

SERVICES AUTHORIZATION #I ENGINEERING SERVICES AGREEMENT

THIS SERVICES AUTHORIZATION is made and entered into this _____ day of _____, 20____, by and between the **City of Orlando, Florida**, a municipal corporation existing under the laws of the State of Florida (CITY), and **Carollo Engineers, Inc.**, doing business locally at 1089 W. Morse Boulevard, Suite A, Orlando, Florida 32789 (ENGINEER).

WHEREAS, the CITY and the ENGINEER have previously entered into an agreement for the ENGINEER's professional services (Agreement) on November 17, 2013, concerning the Conserv II Biosolids Dewatering System Improvements Project (Project); and

WHEREAS, the CITY and the ENGINEER wish to amend the Agreement as set forth herein; and

WHEREAS, the CITY and the ENGINEER now wish to memorialize their understanding for the ENGINEER's additional professional services for the Project.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and given one to the other, the sufficiency of which is hereby acknowledged, the parties agree as follows:

I. SCOPE OF SERVICES

The scope of services has been agreed to by the parties, and is attached hereto and incorporated herein, by reference, as EXHIBIT I.

II. FEE

The not to exceed fee of \$970,594 has been agreed to by the parties as set forth on EXHIBIT I.

III. TERM

ENGINEER shall complete all work in accordance with the timeframes set forth in the scope of work, if any, provided, however, that all work and the term of the Services Authorization shall be completed by the end of business (5:00 p.m.) on December 31, 2016. It is also agreed that the CITY shall have an option for extension of this Services Authorization as necessary to complete the present scope of services (Exhibit I) or to provide additional services.

IV. ENTIRE AGREEMENT

This Services Authorization supersedes all previous services authorizations, amendments, agreements, or representations, either verbal or written, heretofore in effect between the CITY and the ENGINEER that may have concerned the matters covered herein, except that this Services Authorization shall in no way supersede or amend the Agreement or other services authorizations or amendments except as specifically provided herein. No additions, alterations, or variations to the terms of this Services Authorization shall be valid, nor can the provisions of this Services Authorization be waived by either party, unless such additions, alterations, or waivers are expressly set forth in writing in a document duly executed by both parties. ENGINEER acknowledges and agrees that any proposals or proposed agreements from subconsultants attached to this SERVICES AUTHORIZATION are attached solely to reflect the scopes of work to be performed and the fees to be charged by such subconsultants. By executing this SERVICES AUTHORIZATION, the CITY does not become a party thereto or bound by the terms thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Services Authorization on the day and year first written above.

City of Orlando, Florida

By: _____
David Billingsley, CPSM, C.P.M.
Chief Procurement Officer

APPROVE AS TO FORM AND LEGALITY
for the use and reliance of the
City of Orlando, Florida, only.

_____, 20____.

Assistant City Attorney
Orlando, Florida

Carollo Engineers, Inc.

By: _____

(Print Name)

Title: _____

STATE OF FLORIDA }

COUNTY OF _____}

PERSONALLY APPEARED before me, the undersigned authority, _____, [] well known to me or [] who has produced _____ as identification, and known by me to be the _____ of the corporation named above, and acknowledged before me that he/she executed the foregoing instrument on behalf of said corporation as its true act and deed, and that he/she was duly authorized to do so.

WITNESS my hand and official seal this ____ day of _____, 20____.

NOTARY PUBLIC

Print Name: _____

My Commission Expires: _____

Scope of Services

**City of Orlando Biosolids Dewatering Project
Project RQS13-0458
Final Design and Construction Phase Services**

November 6, 2014

EXHIBIT 1 – SCOPE OF SERVICES

A. Project Understanding

The City of Orlando's Conserv II Water Reclamation Facility (WRF), located at 5420 L.B. McLeod Road, provides service to a majority of the southwest section of Orlando. The WRF is currently permitted to treat 21 mgd annual average daily flow (AADF). Treatment process modifications are currently under construction at Conserv II WRF. Once complete, the City of Orlando expects to increase the permitted capacity to 25 mgd through stress testing.

The existing sludge treatment train at Conserv II WRF includes the following components:

- Thickening with gravity belt thickeners
- Stabilization with anaerobic digestion
- Dewatering with belt filter presses
- Land application of Class B biosolids

Conserv II WRF currently utilizes a two-stage anaerobic digestion process. Waste activated sludge (WAS) is thickened via gravity belt thickeners (GBTs) and pumped into three primary anaerobic digester tanks, where it is anaerobically digested in the mesophilic temperature range. Digested solids are transferred from the three primary digesters into the fourth sludge storage/gas holding tank, which is equipped with a floating gasholder cover.

The digested solids are withdrawn from the sludge storage/gas holding tank and transferred to four (4) belt filter presses (BFPs) for dewatering. The dewatered solids are transferred to trailers via 2-foot wide belt conveyors, and subsequently to hauling trucks wherein they are hauled offsite as Class B biosolids for beneficial use through agricultural land application. Currently, three trailers of dewatered biosolids are produced per day and the CITY owns seven trailers dedicated for biosolids.

The City plans to abandon the existing anaerobic digesters and implement lime stabilization process to produce a Class AA biosolids product. Un-thickened WAS will be dewatered to a dry cake, which will be fed to the lime stabilization process.

A preliminary design report, prepared by Carollo Engineers Inc. (ENGINEER), recommended the following improvements to the dewatering system. The scope of work is based on designing the following improvements assuming project RENEW will be undertaken in the near future.

- Construct a new aerated WAS holding tank and new WAS feed piping.
- Remove cover at the existing digested sludge holding tank to convert the tank to an unmixed WAS storage under emergency only

- Replace the four existing belt filter presses with new 3-belt design belt filter presses.
- Replace the existing four sludge feed pumps with new progressive cavity pumps and associated piping.
- Replace the existing belt conveyor cake conveyance system with a shaftless screw conveyor system.
- Replace the existing polymer storage and feed system with a packaged liquid polymer feed system.
- Replace the existing vacuum assisted wash water system with a new washwater system.
- Add a new biological odor control system to treat foul air from each dewatering belt filter press unit and modifications to the existing dewatering building ventilation system
- Implement necessary modifications – Dewatering building HVAC and plumbing, structural modifications to house the new dewatering equipment and associated electrical and instrumentation controls upgrades.

As part of the work under this Project, ENGINEER shall coordinate with other engineering consultants working at the plant and for the CITY.

B. Scope of Work

The scope of services to be provided as part of this project is summarized by the following tasks:

Task 1 – Project Management and Quality Assurance/Control

Task 2 – Final Design Phase Services

Task 3 – Bidding Phase Services

Task 4 – Construction Phase Services

Task 5 – Assist with Start-up, Testing and Training and amendment of the Existing Plant O&M Manual

Task 1 – Project Management and Quality Assurance/Control

Task 1.1 – Prepare Project Work Plan

ENGINEER will prepare a project work plan and distribute to project personnel. The work plan will include the project purpose and objectives, scope of work, an organization chart, major project deliverables, project delivery schedule, and project flow chart.

Task 1.1 Deliverable: Conserv II WRF Dewatering System Improvements - Project Work Plan

Task 1.2 - Progress Reports during Design Phase

Provide the CITY with monthly progress reports that identify what work has been performed during the month and an itemized listing of work that will be anticipated in the upcoming month. Progress reports will be submitted during the design phase only. These reports will be delivered as part of the monthly progress payment request. The scope assumes 9 months for design.

Task 1.2 Deliverables: Monthly Progress Reports

Task 1.3 - Maintain Schedule, Action Item Logs, and Decision Logs

Develop and maintain a project schedule for the management of the design, bidding, and construction phase services. Each task identified in the scope of work will be included in the project schedule. The project schedule will be updated monthly and delivered to the CITY as part of the monthly progress payment request.

Create and maintain throughout the project an Action Item Log and a Decision Log. These logs will be routinely updated and provided to the CITY with the monthly report and progress payment request.

Task 1.4 – Subconsultant Work Coordination

ENGINEER will coordinate with the subconsultants as necessary, to manage and implement this project. This subtask includes up to five (5) internal project collaboration meetings between ENGINEER and its subconsultants to coordinate and implement work efforts.

Task 2 – Final Design Phase Services

Task 2.1 – Final Design Kickoff Meeting

ENGINEER will facilitate a kickoff meeting with the CITY and other team members to discuss the following elements of the PROJECT:

- Project team member roles and responsibilities
- Lines of communication
- Project goals and objectives
- Project scope of services
- Critical success factors (developed at the Project Kick-off meeting)
- Project schedule
- Criteria/protocol for workshops and interactions with other stakeholders, including other consultants working on behalf of the CITY

ENGINEER will prepare an agenda in advance of the meeting and prepare and distribute meeting notes following the meeting.

ENGINEER will present a summary of the proposed preliminary design during the kick-off meeting and provide updated preliminary layouts for all new process equipment. This will provide a chance to the City staff to comment on the layouts before the 60% design documents are prepared as part of the next task.

Task 2.2 – 60% Design Documents

The ENGINEER will prepare 60-percent design submittals (drawings and specifications). The project will use CITY's front-end documents (Division 0). The 60-percent design documents will consist of detailed drawings and specifications for the recommended improvements to the dewatering system. Documents to be submitted with the 60-percent design include:

1. Preliminary site layout and yard piping plans for the new sludge holding tank and WAS piping
2. Demolition plans.
3. Mechanical drawings showing the layout and details of all major process/mechanical equipment.
4. Electrical drawings showing the design for site power distribution, panel design, building power distribution, logic and control wiring, lighting and other details of electrical power supply and control. Power plans, one-line diagrams, schematics, as required, power and lighting plans and details of electrical installation etc.
5. Listing of major equipment proposed and equipment data sheets.
6. Instrumentation and Controls - Preliminary system block diagram
7. Instrumentation and Control Systems - Operating philosophies, system architecture and implementation plan.
8. Process Mechanical - Process narratives and flow diagrams
9. HVAC and Plumbing drawings showing the improvements to the odor control and building air handling systems.
10. Geotechnical Investigation
11. Technical Specifications (Division 0 through 16)

A design review workshop will be conducted with the CITY to review the 60-percent submittals. The ENGINEER will record the meeting minutes and comments received from the CITY will be responded to in writing.

Task 2.2 Deliverables: 60% Design Documents –

1. Seven paper copies and one electronic copy in PDF format will be provided for the 60-percent submittal. The paper copies of the 60-percent drawings will be half-size (11-inches by 17-inches) sets. Electronic copies of documents in PDF format will be provided to the CITY on CD.
2. Meeting minutes of 60% Design Review Workshop
3. Updated Estimate of Probable Construction Costs (PDF Format)

Task 2.3 – 90% Design Documents

Based on the review comments received from the CITY, the ENGINEER will prepare 90-percent level plans, specifications (Divisions 0 through 16).

A design review workshop will be conducted with the CITY to review the 90-percent submittals. The ENGINEER will record the meeting minutes and comments received from the CITY and the QA/QC technical advisory committee will be formally addressed in the 100-percent submittal.

Task 2.3 Deliverables: 90% Design Documents –

1. Seven paper copies and one electronic copy in PDF format will be provided for the 90-percent submittal. The paper copies of the 90-percent drawings will be half-size (11-inches by 17-inches) sets. Electronic copies of documents in PDF format will be provided to the CITY on CD.
2. Meeting minutes of 90% Design Review Workshop
3. Updated Estimate of Probable Construction Costs (PDF Format)

Task 2.4 – 100% Design Documents (Issued for Bid Set)

Based on the review comments received from the CITY for the 90-percent design submittals, the ENGINEER will prepare 100-percent level plans, specifications (Divisions 0 through 17).

Task 2.4 Deliverables: 100% Design Documents –

1. One paper half-size bound copy of the 100-percent drawings and one bound copy of the technical specifications will be provided. Electronic copies of documents will be provided to the CITY on CD.
2. 100% Estimate of Probable Construction Costs (PDF Format)

Task 2.5 – Coordination Meetings with Other ENGINEERS/CONSULTANTS

The ENGINEER will prepare for and attend up to three coordination meetings with the Design Engineer for the Lime Stabilization Process to coordinate design and operating aspects of the dewatering system.

Task 2.6 – Preparation of Project Permits

The ENGINEER shall prepare and submit necessary FDEP and City permit applications as necessary for the project. ENGINEER will use the 90-percent submittal to start the City permitting process. All permit fees will be paid by the City

Task 2.6 Deliverables –

1. Draft and Final Permit Application Packages
2. Four paper copies (full-size) of signed and sealed 90-percent drawings

Task 3 – Bid Phase Services

It is assumed that the CITY will construct these improvements by procuring the services of a CONTRACTOR by bidding the design documents. It is also assumed that the City will prepare the bid documents and advertise for bids.

Bidding phase services will include the following:

1. Attend a pre-bid meeting,
2. Answer bidder questions and prepare addendums,
3. Prepare bid tabulations and recommendation letter for award of contract.

Task 4 – Construction Phase Services

The Construction of the proposed improvements is anticipated to be completed within an 18-month construction schedule. ENGINEER will provide following services during the construction phase:

Task 4.1 – Prepare Conformed Documents

The ENGINEER will prepare conformed documents "Issued for Construction" by compiling bidder questions and addendums.

Task 4.1 Deliverables: Prepare Conformed Documents –

One paper copy (half-size signed and sealed copy) and one electronic copy in both .DWG and PDF format will be provided for the Conformed Documents. One bound paper copy and one loose paper copy of the 100-percent technical specifications (Division 1 through 16). Electronic copies of documents will be provided to the CITY on CD.

Task 4.2 –Review Shop drawings.

The ENGINEER will receive, review, evaluate, and distribute shop drawings as submitted by the CONTRACTOR. A maximum of 75 shop-drawing submittals are

anticipated at this time. This includes about 30 shop-drawing submittals as identified in the electrical scope of work, and 45 additional shop-drawings including submittals for the mechanical equipment such as Belt Filter Presses, pumps, valves, piping, blowers, aeration system, polymer system, screw conveyors, odor control, HVAC and ductwork, flowmeters, and structural items such as concrete, rebar, supports, miscellaneous metals, etc.

The ENGINEER's review shall be for conformance with the design documents and compliance with the contract documents. Such review or other action shall not extend to means, methods, sequences, techniques, or procedures of construction selected by the CONTRACTOR, or to safety precautions and programs. ENGINEER shall receive and review (for general contents as required by the contract documents) operation and maintenance manuals, guarantees, and certificates of inspection which are to be assembled by the CONTRACTOR.

Review of shop drawings in excess of the budgeted 75 submittals will be discussed and approved by the CITY and additional budget necessary to review such shop drawings is assumed to be covered by the 10% CITY Controlled Contingency.

Task 4.3 - Request for Information and Field Change Directives.

The ENGINEER will receive, review, evaluate, and distribute Requests for Information (RFIs) from the CONTRACTOR. The ENGINEER shall also issue Field change directive (FCD) for those changes that are identified as conflicts in the field by the contractor. The ENGINEER shall respond to the CONTRACTOR to clarify or interpret technical or design related questions. The ENGINEER shall issue necessary interpretations and clarifications of the design documents. Responses to a total of 50 RFIs are budgeted as part of this task.

Response to RFIs in excess of the budgeted 50 RFIs will be discussed and approved by the CITY and additional budget necessary to review such RFIs is assumed to be covered by the 10% CITY Controlled Contingency.

Task 4.4 – Attend Construction Progress Meetings, Periodic Site Inspections, Inspections during Substantial and Final Completion and Preparation of Record Drawings.

The ENGINEER will attend monthly construction progress meetings, perform periodic site inspections (assuming one per month), and also participate in substantial and final completion walk-through and related activities. A total of 18 meetings are budgeted for this task including the substantial and final completion walk-through. Attendance at additional meetings will be discussed and approved by the CITY and the budget necessary to attend such meetings is assumed to be covered by the 10% CITY controlled contingency.

The ENGINEER will review CONTRACTOR's as-built drawings for conformance with section 01050 of the contract documents.

Task 5 – Assist with Start-up, Testing and Training and Amending Existing Plant O&M Manuals

The ENGINEER will assist in the start-up, testing, and training services. Additionally, ENGINEER will provide standard operating procedures (SOPs) for the dewatering system and update the O&M manual for the facility. The CITY will provide the ENGINEER a copy of the existing SOP for the dewatering system to update and develop further as necessary. Training will consist of a one 8-hour classroom training session conducted by the ENGINEER. The training will cover the major elements of the SOP and maintenance requirements for major equipment.

As an optional task, the ENGINEER will prepare an electronic O&M for the dewatering system. The eO&M will be designed such that the City in the future can update the O&M for the entire Conserv II WRF including all treatment process units in the electronic format. The cost for preparing an electronic O&M for the dewatering system is estimated to be in the order of \$45,000 but is not included in the proposed budget.

PRELIMINARY LIST OF DRAWINGS

- Drawing G – 1 Cover sheet
- Drawing G – 2 Sheet Index
- Drawing G – 3 Abbreviations & symbols
- Drawing G – 4 Process Flow Diagram
- Drawing G – 5 General Notes
- Drawing D – 1 Dewatering Building – Demolition Partial Plan 1 (Sludge Feed Pumps)
- Drawing D – 2 Dewatering Building – Demolition Partial Plan 2 (BFPs and Conveyors)
- Drawing D – 3 Dewatering Building – Demolition Partial Plan 3 (BFPs and Conveyors)
- Drawing D – 4 Dewatering Building – Demolition Partial Plan 4 (BFPs and Conveyors)
- Drawing D – 5 Dewatering Building – Demolition Partial Plan 5 (Odor Control System)
- Drawing D – 6 Dewatering Building – Demolition Partial Plan 6 (Polymer System and Washwater system)
- Drawing D – 7 Digested Sludge Holding Tank – Demolition
- Drawing C – 1 General Civil Notes, Symbols and Abbreviations
- Drawing C – 2 Overall Site plan
- Drawing C – 3 Partial Site Plan – 1 (WAS Piping – From RAS/WAS PS to New Sludge Holding Tank)
- Drawing C - 4 Partial Site Plan – 2 (WAS Piping – From Digested Sludge Holding Tank to New Sludge Holding Tank)
- Drawing C - 5 Partial Site Plan – 3 (WAS Piping – New Sludge Holding Tank to Dewatering Building)
- Drawing C – 6 Partial Site Plan – 4 (Washwater Piping)
- Drawing C – 7 Yard piping Details
- Drawing C - 8 Paving and Grading Details
- Typical C – 9 through C – 10 Typical Civil Details
- Drawing S – 1 Structural Notes and design criteria

- Drawing S – 2 Dewatering Building Modifications – Partial Plan 1
- Drawing S – 3 Dewatering Building Modifications – Partial Plan 2
- Drawing S – 4 Dewatering Building Modifications – Section and Details
- Drawing S – 5 New Sludge Holding Tank – Foundation Plan
- Drawing S – 6 New Sludge Holding Tank – Plan, Section and Details
- Drawing S – 7 through S – 8 Typical Structural Details
- Drawing M – 1 Mechanical Notes and Symbols
- Drawing M – 2 Dewatering Building – Partial Plan and details 1 (Sludge Feed Pumps)
- Drawing M – 3 Dewatering Building – Partial Plan and details 2 (BFPs and Cake Conveyors)
- Drawing M – 4 Dewatering Building – Partial Plan and details 3 (BFPs and Cake Conveyors)
- Drawing M – 5 Dewatering Building – Partial Plan and details 4 (Polymer System and Wash water system)
- Drawing M – 6 Dewatering Building – Section and details 1
- Drawing M – 7 Dewatering Building – Section and details 2
- Drawing M – 8 Dewatering Building – Section and details 3
- Drawing M – 9 Dewatering Building – Section and details 4
- Drawing M – 10 New Sludge Holding Tank – Partial Plan and Details
- Drawing M – 11 New Sludge Holding Tank – Section and Details
- Drawing M – 12 Odor Control System – Plan and Section
- Drawing M – 13 Odor Control Chemical Storage Room – Plan and Section
- Drawing M – 14 Odor Control System - Details
- Drawing M – 15 through M – 16 Typical Mechanical Details
- Drawing V – 1 Symbols
- Drawing V – 2 Schedules

- Drawing V – 3 Ventilation System Modifications – Upper Floor
- Drawing V – 4 Ventilation System Modifications – Lower Floor
- Drawing V – 5 through V – 6 HVAC Typical Details
- Drawing E – 1 Electrical Legend and Symbols
- Drawing E – 2 Electrical General Notes
- Drawing E – 3 Electrical Site Plan – Keyed Map
- Drawing E – 4 Enlarged Electrical Site Plan – Sheet 1
- Drawing E – 5 Enlarged Electrical Site Plan – Sheet 2
- Drawing E – 6 Existing Overall One Line Diagram
- Drawing E – 7 Existing Dewatering MCC – One Line Diagram – Sheet 1 Demolition
- Drawing E – 8 Existing Dewatering MCC – One Line Diagram – Sheet 2 Demolition
- Drawing E – 9 Existing Dewatering MCC Elevation Diagrams
- Drawing E – 10 Existing Dewatering MCC – One Line Diagram – Sheet 1 Modification
- Drawing E – 11 Existing Dewatering MCC – One Line Diagram – Sheet 2 Modification
- Drawing E – 12 Modified Press Building – One Line Diagram
- Drawing E – 13 Existing Panel Riser Diagrams – Demolition
- Drawing E – 14 Schematic Diagrams – Sheet 1 (Feed Pumps and Washwater Pumps)
- Drawing E – 15 Schematic Diagrams – Sheet 2 (Aeration Blowers and Odor Control Blowers)
- Drawing E – 16 Instrumentation Riser Diagrams
- Drawing E – 17 Power and Control Riser Diagrams – Sheet 1
- Drawing E – 18 Power and Control Riser Diagrams – Sheet 2
- Drawing E – 19 Panel Schedules – Sheet 1
- Drawing E – 20 Panel Schedules – Sheet 2
- Drawing E – 21 Panel Schedules – Sheet 3
- Drawing E – 22 Miscellaneous Schedules

- Drawing E – 23 Dewatering Building – Dewatering Room Demolition Plan
- Drawing E – 24 Dewatering Building – Polymer and Washwater Room Demolition Plan
- Drawing E – 25 Dewatering Building – Electrical Room – Electrical Plan
- Drawing E – 26 Dewatering Building – Dewatering Room Lighting Plan
- Drawing E – 27 Dewatering Building – Dewatering Room Power/Control Plan
- Drawing E – 28 Dewatering Building – Dewatering Room Electrical Plan
- Drawing E – 29 Press Building and Sludge Holding Tank – Electrical Plan
- Drawing E – 30 RAS/WAS Pump Station – Electrical Plan
- Drawing E – 31 Photos – Sheet 1
- Drawing E – 32 Photos – Sheet 2
- Drawing E – 33 Photos – Sheet 3
- Drawing E – 34 through E – 38 Electrical Details
- Drawing N – 1 Instrumentation Symbols and Abbreviations
- Drawing N – 2 PLC System Communication Block Diagram
- Drawing N – 3 Process and Instrumentation Diagram (WAS Pumps)
- Drawing N – 4 Process and Instrumentation Diagram (Sludge Holding Tank and Aeration Blowers)
- Drawing N – 5 Process and Instrumentation Diagram (Press Feed Pumps)
- Drawing N – 6 Process and Instrumentation Diagram (Belt Filter Presses)
- Drawing N – 7 Process and Instrumentation Diagram (Screw Conveyors)
- Drawing N – 8 Process and Instrumentation Diagram (Washwater Pumps and Odor Blowers)
- Drawing N – 9 Process and Instrumentation Diagram (Polymer System and Misc.)
- Drawing N – 10 PLC Panel Details
- Drawing N – 11 through N - 12 Typical I&C Details

CAROLLO ENGINEERS INC. - Engineering Services Fee										
Final Design and Construction Phase Services										
Conserv II Biosolids Dewatering System Improvements										
TASK	Raw Rate	Professional	Project Professional	Lead Project Professional	Senior Project Professional	CAD Technician	Senior CAD Technician	Document Processing/Graphic	Total Hours	Total Labor Cost (Not-to-Exceed)
	Multiplier									
	Loaded Rate									
TASK DESCRIPTION										
1 PROJECT MANAGEMENT AND QUALITY ASSURANCE/CONTROL										
1.1 Prepare Project Work Plan		0	0	24	4	0	0	2	30	\$6,972
1.2 Progress Reports		0	0	20	2.5	0	0	0	22.5	\$4,654
1.3 Maintain Schedule, Action Item Logs, and Decision Logs		0	0	10	2.5	0	0	0	12.5	\$2,606
1.4 Subconsultant Work Coordination		0	10	12	4	10	0	0	36	\$6,239
Subtotal Task 1		0	10	66	13	10	0	2	101	\$19,470
2 FINAL DESIGN PHASE SERVICES										
2.1 Final Design Kick-off Meeting		2	2	8	2	0	0	0	14	\$2,753
2.2 60% Design Documents		60	80	60	30	500	30	40	800	\$106,538
2.3 90% Design Documents		40	80	40	16	240	20	40	476	\$1,820
2.4 100% Design Documents		30	60	40	16	200	20	40	406	\$55,934
2.5 Coordination Meetings with Other Engineers/Consultants		8	16	30	16	0	0	2	72	\$13,968
2.6 Preparation of Project Permits		16	24	30	4	0	0	12	86	\$14,774
Subtotal Task 2		156	262	208	84	940	70	134	1854	\$259,476
3 BID PHASE SERVICES										
Subtotal Task 3		24	40	40	8	24		8	144	\$24,156
4 CONSTRUCTION PHASE SERVICES										
4.1 Prepare Confirmed Documents		0	16	8	4	40	4	16	88	\$11,787
4.2 Review Shop Drawing Submittals		0	360	45	0	0	0	22.5	427.5	\$74,773
4.3 Request for Information and Field Change Directives		0	200	50	0	0	0	0	250	\$45,638
Attend Construction Progress Meetings, Periodic Site Inspections, Inspections during										
4.4 Substantial and Final Completion and Preparation of Record Drawings		0	32	48	16	0	0	0	96	\$19,068
Subtotal Task 4		0	608	161	20	40	4	38.5	861.5	\$151,266
5 ASSIST WITH STARTUP, TESTING AND TRAINING AND AMEND PLANT O&M MANUALS										
Subtotal Task 5		0	40	40	24	0	0	0	104	\$20,634

CAROLLO ENGINEERS INC. - Overall Engineering Services Fee							
Final Design and Construction Phase Services							
Conserv II Biosolids Dewatering System Improvements							
TASK	TASK DESCRIPTION	Carollo Engineers Inc.	EPIC	Engineering Technologies Inc.	Hilliers Electrical Engineering Inc.	CPW Construction Inc.	Total Project Not-to-Exceed Costs
1	PROJECT MANAGEMENT AND QUALITY ASSURANCE/CONTROL						
1.1	Prepare Project Work Plan	\$5,972					\$5,972
1.2	Progress Reports	\$4,654					\$4,654
1.3	Maintain Schedule, Action Item Logs, and Decision Logs	\$2,606					\$2,606
1.4	Subconsultant Work Coordination	\$6,239					\$6,239
	Subtotal Task 1	\$19,470	\$1,576	\$0	\$0	\$0	\$21,046
2	FINAL DESIGN PHASE SERVICES						
2.1	Final Design Kick-off Meeting	\$2,753					\$2,753
2.2	60% Design Documents	\$106,538			\$59,706		\$166,244
2.3	90% Design Documents	\$65,511			\$48,086	\$4,013	\$117,610
2.4	100% Design Documents	\$55,934			\$20,323		\$76,257
2.5	Coordination Meetings with Other Engineers/Consultants	\$13,968			\$1,456		\$15,424
2.6	Preparation of Project Permits	\$14,774			\$3,113		\$17,887
	Subtotal Task 2	\$259,476	\$64,215	\$27,705	\$132,684	\$4,013	\$488,093
3	BID PHASE SERVICES						
	Subtotal Task 3	\$24,156	\$2,871	\$665	\$2,785	\$0	\$30,477
4	CONSTRUCTION PHASE SERVICES						
4.1	Prepare Conformed Documents	\$11,787					\$11,787
4.2	Review Shop Drawing Submittals	\$74,773					\$74,773
4.3	Request for Information and Field Change Directives	\$45,638				\$2,600	\$48,238
4.4	Attend Construction Progress Meetings, Periodic Site Inspections, Inspections during Substantial and Final Completion and Preparation of Record Drawings	\$19,068				\$24,666	\$43,734
	Subtotal Task 4	\$151,266	\$21,601	\$4,650	\$69,732	\$27,266	\$274,515
5	ASSIST WITH STARTUP, TESTING AND TRAINING AND AMEND PLANT O&M MANUALS						
	Subtotal Task 5	\$20,634	\$6,679	\$0	\$0	\$0	\$27,313
	Total Project Hours and Labor Costs	\$475,002	\$96,942	\$33,020	\$205,201	\$31,279	\$841,444
	Total Project Direct Costs (Printing)	\$4,270	\$0	\$0	\$0	\$0	\$4,270
	Subtotal (Labor and Expenses)	\$479,272	\$96,942	\$33,020	\$205,201	\$31,279	\$845,714
	Share of Work	57%	11%	4%	22%	4%	
	10% For Administration of Subconsultant Labor		\$9,694	\$3,302	\$20,520	\$3,128	\$36,644
	Subtotal						\$882,358
	10% Owner Controlled Contingency						\$88,236
	TOTAL NOT-TO-EXCEED COSTS						\$970,594

CAROLLO ENGINEERS INC. - Engineering Services Schedule		FINAL DESIGN SERVICES																																						
Final Design and Construction Phase Services		Weeks from NTP																																						
Conserv II Biosolids Dewatering System Improvements		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
TASK	TASK DESCRIPTION																																							
1	PROJECT MANAGEMENT AND QUALITY ASSURANCE/CONTROL																																							
1.1	Prepare Project Work Plan																																							
1.2	Progress Reports																																							
1.3	Maintain Schedule, Action Item Logs, and Decision Logs																																							
1.4	Subconsultant Work Coordination																																							
2	FINAL DESIGN PHASE SERVICES																																							
2.1	Final Design Kick-off Meeting																																							
2.2	60% Design Documents																																							
2.3	90% Design Documents																																							
2.4	100% Design Documents																																							
2.5	Coordination Meetings with Other Engineers/Consultants																																							
2.6	Preparation of Project Permits																																							



July 28, 2014

Sudhan Paranjape, P.E.
Carollo Engineers, Inc.
1089 W. Morse Blvd., Suite A
Winter Park, FL 32789

Re: Proposal for City of Orlando Biosolids Dewatering Project RQS13-0458

Dear Sudhan,

CPW Construction, Inc. is pleased to submit this proposal to perform construction administration services for the above project. Construction administration services will be on an hourly basis, for a total not-to-exceed amount of \$31,279.60.

I look forward to working with you and providing these services to The City of Orlando. Please call me at 321-436-0822 or e-mail me at cwatts@cpwconstruction.com at your convenience should you require additional information.

Regards,

A handwritten signature in cursive script, appearing to read 'Charlyn P. Watts'.

Charlyn P. Watts
President

Enclosures



**Construction Administration Services
For The City of Orlando
Biosolids Dewatering Project RQS13-0458**

Scope of Services

CPW Construction Inc. (CPWC) has been requested to provide construction administration services during the final design phase and construction phase of The City of Orlando Biosolids Dewatering Project RQS13-0458. The fee breakdown for services to be performed by CPWC is provided in Table A.

Task 2 – Final Design Phase

Task 2.4 - Design Documents Review

Upon receipt of 90% design documents for the above project, CPWC will provide a memorandum of comments on a tabulated spreadsheet, perform one site visit, and attend one (1) design review meeting. In developing costs for this task, it is assumed that CPWC will perform constructability review of (45) sheets of the 90% design documents at (.5) hour per sheet. The review excludes the electric and instrumentation portion of the design documents; others will perform these reviews.

Task 4– Construction Phase

Task 4.3 – Requests for Information and Field Change Directives

CPWC will provide assistance in evaluating requests for information (RFIs) made by the Contractor and field change directives (FCDs) issued by the Engineer for clarification or minor modification to the Contract Documents. Hours for this task assume evaluating fifty (50) RFIs.

CPWC will review and report to the City requests for cost and time extensions submitted by the Contractor. CPWC will prepare and assist in the negotiations of minor proposed contract change orders on behalf of the City. Review and negotiation of major contract change orders that require contractor or City requested design efforts shall be considered a Supplemental Service.

Task 4.4 – Construction Progress Meetings, Site Inspections, Substantial and Final Completion Inspections

Meetings

CPWC will attend one (1) Preconstruction Conference conducted by others, eighteen (18) bi-monthly progress meetings and two (2) specialty meetings during construction of the above project.

Site Visits

CPWC will periodically visit the project site to observe the progress and content of the work and site condition maintained by the contractor, and to assess whether the work is proceeding in general accordance with the Contract Documents. Observation of work at the Project site shall not make CPWC responsible for the work performed by another party; the means, methods,

techniques, sequences, or procedures selected by another party; nor the safety precautions or programs of another party. Identified construction concerns will be discussed with the City and Carollo Engineering, Inc. representatives. Hours allotted for this task will include a total of eighteen (18) site visits to the construction site to observe construction of the project.

Substantial and Final Completion

Upon written request by the Contractor, CPWC will conduct an inspection along with City of Orlando staff to determine if the work is substantially complete and assist with generating a punch list of items to be addressed by the Contractor.

This scope contains hours for final completion site inspection to confirm that all punch list items have been satisfactorily completed. CPWC will provide written recommendation with respect to project substantial completion acceptance.

Schedule

For the purposes of assessing compensation, it has been assumed construction for City of Orlando Biosolids Dewatering Project RQS13-0458 will be completed within 18 months. If additional services are required from CPWC beyond those described herein, additional funding will be requested and authorized via contract amendment.

Compensation

CPWC will be compensated for the services described above at the billing rate shown in Table A. Work performed will be paid on an Hourly Not-to-Exceed basis. Payment for services rendered shall be in accordance with approved monthly invoices. CPWC shall receive payment within 60 days of invoicing to Carollo Engineering, Inc. The fee for the tasks described herein is \$31,279.60.

Thank you,



Charlyn Watts
CPW Construction, Inc.
P.O. Box 121084
Clermont, FL 34712




ATTACHMENT A

FEE BREAKDOWN

Construction Administration Services
for City of Orlando
Biosolids Dewatering Project RQS13-0458

Task	Labor						Totals	
	Project Manager		Admin Assistant		Hours	Cost		
	Hours	Rate	Hours	Rate				
		\$130.00		\$56.60				
Task 2.4 - Design Documents Review QA/QC 90% Constructability Review	30	\$ 3,900.00	2	\$ 113.20	32	\$ 4,013.20	\$ 4,013.20	
	30	\$ 3,900.00	2	\$ 113.20	32	\$ 4,013.20	\$ 4,013.20	
Task 4.3 - Requests For Information and Field Change Directives Review requests for Information and Field Change Directives (10)	20	\$ 2,600.00	0	-	20	\$ 2,600.00	\$ 2,600.00	
	20	\$ 2,600.00	0	-	20	\$ 2,600.00	\$ 2,600.00	
Task 4.4 - Construction Progress Meetings, Site Inspection, Substantial & Final Completion 4.4a - Attend Preconstruction Conference (1) 4.4b - Attend Project Progress Meetings (18) and Specialty Meetings (2) 4.4c - Site Visits (18) 4.4d - Substantial Completion Walk-throughs and Punch-List	188	\$24,440.00	4	\$ 226.40	192	\$ 24,666.40	\$ 24,666.40	
	4	\$ 520.00	0	-	4	\$ 520.00	\$ 520.00	
	80	\$ 10,400.00	0	-	80	\$ 10,400.00	\$ 10,400.00	
	72	\$ 9,360.00	0	-	72	\$ 9,360.00	\$ 9,360.00	
	32	\$ 4,160.00	4	\$ 226.40	36	\$ 4,386.40	\$ 4,386.40	
Totals - Labor Hours and Dollars	238	\$30,940.00	6	\$ 339.60	244	\$ 31,279.60	\$ 31,279.60	
Total Not to Exceed, Including Labor and Reimbursable Expenses							\$ 31,279.60	

Signed 
Charlyn P. Watts, President

P.O. Box 121084

Clermont, FL 34712

Phone (321) 436-0822



November 4, 2014

Larry E. Elliott, P.E.
Senior Vice President
Carollo Engineers, Inc.
1089 West Morse Blvd, Suite A
Winter Park, Florida 32789

**Subject: Proposal for Professional Engineering Services (R1)
City of Orlando Biosolids Dewatering Project
Project RQS13-0458
Final Design and Construction Phase Services**

Dear Mr. Elliott:

In accordance with your request, EPIC Engineering & Consulting Group, LLC (EPIC) has prepared a proposal to assist Carollo Engineers, Inc. (Carollo) on the referenced project.

The City of Orlando's Conserv II Water Reclamation Facility (WRF) is currently permitted to treat 21 mgd annual average daily flow (AADF); however, once treatment process modifications are the City of Orlando expects to increase the permitted capacity to 25 mgd. The existing sludge treatment train at Conserv II WRF includes the following components:

- Thickening with gravity belt thickeners
- Stabilization with anaerobic digestion
- Dewatering with belt filter presses
- Land application of Class B biosolids

The City plans to abandon the existing anaerobic digesters and implement a lime stabilization process to produce a Class AA biosolids product. Un-thickened WAS will be dewatered to a dry cake which will be fed to the lime stabilization process.

A preliminary design report, prepared by Carollo (with assistance from EPIC), recommended the following improvements to the dewatering system:

- Construct a new aerated WAS holding tank and new WAS feed piping.
- Replace the existing belt filter presses with new 3-belt design belt filter presses.
- Replace the existing sludge feed pumps with new progressive cavity pumps and associated piping.
- Replace the existing belt conveyor cake conveyance system with a shaftless screw conveyor system.
- Replace the existing polymer storage and feed system with a packaged liquid polymer feed system.
- Replace the existing vacuum assisted wash water system with a new washwater system.

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Page 2

- Add a new biological odor control system to treat foul air from each dewatering belt filter press unit and modifications to the existing dewatering building ventilation system
- Implement necessary modifications – Dewatering building HVAC and plumbing, structural modifications to house the new dewatering equipment and associated electrical and instrumentation controls upgrades.

EPIC will assist Carollo with design of selected improvements, including a new odor control system and replacement of sludge feed pumps, as well as modifications to the HVAC and plumbing systems in the dewatering building. The scope of services is based on a 9 month design period and an 18-month construction period.

SCOPE OF SERVICES

The scope of services proposed for this project includes the following major tasks:

Task 1 – Project Management and Quality Assurance/Control

Task 2 – Final Design Phase Services

Task 3 – Bidding Phase Services

Task 4 – Construction Phase Services

Task 5 – Assist with Start-up, Testing and Training and amendment of the Existing Plant O&M Manual

Our scope of services is based on the overall scope developed by Carollo; consequently, the tasks of the overall scope are listed below and EPIC's proposed services are identified for each task. EMI Consulting Specialties, Inc will provide assistance related to HVAC investigations, design and construction services.

Task 1 – Project Management and Quality Assurance/Control

EPIC Services

EPIC shall provide input into the overall monthly progress reports, schedules and logs.

Task 2 – Final Design Phase Services

EPIC Services

Detailed drawings and specifications for the construction work will be prepared based on the following:

- Drawings will be prepared in 22x34 sheet format using AutoCAD software.
- Specifications will be prepared utilizing Microsoft Word software.
- Drawings and specifications will be submitted in electronic format to Carollo at the 60%, 90% and 100% levels of completion.
- Two (2) design review meetings with the City and two (2) project coordination meetings are included in the design phase budget.
- The scope and budget are based on a single construction contract.
- Submittals will be transmitted in electronic format (PDF, AutoCAD or Word) to Carollo for incorporation into the submittal to the City.

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It is estimated that approximately eleven (16) drawings will be required to show the work. The breakdown list of the drawings is presented in the Table 1 below.

Table 1 List of Drawings (To Be Prepared By EPIC)

Drawing	Title
D - 1	Dewatering Building – Demolition Partial Plan 1 (Sludge Feed Pumps)
D - 3	Dewatering Building – Demolition Partial Plan 3 (Existing Odor Control System)
D - 4	Dewatering Building – Demolition Partial Plan 4 (Odor Control Chemical Room)
M - 2	Dewatering Building – Partial Plan and Details 1 (Sludge Feed Pumps)
M - 7	Dewatering Building – Section and details(Sludge Feed Pumps)
M - 12	Odor Control System – Plan and Section
M - 13	Odor Control System (Chemical Storage Room) – Plan and Sections
M-14	Odor Control System -Details
V - 1	Symbols
V - 2	Schedules
V - 3	Upper Level Plan
V - 4	Lower Level Plan
V - 5	Details
V - 6	Details
P - 1	Plumbing Modifications Plan for Dewatering Building
P - 2	Plumbing Typical Details

Task 2.1 – Final Design Kickoff Meeting

EPIC Services

EPIC will prepare for and participate in a final design kick-off meeting

Task 2.2 – 60% Design Documents

EPIC Services

Under this task, EPIC will develop an Odor Control/Ventilation System Evaluation Technical Memorandum (Letter Report) and develop 60% design documents.

Subtask 2.2.1 Odor Control/Ventilation System Evaluation EPIC will identify and evaluate ventilation/odor control options for the building. The options will address modifications to the HVAC system duct work and the existing odor control system (fans and towers), as well as provide design criteria (i.e. concentration of odor constituents) for a new odor control system. The goal of the evaluation will be to optimizing ventilation and odor control, while minimizing power consumption. It is anticipated that 2-3 configuration options will be developed and evaluated. A limited amount of air sampling and air flow analysis will be conducted. Improvement/configuration recommendation will be presented in a draft letter report. Following receipt of City comments, a final letter report will be produced. These activities will be completed at approximately the 30% level of completion to provide direction for the 60% level of completion submittal.

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Subtask 2.2.2 60% Design Documents Prepare 60-percent level plans and provide input regarding a list of specifications and an estimate of probable costs.

EPIC will also prepare for and attend a design review workshop with the CITY and provide input (to Carollo) regarding written responses to review comments.

Task 2.3 – 90% Design Documents

EPIC Services

Based on the review comments received from the CITY, EPIC will prepare 90-percent level plans and specifications and \ input into the estimate of probable costs.

EPIC will also prepare for and attend a design review workshop with the CITY and provide input (to Carollo) regarding written responses to review comments.

Task 2.4 – 100% Design Documents

EPIC Services

Based on the review comments received from the CITY, EPIC will prepare 100-percent level plans and specifications and \input into the estimate of probable costs.

Task 2.5 – Coordination Meetings with Other ENGINEERS/CONSULTANTS

EPIC Services

No EPIC services are proposed under this Task.

Task 2.6 – Preparation of Project Permits

EPIC Services

Provide engineering support related to preparation of a FDEP permit applications and a Building Department Permit. Services include two (2) brief written responses to requests for additional information or minor drawing revisions, as well as signing and sealing documents. Eight hours of engineering time is included in the budget for this task.

Task 3 – Bid Phase Services

It is assumed that the CITY will construct these improvements by procuring the services of a CONTRACTOR by bidding the design documents. It is also assumed that the City will prepare the bid documents and advertise for bids.

EPIC Services

Under this task, the following services (related to the sludge feeding pumping systems, as well as odor control, HVAC and plumbing) will be provided

- Submittal of construction drawings and specifications for bidding (in electronic format).
- Responding to bidders questions and supplying written responses to four (4) addenda.

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Task 4 – Construction Phase Services

EPIC Services

EPIC support during the construction phase is limited to the scope of improvements associated with the Table 1 List of Drawings (To Be Prepared by EPIC). Services shall include review of Requests for Information and Change Orders, site inspections, interpretation/clarification of contract documents, attendance of selected meetings, and Final Inspection. Please note that EPIC services are not proposed for Preconstruction Conference, FDEP Clearance Requests or for Contractor's Schedule or Pay Request activities.

The fee estimate is based on a maximum construction period of 18-months and in some cases a maximum number of meetings or "reviews". Should additional construction time be required or additional meetings or reviews be required, in excess of the quantities stated herein, EPIC may be entitled to additional compensation, upon approval of Carollo and the CITY.

Task 4.1 – Prepare Conformed Documents

EPIC Services

Under this task, conformed documents will be "Issued for Construction" by compiling bidder questions and addendums. No EPIC services are anticipated for this Task.

Task 4.2 –Review Shop drawings

EPIC Services

Review drawings and other data submitted by the Contractor for general conformity to the construction contract documents. No more than two reviews are anticipated for each submittal item or piece of equipment. The budget is based on review of 15 submittals and re-submittals (approximately 3-hour each).

Task 4.3 - Request for Information and Field Change Directives

EPIC Services

When requested, EPIC will review, evaluate and respond to RFI's. The budget is based on review of 10 RFI's (approximately 2-hour each).

When requested, EPIC will review Change Orders (COs) generated by either the Contractor or the CITY. The budget is based on a two (2) COs (approximately 5-hours each, including meetings to discuss the proposed COs).

Task 4.4 – Attend Construction Progress Meetings, Periodic Site Inspections, Inspections during Substantial and Final Completion and Preparation of Record Drawings

EPIC Services

When requested, EPIC will perform periodic site visits regarding design issues and to observe construction progress, quality of the work, and conformance with the general intent of the Contract Documents. The budget is based on five (5) site visits (approximately 2-hour each).

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Completion inspections include one (1) substantial completion review inspection, preparation a punch list of corrective work items that were observed during site visits and one (1) final completion review to assess the status of the punch list items.

EPIC will review CONTRACTOR's as-built drawings for conformance with section 01050 of the contract documents.

Task 5 – Assist with Start-up, Testing and Training and Amending Existing Plant O&M Manuals

EPIC Services

EPIC will visit the site during start-up and functional testing of the installed equipment to assist the Contractor in start-up and troubleshooting. The budget is based eight (8) hours of engineering time.

Additionally, EPIC will provide standard operating procedures (SOPs) for the pumping and odor control systems, as well as an update to the O&M manual related to these systems.

PROJECT SCHEDULE

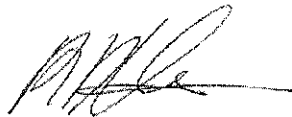
EPIC will provide the above-listed services over the duration of the project to meet the schedule established by City of Orlando and Carollo.

COMPENSATION

EPIC will be compensated for the services described herein on an hourly, not to exceed basis in the amount of \$ 96,942.94. The fee estimate for the scope of services is provided as Attachment A.

We sincerely appreciate the opportunity to assist Carollo Engineers, Inc. in providing professional engineering services to the City of Orlando. If you have any questions or require additional information, please call me at 407-721-6954.

Sincerely,



Richard Wilson, P.E.

Project Manager

EPIC Engineering & Consulting Group, LLC

cc: Prasad Chittaluru, Ph.D., P.E., EPIC

ATTACHMENT A

City of Orlando Biosolids Dewatering Project - Project RQS13-0458
Not-to-Exceed Fee Estimate
Final Design and Construction Phase Services (R1)

EPIC NOT-TO-EXCEED LABOR BUDGET

Task	Task Name	Hourly Rate	Senior Project Manager P8	Sr. Professional I P3	Tech III T3	Admin II A2	Total Hours	Total Raw Labor Cost (\$)	Total Billing Labor Cost
1	Project Management and Quality Assurance/Control		8	0	0	2	10	\$534.20	\$1,575.89
2	Final Design Phase Services		149	44	236	11	440	\$17,173.70	\$50,662.42
3	Bidding Phase Services		10	0	7	3	20	\$853.90	\$2,519.01
4	Construction Phase Services		81	14	8	9	112	\$5,965.50	\$17,598.23
5	Assist with Start-up, Testing and Training and O&M Manual		33	0	8	2	43	\$2,264.20	\$6,679.39
	Total, Not-To-Exceed		281	58	259	27	625	\$26,791.50	\$79,034.94

Labor Multiplier 2.95

TOTAL COST SUMMARY

Task	Task Name	EPIC Direct Labor	HVAC Subconsultant	Total
1	Project Management and Quality Assurance/Control	\$ 1,575.89	\$ -	\$ 1,575.89
2	Final Design Phase Services	\$ 50,662.42	\$ 13,553.00	\$ 64,215.42
3	Bidding Phase Services	\$ 2,519.01	\$ 352.00	\$ 2,871.01
4	Construction Phase Services	\$ 17,598.23	\$ 4,003.00	\$ 21,601.23
5	Assist with Start-up, Testing and Training and O&M Manual	\$ 6,679.39	\$ -	\$ 6,679.39
	Total	\$ 79,034.94	\$ 17,908.00	\$ 96,942.94

ATTACHMENT A1**EMI Consulting Specialties, Inc.**

5742 River Bed Rd
 Groveland, FL 34736
 (352) 460-4034
 (352) 460-4036 (Fax)

Fee Estimate

DATE	ESTIMATE NO.
8/25/2014	1566

CLIENTS NAME / ADDRESS
EPIC Engineering & Consulting Group, LLC

PROJECT
City of Orlando Biosolids Dewatering System Improvements

CATEGORY	DESCRIPTION	HRS	COST	TOTAL
	Task I (Design)			
Clerical	General clerical, filing, invoicing, correspondence, etc.	4	32.00	128.00
Site Visit	Two (2) site visits for data gathering, site investigation, photos, field notes etc. at existing wastewater plant	10	125.00	1,250.00
Engineering	Provide ventilation options, written tech memo (2-3 configurations and recommendation)	6	125.00	750.00
Meetings	Three (3) meeting in Orlando	9	125.00	1,125.00
Engineering	Ventilation system for Dewatering Building, odor control ductwork	40	125.00	5,000.00
Cost Estimate	Prepare opinion of cost related to EMI design.	2	125.00	250.00
Design (CADD)	Design, drafting (CADD), & in-office plotting for EMI review and coordination.	40	70.00	2,800.00
	Drawing List			
	V-1 SYMBOLS			
	V-2 SCHEDULES			
	V-3 UPPER LEVEL PLAN			
	V-4 LOWER LEVEL PLAN			
	V-5 DETAILS			
	V-6 DETAILS			
Specification	Create or edit and compile design specifications.	16	125.00	2,000.00
Permitting	Sign and seal final design for DEP	2	125.00	250.00
	SUBTOTAL			13,553.00
	Task II (Bidding)			
Hourly not to Exceed			TOTAL	

EMI Consulting Specialties, Inc.

5742 River Bed Rd
 Groveland, FL 34736
 (352) 460-4034
 (352) 460-4036 (Fax)

Fee Estimate

DATE	ESTIMATE NO.
8/25/2014	1566

CLIENTS NAME / ADDRESS
EPIC Engineering & Consulting Group, LLC

PROJECT
City of Orlando Biosolids Dewa...

CATEGORY	DESCRIPTION	HRS	COST	TOTAL
Clerical	General clerical, filing, invoicing, correspondence, etc.	1	32.00	32.00
Addendum	Create bidding addendum related to EMIs design.	2	125.00	250.00
Design (CADD)	Design, drafting (CADD), creating addendum	1	70.00	70.00
	SUBTOTAL			352.00
	Task III (Construction)			
Clerical	General clerical, filing, invoicing, correspondence, etc.	4	32.00	128.00
Shop Drawing	Review and process shop drawings.	12	125.00	1,500.00
Site Visit	Two (2) visits to resolve construction conflicts, compile final punch list,	8	125.00	1,000.00
Record Dwgs	Revise bid documents to reflect as-built.	4	125.00	500.00
RFI	Responding to RFIs related to EMIs design.	5	125.00	625.00
Permitting	Sign and seal for Building Department	2	125.00	250.00
	SUBTOTAL			4,003.00
Hourly not to Exceed			TOTAL	

EMI Consulting Specialties, Inc.

5742 River Bed Rd
 Groveland, FL 34736
 (352) 460-4034
 (352) 460-4036 (Fax)

Fee Estimate

DATE	ESTIMATE NO.
8/25/2014	1566

CLIENTS NAME / ADDRESS

EPIC Engineering & Consulting Group, LLC

PROJECT

City of Orlando Biosolids Dewa...

CATEGORY	DESCRIPTION	HRS	COST	TOTAL
	<p>Deliverables:</p> <p>Digital drawings per EMI format, AutoCAD 2014LT Digital copy of specifications per EMI format, Word Shop Drawing Review Comments Punch List</p> <p>Exclusions:</p> <p>Fire Sprinkler Systems LEED Certifications Plumbing Odor Control System Design Production Plotting Permitting Sets Pre-bid meeting Pre-construction meetings Construction Progress meetings</p> <p>Assumptions:</p> <p>One person will be assigned to direct EMI's work. 30%, 60% 90% and 100% submittals Proposal based on e-mail of 8/22/14</p>			
Hourly not to Exceed			TOTAL	\$17,908.00



HILLERS ELECTRICAL ENGINEERING, INC.

November 03, 2014

Sudhan Paranjape, P.E.
Carollo Engineers, Inc.
1089 W. Morse Blvd., Suite A
Winter Park, FL 32789

Subject: Conserv II Biosolids Dewatering Proposal

Dear Sudhan;

Hilliers Electrical Engineering, Inc. (HEE) is pleased to provide Carollo Engineers, Inc. a proposal for the electrical and instrumentation services associated with the above referenced project. Our scope will follow Carollo's latest Scope of Work associated with the design, bidding and construction services.

Our proposed electrical and instrumentation services not-to-exceed fee is \$ 205,201.00, as shown in attached spreadsheet.

Please find attached a preliminary drawing list with the following assumptions:

1. New odor control system for the dewatering building
2. New WAS storage tank. We assume that the nearby Press Building has enough electrical capacity and physical space to energize the blowers.
3. Existing Dewatering Building does not have a Fire Alarm System and in the scope of this project we are not adding a new Fire Alarm System since the building is an existing structure.

HEE wishes to thank Carollo Engineers, Inc. for the opportunity to provide this proposal. Please do not hesitate to call me if you have any questions regarding this proposal or any other matter.

Sincerely,

Paul Hillers

CE16ConservIIBiosolidsDewatering

Conservy II Biosolids Dewatering - Design and Construction Fees									
HILLERS ELECTRICAL ENGINEERING, INC.									
Design Fee Breakdown									
	Rate	\$161.00	\$112.00	\$112.00	\$105.00	\$55.00	Total	Expenses	TOTAL
PHASE OF WORK	Proj. Mgr. Hours	Proj. Eng. Hours	Const. Obs. Hours	Card. Hours	Drilling Hours	Seconds Hours	Hours		
Final Design Phase									
60% Design		16					16	\$400.00	\$2,532.00
Site Visit Identify conduits (2x person)	6	82		120			208		\$25,300.00
60% Electrical Design	6	72		90			168		\$19,520.00
60% I&C Design		16				40	56		\$4,312.00
Converting IAG specs to project format	4	24				4	32		\$4,032.00
60% Specification	2	24					26		\$3,408.00
60% Cost Option	2	4					6	\$200.00	\$1,050.00
60% Review Meeting									
90% Design	6	80		112			198		\$23,288.00
90% Electrical Design	6	72		78			154		\$18,450.00
90% I&C Design	4	24				2	30		\$3,922.00
90% Specification	4	8					12		\$1,704.00
90% Cost Option		4					4	\$250.00	\$728.00
90% Review Meeting									
100% Design	4	32		40			76		\$9,098.00
100% Electrical Design	4	32		32			68		\$8,228.00
100% I&C Design	1	8				2	11		\$1,327.00
100% Specification	4	8					12		\$1,700.00
100% Cost Option									
2 X meeting with Line Stabilization		8					8	\$400.00	\$1,456.00
Permitting Serv-Building Department									
	1	16		8			25		\$3,113.00
Construction Fee Breakdown									
Bidding Services									
Pre-bid meeting	4						4	\$200.00	\$728.00
bidding assistance/RFI/Addendums	1	8		8			17		\$2,077.00
Construction Services									
Confirmed drawings	4			8			12		\$1,368.00
shop drawing review	12	248					258		\$34,404.00
Review IAG shop drawings comments	4	24					28		\$3,812.00
RFI and Field Change Directives	6	60		16			82		\$10,566.00
Construction Progress Meetings (X5)	2	6					24	\$1,000.00	\$3,906.00
Render site visits (x10)	2	8		16			26	\$2,000.00	\$5,170.00
Substantial and Final Inspections	8	8					16	\$400.00	\$2,562.00
Assist with start-up, testing	16	16		16			32	\$400.00	\$4,304.00
record drawings	2	14					32		\$3,850.00
Total:									
	83	928	66	528		48	1641		\$205,201.00
Total Labor Cost \$13,463.00 \$122,496.00 \$2,272.00 \$55,290.00 \$205,201.00									
Note: Amending Plant O&M Manuals is not included in the scope 25 elec shop drawings @ 6 hrs each + 6 I&C shop drawings @ 8 hrs 14 mech shop drawings for elec + I&C review @ 3 hrs each 1 Belt Filler Press shop drawing @ 24 hrs									

Scope Fee Summary

**ENGINEERING
TECHNOLOGIES**C o n s u l t i n g E n g i n e e r s

3551 W. Lake Mary Blvd., Suite 210
Lake Mary, FL 32746
Phone: (407) 322-0500
Fax: (407) 322-0023

e/T Project Number: 14-174

October 31, 2014

Sudhan Paranjape, P.E.
Senior Project Manager
Carollo Engineers, P.C.
1089 W. Morse Blvd., Suite A
Winter Park, FL. 32789

Re: Proposal for Structural Engineering
Conserv II Biosolids Dewatering Project – Design and Construction Phase
City of Orlando, Florida

Dear Mr. Paranjape:

Engineering Technologies, Inc. (e/T) is pleased to submit this proposal to provide structural engineering services to Carollo Engineers for the above referenced project.

SCOPE OF SERVICES

It is our understanding that several changes are to be made to the dewatering system. The major changes will include the replacement of the existing belt filter presses with new 3-belt design belt filter presses and the construction of a new cast-in-place WAS holding tank which will be approximately 60ft in diameter and 20ft tall. Pumps and piping will also be replaced in several areas to accommodate the new systems. A new odor control system will be installed which will require new slabs-on-grade and penetrations in to the building for fans, ducts, etc. The existing stairs and platforms at each filter press are to be removed and replaced with new aluminum platforms and stairs at each press. Miscellaneous repairs may be necessary at the existing sludge holding tank which is to have the cover removed along with other modifications. The repairs may include concrete patching and crack injection. In addition, the recommendations made in our letter report titled "Assessment of Dewatering Building and Building Support Systems" dated February 25, 2014 will also be incorporated into the design documents. e/T proposes to conduct the following work tasks associated with the structural modifications that may be necessary to facilitate these changes:

Task 1: Final Design Phase Services: e/T staff will prepare drawings and specifications for the construction of the new WAS holding tank and the biosolids building to accommodate the changes referenced above. Details will also be provided for miscellaneous slabs-on-grade and pipe supports. Submittals will be prepared for the 30%, 60%, 90%, 100% and bid phases. e/T staff will attend the design workshops with Owner after these submittals.

Task 2: Bid Phase Services: e/T staff will assist Carollo staff in responding to Contractor's questions during bidding and issue addenda as needed.

Task 3: Construction Phase Services: e/T staff will perform the following tasks during construction:

- *Prepare Conformed Drawings*
- *Review Shop Drawings*
- *Respond to RFI's*
- *Perform 2 Site Visits*

Task 4: Geotechnical Investigation: e/T staff will procure the services of a geotechnical engineering company to perform borings at the site and provide foundation recommendations.

COST AND SCHEDULE

e/T proposes to undertake the work described above on a time and expense basis at a not-to-exceed price of **\$33,020.00**. See the attached Table for a breakdown e/T's hours associated with Tasks 1 through 3 and the attached proposal from Terracon Consultants, Inc. for the work associated with Task 4.

TERMS AND CONDITIONS

e/T will begin work immediately upon receipt of your notice to proceed. We will issue invoices on a monthly basis.

e/T appreciates the opportunity to submit this proposal to Carollo and we look forward to a successful collaboration on this project. If you have any questions or need further information please call.

Sincerely,
E/T ENGINEERING TECHNOLOGIES, INC.

Bilgin Erel, P.E.
President

Table 1 - Engineering Services Fee Estimate**Cost Estimate: Structural Engineering Services****City of Orlando Conserv II Biosolids Dewatering Project - Design and Construction Phase****Date: October, 2014**

Task No	Task Description	Est.No Dwgs	Man-hours By Category					Totals	
			Principal \$150.00	Associate \$115.00	Engineer \$90.00	Drafting \$62.00	Clerical \$45.00	Hrs	Cost
1	<i>Final Design Phase Services</i>	8	34	48	52	115	4	261	\$22,610.00
2	<i>Bid Phase Services</i>		2	2	1	0	1	6	\$665.00
3	<i>Construction Phase Services</i>		8	12	20	0	6	46	\$4,650.00
Total Cost									\$27,925.00



October 31, 2014

e/T Engineering Technologies, Inc
3551 W. Lake Mary Blvd., Suite 210
Lake Mary, Florida 32746

Attn.: Mr. John Sobczak, P.E.
E-Mail: john@et-eng.com

Re: Proposal for Subsurface Exploration and Geotechnical Evaluation
CONSERV II WAS Holding Tank
Orlando, Orange County, Florida
Terracon Proposal No. PH1140814

Dear Mr. Sobczak:

Terracon Consultants, Inc. (Terracon) is pleased to present this proposal for performing a subsurface exploration and geotechnical engineering evaluation for the above-referenced project. The purpose of the exploration is to obtain geotechnical engineering data to assist in the design and construction for the above-referenced structure. This proposal outlines our understanding of the project, presents a recommended scope of services, and contains a time and cost estimate for providing those services.

A. SITE AND PROJECT DESCRIPTION

The proposed development for this project consists of the construction of a storage tank for waste activated sludge at the existing CONSERV II treatment facility on L.B. McLeod Road in Orlando, Florida, a short distance east of Kirkman Road. Based on provided information, the proposed storage tank will be about 60 feet in diameter and 22 feet high. Two alternate locations are being considered. It is anticipated that the preferred location will be selected prior to soil exploration.

B. PROPOSED SCOPE OF SERVICES

The proposed scope of services is based on the information provided, our understanding of the proposed development and our experience in the subject area and similar projects. The American Concrete Institute (ACI) recommendations related to the design and construction of tank foundations were reviewed in regard to the number of, and spacing of, the soil borings.



Proposal for Subsurface Exploration and Geotechnical Evaluation
CONSERV II WAQS Holding Tank. ■ Orlando, Florida
October 31, 2014 ■ Terracon Proposal No. PH1140814

Terracon

Our exploration is planned to consist of the following:

- Coordination of utilities and staking boring locations at the site.
- Mobilize truck or mudbug mounted rotary drilling equipment to the site.
- Perform one (1) Standard Penetration Test (SPT) boring to a depth of about 75 feet and one (1) SPT boring to a depth of about 40 feet within the footprint of the proposed storage tank.
- Perform visual classification and required laboratory testing of the soil samples obtained from the borings. Laboratory testing may include grain size analysis, organic content, and Atterberg limits tests to verify visual classification of soil types.

The exploration will be supervised by a qualified Geotechnical Engineer registered in the State of Florida and the results of the exploration will be presented in a geotechnical engineering report. This report will present the following items:

- Existing site conditions.
- Exploration, testing and sampling methods.
- Subsurface soil conditions encountered and soil classifications.
- Depth to groundwater at the time of the exploration and estimated seasonal high groundwater levels.
- Foundation design considerations for the proposed structure.
- Discussion of general site preparation techniques.

C. PROJECT SCHEDULE

Based on our present schedule, we are prepared to mobilize to begin the field operations for this project within about one week after your authorization to proceed. We anticipate the field portion of the study to be completed in two to three days. Engineering analysis, necessary laboratory work, and report preparation should be completed within approximately two weeks after the completion of field work.

Proposal for Subsurface Exploration and Geotechnical Evaluation
CONSERV II WAQS Holding Tank. ■ Orlando, Florida
October 31, 2014 ■ Terracon Proposal No. PH1140814

Terracon

D. ESTIMATED COSTS

For budgetary planning, we estimate the total cost of services for the described study will be **\$5,095.00**. A detailed breakdown of this cost estimate is attached. The unit rates are consistent with our current City of Orlando continuing contract. The final cost of services will be computed from actual units of work performed in accordance with this **Scope of Services and Fee Estimate**.

In computing this budget figure we have assumed the site is accessible to our truck or mudbug mounted drilling equipment, that we have right of entry to the site, and that we will not experience excessive delays due to rubble at borehole locations or for other reasons beyond our control. If such conditions are encountered that could cause the cost of the exploration to exceed the budget figure, we will notify the client and obtain approval for the additional work before we proceed.

E. AUTHORIZATION

To authorize us to proceed with this project, please provide us with a sub-consultant agreement for review.

F. CLOSURE

Terracon appreciates the opportunity to submit this proposal, and we look forward to working with you on this project. If you have any questions, or if we can provide any additional information, please feel free to call us at your convenience.

Sincerely,

TERRACON CONSULTANTS, INC.

Jay W. Casper, P.E.
Senior Associate

Attachments: Scope of Services and Fee Estimate

**SCOPE OF SERVICES AND FEE ESTIMATE FOR
PROPOSED CONSERV II WAS HOLDING TANK
ORLANDO, ORANGE COUNTY, FLORIDA
PROPOSAL NO. PH1140814-r**

DESCRIPTION OF WORK	QTY.	RATE	UNIT	AMOUNT
I. FIELD EXPLORATION				
A. Mobilization of Crew and Equipment - Truck mounted	1	\$ 450.00	each	\$ 450.00
B. Standard Penetration Test (SPT) Boring (1 to 75 feet; 1 to 40 feet)				
-0 to 50 ft depth:	90	\$ 12.50	per l.f.	\$ 1,125.00
-50 to 100 ft depth:	25	\$ 14.00	per l.f.	\$ 350.00
C. Grout Seal Borehole				
-0 to 50 ft depth:	90	\$ 5.00	per l.f.	\$ 450.00
-50 to 100 ft depth:	25	\$ 6.00	per l.f.	\$ 150.00
D. Site Reconnaissance/Utility Coordination				
-- Senior Engineering Technician	4	\$ 60.00	per hour	\$ 240.00
Subtotal				\$ 2,765.00
II. LABORATORY TESTING				
A. Natural Moisture Content	10	\$ 15.00	per hour	\$ 150.00
B. Grain Size Analysis - single sieve	6	\$ 35.00	per hour	\$ 210.00
C. Atterberg Limits	3	\$ 70.00	per hour	\$ 210.00
D. Organic Content	1	\$ 35.00	per hour	\$ 35.00
Subtotal				\$ 605.00
III. ENGINEERING AND TECHNICAL SERVICES				
A. Principal Engineer	1	\$ 175.00	per hour	\$ 175.00
B. Senior Engineer	2	\$ 140.00	per hour	\$ 280.00
C. Project Engineer	10	\$ 100.00	per hour	\$ 1,000.00
D. CADD Technician	3	\$ 60.00	per hour	\$ 180.00
E. Administrative Assistant	2	\$ 45.00	per hour	\$ 90.00
Subtotal				\$ 1,725.00
TOTAL FOR SITE:				\$ 5,095.00