COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: October 31, 2019 **Meeting Date:** November 7, 2019

Name: David Kraus **Department:** Bcc Administration

Division Manager's Signature: 

1. Nature and purpose of agenda item:

This documents outlines the scope of work for the design and construction of the Eastside Wastewater Treatment Plant and requests approval of $358,750 for the Preliminary Design Engineering Services. As the project advances, Jones Edmonds will have to request approval from the BOCC for future phases of the project.

2. Recommended Motion/Action:

Approve Scope of Work and authorize the expenditure of $358,750 for Preliminary Engineering Services.

3. Fiscal impact on current budget.

This item is currently budgeted. The account number to be charged is 405-3503-535.60-31

COLUMBIA COUNTY DESIGN OF A WASTEWATER PACKAGE TREATMENT PLANT AND ASSOCIATED APPURTENANCES

SCOPE OF SERVICES

OCTOBER 30, 2019

BACKGROUND

Weyerhaeuser, a private landowner, is developing the North Florida Mega Industrial Park (NFMIP) in Columbia County. The NFMIP's unique location will give manufacturing companies quick access to two interstates, an airport, and two Class I rail lines. Through public-private partnerships, preliminary development of the NFMIP is nearly finished. The design, permitting, and construction of a new wastewater treatment plant (WWTP) will bring this vision closer to reality. After the successful completion of the new WWTP, manufacturers can begin investing in the NFMIP, providing economic growth for Columbia County and the City of Lake City.

In addition to wastewater generated within the NFMIP, the new WWTP is expected to receive City wastewater flow from up to four lift stations west of the NFMIP. Wastewater flows from the Gateway Airport, Florida Gateway College, and a prison may also be diverted to the new WWTP. Diverting this flow will alleviate some capacity concerns within the City's aging collection system and provide additional treatment capacity at the St. Margarets Wastewater Treatment Facility (WWTF) and the Kicklighter Water Reclamation Facility (WRF) for even more future economic development projects.

The objective of this project is to design and permit a 0.5-million-gallon-per-day (MGD) annual average daily flow (AADF) field-erected wastewater package treatment plant in the NFMIP area, including effluent disposal and water reuse. The WWTP design will accommodate plant expansion in increments of 0.25 MGD to an ultimate 1.5 MGD AADF to meet the demands of new industry. The initial project also requires the design of approximately 0.5 mile of water and wastewater lines to connect to the existing Lake City utility lines at US Highway 90.

RFQ-219-F is incorporated into this scope by reference. The County has retained Jones Edmunds & Associates to serve as the Engineer of Record for the project.

SCOPE OF SERVICES

Jones Edmunds will execute the primary project in three phases: Phase 1 – Preliminary Engineering; Phase 2 – Design Services; and Phase 3 – Construction Phase Services. Phase 4 – Supplemental Services is also included if the County requests Jones Edmunds to perform additional engineering services associated with the primary project. Phase 4 services may include designing utility system expansions throughout the NFMIP.

Scope items for Phases 2 and 3 will ultimately be based on recommendations from Phase 1. Assumptions have been made to develop a scope for Phase 2 and 3. The scopes will be revised based on actual Phase 1 recommendations.

Task items are identified in this Scope of Services. If during the execution of the work it is determined that additional work or assistance is necessary to complete the project, this can be addressed as additional services at that time and be provided as an addendum or using Supplemental Services.

PHASE 1 – PRELIMINARY ENGINEERING SERVICES

TASK 1 – PROJECT MANAGEMENT, DATA COLLECTION, AND WORKSHOPS

The scope for Task 1 – Project Initiation, Management, and Administration, will cover all three phases to facilitate project delivery and achieve the County's objectives.

1.1 Project Set-Up

Jones Edmunds will develop project documents and filing systems for the project that will include project set-up, project management plan, QA/QC plan, hard and electronic files, and subcontract agreements and will conduct an internal kick-off meeting.

A file-sharing site will be set up to facilitate the transfer and storage of project files between team members and project stakeholders including the County, City of Lake City, and Weyerhaeuser.

1.2 Kick-Off Meeting

Jones Edmunds will conduct a project kick-off meeting with the project team and stakeholders to review project goals, scope of work, project schedule, communication procedures, and administrative issues. Following the meeting, Jones Edmunds will prepare summary meeting notes and distribute to the attendees.

1.3 Stakeholder Workshops

Jones Edmunds will conduct a series of stakeholder workshops throughout Phases 1 and 2. The intent of the workshops is to engage stakeholders, define stakeholders' expectations, develop consensus-based decisions, and promote teamwork and collaboration.

Three stakeholder workshops will be conducted in Phase 1: one for defining the design basis of the project, one for evaluating potential treatment technologies, and one for reviewing the 30% design documents including the Preliminary Engineering Report (PER).

Two stakeholder workshops will be conducted in Phase 2: one after submitting the 60% design and one after submitting the 90% design. The purpose for the design phase stakeholder workshops is to review status of the design, stakeholders' comments and questions, and design decisions made. Following each stakeholder workshop, Jones Edmunds will prepare summary meeting notes and distribute them to the attendees.

1.4 Board of County Commissioners Workshop

Jones Edmunds will assist the County in preparing and presenting project updates to the Board of County Commissioners (BCC) at up to 3 Board Meetings or Workshops. The intent

is to provide the BCC with a summary of options and recommendations from the preliminary engineering tasks. The County will be responsible for noticing all public meetings.

1.5 Status Reports and Project Administration

Jones Edmunds will provide a project status letter and schedule update to summarize the progress of the work. The summary letter will accompany the monthly invoices.

1.6 Data Collection

Data and information concerning the projected current and future wastewater flow and loading characteristics to be received from the City of Lake City will be provided by the County and will include, but not be limited to, the following:

- City of Lake City Wastewater Characteristics including CBOD5, TSS, TKN, Ammonia-N, and Total Phosphorus.
- Design information of the pump station(s) diverting the flow to the new WWTP.
- Locations of the pump station(s) diverting the flow to the new WWTP.
- Operating information of the pump station(s) diverting the flow to the new WWTP.
- Engineering Reports and Studies, including:
  - Preliminary site investigations conducted by Moore Bass Consulting, Inc. (MBC) for the NFMIP and the proposed WWTP site, including but not limited to LiDAR surveys, geotechnical investigations, listed species surveys, cultural resource assessments, conceptual environmental resource permitting, and stormwater master planning.
  - Sewer masterplans prepared for the County and the City of Lake City.
- Information on prospective industries within the NFMIP (if available) including:
  - Type of industry.
  - Estimated wastewater generation rates.
  - Estimated wastewater generation frequency and duration.
  - Estimated wastewater characteristics.

TASK 2 – DESIGN-RELATED FIELD INVESTIGATIONS

Weyerhaeuser hired MBC to conduct all preliminary site civil engineering for the NFMIP, including but not limited to LiDAR survey, geotechnical investigation, listed species survey, cultural resource assessment, conceptual environmental resource permitting, and stormwater master planning. Jones Edmunds will review existing reports and surveys to identify potential data gaps and coordinate with our subconsultants to conduct additional site investigation within the proposed WWTP site. The following field investigations will be conducted during the Phase 1:

- Geotechnical investigation led by Ardaman and Associates, Inc.
- Site and topographical survey and subsurface utility evaluation led by MBC.
- Environmental assessments and wetland delineation led by Wetland Solutions, Inc.

2.1 Geotechnical Investigation

Site subsurface borings for the proposed major structures will be performed. Results of the geotechnical investigation will be provided in a signed-and-sealed report. The scope is based on a maximum of 20 penetration test borings to a depth of 75 feet below grade and 12 standard penetration test borings to a depth of 50 feet below grade. Additional geotechnical investigation may be required at the potential effluent disposal sites.

2.2 Site and Topographical Survey and Subsurface Utility Engineering (SUE)

A topographic and boundary survey will be performed for the proposed plant site (approximately 20 acres) in accordance with the County's Design Standards. The topographic survey will include spot elevations (maximum 100-foot grid intervals). The jurisdictional wetlands, soil borings, and SUE will also be located horizontally and vertically. Three signed-and-sealed copies of the topographic survey will be provided for the property boundaries along with CAD files in accordance with the County's Design Standards.

TASK 3 – PRELIMINARY ENGINEERING REPORT (PER)

3.1 Basis of Design Flows and Loads Definition

Industrial wastewater flows are often not well suited to standard wastewater treatment processes; pH, BOD, TSS, heavy metals, and uncommon chemicals are all parameters of concern. Jones Edmunds will review existing data and work collaboratively with the stakeholders to discuss the type and size of prospective industries within the NFMIP and their tentative timeline to join the NFMIP, as well as any other anticipated domestic, jail/prison, and/or commercial wastewater contributions. Jones Edmunds, in collaboration with stakeholders, will establish effluent discharge limits for prospective industries in accordance with effluent guidelines documents by the US Environmental Protection Agency (EPA). While establishing the industrial effluent limits, Jones Edmunds will consider providing some level of pretreatment within the new WWTP including flow equalization, oil and grease removal, pre-aeration, pH neutralization, and biological oxygen demand (BOD) and solids reduction. Introducing some level of pretreatment to the new WWTP would allow less stringent effluent discharge limits to be set for prospective NFMIP businesses, removing a potential development barrier and encouraging growth in the area. The wastewater flows and loads defined in this task will form the foundation used to evaluate and select treatment technologies, identify feasible options, and develop optimized process configurations.

3.2 Treatment Technology Evaluation

Jones Edmunds will identify, review, and screen up to four technologies for each of the following unit processes/options:

- Coarse Screens (to protect influent pumps)
  - Single Rake Screens
  - Multi Rake Screens
  - Continuous Belt Screens
- Influent Lift Station Pumps
  - Submersible Non-Clog Impellor

    - Submersible Chopper Pump
    - Submersible Vortex Impellor
    - Other as discussed with County/City
- Fine Screens (to protect downstream equipment)
    - Step Screens
    - Band Screens
    - Spiral Screens
    - Drum Screens
- Grit Removal Systems (to protect downstream equipment)
    - Induced Vortex Grit Collectors
    - Mechanical Vortex Grit Collectors
- Screenings and Grit Washing, Compaction, and Dewatering Technologies
    - Cyclones with Screw Dewatering
    - Teacups with Screw or Grit Snail Dewatering
- Equalization (EQ) Tank and Associated Mixing and/or Aeration Systems
    - Jet Mixing and Aeration
    - External Chopper Pump Mixing and Aeration
    - Non-ragging mixer with Aeration
- Biological Treatment Systems including:
    - 4-Stage Bardenpho Activated Sludge System
    - Moving Bed Biofilm Reactors (MBBR)
    - Sequencing Batch Reactors (SBR)
    - Membrane Bioreactors (MBR)
- Tertiary Filtration Systems
    - Traveling Bridge Sand Filters
    - Downflow Sand Filters
    - Deep Bed Filters
    - Disk Filters (Cloth and Membrane Media)
- Disinfection systems
    - Sodium Hypochlorite Disinfection
    - Ultraviolet (UV) Disinfection
- Effluent disposal options including:
    - Public Access Reuse Water
    - Rapid Infiltration Basins (RIBs)
    - Sprayfields
    - Constructed Wetlands
    - Recharge Well
    - Deep Injection Well
    - Surface Water Discharge
- Odor Control Systems
    - Biotrickling Filters
    - Carbon Polishing
- Aerobic Sludge Holding Tank and Decant Thickening

The technology review will consider the technology preferences that the stakeholders may have in addition to the common technologies in the industry for such applications. Jones Edmunds, in collaboration with the stakeholders, will develop and draft the selection criteria that will be used to evaluate the technologies under review. The selection criteria may include:

- Minimum flow and load requirements of technology
- Ability to operate with variable loading
- Efficiency
- Reliability
- Robustness
- Expandability
- Energy consumption
- Layout and required footprint
- Effectiveness (i.e., performance at similar installations, customer surveys)
- Ease of operation and maintenance
- Operator training requirements
- Maintenance requirements
- Availability of manufacturer's technical assistance, representatives, and spare parts (located in Florida vs. the United States vs. out of the country)
- Present-worth value of capital and operating costs using an interest rate of 6 percent over a 20-year term
- Standardization of equipment, maintenance, and spare parts with other installed systems in the City and availability of local/regional spare parts and service technicians
- Other criteria agreed on during the process equipment selection workshop

A preliminary site layout for each biological treatment system option and other associated unit processes will be developed to meet Phase 1 treatment objectives. Provisions for future expansions to Phase 2 and Phase 3 will be included in the site layout for Phase 1.

Jones Edmunds will facilitate one technology review workshop with project stakeholders to present the different technology alternatives described in this section, compare the proposed alternatives in terms of the selection criteria identified above, and develop consensus-based decisions on the recommended treatment options. The overall goal is to design a WWTP that is cost-effective and easy to operate and maintain, will operate effectively and efficiently with variable flow and load, and incorporates considerations for future expansions and/or improvements.

3.3 Design Criteria Definition

Jones Edmunds will use the basis of design flows and loads and decisions developed during the technology evaluation workshop to set the design criteria for the major unit process of the new WWTP including the in-plant pretreatment system(s). Jones Edmunds will prepare a list of major equipment manufacturers, equipment models, and ancillary items that will be used as the basis of design for the project. Selected equipment will be reviewed with the stakeholders at the 30-percent design review workshop.

3.4 Effluent Disposal

Jones Edmunds will conduct an effluent disposal alternatives analysis for both on-site and off-site locations. Potential effluent disposal options are expected to include spray irrigation, infiltration/percolation, deep injection well, treatment wetlands, and surface water discharge. The technical, regulatory, and financial feasibility of each option will be assessed based on existing site information.

Jones Edmunds will facilitate one technology review workshop with project stakeholders to present the different effluent disposal alternatives described in this section, compare the proposed alternatives in terms of the selection criteria identified above, and develop consensus-based decisions on the recommended disposal option. The overall goal is to design an effluent disposal method that is cost-effective and easy to operate and maintain and incorporates considerations for future expansions and/or improvements.

Suitable sites will also be determined and evaluated based on the effluent disposal technology recommended.

3.5 Biosolids Management

Jones Edmunds will evaluate two options for biosolids management and recommend the most cost-effective option to the stakeholders:

- Option 1: Aerobic digestion, dewatering, contract hauling and beneficial reuse and/or landfill disposal.
- Option 2: Aerobic digestion, decant thickening and contract hauling offsite to a regional biosolids management facility and/or land application facility.

3.6 Transmission/Collection System

Jones Edmunds will design a connection from the existing utility system on US 90 to the new influent pump station. An on-site gravity interceptor and manhole(s) (or equivalent) will feed the new influent pump station to allow ease of future connection for NFMIP customers. This Scope of Services does not include improvements to existing off-site sewer infrastructure (e.g., lift stations, force mains, gravity interceptors).

3.7 Personnel Needs

WWTP staffing requirements will be evaluated for both current and future needs based on Florida Department of Environmental Protection (FDEP) criteria and will include documentation to support recommendations for expanded shifts or operators.

3.8 Engineer's Opinion of Probable Construction Cost (EOPCC)

Jones Edmunds will provide a Class 3, as defined by AACE International, Engineer's Opinion of Probable Construction Cost (EOPCC) for the selected alternatives upon the completion of the preliminary design.

3.9 Preliminary Engineering Report and 30 Percent Design Drawings

Jones Edmunds will develop a draft PER including 30-percent design drawings and summary list of technical specifications. Once reviewed and accepted by the County and regulatory agencies, the PER will form the basis of design for Phase 2 and will be the basis for advancing the accepted 30-percent design to 60 percent, 90 percent, and ultimately Issue-for-Bid Contract Documents.

PHASE 2 – DESIGN SERVICES

Design services for Phase 2 will be provided for initial WWTP capacity of 0.5 MGD AADF, with the capability to expand the facility in increment of 0.25 MGD to an ultimate capacity of 1.5 MGD AADF. The new WWTP design will address Class 1 reliability. Major unit treatment processes that will be included in the new WWTP include:

- Pretreatment
- Influent Lift Station
- Headworks Structure
- Biological Treatment System Splitter Box (to allow for ease of future expansion and addition of new units)
- Biological Treatment System
- Solids Separation Unit Flow Splitter Box
- Solids Separation Unit
- Return/Waste Activated Sludge Pump Station
- Tertiary Treatment (filtration)
- Disinfection System
- Effluent Transfer Pump Station and Effluent Disposal
- Reclaimed and Reject Water Ground Storage Tanks and/or Ponds
- Reclaimed Water High Service Pump Station
- Biosolids Management Facility
- Plant Drain Pump Station
- Utility Power Feed to WWTP
- Electrical Building
- Standby Power Facilities
- Odor Control Systems

Design services will also include access road, site civil, drainage and stormwater management, and yard piping.

TASK 4 – 60-PERCENT DESIGN PHASE

4.1 60-Percent Design Drawings

Jones Edmunds will prepare contract drawings and specifications to the 60-percent design level for the unit treatment processes identified in Task 3. The design drawings will include civil/site plans, yard piping plans, architectural elevation plans, structural plans, mechanical

process plans, process and instrumentation diagrams (P&IDs), electrical single line diagrams and electrical site plan, and other drawings required for permitting and bidding.

4.3 Engineer's Opinion of Probable Construction Cost (EOPCC)

Jones Edmunds will update the preliminary EOPCC prepared in Task 3 based on the 60-percent design drawings. The updated EOPCC will be a Class 2 estimate as defined by AACE International.

4.4 60 Percent Design Review Workshop

Jones Edmunds will conduct a design review workshop with stakeholders to review the status of the Contract Documents (drawings and specifications) and discuss stakeholders' comments, questions, and design decisions made. Following 60-percent design review workshop, Jones Edmunds will prepare a summary of the meeting and distribute minutes to the attendees.

TASK 5 – PERMITTING

5.1 Environmental Resource Permitting

An Environmental Resource Permit (ERP) application package will be prepared and submitted for the stormwater management system for the proposed WWTP site. Jones Edmunds understands that the County will pay all permit application fees. This task includes responding to a maximum of two Requests for Additional Information (RAIs) from FDEP, Suwannee River Florida Water Management District (SRWMD), or other regulatory agencies. Jones Edmunds assumes that the project area will not impact wetlands and that an Individual Permit will not be required.

5.2 FDEP Domestic Wastewater Facility Permitting

Jones Edmunds will prepare and submit a wastewater permit application to FDEP. Jones Edmunds will conduct a pre-application meeting with FDEP. The permit application package will include the PER prepared in Phase 1, FDEP Forms 62-620.910(1) and (2), the 60-percent design plans and technical specifications, and other documentation to support the application. Jones Edmunds understands that the County will pay all permit application fees. This scope includes responding to responding to two RAIs from FDEP.

5.3 County Site Permitting

County permitting assumes one submittal to zoning, including one follow-up submittal with individual County departments, to finalize site approval and to obtain County approval. County staff will assist with all County permits. Jones Edmunds will assist the Contractor with building permit submittal to transfer zoning approvals to construction permit approvals, including threshold inspections, landscaping, etc.

TASK 6 – 90-PERCENT DESIGN PHASE

6.1 90-Percent Design Drawings & Technical Specifications

Jones Edmunds will advance the 60-percent contract drawings and specifications to the 90-percent design level. The 90-percent design drawings and specifications will include civil/site plans, yard piping plans, architectural plans, structural plans, mechanical process plans, P&IDs and panel layouts, electrical plans, and other drawings required for bidding.

6.3 Engineer's Opinion of Probable Construction Cost (EOPCC)

Jones Edmunds will update the 60-percent EOPCC based on the 90-percent design drawings and technical specifications. The updated EOPCC will be a Class 1 estimate as defined by AACE International, which includes a detailed unit cost or take-off.

6.4 90 Percent Design Review Workshop

Jones Edmunds will conduct a 90-percent design review workshop with stakeholders to review status of the design and discuss stakeholders' comments and questions. Following the 90-percent design review workshop, Jones Edmunds will prepare a summary of the meeting and distribute it to the attendees.

TASK 7 – FINAL DESIGN PHASE

7.1 Issue-for-Bid Drawings

Jones Edmunds will advance the 90-percent contract drawings to issue-for-bid level. Issue-for-bid drawings will address previously received comments from the stakeholders and regulatory agencies (FDEP, SRWMD).

7.2 Technical Specifications

Jones Edmunds will update the 90-percent technical specifications to a bid set for bidding and construction of the new WWTP. Jones Edmunds will prepare the bid tabulation sheet, measurement and payment form, special provisions, and address any deviations from the County's Design Standards.

7.3 Engineer's Opinion of Probable Construction Cost (EOPCC)

Jones Edmunds will update the 90-percent EOPCC based on the issue for bid drawings and technical specifications. The updated EOPCC will be a Class 1 estimate as defined by AACE International.

TASK 8 – BID PHASE ASSISTANCE

8.1 Pre-Bid Conference

Jones Edmunds will attend a pre-bid meeting to provide an overview of the project and to respond to bidders' questions. Meeting minutes will be prepared and provided to the County.

8.2 Addenda Preparation

Jones Edmunds will respond in writing to bidders' questions and will provide additional clarifications, if necessary. This information will be provided to the County's Project Manager to assist with issuing addenda.

8.3 Bid Evaluation

Jones Edmunds will assist with the bid evaluation, review a certified tabulation of bids, review references of apparent responsive low bidder, and prepare a letter of recommendation for the County's use.

PHASE 3 – CONSTRUCTION PHASE SERVICES

Construction phase services will assume that the County will provide qualified resident project representative (RPR) to perform daily construction observation services under the supervision of the Engineer of Record and County. For this Scope, Jones Edmunds expects that the County will bid and award a single construction contract for the project. The exception is if constructed wetlands are selected for effluent disposal, which will likely require a separate construction contract. Construction phase services will begin upon issuance of the Notice-to-Proceed to the Contractor and will continue for 12 consecutive months. Services that extend beyond 12 months will be considered additional services and paid under supplemental or contingency funds.

TASK 9 – CONSTRUCTION ADMINISTRATION

9.1 Pre-Construction Conference

Jones Edmunds will prepare agenda, attend, and facilitate the pre-construction conference. Construction procedures and lines of communication will be established. Jones Edmunds will prepare and distribute meeting minutes.

9.2 Shop Drawing and Other Submittal Reviews

Jones Edmunds will establish and administer a procedure for receiving and tracking submittals including long lead time items made by the Contractor. Services will be provided for technical review of shop drawings. Copies of submittal reviews will be forwarded to the County and the Contractor. Jones Edmunds expects that approximately 125 submittals will be included in this task. Final acceptance by Jones Edmunds will follow and include County review comments. Jones Edmunds will maintain a master submittal log and review maintenance of plant operations (MOPO) plans developed by the Contractor.

9.3 Review Monthly Pay Applications and Compliance Requirements

Jones Edmunds will review 12 Contractor-submitted monthly requests for payment applications. Jones Edmunds will rely on the information provided by the County to determine the correctness of the Contractor's requested percent complete. The County will review the Contractor's requests for payment for compliance with all funding requirements. Recommendations regarding payment will be forwarded to the County.

9.4 Periodic Site Visits

Jones Edmunds will conduct periodic site visits using licensed engineers familiar with the various disciplines associated with the project to observe major construction events and provide threshold inspections not completed by the County Building Official, including related application materials required by the Building Official that outline Jones Edmunds' required inspections during the permitting process.

9.5 Clarifications and RFI Responses

Jones Edmunds will respond to requests for information (RFI) and/or clarification by the Contractor or the County, coordinate resolution of issues during construction, and assist the County in corresponding with the Contractor and regulatory personnel. Issues that may arise during construction will be addressed, and the overall construction will be reviewed with respect to the design intent. For budgeting purposes, Jones Edmunds assumes 30 RFI responses/clarifications will be required during the construction phase. If additional RFI reviews are required, additional services will be required. Jones Edmunds will maintain a master submittal log and coordinate the review process. Clarifications and RFIs will not be approved by Jones Edmunds until County input has been received.

9.6 Construction Progress Meetings

Jones Edmunds' Construction Administrator will attend monthly construction progress meetings with the County and Contractor. Jones Edmunds will prepare and distribute meeting agendas and meeting minutes. For budgeting purposes, Jones Edmunds will attend 12 monthly construction meetings. If Jones Edmunds' attendance is required at additional meetings, additional services will be required.

9.7 Construction Materials Testing

For this Scope, the Contractor will retain the services of a licensed geotechnical engineer to perform construction materials testing. Materials testing may include testing of concrete, soil compaction, steel welds, material thickness, and other materials as may be required during construction. Reports generated by the materials testing firm will be reviewed by Jones Edmunds for compliance with specified criteria. The Contractor will be responsible for coordinating and scheduling the performance of materials quality assurance testing with the materials testing firm. Jones Edmunds may recommend and subsequently the County may perform additional testing at their discretion to corroborate contract compliance.

9.8 Field and Change Orders

Jones Edmunds will review Contractor and County-initiated change proposals, recommend change orders, and prepare field orders and change orders for the County.

9.9 Project Start-up

Jones Edmunds will assist in the start-up, testing, and coordination of mechanical systems, instrumentation, electrical, controls and communication systems at both the operational ready test (ORT) and performance acceptance test (PAT) stages. The project start-up

process is expected to take approximately 8–12 weeks in total for both ORT and PAT. Jones Edmunds will coordinate with Contractor and County SCADA contractor to assist with integrating plant and County's SCADA systems.

9.10 Preliminary and Final Walkthroughs

Jones Edmunds will conduct a preliminary walkthrough and prepare an Items to Complete (ITC) list for items to be completed or corrected by the Contractor. Upon notification from the Contractor that the preliminary items are complete, Jones Edmunds will conduct a final walkthrough to ascertain the completeness of the corrections. Jones Edmunds will generate a final punch list of remaining items for review and follow-up with the Contractor to determine completion of punch list items. All walk-throughs will include County engineering and operational staff.

9.11 Record Drawings

Jones Edmunds will review and provide comments on the as-built drawings provided by the Contractor. The drawings shall be prepared in compliance with the County's Design Standards and the Contract Documents. Comments will be corrected by the Contractor, and the revised as-built drawings will be provided to the Engineer. Once the as-built drawings are deemed complete, Jones Edmunds will prepare record drawings in accordance with County's Design Standards, signed and sealed by the Engineer of Record, and submitted to the County two full-size hard copies, two reduced size (11-inch-by-17-inch) copies, CAD file, and reproducible PDFs in 11 -inch-by-17-inch and 24-inch-by-36-inch sizes in compliance with County's Design Standards. The Jones Edmunds resident project representative (RPR) will periodically throughout construction (at a minimum, biweekly) review the Contractor's as-built drawings to confirm accurate record information is being recorded.

9.12 Project Close-out

Jones Edmunds will assist the County in closing out of the project. The Contractor's final application for payment will be reviewed and a final change order will be prepared for the County. Upon completion of construction, record drawings and the associated documents will be submitted to the regulatory agencies as required for final approval and authorization to place the facility into service. Operation & Maintenance (O&M) Manuals and as-built drawings must be received from the Contractor and accepted by Jones Edmunds and County before final payment is recommended.

TASK 10 – CONSTRUCTION OBSERVATION

Jones Edmunds will provide RPR services during construction of the project. The RPR will observe and document the construction activities to ensure compliance with the design documents. Jones Edmunds will provide a copy of the RPR's on-site construction reports, field notes, and construction photos/video on a weekly basis.

TASK 11 – OPERATION & MAINTENANCE MANUAL

Jones Edmunds will require the Contractor to submit electronic formats of the equipment O&M manual submittals as part of the as-built construction documents. Draft O&M manuals

will be submitted for review by the County's engineering and operational staff to ensure compliance that the final manual meets County's requirements, Contract Documents, regulations, and directives. Jones Edmunds will compile the final electronic equipment O&M Manuals for operations and maintenance staff use.

Jones Edmunds will prepare a customized O&M Manual in accordance with FDEP requirements for the new WWTP. The O&M Manual will include process design and operational data, recommended plant operations, instrumentation/controls details, and plant and equipment maintenance details. A draft O&M Manual will be submitted to the County staff for review. Comments received from the County will be incorporated into the revised O&M manual, and three hard copies and one electronic copy of the manual in searchable PDF format with a hyperlinked table of contents will be provided to the County. Included with the final O&M Manual will be a complete set of Equipment O&M Manuals, approved shop drawings, operational instructions, maintenance publications, and manufacturer's documents.

PHASE 4 – SUPPLEMENTAL SERVICES

TASK 12 – SUPPLEMENTAL SERVICES

During the execution of the project, the County may request Jones Edmunds to perform additional engineering services not included in this Scope of Services, including additional engineering analyses and design changes, meetings, responses to additional RAIs and/or RFIs, site visits, and other directly related engineering required for the project. Supplemental Services are included but must receive prior authorization in writing from the County before proceeding. This authorization will fully set forth the proposed work and all compensation in an approved scope and fee.

DELIVERABLES

Project deliverables will include the following:

- Meeting and stakeholder workshop minutes (pdf format)
- Monthly status reports and updated project schedules (included with monthly invoices)
- Presentation materials for the BCC meeting
- Environmental investigation technical memorandum and hazardous materials testing results
- Topographic and Boundary Survey
- Draft Preliminary Engineering Report and 30-Percent Design (pdf format)
- Final Preliminary Engineering Report and 30-Percent Design Documents including major equipment list (six hard copies and one pdf copy)
- 60-percent design submittal package and EOPCC (pdf format)
- 90-percent design submittal package and EOPCC (Adobe pdf format)
- ERP application package
- Standard County permits, such as site plan reviews, stormwater management, roadway access and Building Department plan review.

- Issue-for-Bid submittal package and updated EOPCC (six signed-and-sealed paper copies and one pdf copy)
- Responses to Bidders' Questions
- Bid Tabulation and Letter of Bid Evaluation
- Master Submittal and RFI Logs
- Shop Drawing Reviews (pdf format)
- RFI Responses, Field Orders, and Change Orders (pdf format)
- Items to Complete (ITC) and Punch Lists
- Record drawings (two 11-inch-x-17-inch and two full-size signed-and-sealed paper copies), two reproducible pdfs (11-inch-x-17-inch and 24-inch-x-36-inch), and FDEP construction completion submittals
- O&M manual (three hard copies and one pdf, searchable and linked table of contents)
- Equipment O&M Manuals with Warranties

BUDGET

The fee for Phase 1 will be billed on a monthly basis. The total fee for Phase 1 is $358,750. Tasks 1 and 3 will be invoiced lump sum and Task 2 will be invoiced to the County at the direct costs to Jones Edmunds based on subconsultants' monthly invoices. All subconsultant scopes and fees will be approved by the County Project Manager prior to authorization.

The fee for Phase 2 will be determined after the acceptance of the Draft PER. The fee for Phase 3 will be determined after the acceptance of the 90% design. Fees for Task 4 will be determined as needed based on requested services from the County.

PHASE 1 - PRELIMINARY ENGINEERING SERVICES

Task 1 – Project Management, Data Collection, and Workshops	$59,290
Task 2 – Design-Related Field Investigations	$60,000
Task 3 – Preliminary Engineering Report & 30% Drawings	$239,460
Phase 1 - Total	**$358,750**

PHASE 2 - DESIGN SERVICES

Task 4 – 60-Percent Design Phase	TBD
Task 5 – Permitting	TBD
Task 6 – 90-Percent Design Phase	TBD
Task 7 – Final Design Phase	TBD
Task 8 – Bid Phase Assistance	TBD
Phase 2 - Total	**TBD**

PHASE 3 - CONSTRUCTION PHASE SERVICES

Task 9 – Construction Administration	TBD
Task 10 – Construction Observation	TBD
Task 11 – Operation and Maintenance Manual	TBD
Phase 3 – Total	**TBD**

PHASE 4 – SUPPLEMENTAL SERVICES

Task 12 – Supplemental Services	TBD
Project Total	**TBD**

SCHEDULE

The Work Assignment start date will be the date of the authorization of the Work Assignment for each phase by the County. The anticipated schedule for each phase is presented below:

- Phase 1 – 5 months
- Phase 2 – 7 months
- Phase 3 – 12 months

A Microsoft Project Schedule will be submitted to the County within 30 days of authorization for Phase 1. Conceptual schedules will be developed for Phases 2 and 3 at that time. The schedules will be updated before beginning each subsequent phase or task requiring County approval and will be contingent upon receiving direction from the County to proceed to the next phase or task.

ASSUMPTIONS AND EXCLUSIONS

- This Scope of Services for Phase 2 and 3 are based on our current understanding of the project as summarized above. This Scope of Services and budget will be reviewed with the County following the completion of Phase 1.
- Permitting services beyond those specifically included in the Scope of Services will be evaluated and addressed by addendum or supplemental services. All permit fees, plan review fees, or other regulatory agency fees will be paid directly by the County.
- Permits required during construction will be the responsibility of the Contractor, including NPDES permitting for construction activities. Jones Edmunds will prepare one submittal to County permitting/zoning and will assist Contractor with building permits.
- Scheduling impacts due to permitting requirements may occur and are beyond Jones Edmunds' control.
- If environmental/wildlife impacts within the project area are unavoidable, additional effort will be required to identify and permit measures to mitigate the impacts.
- The project site is assumed to be free of soil or groundwater contamination.

- Fees assume that all proposed work will occur within County-owned lands or easements and will be limited to the boundaries of the existing site, excluding effluent disposal which may be determined to be off-site based on the best available site.
- The County will coordinate all internal stakeholders and invite them to meetings, presentations, and workshops.
- The project schedule is predicated on usual review times for the County (2 weeks) and all regulatory agencies (30 days).
- County standard details for construction materials and features will be provided to Jones Edmunds by the County.