CLACKAMAS
WATER ENVIRONMENT SERVICES

GREGORY L. GEIST | DIRECTOR
Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

May 15, 2025 BCC Agenda Date/Item: _____

Board of County Commissioners
Acting as the governing body of Water Environment Services
Clackamas County

Approval of an Amendment with Carollo Engineers for engineering services for the Tri-City Influent Pump Station Expansion Project. Amendment Value is $333,719 for 2 years. Total Contract Value is $2,032,850 for 2 years. Funding is through the WES Sanitary Sewer Construction Fund. No County General Funds are involved.

Previous Board Action/Review	Original Contract #8002 approved July 20, 2023.		
Performance Clackamas	1. This project supports the WES Strategic Plan goal that WES strategically plan and upgrade WES' infrastructure to ensure the sustainable delivery of reliable, high-quality, and climate-resilient clean water services that support the growth and vitality of our communities, natural environment, and economy. 2. This project supports the County's Strategic Plan of building a strong infrastructure.		
Counsel Review	Yes	**Procurement Review**	Yes
Contact Person	Jeff Stallard	**Contact Phone**	503-742-4694

EXECUTIVE SUMMARY: This project addresses two critical needs: the replacement of aging infrastructure and the expansion of capacity to support future growth. The existing Influent Pump Station at WES's Tri-City Facility, a core part of WES' wastewater treatment system, is nearing the end of its useful life. Key components—including motor control centers, variable frequency drives, and other electrical systems—are outdated and pose operational and safety risks. At the same time, the station's current capacity of 50.4 million gallons per day is insufficient to handle the projected 2040 peak hour flows of 72.6 million gallons per day. Without upgrades, WES risks system failures, permit violations, and costly emergency interventions.

The contract amendment allows for additional engineering services to complete design and bidding documents for a modernized and expanded pump station.

This proactive investment supports WES's commitment to reliable, resilient

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public infrastructure. The project is in the 2025-2030 Capital Improvement Plan adopted by the District Board in early 2025.

RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve Amendment#1 for Contract #8002 with Carollo Engineers Inc. for services necessary to complete design of the Tri-City Influent Pump Station Expansion Project.

Respectfully submitted,

Greg Geist
Director, WES

Attachment: Amendment#1 for Contract #8002 Carollo Engineers Inc.

AMENDMENT #1
TO THE CONTRACT DOCUMENTS WITH CAROLLO ENGINEERS, INC. FOR TRI-CITY WATER RESOURCE RECOVERY FACILITY INFLUENT PUMP STATION EXPANSION PROJECT
Contract #8002

This Amendment #1 is entered into between **Carollo Engineers, Inc.** ("Contractor") and Water Environment Services ("District") and shall become part of the Contract documents entered into between both parties on **July 20, 2023** ("Contract").

The Purpose of this Amendment #1 is to make the following changes to the Contract:

1. ARTICLE I, Section 1. **Effective Date and Duration** is hereby amended as follows:
The Contract termination date is hereby changed from December 31, 2025 to **December 31, 2027.**

2. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:
District has authorized an increase to the Work for Contractor to perform alternative analysis, design and bidding services for the Tri-City Water Resource Recovery Facility Influent Pump Station Expansion Project, which was contemplated in the original RFP for the Contract. An additional Subtask (Task 1300) was also added to the scope to limit downstream impacts of expanding the Influent Pump Station on the Influent Screenings facility. The supplemental Scope of Work is attached as Exhibit "A" to this Amendment #1 and hereby incorporated by reference.

3. ARTICLE I, Section 3. **Consideration** is hereby amended as follows:
In consideration for Contractor performing the additional Work, District agrees to increase compensation to the Contractor by an amount not to exceed $333,719.00. Consideration rates are on a time and materials basis in accordance with the rates and costs specified in Exhibit "A" to this Amendment #1. The total Contract Compensation shall not exceed $2,032,850.00.

ORIGINAL CONTRACT	$ **1,699,131.00**
AMENDMENT #1	**$ 333,719.00**
TOTAL AMENDED CONTRACT	**$ 2,032,850.00**

Except as expressly amended above, all other terms and conditions of the Contract shall remain in full force and effect. By signature below, the parties agree to this Amendment #1, effective upon the date of the last signature below.

Carollo Engineers, Inc.

04/30/2025
Brian Matson, Senior Vice President

Tadd Giesbrecht, Senior Vice President

Water Environment Services

_____
Signature Date

Name: _____

Title: _____

Approved as to Form

4/30/2025
County Counsel Date

Exhibit A

AMENDMENT 1 SCOPE OF WORK

ENGINEERING SERVICES FOR THE TRI-CITY WRRF

INFLUENT PUMP STATION EXPANSION PROJECT

INTRODUCTION

Clackamas Water Environment Services ("WES"), referred to as "District", desires alternative analysis, design and bidding services for the Tri-City Water Resource Recovery Facility ("WRRF") Influent Pump Station (IPS) Expansion Project (Project). Services during construction will be scoped and contracted as the design phase of the project approaches completion.

The Project will evaluate necessary improvements to accommodate future, projected flows which are summarized below. The existing pump station has a current firm capacity of 50.4 million gallons per day (mgd) (two smaller pumps at 7.2 mgd and three larger pumps at 18.0 mgd). The required capacity of the pump station to accommodate projected 2040 peak hour flows is approximately 72.6 mgd (WES Flow Summary, CH2M Hill, 2019). The current required minimum operating capacity is approximately 4.0 mgd, presenting a challenging range of required operation. An early project task will be to revisit recent collection system modeling and finalize both peak and minimum flows for the pump station. The project will include an evaluation to determine the optimal pump sizing to provide the required flow range.

This Project will also address several maintenance issues. The electrical system, which is housed on the ground level of the pump station includes MCCs, VFDs, and control panels, is at the end of its useful life and is expected to be replaced as part of this project. Control logic will require updating as part of this project as well.

BACKGROUND

The currently authorized Scope of Work was executed in July 2023. This amendment to the Project Scope of Work includes the following items:

1. Modification of Task 100 to perform Project Management over an extended duration (24 months).
2. Modifications of Task 11oo to perform QA/QC for additional scope.
3. A new task (Task 1300) to add a mechanically cleaned bar screen in an existing channel in the existing WRRF screenings building, and Go/No-Go Monitoring and replacement of existing sump pumps in the IPS.
4. A new task (Task 1400) to add a new control panel (CP-1) in the IPS.
5. A new task (Task 1500) to add a capacity analysis of an existing generator at the WRRF.

All other elements of the original Scope of Work remain the same.

SCOPE OF WORK

TASK 100 PROJECT MANAGEMENT (EXISTING TASK)

The objective of this task is to effectively manage and coordinate the engineering services required for Project completion. Consultant will provide the following services:

Subtask 120 - Project Monitoring and Reporting

- Per currently authorized Scope.

Task 100 Deliverables:

- Per currently authorized Scope.

Task 100 Assumptions:

- Monthly management effort is included for an additional 18 months of Project duration.

TASK 1100 QUALITY CONTROL (EXISTING TASK)

The objective of this task is to provide quality control measures throughout the Project. Consultant will provide the following services:

Additional QA/QC. Additional QA/QC measures consistent with currently authorized Scope of Work and covering scope added by this Amendment.

Task 1100 Deliverables:

- Per currently authorized Scope.

Task 1100 Assumptions:

- None.

TASK 1300 DESIGN MODIFICATIONS (NEW TASK)

The objective of this task is to install a mechanically cleaned bar screen in an existing channel in the existing screening facility. Activities to add Go/No-go Monitoring and to replace existing sump pumps in the IPS are included in this task. Consultant will provide the following services:

Subtask 1310 – Basis of Design

- **Develop Basis of Design.** The consultant team will evaluate alternatives to add a mechanically cleaned bar screen in the channel that currently includes a manually cleaned trash rack. Evaluations will include: screen type and geometry; options for handling screenings; structural analysis; evaluation of code requirements with recommendations.
- **Conduct Screenings Workshop.** The consultant team will conduct one virtual workshop with the District to discuss screenings options and select a recommended screen type and configuration of the screen and screenings handling system.
- **Update Basis of Design Report (BODR).** The consultant team will update the BODR with an addendum to include the additional mechanically cleaned bar screen and screenings handling system.

Subtask 1320 – Design Documents

- **Develop Design Documents.** The consultant team will develop design documents to integrate the mechanically cleaned bar screen in the Project in a way that is consistent with the requirements associated with the currently authorized Scope of Work. The consultant team will also develop design documents to incorporate Go/No-Go Monitoring and replacement of sump pumps at the IPS into the design. Project documents anticipated are as follows:
    - Drawings:
        - 120D01 – Screenings Building Upper Level Plan
        - 120D02 – Screenings Building Photos
        - 120S01 – Screenings Building Foundation Plan
        - 120S02 – Screenings Building Floor Plan
        - 120S03 – Screenings Sections and Details
        - 120M01 – Screenings Building Upper Level Plan
        - 120M02 – Screenings Building Sections
        - E42 – Odor Control Panel Electrical
        - E43 – Odor Control Panel Control Plans
        - E44 – Screenings Building Electrical
        - E45 – Screenings Building Control Plan
        - E46 – Gas Monitoring System Control Schematic
        - E47 – Gas Monitoring System Plan
        - I06 – P&ID – Gas Monitoring
        - I07 – P&ID – Bar Screen
        - I08 – Odor Control
    - Specifications:
        - 40_76_13 – Analyzers: Gas Monitors
        - 43_25_00.10 – Submersible Sump Pumps
        - 46_21_12 – Bar Screen: Roller Chain Driven

Subtask 1330 – Services As Directed by District

- **As-Directed Services.** The level of effort to complete Subtask 1320 does not include substantial modifications to the existing screenings handling system. If such modifications are recommended, the consultant team will define the scope of these modifications and, with District approval, will incorporate them into the design using Subtask 1330 budget.

Task 1300 Deliverables:

- BODR Addendum.
- Design documents for mechanically cleaned bar screen, Go/No-Go Monitoring and replacement of sump pumps at the IPS incorporated into the design package defined by the currently authorized Scope of Work.

Task 1300 Assumptions:

- Significant modifications to the structure and HVAC of the existing screenings building are not required to add a mechanically cleaned bar screen into the existing channel.
- An evaluation of screenings handling alternatives will be conducted as part of the basis of design for the new screening system. Substantial modifications to the existing screenings handling system are not anticipated. District will authorize expenditure of Subtask 1330 as required to cover additional/unforeseen effort associated with more complex modifications to the existing screenings handling system.
- The design of the new bar screen will be incorporated into the design drawings for the Project and will not consist of a separate set of design drawings and bid document.

TASK 1400 CP-1 DESIGN DOCUMENTS (NEW TASK)

The objective of this task is to retrofit the existing CP-1 as defined below. Consultant will provide the following services:

CP-1 Design Documents

- **Meeting.** Consultant will attend a site visit and conduct an on-site design meeting to coordinate work associated with the retrofitted CP-1.
- **Develop Design Documents.** The consultant team will develop design documents for the retrofitted control panel CP-1, including 30%, 60%, 90%, and Bid Documents (as listed below), coinciding with production of design documents according to the currently authorized Scope of Work. Project documents anticipated are as follows:
    - Drawings:
        - E36 -- Profinet Communication Network Block Diagram
        - E37 -- Fiber Optic Patch Panel & Connection Diagram
        - E38 -- CP-1 Panel layout
        - E39 -- CP-1 I/O Connection 1
        - E40 -- CP-1 I/O Connection 2
        - E41 -- AC/DC Power Distribution
    - Specifications:
        - 26 05 19 -- Low-Voltage Electrical Power Conductors and Cables
        - 40 61 23 -- Process Control System General Requirements
        - 40 61 21 -- Process Control System Testing
        - 40 61 43 -- Surge Protection Devices for Instrumentation and Control Equipment
        - 40 63 43 -- Programmable Logic Controllers
        - 40 66 05 -- Network Equipment
        - 40 67 00 -- Control System Equipment Panels and Racks
        - 40 78 00 -- Panel Mounted Instruments

Task 1400 Deliverables:

- Meeting agenda, notes, and action items.
- Incorporation of the retrofitted CP-1 into the project, as defined herein.

Task 1400 Assumptions:

- Consultant will gather information to support Task 1300 activities during the site visit associated with Task 1400 (CP-1).

TASK 1500 GENERATOR ASSESSMENT (NEW TASK)

The objective of this task is to evaluate the capacity of an existing electrical generator at the WRRF to supply standby power to the new influent pump station and other critical WRRF facilities. Consultant will provide the following services:

Generator Analysis. Perform analysis of existing generator capacity relative to upsized IPS, including:

- Electrical loads of upsized IPS.
- Existing Generator capacity.
- Recommendations for moving forward.

Conduct Workshop and Issue Draft TM. Prepare for and conduct a 2-hour virtual workshop to discuss the results of the generator analysis. Incorporate District input into a draft Technical Memorandum (TM) and submit for review.

Finalize TM. Collect District comments and incorporate them into a final TM.

Task 1500 Deliverables:

- Virtual Workshop materials and minutes.
- Draft and Final TM.

Task 1500 Assumptions:

- Recommended modifications to the existing generator and electrical distribution system will be included as authorized by the District under a separate amendment to the Project Scope of Work.
- District will provide load list for the generator for existing equipment and identify critical loads.

Tri-City Influent Pump Station Expansion Project
Level of Effort Estimate Detail - Carollo and Subconsultants
February 11, 2025

WORK TASKS	Principal in Charge	QC Reviewers	Project Manager	Design Manager	TECHNICAL EXPERT: Pump Station Lead	Pump Station Staff	TECHNICAL EXPERT: Process Model Expert	TECHNICAL EXPERT: CFD Modeling Lead	CFD Modeling and Process Support Staff	Structural Lead	Structural Staff	Civil/Site Lead	HVAC Lead	Cost Estimator	CAD/ Graphics Tech.	Technical Writer	WP/ Admin.	Carollo Hours	Carollo DL Cost	ODCs	Subtotal Carollo Cost	Subconsultant Cost				Total Cost
																						HDR	West Yost	Clemson Engineering Hydraulics	Mechanical Solutions, Inc.	
	Matson	Various	Matson	Sprick	Zappone	Yarbrough	Conklin	Wicklein	TBD	Doering	Schermessar	Hook	Green	Rozgony	Various	Park	Mattox									
Hourly Rate	$250	$250	$250	$232	$338	$194	$286	$290	$188	$250	$209	$250	$250	$226	$226	$201	$130									
TASK 100 - PROJECT MANAGEMENT																										
Subtask 120 - Project Monitoring and Reporting	-	-	72	24	-	-	-	-	-	-	-	-	-	-	-	-	80	176	$ 33,968	$ -	$ 33,968	$ 19,912	$ -	$ -	$ -	$ 53,880
1. Extend Duration of Project by 18 Months			72	24													80	176	$ 33,968	$ -	$ 33,968	$ 19,912	$ -	$ -	$ -	$ 53,880
Task 100 Subtotal	-	-	72	24	-	-	-	-	-	-	-	-	-	-	-	-	80	176	$ 33,968	$ -	$ 33,968	$ 19,912	$ -	$ -	$ -	$ 53,880
TASK 1100 - QUALITY CONTROL																										
Subtask 1110 - 30% Internal Quality Control Coordination [additions]	-	6	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	10	$ 2,276	$ -	$ 2,276	$ -	$ -	$ -	$ -	$ 2,276
1. Perform QA/QC review of 30% design documents		6				4												10	$ 2,276	$ -	$ 2,276	$ -	$ -	$ -	$ -	$ 2,276
Subtask 1120 - 60% Internal Quality Control Coordination [additions]	-	4	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	8	$ 1,776	$ -	$ 1,776	$ -	$ -	$ -	$ -	$ 1,776
1. Perform QA/QC and constructability review of 60% design documents		4				4												8	$ 1,776	$ -	$ 1,776	$ -	$ -	$ -	$ -	$ 1,776
Subtask 1130 - 90% Internal Quality Control Coordination [additions]	-	4	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	8	$ 1,776	$ -	$ 1,776	$ -	$ -	$ -	$ -	$ 1,776
1. Perform QA/QC of 90% design documents		4				4												8	$ 1,776	$ -	$ 1,776	$ -	$ -	$ -	$ -	$ 1,776
Subtask 1140 - Bid Docs Internal Quality Control Coordination [additions]	-	2	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	6	$ 1,352	$ -	$ 1,352	$ -	$ -	$ -	$ -	$ 1,352
1. Perform QA/QC of Bid Documents		2		2		2												6	$ 1,352	$ -	$ 1,352	$ -	$ -	$ -	$ -	$ 1,352
Task 1100 Subtotal	-	16	-	2	-	14	-	-	-	-	-	-	-	-	-	-	-	32	$ 7,180	$ -	$ 7,180	$ -	$ -	$ -	$ -	$ 7,180
TASK 1300 - DESIGN MODIFICATIONS																										
Subtask 1310 - Basis of Design Report Amendment	-	8	12	16	-	36	-	-	-	4	-	-	4	-	-	2	12	94	$ 19,658	$ 3,500	$ 23,158	$ -	$ -	$ -	$ -	$ 23,158
1. Develop Design Basis and Draft BODR Amendment		4	8	12		20				4			4			2	4	58	$ 12,586	$ 3,500	$ 16,086	$ -	$ -	$ -	$ -	$ 16,086
2. Address District Comments and Prepare DEQ BODR		2	2	2		8											4	18	$ 3,536	$ -	$ 3,536	$ -	$ -	$ -	$ -	$ 3,536
3. Address DEQ comments on draft BODR		2	2	2		8											4	18	$ 3,536	$ -	$ 3,536	$ -	$ -	$ -	$ -	$ 3,536
Subtask 1320 - Demo, Mech & Structural Design	-	-	4	60	-	104	-	-	-	-	16	-	12	6	100	-	8	310	$ 66,474	$ -	$ 66,474	$ 58,660	$ -	$ -	$ -	$ 125,134
1. 30% Design Development			4	24		36					6		4	4	24		2	104	$ 22,404	$ -	$ 22,404	$ -	$ -	$ -	$ -	$ 22,404
2. 60% Design Development				12		24					4		2	2	20		2	66	$ 14,016	$ -	$ 14,016	$ -	$ -	$ -	$ -	$ 14,016
3. 90% Design Cost Estimate				12		24					2		2		20		2	62	$ 13,145	$ -	$ 13,145	$ -	$ -	$ -	$ -	$ 13,145
4. Design Review Workshops				8		12					2		2		20			44	$ 9,629	$ -	$ 9,629	$ -	$ -	$ -	$ -	$ 9,629
5. Final Design Drawings, Specifications, Cost Estimate				4		8					2		2		16		2	34	$ 7,280	$ -	$ 7,280	$ -	$ -	$ -	$ -	$ 7,280
Subtask 1230 - As-Directed Allowance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	$ 30,000	$ -	$ 30,000	$ -	$ -	$ -	$ -	$ 30,000
Task 1300 Subtotal	-	8	16	76	-	140	-	-	-	4	16	-	16	6	100	2	20	404	$ 116,132	$ 3,500	$ 119,632	$ 58,660	$ -	$ -	$ -	$ 178,292
TASK 1400 - CP-1 DESIGN DOCUMENTS																										
	-	-	4	12	-	12	-	-	-	-	-	-	-	-	-	-	-	28	$ 6,112	$ -	$ 6,112	$ 70,690	$ -	$ -	$ -	$ 76,802
1. Kick off Workshop and Site Investigation			4	8		8												20	$ 4,408	$ -	$ 4,408	$ 10,511	$ -	$ -	$ -	$ 14,919
2. CP-1 Design Documents				4		4												8	$ 1,704	$ -	$ 1,704	$ 60,179	$ -	$ -	$ -	$ 61,883
Task 1400 Subtotal	-	-	4	12	-	12	-	-	-	-	-	-	-	-	-	-	-	28	$ 6,112	$ -	$ 6,112	$ 70,690	$ -	$ -	$ -	$ 76,802
TASK 1500 - GENERATOR ASSESSMENT																										
Subtask 110 - Basis of Design Report Amendment	-	-	4	8	-	8	-	-	-	-	-	-	-	-	-	-	-	20	$ 4,408	$ -	$ 4,408	$ 13,157	$ -	$ -	$ -	$ 17,565
1. Generator Analysis, Workshop, and TM			4	8		8												20	$ 4,408	$ -	$ 4,408	$ 13,157	$ -	$ -	$ -	$ 17,565
Task 1500 Subtotal	-	-	4	8	-	8	-	-	-	-	-	-	-	-	-	-	-	20	$ 4,408	$ -	$ 4,408	$ 13,157	$ -	$ -	$ -	$ 17,565
TOTAL CONTRACT AMOUNT	0	24	96	122	0	174	0	0	0	4	16	0	16	6	100	2	100	660	$ 167,800	$ 3,500	$ 171,300	$ 162,419	$ -	$ -	$ -	$ 333,719