



August 11, 2022

Board of County Commissioners
 Clackamas County

Approval of a Personal Services Contract #6837 between Water Environment Services and Jacobs Engineering Inc., for the Hydraulic Model Update Project. Contract value is \$299,636.00. Funding is through Water Environment Services Capital Funds. County General Funds are not involved. – Procurement.

Purpose/Outcome	Approval of a Personal Services Contract #6837 between Water Environment Services and Jacobs Engineering Inc., for the Hydraulic Model Update Project. Contract value is \$299,636.00. Funding is through Water Environment Services Capital Funds. County General Funds are not involved. – Procurement.
Dollar Amount and Fiscal Impact	Total Contract Value of \$299,636.00.
Funding Source	WES Capital Improvement Funds. County General Funds are not involved.
Duration	Contract expires June 30, 2028.
Previous Board Action/Review	This item was presented at Issues on August 9, 2022.
Strategic Plan Alignment	<ol style="list-style-type: none"> 1. This project supports the WES Strategic Plan to provide Enterprise Resiliency, infrastructure Strategy and Performance and Operational Optimization by conducting two hydraulic model update making more accurate future flow projections and I/I rates and I/I reductions in 19 key basins. 2. This project supports the County’s Strategic Plan of building a strong infrastructure and help maintain a healthy environment. Updating county facilities will insure that key services are accessible to all residents. The existing hydraulic model was built in 2015, it is industry standard to update a hydraulic model every 5 years to ensure it is accurately representing the existing and future conditions within the collection system.
Counsel Review	Date of Counsel review: August 2, 2022 Name of County Counsel performing review: Amanda Keller
Procurement Review	<ol style="list-style-type: none"> 1. Was this item reviewed by Procurement? Yes. 2. If no, provide brief explanation: N/A.
Contact Person	Jessica Rinner, WES Civil Engineering Supervisor, 503-484-0365
Contract No.	#6837

BACKGROUND:

Clackamas Water Environment Services (WES), has an existing InfoSWMM (Innovyze) hydraulic model that was built and calibrated in 2015-2016 that represents our sanitary sewer

collection system as it existed in 2016. The hydraulic model is a tool used to predict future flows and time the need for capacity upgrades within the sanitary sewer collection system. It is also used to track I/I rates within the collection system and help determine the effectiveness of I/I removal projects.

The hydraulic model is an important tool that should be updated and calibrated on a regular basis. This contract with Jacobs will allow for the hydraulic model to be updated and calibrated on regular intervals to ensure that the model is reflecting current conditions in the sanitary sewer collection system and therefore accurately predicting future conditions.

PROCUREMENT PROCESS:

This project was advertised in accordance with ORS 279B and LCRB Rules on April 11, 2022. Proposals were opened on March 10, 2022. The County received one (1) proposal from Jacobs Engineering Inc. An evaluation committee of WES personnel scored reviewed and determined Jacobs's proposal was acceptable and qualified. Upon Contract award, the final Scope of Work and project fee were negotiated and finalized.

RECOMMENDATION:

Staff recommends the Board approve the Contract with Jacobs Engineering Inc. for the Hydraulic Model Update Project.

Respectfully submitted,



Ron Wierenga, Assistant Director
Water Environment Services

Attachments: Contract #6837

PROCUREMENT



**WATER ENVIRONMENT SERVICES
PERSONAL SERVICES CONTRACT
Contract #6837**

This Personal Services Contract (this “Contract”) is entered into between **Jacobs Engineering Group, Inc.** (“Contractor”), and Water Environment Services, a political subdivision of the State of Oregon (“District”).

ARTICLE I.

- 1. Effective Date and Duration.** This Contract shall become effective upon signature of both parties. Unless earlier terminated or extended, this Contract shall expire on **June 30, 2028.**
- 2. Scope of Work.** Contractor shall provide the following personal services: Engineering Services for the Hydraulic Model Update (“Work”) further described in **Exhibit A**, attached and incorporated herein.
- 3. Consideration.** The District agrees to pay Contractor, from available and authorized funds, a sum not to exceed **two hundred ninety-nine thousand six hundred thirty-six dollars (\$299,636.00)**, for accomplishing the Work required by this Contract. Consideration rates are on a time and materials basis in accordance with the rates and costs specified in the fee schedule in **Exhibit B**, attached hereto and incorporated herein. If any interim payments to Contractor are made, such payments shall be made only in accordance with the schedule and requirements in Exhibit B. The Contract’s maximum not-to-exceed amount includes the total of all allowable and reimbursable costs and expenses (and Contingency Tasks). Contingency Tasks shall not be performed, unless upon the written approval of the County.
- 4. Invoices and Payments.** Unless otherwise specified, Contractor shall submit monthly invoices for Work performed. Invoices shall describe all Work performed with particularity, by whom it was performed, and shall itemize and explain all expenses for which reimbursement is claimed. The invoices shall include the total amount billed to date by Contractor prior to the current invoice. The Contractor shall present invoices in proper form within sixty (60) calendar days after the end of the month in which the services were rendered. Payments to Contractor shall be made within thirty (30) days of invoice receipt on undisputed amounts. Payments shall be made in accordance with ORS 293.462 to Contractor following the District’s review and approval of invoices submitted by Contractor. Contractor shall not submit invoices for, and the District will not be obligated to pay, any amount in excess of the maximum compensation amount set forth above. If this maximum compensation amount is increased by amendment of this Contract, the amendment must be fully effective before Contractor performs Work subject to the amendment.

Invoices shall reference the above Contract Number and be submitted to: Wes-payables@clackamas.us

- 5. Travel and Other Expense.** Authorized: Yes No
If travel expense reimbursement is authorized in this Contract, such expense shall only be reimbursed at the rates in the Clackamas County Contractor Travel Reimbursement Policy, hereby incorporated by reference and found at: <https://www.clackamas.us/finance/terms.html>. Travel expense reimbursement is not in excess of the not to exceed consideration.
- 6. Contract Documents.** This Contract consists of the following documents, which are listed in descending order of precedence and are attached and incorporated by reference, this Contract, Exhibit A, and Exhibit B.

7. Contractor and District Contacts.

Contractor	District
Administrator: Shad Roundy, PE Phone: 503-235-5000 Email: Shad.Roundy@jacobs.com	Administrator: Jessica Rinner Phone: 503-484-0365 Email: jrinner@clackamas.us

Payment information will be reported to the Internal Revenue Service (“IRS”) under the name and taxpayer ID number submitted. (See I.R.S. 1099 for additional instructions regarding taxpayer ID numbers.) Information not matching IRS records will subject Contractor payments to backup withholding.

ARTICLE II.

- 1. ACCESS TO RECORDS.** Contractor shall maintain books, records, documents, and other evidence, in accordance with generally accepted accounting procedures and practices, sufficient to reflect properly all costs of whatever nature claimed to have been incurred and anticipated to be incurred in the performance of this Contract. District and their duly authorized representatives shall have access to the books, documents, papers, and records of Contractor, which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts. Contractor shall maintain such books and records for a minimum of three (3) years, or such longer period as may be required by applicable law, following final payment and termination of this Contract, or until the conclusion of any audit, controversy or litigation arising out of or related to this Contract, whichever date is later.
- 2. AVAILABILITY OF FUTURE FUNDS.** Any continuation or extension of this Contract after the end of the fiscal period in which it is written is contingent on a new appropriation for each succeeding fiscal period sufficient to continue to make payments under this Contract, as determined by the District in its sole administrative discretion.
- 3. CAPTIONS.** The captions or headings in this Contract are for convenience only and in no way define, limit, or describe the scope or intent of any provisions of this Contract.
- 4. COMPLIANCE WITH APPLICABLE LAW.** Contractor shall comply with all applicable federal, state and local laws, regulations, executive orders, and ordinances, as such may be amended from time to time.
- 5. COUNTERPARTS.** This Contract may be executed in several counterparts (electronic or otherwise), each of which shall be an original, all of which shall constitute the same instrument.
- 6. GOVERNING LAW.** This Contract, and all rights, obligations, and disputes arising out of it, shall be governed and construed in accordance with the laws of the State of Oregon and the ordinances of Clackamas County without regard to principles of conflicts of law. Any claim, action, or suit between District and Contractor that arises out of or relates to the performance of this Contract shall be brought and conducted solely and exclusively within the Circuit Court for Clackamas County, for the State of Oregon. Provided, however, that if any such claim, action, or suit may be brought in a federal forum, it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the District of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise,

from any claim or from the jurisdiction of any court. Contractor, by execution of this Contract, hereby consents to the personal jurisdiction of the courts referenced in this section.

- 7. INDEMNITY, RESPONSIBILITY FOR DAMAGES.** Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, the conduct of the Work, to the extent caused by any negligent act or omission of Contractor, its subcontractors, agents, or employees. The Contractor agrees to indemnify and defend the District and Clackamas County, and their officers, elected officials, agents and employees from and against all claims, actions, losses, liabilities, including reasonable attorney and accounting fees, and all expenses incidental to the investigation and defense thereof, arising out of or based upon Contractor's acts or omissions in performing under this Contract.

However, neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of District or Clackamas County ("County"), purport to act as legal representative of District or County, or settle any claim on behalf of District or County, without the approval of the Clackamas County Counsel's Office. District or County may assume their own defense and settlement at their election and expense.

- 8. INDEPENDENT CONTRACTOR STATUS.** The service(s) to be rendered under this Contract are those of an independent contractor. Although the District reserves the right to determine (and modify) the delivery schedule for the Work to be performed and to evaluate the quality of the completed performance, District cannot and will not control the means or manner of Contractor's performance. Contractor is responsible for determining the appropriate means and manner of performing the Work. Contractor is not to be considered an agent or employee of District for any purpose, including, but not limited to: (A) The Contractor will be solely responsible for payment of any Federal or State taxes required as a result of this Contract; and (B) This Contract is not intended to entitle the Contractor to any benefits generally granted to District employees, including, but not limited to, vacation, holiday and sick leave, other leaves with pay, tenure, medical and dental coverage, life and disability insurance, overtime, Social Security, Workers' Compensation, unemployment compensation, or retirement benefits.

- 9. INSURANCE.** Contractor shall secure at its own expense and keep in effect during the term of the performance under this Contract the insurance required and minimum coverage indicated below. The insurance requirements outlined below do not in any way limit the amount or scope of liability of Contractor under this Contract. Contractor shall provide proof of said insurance and name the District and Clackamas County as an additional insureds on all required liability policies except for Workers Compensation and Professional Liability. Proof of insurance and notice of any material change should be submitted to the following address: Clackamas County Procurement Division, 2051 Kaen Road, Oregon City, OR 97045 or procurement@clackamas.us.

Required - Workers Compensation: Contractor shall comply with the statutory workers' compensation requirements in ORS 656.017, unless exempt under ORS 656.027 or 656.126.
<input checked="" type="checkbox"/> Required – Commercial General Liability: with limits of than \$1,000,000 per claim, with an annual aggregate limit of \$2,000,000 for Bodily Injury and Property Damage.
<input checked="" type="checkbox"/> Required – Professional Liability: with limits of \$1,000,000 per claim, with an annual aggregate limit of \$2,000,000 for damages caused by error, omission or negligent acts.
<input checked="" type="checkbox"/> Required – Automobile Liability: with limits of \$1,000,000 combined single limit for Bodily Injury and Property Damage.

The policy(s) shall be primary insurance as respects to the District except for Workers Compensation and Professional Liability. Any insurance or self-insurance maintained by the District shall be excess and shall not contribute to it, except for Workers Compensation and Professional Liability. Any obligation that District agree to a waiver of subrogation is hereby

stricken. Contractor can offer a waiver of subrogation on all insurance policies except for Professional Liability.

- 10. LIMITATION OF LIABILITIES.** This Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provisions herein which would conflict with law are deemed inoperative to that extent. Except for liability arising under or related to Article II, Section 13 or Section 20 neither party shall be liable for (i) any indirect, incidental, consequential or special damages under this Contract or (ii) any damages of any sort arising solely from the termination of this Contract in accordance with its terms.
- 11. NOTICES.** Except as otherwise provided in this Contract, any required notices between the parties shall be given in writing by personal delivery, email, or mailing the same, to the Contract Administrators identified in Article 1, Section 6. If notice is sent to District, a copy shall also be sent to: Clackamas County Procurement, 2051 Kaen Road, Oregon City, OR 97045, or procurement@clackamas.us. Any communication or notice so addressed and mailed shall be deemed to be given five (5) days after mailing, and immediately upon personal delivery, or within 2 hours after the email is sent during District's normal business hours (Monday – Thursday, 7:00 a.m. to 6:00 p.m.) (as recorded on the device from which the sender sent the email), unless the sender receives an automated message or other indication that the email has not been delivered.
- 12. OWNERSHIP OF WORK PRODUCT.** All work product of Contractor that results from this Contract (the "Work Product") is the exclusive property of District. District and Contractor intend that such Work Product be deemed "work made for hire" of which District shall be deemed the author. If for any reason the Work Product is not deemed "work made for hire," Contractor hereby irrevocably assigns to District all of its right, title, and interest in and to any and all of the Work Product, whether arising from copyright, patent, trademark or trade secret, or any other state or federal intellectual property law or doctrine. Contractor shall execute such further documents and instruments as District may reasonably request in order to fully vest such rights in District. Contractor forever waives any and all rights relating to the Work Product, including without limitation, any and all rights arising under 17 USC § 106A or any other rights of identification of authorship or rights of approval, restriction or limitation on use or subsequent modifications. Notwithstanding the above, District shall have no rights in any pre-existing Contractor intellectual property provided to District by Contractor in the performance of this Contract except to copy, use and re-use any such Contractor intellectual property for District use only.
- 13. REPRESENTATIONS AND WARRANTIES.** Contractor represents and warrants to District that (A) Contractor has the power and authority to enter into and perform this Contract; (B) this Contract, when executed and delivered, shall be a valid and binding obligation of Contractor enforceable in accordance with its terms; (C) Contractor shall at all times during the term of this Contract, be qualified, professionally competent, and duly licensed to perform the Work; (D) Contractor is an independent contractor as defined in ORS 670.600; and (E) the Work under this Contract shall be performed in accordance with the standard of professional skill and care required for a project of similar size, location, scope, and complexity, during the time in which the Work is performed. The warranties set forth in this section are in addition to, and not in lieu of, any other warranties provided. The Contractor shall be responsible for the technical accuracy of its services and documents resulting therefrom, and District shall not be responsible for discovering deficiencies therein. The Contractor shall correct such deficiencies without additional compensation except to the extent such action is directly attributable to deficiencies in information furnished by the District.
- 14. SURVIVAL.** All rights and obligations shall cease upon termination or expiration of this Contract, except for the rights and obligations set forth in Article II, Sections 1, 6, 7, 10, 12, 13, 14, 15, 17, 20, 21, 25, 27, and 29, and all other rights and obligations which by their context are intended to survive.

However, such expiration shall not extinguish or prejudice the District's right to enforce this Contract with respect to: (a) any breach of a Contractor warranty; or (b) any default or defect in Contractor performance that has not been cured.

- 15. SEVERABILITY.** If any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held to be invalid.
- 16. SUBCONTRACTS AND ASSIGNMENTS.** Contractor shall not enter into any subcontracts for any of the Work required by this Contract, or assign or transfer any of its interest in this Contract by operation of law or otherwise, without obtaining prior written approval from the District, which shall be granted or denied in the District's sole discretion. In addition to any provisions the District may require, Contractor shall include in any permitted subcontract under this Contract a requirement that the subcontractor be bound by this Article II, Sections 1, 7, 8, 13, 16, and 27 as if the subcontractor were the Contractor. District's consent to any subcontract shall not relieve Contractor of any of its duties or obligations under this Contract.
- 17. SUCCESSORS IN INTEREST.** The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective authorized successors and assigns.
- 18. TAX COMPLIANCE CERTIFICATION.** The Contractor shall comply with all federal, state and local laws, regulation, executive orders and ordinances applicable to this Contract. Contractor represents and warrants that it has complied, and will continue to comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle District to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.
- 19. TERMINATIONS.** This Contract may be terminated for the following reasons: (A) by mutual agreement of the parties or by the District (i) for convenience upon thirty (30) days written notice to Contractor, or (ii) at any time the District fails to receive funding, appropriations, or other expenditure authority as solely determined by the District; or (B) if contractor breaches any Contract provision or is declared insolvent, District may terminate after thirty (30) days written notice with an opportunity to cure.

Upon receipt of written notice of termination from the District, Contractor shall immediately stop performance of the Work. Upon termination of this Contract, Contractor shall deliver to District all documents, Work Product, information, works-in-progress and other property that are or would be deliverables had the Contract Work been completed. Upon District's request, Contractor shall surrender to anyone District designates, all documents, research, objects or other tangible things needed to complete the Work
- 20. REMEDIES.** If terminated by the District due to a breach by the Contractor, then the District shall have any remedy available to it in law or equity. If this Contract is terminated for any other reason, Contractor's sole remedy is payment for the goods and services delivered and accepted by the District, less any setoff to which the District is entitled.
- 21. NO THIRD PARTY BENEFICIARIES.** District and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly or

otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

- 22. TIME IS OF THE ESSENCE.** Contractor agrees that time is of the essence in the performance this Contract.
- 23. FOREIGN CONTRACTOR.** If the Contractor is not domiciled in or registered to do business in the State of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue and the Secretary of State, Corporate Division, all information required by those agencies relative to this Contract. The Contractor shall demonstrate its legal capacity to perform these services in the State of Oregon prior to entering into this Contract.
- 24. FORCE MAJEURE.** Neither District nor Contractor shall be held responsible for delay or default caused by events outside the District or Contractor's reasonable control including, but not limited to, fire, terrorism, riot, acts of God, or war. However, Contractor shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall upon the cessation of the cause, diligently pursue performance of its obligations under this Contract.
- 25. WAIVER.** The failure of District to enforce any provision of this Contract shall not constitute a waiver by District of that or any other provision.
- 26. PUBLIC CONTRACTING REQUIREMENTS.** Pursuant to the public contracting requirements contained in Oregon Revised Statutes ("ORS") Chapter 279B.220 through 279B.235, Contractor shall:
- a. Make payments promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the work provided for in the Contract.
 - b. Pay all contributions or amounts due the Industrial Accident Fund from such Contractor or subcontractor incurred in the performance of the Contract.
 - c. Not permit any lien or claim to be filed or prosecuted against District on account of any labor or material furnished.
 - d. Pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
 - e. As applicable, the Contractor shall pay employees for work in accordance with ORS 279B.235, which is incorporated herein by this reference. The Contractor shall comply with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract, and failure to comply is a breach entitling District to terminate this Contract for cause.
 - f. If the Work involves lawn and landscape maintenance, Contractor shall salvage, recycle, compost, or mulch yard waste material at an approved site, if feasible and cost effective.
- 27. NO ATTORNEY FEES.** In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.
- 28. KEY PERSONS.** Contractor acknowledges and agrees that a significant reason the District is entering into this Contract is because of the special qualifications of certain Key Persons set forth in the contract. Under this Contract, the District is engaging the expertise, experience, judgment, and personal attention of such Key Persons. Neither Contractor nor any of the Key Persons shall delegate performance of the management powers and responsibilities each such Key Person is required to provide under this Contract to any other employee or agent of the Contractor unless the District provides prior written consent to such delegation. Contractor shall not reassign or transfer a Key Person to other duties or positions such that the Key Person is no longer available to provide the

District with such Key Person's services unless the District provides prior written consent to such reassignment or transfer.

29. MERGER. THIS CONTRACT CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES WITH RESPECT TO THE SUBJECT MATTER REFERENCED THEREIN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. NO AMENDMENT, CONSENT, OR WAIVER OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY ALL PARTIES. ANY SUCH AMENDMENT, CONSENT, OR WAIVER SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. CONTRACTOR, BY THE SIGNATURE HERETO OF ITS AUTHORIZED REPRESENTATIVE, IS AN INDEPENDENT CONTRACTOR, ACKNOWLEDGES HAVING READ AND UNDERSTOOD THIS CONTRACT, AND CONTRACTOR AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

By their signatures below, the parties to this Contract agree to the terms, conditions, and content expressed herein.

Jacobs Engineering Group, Inc.

Water Environment Services

 _____ 7/28/2022
Authorized Signature Date

Chair Date

Patrick Van Duser/Designated Manager
Name / Title (Printed)

Recording Secretary

064469-83
Oregon Business Registry #

Approved as to Form:

FBC/Delaware
Entity Type / State of Formation

 _____ 8/2/22
County Counsel Date

EXHIBIT A SCOPE OF WORK

BACKGROUND

In 2019, Water Environment Services (District) completed a Sanitary Sewer System Master Plan (SSMP). As part of the project, an InfoSWMM (Innovyze) sanitary sewer collection system hydraulic model was developed which represents the gravity sewer trunks and regional pump stations within the District's system. The model was calibrated using flow monitoring data available in 2015 and flow projections were developed using planning data also available in 2015. The calibrated hydraulic model was used to develop a Sanitary Sewer Capital Improvement Program including recommendations for wet weather flow reduction (rainfall derived infiltration and inflow, RDI/I) and sewer capacity improvements. Since 2015, the District's service area has experienced moderate growth. Additionally, the District has collected new flow monitoring data to better understand system response to RDI/I.

The Scope of Services described below includes Phase 1 Work to be performed by Jacobs (Contractor) to update the District's hydraulic model, re-calibrate the model, and provide annual review of the Sanitary Sewer Capital Improvement Program. Phase 1 of the Work includes model updates and calibration for data available in 2022. Phase 1 also includes annual review of the District Sanitary Sewer Capital Improvement Program and available flow monitoring data through 2024.

It is anticipated that the future Work will include a Phase 2 and Phase 3 to be scoped in 2024 and 2026 respectively. Future Work excluded from the Phase 1 Scope of Services includes: (1) annual review of flow monitoring data and the Capital Improvement Program between 2025 and 2027, and (2) a second model update and re-calibration anticipated in 2027.

SCOPE OF SERVICES

TASK 1 – Project Management

Objectives: Provide management and communication required to prepare and deliver Phase 1 Work. Contractor will complete the following:

- Conduct project kick-off meeting.
- Oversee, coordinate, and provide direction to the Project team to meet schedule requirements.
- Monitor staff availability and workload and adjust as necessary to assure availability.
- Track and forecast Project costs to remain within the budget. Track out of scope work requests.
- Prepare monthly progress reports and invoices.
- Participate in regular coordination meetings with District Project Manager.
- Coordinate quality assurance and quality control (QA/QC) activities.

Deliverables: Monthly invoices and progress reports (up to 24 months)

Assumptions: One coordination meeting per month for the duration of Phase 1 (up to 24 virtual meetings of one-hour duration). One in-person kick-off meeting.

TASK 2 – Data Request and Review

Objectives: Develop a data request list for District and review data for Phase 1 Work.

Subtask 2.1 Data Request

Contractor will develop a formal data request for District and track data receipt including:

- Gravity flow meter data in 15-minute increments (flow, depth, velocity) since 2015 (5-years minimum).
- SCADA data in 15-minute increments (flow preferred, run-time data less beneficial) at Intertie Pump Station(s), regional pump stations (if available), and influent to treatment facilities since 2015 (5-years minimum).
- Local rain gauge data in 15-minute increments since 2015 (5-years minimum) if available. Contractor will supplement rain gauge data with the City of Portland HYDRA network available on-line.
- Intertie and regional pump station control narratives, if changed since 2015.
- Most recent sanitary sewer GIS (District and member communities), where available include rim elevations, invert elevations, pipe sizes, and pipe materials.
- As-built drawings of new trunk pipelines if not delineated in GIS and if new since 2015.
- As-built drawings of pump stations, pump set points and pump curves if changed since 2015.
- Updated planning data (parcels, developed areas, future population and employment by transportation analysis zone). Contractor will supplement planning data with Metro RLIS available on-line.
- Reports, studies, or meter data which document RDI/I rates or reduction activities (Mount Talbert and Gladstone Basins, for example).
- 5-year capital project list (timing based on funding).

Assumptions:

- Access structure and pipeline surveying for inverts and rim elevations are excluded from this Work.
- One virtual meeting to coordinate data request.

Deliverables:

- Data request list and tracking spreadsheet.

Subtask 2.2 Data Review

Contractor will review available data from Subtask 2.1 as follows.

- Review available flow monitoring data at up to 30 locations including influent flow to each treatment facility from 2015-2022. Select up to three calibration periods for dry weather flow and three calibration storms that represent the largest wet weather impacts for the seven-year period. For the selected periods, meter data quality will be assessed by reviewing time series plots of flow, velocity, depth, and rainfall. Velocity vs depth scatter plots will be used to determine accuracy of flow meter data for each calibration period.
- Review County, District, and City GIS data. Download and review recent Metro RLIS data and

population/employment projections from Metro and the Portland State University Population Research Center.

- Review District GIS for infrastructure 10-inches and larger. Update mapping from 2015 calibration showing locations of missing elevation data. Request and review as-built drawings for up to 500 access structures and pipelines associated with missing elevation data. Extract elevations from drawings to update the model network.
- Review diversion operations within the modeled system with District staff including flow diversions in the City of West Linn. Review available drawings or narratives describing diversion operations.
- Review pump station operational narratives, pump curves, and other documentation to identify changes or updates to pump station operations and capacity to apply to model update.
- Review available reports documenting RDI/I rates as part of the District RDI/I Reduction Program and other capital projects.

Assumptions:

- One virtual meeting to coordinate data review. One in-person site visit to clarify diversion and pump station operations.

TASK 3 – Collection System Hydraulic Model Update and Calibration

Objective: Develop a calibrated collection system hydraulic model to assess existing and future system capacity. Contractor will update and calibrate the existing collection system model including collector and trunk lines 10-inches and larger, diversions, pump stations, and force mains.

Subtask 3.1 – Model Evaluation and Selection

Contractor will prepare a comparison matrix of model software options with advantages and disadvantages for up to four third-party software platforms. Contractor will facilitate a meeting to present the matrix and discuss current and future uses of the model. The outcome of the meeting will be selection of a model software to be used for the remainder of the Project and for model deliverables.

Assumptions:

- One virtual meeting to review and select modeling software.
- Contractor will utilize internal software licensing of the selected software for the duration of the Project at no licensing costs to District.
- To utilize the model outside of services provided by the Contractor, District will need to license software directly from the third-party vendor.

Deliverables:

- Model matrix comparison
- Meeting notes on software selection

Subtask 3.2 – Update Collection System Model Network

Contractor will utilize available GIS as the basis for the updated hydraulic model network. The model identifiers for pipelines and access structures will be consistent with the GIS unique identifiers to maintain a direct link between the model and GIS. Pipelines 10-inches and larger will be updated in the model from GIS and review of as-builts from Subtask 2.2. Contractor will review the profiles of all

modeled pipelines and submit a map to District where data appears suspect (i.e. adverse slopes) for clarification. Pump station and diversion information will be implemented into the model based on as-built drawings, pump station control narratives, and pump curves provided by District.

Assumptions:

- The District GIS data includes invert and rim elevations for access structures, pipeline diameters, and pipeline invert elevations.
- This task limits extraction of data from as-built drawings to a maximum of 500 access structures and pipelines. Drawing review and system control review will be coordinated with Subtask 2.2.

Deliverables:

- Electronic (PDF) map highlighting questionable network data and elevations for District comment.

Subtask 3.3 – Update Model Flow Loading

Contractor will update existing system dry weather flow loading from flow monitoring data, land use/zoning data, and development status by parcel. Contractor will utilize available data to update unit flow factors (dry weather flow per net acre) by zoning class. The unit flow factors will be compared to industry standards and other utilities in Oregon for consistency. All system loading will be scaled to flow rates established during dry weather conditions at the flow monitoring locations.

In 2015, flow loading was developed on a parcel basis and assigned to the model network based on proximity to existing sanitary sewer infrastructure. Contractor will verify parcel assignment and develop a flow loading map including delineation of service area subbasins and meter basins for review by District staff. Contractor will update parcel assignment per District staff comments. Additionally, Contractor will update sewersheds (wet weather area impact) by applying a buffer to all existing sanitary sewer pipelines.

Contractor will update flow loading for future time periods in 5-year increments (2025, 2030, 2035, 2040, 2045) and at buildout by apply updated unit flow factors to developed lands and scaling to available population and employment projections by Metro Transportation Analysis Zone (TAZ) for incremental time periods.

Subtask 3.4 – Model Calibration for Dry and Wet Weather Conditions

Contractor will perform model calibration to develop an accurate estimate of flows for dry and wet weather conditions at up to 30-meter locations. Model parameters will be adjusted such that modeled flows and depths match meter data within a specified tolerance during at least one dry weather period and one wet weather event. Contractor will perform the following:

- Extract existing dry weather flow data for each calibration period from the flow monitoring record from 2015-2022. Update dry weather diurnal patterns and perform dry weather flow calibration for each meter site for a primary calibration period associated with each meter. Calibrate peak dry weather flows and depths such that model results match meter data within +/- 5 percent.
- Update wet weather unit hydrographs and perform wet weather calibration for each meter location for a primary calibration period. Calibrate model such that model results match meter flow data within a range of +25% to -15% for peak flows, and +20% to -10% for peak storm volumes and flow depths. Review model calibration for accuracy during two additional wet weather calibration periods.

- Refine pump station operations and controls to reflect methods of selected modeling software. Optimize model for run time and flow continuity.

Assumptions:

- One-virtual meeting and one in-person meeting to clarify model information and present the results of the model calibration.
- Contractor may utilize an AutoCalibration Tool to finalize the model calibration for wet weather response and to refine pump station operations in the model. The AutoCalibration Tool allows for a greater number of calibration iterations to refine the model accuracy.

Deliverables:

- A draft and final technical memorandum summarizing the results of the model calibration and the model update.
- Hydraulic model and scenario list with descriptions.

Subtask 3.5 – Characterize System Capacity and RDI/I Rates

Contractor will utilize the calibrated hydraulic model to identify and map hydraulic (capacity) deficiencies and remaining system capacity based on the District’s design criteria for peak dry weather conditions, and peak wet weather conditions during the 5-year design storm. Contractor will develop mapping of the following:

- Existing system hydraulic capacity and deficiencies (freeboard and flow depth, pump station capacity)
- Existing system RDI/I rates (peak RDI/I flow per net acre) by meter basin
- Existing system remaining capacity (summarized as peak flow and equivalent dwelling units for pipelines and pump station in the hydraulic model)
- Future system hydraulic capacity and deficiencies in 5-year increments to 2045 and buildout (freeboard and flow depth, pump station capacity)
- Future system RDI/I rates by meter basin in 5-year increments to 2045 and buildout

Deliverables:

- Electronic (PDF) mapping of existing and future system hydraulic capacity deficiencies with RDI/I rates and existing system remaining capacity.
- GIS map package with system flows, deficiencies output, and remaining capacity from the capacity and RDI/I mapping in Subtask 3.5.

TASK 4 –Annual Review RDI/I Reduction Program and Sanitary Sewer Capital Improvement Program

Objective: Perform annual review of the District RDI/I Reduction Program including estimates of wet weather flows and capital project priorities. The work in this task will be repeated annually in 2022/2023 and 2023/2024.

Subtask 4.1 – Update RDI/I Flow Tracking Tools

Contractor will perform the following:

- Update the District Flow Tracking Tool for reviewing system capacity, flow targets, flow triggers and flow monitoring data to reflect updates to the model network and flow loading from Task 3.
- Catalog five largest storms per year from 2015-2021 into the spreadsheet tool for up to 30-meter locations.

- Catalog five largest storms from the previous year into the spreadsheet tool to recalculate RDI/I rates for up to 30-meter locations.

Subtask 4.2 – Document Updates to Capital Improvement Project Timing and Flow Tracking

After updates have been applied to the District Flow Tracking Tool, Contractor will perform the following:

- Summarize RDI/I rate changes by year for up to 30-meter locations.
- Apply RDI/I rate changes to system degradation assumptions and project flows for a high to low range of system degradation.
- Summarize system flows compared to target flows and flow triggers associated with District Capital Improvement Program project list.
- Update Capital Improvement Program project list with adjusted timing.
- Document recommendations on Capital Improvement Program and RDI/I Reduction Program implementation.
- Develop presentation materials summarizing updates to system RDI/I rates, system flows, and comparison to flow targets. Review materials with District staff and prepare for Stakeholder meeting(s).

Assumptions:

- Two-virtual meetings and one in-person meeting to review Capital Improvement Program with District staff per year (for two years).
- Two in-person Stakeholder Meetings per year (for two years).

Deliverables:

- A draft and final technical memorandum summarizing work performed to update system flow tracking and capital improvement recommendations.

TASK 5 –Miscellaneous Support

Objective: Provide miscellaneous on-call modeling support to District staff on an “as-needed” basis and when requested.

Contractor will provide on-call planning, modeling, and stakeholder support to District as requested on a task-by-task basis. When prompted by District staff, Contractor will provide a brief task-specific scope and budget via email. District will provide email authorization to the Contractor to proceed based on review of the task-specific scope and budget. Assumptions, deliverables, schedules, and data requests will be outlined in each task-specific scope. Schedule and turnaround time will vary depending on the request.

**EXHIBIT B
FEE SCHEDULE
ATTACHED BY REFERENCE**

COVER SHEET

- New Agreement/Contract
- Amendment/Change/Extension to _____
- Other _____

Originating County Department: _____

Other party to contract/agreement: _____

Description:

After recording please return to: _____

County Admin

Procurement

If applicable, complete the following:

Board Agenda Date/Item Number: _____