



Gregory L. Geist
Director

Board of County Commissioners
Clackamas County

Members of the Board:

Agreement between
Water Environment Services and Parametrix Inc., for the Three Creeks Floodplain
Enhancement Project

Purpose/Outcomes	Approval of a contract with Parametrix Inc. for Phase 1 of the Three Creeks Floodplain Enhancement Project.
Dollar Amount and Fiscal Impact	The maximum compensation authorized under this contract shall be \$705,418.18 for the completion of Phase 1 of the project.
Funding Source	WES Surface Water Operating Funds Oregon DEQ Clean Water State Revolving Fund Loan (No County General Funds are involved)
Duration	Through September 30, 2022
Previous Board Action/Review	N/A
Strategic Action Plan	Aligns with the County's Strategic Priority to, <i>Honor, utilize, promote and invest in our natural resources.</i>
Council Review	May 12, 2020 AK
Contact Person	Ron Wierenga, WES Environmental Services Manager, 503-742-4581 Leah Johanson, WES Senior Civil Engineer, 503-742-4620

BACKGROUND:

Clackamas Water Environment Services (WES) operates a large regional surface water facility at a site known as the Three Creeks Natural Area, so named by the nearby confluences of Mt. Scott, Phillips, and Dean Creeks. The site is a unique complex of wetlands, uplands, and open space areas in the heavily urbanized portion of Clackamas County. The surface water facility consists of an active flow control system and a large passive storage pool behind the control gates that can fill during very large rainfall events. WES has had a long-term interest in continuing to optimize the water quality and habitat value of the site, by modifying its runoff management and pollutant removal performance, and riparian, wetland, and in-stream habitat. There are no formal recreation facilities on the site; however, members of the community regularly use it for walking. The site is also used for annual volunteer cleanup events, and watershed groups have engaged in planting and other restoration activity at the site over many years. As a result, there is a high level of public interest in the site.

The goals of the Three Creeks Floodplain Enhancement Project are to:

- Improve the water quality of streams
- Optimize floodplain functions

- Optimize peak flow reduction of the surface water facility
- Enhance riparian and wetland habitat
- Buffer the effects of a changing climate to the extent feasible
- Provide community benefits such as pedestrian access where feasible

The Three Creeks Floodplain Enhancement Project will be completed in three phases:

- Phase 1 – Data collection, modeling, alternatives analysis and preliminary design;
- Phase 2 – Final design and permitting; and
- Phase 3 – Bidding and construction.

WES has been authorized by the Oregon Department of Environmental Quality to receive a Clean Water State Revolving Fund loan for the Three Creeks project. DEQ has prepared a guidance document for Clean Water State Revolving Funds applicants and designers called the *Preliminary Guidelines for a Stream Restoration Project Pre-Design Report*. This guidance forms the basis for analyses and reports that will be completed during Phase 1 of the Three Creeks Floodplain Enhancement Project.

The purpose of Phase 1 is to initiate the project, collect design-level site data, review models, solicit public and agency input, prepare and select preferred alternatives, and prepare a predesign report. Phase 1 includes the following tasks:

- **Kick-Off Meeting and Stakeholder Coordination:** initiate the project and coordinate input from interested and knowledgeable sources for different aspects of the project.
- **Site Characterization, and Data Collection and Predesign Report:** collect and review available reports, collect and evaluate site data in the field and identify data gaps, nominate and evaluate alternatives, and prepare a predesign report.
- **Hydrologic and Hydraulic Modeling:** prepare a project model of the system hydrology and hydraulics for the flood control facility. Two separate and coordinated modeling efforts are included for design alternatives - a 2D model for stream channel design and a flood management model for flood control decisions and hydraulic structure design and floodplain modeling.
- **Public Engagement Process:** design and implement a plan for informing and involving stakeholders – neighbors, businesses, watershed and environmental stewards, County residents, elected officials, internal/external agencies and institutions, etc. – in a meaningful way that allows input to contribute to decision-making by the project team and helps gain community understanding and support for the project.
- **Alternatives Analysis:** develop a suite of alternatives that address each of the key project objectives – flood control and optimization, stream enhancement, water quality improvements, and public site usage – and conduct a process to evaluate and select preferred alternatives.

Phase 1 will result in selection of a preferred alternative for the Three Creeks Floodplain Enhancement Project to advance forward for Phase 2 and Phase 3. This Contract authorizes Phase 1 Work, with phases 2 and 3 to be authorized only through an amendment signed by both parties.

PROCUREMENT PROCESS:

This project was advertised in accordance with ORS 279B and LCRB Rules on July 22, 2019. Proposals were publically opened August 22, 2019. The County received four (4) proposals from Parametrix Inc., Otak, Herrera Environmental Consultants Inc., and Wolf Water Resources. Parametrix's proposal was chosen as the highest evaluated proposer and was awarded the Contract through September 30, 2022.

RECOMMENDATION:

Staff recommends the Board approve the contract with Water Environment Services and Parametrix Inc., for Phase 1 of the multiphase Three Creeks Floodplain Enhancement Project.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Greg Geist", with a long horizontal flourish extending to the right.

Greg Geist
Director, WES

Placed on the 6-11-2020 Agenda by the Procurement Division.



**WATER ENVIRONMENT SERVICES
PERSONAL SERVICES CONTRACT
Contract #2149**

This Personal Services Contract (this “Contract”) is entered into between **Parametrix, 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 **September 30, 2022**.

- 2. Scope of Work.** Contractor shall provide personal services related to Phase 1 of the Three Creeks Floodplain Enhancement Project (“Work”), further described in **Exhibit A**. The Work is anticipated to include three phases: Phase 1 – Data collection, modeling, alternatives analysis and preliminary design; Phase 2 – Final design and permitting; and Phase 3 – Bidding and construction. This Contract authorizes Phase 1 Work, with phases 2 and 3 to be authorized only through an amendment signed by both parties.

- 3. Consideration.** The District agrees to pay Contractor, from available and authorized funds for a total contract value not to exceed **seven hundred five thousand four hundred-eighteen dollars and eighteen cents (\$705,418.18)**, for accomplishing Phase 1 Work required by this Contract. Consideration rates are on a time and materials basis in accordance with the rates and costs specified in **Exhibit C**. If any interim payments to Contractor are made, such payments shall be made only in accordance with the schedule and requirements in **Exhibit C**.

- 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. If Contractor fails to present invoices in proper form within sixty (60) calendar days after the end of the month in which the services were rendered, Contractor waives any rights to present such invoice thereafter and to receive payment therefor. Payments shall be made 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: Leah Johanson.

- 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: <http://www.clackamas.us/bids/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, Exhibit B, and Exhibit C.

7. Contractor and District Contacts.

Contractor	District
Administrator: Richard Roche Phone: 503-416-6168 Email: roche@parametrix.com	Administrator: Leah Johanson Phone: 503-742-4620 Email: ljohnson@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 six (6) 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. **RESPONSIBILITY FOR DAMAGES; INDEMNITY.** 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, any negligent act or omission, of Contractor, its subcontractors, agents, or employees. The Contractor agrees to indemnify, and hold harmless and defend Clackamas County and the District, and their officers, elected officials, agents and employees from and against all claims and actions, and all expenses incidental to the investigation and defense thereof, arising out of or based upon damage or injuries to persons or property caused by the negligent errors, omissions, or fault of the Contractor or the Contractor's employees, subcontractors, or agents. However, neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of District or any department of District, nor purport to act as legal representative of District or any of its departments, without first receiving from the Clackamas County Counsel's Office authority to act as legal counsel for District, nor shall Contractor settle any claim on behalf of District without the approval of the Clackamas County Counsel's Office. District may, at its election and expense, assume its own defense and settlement.

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. Contractor shall provide proof of said insurance and name the District and Clackamas County as an additional insureds on all required liability policies. 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 workers' compensation requirements in ORS 656.017, unless exempt under ORS 656.126.
<input checked="" type="checkbox"/> Required – Commercial General Liability: combined single limit, or the equivalent, of not less than \$1,000,000 per occurrence, with an annual aggregate limit of \$2,000,000 for Bodily Injury and Property Damage.
<input checked="" type="checkbox"/> Required – Professional Liability: combined single limit, or the equivalent, of not less than \$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: combined single limit, or the equivalent, of not less than \$1,000,000 per occurrence for Bodily Injury and Property Damage.

This policy(s) shall be primary insurance as respects to the District. Any insurance or self-insurance maintained by the District shall be excess and shall not contribute to it. Any obligation that District agree to a waiver of subrogation is hereby stricken.

- 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 21 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. If this Contract is terminated prior to completion, and the District is not in default, District, in addition to any other rights provided by this Contract, may require the Contractor to transfer and deliver all partially completed Work Product, reports or documentation that the Contractor has specifically developed or specifically acquired for the performance of this Contract.
- 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 the same professional skill, care, diligence and standards as other professionals performing similar services under similar conditions. 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, 11, 13, 14, 16, and 21, 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.** A) This Contract may be terminated by mutual agreement of the parties or by the District for one of the following reasons: (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. Upon receipt of written notice of termination from the District, Contractor shall immediately stop performance of the Work. (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 termination of this Contract, Contractor shall deliver to District all documents, 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 of this Contract. The Contractor shall complete the Work within the agreed-upon schedule.
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. If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a subcontractor by any person in connection with the Contract as such claim becomes due, the proper officer representing the District may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due Contractor by reason of the Contract.
 - f. 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.
 - g. 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. **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.

28. 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.

Parametrix Inc.

Water Environment Services

Authorized Signature Date

Chair Date

Name / Title (Printed)

Recording Secretary

080125-93

Oregon Business Registry #

Approved as to Form:

FBC/Washington

Entity Type / State of Formation

County Counsel Date

**EXHIBIT A
PERSONAL SERVICES CONTRACT
SCOPE OF WORK**

Contractor shall complete work as outlined in the Vendor's Negotiated Scope of work hereby included as **Exhibit B.**

EXHIBIT B
VENDOR'S NEGOTIATED SCOPE

SCOPE OF WORK

Clackamas County Water Environment Services Three Creeks Facility Upgrades

PROJECT BACKGROUND

Clackamas Water Environment Services (WES) operates a large regional stormwater facility at a site known as the Three Creeks Natural Area (3-Creeks), so named by the nearby confluence of Mt. Scott, Phillips, and Dean Creeks. The site is a complex of wetlands, uplands, open space areas, and related facilities. The stormwater facility consists of an active flow control gate system and a large passive storage pool behind the control gates that can fill during large rainfall events. This pool, when full, can inundate much of the site along Mt. Scott Creek. WES has had a long-term interest in continuing to optimize the facility and improve water resource quality in the basin by modifying its flood management performance, water quality, and riparian, wetland, in-stream, and upland habitat.

Goals of the Three Creeks Enhancement Project are:

- Improve water quality
- Increase over-bank flood storage in the floodplain
- Optimize floodplain storage and peak flow reduction of the facility
- Enhance riparian and wetland habitat
- Provide resilience to climate change to the extent feasible
- Provide community benefits such as pedestrian access if feasible

The project objective is to identify a preferred course of action to improve water resource and floodplain functions in the 3-Creeks site and nearby related streams. Alternatives for optimizing flood control, water quality, and habitat will be developed, compared, and selected. Changes to the system and site will be included in the evaluation. Other potentially affected nearby resources, such as the downstream floodplain, upstream backwater, the Dean Creek confluence, the Phillips Creek water quality facility, and Commerce Park flooding will also be considered. Workshops with project partners and interested stakeholders will be held to obtain valuable site knowledge and review objectives and preferences. The preferred alternative will be selected and preliminary engineering will be conducted to advance the plan to about a 10 percent design. At this design level additional implementation processes will be identified, such as phasing and a permitting strategy.

The Oregon Department of Environmental Quality (DEQ) has prepared a guidance document for Clean Water State Revolving Funds applicants and designers called the *Preliminary Guidelines for a Stream Restoration Project Pre-Design Report*. This guidance will be the general basis for analyses and reports described in this scope of work that will be used to prepare final engineering and construction documents.

WORK BREAKDOWN

Phase 1 – Project Initiation, Data Collection, and Alternatives Development

The purpose of this phase is to initiate the project, collect design-level site data, review models, solicit public and agency input, prepare and select preferred alternatives, and prepare a predesign report. In addition, flood studies of the surrounding streams will be conducted and approaches to minimize flooding will be assessed.

Task 1.0 – Kick-Off Meeting and Stakeholder Coordination

The purpose of this task is to initiate the project and coordinate input from different sources for different aspects of the project.

Activities

- Conduct kickoff meeting. Lead a project kickoff meeting, including discussion of project goals and objectives, team communications, scope and schedule, risk register development (the risk register is a tool to identify and manage threats to the project), coordination with other projects, grant obligations, and preliminary data needs.
- Initiate a stakeholder input process. Initiate a process to inform internal and external stakeholders of the proposed project. Conduct one internal workshop to introduce the project and solicit interest and input from WES staff and agency partners such as ODFW and NCPRD (included in Task 3.5).

Assumptions

- Kick-off meeting to be coordinated by WES will include up to eight consultant team staff.

Deliverables

- Preliminary risk register (to be updated in the project management task)
- Stakeholder process plan

Task 2.0 – Site Restoration, Characterization, and Data Collection and Predesign Report

The purpose of this task is to collect and review available reports, collect and evaluate site data and identify data gaps, consider and evaluate alternatives, and prepare a predesign report. The process described is intended to follow and address the *Preliminary Guidelines for a Stream Restoration Project Pre-Design Report* prepared by DEQ. Additional analyses and effort to conduct the evaluation and prepare design documents are included in Task 3.

Task 2.1 – Problem Definition

The purpose of this task is to prepare a general analysis of the existing conditions, deficiencies, and constraints in this system and watershed that will influence project outcomes.

Activities

- Review existing available data which include the following:
 - *Three Creeks Regional Detention Facility Hydrologic and Hydraulic Analysis Report* (David Evans & Associates 2014)
 - *WES hydrologic and hydraulic modeling* (Pacific Water Resources 2005)
 - *3-Creeks/Harmony Rd Property Site History Review & Summary* (NCPRD 2015)
 - *Wetland delineations* (SWCA 2005; Pacific Habitat Resources 2009.)
 - *Noxious weed maps* (Pacific Habitat Resources 10/23/2009. NCPRD 2018.)
 - *Fish species distribution and abundance and habitat assessment of streams in Clackamas County Service District No. 1* (ODFW 2009)
 - *Harmony Road Area Transportation Improvements EIS* (Various authors July 2007)
 - *Natural Resource Assessment Three Creeks Site Clackamas County, Oregon* (Pacific Habitat Services October 10, 2008)
 - *Various documents from DEQ on ODOT-owned remediation site including Three Creeks mitigation site (DEQ Former East Milwaukie Site) Request for Concurrence* (HDR March 29, 2011)
 - *Intertie 2 Compensatory Wetland Mitigation Post-construction/As-built Report* (SWCA May 21, 2013) and annual reports to DSL and the Corps.
 - Historic air photos from 1936, 1952, 1960, 1970, 1994, and 2005
 - *Stewardship Plan 3-Creeks Natural Area* (Pacific Habitat Services 2018)
 - *Maintenance Manual for Clackamas County Water Environment Services* (Kurahashi April 16, 2001)
 - *Operations Manual for Clackamas County Water Environment Services* (Kurahashi April 16, 2001)
 - *Level I Preliminary Site Assessment for Vandermost and Rose Properties, SE Harmony Rd, Clackamas County, Oregon* (GRI April 12, 1993)
 - *Clackamas County Water Environment Services Benthic Macroinvertebrate and Geomorphical Monitoring Reports* 2003, 2007, 2011, 2014, and 2017. See Sites SD1-M3, SD1-M5, MS-40, and PH-10. (Waterways Consulting and Cole Ecological and predecessors)
 - GIS files showing sanitary sewer infrastructure, storm sewer infrastructure, weed points and weed treatment locations, and others.
 - *Draft Rapid Bio-assessment Report North Clackamas Watersheds* (Inter-fluve, Inc. January 2020) See Mt. Scott Reach 3.
- Define and map flood problem areas in the facility and in immediate proximity (to be completed in Task 2.3).
- Determine existing water quality conditions in the watershed or impacted stream reach using existing available data.

- Determine if there is an applicable reference reach to apply to the restoration segment (to be completed in Task 2.3).
- Define and prepare a project problem statement (to be completed during the project kickoff in Task 1.0).

Task 2.2 – Design Goals and Objectives

The purpose of this task is to prepare a worksheet with specific project guidance to address desired goals and outcomes.

Activities

- Define project objectives and preferred outcomes (to be completed during the project kick-off in Task 1.0)

Task 2.3 – Physical Site Assessment

The purpose of this task is to conduct an assessment of physical site conditions, including relevant landforms, hydraulics, biology, built environment, riparian zone, and water quality to inform the restoration planning.

Activities

- Prepare site base map. Collect available existing site information. Obtain existing CADD files or GIS files showing site infrastructure (catch basins, pipes, inverts, etc.), access and roadways, existing utilities, and approximate property boundaries. Obtain and incorporate LiDAR or other available recent data to develop a site base map. Work with WES to determine extent of project boundaries and identify preliminary survey needs.
- Review model. An existing hydraulic model of the site was prepared to evaluate the structure performance and design. Hydrology was provided by WES from an HEC-HMS model. There are available HEC-RAS models for Mt. Scott and Dean Creeks. All three models will be reviewed to determine their efficacy to address project alternatives and data gaps, if any, will be identified and needed existing condition models will be prepared in Task 3.6.
- Assess existing physical site. Wetlands, streams, riparian zone, stormwater discharge locations, surface flow, and other natural features will be identified and characterized. A geomorphic assessment will be conducted for the relevant project extents. Physical features will be included on the project basemap.
 - A wetland and waters reconnaissance site visit will be conducted and wetlands and the ordinary highwater mark (OHWM) of streams will be shown on the base map, including:
 - Review of available background mapping information (previous wetland delineations from DSL, US Fish and Wildlife Service National Wetlands Inventory, US Department of Agriculture Soil Survey, aerial imagery, County LiDAR, NCPD vegetation and habitat data, and other relevant sources)

SCOPE OF WORK (continued)

- Results of site visit identifying wetland boundaries, the OHWM of streams, and sample plot locations recorded using a hand-held GPS unit and hand-mapping. Any structures or features that are unclear from GIS/CADD will be field-checked.
- A brief summary and technical memorandum will be prepared for inclusion in the Task 2.7 predesign report and will include:
 - Discussion of methods, preliminary results, and recommendations
 - Preliminary wetland and waters map and wetland determination data forms
 - An inventory of habitat and natural features and assessment of Water Quality Resource Areas (WQRA) and Habitat Conservation Areas (HCA) from the site visit
- A stream characterization evaluation will be made to document conditions affecting design development. Existing available information and additional field evaluation will be used. Examples of items that would be documented include:
 - Identification of representative stream reaches
 - Measurement of representative channel conditions (via measurement of channel cross sections and longitudinal profiles)
 - Measurement of representative bed material characteristics (via sampling of bed surface material using a Wolman Pebble Count at each representative cross section)
 - Mapping of geomorphic features indicating key channel processes and indicators of instability (e.g., bar forms, depositional surfaces, log jams, knickpoints, side channels, and incoming drainage features)
 - Qualitative bank erosion mapping (e.g., using the Bank Erosion Hazard Index)
 - Mapping of channel modifications (e.g., revetments, concrete lining, riprap, gabion baskets)
 - Reconnaissance of past restoration/enhancement efforts and their relationship to existing conditions
 - Review and summary of past biological monitoring results (fish and benthic macroinvertebrates)
- A brief method and summary technical memorandum will be prepared for inclusion in the Task 2.7 design report.
 - A site habitat and natural features inventory will be made, including:
 - Background review of existing data and field reconnaissance to identify location of habitat types such as oak woodlands, mixed upland forest, and meadows
 - Description of overall species composition will be developed along with an inventory of significant trees, such as old/large oak trees, via GIS
 - Previous habitat restoration areas for consideration in future restoration plans
 - Location of significant non-native invasive plants
 - Overall topography of the site, characterized for range of percent slope and viewsheds across the site
 - A site constraints assessment considering non-natural and introduced site and areas limitations

- Conduct water quality data review. Evaluate existing water quality and stream health in the basin (desktop review), delineate subbasin catchment areas contributing to the facility, evaluate treatment options (offline in or outside of 3-Creeks), examine existing facility benefits, and consider opportunities. Prepare a brief method and summary technical memorandum.
- Review existing flooding. Flooding in the nearby systems will be identified and characterized to the extent existing information is available. Floodplains from available sources will be delineated for the base map. Detailed floodplain analysis and modeling will be prepared in Tasks 3.1 and 3.6.

Task 2.4 – Alternatives Analysis

The purpose of this task is to develop a suite of alternatives that address each of the key project objectives – flood control and optimization, stream enhancement, water quality improvements, and public site usage – and conduct a process to evaluate and select preferred alternatives.

Activities

- Review the range of potential projects and flow management strategies for facility optimization, including but not limited to the following:
 - Flow management – What flow control objectives should be applied and can be optimized by the facility?
 - Water quality improvements – How can facility operation improve water quality and stream quality; can the site be used for off-line treatment? What treatment options exist for stormwater discharge from upstream properties?
 - Riparian habitat – What improvements can be made to riparian and in-stream habitat and is it compatible with facility operations?
 - Area flood management – How can nearby flood issues (Dean Creek, Commerce Park, Rusk Road/Lake Road) be incorporated into the facility optimization?
 - Site access, adjacent and related activities, and upland restoration.
 - Inundation frequency and floodplain connectivity.
- Prepare up to three stream restoration concepts based on information and outcomes from previous tasks, taking into consideration the following:
 - Based upon existing hydrologic modeling, regional curves, and field data collection, a discharge review will be undertaken to define target design discharge(s).
 - Concepts will account for a range of factors including existing channel stability, riparian buffer conditions, riparian and aquatic habitat enhancement options, and site restrictions.
 - Approaches depicted in the concepts may include minimal channel improvements to the existing planform of the channel, partial channel reconfiguration (cross section, planform, and/or profile), and complete channel reconfiguration.

- In-stream and floodplain structures may be incorporated to support concepts and project goals.
- Prepare site access and upland habitat restoration alternatives, including but not limited to the following:
 - Up to three alternatives for future site access and upland habitat restoration. Concepts will address existing activities and facilities and proposed passive, and active features as appropriate based on listening sessions.
 - Proposed activities coordinated with major project goals of flood management and habitat restoration and protection.
 - Upland habitat restoration opportunities for potential future community restoration efforts.
 - Information to support the alternatives analysis.
- Prepare a coordinated set of alternatives integrating the flood and flow management, water quality, stream enhancement and restoration, habitat protection, and site use.
- Prepare a draft alternatives assessment with proposed criteria and rankings for integrated multiple alternatives.
- Conduct a half-day workshop with WES staff and partners to review the alternatives, selection criteria, and screen alternatives.
- Carry eight project elements forward for additional analysis. Review using hydraulic model as applicable.
- Prepare preliminary concept designs (type-size-location) for alternatives carried forward. Prepare planning-level cost opinions.
- Conduct an alternatives finalist selection workshop with WES staff and partners (2 hours).
- Select preferred alternatives with WES staff using a multi-variant alternative selection process.
- Prepare hydrologic and hydraulic modeling to determine general expected outcomes (to be completed in Task 3.1).
- Prepare a summary Alternatives Analysis Technical Memorandum and other summary information in narrative format to support the selection of preferred alternatives.

Task 2.5 – Design Criteria and Concept Planning

The purpose of this task is to prepare basis of design and requirements for the project design. A preliminary type-size-location (TSL) design will be prepared and the basis for that design described in a technical memorandum, which will be used to inform the final design and construction bid documents.

Activities

- Identify supplemental field survey, including utility locates, complete surveying, and additional survey information for base map.

- Complete preliminary TSL drawings, including site civil, stormwater and flood control plans, typical details, and grading, and typical planting plans (as applicable) for the selected alternatives (up to three).
- Develop preliminary TSL-level Engineer's Opinion of Probable Cost (EOPC).
- Complete preliminary TSL drawings, including stream planform and alignment, extent of grading, location of restoration techniques and structures, profile, typical sections, typical details, and typical planting plans (as applicable) for the selected stream restoration alternatives (up to three).
- Prepare a draft TSL design technical memorandum that includes TSL for selected alternatives, applicable modeling to show performance and results, and locations of improvements that may require land or easements.
- Prepare public access recommendations to identify which access improvements should be included in the current project and which are recommended to be completed in future phases. This effort will be coordinated with NCPRD as site management partner and help identify potential funding opportunities outside of this project. Prepare a brief summary technical memorandum.
- Prepare preferred alternative illustrative plan and sketches. We will prepare an overall preferred plan which will include proposed improvements, flood protection upgrades, stream restoration, stormwater treatment elements, upland habitat restoration, and public access improvements. The illustrative plan will communicate the overall project goals and proposed improvements to the public and project stakeholders. We will also prepare a series of sketches for the various key elements of the project. These sketches may be in section or perspective to convey additional detail of the overall improvements to the project team, project advisors, and public.

Task 2.6 – Not Included

Task 2.7 – Project Predesign Report

The purpose for this task is to assemble draft and final predesign reports for the proposed project. The reports will follow the DEQ template in the *Preliminary Guidelines for a Stream Restoration Project Pre-Design Report*.

Activities

- Conduct a deliverable kickoff meeting with the key contributing authors, notably, stream design, public access planning, modeling flow management, and permitting.
- Prepare a project-specific template following DEQ guidelines with added sections that are appropriate to this project, notably the flood management strategies.
- Prepare written sections, figures, graphics, tables, and supporting information.
- Prepare technical appendices to support the report, including:
 - Wetland and waters reconnaissance
 - Water Quality Resource Areas (WQRA) and Habitat Conservation Area (HCA) assessments

- Stream and riparian assessment
- Hydraulics and modeling
- Public access/use and uplands assessment
- Permitting plan
- Related support documents for the TSL analysis
- Alternatives analysis support materials

Assumptions

- Available project materials from past monitoring efforts will be provided by WES.
- Available materials from past wetland and stream assessment will be used when applicable.
- The 3-Creeks study area for stream restoration and the flood control facility is bounded by the railroad crossing at the downstream and upstream ends.
- WES will provide electronic versions of existing available reports, maps, and models.
- The site is accessible (not flooded) during the timeframe allocated to this task to allow for field data collection.
- Wetland boundaries and OHWM of streams will be approximated only and approximate boundary data mapped . A formal delineation of these resources will not be made, verified, or surveyed nor will these resources be flagged in the field.
- Floodplains will be limited to existing available and FEMA-authorized data.
- Workshop and alternatives selections meetings (two) to review the results will be attended by six consultant staff.
- Key decisions on the selected alternative will be made by WES.
- Conflicts with existing utilities or site features can be avoided (to be verified with utility locate).
- All proposed alternatives are passive; no electrical or cabling/communications are needed for any treatment system.
- WES will provide a single consolidated set of resolved review comments.

Deliverables

- Preliminary TSL drawings (included as part of the draft and final stream restoration project predesign final report)
- Preliminary EOPC (included as part of the draft and final stream restoration project predesign final report)
- Draft stream restoration project predesign report for review by WES
- Final stream restoration project predesign report

Task 3.0 – Additional Project Analyses

Task 3.1 – Hydrologic and Hydraulic Modeling

The purpose of this task is to prepare a project model of the system hydrology and hydraulics for the flood control facility. Two separate and coordinated modeling efforts are included for design alternatives - a 2D model for stream channel design and a flood management model for flood control decisions and hydraulic structure design. A separate floodplain modeling effort is included in Task 3.6.

Activities

- Review existing models: HEC-HMS and gauge records for hydrology; HEC-RAS for Mt. Scott Creek, Dean Creek, and Phillips Creek; and SWMM model used for previous flood management analysis.
- Prepare a 2D modeling surface and model for the stream reach in the 3-Creeks facility to evaluate existing conditions and future alternatives.
- Use the hydrology findings and 2D models to develop and assess design stream alternatives.
- Prepare a 3-Creeks model using SWMM for flood control evaluation to select the preferred control option(s).
- Prepare a modeling technical memorandum that summarizes approach, models, assumptions, results, etc. for inclusion as a technical reference for the Task 2.7 predesign report.
- Provide WES with electronic files of all models.

Assumptions

- Existing available river hydraulic models and hydrology will be used as a basis for the starting models.
- Updates to the modeling inputs determined in Task 3.6 will be coordinated with this task.
- Final modeling reports of the preferred design will be prepared in Task 3.6.

Deliverables

- Modeling technical memorandum to support the basis of design

Task 3.2 – Geotechnical Characterization

The purpose of this task is to collect and review readily available subsurface and stormwater facility information for the site to support conceptual design and alternative selection.

Activities

- Conduct a site visit and geologic hazards and geotechnical reconnaissance of the site, focusing on the stream area, existing native slopes around the project site and along streams, the stormwater facility, and the existing (dam) embankment. Documenting observations of existing conditions.

- Collect and review readily available geologic maps, subsurface information (e.g., well logs and foundation drawings from nearby projects), aerial photos, and hazard maps (e.g., landslides and liquefaction) for the site and surrounding area.
- Review available design drawings, as-built drawings, maintenance reports, and inspection reports for the 3-Creeks stormwater facility.
- Provide input related to geotechnical considerations for the development of design criteria (Task 2.5).
- Rely on the above-collected information to inform concept design alternatives.
- Prepare conceptual phase geotechnical considerations technical memorandum (draft and final), including a discussion of geologic hazards identified in the site reconnaissance and desktop review, such as landslides or slope instability.

Assumptions

- Site access will be coordinated through WES.
- Field reconnaissance will be performed during weekdays between 8 am and 6 pm.
- No geotechnical subsurface explorations will be performed.
- Development of understanding of subsurface conditions at the site will be phased and match the conceptual-level analysis of Task 2. Additional targeted subsurface information may be collected in future project design phases (Task 6.2), depending on the selected design.
- Site topography and conceptual plans will be prepared by others and provided in PDF and CAD format.
- No geotechnical support is required to inform stream restoration. Stream bed erosion assessment, and design of woody debris or other erosion control measures will be performed by others.
- Geotechnical considerations provided in the Task 3.2 memorandum will be conceptual. Engineering analyses may be performed in future project design phases, depending on the selected design. Conceptual recommendations will be provided generally in accordance with USACE dam and levee and Oregon Dam Safety guidelines.
- As-built drawings, maintenance reports, and inspection reports for the 3-Creeks stormwater facility will be provided.
- One round of consolidated comments will be incorporated into the concept phase geotechnical considerations technical memorandum before finalizing.
- Deliverables will be submitted electronically.

Deliverables

- Conceptual phase geotechnical considerations technical memorandum (C-TM) to included in the Task 2.7 predesign report

Task 3.3 – Public Access Inventory and Evaluation

The purpose of this task is to evaluate existing public access/use and consider future uses and potential changes due to flood control and stream restoration alternatives.

- Review background plans. Collect and evaluate current and future site usage plans to develop an overall understanding of previous planning efforts and vision for site access and improvements. Prepare a brief summary technical memorandum.
- Prepare existing public access site plan. Prepare a plan which identifies the existing social trail network, access points (pedestrian and vehicular), bridges, site hazards, and maintenance roadways.
- Meet with NCPRD and WES. Meet with NCPRD and WES to discuss the overall project objectives for public access. Discuss how public access and education fits into the overall site programming and determine the extent of future public access. If public access is desired, the project will include preparing information for NCPRD to solicit funding opportunities .
- Conduct listening sessions and site tours. Conduct listening sessions and site tours with representatives from organizations that currently use the site. The purpose of the listening sessions and site tours are to inventory the activities, usage times, access points, number of visitors, and overall program from each of the various organizations as it relates to the site. Review existing site plans with representatives to discuss extents of previous restoration efforts, significant trees, and any additional information related to the site.
- Opportunities and constraints. Based on the existing social trails, site habitat and natural features inventory, and decisions around future public access, we will prepare an overall site opportunities and constraints diagram that synthesizes the existing conditions inventory and existing site use information. The diagram will identify public access opportunities for passive recreation. The plan will also identify and address future site maintenance, possible security patrols and emergency access, and will list potential recreational funding sources.

Assumptions

- Available project materials from recent inventory and mapping will be provided by WES.
- WES will provide electronic versions of existing available maps and reports.
- Property limits for evaluation include the CCDA Properties. WES will work with CCDA to develop IGA as needed.
- ODOT properties are NOT included in the project. However, if during the analysis it looks like those properties would be beneficial to the project, WES could consider adding them. The preliminary analyses will include these properties as included in or influenced by the project, even if they may not be physically altered.

Deliverables

- Public access plan technical memorandum

Task 3.4 – Preliminary Permitting Analysis

The purpose of this task is to provide an early evaluation of expected applicable environmental and land use permits to inform early decision alternatives analyses.

Activities

- Prepare a list of expected permits. The DEQ pre-design checklist will be used as a guide. Currently anticipated permits include a DSL removal/fill permit, USACE Section 404 permit (including ESA Section 7 and NHPA Section 106 compliance), DEQ Section 401 Water Quality Certification, ODFW fish passage plan approval, Clackamas County grading permit, and Clackamas County permitting related to work within a habitat conservation area, water quality resource area, and floodplains. Supporting documentation will likely be needed including a biological assessment and a cultural and historical resources report.
- Document review. Research and review documents and data as available.
- Permit matrix. Prepare a preliminary permit matrix following preliminary design identifying anticipated environmental permits and approvals for the Project. The matrix will list the anticipated environmental permits or approvals, permit nexus or triggers, issuing agency and contact information, required predecessors, and design information required for submittal.
- Agency coordination and preapplication meetings. Lead coordination with regulatory agencies. Anticipated agency coordination meetings include site visits with ODFW, DSL, USACE, USFWS, NMFS, SHPO, Clackamas County Planning, and DEQ.
- Wetland delineation/OHWM determination. Wetland and OHWM determinations will be based on the initial site analysis work conducted in Task 2.1 above and referred to in this task to support design and permitting documentation described in Task 10.
- Water quality resource areas (WQRA) and habitat conservation areas (HCA) preliminary assessment. Assessment of existing boundaries and condition of vegetated corridors of WQRAs and HCAs based on the initial reconnaissance-level site analysis work conducted in Task 2.1 above will be completed in this taskphase to support preliminary design needed for the selected alternative.
- Floodplain permitting. Meet with WES and Clackamas County staff to discuss floodplain requirements including new floodplain mapping. Technical analysis, mapping, and modeling to support permitting are included in Task 3.6.

Assumptions

- WES will lead and be the responsible designee for applications for construction, utility, and right-of-way use permits.

- The scope of work anticipates up to two agency site visits and anticipates combined attendance at the site visits.
- This scope of work is based on the anticipated TSL design prepared for selected alternatives.
- The project will not be constructed with federal funds. No NEPA documentation will be required.
- Preliminary documentation will be prepared to inform preliminary project design and may not be adequate to address permitting requirements.
- The following meetings are limited to preapplication meetings for: (1) onsite agency coordination meeting (one); (2) permit matrix review meeting (one); (3) floodplain meeting (one); and two other coordination conference calls.
- The Appendix A checklist from the DEQ predesign guidelines will be used.

Deliverables

- Permit matrix
- Summary of coordination and preapplication meetings
- Wetland and waters delineation and determination summary report
- WQRA and HCA technical memorandum

Task 3.5 – Public Engagement Process

The purpose of the public engagement task is to design and implement a plan for informing and involving stakeholders – neighbors, businesses, watershed and environmental stewards, County residents, elected officials, internal/external agencies and institutions, etc. – in a meaningful way that allows input to contribute to decision-making by the project team and helps gain community understanding and support for the project. It will be important to explain the goals for the site and WES’s role in watershed protection to set appropriate public expectations.

Activities

- Prepare a public engagement and communications plan. The public engagement plan will include a list of known stakeholders, key messaging for the project, and schedule of activities, and tools to inform and solicit input that align with data collection, alternatives development, alternatives analysis, and selecting a preferred alternative.
- Develop public information materials for print, including web content for the agency website a project factsheet, and compelling illustrative map and context graphics that describe the purpose, process, and importance of the project and the Three Creeks Natural Area (environmental function and community resource).

SCOPE OF WORK (continued)

- Conduct stakeholder interviews/listening sessions or site tours (overlap with Task 2.3). As part of the assessment of the existing site and to inform concept development, the project team will identify 12 to 20 stakeholders or users of the site to meet with team members to share information, and knowledge of and hopes for the site. These would be targeted invitations, one-on-one or small groups. Invitations would be conducted via team members by phone or email.
- Develop a video about the importance of the site and documenting past planning and community stewardship to maintain it as a natural area.
- Host a community event or workshop #1 to share the site analysis, objectives of the project, and open some discussion on community preferences related to public access, highlighting what was heard during the Harmony Community Campus Master Plan outreach and recent stakeholder interviews.
- Identify and track opportunities to present the project and planning effort at related meetings and events of stakeholder groups or related/area projects; this could also include tabling at the aquatic center.
- Identify and track locations to share project updates in print/web/email listservs managed by other stakeholder groups, i.e. CCC media/e-newsletters, County quarterly newsletters, watershed council and CPO communications, etc.
- Host community event/workshop #2 to share preferred alternative related to flood structure (footprint of water) and options for public access and other options for environmental approaches (trade-offs that are being explored). Gather feedback to continue work on public access elements of the site.
- Host final open house (event #3) sharing the recommended site plan.

Assumptions

- Each of the three open house events would have a web version – the first might be a simple questionnaire, the second is likely to show options and ask for specific feedback, and the third may present the plan and next steps with ability for public comments and questions.
- WES will host and update a project website.
- WES will serve as a public point of contact on the website and in-print materials.
- WES will distribute emails to stakeholders through existing County email lists; Consultant will update a stakeholder list and provide to county in advance of any email.
- WES will print and mail any mailed public information.
- WES will provide a geographic mailing list and provide a list of known stakeholders; consultant team will add more during research.
- WES will confirm, provide, or select drone footage for use in video.
- Clackamas Community College or NCPRD Aquatic Park will provide meeting venue space (3 meetings) at no cost or WES will pay venue expense directly.

- WES staff will give presentations or attend other events to share project information, i.e. watershed council meetings, Parks Advisory Board presentation, etc.

Deliverables

- Draft and final project information sheet (up to 11x17) that can be used as a take-away for events and for the website.
- Web content for use on the project
- Short articles for project website content
- Illustrative map graphic (artistic, not to scale, 11x17 poster for events)
- Introductory project mailer (postcard or revision of the information sheet)
- Summary of listening sessions and site tours
- Postcard or 8.5x11 mailer and email invite to up to three community events
- Social media post content for community events
- Displays/content/graphics and summaries for three community events
- Online versions of three public events
- Final 11x17 newsletter showing site

Task 3.6 – Hydraulic Modeling for Floodplain Studies and Mapping

The purpose of this task is to conduct floodplain analysis, modeling, mapping, and floodplain map updates for streams related to the study analysis and adjacent reaches. In addition, flood reduction evaluations not related to flow reduction in the 3-Creeks facility will be developed and assessed.

Activities

- Define floodplain study limits. Identify the modeling limits of the proposed study area and determine data gaps. The anticipated stream reaches include Mt. Scott Creek from the Highway 224 flow gauge upstream to the water level influence of the proposed 3-Creeks modifications (approximately I-205); Dean Creek from the confluence upstream to railroad bridge east of OR 213; Phillips Creek from the confluence upstream to approximately Sunnybrook Road, and Minthorne Creek from the confluence upstream approximately one mile to the terminus of Mallard Way.
- Review existing hydrology. Research and review available documents and data. Select the information to be used for modeling and design. Provide updated hydrology to the Task 3.1 analysis.
- Prepare hydraulic models. Prepare hydraulic models (HEC-RAS) of Mt. Scott, Dean, Phillips, and Minthorne Creeks.

- Evaluate flood management projects. Several known and potential flood management projects in the vicinity of the 3-Creeks facility will be evaluated including: Mt. Scott Creek upstream of the confluence with Dean Creek to SE 84th Avenue and the Dean Creek area from the confluence with Mt. Scott Creek upstream to the east railroad bridge (one study area); Phillips Creek upstream of the confluence to SE 84th Avenue; Mt. Scott Creek downstream of the 3-Creeks facility in the Lake Apartments area, including United Grocers; and the industrial area south of the railroad (aka Commerce Park).
- Prepare and select alternatives. Flood management project alternatives will be assessed and concept solutions developed. WES will select alternatives to be carried forward in design and modeling. Advance designs to 30 percent design for inclusion in a CLOMR application.
- Support floodplain permitting. Meet with WES and Clackamas County staff to discuss floodplain requirements including new floodplain mapping. Technical analysis, mapping, and modeling to support permitting are included in Task 3.6.

Assumptions

- Existing floodplain models are available from WES or FEMA. New reaches for Minthorne Creek will be the only new model.
- Corrected effective models will be prepared using new hydrology, if applicable, as developed in this task. WES will provide available as-builts for other changes in the system.
- Modeling will be prepared for three different purposes using the applicable model for each: SWMM model for assessing storage modifications in the flood control facility; a 2D model for the stream restoration/enhancement in the facility; and a backwater model using HEC-RAS for the stream and floodplain mapping. This task addresses HEC-RAS models but will integrate other model findings. Duplicated efforts will be avoided when possible.
- Survey will be conducted under Task 5. Additional mapping for floodplains, such as LiDAR, will be provided by WES.
- Flood study areas will be limited to the areas identified plus up to three additional projects potentially determined by the analysis.
- WES will provide all public notice and fees for FEMA maps changes.
- This task does not include a LOMR.
- Floodplain permitting is addressed in Task 3.4.

Deliverables

- Draft and final flood study report to supplement the CLOMR
- Updated electronic models

Task 4.0 – Project Management

Activities

- Prepare a project schedule and work plan.
- Prepare monthly billing review and invoices.
- Participate in project status meetings (non-task-specific).
- Conduct subconsultant management and contracting (non-task-specific).
- Monthly administrative project support (task setup, filing, communications).
- Update project schedule monthly.
- Review and update risk register monthly.
- Provide assistance with the grant compliance.
- Coordinate between multiple project disciplines to ensure task and project element alignments.

Assumptions

- The budget provides 18 months of project management (March 2020 through September 2021).
- Monthly project status meetings include two consultant staff and WES Project Manager.
- Subconsultant contracting is limited to four firms.
- Oversight and review of subconsultant products is included in task-specific budgets.

Deliverables

- Base project schedule
- Monthly invoices with progress notes

Task 5.0 – Surveying

Activities

- Field survey. Perform site reconnaissance and supplemental topographic and planimetric field survey within the project area (as defined by the 3-Creeks boundary). This boundary includes property owned by the Clackamas County Development Agency, another county department. Use horizontal and vertical datum to meet design needs and requirements and to supplement existing LiDAR data. Topographic survey is to include channel sections and detail at the facility outlet structure. Outside of the 3-Creeks boundary, supplemental field survey will be collected at the confluence of Dean Creek; up to the bridge upstream of 3-Creeks on Mt. Scott Creek; the berm and railroad to the south of the site; and along the channel and floodplain downstream of the facility to Highway 224. Survey will include unmanned aerial vehicle (UAV) flight to provide aerial imagery and video of project area. Identify and permanently locate

and survey recoverable benchmarks as requested and install project survey control. Obtain the services of a private utility locator to mark and identify underground utilities where applicable. Locate wetland delineation and OHWM flagging. This task includes follow up field visit for supplemental design data, if needed.

- Tree survey. Include trees flagged in the tree survey in the key stream restoration corridor.
- Mapping. The results of the field survey and related materials will be mapped to provide topographic, planimetric, and boundary survey at 1-inch = 20 feet scale. Map legend, notes, and survey stamp and signature will be provided on approved title block.
- Wetland survey. Survey flagged delineated wetland boundaries, OHWM, and sample plot locations
- Stream survey. Provide stream cross sections and structure details (outside of 3-Creeks boundary) for floodplain modeling for up to 16,000 feet of stream at 250-foot intervals and up to 10 structures.

Assumptions

- The survey team will be provided with unrestricted access to the project sites. WES will lead coordination for right of entry and provide to the consultant prior to start of work.
- Boundary survey will be based on best available record information. Proposed fee does not include the cost for title company research or title report analysis. Should these be necessary WES will provide the title report information for the consultant to provide a scope and fee for title analysis.
- Scope does not include a record of survey – no property corners will be set and no record of survey will be recorded.
- GIS parcel line information will be sufficient for the purposes of delineating lateral ownership boundaries with exception to properties lying within and directly adjacent to the topographic mapping limits.
- Below ground utility depths, material, and sizes, except for sewer and storm structure inverts are not part of the scope.
- WES will make available all utility and record drawings associated within the project area.
- Scope does not include preparation of documents, exhibits, or descriptions for any easements, or right-of-way acquisitions. Consultant may provide scope and fee for this task if required.
- WES will provide electronic versions of existing available maps and models.

Deliverables

- Base survey – electronic and PDF deliverables at 1 inch = 20 feet scale.
- Aerial survey video
- Wetland and waters delineation map

Phase 2 – Detailed Design and Permitting

This phase includes services for detailed design and includes tasks for preliminary (30 percent), intermediate (60 percent), prefinal (90 percent), and final (100 percent) design.

Task 3.7 – Floodplain Studies and Mapping

The purpose of this task is to continue floodplain analysis and mapping updates for streams related to the study analysis and adjacent reaches.

Activities

- Prepare and select alternatives. Flood management project alternatives will be assessed and concept solutions developed. WES will select alternatives to be carried forward in design and modeling. Advance designs to 30 percent design for inclusion in a CLOMR application.
- Prepare CLOMR. Prepare a CLOMR for all proposed modifications. Affected FEMA maps in the study will be modified and a modeling report prepared.
- Prepare updated FEMA maps. Prepare proposed mapping using FEMA protocols for updated map panels.
- Support floodplain permitting. Meet with WES and Clackamas County staff to discuss new floodplain mapping. Technical analysis and modeling to support permitting are included in Task 3.6.

Assumptions

- Survey will be conducted under Task 5. Additional mapping for floodplains, such as LiDAR, will be provided by WES.
- Flood study areas will be limited to the areas identified plus up to three additional projects potentially determined by the analysis.
- WES will provide all public notice and fees for FEMA maps changes.
- This task does not include a LOMR.
- Floodplain permitting is addressed in Task 3.4.

Deliverables

- CLOMR application accepted by FEMA
- Draft and final flood study report to supplement the CLOMR
- Updated electronic models
- Revised floodplain mapping

Task 5.1 – Design-Level Surveying

Activities

- Additional Field survey. Perform additional field survey to supplement design needs for the detailed design Phase. Provide up to 10 days of additional survey support to supplement final design work.

Assumptions

- The survey team will be provided with unrestricted access to the project sites. WES will lead coordination for right of entry and provide to the consultant prior to start of work.
- Scope does not include a record of survey – no property corners will be set and no record of survey will be recorded.
- GIS parcel line information will be sufficient for the purposes of delineating lateral ownership boundaries with exception to properties lying within and directly adjacent to the topographic mapping limits.
- Below ground utility depths, material, and sizes, except for sewer and storm structure inverts are not part of the scope.
- WES will make available all utility and record drawings associated within the project area.
- Scope does not include preparation of documents, exhibits, or descriptions for any easements, or right-of-way acquisitions. Consultant may provide scope and fee for this task if required.
- WES will provide electronic versions of existing available maps and models.

Deliverables

- Additional base survey to supplement base map for design – electronic and PDF deliverables at 1 inch = 20 feet scale.

Task 6.0 - Design

Task 6.1 – Preliminary Design (30 Percent)

The purpose of this task is to prepare 30 percent design-level drawings.

Activities

- Complete preliminary design drawings. Prepare civil, mechanical, structural, landscape, and design drawings. The anticipated design includes the 3-Creeks facility outlet structure, up to 3,000 feet of stream and floodplain restoration, park connections to the design, one water quality treatment facility, and repairs to two flooding sites. Anticipated sheet list for effort estimate (up to 41 for non-stream projects and 23 for stream):
 - General Sheets
 - Title sheet, sheet index, and vicinity map

SCOPE OF WORK (continued)

- Legend, abbreviations, and general notes
- Site key map and survey control
- Site construction access and staging plan (2 sheets)
- Demolition and Site Preparation (outlet facility)
 - Demolition plan (1 sheets at 1" = 40' scale)
 - Demolition details
- Construction Site Plans - Outlet Structure
 - Site plan (2 sheets at 1 inch = 20 feet scale)
 - Grading plan
 - General civil details (2 sheets)
 - Sections
 - Site plan – temporary ESCP (2 sheets at 1 inch = 20 feet scale)
 - Erosion control notes and details
- Construction Site Plans – Stream Channel
 - Site plan (4 sheets at 1 inch = 20 feet scale)
 - Grading Plan (4 sheets at 1 inch = 20 feet scale)
 - Placement of channel stability and habitat structures
 - Existing and proposed channel profile
 - Typical cross sections at key restoration measure, technique, and/or channel feature
 - General stream details (6 sheets)
 - Site plan – temporary ESCP (4 sheets at 1 inch = 20 feet scale)
 - Erosion control notes and details
 - Landscape plans
- Construction Site Plans – Stormwater Treatment
 - Site plan (2 sheets at 1 inch = 20 feet scale)
 - Grading plan (2 sheets at 1 inch = 20 feet scale)
 - Treatment facility plan
 - Facility notes and details (6 sheets)
 - Site plan – temporary ESCP (2 sheets at 1" = 20' scale)
 - Erosion control notes and details
- Landscape and Access Plans
 - Landscape plan (4 sheets at 1 inch = 20 feet scale)
 - Landscape plan notes (2 sheets)
 - Landscape details - planting
 - Landscape details - trails, overlook, signage, other recreational features (2 sheets)

- Prepare design drawings for flood management facilities, stormwater treatment, access and park improvements, and other anticipated design elements.
- Stream Design. Using the field survey, develop preliminary hydraulic model for existing conditions. Evaluate water surface profiles and related characteristics (i.e. velocity, shear stress, flow patterns). Integrate findings related to hydrologic inputs and structure operations, stream hydraulics, access considerations, public concerns, and local constraints (e.g., wetlands, trees, private property, infrastructure, utilities). Develop design plan using natural channel design techniques and incorporating habitat enhancement and floodplain modification features.
- Technical specifications. Develop table of contents for technical specifications.
- EOPC. Develop preliminary EOPC.
- Supplemental survey. Identify supplemental field survey, including utility locate, and provide survey to base map.

Assumptions

- Key decisions for advancing preferred alternatives will be made by WES.
- WES will identify the project limits and elements to be included in the design, including site access and viewing areas
- Design work previously completed by the consultant in previous phases will be incorporated into the 30% design.
- There are no pumps or electrical design required
- Existing site geotechnical data (e.g., borings, existing foundation designs) are included in Phase 1.
- There are no significant conflicts with existing utilities or site features (to be verified with utility locate).
- Technical specifications will be provided in ODOT format.
- Preliminary design documents will be used by others to develop FEMA, removal-rill, and County floodplain and grading permit applications, as necessary.
- WES will provide one set of resolved and consolidated comments on 30% design which will be incorporated into the 60% design submittal.
- Deliverables will be submitted electronically.

Deliverables

- Preliminary design (30%) drawings including flood control elements, stream restoration elements, wetland-floodplain-riparian-upland habitat enhancement elements, stormwater treatment, and access-viewing-educational elements.
- Technical specification table of contents.

- Preliminary (30%) EOPC.

Task 6.2 – Design-Level Geotechnical Explorations and Analysis

The purpose of this task is to perform geotechnical explorations, engineering analyses, and design for the preferred design alternative. The level of effort for this task will vary significantly depending on the design alternative chosen. The scope described herein is representative of the assumed level of effort required to support the evaluation of replacing the existing flood control structure and dam earthen embankment. This scope assumes there will be no major changes to the existing dam or outlet flow control structure.

Activities

- Plan and coordinate geotechnical explorations:
 - Prepare exploration plan for WES and design team review.
 - Conduct three borings to characterize soils within and below existing dam earthen embankment.
 - Install groundwater monitoring wells in borings.
 - Conduct laboratory index testing and consolidation and shear strength tests on samples retrieved from the explorations.
 - Conduct one day of cone penetration testing (CPT) to assess material properties of foundation soil layers (e.g., shear strength, permeability, etc.) and evaluate liquefaction susceptibility. Include one pore-pressure dissipation test per CPT and one pore-pressure dissipation test in cohesive soil (if present) to provide estimates of permeability.
- Prepare exploration logs for borings and CPTs.
- Develop one cross-section and one profile for the subsurface soils at the proposed dam earthen embankment.
- Develop code-based seismic design parameters for the site.
- Evaluate impacts the existing subsurface conditions will have on the design and long-term performance of the dam and flood control structure:
 - Perform simplified liquefaction analyses to determine depth of liquefaction and residual shear strength and provide an estimate of seismically induced vertical settlement.
 - Evaluate steady state seepage and slope stability for proposed dam earthen embankment.
- Perform geotechnical engineering evaluation necessary for the existing dam earthen embankment to determine if the dam meets Oregon Dam Safety requirements
- Provide input to the project team regarding acceptable vegetation/plantings on the dam earthen embankment.
- Prepare design phase geotechnical considerations technical memorandum (draft and final):

- Present discussion of geotechnical conditions based on site reconnaissance, subsurface data, and laboratory testing.
- Present seismic design parameters for the site.
- Present discussion of potential impacts to the proposed facilities due to liquefaction during the design seismic event.
- If the existing embankment is found to not meet Oregon Dam Safety requirements, develop and present conceptual alternatives for potential modification of the existing dam earthen embankment, including potential internal filter and drain zones, relief well, drainage trench, cut-off wall, and/or toe berm.
- Review and provide comments related to geotechnical aspects of the design concept, specifications, and plans (30%, 60%, 90%, and 100%).
- Prepare specifications related to earthwork.
- Correspond and interact with and keep Oregon Dam Safety officials informed throughout the project, including prior to conducting explorations, after completing explorations, and during preliminary analyses.
- Prepare submittals to be provided to and respond to questions from Oregon Dam Safety officials.
- Meet with Oregon Dam Safety officials to discuss the project and respond to their questions and comments.

Assumptions

- Site access will be coordinated through WES.
- Traffic control will not be required.
- Field exploration will be performed during weekdays between 8 am and 6 pm.
- Drill cuttings, including soils and water, are not contaminated, and will be drummed and disposed of off-site.
- Permits for vegetation clearing and access to conduct explorations will be secured by others.
- Flood control structure (i.e., embankment) will be considered a dam based on proposed storage volume and require permitting through the Oregon Dam Safety Program.
- Collecting and reviewing existing site geotechnical and other relevant data (e.g., borings, existing embankment foundation designs, aerial photos, etc.) is included in Phase 1, Task 3.2.
- Design water surface elevation (flood elevation) is to be provided by others.
- Seismic design parameters will be code based and do not include site response analysis.
- A detailed seismic deformation analysis will not be conducted (Newmark method or similar).

- Transient seepage analysis will not be conducted.
- Mitigation design for potential seismic induced liquefaction and deformations is not included in this scope.
- Geotechnical investigation, slope stability analysis, or slope instability/landslide mitigation for steep native slopes, such as at the Northern edge of the site or stream slopes, are not included. If steep native slopes are considered to be hazards during the site reconnaissance, they will be identified in the conceptual phase geotechnical considerations technical memorandum (Task 3.2).
- Flood control structure (i.e., dam earthen embankment) penetrations and structures to be evaluated will be performed generally in accordance with USACE dam and levee and Oregon Dam Safety guidelines.
- Detailed plans and specifications will be developed by others.
- This scope does not include bid support and construction observation.
- One round of comments will be incorporated into the design phase geotechnical considerations technical memorandum before finalizing.
- Deliverables will be submitted electronically.

Deliverables

- Design phase geotechnical considerations technical memorandum (D-TM)

Task 7.0 – Intermediate Design (60 Percent)

The purpose of this task is to prepare 60 percent design-level drawings.

Activities

- Advance drawings to intermediate design level, including civil, structural, and landscape design drawings, as applicable:
 - Flood control elements (flood structure and other elements designed to increase flood storage on site).
 - Stream design
 - Revise design plans to incorporate all comments and revisions.
 - Update hydraulic model to account for design revisions and assess channel function and stability.
 - Evaluate placement and construction of channel stabilization and habitat structures.
 - Habitat enhancement elements, including wetland-floodplain-riparian-upland habitats.
 - Access design, including access-viewing-educational elements.
 - Stormwater treatment
 - Flood structure
 - Planting plans

- Develop draft technical specifications.
- Advancement of EOPC to intermediate design level.
- Update design technical memorandum describing basis of design, process description, and other information.

Assumptions

- The same assumptions described for preliminary (30%) design apply.
- One meeting with WES is included to discuss and review the intermediate design. The meeting will be attended by three consultant staff.
- WES will provide one set of resolved and consolidated comments on the 60% design which will be incorporated into the 90% design submittal.

Deliverables

- Intermediate (60%) design drawings
- Draft technical specifications
- Intermediate (60%) EOPC

Task 8.0 – Pre-final Design (90 Percent)

The purpose of this task is to prepare 90 percent design-level drawings.

Activities

- Revise design using the same process as under the 60% design while providing additional detail and specificity to all design deliverables:
 - Revise design plans to incorporate all comments and revisions.
 - Update hydraulic model to account for design revisions and assess channel function and stability.
 - Evaluate placement and construction of channel stabilization and habitat structures.
 - Develop detailed structure tables, if appropriate.
 - Perform quantity take-offs for inclusion in permitting documents.
- Advance drawings to prefinal design level, including civil, structural, and landscape design drawings, as applicable, including:
 - Habitat enhancement elements, including wetland-floodplain-riparian-upland habitats
 - Access design, including access-viewing-educational elements
 - Stormwater treatment
 - Flood structure

➤ Planting

- Develop prefinal technical specifications.
- Provide input into Division 0/1 specifications section such as bid form, summary of work, price and payment.
- Advance EOPC to prefinal design level.
- Update design technical memorandum describing basis of design, process description, and other information.

Assumptions

- Same assumptions described for preliminary (30% and 60%) design apply.
- One meeting with WES is included to discuss and review the prefinal design. The meeting will be attended by three consultant staff.
- WES's comments on 90% design will be incorporated into the final (100%) design submittal.
- The 90 percent plans will provide the basis for final permitting documents.

Deliverables

- Prefinal (90%) design drawings
- Prefinal technical specifications
- Prefinal (90%) EOPC
- Updated basis of design technical memorandum describing basis of design, modeling, process description and diagrams, and other related information

Task 9.0 – Final Design (100 Percent)

The purpose of this task is to prepare 100 percent design-level drawings.

Activities

- Advance drawings to final design level, including civil, structural, and landscape design drawings, as applicable.
- Draft final technical specifications.
- Advance EOPC to final design level.
- Update stream design
 - Incorporate comments on the 90% deliverables, including review agency input.
 - Update design and all deliverables to provide appropriate level of detail and specificity.

- Add engineer's seal for stream restoration design component.

Assumptions

- Same assumptions described for preliminary (30%) design apply.
- One meeting with WES is included to discuss and review the final design. The meeting will be attended by three consultant team staff.
- WES's comments on 90% design will be incorporated into the final (100%) design submittal.
- Comments from review agencies will be internally consistent and actionable to allow revision of deliverables.

Deliverables

- Final design (100%) drawings
- Final technical specifications in ODOT format
- Final (100%) EOPC

Task 10.0 – Permitting

The purpose of this task is to prepare the forms and documents to obtain permits to construct the proposed improvements. Anticipated required permits include:

- ODFW Fish Passage Plan Approval
- USACE Section 404 permit
- DEQ Section 401 Water Quality Certification
- DSL removal-fill permit
- County grading permit
- Clackamas County Habitat Conservation Area and Water Quality Resource Area permits
- Floodplain modification

Activities

Fieldwork, report preparation, and mitigation plans will be prepared to support permit applications. The 60 percent design will be used to initiate the permit applications.

- Document review. Research and review documents and data as available.
- Fieldwork and reporting. The following field work will be conducted in support of the related permits:
 - Wetland and waters (OHWM) delineation site visit and report (for DSL concurrence)

SCOPE OF WORK (continued)

- WQRA and HCA assessment and report (to be submitted with Construction Management Plan Application)
- Cultural resources fieldwork and report.
- Biological assessment for ESA-listed fish and biological opinion from NMFS and/or USFWS (unless determined to be unnecessary should the project meet requirements for USACE's nationwide permitting and applicable ESA Section 7 programmatic consultation for wetland and in-water work permits, Standard Local Operating Procedures for Endangered Species)
- Permit application preparation. Prepare permit documents, which are anticipated to include:
 - Fish passage plan approval. This task includes the preparation of a fish passage plan to ensure bridge, culvert, or flood control structures are in compliance with Oregon's fish passage rules.
 - Joint Permit Application (JPA) - USACE Section 404, DEQ Section 401, and DSL Removal/Fill Permit. For submittal to DSL, the Portland District USACE, and DEQ. This task includes the preparation of a complete joint permit application, including alternatives analysis, a wetland and waters function and value assessment, project drawings, and an "Alternatives Analysis" describing how proposed impacts have been minimized during project design. The consultant will perform up to two stream function assessments and two wetland assessments for determining mitigation for impacted aquatic resources. A stormwater management and sediment and erosion control plan will also be required for the DEQ and USACE permit applications (to be prepared under Task 2.5). The cultural resources report will be submitted with the JPA to USACE.
 - Clackamas County permit applications
 - WQRA and HCA report in support of construction management plan application
 - Floodplain permit
 - Grading permit
- Permit Support. Provide ongoing coordination and support for WES during the project via correspondence with regulatory agencies post-permit application submittal.

Assumptions

- The DEQ predesign checklist will be used as a guide.
- This task will be rescoped at the 60% design level when actual project footprint and impacts are known.
- WES will lead and be the responsible designee for applications for construction, utility, and right-of-way use permits.
- The scope of work anticipates up to two agency site visits and anticipates combined attendance at the site visits.
- The project is anticipated to result in a net functional benefit to wetlands and waters and therefore, this task does not include preparation of a compensatory mitigation plan.

- The NPDES Construction Stormwater Permit Notice of Intent will be a contractor-supplied permit.
- WES will be responsible for all permit application fees and third-party review fees.
- WES will be responsible for the publication of all notices and announcements.
- All deliverables will be in PDF file format. WES will be responsible for duplication and distribution of permit submittals and materials.
- SLOPES V will be accepted by USFWS and NMFS for ESA compliance and a Biological Assessment will not be required.
- The project will not be constructed with federal funds. No NEPA documentation will be required related to federal funding. However, the need for a federal permit (e.g., Section 404 Permit) will trigger review under the Federal Endangered Species Act and the National Historic Preservation Act.
- The following meetings are anticipated: two onsite agency coordination meetings (assumes joint meetings); one permit matrix review meeting; up to eight permit coordination conference calls.

Deliverables

- Permit application materials:
 - Joint Permit Application (JPA) for
 - DSL removal/fill permit
 - USACE Section 404 (including ESA Section 7 and NHPA Section 106 compliance)
 - DEQ Section 401
 - ODFW Fish Passage Plan
 - Land Use Compatibility Statement (LUCS)
 - Biological assessment (if ESA compliance is not achieved through a SLOPES programmatic under Section 7 of the ESA)
 - Wetlands and waters report for DSL Concurrence
 - Cultural resources report
 - Clackamas County Floodplain Development Permit for Type II Review
 - County grading permit
 - Clackamas County Habitat Conservation Area District and/or Water Quality Resource Area District report and mitigation plan, development permit, and construction management plan

Phase 3 – Bidding and Construction Observation

The purpose of this phase is to provide services to support WES with the final bid package, bidding support, and selection of the construction contractor.

Task 11.0 – Bidding Assistance

Activities

- Assist WES with bid document development.
- Support WES with prebid meetings.
- Answer questions and Requests for Information (RFIs) from bidders.
- Assist with bid review and selection.

Assumptions

- Bid document technical sections will consist of final Phase 4 design deliverables. WES will provide front-end administrative and contracting sections of bid documents.
- The consultant will assist WES with development and assembly of bid documents.
- There will be one prebid meeting, attended by the consultant project manager and project engineer.
- A total of 88 professional hours have been budgeted for bidding assistance.
- Construction services is not included in this phase.

Deliverables

- Bid documents
- Requests for Information (RFIs) responses and technical addenda and interpretation of contract documents.
- Bid review and selection technical memorandum

Task 12.0 – Construction Observation Support

Activities

- Provide assistance during construction, including review, response, and acceptance of submittals and change orders, and periodic inspections to verify the constructed improvements are performed in accordance with the intent of the design documents.
- Prepare record drawings from contractor redline markups and changes documented by the construction observations.
- Provide an asset list of structural and nonstructural elements and storm drainage components included, if any.
- Develop an operations and maintenance (O&M) manual that will include summary of anticipated site performance and recommendations for routine inspections and maintenance following site construction.

Assumptions

The construction time frame is 18 months from contract award to contract closure.

Deliverables

- Record drawings
- Asset list
- Project closeout report
- O&M manual

**EXHIBIT C
FEE SCHEDULE**

Summary Cost Estimate

Task	Subtask	Description	Labor		Parametrix		Biohabitats		Juncus		Shannon & Wilson		JLA	
			Dollars	Labor Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours
P01		Phase 1-Project Initiation, Data Collection, and Alternatives Development	\$705,418.18	4,683	\$356,703.26	2271	\$140,150.00	926	\$63,980.00	512	\$82,500.00	500	\$62,084.92	474
P01	0100	Project Kickoff	\$15,417.08	74	\$7,819.96	34	\$2,960.00	16	\$1,400.00	8	\$1,880.00	8	\$1,357.12	8
P01	0201	Site Characterization-Problem Definition	\$2,988.72	12	\$2,988.72	12	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0
P01	0202	Site Characterization-Design Goals and Objectives	\$2,184.00	8	\$2,184.00	8	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0
P01	0203	Site Characterization-Physical Site Assessment	\$78,053.68	516	\$52,413.68	340	\$19,760.00	128	\$5,880.00	48	\$0.00	0	\$0.00	0
P01	0204	Site Characterization-Alternatives Analysis	\$82,506.60	504	\$49,303.84	272	\$21,600.00	144	\$8,540.00	68	\$0.00	0	\$3,062.76	20
P01	0205	Site Characterization-Design Criteria	\$89,058.76	594	\$38,688.76	248	\$29,550.00	190	\$14,140.00	116	\$6,680.00	40	\$0.00	0
P01	0207	Site Characterization-Pre-design Report	\$44,337.04	284	\$26,617.04	152	\$9,600.00	64	\$8,120.00	68	\$0.00	0	\$0.00	0
P01	0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	\$65,658.34	446	\$30,978.34	190	\$34,680.00	256	\$0.00	0	\$0.00	0	\$0.00	0
P01	0302	Additional Project Analyses-Geotechnical Characterization	\$67,385.28	418	\$2,145.28	10	\$0.00	0	\$0.00	0	\$65,240.00	408	\$0.00	0
P01	0303	Additional Project Analyses-Public Access Inventory and Evaluation	\$30,114.32	208	\$5,640.08	24	\$7,200.00	48	\$14,560.00	120	\$0.00	0	\$2,714.24	16
P01	0304	Additional Project Analyses-Preliminary Permitting Analysis	\$16,521.44	88	\$11,341.44	76	\$1,480.00	8	\$700.00	4	\$0.00	0	\$0.00	0
P01	0305	Additional Project Analyses-Public Engagement Process	\$74,457.36	542	\$11,899.82	56	\$2,960.00	16	\$9,240.00	72	\$0.00	0	\$50,357.54	398
P01	0306	Additional Project Analyses-Hydraulic Studies for Floodplain Mapping	\$40,894.88	256	\$37,934.88	240	\$2,960.00	16	\$0.00	0	\$0.00	0	\$0.00	0
P01	0400	Project Management	\$47,043.10	250	\$24,949.84	126	\$7,400.00	40	\$1,400.00	8	\$8,700.00	44	\$4,593.26	32
P01	0500	Surveying	\$48,797.58	483	\$48,797.58	483	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0
P02		Phase 2-Detailed Design and Permitting	\$736,513.67	4,855	\$448,893.67	2,909	\$93,020.00	636	\$53,130.00	446	\$141,470.00	864	\$0.00	0
P02	0307	Additional Project Analyses-Floodplain Mapping and CLOMR	\$13,994.64	92	\$13,994.64	92	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0
P02	0501	Design-Level Survey	\$38,259.65	383	\$38,259.65	383	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0
P02	0601	Preliminary (30%) Design	\$110,295.60	716	\$68,675.60	424	\$33,780.00	228	\$7,840.00	64	\$0.00	0	\$0.00	0
P02	0602	Design-Level Geotechnical Analysis	\$149,466.40	904	\$7,996.40	40	\$0.00	0	\$0.00	0	\$141,470.00	864	\$0.00	0
P02	0700	Intermediate (60%) Design	\$111,255.60	756	\$68,675.60	424	\$22,980.00	156	\$19,600.00	176	\$0.00	0	\$0.00	0
P02	0800	Pre-Final (90%) Design	\$98,434.60	664	\$69,594.60	440	\$16,240.00	112	\$12,600.00	112	\$0.00	0	\$0.00	0
P02	0900	Final (100%) Design	\$71,581.00	462	\$55,431.00	340	\$10,060.00	68	\$6,090.00	54	\$0.00	0	\$0.00	0
P02	1000	Permitting	\$143,226.18	878	\$126,266.18	766	\$9,960.00	72	\$7,000.00	40	\$0.00	0	\$0.00	0
P03		Phase 3-Bidding and Construction Observation	\$101,297.12	624	\$46,737.12	296	\$50,360.00	304	\$4,200.00	24	\$0.00	0	\$0.00	0
P03	1100	Bidding Assistance	\$36,460.40	192	\$17,460.40	88	\$14,800.00	80	\$4,200.00	24	\$0.00	0	\$0.00	0
P03	1200	Construction Observation Support	\$64,836.72	432	\$29,276.72	208	\$35,560.00	224	\$0.00	0	\$0.00	0	\$0.00	0
Labor Totals:			\$1,543,228.97	10,162	\$852,334.05	5476	\$283,530.00	1866	\$121,310.00	982	\$223,970.00	1364	\$62,084.92	474
Expenses:			\$53,900.66		\$10,315.00		\$500.00		\$500.00		\$40,463.66		\$2,122.00	
Totals:			\$1,597,129.63		\$862,649.05		\$284,030.00		\$121,810.00		\$264,433.66		\$64,206.92	474

Project Total **\$1,597,129.63**

Parametrix

			Billing Rates:																							
			\$122.69	\$137.25	\$147.23	\$149.79	\$125.68	\$201.18	\$121.62	\$273.00	\$118.30	\$142.74	\$199.91	\$104.62	\$182.00	\$113.30	\$188.66	\$156.55	\$213.20	\$112.94	\$101.40	\$84.50	\$156.98	\$119.02		
Task	Subtask	Description	Labor Dollars	Labor Hours	Shanon L. Harris	Debra M. Fetherston	Jean N. Johnson	Butch R. Purganan	Sybil Gooljar	Michael S. Phelps	Patricia E. Yi	Paul S. Fendt	Sarah R. Rife	Irina Lapina	Shawn E. Ellis	Jessica M. Pickner	Theodore B. Prince	Amanda S. Thompson	Taya Maclean	Skye Thomas	Andrew Huston	Brad Rhoades	Mike D'Agostino	Isaac Kolin	Josh Ahman	Trey Parry
Task	Subtask	Description	Labor Dollars	Labor Hours	Project Controls Specialist	Publications Supervisor	Sr Contract Administrator	Technical Lead	Technical Editor	EP&C Division Manager	Sr Graphic Designer	Sr Consultant	Engineer III	Scientist/Biologist III	Sr Engineer	Project Accountant	Sr Engineer	Engineer II	Sr. Biologist	Sr Surveyor-13	Survey Supervisor-14	Surveyor III-11	Surveyor II-10	Surveyor I-9	Planner IV (GIS)	Scientist III
P01		Phase 1-Project Initiation, Data Collection, and Alternatives Development	\$356,703.26	2,271	66	42	8	24	38	104	50	338	288	56	160	18	176	248	68	32	3	72	192	184	104	0
P01	0100	Project Kickoff	\$7,819.96	34						8	2	16			8											
P01	0201	Site Characterization-Problem Definition	\$2,988.72	12						4		8														
P01	0202	Site Characterization-Design Goals and Objectives	\$2,184.00	8								8														
P01	0203	Site Characterization-Physical Site Assessment	\$52,413.68	340	4	8			8	8	8	16	32	40	8		40	72	40							56
P01	0204	Site Characterization-Alternatives Analysis	\$49,303.84	272	4	10			10	12	8	80	16		16		32	72								12
P01	0205	Site Characterization-Design Criteria	\$38,688.76	248	8	8		24	8	8	8	24	24		24		32	72								8
P01	0207	Site Characterization-Predesign Report	\$26,617.04	152	8	8			8	8	8	40	16		8		16	32								
P01	0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	\$30,978.34	190	2	4			4		4	16	80		56		16									8
P01	0302	Additional Project Analyses-Geotechnical Characterization	\$2,145.28	10								2			8											
P01	0303	Additional Project Analyses-Public Access Inventory and Evaluation	\$5,640.08	24						8		12							4							
P01	0304	Additional Project Analyses-Preliminary Permitting Analysis	\$14,341.44	76						32		4		16				24								
P01	0305	Additional Project Analyses-Public Engagement Process	\$11,899.82	56						16	4	16			16											4
P01	0306	Additional Project Analyses-Floodplain Analysis	\$37,934.88	240	4	4					8	32	120		16		40									16
P01	0400	Project Management	\$24,949.84	126	36		8					64				18										
P01	0500	Surveying	\$48,797.58	483																32	3	72	192	184		
P02		Phase 2-Detailed Design and Permitting	\$448,893.67	2,909	0	48	0	472	0	76	0	112	40	240	364	0	356	480	182	20	3	48	160	152	96	60
P02	0307	Additional Project Analyses-Floodplain Mapping and CLOMR	\$13,994.64	92								8	40		4											40
P02	0501	Design-Level Survey	\$38,259.65	383																20	3	48	160	152		
P02	601	Preliminary (30%) Design	\$68,675.60	424				120				24			80		80	120								
P02	602	Design-Level Geotechnical Analysis	\$7,996.40	40											40											
P02	0700	Intermediate (60%) Design	\$68,675.60	424				120				24			80		80	120								
P02	0800	Pre-Final (90%) Design	\$69,594.60	440		12		120				8			80		100	120								
P02	0900	Final (100%) Design	\$55,431.00	340		12		80				8			80		80	80								
P02	1000	Permitting	\$126,266.18	766		24		32		76		40		240		16	40	182							56	60
P03		Phase 3-Bidding and Construction Observation	\$46,737.12	296	4	4	0	0	8	0	8	16	0	0	56	0	80	120	0	0	0	0	0	0	0	0
P03	1100	Bidding Assistance	\$17,460.40	88								8			40		40									
P03	1200	Construction Observation (O & M Manual)	\$29,276.72	208	4	4			8		8	8			16		40	120								

Labor Totals:	\$852,334.05	5,476	70	94	8	496	46	180	58	466	328	296	580	18	612	848	250	52	6	120	352	336	200	60
Totals:	\$852,334.05		\$8,588.30	\$12,901.50	\$1,177.84	\$74,295.84	\$5,781.28	\$36,212.40	\$7,053.96	\$127,218.00	\$38,802.40	\$42,251.04	\$115,947.80	\$1,883.16	\$111,384.00	\$96,078.40	\$47,165.00	\$8,140.73	\$1,279.20	\$13,552.50	\$35,692.80	\$28,392.00	\$31,395.00	\$7,140.90

Other Direct Expenses	
Mileage	\$980.00
Survey Equipment (\$155/day)	\$5,735.00
Travel	\$3,600.00
Other Direct Expenses Total:	\$10,315.00

Project Total \$862,649.05

Client: Clackamas County
 Project: Three Creeks Natural Area Floodplain Enhancement
 Project No: 553-1751-848

Biohabitats

				Billing Rates:							
				\$185.00	\$185.00	\$185.00	\$115.00	\$115.00	\$155.00	\$120.00	
Task	Subtask	Description	Labor Dollars	Labor Hours	Sr Fluvial Geomorphologist	Sr Restoration Ecologist	Sr Engineer (PE)	Engineer (EIT)	Landscape Architect/CAD	Engineer (PE)	Water Resources Engineer (PE)
		Phase 1-Project Initiation, Data Collection, and Alternatives Development	\$140,150.00	926	244	100	102	144	128	40	168
P01	0100	Project Kickoff	\$2,960.00	16	8		8				
P01	0201	Site Characterization-Problem Definition	\$0.00	0							
P01	0202	Site Characterization-Design Goals and Objectives	\$0.00	0							
P01	0203	Site Characterization-Physical Site Assessment	\$19,760.00	128	40	16	16	40	16		
P01	0204	Site Characterization-Alternatives Analysis	\$21,600.00	144	40	16	16	32	40		
P01	0205	Site Characterization-Design Criteria	\$29,550.00	190	40	40	30	40	40		
P01	0207	Site Characterization-Pre-design Report	\$9,600.00	64	16	8	8	24	8		
P01	0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	\$34,680.00	256	16	8	16	8		40	168
P01	0302	Additional Project Analyses-Geotechnical Characterization	\$0.00	0							
P01	0303	Additional Project Analyses-Public Access Inventory and Evaluation	\$7,200.00	48	8	8	8		24		
P01	0304	Additional Project Analyses-Preliminary Permitting Analysis	\$1,480.00	8	4	4					
P01	0305	Additional Project Analyses-Public Engagement Process	\$2,960.00	16	16						
P01	0306	Additional Project Analyses-Floodplain Mapping	\$2,960.00	16	16						
P01	0400	Project Management	\$7,400.00	40	40						
P01	0500	Surveying	\$0.00	0							
		Phase 2-Detailed Design and Permitting	\$93,020.00	636	156	64	64	128	224	0	0
P02	0307	Additional Project Analyses-Floodplain Mapping and CLOMR	\$0.00	0							
P02	0501	Design-Level Survey	\$0.00	0							
P02	0600	Preliminary (30%) Design	\$33,780.00	228	60	24	24	40	80		
P02	0700	Intermediate (60%) Design	\$22,980.00	156	40	16	16	24	60		
P02	0800	Pre-Final (90%) Design	\$16,240.00	112	32	8	8	24	40		
P02	0900	Final (100%) Design	\$10,060.00	68	16	8	8	16	20		
P02	1000	Permitting	\$9,960.00	72	8	8	8	24	24		
		Phase 3-Bidding and Construction Observation	\$50,360.00	304	80	60	80	60	24	0	0
P03	1100	Bidding Assistance	\$14,800.00	80	40		40				
P03	1200	Construction Observation Support	\$35,560.00	224	40	60	40	60	24		
Labor Totals:			\$283,530.00	1,866	480	224	246	332	376	40	168
Totals:			\$283,530.00		\$88,800.00	\$41,440.00	\$45,510.00	\$38,180.00	\$43,240.00	\$6,200.00	\$20,160.00
					480	224	246	332	376	40	168

Other Direct Expenses

Mileage \$500.00

Other Direct Expenses Total: \$500.00

Project Total \$284,030.00

Client: Clackamas County
 Project: Three Creeks Natural Area Floodplain Enhancement
 Project No: 553-1751-848

Juncus

	Dave Elkin	
	Principal	Landscape Designer
Billing Rates:	\$175.00	\$105.00

Task Subtask Description	Labor Dollars	Labor Hours			
P01	Phase 1-Project Initiation, Data Collection, and Alternatives Development	\$63,980.00	512	146	366
P01 0100	Project Kickoff	\$1,400.00	8	8	
P01 0201	Site Characterization-Problem Definition	\$0.00	0		
P01 0202	Site Characterization-Design Goals and Objectives	\$0.00	0		
P01 0203	Site Characterization-Physical Site Assessment	\$5,880.00	48	12	36
P01 0204	Site Characterization-Alternatives Analysis	\$8,540.00	68	20	48
P01 0205	Site Characterization-Design Criteria	\$14,140.00	116	28	88
P01 0207	Site Characterization-Pre-design Report	\$8,120.00	68	14	54
P01 0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	\$0.00	0		
P01 0302	Additional Project Analyses-Geotechnical Characterization	\$0.00	0		
P01 0303	Additional Project Analyses-Public Access Inventory and Evaluation	\$14,560.00	120	28	92
P01 0304	Additional Project Analyses-Preliminary Permitting Analysis	\$700.00	4	4	
P01 0305	Additional Project Analyses-Public Engagement Process	\$9,240.00	72	24	48
P01 0306	Additional Project Analyses-Floodplain Mapping	\$0.00	0		
P01 0400	Project Management	\$1,400.00	8	8	
P01 0500	Surveying	\$0.00	0		
P02	Phase 2-Detailed Design and Permitting	\$53,130.00	446	90	356
P02 0307	Additional Project Analyses-Floodplain Mapping and CLOMR	\$0.00	0		
P02 0501	Design-Level Survey	\$0.00	0		
P02 0600	Preliminary (30%) Design	\$7,840.00	64	16	48
P02 0700	Intermediate (60%) Design	\$19,600.00	176	16	160
P02 0800	Pre-Final (90%) Design	\$12,600.00	112	12	100
P02 0900	Final (100%) Design	\$6,090.00	54	6	48
P02 1000	Permitting	\$7,000.00	40	40	
P03	Phase 3-Bidding and Construction Observation	\$4,200.00	24	24	0
P03 1100	Bidding Assistance	\$4,200.00	24	24	
P03 1200	Construction Observation Support	\$0.00	0		

Labor Totals:	\$121,310.00	982	260	722
Totals:	\$121,310.00		\$45,500.00	\$75,810.00

Other Direct Expenses

Mileage and direct expenses \$500.00

Other Direct Expenses Total: \$500.00

Project Total \$121,810.00

Shannon & Wilson

Stan Boyle	Travis Nguyen	Almee Holmes	Cody Sorensen	Jennifer Mead	Nathan Villeneuve								
Vice President	Senior Associate	Senior Engineering Geologist III	Senior Geologist III	Senior Engineer II	Senior Engineering Geologist I	Senior Engineer I	Geology Staff III	Senior Office Services	Office Services II				
Billing Rates:	\$235.00	\$215.00	\$160.00	\$160.00	\$145.00	\$135.00	\$135.00	\$115.00	\$120.00	\$80.00			

Task	Subtask	Description	Labor Dollars	Labor Hours										
P01		Phase 1-Project Initiation, Data Collection, and Alternatives Development	\$82,500.00	500	68	80	36	0	172	108	0	24	8	4
P01	0100	Project Kickoff	\$1,880.00	8	8									
P01	0201	Site Characterization-Problem Definition	\$0.00	0										
P01	0202	Site Characterization-Design Goals and Objectives	\$0.00	0										
P01	0203	Site Characterization-Physical Site Assessment	\$0.00	0										
P01	0204	Site Characterization-Alternatives Analysis	\$0.00	0										
P01	0205	Site Characterization-Design Criteria	\$6,680.00	40	4	4	16	0	16	0	0	0	0	0
P01	0207	Site Characterization-Pre-design Report	\$0.00	0										
P01	0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	\$0.00	0										
P01	0302	Additional Project Analyses-Geotechnical Characterization	\$65,240.00	408	56	40	20	0	156	108	0	24	0	4
P01	0303	Additional Project Analyses-Public Access Inventory and Evaluation	\$0.00	0										
P01	0304	Additional Project Analyses-Preliminary Permitting Analysis	\$0.00	0										
P01	0305	Additional Project Analyses-Public Engagement Process	\$0.00	0										
P01	0306	Additional Project Analyses-Floodplain Mapping	\$0.00	0										
P01	0400	Project Management	\$8,700.00	44	0	36	0	0	0	0	0	0	8	0
P01	0500	Surveying	\$0.00	0										
P02		Phase 2-Detailed Design and Permitting	\$141,470.00	864	152	50	54	8	452	100	40	0	0	8
P02	0307	Additional Project Analyses-Floodplain Mapping and CLOMR	\$0.00	0										
P02	0501	Design-Level Survey	\$0.00	0										
P02	0600	Preliminary (30%) Design	\$0.00	0										
P02	602	Design-Level Geotechnical Analysis	\$141,470.00	864	152	50	54	8	452	100	40	0	0	8
P02	0700	Intermediate (60%) Design	\$0.00	0										
P02	0800	Pre-Final (90%) Design	\$0.00	0										
P02	0900	Final (100%) Design	\$0.00	0										
P02	1000	Permitting	\$0.00	0										
P03		Phase 3-Bidding and Construction Observation	\$0.00	0	0	0	0	0	0	0	0	0	0	0
P03	1100	Bidding Assistance	\$0.00	0										
P03	1200	Construction Observation Support	\$0.00	0										
Labor Totals:			\$223,970.00	1,364	220	130	90	8	624	208	40	24	8	12
Totals:			\$223,970.00		\$51,700.00	\$27,950.00	\$14,400.00	\$1,280.00	\$90,480.00	\$28,080.00	\$5,400.00	\$2,760.00	\$960.00	\$960.00

220 130 90 8 624 208 40 24 8 12

Subconsultants

Drilling and CPTs	\$19,800.00
Clearing Contractor	\$5,500.00

Subconsultants Total: \$25,300.00

Other Direct Expenses

Mileage & Per Diem	\$1,195.66
Field Equipment Rentals	\$208.00
Laboratory Testing	\$13,760.00

Other Direct Expenses Total: \$15,163.66

Project Total \$264,433.66

Client: Clackamas County
 Project: Three Creeks Natural Area Floodplain Enhancement
 Project No: 553-1751-848

					Billing Rates:							
					Kristen Kibler	Kalin Schmoltdt	Sam Beresky	Jamie Harvie	Cools	Walters	Jaye Cromwell	Nelly Haddad
Task	Subtask	Description	Labor Dollars	Labor Hours	\$169.64	\$149.90	\$136.49	\$116.75	\$111.35	\$111.35	\$87.13	\$113.79
P01		Phase 1-Project Initiation, Data Collection, and Alternatives Development	\$62,084.92	474	154	56	32	0	96	14	110	12
P01	0100	Project Kickoff	\$1,357.12	8	8							
P01	0201	Site Characterization-Problem Definition	\$0.00	0								
P01	0202	Site Characterization-Design Goals and Objectives	\$0.00	0								
P01	0203	Site Characterization-Physical Site Assessment	\$0.00	0								
P01	0204	Site Characterization-Alternatives Analysis	\$3,062.76	20	16						4	
P01	0205	Site Characterization-Design Criteria	\$0.00	0								
P01	0207	Site Characterization-Pre-design Report	\$0.00	0								
P01	0301	Additional Project Analyses-Hydrologic and Hydraulic Modeling	\$0.00	0								
P01	0302	Additional Project Analyses-Geotechnical Characterization	\$0.00	0								
P01	0303	Additional Project Analyses-Public Access Inventory and Evaluation	\$2,714.24	16	16							
P01	0304	Additional Project Analyses-Preliminary Permitting Analysis	\$0.00	0								
P01	0305	Additional Project Analyses-Public Engagement Process	\$50,357.54	398	96	56	32		96	14	104	
P01	0306	Additional Project Analyses-Floodplain Mapping	\$0.00	0								
P01	0400	Project Management	\$4,593.26	32	18						2	12
P01	0500	Surveying	\$0.00	0								
P02		Phase 2-Detailed Design and Permitting	\$0.00	0	0	0	0	0	0	0	0	0
P02	0307	Additional Project Analyses-Floodplain Mapping and CLOMR	\$0.00	0								
P02	0501	Design-Level Survey	\$0.00	0								
P02	0600	Preliminary (30%) Design	\$0.00	0								
P02	0700	Intermediate (60%) Design	\$0.00	0								
P02	0800	Pre-Final (90%) Design	\$0.00	0								
P02	0900	Final (100%) Design	\$0.00	0								
P02	1000	Permitting	\$0.00	0								
P03		Phase 3-Bidding and Construction Observation	\$0.00	0	0	0	0	0	0	0	0	0
P03	1100	Bidding Assistance	\$0.00	0								
P03	1200	Construction Observation Support	\$0.00	0								

Labor Totals:		\$62,084.92	474	154	56	32	0	96	14	110	12
Totals:		\$62,084.92		\$26,124.56	\$8,394.40	\$4,367.68	\$0.00	\$10,689.60	\$1,558.90	\$9,584.30	\$1,365.48
				154	56	32	0	96	14	110	12

Other Direct Expenses

Mileage	assume up to 20 trips to area or County	\$322.00
Video support	assume up to \$400 for video music, possible narration expense	\$400.00
Meeting refreshments	assume up to \$100ea for 3 events and \$150ea for 2 events (tours)	\$600.00
Copies	copies \$200 x 3 events (indoor) and \$100 x 2 tour events (less paper/clipboard)	\$800.00
Displays	JLA will assume that Parametrix plots all oversize displays	\$0.00
	County will print/mail postcards or newsletters for meetings	\$0.00

Other Direct Expenses Total: \$2,122.00

Project Total \$64,206.92