



June 15, 2023

BCC Agenda Date/Item: \_\_\_\_\_

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

**Approval of an Amendment to a Contract with Carollo Engineers, Inc for additional scope of work for the Clackamas Area Interceptor Project. Amendment value is \$296,238, contract value is increased to \$4,027,811 for 5.5 years. Funding is through Water Environment Services Sanitary Sewer Construction Fund. No County General Funds are involved.**

<b>Previous Board Action/Review</b>	Contract 7185 for Carollo Engineering Inc. to provide design service for the Clackamas Area Interceptor project was approved on November 23, 2022. Presented at Issues – June 13, 2023.		
<b>Performance Clackamas</b>	<ol style="list-style-type: none"> <li>1. This project supports the WES Strategic Plan to provide Enterprise Resiliency, infrastructure Strategy and Performance and Operational Optimization.</li> <li>2. This project supports the County’s Strategic Plan of building a strong infrastructure that delivers services to customers and honors, utilizes, promotes and invest in our natural resources.</li> </ol>		
<b>Counsel Review</b>	Yes	<b>Procurement Review</b>	Yes
<b>Contact Person</b>	Jessica Rinner	<b>Contact Phone</b>	503-484-0365

**EXECUTIVE SUMMARY:** The Collection System Master Plan (Jacobs, 2019) identified the Clackamas Area Interceptor system that serves Clackamas County and portions of the City of Happy Valley as nearing its peak wet-weather capacity and needing to be upsized. In late 2022 WES entered into a contract with Carollo Engineering Inc. to provide the first phase of the project, which includes preliminary design, easement acquisition, and preliminary permitting for the project. When collecting existing condition data to support the preliminary design it was discovered that there is contaminated site on the EPA’s Superfund priority list in close proximity to the project area. Because of this WES needs to do additional investigation and analysis to determine how the ongoing cleanup of the site might impact the sewer project. This amendment adds scope and fee to gather additional data to support future environmental permit efforts and a routing analysis which will minimize liability and risk, and determine a preferred option for providing additional sewer capacity in this area.

**RECOMMENDATION:** Staff recommends the Board approve the Amendment for Contract 7185 with Carollo Engineers, Inc for additional scope of work for the Clackamas Area Interceptor Project.

Respectfully submitted,

Greg Geist  
 Director, WES

Attachment: Amendment for Contract 7185

For Filing Use Only

**AMENDMENT #1**  
**TO THE CONTRACT DOCUMENTS WITH CAROLLO ENGINEERS, INC., FOR**  
**ENGINEERING SERVICES NECESSARY TO DESIGN THE CLACKAMAS AREA**  
**INTERCEPTOR PROJECT**  
**Contract #7185**

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 **November 23, 2022** (“Contract”).

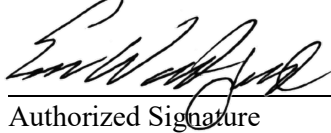
The Purpose of this Amendment #1 is to make the following changes to the Contract:

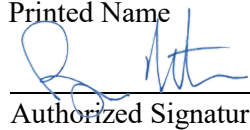
1. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:  
 District has authorized an increase to the Scope of Work to obtain title reports required for future environmental permit efforts and for additional routing analysis along Minuteman Way. The additional Scope of Work and Fee Schedule is attached as Exhibit “A” and hereby incorporated by reference.
  
2. ARTICLE I, Section 3. **Consideration** is hereby amended as follows:  
 The District is authorizing additional compensation in the amount of \$296,238.00 for the performance of additional work described above in accordance with the terms of the Contract. The maximum compensation authorized under this Contract shall not exceed \$4,027,811.00.

ORIGINAL CONTRACT	\$ 3,731,573.00
<u>AMENDMENT #1</u>	<u>\$ 296,238.00</u>
<b>TOTAL AMENDED CONTRACT</b>	<b>\$ 4,027,811.00</b>

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.**

  
 Authorized Signature 5/24/2023  
 Date

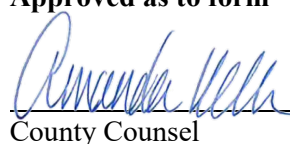
Erik Walgorski, P.E.  
 Printed Name  
  
 Authorized Signature 5/24/2023  
 Date

Brian Matson, P.E.  
 Printed Name

**Water Environment Services**

\_\_\_\_\_  
 Chair

\_\_\_\_\_  
 Recording Secretary

**Approved as to form**  
  
 County Counsel 5/30/23  
 Date

**Exhibit A**  
**Additional Scope of Work & Fee Schedule**

AMENDMENT NO.1

**ENGINEERING SERVICES FOR CLACKAMAS COUNTY WES  
CLACKAMAS AREA INTERCEPTOR IMPROVEMENTS PROJECT**

**BACKGROUND**

Carollo and its subconsultants began the preliminary design of the Project on December 21, 2022. When the project team began gathering data to guide routing analysis, the need for additional work was discovered as well as additional effort to obtain title reports.

The District has requested additional scope to be added to support this additional scope.

**CONSULTANT'S SERVICES**

The purpose of this amendment is to conduct two separate additional tasks.

The first task will include obtaining title reports required for the future environmental permit effort. The second task will include additional routing analysis along Minuteman Way.

Consultant shall provide the following services:

**TASK 200 – PRELIMINARY DESIGN**

The following subtasks will be required to obtain deed and title reports for future easements.

**Subtask 230 – Surveying and Utility Locating**

1. Consultant will identify all tax lots in the path of and adjacent to the proposed sanitary sewer mainline and obtain title reports for those tracts to identify possible easement conflicts and verify the resolution of public right-of-way and property boundaries.

**Subtask 230 Assumptions:**

1. Consultant will identify and use a local title company with the staff available to prepare these titles reports in the timeliest manner and invoice the client at cost.
2. If design changes force the alignment of the sewer line to change after these reports are obtained and Consultant finds it necessary to obtain additional title reports, Consultant will notify District and obtain authorization for the additional expense.
3. Consultant's scope is based on a maximum of 34 title reports.

The following subtasks will be required for additional routing study along Minuteman Way. It was identified that the proposed sewer construction alignment in SE Minuteman Way is likely within or proximal to chlorinated volatile organic compound (CVOC) soil and groundwater contamination. The project is in the vicinity of the NW Pipe & Casing/ Hall Process Company facility site located at 9585 SE Mather Road, which had CVOC releases between 1956 and 1985. Approximately 1,000 ft of the proposed alignment is within an engineered remedial soil cap associated with the site beneath the

recently constructed SE Minuteman Way, north of SE Mather Road and south of SE Lawnfield Road.

#### **Subtask 240 – Geotechnical Investigation and Analysis**

1. Assist the design team to evaluate potential options to mitigate the contaminated soil and groundwater concerns associated with the Clackamas Interceptor in this area. Potential options may include relocation of pipeline outside of the influence zones of the contamination, utilizing trenchless construction to go through the contaminated area, minimize groundwater control, treatment and disposal, water-tight shoring, minimize contaminated soil disposal.
2. Participate in a workshop with the District to present the proposed alternatives, identify the risks and concerns, and develop criteria and weighing factors.
3. Provide geotechnical and trenchless inputs to the planning level cost evaluations for each alternative, such as trenchless cost, groundwater control cost, shoring and soil disposal cost.
4. Conduct the alternatives analysis and provide input to the technical memorandum and presentation for the District.
5. Participate in alternative evaluation workshop and assist the District in the determination of the preferred alternative.

#### **Subtask 240 Assumptions:**

1. The workshop and technical memorandum being discussed in Subtask 240, is the same workshop and technical memorandum being discussed in Subtask 280.

#### **Subtask 270- Environmental Assessments**

1. Existing Environmental Data Review: Consultant will perform an evaluation of existing environmental conditions in the area of proposed sewer construction in SE Minuteman Way between SE Lawnfield Road and SE Mather Road. Data reviewed will include the following:
  - a. Available environmental data provided by the Oregon Department of Environmental Quality (ODEQ) and US Environmental Protection Agency (USEPA)
  - b. Available historic aerial photographs and topographic maps, city or county maps and street directories, and local historical information to assess past uses of the site area.
  - c. Listings from a subcontracted database service of confirmed and suspected contaminated sites abstracted from EPA, and ODEQ environmental databases.
  - d. Information from the local health and fire departments on environmental conditions at and immediately adjacent to the proposed alignments.
2. Phase II ESA Pre-Field Activities: Pre-field activities will include the following:
  - a. Meetings with EPA, Oregon Department of Transportation (ODOT), ODEQ, Clackamas County, and District to discuss requirements for working within the engineered remedial soil cap beneath SE Minuteman Way. Such requirements are likely to include health and safety protections, soil and groundwater analysis, and waste handling. Three (3) two-hour meetings, including preparation time, with two staff are proposed.
  - b. Conduct a site reconnaissance of the proposed area of investigation to evaluate drilling access.
  - c. The preparation of a Work Plan and Health and Safety Plan (HASP) for EPA review, contractor set up and subsurface utility identification. The work plan will reference the existing Easement and Equitable Servitude (EES) document and will include requirements of soil and groundwater analysis and disposal.
  - d. Contacting Oregon One-Call for subsurface exploration notification and subsurface utility marking.

- e. Mobilization to and demobilization from the work site.
  - f. Bidding, selection and coordination with subcontractor (drilling, private utility locating, traffic control, analytical laboratory, and waste disposal firm).
  - g. Project management activities including client communication and invoicing.
  - h. Obtaining a right-of-way encroachment permit from Clackamas County.
  - i. Organizing access to drilling locations west of the railroad.
  - j. Coordination with geotechnical subcontractor for potential collection of geotechnical information.
3. Soil and Groundwater Sampling and Analysis: Soil sampling will be conducted using a limited access track-mounted drill rig with oversight by Consultant personnel.
- a. Ten (10) borings will be advanced using a limited access sonic drill rig to investigate soil and groundwater conditions along the proposed alignment and the current alignment. A sonic rig is required due to anticipated lithological conditions. Two borings will be advanced to 30 feet below ground surface (bgs) and the remainder will be advanced to first groundwater, anticipated to be approximately 10 feet bgs.
  - b. Continuous soil samples will be collected for lithologic logging and screening for contaminants using visual observations and a photoionization (PID) detector.
  - c. Soil samples will be selected based on field evidence of contamination (visual and olfactory). However, if no contamination is observed soil samples will be collected from 5 and 10 feet below grade.
  - d. Additionally, soil samples will be examined in the field for lithology. Each sample collected for chemical analysis will be labeled with the borehole number, sample depth, and time and date of collection. Soil samples will be placed in an ice-chest cooled with ice immediately after collection.
  - e. Soil samples will be transported to the laboratory using chain-of-custody procedures.
  - f. Two soil samples (2) from each borehole will be analyzed for the following:
    - i. CVOCs in accordance with USEPA 8260D
    - ii. Polychlorinated biphenyls (PCBs) in accordance with USEPA 8080
    - iii. Polycyclic aromatic hydrocarbons (PAHs) in accordance with USEPA 8270E.
  - g. A groundwater sample will be collected from each boring using a temporary 2-inch-diameter PVC well casing.
  - h. Ten groundwater samples (10) will be analyzed for the following:
    - i. CVOCs in accordance with US EPA 8260D
    - ii. PAHs in accordance with US EPA 8270E LL.
  - i. An equipment blank will be collected for each day of field work and analyzed for the same constituents as the soil samples.
  - j. A trip blank will be submitted for each sample batch and submitted for analysis of CVOCs in accordance with US EPA 8260D.
  - k. Investigation derived waste will be temporarily stored at a location amenable to the property owners, USEPA, and ODEQ. Waste characterization sampling will include Resource Conservation and Recovery Act 8 metals. After receipt of waste characterization analytical results, the drums will be disposed of at an appropriate waste handling facility and as direct by the EPA.
  - l. After sample collection, soil borings will be backfilled with hydrated bentonite chips, and the surface cap including road surface repaired in accordance with regulatory requirements.
4. Data Evaluation and Reporting:
- a. A report will be prepared subsequent to the completion of all work proposed herein that will include soil and groundwater sample collection procedures, laboratory analytical results, and a discussion of the findings including comparison of the sample

- analytical results to appropriate regulatory screening and fill criteria.
- b. Report will be prepared under the supervision of an Oregon Professional Engineer or Geologist.
5. Groundwater Flow Modeling and Reporting
- a. Consultant will use the groundwater flow and transport model (developed by CDM Smith) to assess the effects of dewatering on the plume dynamics. Consultant proposes to obtain a copy of the model and adapt it to suit the project needs (see model assumptions below). The model will be used to:
    - i. Assess the dewatering required for the three proposed construction scenarios (open trench construction along Minuteman Way, open trench construction along the existing alignment, trenchless construction along SE Minuteman Way).
    - ii. Estimate initial and sustained pumping rates for each scenario.
    - iii. Use particle tracking to estimate plume migration.
    - iv. Assess the impact to the CVOC plume from dewatering along SE Mather Road and SE Lawnfield Road.
    - v. Simulate the use of sheet pile walls or other construction strategies that could help reduce contaminant migration during dewatering.
  - b. A technical memorandum will be prepared documenting the basic features of the model construction, a description of the dewatering simulations, and the results of the CVOC plume particle tracking. The technical memorandum will be submitted to ODEQ and USEPA for review.
6. Design Support: Based on the results of the investigation and meetings/ coordination with ODEQ and USEPA, a technical memorandum will be prepared discussing environmental implications and costs of the various sewer construction scenarios. The document will include but not be limited to costs related to:
- a. Costs for supporting the drafting of a Development Plan required by the USEPA
  - b. Soil and groundwater analysis
  - c. Soil and groundwater management and disposal
  - d. The need and potential cost for well abandonment and replacement along the trench alignments
  - e. Cap repair
  - f. Dewatering and impacted groundwater monitoring and disposal
  - g. Agency interaction and document approval

Subtask 270 Assumptions:

1. Modifications made to the work scope by the ODEQ and USEPA presented in the work plan that add to the project costs will require an amendment.
2. District will arrange for access and any necessary rights-of-entry to drilling locations.
3. 10-day turn around on soil laboratory analysis.
4. 10-day turn around on groundwater laboratory analysis.
5. Electronic versions of the Phase II ESA report will be provided.
6. The draft reports will need only minor revisions, requiring not more than approximately 2 hours to produce the final reports.
7. Phase II ESA fieldwork is limited to ten (10) soil borings to no more than thirty (30) feet in depth. The work is proposed to be conducted over three 12-hour days. If the results of the Phase II ESA determine that additional site assessment scope is warranted, the District will

be notified and an additional amendment will be obtained.

8. Groundwater modelling costs assume:
  - a. The model input files and calibrated simulations results are provided in a usable format (digital MODFLOW files).
  - b. The model structure (horizontal and vertical grid cell dimensions) is appropriate to simulate dewatering scenarios (i.e. dewater well or trench depths, sheet pile depths, etc).
  - c. The model is calibrated to transient groundwater flow conditions. If the model does not simulate transient flow, additional effort will be required to select appropriate storage coefficients to assess the flow model calibration.
  - d. The model domain and boundary conditions are appropriate such that they would not influence simulated dewatering results.
  - e. Dewatering simulations will be developed based on District input and will not exceed five dewatering scenarios.
  - f. There is no need for significant adjustments to the model domain, temporal conditions, boundary conditions, and structure (i.e. layering). If this work is required to adequately simulate dewatering, the District will be notified and an additional amendment would be required for this work.
  - g. A contingency will be added to the fee to cover the cost of the significant adjustments. This contingency can only be utilized through written authorization from the District.
9. Permit and bond fees will be waived by the County.
10. Based on discussions with ODEQ/ EPA, an additional review fee of approximately \$2,500 will be levied for review of the work plan. This fee will be billed directly to the District and is not included in this amendment.

### **Subtask 280 – Alternatives Analysis**

The purpose of this subtask is complete an alternative analysis on specific challenges and concepts associated with the proposed alignment on SE Minuteman Way. Alternatives will be developed for the following:

1. Proposed open-cut along Minuteman Way
2. Trenchless construction along Minuteman Way
3. Installation of the new sewer in the existing sewer alignment in SE 82<sup>nd</sup> Drive
4. Trenchless construction for crossing I-205 at a different location

This subtask will include the following activities:

1. Conduct a meeting with the District to discuss the proposed alternatives and to identify criteria and weighting factors to be used as part of the alternatives analysis and selection of a preferred alternative. District staff shall assist in development of the criteria and weighting factors before being applied to alternatives.
2. A technical memorandum will summarize workshop results, describe design methodology and quantitative analysis comparing factors such as regulatory requirements, construction risks, geotechnical considerations and costs.
3. Determine planning level costs for each alternative to be used in the selection process.
4. Conduct internal QA/QC of the technical memorandum.



5. Submit the draft technical memorandum to the District for review.
6. Conduct the alternatives analysis selection workshop.
7. Incorporate comments and produce a Final technical memorandum.

Subtask 280 Assumptions:

1. No alternatives beyond those identified above will be considered. This amendment assumes that the alternatives analysis work for other locations along the alignment referred to in the original contract will be presented in the BODR and that work does not change. This technical memorandum will be briefly summarized in the BODR and included as an appendix.

Task 200 Deliverables:

1. Subtask 230: Obtain deed and title reports for future easements.
2. Subtask 270: Work Plan and Health and Safety Plan (HASP) for EPA review.
3. Subtask 270: Phase II ESA Report.
4. Subtask 270: Technical memorandum documenting the groundwater modeling results.
5. Subtask 280: Draft alternatives analysis technical memorandum.
6. Subtask 280: Final alternatives analysis technical memorandum.

**SCOPE OF WORK DETAIL**

This work shall be completed 3 months after completion of the field work.

**COST**

Estimated cost for the proposed services is presented as Attachment 1 – Budget Estimate.

**Clackamas County Water Environment Services  
Clackamas Area Interceptor Project - Amendmant 01  
Level of Effort Estimate Detail - Carollo and Subconsultants  
April 1, 2023**

WORK TASKS	Project Manager	Deputy Project Manager	QA/QC	Design Manager	Project Engineer	Staff Engineer	WP/ Admin.	Carollo Hours	Carollo DL Cost	ODCs	Subtotal Carollo Cost	Subconsultant Cost			Total Cost	
												DEA	McMillen Jacobs	Terraphase		
Direct Labor (DL) Rates	Waligorski	Burnett	Taylor	Cleys	Mannion	Yoshino	Mattox									
	\$275	\$197	\$275	\$238	\$173	\$112	\$107									
<b>TASK 200 - PRELIMINARY DESIGN</b>																
Subtask 230 - Surveying and Utility Locating	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$20,630	\$0	\$0	\$0	\$20,630
Subtask 240 - Geotechnical Investigation and Analysis	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$18,600	\$0	\$18,600	\$18,600
1. Develop a list of possible alternatives to be considered								0	\$0	\$0	\$0	\$0	\$3,720	\$0	\$3,720	\$3,720
2. Conduct Workshop to present alternatives and identify criteria and weighting factors								0	\$0	\$0	\$0	\$0	\$3,720	\$0	\$3,720	\$3,720
3. Determine planning level costs for each alternative								0	\$0	\$0	\$0	\$0	\$3,720	\$0	\$3,720	\$3,720
4. Complete alternatives analysis and prepare a presentation for the District								0	\$0	\$0	\$0	\$0	\$3,720	\$0	\$3,720	\$3,720
5. Conduct the alternatives selection workshop								0	\$0	\$0	\$0	\$0	\$3,720	\$0	\$3,720	\$3,720
Subtask 270 - Environmental Assessments	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$205,878	\$205,878	\$205,878
1. Existing Environmental Data Review								0	\$0	\$0	\$0	\$0	\$0	\$5,151	\$5,151	\$5,151
2. Phase II ESA Pre-Field Activities								0	\$0	\$0	\$0	\$0	\$0	\$16,816	\$16,816	\$16,816
3. Soil and Groundwater Sampling and Analysis								0	\$0	\$0	\$0	\$0	\$0	\$60,978	\$60,978	\$60,978
4. Data Evaluation and Reporting								0	\$0	\$0	\$0	\$0	\$0	\$16,114	\$16,114	\$16,114
5. Groundwater Flow Modeling and Reporting								0	\$0	\$0	\$0	\$0	\$0	\$94,831	\$94,831	\$94,831
6. Design Support								0	\$0	\$0	\$0	\$0	\$0	\$11,988	\$11,988	\$11,988
Subtask 280 - Alternatives Analysis	10	8	4	24	92	76	8	230	\$37,926	\$948	\$38,874	\$0	\$0	\$0	\$38,874	\$38,874
1. Develop a list of possible alternatives to be considered								0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2. Conduct Workshop to present alternatives and identify criteria and weighting factors	2	2		8	16	8		36	\$6,505	\$163	\$6,668	\$0	\$0	\$0	\$6,668	\$6,668
3. Determine planning level costs for each alternative	2			2	20	30		54	\$7,844	\$196	\$8,040	\$0	\$0	\$0	\$8,040	\$8,040
4. Complete alternatives analysis and prepare a presentation for the District	4	4	4	6	40	30	8	104	\$17,072	\$427	\$17,499	\$0	\$0	\$0	\$17,499	\$17,499
5. Conduct the alternatives selection workshop	2	2		8	16	8		36	\$6,505	\$163	\$6,668	\$0	\$0	\$0	\$6,668	\$6,668
<b>Task 200 Subtotal</b>	<b>10</b>	<b>8</b>	<b>4</b>	<b>24</b>	<b>92</b>	<b>76</b>	<b>8</b>	<b>230</b>	<b>37,926</b>	<b>948</b>	<b>38,874</b>	<b>20,630</b>	<b>18,600</b>	<b>205,878</b>	<b>283,982</b>	<b>283,982</b>
<b>Subconsultant Markup (5%)</b>																<b>\$12,255</b>
<b>TOTAL CONTRACT AMOUNT</b>	<b>10</b>	<b>8</b>	<b>4</b>	<b>24</b>	<b>92</b>	<b>76</b>	<b>8</b>	<b>230</b>	<b>\$37,926</b>	<b>\$948</b>	<b>\$38,874</b>	<b>\$20,630</b>	<b>\$18,600</b>	<b>\$205,878</b>	<b>\$296,238</b>	<b>\$296,238</b>