all materials, labor, and equipment needed to prosecute the work required by this specification and will be paid for at the contract unit bid price for the specific item with no additional cost to be incurred by the CITY. Price and payment will be full compensation for all work specified in this Section, including all materials, hauling, all welding, all clips, spacers, ties, mechanical couplers, etc., and wire or other material used for fastening the reinforcement in place. If spliced bars are used when full length bars might reasonably be required, the quantity paid for will be only that which would be obtained if full length bars were used, with no allowance for lap.

Payment will be full compensation for all work and materials specified in this specification. Payment will be made under the LUMP SUM bid item for **Concrete Cap (Class II)**.

24. CONCRETE SPLASH PAD (CLASS II)

This work shall be performed in accordance with FDOT Standard Specifications and requirements. Payment will be full compensation for all associated work and materials including, but not limited to, Weep Drains, Filter Fabric, Reinforcing Steel, #57 Aggregate, Joint Sealant, etc. Payment will be made under the LUMP SUM bid item for **Concrete Splash Pad (Class II)**.

25. RUBBLE RIP RAP - The work specified under this paragraph shall be in accordance with Section 530 of the FDOT Standard Specifications and project plans. Price will include Rubble and bedding stone materials, filter fabric, hauling, excavation, grading and backfill and will be paid per ton of Rip Rap material. Payment of Rubble Rip Rap will be per TON.

26. PERFORMANCE TURF (SOD)(BAHIA) - All sodding work on this project shall be provided in accordance with Section 575 of the FDOT Standard Specification unless otherwise specified in the Plans, all sodding shall consist of Bahia grass sodding as per the Contract Plans. The CONTRACTOR is solely responsible for final acceptability of all sodded areas. All associated costs are included in the unit price of the sod. For issues not discussed

in these specifications, the CONTRACTOR is referred to Sections 575, 981, 982 and 983 of the FDOT Standard specification for Road and Bridge Construction.

The quantities to be paid under this paragraph shall include all materials, labor, and equipment needed to prosecute the work required by this specification and will be paid for at the contract unit bid price for the specific item with no additional cost to be incurred by the CITY. For the purposes of this specification, additional items for fertilizer, watering, and mowing shall be considered incidental to the provisions of the sodding.

Type: Sod shall be locally grown unless otherwise specified to conform to surrounding existing turf and shall be; healthy, with well-matted roots, be free of weeds and be supplier certified to be free of Tropical Soda Apple (solanum viarum). The CONTRACTOR will replace turf with the same type Sod removed from any areas or as specified in the plans. If no sod is specified or existing, then Bahia Type sod should be used.

Dimensions: Sod pieces shall be 1 ft x 2 ft and a minimum of 1 ¼ inches thick. ¾ inch of the sod thickness shall be roots and topsoil.

Placement:

a) Sod shall be laid with the long side parallel to contours (perpendicular to the slope with the ends of the pieces butted together. Placement of sod shall proceed in this manner up the slope and end butts shall be staggered with adjoining rows.
b) The combined number of overlaps and 1 inch or greater gaps between pieces shall not exceed five per 100 square feet.
c) The combined number of 2 inch or greater overlaps and 2 inch or greater gaps between pieces shall not exceed one per 100 square feet.
d) For final acceptance, no more than 10% of the sodded area may consist of dead spots of greater than ½ foot square and no more than 5% of the sodded area shall consist of dead spots of greater than 1 foot square.

Watering:

a) Sod shall be watered with ½ inch of water immediately upon placement. All sodded areas shall be maintained by watering (5 times per week minimum). The cost of this item shall be considered incidental to sod and plantings and is included in that line item.

Lime and Fertilizer: To assure rapid establishment of sod the CONTRACTOR is urged to apply fertilizer and lime as follows or as determined by soil testing. The fertilizer shall be applied in conformance with any COUNTY or CITY local fertilizer ordinances.

a) Fertilizer: 16-4-8 – 50% of Nitrogen to be slow release
    i. 265 lb/ac as placement
    ii. 135 lb/ac at 60 days after placement

Maintenance:

a) Mowing – Grass is to be mowed to 6-inch height for final acceptance.
    i. Mowing shall not remove any more than 1/3 of the grass leaves and be done with sharp blade mowers.
    ii. Mowing shall not occur for 3 weeks after planting.

b) Filling, leveling, repairing washouts or erosion – CONTRACTOR shall replace patches of dead sod and repair disturbed and damaged sod immediately upon being made aware of the condition.

Payment shall be made under Item **Performance Turf (Sod) (Bahia) –** per square yard.

27. PERFORMANCE TURF (HYDROSEED)

CONTRACTOR shall establish a growing, healthy turf over all areas designated on the plans. Use hydroseed on all disturbed areas. Maintain turf areas until final acceptance of all contract work in accordance with the Specifications.

Meet the following requirements:
Turf Materials .....Section 981-FDOT Specifications
Fertilizer .....Section 982-FDOT Specifications
Water .....Section 983-FDOT Specifications

GENERAL – Incorporate turf installation into the project at the earliest practical time. Shape the areas to be hydroseeded to the plan typical sections and lines and grade shown in the Contract Documents. Use the methods and materials necessary to establish and maintain the initial grassing until acceptance of the Contract work. All of the permanent grassing material shall be in place prior to final acceptance.

SEEDING – Use of compost meeting the requirements of Section 987 as mulch is acceptable unless otherwise specified. If pest plants and/or noxious weeds manifest themselves within 30 days of placement of the hydroseed during the months April through October, within 60 days of placement of the hydroseed during the months of November through March treat affected areas by means acceptable to the CITY at no expense to the CITY.

HYDROSEEDING – Use equipment specifically designed for mixing the mulch, seed, fertilizer, tackifier and dye, and applying the slurry uniformly over the areas to be hydroseeded. Use mulch that does not contain reprocessed wood or paper fibers. Ensure that 50% of the fibers will be retained on a twenty-five mesh screen. Mix fertilizer as required into the hydroseeding slurry. Ensure that the dye does not contain growth or germination inhibiting chemicals. When polyacrylamide is used as part of hydroseeding mix, only anionic polymer formulation with free acrylamide monomer residual content of less than 0.05% is allowed. Cationic polyacrylamide shall not be used in any concentration. Do not spray polyacrylamide-containing mixtures onto pavement. These may include tackifiers, flocculants or moisture-holding compounds.

BONDED FIBER MATRIX (BFM) – Meet the minimum physical and performance criteria of this Specification for use of BFM in hydroseeding operations or temporary non-vegetative erosion and sediment control methods. Provide evidence of product performance testing, manufacturer's certification of training and material samples to the ENGINEER at least seven calendar days prior to installation. Provide documentation to the ENGINEER of manufacturer's testing at an independent laboratory; demonstrating superior performance of BFM as measured by reduced water runoff, reduced soil loss and faster seed germination in comparison to erosion control blankets. Use only BFMs that contain all components pre-packaged by the manufacturer to assure material performance. Deliver materials in UV and

weather resistant factory labeled packaging. Store and handle products in strict compliance with the manufacturer's directions. When polyacrylamide is used as part of hydroseeding mix, only anionic polymer formulation with free acrylamide monomer residual content of less than 0.05% is allowed. Cationic polyacrylamide shall not be used in any concentration. Do not spray polyacrylamide-containing mixtures onto pavement. These may include tackifiers, flocculants or moisture-holding compounds. Meet the following requirements after application of the formed matrix: Ensure that the tackifier does not dissolve or disperse upon rewetting. Ensure that the matrix has no gaps between the product and the soil and that it provides 100% coverage of all disturbed soil areas after application. Ensure that the matrix has no germination or growth inhibiting properties and does not form a water-repelling crust. Ensure that the matrix is comprised of materials that are 100% biodegradable and 100% beneficial to plant growth. Mix and apply the BFM in strict compliance with the manufacturer's recommendations. Apply the BFM to geotechnically stable slopes at the manufacturer's recommended rates. Degradation of BFM will occur naturally because of chemical and biological hydrolysis, UV exposure and temperature fluctuations. Re-application, as determined by the ENGINEER, will be required if BFM-treated soils are disturbed or water quality or turbidity tests show the need for an additional application. The work and materials for re-application will be paid for as Unforeseeable Work.

WATERING – Water all areas as necessary to produce a healthy and vigorous stand of turf.

FERTILIZING – Fertilize as necessary to produce a healthy and vigorous stand of turf. Refer to Section 982 of the FDOT Specifications for fertilizer rates.

TURF ESTABLISHMENT – Perform all work necessary, including watering and fertilizing, to sustain an established turf until final acceptance, at no additional expense to the CITY. Provide the filling, leveling, and repairing of any washed or eroded areas, as may be necessary. Established turf is defined as follows: Established root system (leaf blades break before seedlings or sod can be pulled from the soil by hand). No bare spots larger than one square foot. No continuous streaks running perpendicular to the face of the slope. No bare areas comprising more than 1% of any given 1,000 square foot area. No deformation of the turf areas caused by mowing or other CONTRACTOR equipment. Monitor turf areas and remove all competing vegetation, pest plants, and noxious weeds (as listed by the Florida Exotic Pest Plant Council, Category I "List of Invasive Species", Current Edition, www.fleppc.org). Remove such vegetation regularly by manual, mechanical, or chemical control means, as necessary. When selecting herbicides, pay particular attention to ensure use of chemicals that will not harm desired turf. Use herbicides in accordance with FDOT Specification Section 7-1.7. If at the time that all other work on the project is completed, but not all turf areas have met the requirements for established turf set forth in 39.04, continuously maintain all turf areas until the requirements for established turf set forth in 39.04 have been met. During the entire establishment period and until turf is established in accordance with this specification, continue inspection and maintenance of erosion and sedimentation control items in accordance with FDOT Specification Section 104. Take responsibility for the proper removal and disposal of all erosion and sedimentation control items after turf has been established. Determination of an established turf will be based on the entire project and not in sections. Upon the determination by the ENGINEER that the requirements of "Turf Establishment" have been met, an established turf has been achieved, and all erosion and sedimentation control items have been removed, the ENGINEER will release the CONTRACTOR from any further responsibility provided for in this Specification.

The CONTRACTOR's establishment obligations of this specification will not apply to deficiencies due to the following factors, if found by the ENGINEER to be beyond the control of the CONTRACTOR, his Subcontractors, Vendors or Suppliers:

a. Determination that the deficiency was due to the failure of other features of the Contract.
b. Determination that the deficiency was the responsibility of a third party performing work not included in the Contract or its actions. The CITY will only pay for replanting as necessary due to factors determined by the CITY to be beyond the control of the CONTRACTOR.

RESPONSIBLE PARTY – For the purposes of this Specification, the CONTRACTOR shall be the responsible party throughout construction and establishment periods. Upon final acceptance of the Contract in accordance with FDOT Specification Section 5-11, the CONTRACTOR's responsibility for maintenance of all the work or facilities within the project limits of the Contract will terminate in accordance with FDOT Specification Section 5-11; with the sole exception that the facilities damaged due to lack of established turf and the obligations set forth in this Specification for hydroseed shall continue thereafter to be responsibility of the CONTRACTOR as otherwise provided in this Section.

METHOD OF MEASUREMENT – The quantities to be paid for will be plan quantity in square yards based on the area shown in the plans, completed and accepted.

BASIS OF PAYMENT – Prices and payments will be full compensation for all work and materials specified in this specification. Payment will be made under the SQUARE YARD bid item for **Performance Turf (Hydroseed)**.

28. HANDRAIL -

This work shall be performed in accordance with FDOT Standard Specifications and requirements and as detailed in the contract plans. Payment will be full compensation for all associated work and materials. Payment will be made under the LUMP SUM bid item for **Handrail**.

29. 316 S.S. SLIDE GATE

FRAME AND GUIDE RAILS: The gate frame shall be composed of stainless steel guide rails with UHMW seat/seals upstream and downstream. The seat/seals shall form a tight seal between the frame and the slide (disc). The guides will be of sufficient length to support ½ the height of the slide when in the full open position. Yoke shall not deflect more than 1/360th of the span under full head break load. Seals shall be replaceable without removing the frame from the wall. In the case of embedded gates, they shall be constructed in a manner that allows replacement of the seals without removal of the gate frame from the embedment.

SEALS: The seals shall be self-adjusting. Seals requiring periodic maintenance and adjustments to maintain specified leakage rates will not be permitted. The top seal design on upward opening gates consisting of four side seals shall incorporate a self-cleaning wiping function that prevents debris from building-up above the top seal and causing premature wear of the seats, seals, and gate face. The UHMW seats shall impinge on the slide (disc) by way of a continuous loop cord seal. Seal designs incorporating resilient seals such as "J-bulb" or "P" seals that come in direct contact with the friction surface of the slide will not be considered. The cord seal shall function as a seal between the frame and the UHMW, and

as a spring force to maintain contact between the UHMW and the slide (disc). The resilient bottom seal shall be set into the invert member of the frame which shall be formed in a manner to protect 3 sides of the seal only exposing the side that will come in contact with the slide. Disc-mounted invert seals exposing additional surface area will not be permitted. The self-adjusting seal system shall provide an allowable leakage rate of no more than ½ AWWA leakage rate per minute per peripheral foot of perimeter opening for seating and unseating heads.

SLIDE COVER (DISC): The slide cover (disc) shall be stainless steel plate reinforced with structural shapes welded to the plate. The slide cover shall not deflect more than 1/720th of the span, or 1/16" at the seated sealing surface of the gate under maximum specified head. The stem to gate connection shall be either the clevis type, with structural members welded to the slide and a bolt or bolts to act as a securing method, or a threaded and bolted (or keyed) thrust nut supported in a welded nut pocket. The clevis, or pocket and yoke, of the gate shall be capable of taking, without damage, at least twice the rated thrust output of the operator at 40 pounds of pull on a hand wheel or hand crank, and at locked-rotor stall of a motor operator. The slide cover shall be constructed with vertical and horizontal reinforcement ribs. All welds shall be performed by an AWS-certified welding technician.

ANCHOR BOLTS: Anchor hardware shall be provided by the slide gate Manufacturer. The size, quantity, and location of the anchor hardware shall be engineered by the slide gate Manufacturer. Upon CITY request, Manufacturer shall provide calculations for anchor bolt sizing and quantity. Anchor hardware consisting of studs, nuts and washers shall be provided by the Manufacturer.

INSTALLATION: Installation of the gates shall be performed in accordance with standard industry practices. It shall be the responsibility of the CONTRACTOR to handle, store, and install the equipment specified in this Section in strict accordance with the Manufacturer's recommendations. The CONTRACTOR shall review the installation drawings and installation instructions prior to installing the gates. The gate frames shall be installed in a true vertical plane, square and plumb, with no twist, convergence, or divergence between the vertical legs of the guide frame. The CONTRACTOR shall fill any void between the guide frames and the structure with non-shrink grout as shown on the installation drawing and in accordance with the grout manufacturer's recommendations. The frame cross rail shall be adjusted as required to maintain consistent seal compression across the full width of the gate.

FIELD TESTING: After installation, all gates will be field tested in the presence of the ENGINEER and OWNER to ensure that all items of equipment are in full compliance with this Section. Each gate assembly shall be water tested by the CONTRACTOR at the discretion of the ENGINEER and CITY, to confirm that leakage does not exceed the specified allowed leakage.

Acceptable Slide Gate Manufacturers'/Models are included in the plans and the City of Port St. Lucie reserves the right to make the final determination of 'equal-to' for all equipment used in this project.

Payment will be full compensation for all work and materials specified in this specification. Payment will be made under the LUMP SUM bid item for Each **316 S.S. Slide Gate**.

30. ELECTRIC MOTOR ACTUATOR / CONTROL PANEL / CONCRETE PAD

The CONTRACTOR shall coordinate all electrical aspects of the project. Each actuator motor must have a separate circuit breaker. The CONTRACTOR shall coordinate with PSL Utility Systems Department and/or PSL Public Works Department to perform all testing & installation necessary for a fully functioning system. All construction / materials shall be in accordance with PSL Utility Systems Department Standards and National Electric Code latest editions. All panel mounting hardware shall be stainless steel. All underground conduit shall be installed 18'' minimum depth. Main cabinet and supports shall be located a minimum of 36'' from fence and/or other structures. Grounding shall be 20' x 5/8'' diameter copper clad ground rod with approved pressure type bronze connector cap. All exposed conduits between adjacent panels shall be Schedule 80 UV Resistant PVC. CONTRACTOR shall submit all shop drawings and a project schedule during the pre-construction conference, prior to commencement of construction. The City of Port St. Lucie reserves the right to make the final determination of 'equal-to' for all equipment used in this project.

Payment will be full compensation for all work and materials specified in this specification. Payment will be made under the LUMP SUM bid items for **Electric Motor Actuator, Control Panel** and **Control Panel Concrete Pad (Class II)**.

31. CCTV & CONCRETE POLE

The CONTRACTOR shall submit shop drawings to the engineer for review and approval prior to manufacturing / ordering of pole. See FDOT Index #17725 for Concrete Pole Specifications. CONTRACTOR to provide calculations and shop drawings supporting a 160 MPH wind load. All ground rod connections are to be exothermically welded. Install marker tape directly above all grounding electrodes and conductors at depth of 6 inches. All data, coaxial, and power cable to the camera shall be completely concealed. All air terminals must meet UL-96A. Route all camera cables inside arm of mounting bracket. The Main Ground Rod is to be placed immediately adjacent to the pole. Galvanized pipe connections and conduit entry points shall be sealed in accordance with Section 630 of the FDOT Standard Specifications. It shall be the CONTRACTOR's responsibility to provide a complete assembly as per the plans and specifications. The installation shall meet the requirements of the National Electric Code and applicable Port St. Lucie codes.

Payment will be full compensation for all associated work and materials specified in this specification. Payment will be made under the LUMP SUM bid item for **CCTV System / Concrete Pole / Wiring**.

32. FENCE TYPE B & GATE

Furnish Type B chain-link perimeter fencing and gates according to the requirements of Section 550 and Standard Plans, Index 550-002 with barbed wire attachment. Install the fence to form a rectangle or square shape, unless otherwise specified in the Plans. Allow for a minimum clearance of 5 feet between the fence and any enclosed item.

Construct hinged 4 ft. gates in accordance with Standard Plans, Index 550-003 with barbed wire, configure as shown in the Plans. Provide a hardened, four-digit combination gate lock with the combination set as directed.

Payment will be full compensation for all work and materials specified in this specification. Payment will be made under the LUMP SUM bid items for **Fence (Type 'B', 6' Height, Standard)** and **Fence Gate (Type 'B', Single, 4' Opening)**.

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SPECIAL CONDITIONS

1. **CITY FURNISHED ITEMS -** The CONTRACTOR shall bid all items for the project listed in the "Bid Form" based upon the material, labor, etc. necessary to complete each of the items.

2. **SURVEY CONTROL -** The benchmarks for survey control for the project have been indicated in the construction plans. The location of these control points may at times be located within the construction area. It is the responsibility of the CONTRACTOR to locate, preserve, or offset these points as required to maintain proper survey control for the project for the duration of the construction efforts. Control points shall be re-established upon completion of construction at the expense of the CONTRACTOR. All monuments (public or private) located within the construction area must be protected during the construction duration or reinstalled after completion.

3. **CONSTRUCTION ITEMS IN THE BID FORM** - Construction items in the Bid Form may be increased, decreased or deleted at the direction of the ENGINEER & CITY with no unit price adjustment.

4. **SEQUENCE OF CONSTRUCTION** - The construction sequence shall be established by the CONTRACTOR and forwarded to the CITY and ENGINEER for approval through the Project Schedule. The Schedule shall be prepared using a Critical Path Method or other approved project-scheduling tool.

5. **CONTRACT SUPERVISOR** - The Contract Supervisor for the CITY is John Dunton of the City of Port St. Lucie Public Works Department, (772) 344-4035.

6. **ENGINEER (DESIGN)** - The "Engineer of Record" is Joseph W. Capra, P.E., CAPTEC Engineering, Inc., (772) 692-4344, a Professional Engineer duly licensed and registered in the State of Florida and designated by the CITY as the Design Engineer.

7. **ENGINEER (CEI)** - The "CEI Engineer" is Gary LS Jones, P.E. ., CAPTEC Engineering, Inc., (772) 692-4344, a Professional Engineer duly licensed and registered in the State of Florida and designated by the CITY as the Construction Engineering Inspection (CEI) Engineer.

8. **PROJECT PROGRESS MEETINGS** - Project progress meetings will be held weekly or bi-weekly at the City Public Works Department, or other mutually convenient location as designated by the ENGINEER. Representatives of CITY, ENGINEER, CEI, and CONTRACTOR are required to attend. Other representatives, such as utility company personnel, may attend as necessary.

9. **PROTECTION OF GOPHER TORTOISES / INDIGO SNAKES -** Should the CONTRACTOR discover any tortoises / indigo snakes on the site, the CONTRACTOR shall notify the CITY and the CITY will take the measures necessary to relocate the tortoise(s) / indigo snake(s). No extras or additional payments will be made to the CONTRACTOR for the protection of Gopher Tortoises / Indigo Snakes. Prior to construction, the CITY will have all known gopher tortoises / indigo snakes relocated from the project site.

10. **CONSTRUCTION DEBRIS LOCATED WITHIN PROJECT LIMITS** - The CONTRACTOR is advised that any existing construction and demolition debris located within the project limits should be removed and the costs to be included in the lump sum price of clearing and grubbing. The material shall be disposed of in accordance with these specifications.

11. **RETESTS AND STANDBY TIME FOR SOILS TESTING COMPANY** – The costs for all retests and standby time for the testing companies will be paid by the CONTRACTOR.

12. **VIDEO TAPE/DVD -** The CONTRACTOR is required to videotape the project area prior to construction commencement. CONTRACTOR shall provide a copy of the videotape/DVD of the Project site to the ENGINEER for approval once complete and prior to issuance of Notice to Proceed. The cost of this shall be included in the Lump Sum item for Pre-Construction Video.

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ATTACHMENT 1

Construction Plans and Specifications for
A-16, A-17 & A-18 Water Control Structure Replacements
For
City of Port St. Lucie, Florida

Prepared by CAPTEC Engineering, Inc.

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ATTACHMENT 2

A-16, A-17 & A-18 Water Control Structure Replacements
Wetland and Wildlife Assessment Report
Port St. Lucie, Florida
Dated October 2023

Hobe Sound Environmental Consultants, Inc.
(65 pages follow as separate attachments)

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ATTACHMENT 3

Subsurface Soil Exploration & Geotechnical Engineering Evaluation
CPSL A-16, A-17 & A-18 Water Control Structure Replacement
September 20, 2023

Anderson Andrew Consulting Engineers, Inc.
(38 pages follows as a separate attachment)

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