

**Coral Springs
Improvement District
Regular Meeting**

Agenda

November 13, 2023

Coral Springs Improvement District

Board of Supervisors
Curt Tiefenbrun, President
Ben Groenevelt, Secretary

Kenneth Cassel, District Manager
Seth Behn, District Counsel
David McIntosh, Director of Operations
Joe Stephens, Director of Utilities

Meeting Agenda

Monday, November 13, 2023 at 4:00 p.m.

1. **Call to Order**
2. **Organizational Matters**
 - A. **Acceptance of Stephen Lytle's Resignation and Declaration of Vacancy**
 - B. **Appointment of Supervisor to Vacant Seat and Oath of Office**
 - C. **Designation of Officers, Resolution 2024-01**
3. **Presentation by Andy Jiménez of Egis Insurance on CSID Property Insurance Rate Increase and Update on Current State of Insurance Market**
4. **Audience Comments**
5. **Approval of the Minutes of the October 16, 2023 Meeting**
6. **Financials for October 2023**
7. **Consideration of Procurement Resolution 2024-02**
8. **Staff Requests Board Consideration of a Request from E Source Seeking a Change Order in the amount of \$25,957.50 to the Existing Water Loss Control Master Plan Contract with CSID. *(E Source is also requesting a contract deadline extension to April 30, 2024, to allow time to complete the additional scope of work. This change order will allow for the testing of large customer meters that were not a part of the original proposal from E Source.)***
9. **Staff Requests Board Consideration of a Contract with Trio Development Company for Repairs to Lift Station #42 in the Amount \$96,193.80 *(CSID will be piggybacking on contract "PNC2122386B1 Sewer Lift Station Rehabilitation and Repair" between Trio Development Company and Broward County to undertake repairs.)***
10. **Consideration of Proposed Review Fee Schedule, Resolution 2023-03 *(The fee schedule was properly advertised.)***
11. **Consideration of Work Authorization #219 for Design-Build Services to the Well 2 Repower for a Total Cost of \$298,923.44**

12. Engineer's Report

13. Staff Reports

A. Manager – Ken Cassel

B. Department Reports

- Operations – David McIntosh
- Utilities Update – Joe Stephens
- Utility Billing Customer Service Report – Osmany Larzabal (Report Provided)
- Water – Christian McShea (Report Provided)
- Wastewater – Mike Hosein (Report Provided)
- Stormwater – Shawn Frankenhauser (Report Provided)
- Field – Frank Kozlowski (Report Provided)
- Maintenance Report – Mike Percia (Report Provided)
- Procurement Report – Danielle Keira-Cancel (Report Provided)
- Finance and Accounting – Sue Beyer
- Human Resources – Jan Zilmer
- Engineering – Glen Hanks
- Motion to Accept Department Reports

C. Attorney

14. Supervisors' Requests/Comments

15. Adjournment

*Next regular meeting scheduled for December 18, 2023

Second Order of Business

2C.

RESOLUTION 2024-01

**A RESOLUTION DESIGNATING OFFICERS OF
CORAL SPRINGS IMPROVEMENT DISTRICT**

WHEREAS, the Board of Supervisors of Coral Springs Improvement District at a regular business meeting, held on Monday, November 13, 2023 desires to appoint the below recited persons to the offices specified.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD
OF SUPERVISORS OF CORAL SPRINGS IMPROVEMENT
DISTRICT:**

1. The following persons were appointed to the offices shown, to wit:

_____	President
_____	Vice President
_____	Secretary
Stephen Bloom	Treasurer
David McIntosh	Assistant Treasurer
Kenneth Cassel	Assistant Treasurer
Kenneth Cassel	Assistant Secretary
_____	Assistant Secretary

PASSED AND ADOPTED THIS, 13TH DAY OF NOVEMBER, 2023.

President

Kenneth Cassel
Assistant Secretary

Fifth Order of Business

**MINUTES OF MEETING
CORAL SPRINGS
IMPROVEMENT DISTRICT**

The regular meeting of the Board of Supervisors of the Coral Springs Improvement District was held Monday, October 16, 2023 at 4:00 p.m. at the District Offices, 10300 NW 11th Manor, Coral Springs, Florida.

Present and constituting a quorum were:

Curt Tiefenbrun	President
Steven Lytle	Vice President (Via Teams)
Ben Groenevelt	Secretary

Also present were:

Ken Cassel	District Manager
Seth Behn	District Attorney
David McIntosh	Director of Operations
Joe Stephens	Director of Utilities
Jan Zilmer	Human Resources
Sue Beyer	Director of Finance and Accounting
Glen Hanks	Director of Engineering
Rick Olson	District Engineer
Kingston Maloi	Field Department (Via Teams)
Shawn Frankenhauser	Stormwater Department (Via Teams)
Christian McShea	Water Department (Via Teams)
Mike Hosein	Wastewater Department (Via Teams)
Osmanny Larzabal	Utility Billing and Customer Service
Mike Percia	Maintenance Department (Via Teams)
Danielle Keira-Cancel	Procurement Department (Via Teams)
Resident	

The following is a summary of the discussions and actions taken.

FIRST ORDER OF BUSINESS

Call to Order

- Mr. Cassel called the meeting to order and called the roll.

SECOND ORDER OF BUSINESS

**Approval of the Minutes of the
September 18, 2023 Meeting**

On MOTION by Mr. Groenevelt seconded by Mr. Tiefenbrun with all in favor the minutes of the September 18, 2023 meeting were approved.

THIRD ORDER OF BUSINESS

Audience Comments

A resident complimented the new Board on the excellent job they are doing. She also complimented field staff.

FOURTH ORDER OF BUSINESS

Financials for September 2023

There being no questions or comments,

On MOTION by Mr. Groenevelt seconded by Mr. Tiefenbrun with all in favor the financials were approved.

FIFTH ORDER OF BUSINESS

Consideration of Authorizing District Staff to Administratively Approve Certain Stormwater Management, ROW Utilization and Easement Requests

Mr. Cassel stated part of approving these items in-house will streamline the operations. This would be for routine projects with no issues. Critical ones will still come before the Board for approval.

On MOTION by Mr. Groenevelt seconded by Mr. Lytle with all in favor District staff was authorized to administratively approve certain stormwater management, ROW Utilization and Easement Requests.

SIXTH ORDER OF BUSINESS

Consideration of a Request by Staff to Purchase a John Deere 310P Two Wheel Drive Backhoe at the Cost of \$121,401, Piggybacking Off the Florida Sherrif's Cooperative Purchasing Program Contract FSA23-EQU21:0 Equipment

- Mr. Maloi reviewed the request to purchase the John Deere backhoe.
- Mr. Behn provided an explanation of the Florida Sherrif's Cooperative Purchasing Program and how other governmental entities can piggyback off their contract.
- Mr. Cassel noted this saves the District money from having to go out for bids.

On MOTION by Mr. Groenevelt seconded by Mr. Tiefenbrun with all in favor the purchase of a John Deere 310P two-wheel drive backhoe at a cost of \$121,401, piggybacking off the Florida Sheriff's Cooperative Purchasing Program Contract, was approved.

SEVENTH ORDER OF BUSINESS

Staff Request Board Consideration of a Proposal from Gardner Denver Nash as the Sole Manufacturer and Repair Representative of Hoffman/Lamson and Invincible Centrifugal Blowers for Repairs to CSID Blower SN P004335 in the quoted amount of \$39,401 (*Staff also request to be allowed to approve repair of any hidden damage discovered and report back to the Board*)

Mr. Hosein provided an explanation for the request. This would be for a backup blower.

On MOTION by Mr. Groenevelt seconded by Mr. Tiefenbrun with all in favor the proposal from Gardner Denver Nash as the sole manufacturer and repair representative of Hoffman/Lamson and invincible centrifugal blowers for repairs to CSID blower SN P004335 in the amount of \$39,401 was approved and staff was authorized to approve repair of any hidden damage discovered and report back to the Board.

EIGHTH ORDER OF BUSINESS

Consideration of Proposed Development Review Fee Schedule

- Mr. Hanks reviewed the proposed fees for various permit, easement, encroachments, and letter of no objection reviews for cost recovery purposes.
- This will be advertised and formally presented for consideration at the November meeting.

NINTH ORDER OF BUSINESS

Consideration of Work Authorizations

A. Work Authorization #216 for Pump Station 1-LP Gas Tank Replacement for a Total Cost of \$49,110

- Mr. Cassel noted a correction. Last week they increased the contingency. The total on it is now \$55,610.13.
- Mr. Olson reviewed the work involved under this work authorization.

On MOTION by Mr. Groenevelt seconded by Mr. Lytle with all in favor Work Authorization #216 was approved for a total cost of \$55,610.13.

B. Work Authorization #218 for Surge Protection Improvements for a Total Cost of \$49,188

Mr. Olson reviewed the work associated with Work Authorization # 218.

On MOTION by Mr. Groenevelt seconded by Mr. Lytle with all in favor Work Authorization #218 was approved for a total cost of \$49,188.

TENTH ORDER OF BUSINESS

Engineer’s Report

Mr. Olson reviewed his report, which was included in the agenda package and is attached hereto as part of the public record.

- WA #207 – the most significant portion of the testing is beginning this morning.
- WA #213 – they are still in the process of working on an alternative for the diffusers not available for this project.
- WA #214 – the muffler was delivered last week and will be installed this Friday.
- WA #215 - this project is expected to be completed next week.

ELEVENTH ORDER OF BUSINESS

Staff Reports

A. Manager – Ken Cassel

i. Audit Committee Selection Process

- **Appointment of Committee Members**
- **Establishment of RFP Evaluation Criteria**
- **Authorization to Proceed with RFP**

- Mr. Cassel distributed a list of residents who volunteered to serve on the committee: Mr. Mark Ritter, Mr. Michael Fasciani, Ms. Linda Gardner and Mr. Joel Levine.
- Mr. Cassel reviewed the Audit RFP process.

On MOTION by Mr. Groenevelt seconded by Mr. Lytle with all in favor all four volunteers, and Mr. Groenevelt were appointed as the Audit Committee subject to any conflicts of interest.

On MOTION by Mr. Groenevelt seconded by Mr. Tiefenbrun with all in favor staff was authorized to proceed with the audit RFP process.

B. Department Reports

• **Operations – David McIntosh**

- Mr. McIntosh discussed the final report from the Resident Advisory Committee on the tree removal program. Staff would like to have a workshop to discuss a path forward, with the conclusions the Committee came up with.
- There was Board consensus to have a workshop on November 20, 2023 at 3:00 p.m.
- Mr. McIntosh explained there is a new regulation requiring cyber security training of employees of these types of facilities.
- Mr. McIntosh intends to have the insurance representative speak to the Board about the increase in insurance. It went up substantially and the property value was increased. The increase went from approximately \$188,000 to \$283,000 a year.
- Mr. McIntosh also reported they are making preparations for the first quarter newsletter.

• **Utilities Update – Joe Stephens**

- Mr. Stephens reported he was at FASD last week. He attended the Certified District Management course.
- The mechanical integrity test on the injection wells is really involved and they are looking at it from a strategy standpoint. It only happens once every five years.
- Staff is working on the scope of work for the facility hardening grant. They received the fully executed contract back. Ms. Kiera-Cancel has done a lot of work on this RFP. Mr. Hanks is reviewing it. They have until August to complete this project.

- **Utility Billing Customer Service Report – Osmany Larzabal (Report Provided)**

Mr. Larzabal reviewed his report; a copy of which is attached hereto as part of the public record. He also noted they hired a new employee who will be starting soon.

- **Water – Christian McShea (Report Provided)**

Mr. McShea reviewed his report; a copy of which is attached hereto as part of the public record.

- **Wastewater – Mike Hosein (Report Provided)**

Mr. Hosein reviewed his report; a copy of which is attached hereto as part of the public record.

- **Stormwater – Shawn Frankenhauser (Report Provided)**

Mr. Frankenhauser reviewed his report; a copy of which is attached hereto as part of the public record.

- **Field – Kingston Maloi (Report Provided)**

Mr. Maloi reviewed his report; a copy of which is attached hereto as part of the public record.

- **Maintenance Report – Mike Percia (Report Provided)**

Mr. Percia reviewed his report; a copy of which is attached hereto as part of the public record.

- **Procurement Report – Danielle Keira-Cancel (Report Provided)**

Ms. Kiera-Cancel reviewed her report; a copy of which is attached hereto as part of the public record.

- **Financing and Accounting – Sue Beyer**

Ms. Beyer reported the following:

- They are working on the Fiscal Year 2022 audit and the auditor will begin their filed work in November.
- They created a new department. They broke off Utility Billing into their own department.

- **Human Resources – Jan Zilmer**

Mr. Zimmer reported the following:

- He provided an update on a new hire.
- On Thursday he took two water plant employees, two field employees and one wastewater employee to an emotional intelligence class.
- He just completed the census for the Nationwide retirement plan and sent it off today.
- He will be working on the healthcare benefits.
- Mr. McIntosh noted an IT person will be starting next week.

- **Engineering – Glen Hanks**

Mr. Hanks reported the following:

- He provided an update on the hurricane hardening project.
- He provided an update on upcoming permit projects.
- He had a detailed meeting with the County on the flood map. He received confirmation those maps are not binding on the special districts, but it is up to the discretion of the building official.

- **Motion to Accept Department Reports**

On MOTION by Mr. Groenevelt seconded by Mr. Tiefenbrun with all in favor the Department Reports were accepted.

C. Attorney

- **Consideration of Engagement Letter with Lewis Longman Walker for 2023-2024 Legislative Representation on Purchasing Threshold**

The following was discussed:

- Mr. Cassel reported they proposed their changes to the District’s enabling legislation to increase the purchasing threshold to Representative Daley.
- He presented the Board with an engagement letter from Lewis Longman Walker to assist with this legislation.
- Mr. Cassel feels they will have positive results.
- Mr. Behn reviewed the services to assist in getting this legislation passed.
- Mr. Lytle suggested trying without legal representation first to see if they can have cost savings.

- Mr. Cassel noted Representative Daley expressed his bandwidth was full and would appreciate any assistance.

On MOTION by Mr. Tiefenbrun seconded by Mr. Groenevelt with Mr. Tiefenbrun and Mr. Groenevelt voting aye and Mr. Lytle voting nay the engagement letter with Lewis Longman Walker for 2023-2024 legislative representation was approved. 2-1

- Mr. Cassel noted he is willing to travel to Tallahassee and represent the District if needed. Mr. McIntosh also noted he would like to have him and Mr. Stephens attend as well to gain experience.

TWELFTH ORDER OF BUSINESS

Supervisors' Requests

- Mr. Groenevelt noted everyone is doing a great job.
- Mr. Tiefenbrun stated he attended the FASD conference, and it was very informative. He was encouraged to see Mr. Behn in attendance.
- Mr. Tiefenbrun stated they will try to get information out to the community about the hard work done by the District in the next newsletter. He is very pleased to be part of this District.

THIRTEENTH ORDER OF BUSINESS

Adjournment

There being no further business, the meeting adjourned at 5:40 p.m.

Kenneth Cassel
Assistant Secretary

Curt Tiefenbrun
President

Sixth Order of Business



CORAL SPRINGS IMPROVEMENT DISTRICT

FINANCIAL REPORT SUMMARY – MEETING NOVEMBER 13, 2023

**CORAL SPRINGS IMPROVEMENT DISTRICT
WATER & SEWER FUND
SUMMARY REPORT**

For Period Ending October 31, 2023

	Actual ENDING 10/31/23		BUDGET THRU 10/31/23		VARIANCE Actual to Budget (UNDERBUDGET)		ADOPTED BUDGET FY 2022/2023
REVENUES							
TOTAL REVENUES	\$ 545,746	*	\$ 1,286,318	*	\$ (740,572)	*	\$ 15,131,165
CARRY FORWARD	\$ -		\$ 346,333		\$ (346,333)		\$ 3,648,911
TOTAL REVENUE WITH CARRY FORWARD	\$ 545,746		\$ 1,632,651		\$ (1,086,905)		\$ 18,780,076
EXPENDITURES							
TOTAL ADMINISTRATIVE	\$ 133,507		\$ 193,956		\$ (60,449)		\$ 2,653,243
TOTAL PLANT	\$ 362,115		\$ 796,293		\$ (434,178)		\$ 9,298,770
TOTAL FIELD	\$ 180,114		\$ 411,441		\$ (231,328)		\$ 3,848,465
TOTAL EXPENDITURES	\$ 675,736		\$ 1,401,691		\$ (725,955)		\$ 15,800,478
AVAILABLE FOR DEBT SERVICE	\$ (129,989)						\$ 2,979,598
Total Debt Service	\$ 234,839						\$ 2,818,070
Excess Revenues (Expenses) After Debt Service	\$ (364,829)						\$ 161,528
Net Assets Beginning	\$ 41,174,831						
Net Assets Ending	\$ 40,810,002						
Debt Service Coverage - Current (0.55)							Debt Service-Budget 1.06

Debt Service Requirement 1.10

* Year end adjustments to W&S Revenue
\$976,407 accrued back to Sept 2023

**CORAL SPRINGS IMPROVEMENT DISTRICT
General Fund
SUMMARY REPORT**

For Period Ending October 31, 2023

	Actual ENDING 10/31/23	BUDGET THRU 10/31/23	VARIANCE Actual to Budget (UNDERBUDGET)	ADOPTED BUDGET FY 2022/2023
REVENUES				
TOTAL REVENUES	\$ 71,432	\$ 287,369	\$ (215,937)	\$ 3,283,990
CARRY FORWARD	\$ -	\$ 499,377	\$ (499,377)	\$ 5,488,636
TOTAL REVENUE WITH CARRY FORWARD	\$ 71,432	\$ 786,746	\$ (715,314)	\$ 8,772,626
EXPENDITURES & RESERVES				
TOTAL ADMINISTRATIVE	\$ 36,330	\$ 70,401	\$ (34,071)	\$ 899,226
TOTAL FIELD	\$ 74,195	\$ 660,118	\$ (585,922)	\$ 7,173,400
TOTAL EXPENDITURES	\$ 110,525	\$ 730,518	\$ (619,993)	\$ 8,072,626
RESERVES				
EXCESS REVENUES (EXPENSES)	\$ (39,093)			\$ 700,000
TOTAL EXPENSES & RESERVES	\$ 71,432			\$ 8,772,626
FUND BALANCE BEGINNING	\$ 11,654,210	*		
FUND BALANCE ENDING	\$ 11,615,155			

* Fund Balance changed due to audit adjustments

Seventh Order of Business

RESOLUTION 2024-02

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE CORAL SPRINGS IMPROVEMENT DISTRICT ADOPTING PROCEDURES FOR THE PROCUREMENT OF ARCHITECTURAL AND ENGINEERING SERVICES; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Coral Springs Improvement District desires to adopt a policy to regulate the procurement of architectural and engineering services for District projects, including those projects that are funded in whole or in part with federal funds; and

WHEREAS, the District finds that this policy is in the best interest of the District and its residents.

NOW THEREFORE, BE IT RESOLVED BY THE CORAL SPRINGS IMPROVEMENT DISTRICT:

Section 1. The recitals above are true and accurate and are hereby made a part of this resolution.

Section 2. The policy entitled "Procedures for the Procurement of Architectural and Engineering Services for District Projects," attached hereto as Exhibit "A", is hereby approved and adopted.

Section 3. This Resolution shall take effect upon passage by the Board of Supervisors of the Coral Springs Improvement District.

PASSED AND ADOPTED THIS ____ DAY OF NOVEMBER, 2023.

Board President

Kenneth G. Cassell, Assistant Secretary

APPROVED AS TO FORM:

Seth Behn, District Attorney

EXHIBIT "A"**Coral Springs Improvement District
Procedures for the Procurement of Architectural and Engineering Services for District Projects**

1. **Introduction:** The District's procurement of architectural and engineering services is regulated by the District's Charter, codified in Chapter 2004-469, Laws of Florida, applicable state law, and the policy and procedures stated herein.
2. **Policy:** The procurement of architectural and engineering services shall be conducted in a manner that provides for full and open competition. In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or any part of any procurement or selection methods or documents, are excluded from competing for the applicable procurement.
3. **Procedure:**
 - a. The procurement of architectural and engineering services for District projects, which includes the services of architects, landscape architects, professional engineers, registered surveyors and mappers, shall be done in accordance with the procedures described in F. S. § 287.055, known as the Consultants' Competitive Negotiation Act (CCNA), as the same may be amended.
 - b. The Request for Qualifications shall include a general statement of work to ensure for an open and competitive process and shall list the evaluation criteria to be used by the District in determining the successful proposer.
 - c. The Request for Qualifications shall be advertised once a week for two consecutive weeks in a newspaper published in Broward County and of general circulation in the District.
4. **Use of Federal funds.** For procurements of architectural and engineering services funded in whole or in part with federal funds, the District shall comply with the additional procurement standards set forth in this section.
 - a. The District shall comply with all applicable mandatory federal laws and regulations, including, but not limited to, the procurement standards described in 2 CFR §§200.317 to 200.327.
 - b. The procurement of architectural and engineering services for District projects where the cost of the professional service is greater than the threshold for formal procurement described in the District Charter or the simplified acquisition threshold of \$150,000, set by 2 CFR §200.88 and related federal regulations, whichever is lower, shall be performed in accordance with the procedures described in F. S. § 287.055.

- c. The District shall perform a cost or price analysis in connection with every procurement action in excess of the simplified acquisition threshold of \$150,000, set by 2 CFR §200.88 and related federal regulations, as the same may be amended.
 - d. The contracts procured under this section shall contain the applicable provisions required by the Federal granting agency and those provisions described in Appendix II to 2 CFR Part 200 “Contract Provisions for non-Federal Entity Contracts Under Federal Awards,” as the same may be amended.
5. Conflict of Interest: District employees engaged in the selection, award and administration of contracts for architectural and engineering services shall comply with the District’s Conflict of Interest policies and the Florida Code of Ethics for Public Officers and Employees, F.S. ch. 112, part III, as amended from time to time. In addition, all members of the evaluation committee shall be required to submit a Certification of No Conflict of Interest, attached as Attachment “1”.

Attachment 1: No Conflict of Interest Certification

NO CONFLICT OF INTEREST CERTIFICATION

I, _____, agree to participate in the Coral Springs Improvement District solicitation known as: RFP/RFQ/ITB Number: _____ (“Project”), as a member of the Project Evaluation Committee.

II. I hereby certify that:

A. I and/or my Immediate Family have not had discussions, conversations, offers, agreements or arrangements for future employment with any Proposer or affiliate of any Proposer, generally or with respect to the Project;

B. I and/or my Immediate Family have not solicited or accepted, and shall not solicit or accept, gratuities, favors or anything of value from any Proposer or affiliate of any Proposer, generally or with respect to the Project; and

C. To the best of my knowledge, I and/or my Immediate Family have no connection of any kind with any of the Proposers or affiliates of any Proposers with respect to the Project or with any application or transaction that might appear to create a conflict of interest. For the purpose of this Form, “conflict of interest” means a situation in which regard for a private interest tends to lead to disregard of a public duty or interest.

D. I have not been employed at any time (now or in the past) by any Proposer or affiliate of any Proposer under consideration by the Project Evaluation Committee, generally or with respect to this Project, except such entities which are listed below and for the corresponding periods listed below:

Signature: _____

Name: _____

Date: _____

Eighth Order of Business



November 2, 2023

Joe Stephens & David McIntosh
Utilities Director & Director of Operations
Coral Springs Improvement District
10300 N.W 11th Manor
Coral Springs, FL 33071

RE: Request for Contract Amendment – Additional Budget for Large Customer Water Meter Testing

Dear Joe and David,

As requested by Coral Springs Improvement District leadership, E Source is seeking a change order to the existing water loss control master plan contract in the amount of \$25,957.50 for large customer meter testing. In addition to the budget adjustment, E Source is also requesting a contract deadline extension to April 30, 2024, to allow time to complete the additional scope of work.

It is our understanding that this amendment is in alignment with the utility's intentions to maintain service excellence for all stakeholders involved and to reduce non-revenue water. The non-revenue water reduction potential is also in alignment with the objectives of the original water loss control master planning contract.

We request that the utility's authorized representative(s) reviews the proposed amendments and provides an endorsement from the utility board so that we may proceed with the necessary preparations. Should you require any further information or clarification on the proposed amendment, please do not hesitate to contact me directly at bill_christiansen@esource.com.

Thank you for your attention to this matter and your ongoing support.

Sincerely,



William Christiansen, Project Manager
E Source Water Loss Consulting Division

Water Systems Optimization, Inc.

131 Kissling Street
 San Francisco, CA 94103
 (415) 533-0419



TO: Joe Stephens
Coral Springs Improvement District

FROM: Reinhard Sturm
Water Systems Optimization

DATE: October, 2021

RE: **Gap Analysis for Coral Springs Improvement Districts Water Loss Control Program**

I. BACKGROUND:

The Coral Springs Improvement District (“the District”) is currently considering an evaluation of its data collection and management practices to inform next steps in its water loss control program. WSO proposes to complete a “gap analysis” to better understand the need for data collection and data validation improvements and to evaluate opportunities for cost effective water loss control at the District.

Water Systems Optimization (WSO) is well positioned to lead this effort. This memo outlines a recommended scope to initiate the process of assessing and reducing the District’s water losses.

II. RECOMMENDED WORK FLOW & SERVICES:**TASK 1: Water Audit Compilation & Gap Analysis**

The water audit is a key tool in understanding and monitoring a distribution system’s water losses. The process of completing a standard AWWWA water audit involves an accounting for all inputs and authorized uses in a distribution system. The results of a water audit indicate the scale (in volume and cost) of leakage and other non-revenue water volumes occurring in a system.

WSO recommends that the District establish a water auditing practice following AWWA best practice methodology. In the following tasks WSO aims to guide the District in compiling a water audit and identifying areas for improvement and next steps.

1A: Identify & Collect Audit Data

The process of compiling an informative water audit requires a great deal of data. In this task, WSO will work with the District to identify the best data sources needed to inform this process. To facilitate efficient data transfer, WSO will organize a data request list that outlines and describes all the data required for the audit.

1B: Determine Audit Volumes & Complete Water AWWA Audit Software v6

Upon getting the best data available for the audit, WSO will calculate the best audit inputs and review the quality of the data sources. This may include:

- **System Input Meter Accuracy Examination:** analysis of existing meter test data, assessment of current maintenance and calibration protocols, data comparisons where possible
- **Consumption Data Review:** assessment of bill generation procedure, trending consumption data by account and meter characteristics, examination of estimation frequency
- **Apparent Loss Calculation:** review of existing small and large customer meter test data, determination of appropriate under-registration values

1C: Contextualize Results and Recommend Next Steps

After finalizing the water audit, WSO will highlight data source findings and contextualize the performance indicator results. WSO will identify next steps for improving audit data quality and enhancing the District's understanding of their water losses.

Task 1 Outcomes:

- WSO will provide a data request list that outlines and describes each data point required for the AWWA Water Audit Software
- WSO will review each data source, determine audit input values, and provide an understanding of the uncertainty associated with each value
- WSO will provide a complete AWWA Water Audit Software file (v6)
- WSO will contextualize the water audit's results and identify appropriate next steps for improving the water audit's accuracy

TASK 2: Leak Detection Survey

Alongside establishing the water audit practice and gap analysis to monitor the District's leakage levels in Task 1, WSO will conduct a leak detection survey to identify unsurfaced leakage and help the District recover water. The following subtasks outline our approach to a comprehensive leak detection survey.

2A: Leak Detection Kick Off Meeting

To clarify the goals of the leak detection survey and establish protocols of communication and documentation, WSO recommends we convene for a kick off meeting. During this time, the District will get to know the project managers and the leak detection technicians. We will review our survey plan and outline our approach in reporting the survey findings.

2B: Leak Detection Survey

Over the course of the survey, WSO's leak detection technicians will use acoustic monitoring equipment to sound each and every appurtenance in District's system (all service connections, hydrants, and valves). This is called a *comprehensive leak detection survey*, and it aims to identify all un-surfacing leakage detectable by sound.

2C: Leakage Findings Reporting

For each leak finding, WSO will document the location of the leak and provide detailed description in a "leak report". WSO will also provide a cloud-based leak detection tracking tool through which all findings are reported. At the end of the survey, WSO will provide a technical memo that summarizes the leak detection results and estimate the savings anticipated upon repair (though WSO will identify ongoing leaks, the District will be responsible for their eventual repair).

Task 2 Outcomes:

- WSO will lead a kick off meeting to review leak detection goals, process, and results documentation
- WSO will conduct a comprehensive acoustic leak detection survey for the District's distribution system (of approximately 122 miles)
- WSO will file leak reports documenting each instance of leakage found
- WSO will present a technical memo to summarize the leak detection survey and its findings

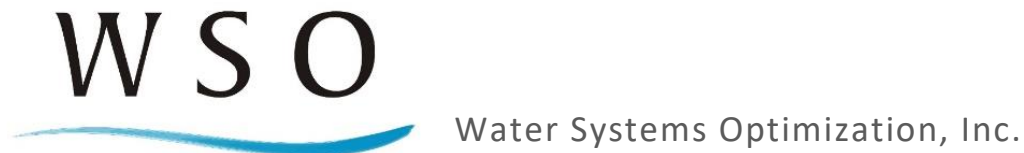
In this work, the District will begin its understanding of its total water loss through Task 1 and will start recovering leakage volume through Task 2. Given the insight from these tasks, WSO will be equipped to recommend an appropriate suite of next steps to advance the District's water loss control program going forward.

IV. COST ESTIMATE:

Table 1 presents a preliminary budget for the two tasks discussed in the scope above.

Table 1: Cost Estimate for Proposed Scope

	STURM	JAGDEO	GORCHELS	Leak Detection	
<i>Position</i>	Project Director	Project Manager	Data Analyst	Survey	
<i>Rate/hr</i>	\$260.00	\$160.00	\$120.00	\$300.00	
				per mile surveyed	VALUE/TASK
Project Management & Administration	2	12	4		\$2,920.00
Task 1: Water Audit Compilation & Gap Analysis					
1A: Identify & Collect Audit Data	2	8	16		\$3,720.00
1B: Determine Audit Volumes & Complete Water Audit Software	4	24	40		\$9,680.00
1C: Contextualize Results and Recommend Next Steps	4	12	16		\$4,880.00
Task 2: Leak Detection Survey					
2A: Kick off Meeting	2	8	2		\$2,040.00
2B: Leak Detection Survey				122	\$36,600.00
2C: Leakage Findings Reporting	2	8	12		\$3,240.00
Grand Total Hours	16	72	90		
Grand Total Cost for Direct Labor	\$4,160.00	\$11,520.00	\$10,800.00	\$36,600.00	\$63,080.00
Total Cost for Project Management & Administration	\$2,920.00				
Total Cost for Task 1: Water Audit Compilation & Gap Analysis	\$ 18,280.00				
Total Cost for Task 2: Leak Detection Survey	\$ 41,880.00				
Estimate for Expenses	\$ 2,500.00				
Total Costs	\$65,580.00				



Proposal

Water Loss Control Master Plan

Coral Springs Improvement District – October 2021

Water Loss Control Master Plan

PREPARED FOR

Coral Springs Improvement District

Attn: Joe Stephens
Utility Director

PREPARED BY

Water Systems Optimization, Inc. (WSO)

1410 Donelson Pike #A1, Nashville, TN 37217

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Transmittal Letter

October, 2021

Dear Mr. Stephens,

Water Systems Optimization, Inc. (WSO) is pleased to submit this proposal for developing a Water Loss Control Master Plan for Coral Springs Improvement District (CSID).

The WSO project team wholeheartedly believes that we are uniquely positioned to provide the industry’s best water loss control expertise to CSID. As our proposal details, WSO’s work to date demonstrates expertise and dedication. In fact, **non-revenue water management is the sole focus of WSO’s services.**

WSO’s water loss leadership has been recognized by many industry stakeholders, ranging from the California Department of Water Resources to the Water Research Foundation to numerous water utility managers throughout the country. The drinking water community trusts WSO to define best practices, implement proven interventions against water loss, and pioneer new methodologies.

This document serves as our proposal following discussions between CSID and WSO. WSO intends that all the required information is supplied and will happily provide any further clarification as needed. Please do not hesitate to contact us at the phone and email details below.

Sincerely,



Reinhard Sturm
CEO/President – WSO

Proposal Contact Information

Reinhard Sturm, CEO

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San Francisco, CA 94122

www.wso.us

1 Qualifications & Experience

Water Systems Optimization (WSO) was formed in 2002 and is the North American industry leader in water loss management. WSO's history demonstrates expertise and dedication. In fact, **water loss management is the sole focus of WSO's services**. WSO's water loss pre-eminence has been recognized by many industry stakeholders, ranging from the California Department of Water Resources to the Water Research Foundation to numerous water utility managers throughout the country. **The drinking water community trusts WSO to define best practices, implement proven interventions against water loss, and pioneer new methodologies.**

1.1 Defining Best Practices

Research institutes and professional drinking water associations overwhelmingly select WSO to review industry standards, evaluate the integration of new technologies with water loss management, and propose cutting-edge analysis and field studies that support distribution system efficiency.

As an endorsement of WSO's expertise, WSO was chosen to be the lead firm on most Water Research Foundation water loss control studies, including:

- *Leakage Management Technologies* (project 2928)
- *Evaluating Water Loss and Planning Loss Reduction Strategies* (project 2811)
- *Real Loss Component Analysis: A Tool for Economic Water Loss Control* (project 4372A)
- *Water Audits in the United States: A Review of Water Losses and Data Validity* (project 4372B)
- *Establishing Water Utility Guidance and Methodology for Water Audit Validation* (project 4639)

WSO's Water Research Foundation publications have been recognized as definitive guides to water loss management. Notably, the American Water Works Association recommends that utilities employ WSO's Real Loss Component Analysis model when developing water loss control programs, and the California Department of Water Resources requires annual water audit validations to follow the methodology presented in project 4639.

1.2 Implementing Proven Interventions Against Water Loss

WSO has worked with more than 60 utilities nationwide to compile and validate detailed water audits. With most of these partners, WSO has moved beyond water loss analysis to establish water loss control programs that save water and money. WSO is particularly proud to have spearheaded the following projects:

■ Los Angeles Department of Water and Power

Full water loss control program offerings and facilitation of the award-winning Water Loss Task Force committee.

■ San Antonio Water System

Pull water loss control program offerings and continued technical assistance with implementation of water loss recovery and data improvements.

■ City of Phoenix

Detailed AWWA water audit, Component Analysis of Real and Apparent Losses, recommendation of data management improvements, and water loss control recommendations.

■ City of Sacramento

District metered area installation and management.

■ City of Santa Cruz

Full water loss control program offerings, source meter testing procedure development, and ongoing technical assistance now entering a fourth year.

■ Nashville Metro Water Services (MWS) Leak Detection Survey Services

WSO has been selected by Nashville MWS for 3 consecutive 5-year contracts to perform leak detection on their 3,000 miles water distribution system and perform temporary District Metered Areas (DMAs) to assist with leakage estimates and work prioritization. Under the current contract (2015 – 2020), WSO has surveyed over 11,000 miles of main and located an estimated 12,500 gpm of leakage.

■ Guam Waterworks Authority (GWA)

Full water loss control strategy development including establishing three pilot district metered areas where non-revenue water was reduced by about 40% on average.

In each project, WSO established a nuanced understanding of each system’s unique water loss profile, an appreciation for the strengths and uncertainties of each utility’s data sources, and customized action plans that concretely improve system management and financial viability. In addition to developing comprehensive water loss control strategies, WSO has experience with implementing these strategies to reduce water loss.

1.2.1 Pioneering New Methodologies

WSO frequently works with water utilities and their stakeholders to improve water distribution efficiency. Recently, WSO was selected to pioneer ground-breaking water loss control programs, such as:

■ California Water Loss Technical Assistance Program (Water Loss TAP)

WSO was hired by the California-Nevada Section of the American Water Works Association to lead the largest water audit training and validation program ever offered. Through the Water Loss TAP, WSO taught best-practice methods to and level 1 validated the water audits of all 450 retail urban water suppliers in California, as required by Senate Bill 555.

■ Hawaii Water Audit Validation Effort (WAVE)

the Commission on Water Resource Management (CWRM) of Hawaii hired WSO in 2016 to implement a water audit training and validation program for compliance with Act 169. In the WAVE, WSO works with four county water agencies that each operate numerous discrete water systems and all privately owned systems on the Hawaiian Islands.

■ California Energy Utility Partnerships

WSO led pilot programs (with Southern California Edison, San Diego Gas & Electric, and Southern California Gas Company) that quantified energy savings embedded in leakage recovery. WSO has since been recruited to advise ongoing discussions about energy efficiency as it relates to water loss control.

■ NRWManager

WSO developed a web-based holistic Non-Revenue Water (NRW) and Water Network management application with full integration of all water utility data such as network flow, network pressure, water level in reservoirs, water quality parameters, customer billing data and GIS layers. The solution provides instant access to all data, anywhere, anytime, on desktop PCs, laptops, tablets and smart phones. It also provides automated intelligent reporting of NRW levels and other Key Performance Indicators (KPIs).

■ Leak Scenario Builder

WSO has developed a multi-agent simulation to systematically explore leakage control strategies for water distribution systems. Our modeling approach seeks to provide actionable recommendations to conserve water and save money while acknowledging uncertainty. We calibrate the leak scenario builder with system-specific data to provide insight into three core elements of leakage management: estimating impact on loss rates, anticipating required level of effort, and evaluating cost effectiveness.

1.2.2 Galvanizing Regional Cooperation

Water loss management is most effective when neighbouring agencies and stakeholders act in concert toward a shared goal. However, regional water loss collaboration was not often explored in California to meet efficiency standards while harnessing economies of scale and managing shared assets. To promote budding regional efforts, WSO has coordinated regional water loss control programs by providing educational seminars, technical assistance, and evaluation and standard setting. WSO's recent regional programs include:

■ **Municipal Water District of Orange County (MWDOC) Water Loss Control Work Group**

WSO and MWDOC have partnered to offer a five-year water loss control program to MWDOC's 31 member agencies. WSO and MWDOC member agencies are evaluating water losses, confirming analytic results with field investigation, designing customized water loss control strategies, and implementing cost-justified interventions. Through the program, Orange County agencies are building an ambitious regional culture of efficiency.

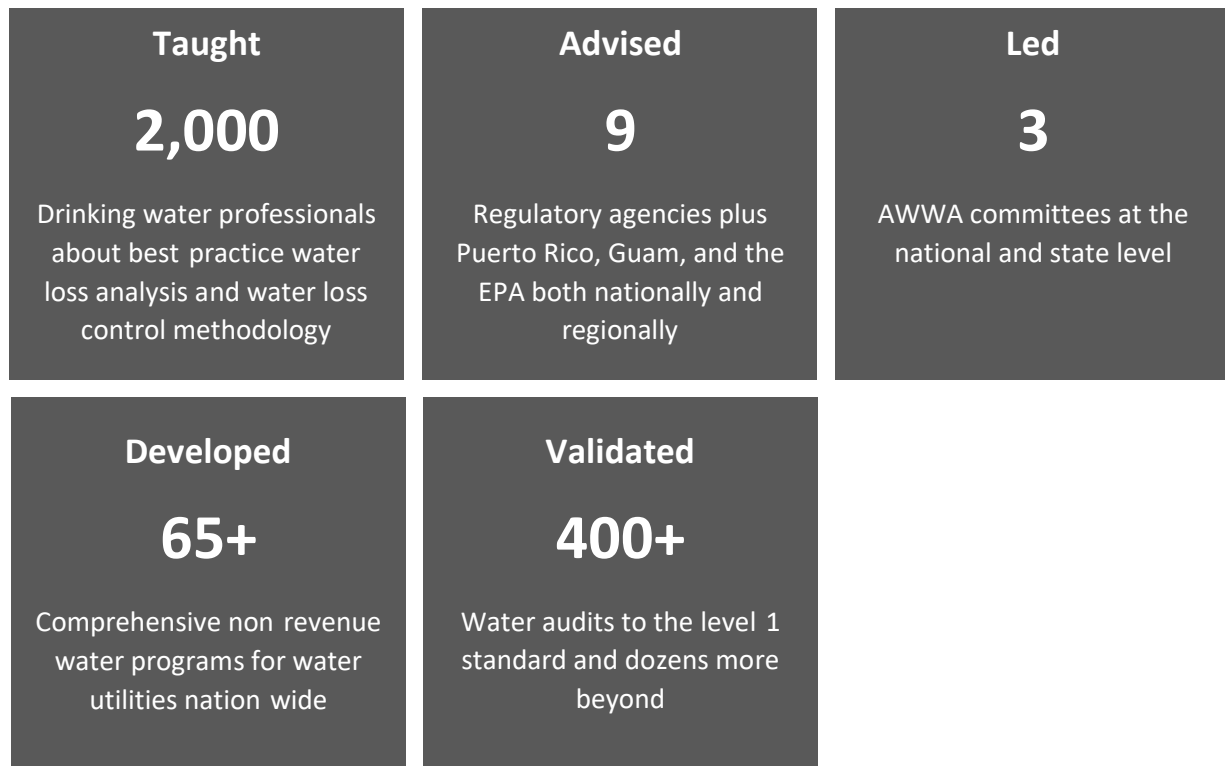
Furthermore, WSO and the MWDOC group have produced a ground-breaking customer meter test dataset and established case studies for water loss monitoring and regulation in California. Over the last year, WSO supported MWDOC in the development of a regional water loss control department that offers water audit validation, customer meter testing, leak detection, and field pressure logging to its member agencies.

■ **California Water Service Water Loss Program**

WSO and California Water Service have partnered to streamline the company's water loss understanding and water loss reduction strategy. WSO's water loss recommendations will contribute to California Water Service's goal of preparing its 25 districts for SB555 compliance and the implementation of Executive Order B-37-16.

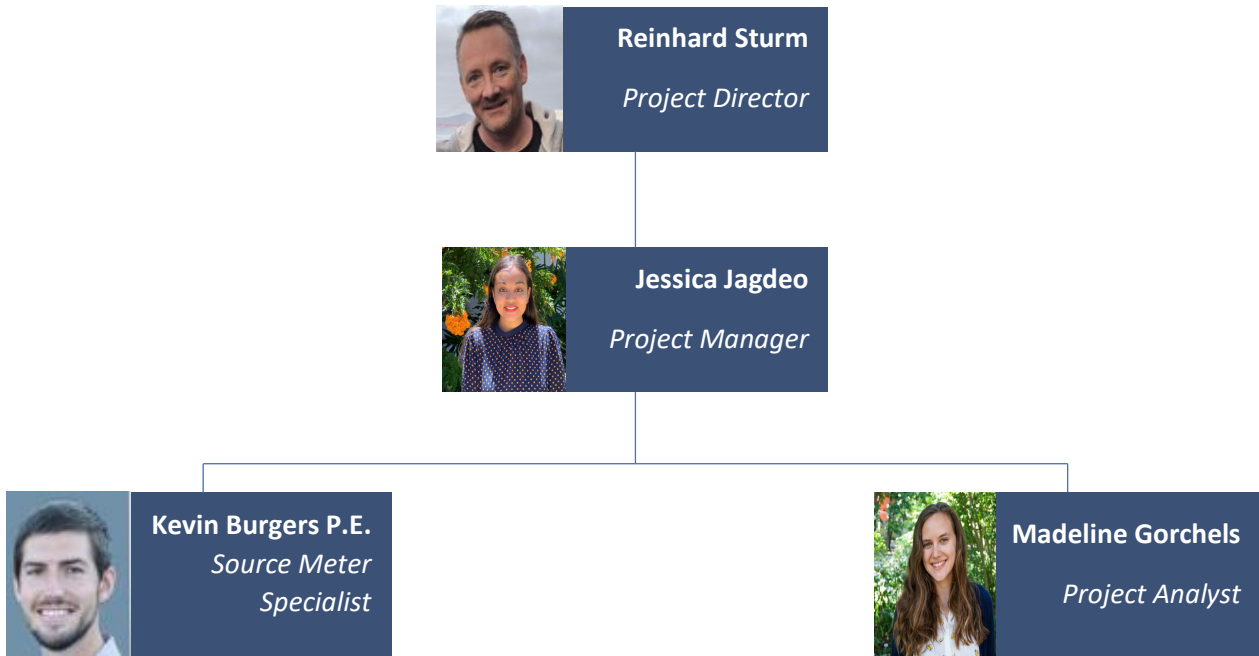
1.2.3 Leading the Conversation

WSO guides the drinking water industry toward informed water loss management by working with a host of involved agencies and professionals, from distribution system operators to the chair of California’s State Water Resources Control Board. Through outreach, professional service, and water loss control projects in California and across the United States, WSO has:



1.3 Key Personnel

The WSO team is a diverse mix of professionals fully dedicated to nonrevenue water management following established AWWA best practices. The proposed team represents decades of water loss experience in a wide range of topics including water auditing and validation, leakage component analysis, supply metering and accuracy testing, data collection/field work, large data set management, and cost-benefit analysis. Resumes of all members are included in the following pages.



1.3.1 Reinhard Sturm – CEO (Project Director)



As WSO’s CEO and president, Reinhard has worked on water loss control projects throughout the world, and for the past fifteen years he has been involved in some of the most impactful water loss reduction projects in the United States. Reinhard was the lead researcher and author on Water Research Foundation project 2928: Leakage Management Technologies. Water Research Foundation (WRF) 2928 provided North American water utilities with detailed best-practice guidance on the latest leakage management tools and strategies, including district metered areas and advanced pressure optimization.

Education
*University of Vienna,
Master of Environmental
Engineering*

**20 Years of Water Loss
Consulting Experience**

Principal Office Address
Boulder, CO 80305

Contact Information:
reinhard.sturm@wso.us
786-877-5752

Since WRF 2928, Reinhard has served as principal or co-principal investigator on all WRF-funded water loss control publications, including Real Loss Component Analysis: A Tool for Economic Water Loss Control (4372A), Water Audits in the United States: A Review of Water Losses and Data Validity (4372B), and Establishing Water Utility Guidance and Methodology for Water Audit Validation (4639). Reinhard’s authorial credits aren’t isolated to WRF, however – he also co-authored McGraw-Hill’s professional manual Water Loss Control (2nd ed.) and has published more than 20 papers on various water loss topics.

Reinhard is actively involved in the International Water Association’s Water Loss Specialist Group and the American Water Works Association’s (AWWA) Water Loss Control Committee (WLCC). Reinhard also chairs the AWWA WLCC Real Losses Subcommittee. Through this leadership, Reinhard has contributed to AWWA Free Water Audit Software and manual M36 improvements, where Reinhard spearheaded an update to M36’s real loss chapters.

1.3.2 Jessica Jagdeo – Project Manager and Analyst



Jessica Jagdeo, is a project manager and analyst at WSO, assisting in analysis and management of water loss projects in collaboration with water utilities & agencies. Jessica, has compiled numerous water audits, examined customer meter test results, analyzed the components of real loss, and conducted detailed investigations of billing data to determine water consumption for water agencies.

Prior to joining WSO, Jessica studied Water Resources Management and Environmental Data Science at the University of California, Santa Barbara’s Bren School of Environmental Science & Management. During her studies, Jessica and a group of colleagues consulted with the City of Santa Barbara Public Works Department to estimate the climate-driven effects of precipitation and other environmental variables on the City’s water supply up to the year 2058. The group modeled future estimates of the Santa Ynez Watershed's discharge using the Soil & Water Assessment Tool and Cal-Adapt's anticipated future climate-drive changes in temperature and precipitation. Jessica was responsible for organizing, analyzing, and visualizing water supply and bathymetric data to assess the current state of the water supply and estimate the effects of sedimentation. This project produced a range of potential variations in water supply under different climate scenarios for the City of Santa Barbara to use in their upcoming Urban Water Management Plan.

Education

University of California, at Santa Barbara

Master of Environmental Science and Management (2020)

University of Florida, at Gainesville

B.S. in Geology (2018)

2 Years of Water Loss Consulting Experience

Contact Information:

jessica.jagdeo@wso.us
 321-277-3494

1.3.3 Madeline E. Gorchels – Data Analyst (Project Analyst)



Madeline E. Gorchels is a data analyst at WSO, assisting in analysis and management of water loss projects in collaboration with water utilities & agencies. As a water loss analyst, she has examined customer meter test results, analyzed custom input submissions for the California SWRCB water loss control economic model, and investigated billing data to determine water consumption for California & Texas agencies.

Prior to joining WSO, Madeline studied Water Resources Management and Environmental Data Science at the University of California, Santa Barbara’s Bren School of Environmental Science & Management. During her studies, Madeline and a group of colleagues consulted with the Pacific Institute to quantify the multiple benefits of distributed rainwater capture in the City of Austin, TX. The group modeled impacts on water consumption, energy use, and urban heat island for different infrastructure implementation scenarios. Madeline led modeling on potential energy reductions from reduced potable water demand and quantified potential urban heat island mitigation through remote sensing. Her research was included in two publications put out by the Pacific Institute in 2020.

Before entering the water loss control field, Madeline performed data analysis for research on aquatic zooplankton and viruses at Wellesley College, Oregon State University, and Portland State University.

Education

University of California, at Santa Barbara

Master of Environmental Science and Management (2020)

Wellesley College

B.A. in Biological Sciences Minor in Geosciences (2016)

1 Years of Water Loss Consulting Experience

Contact Information:
madeline.gorchels@wso.us
 541-829-0409

1.3.4 Kevin Burgers, P.E. – Source Meter Specialist



Kevin has eight years of experience with WSO testing and analyzing water distribution systems and is the project manager of the ongoing leakage management project in Nashville, TN. The Nashville leakage management project has included setting up and measuring 215 temporary District Metered Areas, performing leak detection on approximately 18,000 miles of main, and analyzing consumption profiles on approximately 300 large customer meters over the past 6 years. Kevin has also been responsible for compiling an AWWA Water Audit for Nashville and testing the production meters at both Water Treatment Plants annually.

Education

*University of Washington,
 BS Civil Engineering, 2011*

Principal Office Address

*1410 Donelson Pike,
 Suite A-1
 Nashville, TN 37217*

Professional Affiliations & Licenses

*AWWA (GA & KY/TN)
 GAWP
 P.E. (TN, HI, FL, TX)*

8 Years of Experience

Kevin has extensive experience with production meter testing. Over the last 5 years, Kevin has conducted over 100 source meters tests across the United States on pipes ranging from 8”-48” in diameter. Kevin has also given multiple presentations on conducting meter tests and incorporating the results into AWWA Water Audit software.

Kevin has been responsible for preparing or validating AWWA water audits for over 50 utilities in the past 3 years. Kevin also has experience conducting pressure surveys, analyzing large customer consumption data, measuring DMA and managing leak detection projects for utilities across the United States. Kevin is a professional engineer registered in Florida, Hawaii, Tennessee and Texas.

2 Water Loss Control Mater Plan - Tasks

TASK 1 - Source Metering Accuracy Assessment and Test Plan Development

Source meters record the volume of water supplied into the distribution system, and real loss is derived by subtracting authorized use and apparent loss from water supplied. Therefore, all real loss performance indicators, and therefore real loss intervention strategies based on those indicators, are dependent on the accuracy of source meters.

Sub-Tasks:

1. **Source meter testing and calibration practices review:** WSO will review and discuss the protocols and documentation related to source meter testing and calibration practices employed at each source metering site (own source, import meter and export meter).
2. **Source meter calibration & test result analysis:** WSO will analyze any available source meter calibration and testing documentation for the last three years.
3. **Development of source meter testing approaches:** WSO’s review will focus on identifying appropriate testing methodologies for representative source metering sites. Where the current set up does not allow for meter tests to be conducted, WSO will provide recommendations for what needs to be done by CSID to make these meters testable. This effort will take into consideration the cost for such capital investments and the overall impact each currently non-testable meter has on CSID’s water audit results. This task will include a site visit by Kevin Burgers – WSO’s source meter specialist to inspect source meters and to conduct comparative meter tests where feasible.
4. **High frequency flow analysis (source meters):** WSO will analyze production data for CSID’s water audit boundary meters at the highest temporal resolution available to identify potential data gaps, the proportion of flow recorded outside each meter’s designed specifications and compare archived flow data with summary volumes (see task below). Though this work often deals in very large datasets across many meters, WSO's scripting techniques give us the ability to complete complex analyses efficiently.
5. **Analysis & summary of historical source meter reading archive:** WSO will analyze historical archives of source meter readings to ensure data integrity, compare to volumes derived from raw SCADA data, and derive the entries for water supplied in the water audit.

WSO has scripted significant components of sophisticated water loss analyses, like source meter flow analysis, billing data analysis, and customer meter test result analysis using the statistical programming language, R.

TASK 2 – Detailed Billing Data Analysis

Detailed "raw" meter reading and billing data analysis: To assess how the meter reading to bill process is implemented in practice, WSO proposes to analyze underlying customer meter reading and billing data. This analysis intends to assess the integrity of raw billing data and to evaluate how consistently billing best practices are applied before summarizing usage volumes for the water audit.

Analyses include but are not limited to:

- Duplicate records
- Negative use volumes
- Large suspicious use volumes
- Comparing raw totalizer reads to listed consumption volumes
- Data completeness - count of records per meter and per month
- Prevalence and impact of adjustments and estimates
- Identification of likely stuck meters
- Meter right sizing - the average use per day for each meter size group, including comparison to similar results from past WSO analyses with other agencies
- Prorating customer meter use to better approximate the volume and timing of use to align with production meter readings for water loss analysis
- Detailed review of estimation process used by CSID for its non-metered authorized consumption
- Final derivation of billed metered authorized consumption for the baseline water audit

TASK 3 - Customer Meter Accuracy Assessment

Apparent losses are missed opportunities to record and bill for otherwise authorized uses; either the water was stolen, the customer meter under-registered the volume delivered, or there were data handling errors while processing the meter reading. Reducing these types of losses results in increased revenue since more volume of authorized use is recorded and ultimately billed for. As such, apparent losses can have a significant impact on utility revenues. The sub-tasks described below outline WSO's approach to appreciate CSID's past efforts to analyze and minimize apparent losses and potential recommendations to augment those efforts.

Sub-Tasks

1. **Customer meter testing practices review:** WSO will review any procedures and documentation for selecting, transporting, and testing small and large customer meters.
2. **Customer meter test result analysis:** If past test data is not available or is not of sufficient sample size, WSO will instead develop recommendations for CSID to begin or augment their customer meter testing efforts. If available, WSO will analyze datasets containing small and large customer meter test results for both old and new meters. WSO's analysis of small customer meter test results will focus on:
 - Quantifying uncertainty for the water audit entry for customer metering inaccuracy.

- Identifying statistically meaningful differences between sub-populations of meters.
- Modeling accuracy based on other available data such as meter age or total lifetime throughput.
- Assessing the impact potential under-registration from intermediate meters has on CSID’s apparent losses and the accuracy of the calculated real loss performance.

Large customer meter test results will be analyzed to assess the risk of inaccuracy for each meter, or as a group depending on the amount and quality of data available.

3. **Customer meter replacement practices review:** WSO will review current customer meter replacement practices for small and large customer meters. Review may include written documents describing strategy for each size group in addition to conference calls to discuss how replacement strategies have been developed and implemented.
4. **Optimum testing frequency for each individual large customer meter:** by applying a least-cost of ownership model that balances the costs of potential under-registration with the costs of testing and repair WSO will develop an optimum testing frequency for each large customer meter (4inch and larger).

TASK 4 - Assessment of Real Loss Management Activities

Real losses are physical losses of water from the distribution system through leaks. The sub-tasks below detail how WSO will understand CSID’s current experiences with system leakage. This understanding will inform recommendations to manage those losses in cost-effective ways going forward.

Sub-Tasks:

1. **Repair data review & analysis:** WSO will review available leak repair data including forms filled out by field staff to document leaks. WSO will use the data processing scripts we have developed to assess the integrity of repair data. The repair data review will include:
 - Identifying missing fields or data gaps that hinder valuable repair data analysis
 - Assessing break frequencies for different infrastructure types
 - Evaluating raw data integrity (i.e. duplicates and entry errors)
 - GIS heatmapping analysis to identify system regions with higher or lower break frequencies

2. **Proactive leak detection activity analysis & inventory:** WSO will review relevant information collected from CSID’s programs to evaluate proactive leak detection strategies. WSO has extensive experience planning and implementing manual acoustic leak detection and automated leak detection pilot efforts for our clients. WSO will assess CSID’s current methods to proactively identify leaks, catalog them, and make recommendations for augmenting those efforts in the future. The development of new water loss control technologies has accelerated significantly over the past five years and WSO has been a trusted advisor for providing unbiased and data driven evaluations on the feasibility of various technologies for agencies’ water loss strategies.

WSO’s leak detection and water loss specialists have hard won lessons to share with CSID from more than 50,000 miles of manual acoustic leak detection and automated leak detection pilot activities.

- 3. **Pressure data collection, reduction, and stabilization:** WSO will review available pressure data collection efforts, and suggest additional data collection where needed, to assess opportunities for pressure management; either careful pressure optimization, or transient identification and mitigation.
- 4. **Review of pipe and service line replacement analyses and practices:** WSO will review past pipeline and service connection replacement rates to identify limitations of each approach and identify opportunities for integration into the overall water loss control master plan.

TASK 5 - Financial Background

It is important to understand key financial parameters used to model real and apparent loss recovery to better establish the bounds of a realistic water loss control master plan.

Sub-Tasks:

- 1. **Derive value of real losses:** WSO will derive the variable production cost (VPC) to value real losses. The variable production cost typically includes at a minimum the cost of electricity for pumping, chemicals for treatment, and any imported water purchases. In addition, CSID may elect to include wear and tear on dynamic assets (depreciation) and/or pending expansions of supply in the valuation of real losses.
- 2. **Derive value of apparent losses:** Appropriately valuing apparent losses is an important pre-requisite to modeling the return on investment of apparent loss recovery efforts. WSO will derive the customer retail unit cost for the water audit based on CSID’s water rates.

TASK 6 - Water Audit Compilation & Historical Analysis

Reviewing past water audit results will help WSO assess the scale of opportunity for loss recovery. WSO’s review of trends and variance in water loss performance will also provide insight the reliability of raw data used to populate past audits. Accurate and precise water audit results are pre-requisites for reliable measurements of real and apparent loss and will directly inform water loss control planning and savings evaluation. Reliable water audit performance indicators are especially important given CSID’s regulatory framework.

Sub-Tasks:

1. **Historical water audit performance analysis:** WSO will summarize available past water audits or water loss assessments for CSID to observe long-term trends and variability in water loss key performance indicators. In this review, WSO will:

- focus on assessing historical performance indicator variability
- discuss CSID’s understanding of any notable context or qualifications for past results, documenting known uncertainties and issues

2. **Water audit performance comparison with similar agencies:** WSO has been compiling and analyzing water audits for California, Tennessee, Texas, and Hawaii water utilities for the last 5 years. WSO was the lead analytical team for all compiled water audits reviewed during the California Water Loss Technical Assistance Program (Water Loss TAP). In addition, WSO authored the Water Research Foundation (WRF) project, "Water Audits in the United States: A Review of Water Losses and Data Validity", that presented summary analysis for hundreds of additional water audits. WSO's vast experience compiling and analyzing thousands of water audits provides an unmatched reference to compare CSID’s performance.

WSO has analyzed thousands of water audits nationwide using sophisticated scripting techniques. These databases and analyses provide an unmatched point of reference to contextualize CSID’s current water loss performance.

3. **Water audit compilation:** WSO will compile a detailed water audit to serve as the baseline understanding for system loss rates. This water audit will be developed using data collected from the prior Tasks of this proposal. Additional data required to compile the water audit includes:

- Any available documents that may provide insight into the annual volumes of unbilled or unmetered uses such as system flushing, firefighting, estimated customer use, etc.
- Descriptive characteristics for the system including the miles of mains and count of service connections.

TASK 7 - Target Development

Equipped with data for and detailed understanding of CSID’s non-revenue water activities and current loss performance, WSO will develop a range of realistic water loss performance targets for CSID to work towards. WSO has developed next-generation modeling approaches to evaluate the potential for cost-effective loss recovery. These approaches build upon established industry best-practices to expand modeling capabilities in critical ways for modern utilities.

Non-revenue water includes three broad categories of water use efficiency: real losses, apparent losses, and unbilled authorized use. WSO proposes to tackle each component of non-revenue water independently before aggregating to derive a single overall target for non-revenue water system wide.

Economic Level of Real Loss Derivation – Leak Simulation

To address the ever-evolving and extensive landscape of leak detection technologies, and expand upon industry standard real loss modeling techniques, WSO has developed a multi agent-leak simulation model. This leak simulation allows for complex analysis of real loss recovery efforts and can assist agencies in prioritizing leak detection technologies for water loss recovery and identifying realistic ranges for real loss performance targets. At its core, the simulation is a digital representation of a water system that allows analysts and system managers to systematically explore potential leakage reduction strategies before making more significant investments in the real world. The leak simulation model has the following capabilities:

WSO has experience integrating Artificial Intelligence (AI) technologies in the leak simulation model, like for example Fracta modeling outputs.

- Estimate future system-wide loss rates under varying assumptions for leakage characteristics and loss recovery efforts that can be compared with performance goals. The following real loss management strategies are currently implemented in the simulation stand-alone or in combination, but other custom strategies can also be developed:
 - Manual acoustic leak detection
 - Automated acoustic noise loggers
 - Satellite leak detection
 - Pressure management
 - Main replacement
- Evaluate the cost-benefit of leakage control strategies under varying assumptions for fundamental leakage characteristics.
- Consider sub-system level infrastructure characteristics and their impact on loss rates and cost effectiveness including pipe-segment level data for likelihood and consequence of failure.
- Provide an intuitive visualization of the water distribution system that shows how leakage control strategies are implemented and their resulting impact on individual leaks and system-level leakage rates. This intuitive visualization helps build consensus with non-technical stakeholders and avoids the simulation feeling like a black box.

Sub-Tasks:

1. **Calibrate the simulation using available data:** WSO will use available leak repair and system data to calibrate the leak simulation. Calibration may also consider pipe-segment level likelihood and consequence of failure data from other modeling efforts conducted by CSID for their mains replacement program.
2. **Run iterative “experiments” to evaluate real loss recovery scenarios:** Once the simulation is calibrated to represent CSID’s water distribution system, WSO will systematically explore real loss recovery strategies, their cost effectiveness, and their impact on system-wide loss rates. The results of these experiments on a digital representation of the system will guide optimal program design and realistic targets.
3. **Draft final real loss target report:** The results of all modeling activities will be presented in a comprehensive report that includes intuitive visualizations of the optimum real loss targets for CSID, including budget estimates, timelines and goal monitoring matrixes.

Economic Level of Apparent Loss Derivation

WSO will assess a realistic and cost-justified target for apparent losses based on the detailed billing data analysis and customer meter test result and replacement management analyses completed during “**Error! Reference source not found.**”

Sub-Tasks:

1. **Large customer meter minimum cost of ownership model implementation:** WSO will apply a least cost of ownership model to each individual large customer meter. This model balances the cost of testing and repair with the potential cost of under-registration. One critical output from this model is the estimated economically tolerable rate of large customer meter under-registration which can be used to inform the apparent loss target.
2. **Small customer meter replacement assessment:** WSO will assess scenarios where certain groups of small customer meters are replaced, or where the replacement rate is modified, and estimate the impact on system-wide apparent losses. Scenarios where a positive return on investment is projected will serve as the basis for the target apparent loss for small customer meters.

Economic Level of Unbilled Authorized Use Derivation

Some operational uses may present opportunities to improve efficiency and reduce non-revenue water.

Sub-Task:

1. **Inventory unbilled authorized uses and evaluate necessity:** WSO will inventory all relevant unbilled authorized uses at CSID water including but not limited to system flushing, firefighting,

street sweeping, sewer flushing, reservoir cleaning and maintenance, district facility use, special customers, etc. Together with CSID Water staff, WSO will review each inventories use to evaluate its necessity and any opportunities to reduce use while still safely meeting operational goals.

2. **Quantify total volume of justified unbilled authorized uses to establish target:** After reviewing and inventorying unbilled authorized uses, WSO will aggregate the total rate of justified use including a contingency for special cases to help inform the overall non-revenue water target.

TASK 8 – Water Loss Control Master Plan Development

After understanding CSID’s loss profile and appreciating its past water loss control endeavors, WSO will support CSID in charting out its future water loss activity. WSO will carefully draft the water loss control master plan, elicit and incorporate feedback, and finalize the strategy. The plan will justify investments and map the trajectory of CSID’s water loss projects.

Sub-Tasks:

1. **Define realistic water loss activity portfolio and associated costs/benefits:** WSO will develop a portfolio of water loss activities to help prioritize efforts included in the master plan. The portfolio will include descriptions of strengths, weaknesses, expected costs and benefits. By outlining options in a consistent format, WSO and CSID will be better positioned to have informed discussions about prioritizing projects in the water loss master plan.
2. **Develop budget and staffing projections:** WSO will develop a budget and staffing projection to support the non-revenue water management activities recommended in the master plan.
3. **Master plan draft:** WSO will synthesize all relevant information gathered during the previous tasks into a single cohesive water loss master planning document. The master plan will galvanize consensus around a shared set of goals to carry momentum into successful program implementation.
4. **Master plan review NRW team workshop:** Before finalizing the master plan, WSO will coordinate a workshop with the NRW team to collect feedback and discuss the program design. Ensuring that the implementing leadership team has opportunity to refine the program will help build internal buyin and shape a more realistic suite of activity.
5. **Final master plan delivery:** After the workshop and all relevent feedback has been collected from CSID staff, WSO will finalize the master planning document and share it with CSID.

The NRW management plan will galvanize consensus around a shared set of goals to carry momentum into successful program implementation.

TASK 9 – Final Report

The results of all tasks will be summarized in a succinct final report including recommendations for next steps, prioritization of activities and timelines for implementation of next steps.

TASK 10 – Detailed Leak Detection Survey of CSID Distribution System

Alongside the prior tasks WSO will conduct a detailed leak detection survey to identify unsurfaced leakage and help the CSID recover water. The following subtasks outline our approach to a comprehensive leak detection survey.

Leak Detection Kick Off Meeting

To clarify the goals of the leak detection survey and establish protocols of communication and documentation, WSO recommends we convene for a kick off meeting. We will review our survey plan and outline our approach in reporting the survey findings.

Leak Detection Survey

Over the course of the survey, WSO’s leak detection technicians will use acoustic monitoring equipment to sound each and every appurtenance in District’s system (all service connections, hydrants, and valves) covering all 122 miles of distribution network. This is called a *comprehensive leak detection survey*, and it aims to identify all un-surfacing leakage detectable by sound.

Leakage Findings Reporting

For each leak finding, WSO will document the location of the leak and provide detailed description in a “leak report”. WSO will also provide a cloud-based leak detection tracking tool through which all findings are reported. At the end of the survey, WSO will provide a technical memo that summarizes the leak detection results and estimate the savings anticipated upon repair (though WSO will identify ongoing leaks, the District will be responsible for their eventual repair).

3 Proposed Timeline

A proposed timeline for this project can be found below based on WSO’s experience with similar projects.

TASK	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
<i>Task 1 - Source Meter Accuracy Assessment and Test Plan Development</i>	■	■							
<i>Task 2: Detailed Billing Data Analysis</i>		■	■	■					
<i>Task 3: Customer Meter Accuracy Assessment</i>			■	■	■				
<i>Task 4: Assessment of Real Loss Management Activities</i>				■	■	■			
<i>Task 5: Financial Background</i>									
<i>Task 6: Water Audit Compilation & Historical Analysis</i>					■	■	■		
<i>Task 7: Target Development</i>						■	■	■	
<i>Task 8: Water Loss Control Master Plan Development</i>							■	■	■
<i>Task 9: Final Report</i>									■
<i>Task 10: Detailed Leak Detection Survey</i>				■	■	■			

4 Proposed Budget

The total project budget is a not to exceed budget of \$132,640.

	STURM	JAGDEO	BURGERS	GORCHELS	Leak Detection	
<i>Position</i>	Project Director	Project Manager	Source Meter Specialist	Data Analyst	Survey	
<i>Rate/hr</i>	\$260.00	\$160.00	\$180.00	\$120.00	\$300.00	
					per mile surveyed	VALUE/TASK
Task 1 - Source Meter Accuracy Assessment and Test Plan Development	8	8	60	24		\$17,040.00
Task 2: Detailed Billing Data Analysis	6	12	0	24		\$6,360.00
Task 3: Customer Meter Accuracy Assessment	8	16	0	24		\$7,520.00
Task 4: Assessment of Real Loss Management Activities	10	20	8	40		\$12,040.00
Task 5: Financial Background	10	8	0	8		\$4,840.00
Task 6: Water Audit Compilation & Historical Analysis	4	8	4	24		\$5,920.00
Task 7: Target Development	24	30	0	40		\$15,840.00
Task 8: Water Loss Control Master Plan Development	16	20	0	24		\$10,240.00
Task 9: Final Report	8	16	4	24		\$8,240.00
Task 10: Detailed Leak Detection Survey					122	\$36,600.00
Grand Total Hours	94	138	76	232		
Grand Total Cost for Direct Labor	\$24,440.00	\$22,080.00	\$13,680.00	\$27,840.00	\$36,600.00	\$124,640.00
Total Cost Task 1 Through 9	\$88,040.00					
Total Cost for Task 10: Detailed Leak Detection	\$36,600.00					
Estimate for Expenses	\$8,000.00					
Total Costs	\$132,640.00					

Ninth Order of Business

Project: CSID LS 42 - Wet Well Piping Replacement
Date: Rev. 11-01-23
Bid No.: PNC2122386B1
Sewer Lift Station Rehabilitation and Repair
Using Agency: CSID

Project Number:
Contractor:
 Trio Development Corp.
 1701 N.W. 22nd. Ct.
 Pompano Beach Fl. 33069

Project Estimate					
Item No.	Commodity Code(s) 91356 Description	Quantity	Unit of Measure	Unit Price	Total Price
GROUP 1 - GENERAL CONDITIONS					
01-01	Mobilization for Routine Work Order under \$5,000.00		EA	\$200.00	\$ -
01-02	Mobilization for Routine Work Order from \$5,000.01 to \$25,000.00		EA	\$300.00	\$ -
01-03	Mobilization for Routine Work Order over \$25,000.01	1	EA	\$6,500.00	\$ 6,500.00
01-04	Mobilization for Urgent Work Order under \$5,000.00		EA	\$200.00	\$ -
01-05	Mobilization for Urgent Work Order from \$5,000.01 to \$25,000.00		EA	\$300.00	\$ -
01-06	Mobilization for Urgent Work Order over \$25,000.01		EA	\$6,500.00	\$ -
01-07	Provide Foreperson	48	HRS	\$145.00	\$ 6,960.00
01-08	Provide Laborer / Crewperson	144	HRS	\$75.00	\$ 10,800.00
01-09	Furnish Combination Cleaner Truck	6	HRS	\$300.00	\$ 1,800.00
01-10	Provide Backhoe	6	DAYS	\$600.00	\$ 3,600.00
01-11	Project Planning Cost (When no work order is issued)		EA	\$50.00	\$ -
01-12	Pass-thru for Non-County Agency Permits and Fees per Attachment "A"		Allowance		
01-13	Pass-Thru for Parts and Materials as per Attachment "A"		Allowance		\$ 6,360.00
01-14	Pass-Thru for Florida Power and Light		Allowance		
GROUP 1 Subtotal					\$ 36,020.00
GROUP 2 - DEMOLITION, REMOVAL AND DISPOSAL					
02-01	Demolish Slab on Grade, ≤ 8 inches thick		SF	\$ 10.00	\$ -
02-02	Demolish Slab over Wet Well or Vault > 8 inches ≤ 12 inches thick		SF	\$ 20.00	\$ -
02-03	Demolish and Remove Asphalt Paving		SF	\$ 10.00	\$ -
02-04	Demolish Valve Vault and Top Slab		EA	\$ 4,000.00	\$ -
02-05	Remove existing Iron Piping and Fittings in Wet Wells or Vaults	1.403	TN	\$ 100.00	\$ 140.30
02-06	Remove existing Iron Piping and Fittings below Grade, including Excavation, Temporary Restraint, Backfilling, Compaction, and Restoration		TN	\$ 100.00	\$ -
02-07	Remove existing Valves (12 inches and under) below Grade, including Excavation, Backfilling, Compaction and Restoration		EA	\$ 250.00	\$ -
02-08	Remove existing Valves (12 inches and under) in Wet Wells or Vaults		EA	\$ 500.00	\$ -
02-09	Remove existing Pump Base Ells and Rails	3	EA	\$ 2,500.00	\$ 7,500.00
02-10	Remove existing PVC Piping and Fittings in Wet Wells or Vaults		LB	\$ 1.00	\$ -
02-11	Remove existing Chain Link Fence		LF	\$ 6.00	\$ -
02-12	Plug and Prepare Abandoned Pipe for Grout Filling		EA	\$ 50.00	\$ -
02-13	Grout Fill Abandoned Pipe		CY	\$ 50.00	\$ -
02-14	Demolish Wet Well (6 foot or 8 foot diameter)		VF	\$ 50.00	\$ -
02-15	Fill in Abandoned Wet Well or Valve Vault		CY	\$ 25.00	\$ -
02-16	Remove Fillet from Bottom of Wet Well	8	CF	\$ 100.00	\$ 800.00
GROUP 2 Subtotal					\$ 8,440.30
GROUP 3 - SITE WORK					
03-01	F & I Temporary By-pass Pumps and Piping (up to 50,000 gpd)		DAYS	\$ 25.00	\$ -
03-02	F & I Temporary By-pass Pumps and Piping (50,001 gpd to 250,000 gpd)		DAYS	\$ 225.00	\$ -
03-03	F & I Temporary By-pass Pumps and Piping (250,001 to 1.0 mgd)	16	DAYS	\$ 350.00	\$ 5,600.00
03-04	F & I Temporary By-pass Pumps and Piping (over 1.0 mgd)		DAYS	\$ 350.00	\$ -
03-05	Operate and Maintain Temporary By-pass System (up to 50,000 gpd)		DAYS	\$ 25.00	\$ -

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Contractor:
 Trio Development Corp.
 1701 N.W. 22nd. Ct.
 Pompano Beach Fl. 33069

Project Estimate

Item No.	Commodity Code(s) 91356 Description	Quantity	Unit of Measure	Unit Price	Total Price
03-06	Operate and Maintain Temporary By-pass System (50,001 gpd to 250,000 gpd)		DAYS	\$ 225.00	\$ -
03-07	Operate and Maintain Temporary By-pass System (250,001 gpd to 1.0 mgd)	16	DAYS	\$ 350.00	\$ 5,600.00
03-08	Operate and Maintain Temporary By-pass System (over 1.0 mgd)		DAYS	\$ 350.00	\$ -
03-09	Exploratory Excavation		EA	\$ 1,500.00	\$ -
03-10	Non-Exploratory Excavation		EA	\$ 2,500.00	\$ -
03-11	Furnish and Install Temporary Line Stop (4" to 6")		EA	\$ 3,000.00	\$ -
03-12	Furnish and Install Temporary Line Stop (8" to 12")		EA	\$ 5,000.00	\$ -
03-13	Furnish and Install Temporary Line Stop (14" to 24")		EA	\$ 8,000.00	\$ -
03-14	8 inch Lime Rock Base Course including Sub-base Preparation		CY	\$ 200.00	\$ -
03-15	12 inch Lime Rock Base Course including Sub-base Preparation		CY	\$ 210.00	\$ -
03-16	Saw Cut Asphalt Paving		LF	\$ 5.00	\$ -
03-17	1 inch Asphalt Concrete Pavement		SY	\$ 15.00	\$ -
03-18	2 inch Asphalt Concrete Pavement		SY	\$ 30.00	\$ -
03-19	Furnish and Install 3/4 inch Washed Rock over Weed Barrier		SY	\$ 40.00	\$ -
03-20	Furnish and Install Seed and Mulch		SY	\$ 3.00	\$ -
03-21	Furnish and Install Bahia Sod		SY	\$ 5.00	\$ -
03-22	Furnish and Install Floratam Sod		SY	\$ 7.00	\$ -
03-23	Furnish and Install Pipe Bollards		EA	\$ 100.00	\$ -
03-24	Relocate Existing Chain Link Fence		LF	\$ 5.00	\$ -
03-25	Furnish and Install New 6-foot Chain Link Fence		LF	\$ 50.00	\$ -
03-26	Furnish and Install 12-foot Chain Link Swing Gate		EA	\$ 2,500.00	\$ -
03-27	Furnish and Install 10-foot Chain Link Roller Gate		EA	\$ 1,500.00	\$ -
03-28	Furnish and Install 12-foot Chain Link Roller Gate		EA	\$ 1,500.00	\$ -
03-29	Produce and Submit As-built Drawings		EA	\$ 4,000.00	\$ -
GROUP 3 Subtotal					\$ 11,200.00
GROUP 4 - NEW AND REHABILITATED CONCRETE WORK					
04-01	Saw Cut Concrete up to 12 inches thick		LF	\$ 30.00	\$ -
04-02	Saw Cut Concrete > 12 inches ≤ 24 inches thick		LF	\$ 35.00	\$ -
04-03	Core Hole in Concrete up to 12 inches thick (less than 6 inch diameter)		EA	\$ 100.00	\$ -
04-04	Core Hole in Concrete up to 12 inches thick (6 inch to 12 inch diameter)		EA	\$ 700.00	\$ -
04-05	Core Hole in Concrete up to 12 inches thick (over 12 inch diameter)		EA	\$ 750.00	\$ -
04-06	Furnish and Install Precast Wet Well Structure (6 foot diameter)		VF	\$ 600.00	\$ -
04-07	Furnish and Install Precast Wet Well Structure (8 foot diameter)		VF	\$ 850.00	\$ -
04-08	Furnish and Install Precast Wet Well Structure (10 foot diameter)		VF	\$ 1,000.00	\$ -
04-09	Furnish and Install Precast Wet Well Structure (12 foot diameter)		VF	\$ 1,100.00	\$ -
04-10	Furnish and Install Wet Well Precast Top Slab with 3 foot x 4 foot Hatch (6 foot diameter)		EA	\$ 7,000.00	\$ -
04-11	Furnish and Install Wet Well Precast Top Slab with 3.5 foot x 5 foot Hatch (8 foot diameter)		EA	\$ 8,000.00	\$ -
04-12	Furnish and Install Wet Well Precast Top Slab with 4 foot x 6 foot Hatch (10 foot diameter)		EA	\$ 8,100.00	\$ -

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Pompano Beach Fl. 33069

Project Estimate

Item No.	Commodity Code(s) 91356 Description	Quantity	Unit of Measure	Unit Price	Total Price
04-13	Furnish and Install Wet Well Precast Top Slab with 4 foot x 6 foot Hatch (12 foot diameter)		EA	\$ 8,200.00	\$ -
04-14	Furnish and Install Retrofit Hatch (TPD - 300 psf) 47" x 47"		EA	\$ 600.00	\$ -
04-15	Furnish and Install Retrofit Hatch (TPD - 300 psf) 47" x 53"		EA	\$ 700.00	\$ -
04-16	Furnish and Install Retrofit Hatch (TPD - 300 psf) 47" x 71"		EA	\$ 800.00	\$ -
04-17	Furnish and Install Retrofit Hatch (TPD - 300 psf) 59" x 59"		EA	\$ 750.00	\$ -
04-18	Furnish and Install Wet Well Fillet		CF	\$ 150.00	\$ -
04-19	Furnish and Install 4.5 foot x 7.0 foot Precast Meter Vault		EA	\$ 2,000.00	\$ -
04-20	Furnish and Install 5.5 foot x 8.0 foot Precast Meter Vault		EA	\$ 3,000.00	\$ -
04-21	Furnish and Install 6.5 foot x 9.0 foot Precast Meter Vault		EA	\$ 4,000.00	\$ -
04-22	Furnish and Install 5.0 foot x 5.0 foot Precast Meter Vault		EA	\$ 15,000.00	\$ -
04-23	Furnish and Install 6.0 foot x 6.0 foot Precast Meter Vault		EA	\$ 16,000.00	\$ -
04-24	Wet Well and Manhole Interior Surface Preparation		SF	\$ 4.00	\$ -
04-25	Furnish and Install Wet Well and Manhole Cementitious Coating - Brick Structures		SF	\$ 5.00	\$ -
04-26	Furnish and Install Wet Well and Manhole Cementitious Coating - Precast Structures		SF	\$ 5.00	\$ -
04-27	Furnish and Install Bituminastic Coating		SF	\$ 5.00	\$ -
04-28	Furnish and Install Wet Well and Manhole Level II Coating (Sewper Coat or BASF SP15)		SF	\$ 4.00	\$ -
04-29	Furnish and Install Wet Well and Manhole Level III Coating (BASF Sewer Guard HBS 100 Epoxy Liner)		SF	\$ 17.00	\$ -
04-30	Furnish and Install Injected Chemical Grout in Concrete Structures	100	GAL	\$ 10.00	\$ 1,000.00
04-31	Furnish and Install Meter Vault Ladder		EA	\$ 1,000.00	\$ -
04-32	Furnish and Install Precast Manhole, 4 foot diameter, 6 feet to 10 feet deep		EA	\$ 4,000.00	\$ -
04-33	Furnish and Install Precast Manhole, 4 foot diameter, 10 feet to 14 feet deep		EA	\$ 5,000.00	\$ -
04-34	Furnish and Install Precast Manhole, 4 foot diameter, 14 feet to 18 feet deep		EA	\$ 6,000.00	\$ -
04-35	Furnish and Install Precast Manhole, 4 foot diameter, over 18 feet deep		EA	\$ 7,000.00	\$ -
04-36	Furnish and Install Reinforced Concrete Slab on Grade (up to 12 inches thick)		CY	\$ 200.00	\$ -
04-37	Furnish and Install Reinforced Formed Concrete	3	CY	\$ 200.00	\$ 600.00
04-38	Furnish and Install Miscellaneous Unreinforced Formed Concrete		CY	\$ 200.00	\$ -
04-39	Furnish and Install Tremie Concrete		CY	\$ 175.00	\$ -
04-40	Form and Pour Concrete Sidewalk (6 inch thick unreinforced)		SY	\$ 60.00	\$ -
04-41	Furnish and Install Flowable Fill		CY	\$ 125.00	\$ -
04-42	Furnish Concrete Pump	6	HRS	\$ 400.00	\$ 2,400.00
GROUP 4 Subtotal					\$ 4,000.00
GROUP 5 - PIPING AND VALVES					
05-01	Furnish and Install 4 inch FLG Plug Valve with Stainless Steel Accessories		EA	\$ 2,500.00	\$ -
05-02	Furnish and Install 6 inch FLG Plug Valve with Stainless Steel Accessories		EA	\$ 3,500.00	\$ -
05-03	Furnish and Install 8 inch FLG Plug Valve with Stainless Steel Accessories		EA	\$ 3,600.00	\$ -
05-04	Furnish and Install 10 inch FLG Plug Valve with Stainless Steel Accessories		EA	\$ 3,700.00	\$ -

Project: CSID LS 42 - Wet Well Piping Replacement
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Contractor:
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1701 N.W. 22nd. Ct.
Pompano Beach Fl. 33069

Project Estimate					
Item No.	Commodity Code(s) 91356 Description	Quantity	Unit of Measure	Unit Price	Total Price
05-05	Furnish and Install 12 inch FLG Plug Valve with Stainless Steel Accessories		EA	\$ 3,800.00	\$ -
05-06	Furnish and Install 4 inch Check Valve with Stainless Steel Accessories		EA	\$ 3,500.00	\$ -
05-07	Furnish and Install 6 inch Check Valve with Stainless Steel Accessories		EA	\$ 4,500.00	\$ -
05-08	Furnish and Install 8 inch Check Valve with Stainless Steel Accessories		EA	\$ 4,600.00	\$ -
05-09	Furnish and Install 10 inch Check Valve with Stainless Steel Accessories		EA	\$ 4,700.00	\$ -
05-10	Furnish and Install 12 inch Check Valve with Stainless Steel Accessories		EA	\$ 4,800.00	\$ -
05-11	Furnish and Install 4 inch Pump Out Connection		EA	\$ 2,000.00	\$ -
05-12	Furnish and Install 6 inch Pump Out Connection		EA	\$ 2,500.00	\$ -
05-13	Furnish and Install 4 inch MJ Plug Valve with Accessories		EA	\$ 4,000.00	\$ -
05-14	Furnish and Install 6 inch MJ Plug Valve with Accessories		EA	\$ 4,100.00	\$ -
05-15	Furnish and Install 8 inch MJ Plug Valve with Accessories		EA	\$ 4,200.00	\$ -
05-16	Furnish and Install 10 inch MJ Plug Valve with Accessories		EA	\$ 4,300.00	\$ -
05-17	Furnish and Install 12 inch MJ Plug Valve with Accessories		EA	\$ 4,400.00	\$ -
05-18	Furnish and Install 4 inch Flanged DI Piping		LF	\$ 150.00	\$ -
05-19	Furnish and Install 6 inch Flanged DI Piping	84	LF	\$ 155.00	\$ 13,020.00
05-20	Furnish and Install 8 inch Flanged DI Piping		LF	\$ 160.00	\$ -
05-21	Furnish and Install 10 inch Flanged DI Piping		LF	\$ 165.00	\$ -
05-22	Furnish and Install 12 inch Flanged DI Piping		LF	\$ 170.00	\$ -
05-23	Furnish and Install 4 inch MJ Flexible Joint		EA	\$ 600.00	\$ -
05-24	Furnish and Install 6 inch MJ Flexible Joint		EA	\$ 700.00	\$ -
05-25	Furnish and Install 8 inch MJ Flexible Joint		EA	\$ 800.00	\$ -
05-26	Furnish and Install 10 inch MJ Flexible Joint		EA	\$ 900.00	\$ -
05-27	Furnish and Install Pump Base Elbow and County Supplied Pumps (4 inch Discharge)		EA	\$ 2,500.00	\$ -
05-28	Furnish and Install Pump Base Elbow and County Supplied Pumps (6 inch Discharge)	3	EA	\$ 2,700.00	\$ 8,100.00
05-29	Furnish and Install Pump Base Elbow and County Supplied Pumps (8 inch Discharge)		EA	\$ 2,750.00	\$ -
05-30	Furnish and Install Stainless Steel Float Hanger Bracket		EA	\$ 300.00	\$ -
05-31	Furnish and Install Wet Well Vent		EA	\$ 3,000.00	\$ -
05-32	Furnish and Install 1 inch Water Service		EA	\$ 200.00	\$ -
05-33	Furnish and Install 1 inch Back Flow Prevention Device		EA	\$ 200.00	\$ -
05-34	Furnish and Install 2 inch Water Service		EA	\$ 3,000.00	\$ -
05-35	Furnish and Install 2 inch Back Flow Prevention Device		EA	\$ 2,000.00	\$ -
05-36	Furnish and Install 4 inch DIP Mechanical Joint Force Main		LF	\$ 35.00	\$ -
05-37	Furnish and Install 6 inch DIP Mechanical Joint Force Main		LF	\$ 40.00	\$ -
05-38	Furnish and Install 8 inch DIP Mechanical Joint Force Main		LF	\$ 50.00	\$ -
05-39	Furnish and Install 10 inch DIP Mechanical Joint Force Main		LF	\$ 60.00	\$ -
05-40	Furnish and Install 12 inch DIP Mechanical Joint Force Main		LF	\$ 70.00	\$ -
05-41	Furnish and Install MJ DIP Force Main Fittings and Accessories	142.8	LBS	\$ 20.00	\$ 2,856.00

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Pompano Beach Fl. 33069

Project Estimate					
Item No.	Commodity Code(s) 91356 Description	Quantity	Unit of Measure	Unit Price	Total Price
05-42	Furnish and Install 8 inch PVC Sanitary Sewer (SDR 26) (6 feet - 10 feet deep)		LF	\$ 50.00	\$ -
05-43	Furnish and Install 8 inch PVC Sanitary Sewer (SDR 26) (10 feet - 14 feet deep)		LF	\$ 55.00	\$ -
05-44	Furnish and Install 8 inch PVC Sanitary Sewer (C-900) (14 feet - 18 feet deep)		LF	\$ 60.00	\$ -
05-45	Furnish and Install 10 inch PVC Sanitary Sewer (SDR 26) (6 feet - 10 feet deep)		LF	\$ 55.00	\$ -
05-46	Furnish and Install 10 inch PVC Sanitary Sewer (SDR 26) (10 feet - 14 feet deep)		LF	\$ 60.00	\$ -
05-47	Furnish and Install 10 inch PVC Sanitary Sewer (C-900) (14 feet - 18 feet deep)		LF	\$ 65.00	\$ -
05-48	Furnish and Install 10 inch PVC Sanitary Sewer (C-900) (over 18 feet deep)		LF	\$ 70.00	\$ -
05-49	Furnish and Install Connection to Existing Force Main - 4 inch		EA	\$ 3,500.00	\$ -
05-50	Furnish and Install Connection to Existing Force Main - 6 inch		EA	\$ 3,600.00	\$ -
05-51	Furnish and Install Connection to Existing Force Main - 8 inch		EA	\$ 3,700.00	\$ -
05-52	Furnish and Install Connection to Existing Force Main - 10 inch		EA	\$ 3,750.00	\$ -
05-53	Furnish and Install Connection to Existing Force Main - 12 inch		EA	\$ 3,800.00	\$ -
05-54	Furnish and Install Flanged DIP Fittings	610.5	LBS	\$ 15.00	\$ 9,157.50
05-55	Furnish and Install Pressure Gauge Assembly		EA	\$ 2,500.00	\$ -
05-56	Furnish and Install 1 tap for Additional Transducer		EA	\$ 200.00	\$ -
05-57	Furnish and Install 3" Drain Pipe from Valve Vault to Wet Well		EA	\$ 1,500.00	\$ -
05-58	Install County Supplied Passive Odor Control Unit with Connection to Panel		EA	\$ 500.00	\$ -
05-59	Install County Supplied Active Odor Control Unit with Connection to Panel		EA	\$ 1,520.00	\$ -
GROUP 5 Subtotal					\$ 33,133.50
GROUP 6 - ELECTRICAL WORK					
06-01	Remove Existing Control Panel (duplex)		EA	\$ 3,500.00	\$ -
06-02	Remove Existing Control Panel (triplex)		EA	\$ 3,600.00	\$ -
06-03	Remove Existing Electric Meter		EA	\$ 3,500.00	\$ -
06-04	Relocate Existing Control Panel (up to 30 feet)		EA	\$ 1,500.00	\$ -
06-05	Relocate Existing Electric Meter (up to 30 feet)		EA	\$ 1,500.00	\$ -
06-06	Install County Supplied Control Panel - up to 10 HP		EA	\$ 14,000.00	\$ -
06-07	Install County Supplied Control Panel - over 10 HP to 20 HP		EA	\$ 15,000.00	\$ -
06-08	Install County Supplied Control Panel - over 20 HP to 40 HP (duplex)		EA	\$ 15,100.00	\$ -
06-09	Install County Supplied Control Panel - over 20 HP to 40 HP (triplex)		EA	\$ 15,200.00	\$ -
06-10	Install County Supplied Control Panel - 50 HP to 100 HP (duplex)		EA	\$ 15,300.00	\$ -
06-11	Install County Supplied Control Panel - 50 HP to 100 HP (triplex)		EA	\$ 16,000.00	\$ -
06-12	Furnish and Install 3/4 inch Bubbler System Piping, Fittings and Appurtenances		EA	\$ 4,000.00	\$ -
06-13	Remove and Properly Store Existing Pumps during Construction	1	EA	\$ 1,000.00	\$ 1,000.00
06-14	Install/Reinstall Pumps Including Reconnection to Panel	1	EA	\$ 1,000.00	\$ 1,000.00
06-15	Disconnect and Remove Existing Floats from Wet Well	4	EA	\$ 100.00	\$ 400.00
06-16	Install and Reconnect County Supplied Floats in Wet Well	4	EA	\$ 250.00	\$ 1,000.00
06-17	Furnish and Install Power Present Indicator Light (blue)		EA	\$ 200.00	\$ -

Project: CSID LS 42 - Wet Well Piping Replacement
Date: Rev. 11-01-23
Bid No.: PNC2122386B1
Sewer Lift Station Rehabilitation and Repair
Using Agency: CSID

Project Number:
Contractor:
 Trio Development Corp.
 1701 N.W. 22nd. Ct.
 Pompano Beach Fl. 33069

Project Estimate

Item No.	Commodity Code(s) 91356 Description	Quantity	Unit of Measure	Unit Price	Total Price
06-18	Install County Supplied Connection/Isolation Panel (duplex)		EA	\$ 3,000.00	\$ -
06-19	Install County Supplied Connection/Isolation Panel (triplex)		EA	\$ 3,100.00	\$ -
06-20	Furnish and Install 200 AMP Electrical Service to Lift Station		LF	\$ 50.00	\$ -
06-21	Furnish and Install 400 AMP Electrical Service to Lift Station		LF	\$ 60.00	\$ -
06-22	Furnish and Install 200A Emergency Connection/Transfer Panel		EA	\$ 2,000.00	\$ -
06-23	Furnish and Install 400A Emergency Connection/Transfer Panel		EA	\$ 2,000.00	\$ -
06-24	Furnish and Install Temporary Electrical Service		EA	\$ 1,500.00	\$ -
06-25	Furnish and Install Temporary Control Panel		EA	\$ 1,000.00	\$ -
06-26	Furnish and Install 3 inch Aluminum Conduit		LF	\$ 10.00	\$ -
06-27	Furnish and Install 2 inch Aluminum Conduit		LF	\$ 7.00	\$ -
06-28	Furnish and Install 1-1/2 inch Aluminum Conduit		LF	\$ 5.00	\$ -
06-29	Furnish and Install 1 inch Aluminum Conduit		LF	\$ 4.00	\$ -
06-30	Furnish and Install 3/4 inch Aluminum Conduit		LF	\$ 3.00	\$ -
06-31	Furnish and Install 2 inch PVC Conduit		LF	\$ 4.00	\$ -
06-32	Furnish and Install 1 inch PVC Conduit		LF	\$ 2.00	\$ -
06-33	Furnish and Install 3/4 inch PVC Conduit		LF	\$ 1.00	\$ -
06-34	Remove existing Antenna and Support		EA	\$ 1,000.00	\$ -
06-35	Furnish and Install 2 inch Aluminum Pole for SCADA Antenna (max 20 feet)		EA	\$ 2,000.00	\$ -
GROUP 6 Subtotal					\$ 3,400.00
Total Price					\$ 96,193.80

Abbreviations:

CY= Cubic Yard SF = Square Foot SY= Square Yard EA = Each VF = Vertical Foot LF = Linear Foot HRS = Hours
 LBS = Pounds TN = Ton

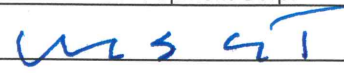
Trench Safety Act applies to this bid solicitation. The Bidder should complete and submit the Trench Safety Act Certification (Form 004546-2) with the bid but must complete and submit within five (5) calendar days of request by COUNTY and prior to award to be considered responsive.

DATE PREPARED: _____ Rev. 11-01-23

PREPARED BY (NAME OF PREPARER): _____ Larry Shortz

NAME OF COMPANY: _____ Trio Development Corp.

AUTHORIZED SIGNATURE: _____



Breakdown for Labor and Equipment Items

Task Description	1.07 Provide Foreperson/Hr.	1.08 Provide Laborer/Hr.	1.10 Provide Backhoe/ Day
Prepare duplex by-pass connection point	8	24	1
Excavate between structures for piping removal and replacment	8	24	1
Chip out pipes between structures	16	48	2
Backfill and compact between structures	8	24	1
Restore swale for sod By Others	8	24	1
Subtotal	48	144	6

Attachment A

1.13 Pass Through Parts and Materials

	Amount
Cost differential for 6" SCH10 SS in well in lieu of 6" DIP	\$4,260.00
Demolition disposal	\$900.00
Construction area signage	\$1,200.00
Subtotal	\$6,360.00



DEVELOPMENT CORPORATION

1701 N.W. 22nd Court
Pompano Beach, Florida 33069
(954) 971-2288
Fax (954) 971-0030

July 8, 2021

Curt Dwiggin
Coral Springs Improvement District
10300 NW 11th Manor
Coral Springs, FL 33071

Re: PNC2122386B1 Piggyback – Broward County Sewer Lift Station Rehabilitation and Repair

Trio Development Corporation agrees to allow Coral Springs Improvement District the opportunity to piggyback the Broward County Sewer Lift Station Rehabilitation and Repair under the contract named above and further agrees that we will also comply with the requirements below in the administration of this contract with the Coral Springs Improvement District. Further Trio Development Corporation agrees that it is our obligation to obtain affidavits from any subcontractors to ensure that the subs maintain compliance with E-Verify. The CONTRACTOR and its subcontractors warrant compliance with all federal immigration laws and regulations that relate to their employees. The CONTRACTOR agrees and acknowledges that the OWNER is a public employer subject to the E-Verify requirements as set forth in Section 448.095, Florida Statutes, and that the provisions of Section 448.095, Florida Statutes apply to this Agreement. If the OWNER has a good faith belief that the CONTRACTOR has knowingly hired, recruited, or referred an alien who is not authorized to work by the immigration laws or the Attorney General of the United States for employment under this Agreement, the OWNER shall terminate this Agreement. If the OWNER has a good faith belief that a subcontractor performing work under this Agreement knowingly hired, recruited, or referred an alien who is not duly authorized to work by the immigration laws or the Attorney General of the United States for employment under this Agreement, the OWNER shall promptly notify the CONTRACTOR and order the CONTRACTOR to immediately terminate the contract with the subcontractor. The CONTRACTOR shall be liable for any additional costs incurred by the OWNER as a result of the termination of a contract based on CONTRACTOR'S failure to comply with E-Verify requirements evidenced herein.

IF THE CONTRACTOR HAS ANY QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES TO THE CONTRACTORS DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, THE CONTRACTOR SHOULD CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT Sandra Demarco 210 N. University Drive, Suite 702 Coral Springs, FL 33071 (O) 954.603.0033, Ext. 40532 Email: Sandra.demarco@inframark.com

Sincerely,

Lawrence Shortz, President
Trio Development Corp.

4/17/23
DR. MARTIN SHARK
CSID
PRESIDENT



Finance and Administrative Services Department

PURCHASING DIVISION

115 S. Andrews Avenue, Room 212 • Fort Lauderdale, Florida 33301 • 954-357-6066 • FAX 954-357-8535

May 25, 2021

Trio Development Corporation
 Attention: Lawrence Shortz
 1701 NW 22 Court
 Pompano Beach, FL 33069
larry@triodevelopment.com; scott@triodevelopment.com

EMAIL TRANSMITTAL

RE: Solicitation No. PNC2122386B1, Sewer Lift Station Rehabilitation and Repair
 Award Amount: \$10,669,350.00; Bond Amount: \$2,667,337.50

Dear Mr. Shortz:

This is to confirm that the Director of Purchasing has conditionally accepted your Bid on the above-referenced solicitation.

This Award is subject to terms and conditions below and the Vendor is cautioned not to proceed until the items indicated have been satisfied. Goods or Services covered under this procurement must not be delivered or initiated until an official Purchase Order is issued **(and Notice to Proceed, if applicable)**.

Please arrange with the Nancy Olesen, Purchasing Division, for the submission of required Performance Guaranty and Payment Guaranty for the referenced contract. The [Performance](#) and [Payment](#) Bond forms are available on the [Purchasing Division website](#). Upon receipt and acceptance (by the County) of an executed Contract and the aforementioned documents, a Purchase Order will be issued.

To ensure the bonds are filled in completely and accurately, it is suggested that a copy of the bonds be emailed to the Purchasing Agent at nolesen@broward.org for review prior to recording with the Broward County Records, Taxes and Treasury Division. Please use the following contract date ["by written agreement dated the"]: **June 2, 2021**.

Pursuant to the requirements of Section 255.05(1)(a), Florida Statutes, Performance and Payment bonds must be recorded by the Vendor with the Broward County Records, Taxes and Treasury Division and the original bond must be provided to the Purchasing Division. In light of current events, the physical location of the Recording Section of the Records, Taxes and Treasury Division (for the recording of payment and performance bonds) is closed until further notice. However, there are vendors who provide services for electronic recording of these documents. Please refer to their website for vendor information at: <https://www.broward.org/RecordsTaxesTreasury/Pages/Default.aspx>.

If you are unable to complete electronic recording through these vendors, please contact the Purchasing Agent by email at nolesen@broward.org or by phone at (954) 357-7995 for additional options. Failure to provide the above required documentation by close of business on June 3, 2021 shall cause your firm to be considered non-responsible and this contingent Award to your firm may be rescinded.

Thank you for your interest in doing business with Broward County.

Sincerely,

Brenda J. Billingsley, Director
 Purchasing Division

By: _____
 Nancy Olesen, Purchasing Agent

Award Letter Contingent to Vendor
 Rev. 12/11/2017

Demarco, Sandra

From: PurchasingRenewals <PurchasingRenewals@broward.org>
Sent: Tuesday, June 22, 2021 4:31 PM
To: TRIO DEVELOPMENT CORP
Cc: PurchasingRenewals; Billingsley, Brenda; Olesen, Nancy; Mangan, Constance; Lopez, George
Subject: NEW Contract Established in MARS: Master Agreement Renewal - PNC2122386B1_1 - Lift Station Rehab and Repair
Attachments: ATT00001.jpg; ATT00002.jpg

Congratulations!

This email is to inform you that contract No. **PNC2122386B1_1** for **Lift Station Rehab and Repair** approved on **6/2/2021** for the initial term of **Start date: 6/2/2021 End date: 6/1/2024** in the amount of **\$10,669,350.00** with **2** renewal option(s).

Original Term Start date: 6/2/2021 End date: 6/1/2024 Amount: \$10,669,350.00
Renewal Term One Start date: 6/2/2024 End date: 6/1/2025 Amount: \$3,556,450.00
Renewal Term Two Start date: 6/2/2025 End date: 6/1/2026 Amount: Not Available

You will receive notifications from the Master Agreement Renewal System (MARS) in advance of the expiration of the contract.

The MARS system is set up to renew the contract unless action is taken by the Contract Administrator NOT to renew, or a vendor refuses to renew the contract.

If vendor decides NOT to renew the contract, please notify your Contract Administrator at least **90** days prior to the end of the contract. Below is their contact information:

Contract Administrator: TBABOOLAL-ABRAMS
Email Address: galopez@broward.org
Phone Number:

Please confirm that all information listed above is correct. If there are any changes, notify your Contract Administrator.

TENTH ORDER OF BUSINESS

RESOLUTION 2024 – 03

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE CORAL SPRINGS IMPROVEMENT DISTRICT APPROVING UTILITY RATE MODIFICATIONS FOR STORMWATER, RIGHT-OF-WAY AND UTILITY PERMITTING REVIEW FEES; PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, pursuant to Chapter 2004-469, Laws of Florida, the Board of Supervisors of the Coral Springs Improvement District (the “District”) possesses the necessary statutory authority to establish rates and fees for the services and facilities furnished by the District; and

WHEREAS, the District Engineer has completed an analysis of the costs to the District for rendering certain services related to the review and permitting of connections to the District’s stormwater, rights-of-way, and utility services, and has prepared the proposed fee schedule attached herewith as Exhibit “A”; and

WHEREAS, the District Board of Supervisors has conducted a public hearing, considered the District Engineer’s recommendations and all public comments and determined that the proposed fee schedule is fair and equitable.

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE CORAL SPRINGS IMPROVEMENT DISTRICT OF BROWARD COUNTY, FLORIDA, THAT:

Section 1. The recitals above are true and accurate and are hereby made a part of this Resolution.

Section 2. The permit review fees shown on Exhibit “A” are equitable to all District customers as required by Chapter 2004-469, Laws of Florida and will allow the District to continue to efficiently operate and maintain its facilities for the benefit of all District customers.

Section 3. The permit fees shown on Exhibit “A” are approved.

Section 4. The permit fees on Exhibit “A” shall take effect January 1, 2024.

Section 5. This resolution shall take effect upon passage by the Board of Supervisors of the Coral Springs Improvement District.

PASSED AND ADOPTED this 13th day of November, 2023.

Curtis J. Tiefenbrun, President

Kenneth G. Cassel, Assistant Secretary

APPROVED AS TO FORM:

Seth C. Behn, District Attorney

Storm Water Management License (permit)	Unit cost
Pre-application Conference	\$ 250.00
Records Search per hour or part thereof	\$ 50.00
Letter of No Objection	\$ 250.00
Storm Water Management License (staff level only) up to two reviews.	\$ 1,500.00
Subsequent (additional) reviews	\$ 500.00
Storm Water Management License (Subject to Board approval) up to two reviews under 10 ac	\$ 3,500.00
Over 10 ac	\$ 7,000.00
Subsequent review (each occasion)	\$ 1,000.00
Major Modification	50% of original fee
Letter modifications	\$ 250.00
Time Extensions	\$ 500.00
Failed inspection	\$ 100.00
Storm Water Management Operational License (SWM renewal)	
Review, process and inspect following engineer's certification	\$ 750.00
if more than two points of discharge add per outfall	\$ 100.00
Failed inspection	\$ 100.00
Right of Way Utilization	
Temporary access/utilization <30 days	\$ 500.00
Temporary access/utilization >30 days	\$ 1,000.00
Crossing of Canal or CSID culvert (each location)	\$ 1,500.00
Major mods after permit same as new fee	\$ 1,500.00

Utility	
Plan review fee - 5% of estimated cost to construct public improvements (includes first two reviews)	5%
Subsequent reviews (public systems)	1%
Plan review, permit and inspection fee - private systems	\$ 1,000.00
Subsequent reviews (private systems)	\$ 250.00
Minor changes after approval (per affected sheet)	\$ 100.00
Permit and inspection fee (public) 5% of estimated cost of donated items	5%
Minimum inspection fee \$250/point of connection to CSID facilities	\$250
Failed inspections	
Progress Inspection	\$ 100.00
Pressure test	\$ 200.00
Lamping	\$ 100.00
Final	\$ 200.00
Repeat review of documents	\$ 100.00
Recording (per sheet)	\$ 25.00
Miscellaneous	
Variance from District Criteria	\$ 4,000.00
Consideration of alternative materials, design, etc. (per hour)	\$ 100.00
Fence encroachment	\$ 500.00
Easement encroachment/utilization	\$ 750.00
Additional - engineer/hr (meetings, review...)	\$ 100.00
Expedited Review / Temporary CO agreement	\$ 1,000.00

Eleventh Order of Business

WORK AUTHORIZATION

CSID WA No. 219

Globaltech No. 151373

Pursuant to the provisions contained in the "Contract for Professional Engineering Consulting and Design-Build Services on a Continuing Contract Basis " between the CORAL SPRINGS IMPROVEMENT DISTRICT, hereinafter referred to as "OWNER", and Globaltech, Inc., hereinafter referred to as "FIRM", dated July 1, 2012 (hereinafter referred to as "AGREEMENT"), this Work Authorization authorizes the FIRM to provide services under the terms and conditions set forth herein and in the AGREEMENT, which is incorporated herein by reference as though set forth in full.

The OWNER desires design-build services related to the Well 2 Repower, hereinafter referred to as the "Specific Project".

Section 1 – Terms

FIRM shall be defined as an individual, corporation or contractor having a direct contract with the OWNER or with any other subcontractor in the performance of a part of the work contracted for under the terms of this Work Authorization with the OWNER.

Section 2 – Scope of Work

Currently, Raw Water Wells No. 2 (Well#2) and No. 3 (Well#3) are powered from a single, oversized breaker in PP-1 located in the High Service Pump (HSP) Building. In order to increase reliability of the Raw Water Wells, Well#2 is to be repowered from the separate and newer electrical service distributed by 40-MCC-1-1 located in the Reverse Osmosis (RO) building electrical room. A new breaker is to be furnished and installed for Well#2 in 40-MCC-1-1. Additionally, the control panel equipment at Well#2 is antiquated and does not meet current standards. A

new control panel with VFD (for flexibility of operations) and PLC will be furnished and installed at Well#2.

Three (3) of the existing four (4) 2" below-grade conduits that run horizontally underneath the road in front of the RO building are to be extended to the electrical room in the RO building and to the new control panel at Well#2. The new power and new control circuits are to be completed using two (2) of the existing 2" below-grade conduits that will be extended. Power wiring, fiber optic cable, and communication wiring will be furnished and installed. SCADA and PLC programming for Well#2 will be modified.

The requested work will be completed by implementing the following two tasks:

Task 1 – Engineering Services

This task includes project management and engineering services required to complete the project.

Engineering and Project Management

1. Attend preliminary scoping meetings with the OWNER to assist in preliminary design parameters and overall scope.
2. Prepare detailed construction schedule to include as a minimum; design, site mobilization, detailed construction activities, scheduled shut downs and durations, equipment/material delivery times, testing, and startup and commissioning.
3. Coordinate material and equipment purchase and suppliers.
4. Review, administer, and track equipment submittals.
5. Schedule and conduct meetings, inspections, and testing with OWNER's staff.
6. Attend progress meetings and coordination meetings.
7. Oversee construction activities.

8. Modify existing Plant PLC and SCADA to control and monitor Well#2, and local well PLC control logic as required.
9. Conduct Substantial Completion inspection. Develop punch-list items in association with OWNER.
10. Prepare record drawings illustrating new conduit runs, modifications to 40-MCC-1-1, 90-CP-3, and PP-1, and instrumentation/control changes.
11. Provide OWNER with Operational and Maintenance (O&M) for equipment.
12. Conduct Final Completion inspection meeting and site walk through with OWNER.

Task 2 – Construction Services

This task entails installing new conduits and wires for power and control of Well 2. The work, in general consists of the following:

1. Furnish and install new VFD Control Panel for Well#2.
2. Furnish and install new 100 A breaker at 40-MCC-1-1.
3. Furnish and install new conduit and wires to existing Well#2.
4. Furnish and install new fiber optic cable for control of Well#2.
5. Furnish and install new pull boxes as required.
6. Furnish and install lighting modifications to Well#2 as required.
7. Terminate all required wiring.
8. Terminate fiber optic cables as required.
9. Extend existing concrete slab as required for new Control Panel at Well#2.

Assumptions

Assumptions for the project are as follows:

- The four (4) 2” conduits extend across the road as suggested by the OWNER.
- No DEP permits are required.

- No Building Department permits are required.
- Working hours will be Monday through Friday from approximately 8:00 AM until 5:00 PM.
- OWNER will be able to have well shutdown for the duration of construction.
- OWNER is responsible for any sod or site restoration other than fill
- The new VFD is to installed in the new control panel during fabrication.

Section 3 – Location

The services to be performed by the FIRM shall be at the Raw Water Well#2 and Reverse Osmosis (RO) Building.

Section 4 – Deliverables

The FIRM will provide the following Deliverables to OWNER:

- Preliminary Design Drawings.
- Submittals for materials/equipment.
- Construction Improvements.
- O&M manuals for the equipment of Improvements.
- Record Drawings.

Section 5 – Time of Performance

Project will commence after execution of this Work Authorization and a Notice to Proceed is issued by OWNER. The FIRM and OWNER agree to the following schedule:

Task	Time Elapsed to Completion
Notice to Proceed (NTP)	0 Days
Procurement	325 Days after NTP
Construction of Improvements	355 Days after NTP
Close out	400 Days after NTP

Section 6 – Method and Amount of Compensation

1. The FIRM shall be paid by the OWNER in accordance with the Florida's Prompt Payment Act Florida Statute 218.70-79 and in accordance with the payment method as set forth in Section 6 of the AGREEMENT. The calculations shall begin using the date the invoice was received.
2. Total job price: **\$298,923.44**
3. On the terms contained in the FIRM's said proposal for the doing of said work and the said award therefore, and the specifications herein specifically referred to and made a part of this contract.
4. The cost for the above scope of services is a lump sum (LS). The LS is based on the materials, methods, and assumptions presented in the scope of services and may be adjusted based on final detail design and alternative selections or omissions. The LS shall not be greater than the stated amount unless there is an approved increase in the scope of services.
5. An allowance of \$10,000 is included in the total fee. The allowance will not be accessed without approval by OWNER. Unused allowance will be returned at the completion of the project.
6. A Budget Summary for the above LS is provided in Attachment A.

Section 7 – Application for Progress Payment

1. Unless otherwise prescribed by law, at the end of each month, the FIRM shall submit to the OWNER for review, an Application for Progress Payment filled out and signed by the FIRM covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the AGREEMENT.
2. The Application for Progress Payment shall identify the amount of the FIRM Total Earnings to Date based upon value of original contract Work performed to date as approved by fully executed Change Orders.
3. Payment shall be based upon percentage of work completed based upon the approved schedule of values. Retainage in the amount of 5% will be withheld on the calculated value of any work, with the exception of stored materials which may be paid at the supplier's invoiced cost. At FIRM's request, after 50% completion of the work has been achieved, the OWNER

will implement a reduction in retainage to 2.5% of all future pay requests. If retainage is reduced, FIRM may not withhold more than 2.5% retainage from subcontractors or suppliers and will be required to certify compliance with F.S. 218.70 *et seq* on each subsequent pay application. Notwithstanding the foregoing, in no instance can the amount retained be less than the value of OWNER's good faith claims plus the value of the work the OWNER determines remains to be put in place or required to be performed as remedial activities. For the purposes of this section, 50% completion shall be that point in time when OWNER determines that half of the Work required by the Contract has been completed. In no event shall the Work be determined to be 50% completed before the OWNER has paid 50% of the Contract amount and 50% of the Contract time has expired. The amount of previous Pay Estimate payments shall then be subtracted to equal the Balance Due during the Pay Estimate period.

4. When the OWNER reduces the retainage to two and one-half percent (2.5%), FIRM must obtain the written consent of the Surety Companies furnishing the required Public Construction Bond on consent forms provided by the OWNER. The OWNER may reinstate the retainage up to five percent (5%) if the OWNER determines, at its discretion, that the FIRM is not making satisfactory progress toward final completion of the Work or where there is other specific cause for such withholding.
5. Partial payment may be made for the delivered cost of stored materials planned for incorporation into the Work, provided such materials meet the requirements of this Contract, the Contract Drawings, and the Specifications, and are delivered and suitably stored at the project site, or at another location acceptable to the OWNER. Such material must be stored in a secure manor acceptable to the OWNER, and in accordance with the manufacturer's recommendations.
6. The delivered cost of such stored or stockpiled materials may be included in any subsequent application for payment provided the FIRM meets the following conditions:

- a. An applicable purchase order or supplier's invoice is provided listing the materials in detail, the cost of each item, and identifies this specific contract by name.
 - b. The materials are fully insured against loss or damage (from whatever source) or disappearance prior to incorporation into the Work.
 - c. Stored materials approved for payment by the OWNER shall not be removed from the designated storage area except for incorporation into the Work.
 - d. Evidence that the FIRM has verified quantity and quality of the materials delivered (verified packing list).
7. It is further agreed between the parties that the transfer of title and the OWNER's payment for any stored or stockpiled materials pursuant to these General Conditions, and any applicable provisions of the Supplementary General Conditions, shall in no way relieve the FIRM of the responsibility of ensuring the correctness of those materials and for furnishing and placing such materials in accordance with the requirements of this Contract, the Contract Drawings, the Technical Specifications, and any approved changes thereto.
8. The following monthly Application for Progress Payment shall be accompanied by Bills of Sale, copies of paid invoices, releases of lien, or other documentation warranting that the FIRM has received the stored materials and equipment free and clear of all liens, charges, security interests, and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the stored materials and equipment are covered by appropriate property insurance and other arrangements to protect the OWNER's interest therein, all of which shall be satisfactory to the OWNER.
9. The FIRM shall warrant and guarantee that title to all Work, materials, and equipment covered by an Application for Progress Payment, whether

- incorporated in the Work or not, will pass to the OWNER no later than the time of Final Payment free and clear of all liens or other encumbrances.
10. Progress Payments shall be made in accordance with the Local Government Prompt Payment Act. In the event any dispute with respect to any payment or pay request cannot be resolved between the FIRM and OWNER's project staff, FIRM may, in accordance with the alternative dispute resolution requirements of Florida Statute section 218.72, *et seq*, demand in writing a meeting with and review by the OWNER'S (agency) director. In the absence of the agency director, a deputy director may conduct the meeting and review. Such meeting and review shall occur within ten (10) business days of receipt by OWNER of FIRM's written demand. The OWNER's manager, shall issue a written decision on the dispute within ten (10) business days of such meeting. This decision shall be deemed the OWNER's final decision for the purposes of the Local Government Prompt Payment Act.
11. The OWNER may refuse to make payment of the full amount because claims have been made against the OWNER on account of the FIRM's performance of the Work, or because Liens have been filed in connection with the Work, or there are other items entitling the OWNER to a credit against the amount recommended, but the OWNER must give the FIRM written notice within twenty (20) business days after the date on which the invoice is stamped as received which specifies the invoice deficiency and any action necessary to make the invoice complete and proper.

Section 8 – Responsibilities

The FIRM shall, under no circumstance, look to the OWNER to provide any labor or equipment for the FIRM. The FIRM shall provide all of the labor and equipment necessary to perform the job or services contracted for at the expense of the FIRM. Property of any kind that may be on the premises, which are the site of the performance of this contract, during the performance of this Work Authorization, shall be at the sole risk of the FIRM.

8.1 The OWNER hereby designates Christian McShea as the OWNER's representative.

8.2 In addition to applicable provisions of Section 2 of the AGREEMENT, the OWNER will:

- Pay for any required permit fees

The FIRM acknowledges and understands that it is an independent contractor in its relationship with the OWNER. The FIRM hereby designates Nico Shaner as the FIRM's representative.

Section 9 – Insurance

The FIRM shall provide certificate of insurance to the OWNER setting forth the type and amount of insurance carried by the FIRM and conforming to the minimum requirements set forth in the AGREEMENT.

Section 10 – Level of Service

The OWNER shall have the right to terminate said Agreement by giving the FIRM thirty (30) days written notice if the service that is being provided is not maintained at levels necessary to provide the required service. The OWNER will determine in its sole judgment what constitutes a satisfactory level of service.

Section 11 – Indemnification

The Firm shall indemnify and hold harmless the Owner and its officers and employees as set forth in Section 11 of the Agreement.

IN WITNESS WHEREOF, this Work Authorization, consisting of ten (10) pages and Attachment A has been caused fully executed on behalf of the FIRM by its duly authorized officer, and the OWNER has the same to be duly name and in its behalf, effective as of the date herein above written.

CORAL SPRINGS IMPROVEMENT DISTRICT

Signature of Witness

Signature of President

Kenneth G. Cassel
Printed name of Witness

Curt Tiefenbrun
Printed Name of President

Date

Approved as to form and legality

District Counsel

FIRM

State of Florida
County of Palm Beach

Globaltech, Inc.
Company

The foregoing instrument was acknowledged before me on this

___ day of _____, 2023 by

Signature

who is personally known to me OR produced _____ as identification.

Richard D. Olson, P.E., Vice President
Name and Title (typed or printed)

Signature of Notary

11-13-2023
Date

Attachment A

Budget Summary

ATTACHMENT A

WA-219_CSID WELL 2 REPOWER

Engineering and Design Budget Summary

Task	Task Description	E6	E5	E4	E2	E1	CAD	Adm 3	Total Labor	Expense/ Subconsul. Fee	Subconsul.
		\$180.00	\$170.00	\$155.00	\$108.00	\$88.00	\$108.00	\$77.00			
1	Engineering and Project Coordination										
	Preliminary Site Visits/Project Development	2	10	10	10	10					
	Engineering Design		4		16	8	4				
	Permits		4		4						
	Locates										
	Project Management		4		16	8		4			
	I&C Coordination		4	8	2	2					
	Progress Meetings	2	4	4	4	4					
	Subtotal Task 1	4	30	22	52	32	4	4	\$ 18,402		
2	Services During Construction & Project Closeout										
	Site Visits	2	4	8	12	12					
	Fiber Optic Termination				8	8					
	Startups/Vendor Compliance		4	4	8	8					
	Mod. Plant SCADA and PLC logic, commissioning/training			40	8						
	Electrical Design Record Drawings		2		2	2	2				
	Instrumentation/Controls Design Record Drawings			2	2	2	2	4			
	Subtotal Task 2	2	10	54	40	32	4	4	18,306		
	Labor Subtotal Hours	6	40	76	92	64	8	8			
	Labor Subtotal	\$1,080	\$6,800	\$11,780	\$9,936	\$5,632	\$864	\$616			
	Labor Total								\$ 36,708		
	Subconsultant Labor Total								\$ -		
	Subconsultant Multiplier								1.1		
	Subcontract Total								\$ -		
	TOTAL								\$ 36,708		



Takeoff Worksheet

11/02/23

**Coral Springs Improvement Dist
151373 CSID Wells 2 & 3 Repower**

Assembly#	Part#	Description	Unit	Quantity	Ext. Price
Job: 151373 CSID Wells 2 & 3 Repower					
	Bid Item: 1	General Requirements			
		General Conditions	LS	1	18,278.00
				Bid Item Totals:	18,278.00
	Bid Item: 2	Sitework			
		Mob/Demob	LS	1	3,064.00
		Excavation, Backfilling & Compaction	CR-D	3	7,440.00
		Startup Crew	CR-D	1	2,480.00
				Bid Item Totals:	12,984.00
	Bid Item: 3	Concrete			
		VFD Pad			
		Form & Materials	LS	1	984.40
		Cast In Place Concrete	LS	1	1,230.50
		Concrete Labor	CR-D	2	4,960.00
				Bid Item Totals:	7,174.90
	Bid Item: 5	Metals			
		Misc Metals & Fasteners	LS	1	984.40
		Installation	CR-D	1	2,480.00
				Bid Item Totals:	3,464.40
	Bid Item: 17	I&C			
		VFD Panel	LS	1	87,482.69
				Bid Item Totals:	87,482.69

Takeoff Worksheet

11/02/23

Continued...

Assembly#	Part# Description	Unit	Quantity	Ext. Price
Bid Item:	26 Electrical			
	Electrical Materials & Installation	LS	1	99,722.13
	Panel/VFD Offloading & Installation	CR-D	2	4,960.00
			Bid Item Totals:	104,682.13
Bid Item:	41 Rental Equipment & Misc Tools			
	Mini Excavator	MONTH	1	4,900.40
	Plate Compactor 5000-7000LB	WK	2	1,496.29
	Equipment Delivery & Pickup	EA	2	1,230.50
	Safety Coordinator	HR	5	1,210.00
	Misc Tools & Equipment	LS	1	1,845.75
	Equipment Fuel	GAL	25	198.38
			Bid Item Totals:	10,881.32
Bid Item:	100 Engineering			
	Engineering	LS	1	36,708.00
			Bid Item Totals:	36,708.00
Bid Item:	101 Allowance			
	Allowance	LS	1	10,000.00
			Bid Item Totals:	10,000.00
Bid Item:	102 Bonds & Insurance			
	Bonds & Certifications	LS	1	7,268.00
			Bid Item Totals:	7,268.00
			Grand Totals:	298,923.44

Twelfth Order of Business

Globaltech, Inc.
CSID Engineer's Report
November 13, 2023

PROJECTS UNDER CONTRACT

WA#192 – Canal Right-of-Way Tree Inventory – On Hold

- Approved by Board – 9/20/21
- Waiting on direction from CSID

WA#207 – 2024 DIW Mechanical Integrity Testing – Substantially Complete

- Approved by Board – 2/27/23
- Conduct Mechanical Integrity Testing of DIW 1 & 2 – October 9, 2023
- DIW 1 Completed – 10/13//23 (Results are positive)
- DIW 2 Completed – 10/31/23 (Results are positive)
- Draft Testing Report for DIW 1 Submitted – 11/03/23
- Draft Testing Report for DIW-2 – Anticipated to be submitted 11/10/23
- Substantial Completion – December 2023
- Final Completion – February 2024

WA#213 – Digester 1 Diffuser Replacement – In Progress

- Approved by Board – 4/17/23
- Assisting staff with developing cleaning and testing protocol for air lines
- Conducted additional review of diffuser issues with staff
- Negotiating reduced cost with vendor
- Exploring installation of blow-off valve to reduce air flow and allow for continuous operation

WA#214 – Blow-off Valve and Muffler Installation – Complete

- Approved by Board – 6/19/23
- Prepared purchase orders and subcontracts
- Installed tap and valve – 8/18/23
- Installed muffler – 10/20/23
- Conducted thermal survey of Blower Room – 10/26/23
- Substantial Completion – 11/03/23

WA#215 – Maintenance Building Insulation and Airflow Improvements – Complete

- Approved by Board – 7/18/23
- Prepared purchase orders and subcontracts
- Insulation work completed
- Doors installed – 11/02/23
- Substantial Completion – 11/02/23

WA#216 – Replacement LP Gas Tanks for PS 1 – In Progress

- Approved by Board – 10/16/23
- Project to kick off shortly
- Anticipated project completion – March 2024

**Globaltech, Inc.
CSID Engineer's Report
November 13, 2023**

PROJECTS UNDER CONTRACT (Continued)

WA#218 – Electrical Surge System Improvements – In Progress

- Approved by Board – 10/16/23
- Conducted internal kick-off meeting
- Developing subcontract with Bonded Lightning Protection
- Developed project schedule
- Anticipated project completion – March 2024

Work Authorizations Under Development

WA#177 – Portable Generator Storage Building

WA#219 – New Control Panel for PW-3 – On current agenda

WA#XXX – New 5,000 Fuel Tank for Generator 5 - On December Agenda

WA#XXX – Belt Filter Press Replacement – On December Agenda

WA#XXX – Potable Water Distribution System Sample Stations – On December Agenda