CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

September 5, 2024 BCC Agenda Date/Item:_____

Board of County Commissioners
Clackamas County

Approval of Personal Services Contract with Kittelson & Associates, Inc. for the Stafford-65th-Elligsen Roundabout Project. Total Contract value is $1,407,863.44. Funding through the Strategic Investment Fund (Community Road Fund), Countywide Transportation System Development Charges, and Local Agencies. No County General Funds are involved.

Previous Board Action/Review	7/19/23: BCC allocated Community Road Fund to start design of the Project. 2/22/24: Approval of an Intergovernmental Agreement with the City of Wilsonville for the Project. 9/3/24: Request for Consent		
Performance Clackamas	The project will build a strong infrastructure.		
Counsel Review	08/19/2024, AN	**Procurement Review**	Yes
Contact Person	Jonathan Hangartner	**Contact Phone**	503-742-4649

EXECUTIVE SUMMARY: Located in a rural setting just east of the City of Wilsonville, the intersection of SW Stafford Rd, SW 65th Avenue, and SW Elligsen Rd is in need of critical safety improvements and congestion relief. The proposed improvements include adding a roundabout at the intersection to improve operations and safety at the intersection. Travel lanes will be widened to a consistent 12-foot width and 6-foot-wide bike lanes added at the intersection approaches. Additionally, replacement of the existing culverts at Boeckman Creek, stormwater management facilities, and street lighting at the roundabout will be included in the project.

This engineering and related services contract will provide project management; survey; environmental studies and permitting services; stormwater and hydraulic services; utility coordination; geotechnical; traffic engineering; public outreach support; and the development of both preliminary and final plans, specifications and estimates; and bid assistance for the Stafford-65th-Elligsen Roundabout Project.

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This project is funded through the Strategic Investment Fund part of the Community Road Fund ($6,208,648), Countywide Transportation System Development Charges match at 46 percent ($5,288,849), City of Wilsonville funds ($1,000,000), and Washington county funds ($250,000). The project's total estimated cost is $12,747,497. The design of the project is estimated to be completed by the winter of 2026/27 with construction starting in the spring or summer of 2027 and lasting through the summer or fall of 2028.

An Intergovernmental Agreement (IGA) with the City of Wilsonville provides City funds of $1,000,000 towards the project cost. County staff are working with Washington County to finalize an IGA that is expected to include a $250,000 Washington County contribution and other in-kind services valued at approximately $1,000,000.

PROCUREMENT PROCESS: This project was advertised in accordance with ORS and LCRB Rules on April 17, 2024 as RFP 2024-19 seeking written statements of qualifications from consulting firms with expertise in professional engineering services. Three consultant proposals were submitted from PBS Engineering, Kittelson & Associates, and Harper Houf Peterson Righellis. A selection committee of one DTD representative, one City of Wilsonville representative, and one Washington County representative scored Kittelson and Associate's proposal the highest. After Notice of Intent to Award was issued, the statement of work and project fees were negotiated and finalized.

RECOMMENDATION: Staff respectfully recommends that the Board of County Commissioners approve and sign Personal Services Contract #9919 with Kittelson & Associates, Inc. for the Stafford-65th-Elligsen Roundabout Project.

Respectfully submitted,

Dan Johnson

Dan Johnson
Director Transportation & Development

CLACKAMAS COUNTY
PERSONAL SERVICES CONTRACT
Contract #9919

This Personal Services Contract (this "Contract") is entered into between **Kittelson & Associates, Inc.**, ("Contractor"), and Clackamas County, a political subdivision of the State of Oregon ("County") on behalf of its Department of Transportation and Development.

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 **December 31, 2027**.

2. **Scope of Work.** Contractor shall provide the following personal services: engineering services necessary to design and construct intersection improvements at Stafford-65th-Elligsen ("Work"), further described in **Exhibit A.** The Work includes certain Contingency Tasks, defined in Exhibit A. Contractor may only perform Contingency Tasks upon the written approval by the County.

3. **Consideration.** The maximum amount County may pay Contractor, from available and authorized funds, for accomplishing the Work required by this Contract, including all allowable and reimbursable costs, expenses, and optional Contingency Tasks, may not exceed the sum of **One Million Four Hundred Seven Thousand Eight Hundred Sixty-Three Dollars and Forty-four cents ($1,407,863.44)**. Consideration rates are on a time and materials basis in accordance with the rates and costs specified in Exhibit B. If any interim payments to Contractor are made, such payments shall be made only in accordance with the schedule and requirements in Exhibit B.

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 in accordance with ORS 293.462 to Contractor following the County's review and approval of invoices submitted by Contractor. Contractor shall not submit invoices for, and the County 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: jhangartner@clackamas.us or Lkitts@clackamas.us

5. **Travel and Other Expense.** Authorized: ☐ Yes ☒ No
   If travel expense reimbursement is authorized in this Contract, such expense shall only be reimbursed at the rates in the County Contractor Travel Reimbursement Policy, hereby incorporated by reference and found at: https://www.clackamas.us/finance/terms.html.Travel expense reimbursement is not in excess of the not to exceed consideration.

6. **Contract Documents.** This Contract consists of the following documents, which are listed in descending order of precedence and are attached and incorporated by reference, this Contract, Exhibit A, and Exhibit B.

7. Contractor and County Contacts.

Contractor Administrator: Tony Roos Phone: 503-535-7444 Email: troos@kittelson.com	County Administrator: Jonathan Hangartner Phone: 503- 742-4697 Email: jhangartner@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. County 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 County 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 County 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 County of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. Contractor, by execution of this Contract, hereby consents to the personal jurisdiction of the courts referenced in this section.

7. **INDEMNITY, RESPONSIBILITY FOR DAMAGES.** Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, the negligent acts or omissions of Contractor, its subcontractors, agents, or employees. The Contractor agrees to indemnify and defend the County, and its officers, elected officials, agents, and employees, from and against all claims, actions, losses, liabilities, including reasonable attorney and accounting fees, and all expenses incidental to the investigation and defense thereof, arising out of or based upon Contractor's acts or omissions in performing under this Contract. Contractor's indemnification obligations are limited to the extent caused by, or arising from, the negligent acts or omissions of Contractor or its subcontractors, agents, or employees.
However, neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of County, purport to act as legal representative of County, or settle any claim on behalf of County, without the approval of the Clackamas County Counsel's Office. County may assume its own defense and settlement at its election and expense.

8. **INDEPENDENT CONTRACTOR STATUS.** The service(s) to be rendered under this Contract are those of an independent contractor. Although the County 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, County 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 County 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 County employees, including, but not limited to, vacation, holiday and sick leave, other leaves with pay, tenure, medical and dental coverage, life and disability insurance, overtime, Social Security, Workers' Compensation, unemployment compensation, or retirement benefits.

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

Required - Workers Compensation: Contractor shall comply with the statutory workers' compensation requirements in ORS 656.017, unless exempt under ORS 656.027 or 656.126.
☒ 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.
☒ 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.
☒ Required – Automobile Liability: combined single limit, or the equivalent, of not less than $1,000,000 per accident for Bodily Injury and Property Damage.

The policy(s) shall be primary insurance as respects to the County. Any insurance or self-insurance maintained by the County shall be excess and shall not contribute to it. Any obligation that County 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. Neither party shall be liable for any indirect, incidental, consequential or special damages under this Contract. Except for liability arising under or related to Article II, Section 13 or Section 20, neither party shall be liable for any damages of any sort arising solely from the termination of this Contact 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 County, a copy shall also be sent to: Clackamas County Procurement, 2051 Kaen Road, Oregon City, OR 97045. 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 County'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 County. County and Contractor intend that such Work Product be deemed "work made for hire" of which County shall be deemed the author. If for any reason the Work Product is not deemed "work made for hire," Contractor hereby irrevocably assigns to County 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 County may reasonably request in order to fully vest such rights in County. 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, County shall have no rights in any pre-existing Contractor intellectual property provided to County by Contractor in the performance of this Contract except to copy, use and re-use any such Contractor intellectual property for County use only.

13. **REPRESENTATIONS AND WARRANTIES.** Contractor represents and warrants to County that (A) Contractor has the power and authority to enter into and perform this Contract; (B) this Contract, when executed and delivered, shall be a valid and binding obligation of Contractor enforceable in accordance with its terms; (C) Contractor shall at all times during the term of this Contract, be qualified, professionally competent, and duly licensed to perform the Work; (D) Contractor is an independent contractor as defined in ORS 670.600; and (E) the Work under this Contract shall be performed in accordance with the standard of professional skill and care required for a project of similar size, location, scope, and complexity, during the time in which the Work is being performed. The warranties set forth in this section are in addition to, and not in lieu of, any other warranties provided. The Contractor shall be responsible for the technical accuracy of its services and documents resulting therefrom, and County 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 County.

14. **SURVIVAL.** All rights and obligations shall cease upon termination or expiration of this Contract, except for the rights and obligations set forth in Article II, Sections 1, 6, 7, 10, 12, 13, 14, 15, 17, 20, 21, 25, 27, and 34, and all other rights and obligations which by their context are intended to survive. However, such expiration shall not extinguish or prejudice the County'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 County, which shall be granted or denied in the County's sole discretion. In addition to any provisions the County 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. County'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 County to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.

19. **TERMINATIONS.** This Contract may be terminated for the following reasons: (A) by mutual agreement of the parties or by the County (i) for convenience upon thirty (30) days written notice to Contractor, or (ii) at any time the County fails to receive funding, appropriations, or other expenditure authority as solely determined by the County; or (B) if contractor breaches any Contract provision or is declared insolvent, County may terminate after thirty (30) days written notice with an opportunity to cure.

    Upon receipt of written notice of termination from the County, Contractor shall immediately stop performance of the Work. Upon termination of this Contract, Contractor shall deliver to County all documents, Work Product, information, works-in-progress and other property that are or would be deliverables had the Contract Work been completed. Upon County's request, Contractor shall surrender to anyone County designates, all documents, research, objects or other tangible things needed to complete the Work.

20. **REMEDIES.** If terminated by the County due to a breach by the Contractor, then the County 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 County, less any setoff to which the County is entitled.

21. **NO THIRD PARTY BENEFICIARIES.** County 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.

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 County nor Contractor shall be held responsible for delay or default caused by events outside the County 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 County to enforce any provision of this Contract shall not constitute a waiver by County 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 County on account of any labor or material furnished.
    d. Pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
    e. As applicable, the Contractor shall pay employees for work in accordance with ORS 279B.235, which is incorporated herein by this reference. The Contractor shall comply with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract, and failure to comply is a breach entitling County to terminate this Contract for cause.
    f. If the Work involves lawn and landscape maintenance, Contractor shall salvage, recycle, compost, or mulch yard waste material at an approved site, if feasible and cost effective.

27. **NO ATTORNEY FEES**. In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.

28. **Reserved.**

29. **Reserved.**

30. **KEY PERSONS.** Contractor acknowledges and agrees that a significant reason the County is entering into this Contract is because of the special qualifications of certain Key Persons set forth in the contract. Under this Contract, the County 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 County 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

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

31. Reserved.

32. Reserved.

33. Reserved.

34. 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.

Kittelson & Associates, Inc.	Clackamas County
DocuSigned by: AAE87D05DE83425... 8/8/2024	
Authorized Signature Date	Chair Date
Hermanus Steyn, Senior Principal Engineer	
Name / Title (Printed)	Recording Secretary
099459-81	
Oregon Business Registry #	APPROVED AS TO FORM
DBC/Oregon	08/19/2024
Entity Type / State of Formation	County Counsel Date

EXHIBIT A
PERSONAL SERVICES CONTRACT
SCOPE OF WORK

Scope of Services

Stafford-65th-Elligsen Roundabout Project

Clackamas County Project Number 300324301

July 1, 2024

PROJECT BACKGROUND

The dual 3-leg intersection of SW Stafford Road/SW 65th Ave and SW Elligsen Rd/SW 65th Ave has a history of capacity and safety issues that have grown as Wilsonville has expanded and congestion on I-5 and I-205 has increased. All three roadways are 2-lane facilities with only an additional northbound left turn lane on Stafford. Given the high volume of traffic on SW Stafford Road, significant back-up is occurring on 65th Ave, blocking flow onto and from SW Elligsen Road. This intersection has also experienced a high number of turning movement crashes from vehicles entering SW Stafford Road from SW 65th Ave.

West of the intersection is a culvert conveying Boeckman Creek, flowing under SW Elligsen Road. Once the City has completed its current downstream culvert replacement project, this reach of Boeckman Creek will be considered habitat for salmon and other endangered species.

This project is jointly funded by Clackamas County, Washington County, and the City of Wilsonville and is intended to increase safety and relieve congestion. This project was identified through a Road Safety Audit of Stafford Road (2018) and is also included in the Clackamas County Transportation System Plan.

Clackamas County, hereinafter referred to as “County”, has secured Community Road Funds, and funding from Washington County and Wilsonville, to install a roundabout at the intersection of Stafford Rd / 65th Ave / Elligsen Rd. Travel lanes will be widened to current standards and bike lanes will be added along the intersection approaches, which will improve operations and safety at the intersection.

The existing culvert carrying Boeckman Creek will be replaced with a fish passage-friendly culvert, and new stormwater management facilities will enhance the quality of roadway stormwater runoff.

Since a portion of the intersection is located outside of Clackamas County limits, significant coordination will be required with Washington County and City of Wilsonville.

PROJECT UNDERSTANDING

This project will improve operations and safety at the intersection of Stafford Rd / 65th Ave / Elligsen Rd Stafford Rd by adding a single-lane roundabout with sidewalk and curb ramps within the roundabout limits and bike lanes along the intersection approaches. Although there is an existing traffic signal at the intersection, the traffic signal was designed and installed as a temporary measure. A replacement culvert for Boeckman Creek underneath the north intersection approach, a new culvert underneath the west approach, and stormwater conveyance, detention and treatment facilities are also included in the project.

Project Limits:

Intersection of SW Stafford Rd, SW 65th Ave, and SW Elligsen Rd

Side Streets: Reconstruction SW Stafford Rd, SW 65th Ave, and SW Elligsen Rd as needed for roundabout approaches.

Lane Configuration and Geometry:

Generally, 2-lane cross section with bicycle lanes and shoulder. Centerline geometry within project corridor to be analyzed for conformance with AASHTO design standards.

Stormwater Management:

Best Management Practices (BMP's) and Low Impact Development Approaches (LIDA) to be utilized per Water Environment Services (WES) design standards as adopted and modified by Clackamas County Department of Transportation and Development. SLOPES IV requirements, if wetland fill or stream impacts are created, will supersede WES or Washington County requirements.

Lighting:

New lighting within the project limits, specifically at the Stafford Rd-65th Ave-Elligsen Rd intersection.

Franchise Utilities:

Relocate as necessary. Relocations for utility conflicts will be completed by utilities. Impacts to the existing PGE steel tower will be avoided.

Natural Resources:

Environmental permits will be required related to Boeckman Creek culvert replacement at the intersection of Stafford Rd-65th Ave-Elligsen Rd. Additional environmental permit requirements will be determined during design.

Landscaping:

Bark mulch or grass seed shall be shown to match existing landscaping beyond improvements. Trees and shrubs may be needed for stormwater management facilities. Trees, shrubs and grasses will be planted in the roundabout and landscape islands. Native re-plantings will be required in the impacted Boeckman Creek areas.

Public Involvement and Outreach:

Public involvement will consist of providing information for county's website and attending community open houses, partner public agency meetings (Washington County and City of Wilsonville), and in-person meetings with adjacent property owners.

Right-of-Way (ROW):

Assumed up to eight (8) files for ROW and easement acquisitions shall be required.

SPECIFIC SCOPE OF SERVICES

3.1. SUMMARY OF WORK

Project management, survey, environmental and stormwater/hydraulic services, utility coordination, geotechnical, traffic engineering, public outreach, and the development of both preliminary design criteria and final PS&E (Plans, Specifications and Estimates) design, right-of-way services, and bid assistance up through bid award for this project based on the scope of services described herein.

Task 1.0 Project Management and Project Coordination

Task 2.0 Survey, Field Investigations and Mapping

Task 3.0 Environmental Reconnaissance and Permitting

Task 4.0 Stormwater / Hydraulics Related Services

Task 5.0 Utility Coordination

Task 6.0 Geotechnical and Geologic Services

Task 7.0 Traffic Engineering and Management

Task 8.0 Preliminary Design (30%)

Task 9.0 Public Involvement/Outreach

Task 10.0 Final Design (60%, 90%, 100% and Final Bid Ready)

Task 11.0 Right-of-Way Research and Descriptions

Task 12.0 Bid and Award Assistance

The duration of the design of this project is assumed to be from August 2024 through January 2027 for the completion of design and right-of-way tasks. Bidding and Construction will occur between February 2027 and December 2028. This scope of services does not include construction engineering or construction support but may be added at the discretion of the County towards the end of the design phase through a contract amendment.

Task 1.0 Project Management and Project Coordination

1.1 Project Management

Consultant shall:

- Prepare and maintain a contract and task decision log documenting all proposed changes to the project (i.e., change orders and notices to proceed) as well as the proposed schedules and deliverables.
- Complete Subconsultant management tasks.
- Prepare monthly invoices and progress reports. Consultant assumes a 28-month timeframe for the project to be designed and bid for construction.

1.2 Project Coordination

The proposed approach to project coordination during design is to hold project meetings with key project team members and representatives from Clackamas County, Washington County, and the City of Wilsonville. The Consultant Project Manager shall direct all meetings and provide direction to the rest of the team as the project progresses. A running agenda will be maintained on a shared drive to document decisions and track progress and upcoming scheduled tasks/deliverables.

- A total of up to 14 bi-monthly Microsoft Teams coordination meetings with the Project Team (1 hour each). Up to 3 consultant personnel are expected to phone into each meeting.
- A total of up to 56 bi-weekly Microsoft Teams check-in meetings with the Consultant PM (1/2 hour each).
- Maintain running agenda and issue task assignment summary to attendees.
- Consultant shall prepare a project schedule at the on-set of design. Consultant shall provide an updated project schedule, as needed, with all major deliverables (30%, 60%, 90%, and 100%).

***Task 1.0 Deliverables**:*

- *Contract/Task Decision Log*
- *Monthly Invoices and Progress Reports*
- *Project Schedule with Periodic Updates*
- *Rolling Meeting Agenda and task summary email for Bi-Monthly Coordination Meetings*

Task 2.0 Survey, Field Investigations and Mapping

2.1 Topographic Survey

Consultant shall complete a topographic survey in English units (International feet) for the project area.

- Features to be shown include trees six inches or more in diameter (dbh), ornamental trees, utilities, utility poles, overhead wires, fences, area lights, culverts, driveways (including width and length), walks, crown line of streets, edge of pavement, ditches, traffic and other permanent signs, traffic striping, and structures as accessible.
- Wetland areas as delineated by the environmental consultant with boundary flags.
- Underground features such as utility line sizes, rim elevations, invert elevations, fuel tanks, wells, septic tanks, and drain fields shall be shown as indicated by surface features and other information including as-built drawings and utility company data. Consultant assumes County shall vacuum clean all structures prior to survey field work.
- Create an Ortho corrected UAV flight on coordinate base with 3D lidar model creating a base aerial to be utilized for preliminary design until the final topographic map is completed.
- All significant features outside of the existing ROW as needed based upon design requirements for the proposed improvements shall be collected. Survey limits (project Area of Potential Impact) are:
  - 65th Ave: Knollwood Ct to Stafford; 150’ west of 65th, 50’ east of 65th
  - Elligsen Rd: 1000’ west of 65th to 65th; 75’ north and 200’ south of Elligsen
  - Stafford Rd: 1000’ South and 750’ north of the 65th intersection; 200’ east and west of Stafford

  - Boeckman Creek: 600’ Southwest of the existing culvert; 200’ north and south of the creek.
- Photos of site conditions shall also be taken.
- The Horizontal Datum to be NAD 83(2011) epoch 2010.00 PDX Zone, utilizing the Oregon Real Time Network. The Horizontal Network shall be resolved using differential Real Time Kinematic (RTK) GPS observations along with terrestrial ground measurements. The Vertical Datum shall be NAVD 88. Closed loop differential level measurements shall run through all of the on-site Control.
- Collect river cross sections (in addition to the detailed topo survey above) as required to perform HEC-RAS modeling of Boeckman Creek at roadway crossings.
  - 3 sections, 500’ wide at 800’, 1000’, and 1200’ southwest (downstream) of the existing culvert.
- Send out survey notices to the property owners along the corridor; assumes County will secure Right-of-Entry from property owners.

The field topographic data shall be incorporated into a topographic survey base map and digital terrain model utilizing AutoCAD Civil 3D 2022 or newer.

2.2 Horizontal Control, Monument Recovery, and Pre-Construction Record-of-Survey

Consultant shall:

- Retrace all existing ROW within the project corridor. Consultant shall search all survey records on file with Clackamas County and Washington County, to reestablish existing centerlines of each ROW.
- Research deeds and Record Surveys, including but not limited to all property surveys, county road surveys, original county road resolutions, public land corner surveys, and Donation Land Claim (DLC) surveys.
- Keep all copies of the research data collected, including but not limited to surveys, deeds, assessors' maps, county road maps, government corner surveys, and horizontal and vertical control data sheets Consultant’s Project file. Consultant shall provide all project-related data and records to the County at the end of the project.
- Survey found property corners, property line fences and the existing edges of pavement to establish existing road centerlines and rights-of-way. Consultant shall tie at least one (1) Public Land Survey System (PLSS) corner as necessary to show a relationship to the road centerlines. Consultant shall provide at least one (1) PLSS corner tie for ROW descriptions and the filing of a Record of Survey.
- Show adjacent property lines and existing ROW on the Project Base Map using Consultant’s ROW retracement. Consultant shall prepare and file a separate Pre-Construction Record of Survey conforming to all applicable County standards with both County Surveyor’s offices. To perpetuate monument locations as required under ORS 209.155. Scale for survey map shall be 1”=40’, or as approved.
- Prepare a ROW survey for SW Stafford Rd, SW 65th Ave, and SW Elligsen Rd. Show the project centerline and existing centerlines, property owner’s name, tax lot numbers, existing and proposed ROW lines, and proposed permanent and temporary easement lines.

The project Record of Survey limits shall include:

  - 65th Ave: Knollwood Ct to Stafford
  - Elligsen Rd: 1000’ west of 65th to 65th
  - Stafford Rd: 1000’ South and 750’ north of the 65th intersection

Task 2.0 Deliverables:

- *Base maps drawings in AutoCAD and PDF*
- *Ortho-rectified aerial image*
- *Pre-Construction Record of Survey for Clackamas County*
- *Pre-Construction Record of survey for Washington County*
- *Centerline Description for Stafford Rd, 65thAve, and Elligsen Rd*

Task 3.0 Environmental Reconnaissance and Permitting

The County will obtain Rights of Entry (ROE) for field reconnaissance work. The Consultant will provide a map of properties requiring ROEs for research disciplines no less than eight (8) weeks before such ROEs are required to perform work on private parcels. Consultant shall provide County with a map which will include the area needing access, including the access location from property line to the area needing access, and approximate location of any invasive test sites on the property, e.g. anything more than minor shovel sampling, test pits, etc.

The following tasks will be completed by the Consultant to identify issues and ensure compliance with the regulating agencies:

3.1 Wetland and Waters Delineation

Consultant shall conduct a site visit of the project's Area of Potential Impact (API), generally described in section 2.1, and delineate wetlands, streams, or ditches within the API. The wetland and waters delineation will be conducted in accordance with the routine on-site wetland determination methodology described in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual: Wetlands Research Program Technical Report Y-87-1, supplemented by the Western Mountain, Valleys, and Coast Regional Supplement, the Code of Federal Register (CFR) Title 33, Part 329.11, and Oregon Administrative Rules (OAR) Chapter 141, Division 85, Section 0515.

In accordance with the USACE Wetland Delineation Manual, Consultant shall:

- Obtain representative soil samples to assess hydric soil conditions and wetland hydrology.
- Determine dominant vegetation for each cover class at these sampling locations.
- Provide flags on site demonstrating wetland and waters feature boundaries to assist surveyors in mapping wetlands.

Consultant shall prepare a draft and final wetland delineation report in accordance with Oregon Department of State Lands (DSL) standards. Consultant shall submit the draft wetland delineation report to the County for review. Consultant shall submit the final, County-reviewed report to the DSL electronically for concurrence. Consultant shall address questions from DSL during concurrence review regarding the wetland delineation report to facilitate DSL concurrence of the wetland delineation.

Assumptions

- Two biologists will complete the wetland and waters delineation field work for this task during a single day, including travel. No other site visits are included in this task.
- The County and Consultant will provide Consultant biologists with the final project API prior to the start of the wetland delineation field work.

- The County will coordinate property access and entry approval for completion of the wetland delineation.
- Wetland/waters delineation boundary flag locations will be surveyed by a Professional Land Surveyor.
- CADD or GIS data provided to Consultant engineer for surveyed boundaries and sample plot locations will include projection, units (inches, feet, meters, etc.), and the coordinate system.
- The Ordinary High Water Mark (OHWM) of waters/ditches within the API will be delineated based on field indicators; a hydrologic analysis of stream gage data is not included in this task. No groundwater monitoring or analysis is included in this task.
- The County will pay the DSL wetland delineation report review fee.

3.2 In Stream Permitting

3.2.1 River and Stream Conservation Area (Clackamas County)

As the project area lies beyond the Clackamas County Urban Growth Boundary and the Metropolitan Service District Boundary Consultant shall address Clackamas County Code (Code) Section 704. Boeckman Creek is a small to medium Type F stream and therefore has a minimum setback to development. Despite the presence of a minimum setback, the proposed project will include roads, culverts, pipes and/or power lines necessary for a stream crossing, the project is exempt from the minimum setback standards, provided the project does not create barriers to fish movement and that adverse impacts are mitigated

Consultant biologist shall prepare a memorandum affirming that the project will not create a barrier to fish passage, and outlining project related natural resource mitigation for impacts to Boeckman Creek.

Assumptions

- Field work associated with this task will be addressed as part of Task 3.1, Wetlands and Waters Delineation.
- The project culvert design will not create a barrier to fish passage.
- Mitigation for impacts to Boeckman Creek (if any) and associated restoration of the stream riparian area will be address as part of the Joint Permit Application (Task 3.4).

3.2.2 Stream and Wetland Function Assessments (CONTINGENCY)

a) Consultant shall complete a Stream Function Assessment Methodology (SFAM) assessment of Boeckman Creek within the API to quantify stream functions and values if project impacts exceed 0.5 acre of permanent wetland impact and/or the project cannot meet the DSL's criteria for a Transportation-Related Structures General Permit. Consultant shall complete all required office based SFAM work prior to the site assessments. Consultant shall collect all required field data for the SFAM assessments in required DSL format during a two-day site visit for two Consultant staff. If required, Consultant shall post-process all SFAM field data for inclusion in the Joint Permit Application (JPA) for the project (Task 3.4).
b) Consultant shall complete an assessment of wetlands if the combined total of temporary and/or permanent impacts to wetlands exceed 0.2 acre, utilizing the Oregon Rapid Wetland Assessment Protocol (ORWAP). Consultant shall complete all required office based ORWAP work prior to returning to the project site for the assessment. Consultant shall provide all

required project maps, and ORWAP spreadsheet for the OFWAM assessment(s) in required DSL format. If required, Consultant shall post-process all data and maps for inclusion in the Joint Permit Application (JPA) for the project (Task 3.4).

Assumptions

- If required, stream functional assessments will be conducted by two Consultant biologists over the course of two days. No other site visits or meetings are included in this task.

3.2.3 Fish Passage Plan

Consultant shall prepare a Fish Passage Plan assuming the following conditions are met:

- There are current or were historic National Marine Fisheries (NMF) protected species present at the Project site.
- Oregon's fish passage law will be triggered (OARs 635-412-0005 to 625-412-0040).
- There is habitat for NMF upstream of the Project site and providing passage at the Project location would provide a significant or cost effective benefit to NMF.
- The Project will not trigger the need for fish passage mitigation or a fish passage waiver.
- The Project will meet stream simulation or hydraulic fish passage criteria.

Consultant shall:

- Determine and document "Hydraulic Design," or "Stream Simulation Design" fish passage criteria in the Fish Passage Plan.
- Prepare 1 draft fish passage plan in ODFW's form format and submit to Agency for review.
- Revise the draft plan and submit the final fish passage plan to Agency for approval of changes.
- Submit Agency approved final fish passage plan to ODFW for review and concurrence; also submit plan to DSL.
- If ODFW requests changes to the plan, revise plan, get Agency's approval to changes, and resubmit plan to ODFW and DSL.
- Provide ODFW concurrence documentation to Agency.
- Incorporate fish passage requirements and ODFW concurrence documentation into permit documents and Project PS&E as applicable.

3.3 Joint Permit Application (JPA)

Consultant will prepare a draft and final JPA to apply for a USACE Clean Water Act Section 404 Nationwide Permit (NWP) and for a DSL General Permit (GP) in accordance with requirements set forth in OAR 141-085-0025. If project impacts to wetlands and waters of the U.S. and State exceed NWP and/or GP thresholds, the JPA will be used to obtain an Individual Permit (IP) from the respective agency requiring an IP.

Clean Water Act Section 401 certification from the Oregon Department of Environmental Quality (DEQ) will be required for the project as pollutant-generating impervious surfaces will be increased a result of project implementation. The 401 certification will be facilitated by Consultant's submittal of the JPA, and a Stormwater Management Plan prepared by Consultant, in DEQ format to DEQ for review and approval.

Preparation of the JPA may include correspondence with regulatory agencies in the form of telephone calls, letters, and memorandums to document permit needs. Consultant will:

- Prepare brief narratives and descriptions on project purpose and need, potential impacts, and project alternatives using information provided by Consultant and County, as necessary to complete the JPA.
- Provide pre-submittal coordination with representatives of the USACE and DSL to confirm permitting requirements and application procedures. This coordination will include pre-application correspondence.
- Prepare all necessary non-engineering drawings, maps, and photographs for inclusion in the JPA.
- Evaluate potential wetland/waters impacts and methods for avoidance or minimization measures.
- Respond to questions or comments raised by the agencies during their review of the JPA. This task may include correspondence and clarification of the JPA and related tasks as necessary to clarify regulatory agency concerns and to facilitate the issuance of USACE's and DSL's permits for the proposed project.
- Provide the draft JPA to County for review and comment, revise the draft JPA once each per review comments and prepare the final JPA for submittal to the USACE and DSL.

Assumptions

- Wetland impacts will be below 0.2 acre and will therefore not require a Principal Objective Analysis or Oregon Rapid Wetland Assessment Protocol (ORWAP) or Hydrogeomorphic functional assessment. A best professional judgement functional assessment for wetlands and waters impacts is included in preparation of the JPA under this task. If wetland impacts exceed 0.2 acre, Task 3.3 will be authorized.
- If project impacts exceed 0.5 acre of permanent wetland impact and/or the project cannot meet the DSL's criteria for a Transportation-Related Structures General Permit, Task 3.3 will be authorized.
- Additional fieldwork beyond the wetland/water delineation effort (Task 3.1) will not be required for this task.
- Permittee-responsible wetland mitigation or plans will not be required. If necessary, permanent wetland and/or waters impact mitigation will be satisfied through County purchase of environmental mitigation bank credits, in-lieu-fee, or payment in-lieu. If on-site restoration is required for temporary wetland impacts or for any temporary waters impacts, Consultant biologist will provide a simple restoration planting list with selected species. Any formal landscape plans required for the bid package will be provided by Consultant. No monitoring of restoration activities is included.
- USACE/DSL permit conditions will not change during the application phase.
- Consultant will prepare a Stormwater Management Plan in required DEQ format and provide it to Consultant biologist for submittal to DEQ for the project 401 Certification.
- Payment of DEQ Stormwater Management Plan review will be the responsibility of the County.
- Engineering drawings, cross sections, details, impact calculations and project description support for inclusion in the JPA will be provided by Consultant.
- DSL may require a permit fee, depending on the type of authorization required, and the amount of fill or excavation to be performed in wetlands and/or waters. Payment of the DSL permit fees will be the responsibility of the County.

- If compensatory wetland/waters mitigation is addressed by use of a mitigation bank, in-lieu-fee, or payment in-lieu, the County is responsible for any payment required.
- The County will acquire signatures from all appropriate parties as required for completion of the JPA, including applicants, landowners, and local planning officials.
- Pre- and post-submittal coordination with the DSL and USACE are included in this task.
- Permit close-out inspection and reporting services will be provided under a separate contract or an amendment to this contract, if requested in the future.

3.4 SLOPES V Endangered Species Act Compliance Documentation

Consultant will determine if programmatic ESA compliance processes such as the Standard Local Operating Procedures for Endangered Species (SLOPES V) programmatic Biological Opinion can be used for project ESA compliance. If programmatic ESA compliance cannot be obtained for the project, consultant will prepare a Biological Assessment (BA) to initiate individual consultation with the National Marine Fisheries Service (NMFS).

Assumptions

- The project will not result in impacts on federally listed wildlife or plant species.
- Use of the SLOPES V programmatic ESA compliance process will be determined shortly after the 30% design milestone.
- SLOPES V transportation project compliance standards will not change during project design and construction.
- If the project does not qualify for SLOPES V programmatic ESA compliance, preparation of a BA and individual ESA consultant with NMFS will be required.
- Coordination with NMFS will be conducted via telephone and email transmittals. A site visit or meeting with NMFS will not be required.
- Fieldwork for this task will be completed during Task 3.1.
- SLOPES V documentation will be submitted to the USACE with the project JPA. USACE will deliver the SLOPES V documentation to NMFS for review.

3.5 Clackamas County Land Use

The project may require additional local permits such as compliance with County land use code requirements in addition to compliance with section 4.3 of the County's code discussed in this SOW. Consultant shall research local permit jurisdictional requirements and clarify the development review process with County Planning staff to confirm code compliance approval requirements and timelines. Consultant shall document local permit requirements in the design memorandum at the 30% design milestone under Task 8.7 that identifies:

- potential local jurisdictional requirements
- potential County development codes or rules triggered by the project,
- the County agency that is responsible for administration of the code or rules,
- specific permitting pathways for each development review requirement triggered, and
- code compliance/permit issuance timeline for each triggered code compliance requirement.

The memorandum will be used to confirm specific local land use compliance requirements and other potential permits once preliminary design is completed.

Assumptions

- The existing Clackamas County DTD 1200-CA permit will address erosion control requirements.
- A Stream Conservation Area Review (SCA) application will be required as part of this work.
- Up to four (2) total County Land Use permitting efforts may be needed to authorize the project (including the SCA application).
- Identification of specific local land use requirements will be made after completion of the local land use permitting requirements memorandum and 30% project design is complete.
- Payment of any local land use permit review fees will be the responsibility of the County.
- Consultant shall submit final local land use compliance documentation to County planning staff.

3.6 Washington County Land Use

This project will require land use approval from Washington County prior to construction. The actual review requirements for the application will depend on project design. For the purposes of this work scope, the application is assumed to be Type III/Category C application. Review requirements will be determined at a pre-application meeting with Washington County.

- Prepare for and attend Pre-application Meeting - Consultant shall prepare for and attend a pre-application review meeting with Washington County staff to review the project and confirm the category type and the submittal requirements. Up to three (3) consultant staff shall attend the meeting.
- Prepare Draft Application – Consultant shall prepare a draft development application that addresses the review requirements identified in the pre-application meeting notes. Review requirements are expected to include:
  - Washington County Rural/Natural Resource Plan (specific requirements to be outlined in pre-application meeting notes)
  - Washington County Transportation Plan (specific requirements to be outlined in the pre-application meeting notes)
  - Article VII of the Washington County Community Development Code (specific requirements to be outlined in the pre-application meeting notes; potential requirements include the following)
    - Section 701 (Intent and Purpose)
    - Section 705 (Category C Projects)
    - Section 707 (Alternative Analysis Review)
    - Section 708 (Submittal Requirements)
    - Section 709 (Alterations to Flood Plain and Drainage Hazard Areas)
    - Section 710 (Alterations to Significant Natural Resources)
    - Section 711 (Historical and Cultural Resources)
    - Section 712 (Pedestrian, Bicycle, and Transit Facilities)
    - Section 713 (Farm and Forest Impacts)
    - Section 714 (Additional Standards for Category A, B, C Projects)

Consultant shall submit the combined application (application and supporting information in appendices) to Washington County for review.

- Prepare Final Application and Submit - Upon receipt of comments from Washington County on the draft application, Consultant shall prepare a revised application and submit for 30-day completeness review by the Washington County Project Review Committee. Consultant shall revise the application to respond to comments received from the Project Review Committee completeness review.
- Prepare for and Attend Public Hearing - Assuming the project is considered a Type III/Category C project, Consultant shall attend and assist with a presentation in front of the Washington County hearings officer. A meeting will be held with Washington County staff in advance of the hearing to prepare. Existing graphics will be used, with minor modifications made if necessary. Up to three (3) Consultant staff will attend the hearing along with a County-provided land use attorney if needed.

Assumptions:

- The work conducted in Environmental Reconnaissance and Permitting tasks will support the development of the application; no new field surveys will be completed for this task.
- The pre-application review meeting could identify the need for additional work tasks not identified in this scope.
- The Project will be classified as a realignment project and would be permitted within the EFU Zone (no goal exceptions required).
- Land use zone AF5 may also be in the project vicinity.
- Washington County approval of the Article 7 permit within 120 days of draft application submittal.

3.7 Hazardous Materials

3.7.1 Hazardous Materials Corridor Study ("HMCS")

Consultant shall perform the HMCS within the Project Area of Project Impact ("API"), defined in section 2.1 above, and according to accepted environmental procedures as outlined in the Hazardous Waste Guide for Project Development (1990), by the *American Association of State Highway and Transportation Officials (AASHTO)* Special Committee on Environment, Archaeology and Historic Preservation, and the 2020 ODOT Hazardous Materials Program Procedures Guide available on the Agency website at:

https://www.oregon.gov/odot/GeoEnvironmental/Docs_GeologyGeotech/HazMat_Program_Manual.pdf

Consultant shall prepare the HMCS Report per the most recent version of the Level 1 Hazardous Materials Corridor Study report template.

Consultant shall:

- Review available federal and state environmental records for hazardous waste generators, documented leaking or permitted underground storage tanks ("USTs"), sites with known or suspected releases, landfill sites, and Superfund sites using government web-based databases or using a commercial database search report. Consultant shall use the search radii set forth in American Society for Testing and Materials ("ASTM") Standard E1527-21 for these database searches. Consultant shall review Oregon Department of Environmental Quality ("DEQ") files for all sites that could impact the Project corridor to determine the nature and extent of contamination.
- Subcontract with a traffic control subcontractor to provide traffic control during the site reconnaissance. (Traffic control plans will be developed and submitted as part of Task 6.)

- Conduct a site reconnaissance of the Project API that consists of systematically traversing the Project API and viewing adjacent properties from roadways and public access areas. Consultant shall include photographs documenting Project API observations in the HMCA Report. Consultant shall use the reconnaissance to identify potential sources of contamination that could impact the proposed Project during construction or that could result in Clackamas County acquiring contaminated property.
- Conduct historical research to assess past uses of the Project API and adjacent properties starting prior to 1920 and at approximately 10-year intervals to present time. Consultant shall note data gaps in the HMCSA Report. Consultant shall make recommendations for additional research if the historical resources are insufficient in describing the Project API land use history for the last 50 years. The historical research must include a review of historic aerial photographs and at least 1 or more of the following:
  - Topographic maps
  - Sanborn Fire Insurance maps
  - Historic property ownership/occupancy records
- Review Oregon Water Resources Department well log records to evaluate for the presence of monitoring wells and/or water supply wells within or adjacent to the API.
- Contact appropriate local Agency Maintenance and Engineering staff, as provided by Clackamas County and/or Washington County, to get an accounting and records relating to prior maintenance activities that have occurred in the Project Area that may relate to hazardous materials.
- Prepare an AASHTO Initial Site Assessment Checklist according to AASHTO guidelines. Consultant shall incorporate the checklist into the HMCS Report.
- Prepare a draft and final HMCA Report to include a description of field observations, information from state and federal environmental databases, DEQ file review information, historic land use, a scaled map showing the location of all identified potential sources of contamination and sample locations and depths (as applicable), photographs, copies of historic data, copies of state and federal databases, results of any testing, and any other relevant documentation. The HMCS Report must include conclusions that identify specific sources of contamination that could impact the Project or the proposed construction work, and recommendations for further investigation or remediation.

Consultant shall prepare a draft HMCS Report for client review and comment. Consultant shall prepare a final HMCS Report based on client review comments and acceptance of the draft document.

3.7.2 Shoulder Soil Investigation (CONTINGENCY)

Preliminary research indicated that portions of the Project area and surrounding properties historically were and currently are used for agricultural purposes. Residual pesticides and associated metals can accumulate in surface soil from routine pesticide applications on agricultural land, particularly in drainage features and other low-lying areas, as described in the Oregon Department of Environmental Quality (DEQ) Internal Management Directive titled *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production*, updated June 2019. Additionally, surface soil adjacent to roadways can contain contaminants from roadway runoff, including petroleum hydrocarbons and metals, as described in ODOT Directive GE 14-01(D) dated July 27, 2020.

While rarely present at concentrations greater than DEQ risk-based concentrations, surface soil associated with agricultural use or adjacent to roadways frequently contains contaminants at

concentrations greater than DEQ clean fill screening levels (SLs). Soil containing contaminants at concentrations greater than clean fill SLs cannot be managed as clean fill and, if excavated, must be disposed of at a Subtitle D landfill or other DEQ-approved location, including onsite reuse with DEQ approval. The purpose of the surface shoulder soil is to evaluate appropriate disposal options for shoulder soil that will be excavated during Project-related earthwork.

Consultant shall perform the following tasks to evaluate handling and disposal options for surface and near-surface shoulder soil within Project limits. This evaluation may involve the collection of surface and near-surface soil samples within the limits of the Project corridor for laboratory analysis. Comparison of the results of the analyses with the DEQ guidelines will determine whether surface and near-surface soil excavated for Project construction can be handled and disposed as clean fill.

Shoulder Soil Investigations must be completed in accordance with the ODOT HazMat Program Manual. Consultant shall prepare a Shoulder Soil Investigation Work Plan and a Health and Safety Plan (HASP) describing how to collect should soil samples under this task. The Shoulder Soil Investigation Work Plan must describe sample collection methods, sampling equipment, equipment decontamination, and handling and shipment of samples. Consultant shall complete the HASP in accordance with 29 CFR 1910.120, OAR 437-002-0100 *et seq.*, and all other state and federal worker health and safety regulations applicable for this task. The HASP must reflect the sampling and characterization activities described in the Shoulder Soil Investigation Work Plan. The HASP must cover the activities of all Consultant, subconsultant, and Agency employees. The HASP must include a traffic control plan, if needed.

The Consultant shall obtain all required permits before initiating fieldwork activities. Consultant shall submit the draft Work Plan/HASP for review and comment. No field work activities under this task shall proceed until after the Consultant has received written authorization (e-mail).

Consultant shall:

- Notify the Oregon one-call utility notification system to mark the locations of public utilities within the Project area.
- Subcontract with a traffic control contractor to provide flagging and traffic control during private utility locating and shoulder soil sampling activities.
- Subcontract with a private utility locating contractor to clear planned sampling locations of potential utility conflicts.
- Divide the Project area into eight sampling areas, including two sampling areas on SW 65th Avenue, two sampling areas on SW Elligsen Road, two sampling areas on SW Stafford Road south of SW 65th Avenue, and two sampling areas on SW Stafford Road north of SW 65th Avenue.
- In each sampling area, collect surface soil samples from three locations at depths from 0 to 0.5 feet below ground surface (bgs) and 1 to 1.5 feet bgs. Twelve surface soil samples will be collected from each sampling area, including six samples approximately 5 feet from the edge of the pavement or from drainage ditches, if present (three soil samples between 0 and 0.5 feet bgs and three samples between 1 and 1.5 feet bgs), and six samples approximately 10 feet from the edge of pavement (including three samples between 0 and 0.5 feet bgs and three samples from 1 to 1.5 feet bgs).
- Thoroughly homogenize the soil samples collected from each distance and depth interval to create four composite surface soil samples from each sampling area, including one

composite soil sample representative of soil between 0 and 0.5 foot bgs 5 feet from the edge of pavement, one composite soil sample representative of soil between 1 and 1.5 feet bgs 5 feet from the edge of pavement, one composite soil sample representative of soil between 0 and 0.5 foot bgs 10 feet from the edge of pavement, and one composite soil sample representative of soil between 1 and 1.5 feet bgs 10 feet from the edge of pavement.

- Submit the shoulder soil soil samples to Pace Analytical of Mt. Juliet, Tennessee (Pace) for analysis of the following:
  - diesel- and oil-range hydrocarbons by Northwest Method NWTPH-Dx
  - polycyclic aromatic hydrocarbons (PAHs) by US Environmental Protection Agency (EPA) Method 8270D SIM.
  - total agricultural 17 metals by EPA Methods 6020/7471.
  - organochlorine pesticides by EPA Method 8081.
- Summarize the results of the shoulder soil investigation in a technical memorandum, including site plans showing sample locations, data tables summarizing chemical analytical results, a discussion of field procedures, a comparison of analytical results relative to applicable regulatory criteria, and recommendations for handling and disposal of contaminated shoulder soil generated during construction.

3.7.3 Sample Collection and Reporting (CONTINGENCY)

The purpose of the surface soil and sediment evaluation is to evaluate agricultural portions of the Project area and sediment in the portions of Boeckman Creek within the Project area for the presence of residual pesticides and associated metals in general accordance with the Oregon Department of Environmental Quality (DEQ) Internal Management Directive titled *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production*, updated June 2019.

Consultant shall:

- Notify the Oregon one-call utility notification system to mark the locations of public utilities within the Project area.
- Subcontract with a private utility locating contractor to clear planned sampling locations of potential utility conflicts.
- Divide former agricultural portions of the Project area that will be graded during future construction into eight approximately equal-sized sample plots.
- In each sample plot, advance one hand-auger boring to a depth of 3 feet below ground surface (bgs).
- Collect three discrete soil samples from each hand-auger boring, including one soil sample from between 0 and 1 foot bgs, one soil sample from between 1 and 2 feet bgs, and one soil sample from between 2 and 3 feet bgs.
- The eight discrete soil samples from each depth interval will be placed into common, laboratory provided, certified clean jars, to create one jar from each depth interval.
- Backfill the hand-auger borings with the soil removed from each hand-auger boring.
- Submit the three sample jars to Pace Analytical for processing in general accordance with the 2020 Interstate Technology & Regulatory Council guidance, Incremental Sampling Methodology Update (ISM-2), dated October 2020.

- Collect up to six sediment samples from portions of Boeckman Creek within the API. Sediment samples will be collected from depths of between 0 and 0.5 feet bgs near the soi/surface water interface.
- Thoroughly homogenize the sediment samples to create two 3-point composite sediment samples.
- Submit the surface soil and sediment samples to Pace for analysis of organochlorine pesticides by EPA Method 8081 and agricultural 17 metals by EPA Method 6020.
- Summarize the results of the Surface Soil and Sediment Investigation in the Shoulder Soil Investigation report.

3.8 Special Provision Preparation (CONTINGENCY)

If contaminated shoulder soil or sediment are present within the Project area, consultant shall prepare special provisions for managing contaminated media. Specifically, consultant shall prepare ODOT Section SP00294 related to potential contaminated surface soil or sediment.

Assumptions

- Field activities for the Shoulder Soil Investigation will be conducted by two field personnel in two 8-hour days during normal working ours (i.e., 7:00 am to 6:00 pm, Monday through Friday).
- Up to three acres of agricultural land may be graded during Project construction.
- If conducted, field activities for the Surface Soil and Sediment Investigation will be conducted concurrently with the Shoulder Soil Investigation.
- If conducted, the results of the Surface Soil and Sediment Investigation will be summarized in the Shoulder Soil Investigation report.
- Analysis of soil and/or sediment samples collected under this task will be billed to Haley & Aldrich (as opposed to direct billing to ODOT).
- Preparation of a Contaminated Media Management Plan will not be required under this task.

3.9 Cultural Resource/Archaeological Survey

Consultant shall perform a cultural resource/archaeological survey of the selected Area of Potential Effect (APE). The work will be directed by Consultant archaeologists and architectural historians who meet the Secretary of the Interior's Standards and Guidelines in Archaeology and Historic preservation. The cultural resource survey will be done to meet federal, state, and local compliance. The study will be designed to meet the requirements of Section 106 of the National Historic Preservation Act, in anticipation of review by the USACE. The survey will also be done to meet the guidelines of the Oregon State Department of Historic Preservation (SHPO). No buildings or structures are known to be within the APE.

<u>Preliminary Review</u>

A cultural resource review of the APE will consist of a review of existing information on resources, possible resources, and prior studies; and a field reconnaissance. The deliverable will be a memo to support the preliminary design efforts and selection of the preferred alternative. The review will be performed to inform the selection of a preferred alignment for the road. The review will include the following sub-tasks.

- The background review will include cultural resource survey data and records on file with the State Historic Preservation Office (SHPO) and documents in Consultant's library,

including survey reports, historical maps (early USGS, regional, etc.) of the area, and General Land Office maps of the project area. The objective will be to identify recorded archaeological and historic resources and areas that have been previously surveyed for cultural resources.

- Consultant will conduct a reconnaissance by vehicle to assess the existing conditions for the alignment alternatives, and to determine if previously recorded resources may have been removed by developments over the past few years.
- For areas that have not been surveyed for archaeological or historic resources, Consultant will estimate the probability of encountering a significant resource using the research described above.
- The results will be summarized in a short technical memo. The location of any 'red flags' will be noted.

Cultural Resource Survey

After an alternative is selected, a cultural resource survey will be conducted to support the JPA and assumed resultant USACE jurisdiction of the entire project.

The archaeological fieldwork will include a pedestrian survey of the APE, walking each side of the road. If needed, up to 15 shovel tests will be excavated where ground-disturbing activities are anticipated to occur, to determine if an archaeological site is present. Consultant assumes there are no historic resources (i.e., buildings, structures, sites, objects, and districts constructed at least 45 years before the date of survey) within the APE. Up to one resource may be identified in the APE.

The tasks will include the following.

- Confirmation of the APE.
- Background review of the previous studies conducted in the vicinity (largely completed under the Alternatives Analysis task).
- A systematic pedestrian archaeological survey of the APE walking each side of the road, and within the proposed project disturbance limits.
- Shovel testing in places not previously impacted where intact archaeological deposits are suspected.
    - Up to 15 shovel tests may be excavated.
    - Shovel tests will be 12 inches (in) (30 centimeters [cm]) in diameter and excavated to a minimum depth of 20 in (50 cm).
    - If artifacts are encountered, SHPO archaeological site/isolate form(s) will be prepared and appended to the cultural resource technical report. It is assumed that up to one resource may be identified.
    - Artifacts will not be collected if found on the surface or if found during shovel testing on privately owned land.
    - On public land (county road right of way), shovel testing will require an archaeological excavation permit from the SHPO. Up to one permit may be obtained.
    - If artifacts are encountered, they must be collected, if found during excavations under a SHPO permit; artifacts from public land must be curated at the Oregon

Museum of Natural and Cultural History; up to 20 artifacts may be collected under a SHPO excavation permit.

The deliverable will be a cultural resource report. The report will be provided in draft; comments and questions will be addressed and a final report will be prepared.

If a permit from SHPO was needed for completion of shovel testing, the report will be submitted to SHPO to meet compliance with the permit. The USACE will submit the report for review and concurrence to meet Section 106 review.

3.10 Tree Assessment

Morgan Holen & Associates, LLC (MHA) will assess existing trees and collect inventory data including species, diameter, crown radius and general condition. The Consultant will utilize this information and arrange an on-site meeting with MHA and the County to evaluate individual trees concerning the proposed improvements. As 60% plans are finalized, the arborist will update the tree inventory to identify trees planned for removal and retention and draft tree protection specifications for the preservation of trees located in the proposed work areas and within Temporary Construction Easements.

***Task 3.0 – Deliverables**:*

- *Draft and Final Wetland Delineation Report*
- *Draft and Final Natural Resource Assessment Report and Stream Buffer Variance Application*
- *Draft and Final Clackamas County Stream Conservation Area Review application documentation*
- *Draft and Final SFAM assessment documentations for County review and inclusion in the project JPA (contingency)*
- *Draft and Final JPA for County review and submittal to USACE and DSL*
- *USACE 404 permit authorization/DSL Removal/Fill Authorization*
- *Draft and Final SLOPES V (or BA) documentation for County review and inclusion in the JPA*
- *Draft and Final Fish Passage Plan in ODFW format for County review and submittal to ODFW*
- *Draft and Final Clackamas County Land Use Permitting Requirements memo*
- *Up to two additional Draft and Final Clackamas County Land Use permit applications*
- *Draft and Final HMCA Report*
- *Draft Shoulder Soil Investigation Work Plan and HASP and APM within 4 weeks following NTP (contingency).*
- *Final Shoulder Soil Investigation Work Plan and HASP to REC and APM within 1 week following receipt of draft review comments. Consultant shall not proceed with any fieldwork activities under this task until after Consultant has received written authorization email from Agency (contingency).*
- *Draft SSI technical memorandum to REC and APM within 6 weeks following completion of Task 3.8.3 – Shoulder Soil Investigation Work Plan and HASP (contingency).*
- *Final SSI technical memorandum to REC and APM within 1 week following receipt of draft review comments (contingency).*
- *Submittal of Erosion and Sediment Control Management Plan to County*
- *Cultural Resource/Archaeological Alternatives Technical Memo*
- *Cultural Resource Report*
- *Meeting notes from the Washington County Land Use pre-application meeting*
- *Draft Article 7 development application, including the application document and required supporting documentation within 30 calendar days of pre-application meeting*

- *Final Article 7 development application, including the application document and required supporting documentation within 21 calendar days of receiving Washington County comments to the draft application*
- *Arborist Construction Recommendations*

Task 4.0 Stormwater / Hydraulics Related Services

4.1 Hydraulic Site Investigation

The purpose of this task is to identify existing information and field conditions. Consultant shall:

- Obtain the Flood Insurance Study ("FIS") report and if available the Flood Insurance Rate Map using the Federal Emergency Management Agency ("FEMA") web site.
- Review local floodplain ordinances to determine if applicable to Boeckman Creek. Permitting and mapping of the floodplain is excluded from this scope of work.
- Locate and obtain existing topographic maps of the tributary drainage basin.
- Utilize topographic field data and photographs to determine site conditions and physical properties needed to perform a hydraulic study.
- Visit the bridge/culvert Project site to observe site conditions, physical properties, and collect data needed to perform a thorough hydraulic study.
- Evaluate the site and determine survey data requirements for hydraulic analysis.
- Determine channel and floodplain hydraulic roughness values (document with photographs).
- Record observations with respect to the following:
  - Lateral channel stability.
  - Stream channel hydraulic roughness.
  - Aggradation or degradation of bed material.
  - Existing evidence of scour and/or erosion.

4.2 Hydrologic Analysis

The purpose of this task is to perform hydrologic analysis to determine appropriate flow rates for design of various Project elements. Consultant shall:

- Review Clackamas County specific hydrologic data sources to determine the most appropriate 2-, 10-, 25-, 50-, 100-, and 500-year design flows for the proposed Project.
- Delineate the tributary drainage basin utilizing available topographic maps to predict design flows.
- Analyze available stream gauge records to calculate flood frequency and flow duration values to support hydraulic analysis and design.
- In the absence of stream specific data, Consultant shall delineate the tributary drainage basin utilizing available topographic maps and utilize the regional regression equations described in the U.S. Geological Survey ("USGS") magnitude and frequency of floods in Western Oregon to predict design flows.
- Determine the temporary water management discharge estimates for the portion of the year when construction will take place to be used in temporary water management design recommendations and included in the technical specifications for the Project.
- Determine the fish passage high flow and fish passage low flow

4.3 Hydraulic Analysis

The purpose of this task is to perform a variety of hydraulic analyses in support of design and provide hydraulic design recommendations related to the culvert(s) conveying Boeckman Creek and associated tributaries within the project limits. Consultant shall:

- Simulate hydraulic conditions of the stream using Hydrologic Engineering Centers ("HEC")-River Analysis System ("RAS") (version 6.5) software.
- Create a model to simulate "Existing Conditions" at the proposed bridge site to determine current water surface profiles, velocities, depths, and flow area for the various design flows.
- Create a model to simulate "Natural Conditions" at the proposed bridge site to determine natural water surface profiles, velocities, depths, and flow area for the various design flows when there was not a bridge or culvert.
- Analyze the downstream conveyance system in conformance with County and/or SLOPES Programmatic Biological Opinion guidelines.

Culvert Hydraulics:

Consultant shall:

- Create a model for up to 2 alternatives to simulate "Proposed Culvert" at water way crossing to determine water surface profiles, velocities, depths, and flow area for the various design flows.
- Provide culvert size and material recommendation.
- Prepare Hydraulic data table.

Open Channel Hydraulics

Consultant shall:

- Design revetment and bank stabilization for up to 2 alternatives following Agency ODOT guidelines and the methods as described in FHWA publication HEC-11, Design of Riprap Revetment, and HEC-18, Evaluating Scour at Bridges.
- Evaluate hydraulic conditions under fish passage high flow and fish passage low flow, provide fish passage design recommendations, and demonstrate compliance with Oregon Fish Passage Laws (ORS 509.580 through 910).
- Develop a streambed material gradation recommendation and prepare a material specification.
- Provide waterway enhancement design recommendations for stream boulders, large woody debris, and/or bioengineered stream bank restoration.
- Perform calculations to predict the stability of waterway enhancements.

4.4 Hydraulics Report

The purpose of this task is to summarize the findings of the hydraulic related services and document the design recommendations. Consultant shall prepare a draft version of the Hydraulics Report per County CCDTD guidelines containing preliminary design recommendations for the hydraulic related services. At the discretion of the county, the Project may follow Water Environment Services guidelines rather than CCDTD guidelines.

Consultant shall prepare a final Hydraulics Report to reflect County review comments and to include changes to hydraulic related design recommendations that need to be modified due to advancement of the overall Project design.

4.5 Stormwater Management Design

The purpose of this subtask is to design stormwater systems for the conveyance and treatment of drainage in the Project.

Storm Sewer Conveyance

The purpose of this subtask is to provide design of stormwater conveyance facilities that collect and carry highway runoff in conformance with: 1) SLOPES Programmatic Biological Opinion and 2) any Agency requirements that are stricter than the Federal standards.

Consultant shall:

- Determine the locations of flow entering and leaving the Project right-of-way (R/W).
- Review existing conditions downstream of locations where flow is leaving the Project R/W for deficiencies and document observations.
- Delineate on-site drainage basins, calculate peak flow rates for design, model the proposed pipe network, and calculate hydraulic grade line to check that proper freeboard design requirements are being met.
- Check inlet capacity and inlet spacing, calculate gutter flow to check spread, and provide design recommendations for inlet locations.
- Provide design recommendations for pipe network, associated pipe sizes, pipe material recommendations, and manhole access design recommendations (i.e. - spacing, location within a travel lane, etc.).
- Provide manhole diameter design recommendations based upon analysis of pipe connections at each manhole.
- Compare pipe network against known utilities in the Project area and provide design recommendations to minimize utility conflicts or to adjust existing utilities.
- Provide Stormwater Outfall design and energy dissipator design recommendations in compliance with applicable Project permits.

Roadside Channel Conveyance

Consultant shall model ditches to calculate water surface elevation, depth, and velocity and provide channel lining design recommendations per HEC-15, Design of Roadside Channels with Flexible Linings.

Stormwater Quality Design

The purpose of this subtask is to provide design of stormwater management facilities that provide water quality treatment of highway runoff per Agency standards and/or Federal Aid Highway Program Programmatic Biological Opinion, whichever standard is most strict.

Consultant shall:

- Define Contributing Impervious area.
- Delineate on-site drainage subbasins.
- Identify treatment Best Management Practice (“BMP”) types applicable for the site.
- Identify potential locations to site facilities within and outside the existing R/W.
- Estimate facility size, type and space needs at each of the potential locations.
- Evaluate constraints to siting a stormwater facility (i.e.-drainage area, adjacent grades, roadway safety, presence of existing utilities, protected resource areas, etc.)

- Prepare up to 2 stormwater management strategies that combine potential stormwater facilities into a comprehensive solution for meeting the needs of the Project.
- Compare alternative stormwater management strategies and recommend a preferred strategy.

Stormwater Quantity Design

The purpose of this subtask is to provide design of stormwater management facilities that control quantity and flow rate of highway runoff per Agency standards and/or Federal Aid Highway Program Programmatic Biological Opinion, whichever standard is most strict.

Consultant shall:

- Define Contributing Impervious Area ("CIA").
- Delineate on-site drainage subbasins.
- Identify potential locations to site facilities within and outside the existing R/W.
- Estimate facility size, type and space needs at each of the potential locations.
- Evaluate constraints to siting a stormwater facility (i.e. drainage area, adjacent grades, roadway safety, presence of existing utilities, protected resource areas, etc.).
- Prepare up to 2 stormwater management strategies that combine potential stormwater facilities into a comprehensive solution for meeting the needs of the Project.
- Compare alternative stormwater management strategies and recommend a preferred strategy.
- Provide written design recommendations in the Stormwater Design report (Task 7.6) for:
  - Pipe network and associated pipe sizes
  - Manhole diameter
  - Pipe material recommendations
  - Channel Lining
  - Stormwater outfall
  - Energy dissipator
- Provide documentation in the Stormwater Design report (Task 4.6) for up to 2 stormwater management strategies and include a recommended preferred strategy.

4.6 Stormwater Design Report

The purpose of this task is to provide stormwater design recommendations and document the final stormwater facility design. Consultant shall prepare documentation per County and/or SLOPES Programmatic Biological Opinion guidelines. Consultant shall:

- Prepare a concept stormwater management plan that includes options for stormwater collection and conveyance to existing and proposed systems.
- Evaluate up to two (2) alternatives and summarize findings within a memorandum. Develop a conceptual cost estimate comparison between a Low Impact Development Approaches (LIDA) facility for water quality and detention and other similar BMP alternatives.

Consultant shall prepare a preliminary (prior to 60% plans) and final (with 90% plans) Stormwater Design Report to reflect County and regulatory agency review comments on stormwater facility design recommendations, changes to stormwater facility design due to advancement of the overall Project design and supporting documentation of the final stormwater facility design.

4.7 Stormwater Operation and Maintenance (O&M) Manual

The purpose of this task is to provide an Operations and Maintenance Manual documentation of all proposed stormwater management facilities so that the County has a record of the stormwater facilities that need to be as-built, operated and how to maintain them after the Project is constructed.

Consultant shall prepare up to one (1) Draft Operation and Maintenance ("O&M") Manual, documenting each stormwater BMP facility anticipated for the Project, per Chapter 4, Section 4.6.6 of the ODOT Hydraulics Manual (latest edition).

Consultant shall prepare operational plans as outlined in Technical Bulletin GE 16-01 (B) titled "Stormwater Control Facility Operation and Maintenance Plan Development Drafting Guidance".

***Task 4.0 Deliverables**:*

- *Concept Stormwater Management Plan With Cost Estimate Comparison (30%)*
- *Concept Stormwater Drainage Memorandum (30%)*
- *Preliminary Hydraulics and Stormwater Reports (prior to 60%)*
- *Final Hydraulics and Stormwater Design Reports (with 90%)*
- *Operations & Maintenance Manual (prior to 60%)*

Task 5.0 Utility Coordination

5.1 Utility Coordination

Consultant shall initiate coordination with utilities and incorporate utility provided relocation plans into the design documents. The locations and elevations of existing utilities and options for resolving conflicts shall be investigated. This work shall include working with the County and utility companies to "pothole" crossings and other areas to identify and eliminate conflicts. It is expected that potholing shall be provided by the utility companies. Once "potholing" data is obtained and mapped, the Consultant shall incorporate the data into any plan changes.

It is assumed that up to eight (8) utilities will require coordination.

Consultant shall:

- Develop a utility contact information list and email project information letters (in email format) to utility companies involved to explain the nature of the work.
- Prepare a Utility Conflict Spreadsheet and send utility conflict letters with 60% plans to the affected utility companies describing the conflicts that exist, and the required adjustment to eliminate the conflict. A spreadsheet of centerline reference points and elevations shall be provided to utility companies for use in excavating existing utilities (potholing) at points of potential conflicts. Consultant shall also provide the conflict list to an independent potholing service who shall provide quotes to the utilities and coordinate with the Project team to aid in gathering pothole data. The schedule for making the necessary adjustment ahead of the beginning of road construction shall be identified.
- Review pothole data provided by the utilities and make recommendations to the project design to minimize utility relocation.

- Prepare and send a Utility Relocation Letter of conflict with 60% plans for each utility notifying them of unavoidable conflicts with a mandatory relocation date.
- Organize and lead a group utility coordination meeting after 60% design.
- Conduct up to six coordination meetings with individual utilities.
- Provide survey utility staking of the conflict locations to aid utilities in potholing their facilities. Twelve two-person crew hours and six office hours are assumed.
- Provide 90% plans to each utility, perform ongoing coordination with utilities to resolve utility conflicts and finalize utility relocation requirements as appropriate.
- Provide County standard 60-day and 30-day utility notice letters (from anticipated start of construction).

***Task 5.0 Deliverables**:*

- *Utility contact list*
- *Utility Conflict Spreadsheet(s) and Letter(s)*
- *Utility Relocation Staking*
- *The final utility relocation plan(s) submitted to the County Project Manager (CPM) within 10 days after acceptance.*
- *Final Notice Letter(s) submitted to each utility and CPM 30 business days after submittal of 90% Plans to County.*

Task 6.0 Geotechnical, Geologic and Pavement Services

The County will obtain Rights of Entry (ROE) for field reconnaissance work. The Consultant will provide a list of properties requiring ROEs for research disciplines no less than eight (8) weeks before such ROE's are required to perform work on private parcels. Consultant shall provide County with an exhibit map for each property showing the approximate location of any invasive test sites on the property, e.g. anything more than minor shovel sampling, test pits, etc.

Consultant will conduct geotechnical field investigations to explore the subsurface conditions of embankments, retaining wall, and pavement rehabilitation and new pavement for widening and new roadway areas. Consultant will provide a Geotechnical Report summarizing and presenting the results of the investigation, analyses, and recommendations. Assessment of Material Sources and Disposal Sites is not included in these Services.

Consultant will complete the geotechnical and geological Services in accordance with County design standards, AASHTO, and FHWA. Consultant will summarize the findings in a Geotechnical Report. County shall provide relevant historic geotechnical reports and field investigation data from its prior work for inclusion with the Project Geotechnical Report.

6.1 **Site Reconnaissance, Exploration and Testing Work Plan**

Consultant will perform site reconnaissance. Consultant shall:

- Observe surface conditions indicative of subsurface conditions;
- Identify site constraints and staging concerns (for exploration and construction);
- Identify potential exploration locations;
- Attend up to two meetings with County or other parties to discuss, review, and ascertain site conditions relevant to the geotechnical project work.

The site reconnaissance will facilitate understanding of the site constraints for field explorations, construction, and traffic staging. Proposed boring locations will be staked or painted on the ground.

Prior to performing the site reconnaissance, consultant shall prepare a Traffic Control Plan (TCP). TCPs will be prepared by a flagging company licensed to work in the State of Oregon. TCPs will address a minor road encroachment as well as a single lane closure for activities associated with drilling exploratory borings from the roadway. Consultant shall submit the TCPs to the County for approval.

Consultant will perform two site visits as a part of the initial site reconnaissance. These site visits shall consist of an initial visit during which Consultant will walk the site to better understand field conditions and site access. During this preliminary visit, Consultant will also mark out tentative boring locations and submit utility locates through the One Call system. Consultant will then perform a second site walk with their exploration subcontractors in order to assess the planned exploration locations access, adjust exploration locations relative to access and proximity to utilities, and to perform the visual pavement assessment.

The visual pavement assessment will be performed in accordance with ODOT's Good-Fair-Poor (GFP) Pavement Condition Rating Manual and Distress Survey Manual. The primary goal will be to identify and map areas of severely distressed existing pavement to determine the cause of the distresses and to determine potential mitigation strategies. Mapping will identify surface manifestation of weak, poor, or failing subgrade, and locations of pavement failure such as longitudinal cracking or raveling; in addition, subsurface drainage conditions shall be assessed based on surface evidence. The mapped locations will be identified using a measuring wheel or GPS equipment with a minimum 3' foot precision.

Consultant will prepare an Exploration and Site Plan figure to show the proposed exploration locations and provide exploration TCPs. Consultant will submit the Exploration Plan and TCPs to the County for approval. Consultant will obtain ROW permit from the County.

6.2 Field Exploration and Laboratory Testing

Consultant will perform the geotechnical explorations and reconnaissance for pavement design and at stormwater facilities, embankments and retaining walls to evaluate subsurface conditions and develop geotechnical recommendations for the foundation designs as shown in the following table. Consultant will perform exploration work in accordance with Federal, State, and Local regulations. Consultant shall perform the subsurface exploration work in conformance with the ETWP as described in Task 6.1, utilizing appropriate subcontractors to conduct subsurface explorations and FWD testing. Consultant assumes local, state, or federal prevailing wages do not apply to the proposed work.

Subsurface Explorations: Consultant will perform geotechnical field explorations to determine the subsurface conditions for the express purpose of characterizing subsurface conditions within the project limits and determining the foundation and pavement design recommendations for the items listed in the table below.

STRUCTURE	EST # OF BORINGS	ESTIMATED BORING DEPTH

Embankment & Retaining Walls	4	Up to four borings to 15 to 25 feet below ground surface or 10 feet into rock, whichever comes first. No rock coring is assumed. (It is assumed these borings will be located in fields and not in the roadways.)
Culvert crossings	2	Up to two borings to 25 to 50 feet below ground surface or 10 feet into rock, whichever comes first. No rock coring is assumed. (It is assumed these borings will be located in fields and not in the roadways.)
Pavement design	4	Up to 8 feet below ground surface with pavement cores in the roadway
Wetland Areas	4	Wetland Areas

Falling Weight Deflectometer (FWD): Consultant will perform FWD testing at 200-foot spacing in the outside wheel path of each travel lane to measure existing pavement and subgrade stiffness. The 200-foot test interval spacing will be offset by 100 feet between adjacent lines therefore a test will be performed for each 100 feet of roadway.

TEST METHOD	EST # OF TESTS	TEST LOCATION(S)
FWD tests	15	On existing Stafford Rd
FWD tests	6	On existing 65th Ave
FWD tests	9	On existing Elligsen Rd

Exploration Assumptions: Exploration tasks include following. Consultant will:

- Obtain a drilling permits from Clackamas County and Washington County;
- The permit fee will be waived by the counties;
- Locate utilities in the vicinity of the proposed explorations by and through the One-Call system prior to the fieldwork;
  - Engage private utility locator to aid in the clearing of the explorations prior to excavation;
  - Where utilities may be close to the planned explorations, engage vac-truck to clear the upper 5 feet of the exploration and/or visually locate the utilities prior to exploration;
- Drill all borings with a truck or track-mounted drill rig using mud-rotary drilling techniques;
  - If rock that cannot be drilled is encountered above the target depth, switch to HQ-size core drilling;
  - Collect soil samples at 2.5-foot to 5-foot intervals using either a standard penetration sampler or a Shelby tube sampler.
  - Perform dynamic cone penetrometer (DCP) testing at up to 6 boring or pavement core explorations. DCP testing will extend to depths of up to 4 feet below grade.
- By and through the drilling subcontractor, drum and dispose of all cuttings offsite;

  - Notify the County immediately and place drill cuttings/fluids in separate drums, labeled with the boring #, depth, and date and transport drums to a location designated by the County, if contaminated soil/groundwater is encountered. The geotechnical investigation does not include any services related to environmental or hazardous materials;
- The field explorations will be performed during weekdays between 8 am and 6 pm;
- Provide traffic control for field explorations and FWD work. Traffic control for explorations will be consistent with requirements for shoulder and single lane closures, while temporary traffic control (rolling closures) for FWD will be required;
- Consultant shall provide an engineer or geologist to supervise the field operations and log the borings. Subsurface explorations must be conducted in general accordance with American Association of State Highway Transportation Officials (AASHTO).

Laboratory Testing: Consultant will conduct water contents, sieve analyses, pH levels, and Atterberg limits tests on select soil samples obtained from the explorations to classify the soils and estimate their engineering properties. If soft soils are encountered, consolidation and/or strength tests may be performed by Consultant to assist with the engineering studies. If rock cores are taken, then strength testing of core may be performed.

6.3 Geotechnical Data Review and Analysis

- Consultant will perform data review of existing data, and analyses of the collected field and laboratory test data to develop geotechnical recommendations for culvert, embankment, and retaining wall design and construction.

Data Review

- Consultant will review available existing information to evaluate the geologic and subsurface conditions, construction, and maintenance history of Stafford Road. Consultant will review available information from the following sources (as applicable and as provided by the County):
- Published geologic, geologic hazard, and soil maps;
- Published water well log reports;
- Existing published and unpublished literature from County records;
- Previous pavement and geotechnical reports from federal, city, County, or other officials, Consultants, groups, or individuals pertinent to the project;
- As-built roadway plans (as available); and
- Maintenance records.

Analysis

- The Consultant will provide the analysis and design for the foundation in accordance with County's design standard, FHWA, AASHTO, design guidelines. Geotechnical analysis will include:
- Evaluation of embankment stability and settlement;
- ;

- Evaluation of global stability of walls;
- Development of lateral earth pressures, sliding parameters, bearing resistance and settlement of retaining wall structures;
- Evaluation of seismic hazards, such as liquefaction, slope instability, strong ground shaking, etc.;
- Development of seismic design parameters;
- Development of design parameters associated with planned culverts walls and foundations;
- Drainage considerations;
- Earthwork considerations.

6.4 Geotechnical Report

Consultant shall prepare a Geotechnical Report summarizing the subsurface conditions, design, and construction recommendations. The Geotechnical Report must summarize the field observations, subsurface conditions, laboratory test data, analysis results, construction issues and geotechnical recommendations for the project. Consultant shall prepare the Geotechnical Report in accordance with the Geotechnical Report and Documentation requirements contained in the most current version of the ODOT Geotechnical Design Manual.

If needed, consultant shall provide special provisions relating to the foundation systems, settlement monitoring and mechanically stabilized earth walls. Special Provisions shall be per ODOT Standard Specifications format.

6.5 Asphalt Pavement Analysis and Report

Consultant shall conduct field investigations in Task 6.2 to explore the subsurface conditions of the existing roadway and conditions of the existing pavement, perform pavement rehabilitation analyses of the existing pavement section, perform pavement design for roadway widening sections, and provide a report which summarizes and presents the results of the investigation, analyses, and pavement recommendations. The results of pavement design for widening areas should be checked with County standard pavement section. Pavement recommendations and report will be included in Geotechnical Report, Task 6.4. A separate pavement design report will not be prepared.

Consultant shall develop pavement design criteria, design parameters, and pavement sections for an acceptable pavement design to be used in this application. Pavement rehabilitation design will be provided for existing roadway. Also, pavement design recommendations will be provided for the widening and new roadway sections based upon the borings located on the existing roadway. The results of pavement design for widening areas will be checked with County standard pavement section. The pavement design recommendations will use FWD and borings performed as part Task 6.2. Develop preliminary flexible pavement section recommendations for roadway widening sections with a design life of 20 years. Pavement section design will be performed in accordance with the current ODOT Pavement Design Guide, AASHTO Guide for Design of Pavement Structures, and applicable County requirements.

Assumptions:

- Life cycle cost analysis is not included.

- Portland Cement Concrete (PCC) pavement will not be included as a potential pavement option.
- Consultant will use traffic counts obtained in Task 7.1 and traffic growth rate to compute the equivalent 18-kip single axle loads (ESALs) within the project limits as required for the pavement design analysis.

***Task 6.0 Deliverables**:*

- *Exploration and Site Plan*
- *Draft and Final Geotechnical Report*

Task 7.0 Traffic Engineering and Alternatives Analysis

Traffic analysis will consider 3 alternatives for the intersection:

- 4-leg Roundabout
- 3-leg Roundabout with 65th teed into Elligsen
- 3-leg Roundabout with Elligsen teed into 65th

***7.1* Data Collection**

- Obtain the five (5) most recent years of crash data at the intersections of Stafford/65th and 65th/Elligsen.
- Obtain the current future traffic demand model from the County or Metro. It is assumed that if the model is required from Metro, the County will cover the cost of the model request.
- Obtain from recent projects within the study area existing turn movement counts and roadway network traffic volumes.
- Conduct a field visit of the study intersection during the weekday morning and evening peak periods to observe general conditions and traffic operations.

Assumptions:

- Metro traffic demand model request cost will be covered by the County.
- County will provide historic weekday morning and evening peak period traffic counts to include pedestrian counts, bicycle counts, and truck percent, at the following intersections:

  - Stafford Rd/65th Ave
  - 65th Ave/Elligsen Rd

- County will provide 24-hour bi-directional tube counts on Stafford Rd, 65th Ave, and Elligsen Rd within 500 feet of the intersection. The tube count will include hourly traffic volumes, vehicle classifications, and travel speeds.
- Clackamas County will provide all crash data and analysis.

***7.2* Traffic Operations Alternative Analysis**

Consultant will prepare a traffic analysis to support the County's final selection of intersection control for the study intersection identified above. Capacity analysis will be based on current Highway Capacity Manual 6th edition ("HCM") methodology.

Services will include:

- Conduct weekday AM and PM peak hour traffic analysis for existing traffic conditions at the study intersection identified above.
- Estimate the future traffic volumes based on growth rates provided by the County or as determined from the regional travel demand model provided by Metro.
- Conduct weekday AM and PM peak hour traffic analysis for future conditions (approximately 20 years) based on County's TSP.
- For the study intersection for future weekday AM and PM peak hour conditions, conduct:
    - a roundabout capacity analysis to determine the level-of-service, delays, V/C ratio, and recommended lane configurations.
- Summarize traffic operations analysis to be incorporated into the Intersection Control Evaluation Report (see Task 7.5).

7.3 Safety Performance Analysis

Consultant will prepare a Safety Performance Analysis to support the selection of intersection control and layout for the study intersection. Safety analysis will be based on the current Highway Safety Manual (HSM) Methodology. Consultant will evaluate historic crash data to identify trends or patterns in type or severity of the crashes, identify the trends related to the primary contributing factors and inform the design considerations. Analysis will include:

- Predicted crash frequency and severity of each intersection alternative.
- Safety analysis of each intersection alternative compared to each other (including a 'no-build' alternative).
- Summarize safety performance analysis to be incorporated into the Intersection Control Evaluation Report (see Task 7.5).

7.4 Alternatives Preliminary Design and Estimate

Consultant will review each of the intersection alternatives analyzed under Tasks 7.2 and 7.3 and determine the potential benefits and impacts associated with construction of the proposed alternative. Potential benefits and impacts to be considered include, but are not limited to, right-of-way needs, intersection capacity, access, safety, pedestrian crossing considerations, bicycle considerations, utility impacts, permitting and environmental impacts.

Consultant will prepare up to three (3) conceptual roundabout layouts and cost estimates corresponding to the alternatives analyzed under tasks 7.2 and 7.3.

Consultant will conduct performance checks consistent with National Cooperative Highway Research Program (NCHRP) *Report 1043: Guide for Roundabouts* methods. This includes considering design vehicles (assumed to be a WB-50 with accommodation for a WB-67, School bus, and fire truck), fastest path evaluations, and intersection and stopping sight distance. In this task, Consultant will modify the roundabout concept as needed to best achieve and optimize roundabout performance. This work will be summarized in the Intersection Control Evaluation Report (Task 7.5).

Consultant will analyze the lifecycle cost/benefit ratio as part of the intersection control evaluation. The lifecycle cost/benefit ratio will be analyzed based on the NCHRP Project 03-110 (Estimating the Life-cycle Cost for Intersection Designs) for each alternative including comparison of predicted safety using the Highway Safety Manual crash prediction models (per Task 7.3).

7.5 Traffic Analysis / Intersection Control Evaluation Report

This task will combine and summarize the work completed for Tasks 7.1 through 7.4 for the study intersection into a Draft Traffic Analysis/ Intersection Control Evaluation Report. Consultant will incorporate agency comments and submit a Final Traffic Analysis/ Intersection Control Evaluation Report.

Task Deliverables:

- Draft Traffic Analysis / Intersection Control Evaluation Report in PDF format.
- Final Traffic Analysis / Intersection Control Evaluation Report incorporating comments from the County in PDF format.
- Up to three (3) conceptual roundabout layouts and cost estimates.

Task 8.0 Preliminary Design (30%)

Consultant will apply the performance-based design approach as outlined in NCHRP Report 785 (Performance-Based Analysis of Geometric Design of Highway and Streets) for the Project. The stepped approach is generally described as follows:

1. Identify intended outcomes: Tasks 7.2 and 7.3 will identify the operational and safety needs of the study intersection. Additional outcomes for the project will be established in Task 8.
2. Establish geometric design decisions: Tasks 7.4 for the intersection and 8.1 and 8.2 for all locations will establish the Project's design decisions.
3. Evaluate performance outcomes: Tasks 7.4 and 7.5 will capture the performance of the study intersection and the overall Task 8 will evaluate the performance of the entire project.
4. Refine decisions based on performance: Steps 2 and 3 will be repeated and the performance will be compared with the intended outcomes identified in Step 1.
5. Assess financial feasibility: The Project costs will be refined in Task 8.6 as the design is being refined.
6. Select alternative: The preferred alternative for the study intersection will be documented in Task 7.5 and the entire project in Task 8.7.

8.1 Design Criteria

Consultant shall prepare draft and final design criteria. Design criteria shall be consistent with AASHTO's A Policy on Geometric Design of Highways and Streets; Clackamas County Transportation System Plan (TSP), and Clackamas County Roadway Standards. Consultant shall present the design criteria in a table or matrix format listing all conditions, assumptions and minimum standards for the roadway design elements of the Project. This includes the following:

- Determine design speed
- Determine sight distance considerations
- Determine cross slope, horizontal curves, and super-elevation
- Determine maximum grade, vertical curves
- Determine cross section elements:
- Number and width of travel lanes
- Shoulders
- Bikeways
- Medians
- Truck Aprons
- Design vehicles for turning templates and intersections
- ADA Curb Ramp configuration recommendations
- Guardrail criteria and length of need
- Retaining wall types and design parameters
- Culvert types and design parameters
- Stream preservation/restoration criteria

8.2 Horizontal and Vertical Alignments (30% submittal)

This task shall refine the preferred alternative resulting from the intersection control evaluation and will evaluated the design based on the design criteria to meet the overall project needs.

Consultant shall:

- Analyze the existing centerline geometry along Stafford Rd, 65th Ave, and Elligsen Rd for conformance with the design criteria developed in Task 8.1. For deficient elements with more than one improvement option, assess and provide up to two options for each deficient design element for up to five deficient elements. Assess options in conjunction with widening and realignment options. Consolidate chosen options into one horizontal and vertical alignment for the project.
- Collaborate with County staff to assist County in determining the overall preferred alternative.

8.3 Stormwater Conveyance Concept Alignment and Grade (30% submittal)

The Consultant shall develop conceptual drainage layout and profile grades for the preferred alternative. This shall validate the stormwater disposal locations and depth of the storm system. This shall also provide locations of potential utility conflicts and potholing needs. Consultant shall:

- Determine the locations of stormwater flow entering and leaving the Project right-of-way.

- Review existing conditions downstream of locations where flow is leaving the Project right-of-way for deficiencies and document observations.
- Delineate on-site drainage basins, calculate peak flow rates for design, model the proposed pipe network, and calculate hydraulic grade line to check that proper freeboard design requirements are being met.
- Check inlet capacity and inlet spacing, calculate gutter flow to check spread, and provide design recommendations for inlet locations.
- Provide design recommendations for pipe network, associated pipe sizes, pipe material recommendations, and manhole access design recommendations (i.e-spacing, location within a travel lane, etc.).
- Provide manhole diameter design recommendations based upon analysis of pipe connections at each manhole.
- Compare pipe network against known utilities in the Project area and provide design recommendations to minimize utility conflicts or to adjust existing utilities.
- Provide Stormwater Outfall design and energy dissipator design recommendations in compliance with applicable Project permits.
- Model ditches to calculate water surface elevation, depth, and velocity and provide channel lining design recommendations per HEC-15, Design of Roadside Channels with Flexible Linings.
- Identify treatment Best Management Practice (“BMP”) types applicable for the site.
- Identify potential locations to site facilities within and outside the existing right-of-way.
- Estimate facility size, type and space needs at each of the potential locations.
- Evaluate constraints to siting a stormwater facility (i.e.-drainage area, adjacent grades, roadway safety, presence of existing utilities, protected resource areas, etc.)

8.4 Retaining Wall Alternatives Analysis

Consultant shall evaluate retaining wall alternatives at needed locations. Consultant shall prepare a Type Size and Location report for walls along the corridor. It is assumed there shall be up to three separate wall types along the corridor. Wall types to be considered include cantilever concrete, gravity block, MSE, soldier pile and lagging, tie back retaining wall, and other feasible alternatives. The evaluation of each wall section will include an analysis of the wall to determine its dimensions, including footing size, wall thickness, or pile size and embedment length. The wall sections will also be analyzed for global stability, sliding, overturning, and soil bearing pressure.

Consultant shall document type, size, and location of each design alternative within the Design Memorandum including typical wall section, potential aesthetic treatments, and a construction cost. The recommended alternative will be identified at the conclusion of the report and shown conceptually in the 30% Strip Map.

Consultant shall design retaining walls in accordance with AASHTO Bridge Design Specifications and/ or applicable County Standards.

8.5 Culvert Alternatives Analysis

Consultant shall evaluate two culvert alternatives at two locations (four total culvert alternatives). The evaluation will consider staging, constructability, hydraulics, environmental impacts, and roadway geometry. Consultant shall also review different material options for the proposed culvert alternatives.

Consultant shall prepare a Type, Size and Location report for the culverts.

Consultant shall document type, size, and location of each design alternative within the Design Memorandum including typical section and a construction cost. The recommended alternative will be identified at the conclusion of the report and shown conceptually in the 30% Strip Map.

No plan sheets will be developed under this task.

8.6 Construction Estimate

Consultant shall develop approximate costs early in the 30% design process for use in decision-making. Consultant shall provide quantities and 30% construction cost estimate for the preferred alternative.

8.7 Design Memorandum

Consultant shall provide a 30% design memorandum summarizing the preferred alternative. The memorandum will reference the other applicable reports, memorandums, and documents supporting the preliminary design.

8.8 Design Exceptions

Consultant shall develop draft and final design exception memorandums for deviations in the design not meeting the design criteria. Consultant shall use County's template design exception form. It is assumed that up to five (5) design exceptions will be required for documentation with decisions made during the preliminary design process prior to submittal.

Task 8.0 Deliverables:

- *Draft design criteria electronically (one electronic copy in PDF form)*
- *Final design criteria electronically (one electronic copy in PDF form)*
- *30% Strip Map of Preferred Alternative (one electronic copy in PDF form)*
- *Cost Estimate (one electronic copy in PDF form and one copy in Excel form)*
- *Design Memorandum – Draft and Final (one electronic copy in PDF form)*
- *Draft (at 30%) and Final (at 60%) Design Exceptions. Note: Some Design Exceptions may be submitted up to the 90% Submittal (i.e., curb ramps and other elements that are detailed further in the design process).*
- *Retaining Wall Type, Size and Location (TS&L) Report*
- *Culvert Type, Size and Location (TS&L) Report*

Task 9.0 Public Involvement/Outreach

The Consultant will assist the County's community relations specialist with preparation of documents to be distributed or made available to the general public. All deliverables to be stamped "Preliminary Subject to Change"

Tasks related to public involvement include:

9.1 Open House

- Coordinating with the County's community relations specialist, County PM and County staff.
- Providing up to twelve (12) unique information boards to be used during open house and partner agency (Washington County and City of Wilsonville) meetings. Duplicate information boards to be provided that are translated to Spanish.

- Attend and participate in three (3) in-person open house meetings. Assume up to three (3) consultant staff will attend each meeting. County will coordinate and provide venue for meeting.

9.2 Virtual Open House

- Developing an online open house including:
- Develop a webpage designed to lead the viewer through the project with the ability to jump ahead or navigate back to the start. The webpage shall be designed to allow the user to scroll from top to bottom versus using button links to other pages as this helps lead the viewer through the project versus wandering from page to page. The virtual open house page will contain the following features:
- Title Screen – The webpage will contain a title screen containing project branding, title, and any contact information.
- Background – This page will contain text and/or graphics to provide project background.
- Project Design – Page containing design graphics and visual simulations.
- Public Feedback – Viewers will be able to view the different improvement features and provide feedback by clicking on the map and entering comments and other details in a form.
- Feedback Trends –Create a live infographic page providing summary details from public comments. This page will show the different trends based on the comments made in the map.
- Contacts – This page will contain contact information if viewers had additional questions.
- The Online Virtual Open House service will be created on and maintained using Consultant's web services. A link to the open house will be provided to post on the County's internal project webpage.
- Provide Spanish translation for webpage including image headings, captions, and text of webpage.
- Providing project graphics and information for inclusion on the County's website.

9.3 Outreach & Presentations

- Meet with individual property owners along the project. It is assumed that up to two (2) consultant staff will attend up to six (6) separate meetings with property owners.
- Attend and participate in one (1) in-person meeting with Washington County's Rural Road Operations and Maintenance District Advisory Committee.

9.4 3D Visualization

- Develop a fly-thru animation showing the corridor improvements of the preferred alternative. The County will have the opportunity to review the fly-thru animation before it is finalized. The animation will require the following tasks:
    - 3D Development –Utilize CAD design files and any other resources to develop a project 3D model and the surrounding areas. The 3D model will contain the following objects
        - Buildings – All buildings will be generic shapes without textures. The buildings will be used as background context.

        - Vegetation – Trees, plants, and grasses will be added to the scene and closely match the current conditions and/or landscape plans for the corridor
        - Street Collateral –Add key features such as signs, streetlights, etc. to the scene.
        - Pedestrians and Bicyclists
        - Automobiles

    - Texture and Environmental Conditions–Add realistic textures and lighting to objects in the project corridor. Additionally, utilize high-resolution aerial imagery as the base ground for the project and extended areas
    - Animation –Create a storyboard that helps define the desired message from the animation. Work with the team to define a corridor fly-thru path, camera views and the different types of interactions between vehicles, pedestrians, and cyclists that need to be captured along the corridor. Vehicle and pedestrian motion and volumes will be generic and not based on any simulation model. The animation length should be between 2 and 3 minutes long, and the video output will be in HD format (1920 x 1080).
    - Video Production –Post-process the animation to include the following
        - Title screen containing project branding, project title, and/or logos
        - Scene transitions
        - Exit screen
        - Video file format will be saved in an industry standard video file format

Task 9.0 Deliverables:

- *Public meeting information boards*
- *Project Corridor Fly-thru animation in HD format (1920 x 1080)*
- *Hosted website for up to three (3) Online Virtual Open Houses*
- *Virtual Open House graphics electronically in PDF format*
- *In-Person Open House boards (up to 12).*

Task 10.0 Final Design (60%, 90%, 100%, and Final Bid Ready) - Plans, Specifications, and Estimate (PS&E)

The Consultant will advance the recommended alternative from the Preliminary Design (30% design) stage to the Final Bid Ready stage.

Consultant shall:

- Conduct work sessions (per Task 1) with County staff to review comments for each submittal
- Complete engineering drawings for submittal to the County at 60%, 90%, 100%, and Final milestones and perform quality assurance and in-house independent design checks and plan review of all drawings and related quantities including constructability reviews. Plans will be drafted with the latest version of AutoCAD software and the final CAD drawings provided through an FTP site.
- Provide relevant plan drawings per the anticipated sheet list below for submittal to County for review. Drawings shall include sufficient information for review and bidding including ROW lines, alignments, elevations, etc. with the assumption that more detailed staking and layout information necessary for construction will be provided electronically to the Contractor after

notice of intent to award. Standard details and drawings will be attached at the end of the plan set without the need for a title block. Additional specific plan sheet requirements include:

- Index of Drawings: Provide a list of the standard details and drawings utilized with a link to the location where they can be found.
- Roadway Plan and Profile: Consultant shall prepare roadway construction plans in accordance with County design standards, AASHTO, and APWA Oregon Standard Specifications for Construction with ROW information shown as applicable.
- Roadway Cross Sections: Assumes cross sections prepared at intervals and/or at locations of interest for the proposed improvements. Sections will be prepared to display the existing ground, finish grade, subgrade, retaining walls, and right-of-way.
- Driveway Details: Assumes 1 driveway plan and profile per sheet.
- ADA Ramp/Intersection Details: Assumes 2 ADA ramps per sheet
- Drainage, Utilities & Grading Plans: Consultant shall prepare grading and drainage plans in accordance with County design standards. Drainage profiles will accompany the same sheet as the juxtaposed plan. Franchise utility (water, sewer, gas, underground communication, and underground power) relocation designs are excluded from the utility plans.
- Culvert: Consultant shall prepare culvert plans, profiles and details in accordance with County design standards.
- Erosion Control: Consultant shall prepare erosion control plans in accordance with the 1200-CA permit, which will require grading plans for each stage of work. ESCP Plans shall include:
    - Location and type of Best Management Practices (BMP) for erosion prevention, sediment control and runoff control for each phase of construction,
    - Perimeter controls, track out controls, stabilization measures,
    - Maintenance procedures for each BMP type,
    - Schedule for installation and duration of BMPs,
    - Seed mix, final stabilization – include 01030 special provision with ESCP, and
    - Sediment basin designs shall be stamped by a qualified professional and have calculations available.
- Retaining Walls: Up to 3 plan sheets are assumed for each wall. (Total of 9 wall plan sheets).
- Prepare Landscape Plans including roundabout center island treatment and native re-planting plan; assumes no irrigation system.
- Private Property Improvements as necessary to construct the roadway
- Temporary staging plans which may require a 3D analysis of each stage. Temporary staging plans may also require temporary traffic signal modification plans in accordance with County design standards and Oregon Standard Specifications for Construction.
- Temporary water management plans and details
- Temporary Traffic Control: Consultant shall prepare temporary traffic control plans in accordance with County design standards, the MUTCD, and Oregon Standard Specifications for Construction. Plans are anticipated to include staging plans, lane shifts, lane and shoulder widths, temporary barriers, delineation, and signing.
- Signing and striping plans: Consultant shall prepare signing and striping plans compliant with MUTCD and County Standards.
- Illumination plans: Consultant shall complete a detailed photometric analysis for the study intersection using AGI32 software. Light pole and luminaire types will be from the PGE approved equipment list. The lighting analysis results will be shown on the plan sheets.

Based on the light pole layout from the analysis, individual street lighting plans will be developed for the selected roundabout alternative.

- Calculate quantities and develop an engineer's construction cost estimate for submittal at each plan development milestone (60%, 90%, 100%, Final).
- Develop an anticipated construction schedule (90%, Final)
- Prepare relevant sections of specifications based on the current Oregon Standard Specifications for Construction. Produce special provisions for the project using standard ODOT boilerplate special provisions and County boilerplate special provisions to the specifications in Part 00100 – General Requirements (90%, Final).
- Revise and submit final Special Provisions based on comments received during County reviews.
- Review and respond to County provided comments at each milestone submittal. Make corrections as required by County and submit final plans to County (both documents and electronic copies).

The anticipated sheet count is as follows:

Name of Sheet	**Estimated # of Sheets**	**60% PS&E**	**90% PS&E**	**Final**
Title Sheet	1	X	X	X
Index of Drawings	1	X	X	X
Legend & Abbreviations	1	X	X	X
Typical Sections	6	X	X	X
Civil Details	6		X	X
Horizontal Control	3	X	X	X
Driveway Details	2	X	X	X
ADA Ramp Details	7		X	X
Roadway Plan and Profile Key Map	1	X	X	X
Roadway Plan and Profile (1"=40' full-size)	10	X	X	X
Roadway Cross Sections	2	X	X	X
Curb Line Profiles (1"=40' full-size)	5	X	X	X
Roundabout Details	3	X	X	X

Drainage, Utilities, and Grading Plan and Profiles (1”=40’ full-size)	10	X	X	X
Water Quality/Quantity Facility Grading	2	X	X	X
Drainage and Grading Details	4		X	X
Culvert #1 Temporary Water Management Plan	1	X	X	X
Culvert #1 Plan and Profile	1	X	X	X
Culvert #1 Channel Grading Details	1	X	X	X
Culvert #1 Wing Wall Details	1	X	X	X
Culvert #2 Temporary Water Management Plan	1	X	X	X
Culvert #2 Plan and Profile	1	X	X	X
Culvert #2 Channel Grading Details	1	X	X	X
Culvert General Details	2	X	X	X
Erosion Control Cover & Notes	1		X	X
Erosion Control Plans (1”=40’ full-size, stacked)	12		X	X
Erosion Control Details	2		X	X
Retaining Wall Layout Plan	1		X	X
Retaining Wall Plan and Profile (1”=40’ full-size)	6	X	X	X
Retaining Wall Details	3		X	X
Temporary Traffic Control Plans (1”=40’ full-size, stacked) (3 stages)	24	X	X	X
Temporary Traffic Control Details	2		X	X
Landscaping Plans (1”=40’ full-size, stacked)	4		X	X
Landscaping Details	2		X	X
Signing and Striping Plans (1”=40’ full-size, stacked)	8	X	X	X

Signing and Striping Details	4	X	X	X
Sign and Post Data Table	2		X	X
Illumination Plans (1"=30' full-size, stacked)	4	X	X	X
Illumination Legend & Details	2	X	X	X
Total Estimated Sheet Count	**150**	**102**	**150**	**150**

Consultant will provide services as described above for each deliverable per the following subtasks:

10.1 60% Design

Provide the following:

- 60% complete plans
- 60% engineer's cost estimate
- Specification outline of anticipated sections
- Comment matrix and responses to 30% design comments

10.2 90% Design

Provide the following:

- 90% complete plans
- 90% draft specifications
- 90% engineer's cost estimate
- Draft construction schedule

10.3 100% Design

Provide the following:

- 100% complete plans
- 100% draft specifications
- 100% engineer's cost estimate
- 100% construction schedule

10.4 Final Design

Provide the following:

- Final plans
- Final specifications
- Final engineer's estimate
- Final construction schedule

***Task 10.0 Deliverables (all electronic)**:*

- 60%, 90%, 100%, and Final Engineering Drawings (11”X17”)
- 90% and Final Construction Schedule
- 90%, 100%, and Final Specifications and Bid Schedule
- Documentation of 60%, 90%, and 100% review comments
- 60%, 90%, 100%, and Final Engineer’s Estimate
- Updated Comment/Response Log at each milestone
- Updated Roundabout design documentation figures (11”x17”) detailing associated truck turning templates, intersection sight distance and fastest path analysis according to NCHRP 672, 2nd Ed. at 60%, 90%, and Final.

11 Right-of-Way Research and Descriptions

11.1 Right-of-Way Research

County will provide right-of-way acquisition file numbers and provide a copy of chain of title from assessment and taxation and last vesting deed of record for all assigned files or provide a preliminary title report, if appropriate. Any other right-of-way, plat or property title information needed can be requested of County. Right-of-way appraisals, appraisal reviews, and acquisitions shall be performed by Washington County.

11.2 Right-of-Way Impact Maps and Special Exhibits for ROW Support

Consultant shall develop a ROW strip map for the project extents and individual ROW impact maps for each impacted taxlot. The maps will show existing and proposed Right-of-Way lines and permanent and temporary easement lines. ROW maps are to be provided to the ROW staff 4 weeks after receiving comments from the County on the 60% construction plans. ROW maps are to be updated as construction plans are updated and produced. Up to 4 additional exhibits for ROW Support will be provided a requested by the ROW Agent.

- Scale for the ROW maps, shall be in English units, the scale is to be an appropriate Engineering scale such as 1”=20’, 1”=40’, 1”=60’, 1”=100’.
- For each parcel, show map and tax lot number, site address, vested owner name and deed number, and file number.
  - Major improvements within the easement areas and within 25 feet of the outer most area of acquisition shall be shown. If no acquisition is being acquired for a particular parcel, then show major improvements 25 feet from the existing ROW line. (Examples of major improvements to be shown on the ROW map are: houses, outbuildings, driveways, fences and other miscellaneous features needed for determining Just Compensation.)

11.3 Right-of-Way Descriptions and Exhibit Maps

Consultant shall:

- Consultant shall develop and provide centerline description from one end of the project limits to the other on Stafford Road as well as for 65th Avenue and Elligsen Road in the realignment areas to be used by County with their Resolution of Necessity for the project. County will provide an example if needed. County will review and provide feedback to Consultant if needed. Consultant will make any necessary changes requested by County.
- Prepare ROW Maps and Legal Descriptions (Exhibits A and B) according to the guidelines and example provided by the County. County will review and provide feedback to Consultant if needed. Consultant will make any necessary changes requested by County. Maps and descriptions will be made on 8 1/2" x 11" paper. Written legal

description should be referenced as "Exhibit A" and the map as “Exhibit B”. Assumes up to eight Maps and Descriptions will be required. Each description will include the following:

- Exhibits shall be dated and stamped by a professional land surveyor licensed in the State of Oregon.
- Descriptions for the properties shall reference the last recorded deed by type of deed, owner’s name, book and page, and date recorded. This information is to be taken from the last vesting deed.
- Descriptions shall reference easements as “Permanent” i.e. (Permanent Right of Way for Road Purposes Easement, Permanent Slope Easement, Permanent Public Utilities Easement, Etc.) or as “Temporary” i.e. (Temporary Construction Easement, Temporary Mitigation Easement, Etc.).
- Descriptions shall reference ROW easements as Parcel 1 and other easements as subsequently numbered parcels. Multiple easements per Parcel are acceptable (e.g. Parcel 2- Permanent Slope and Public Utilities Easement, Parcel 3 - Temporary Construction Easement).
- Descriptions shall reference centerline stations on the map. Show the distance from the centerline to existing ROW line and from centerline to proposed ROW and/or easement line(s) on the parcel map.
- On each parcel map provide a legend showing with a hatch, the areas being acquired. Give the areas for each parcel in square feet. Note: Legend should be consistent from file to file. For example, a hatch used for a permanent slope easement would be the same for all files on the project.
- On each parcel map, provide file number, tax lot numbers, and last vesting deed number.
- Show north arrow, appropriate scale, project name, County project number and date exhibit was prepared.
- Feet are to be shown on all distances in “Exhibit B” (excluding centerline).
- All text shall be at minimum of 10-point font including logo, headers and footers in accordance with House Bill 2029.

11.4 Right-of-Way Staking

Consultant shall:

Stake proposed and existing ROW and easements for appraisals and acquisition process. Assumes staking will be completed in one trip for up to eight properties.

11.5 Right-of-Way Support

Consultant shall:

Attend property owner meetings with the ROW Agent to support the ROW Acquisition negotiations. 4 meetings are assumed.

Task 11.0 Deliverables:

- *Right-of-Way Strip Map (one strip map per plan submittal)*
- *Right-of-Way Impact Maps (one map per impacted taxlot for each submittal after 60%)*
- *Right-of-Way Legal Descriptions and Maps (8 files)*
- *Right-of-way Staking (8 files)*
- *Special Exhibits for ROW Support*

Task 12 Bid and Award Assistance

12.1 Bidding Support:

This task includes the preparation of up to two addenda, as needed, and responding to questions during the bidding phase. Consultant shall respond to questions from County and Construction Contractors about the plans and specifications during the bidding process.

Consultant's Project Manager, or Consultant's designee(s) approved by County, shall assist County with questions regarding the bid documents and bid process. Consultant shall respond to all questions in writing within 3 days to the CPM.

Consultant shall, during the bidding process, assist the County with the communications with Construction Contractors and suppliers in a manner that assures that no Construction Contractor or supplier is provided with information not in the bidding documents and that could provide a bidding advantage or disadvantage. Consultant shall prepare a written log to document conversations and questions asked by construction contractors or suppliers and the answers provided to the County. Consultant shall maintain the written log in the project file and provide upon request of the CPM.

Task 12.0 - Consultant Deliverables

- *Written log of conversations, questions and answers, provided to the CPM upon request.*
- *Up to two addenda*

REIMBURSABLE EXPENSES

The reimbursable budget estimate is based on our experience with this project type and the governing agencies. It is an estimate only. Additional budget may be necessary to complete the project.

Customary reimbursable expenses mean the actual expense incurred in direct connection with the project. Vehicle mileage is reimbursed at the current Internal Revenue Service (IRS) rate for project related travel.

The following project related expenses are reimbursed at cost:

- External Reproduction Services
- Travel Expenses, other than private vehicle mileage
- Express Postage
- Other Direct Expenses (survey filing fees; project specific supplies, etc.)

ASSUMPTIONS

The Consultant has made the following additional assumptions related to this project.

1. All permits and application fees shall be paid by Clackamas County, or as a reimbursable expense at cost.

COUNTY'S RESPONSIBILITIES

The County will:

1. Provide a project manager who is responsible for overall project development and management and for coordination between the Consultant and the County including coordination of review and comment by County staff on design deliverables.

2. Maintain records and process Consultant invoices.
3. Coordinate the relationship with adjacent property owners and with the general public.
4. Maintain and manage the public involvement mailing list and project press releases.
5. Provide County standard drawings and details when possible.
6. Provide as-built CAD files of recent construction projects.
7. Provide standard pavement sections for use in pavement design.
8. Assist in utilities coordination through attendance at coordination meetings and providing County templates for 60- and 30-day final notices.
9. Provide Consultant with digital copies of the County 00100 Special Provisions. County to prepare the front-end contract forms, prepare the bid-booklet, and provide legal review of the contracts and bid forms.
10. Advertise and manage the bidding process for construction

It is assumed for the purpose of developing this proposal that a pre-bid meeting will not be conducted. An allowance for two bid addenda is to be provided for.

NOTE: Construction management services are not included as part of this RFP and will not be included in the consultant contract for this project. The County may, at its discretion, decide to hire the successful proposer for these services under a separate, future contract.

3.2. WORK SCHEDULE

The County has prepared the following anticipated schedule for this project:

Item	Date
Notice to Proceed for Consultant (Estimated)	August 2024
Submit Final ROW Exhibit Maps and Descriptions	August 2025
Submit Final PS&E	December 2026
Solicit Construction Bids	February 2027
Begin Construction	May 2027

EXHIBIT B
FEE SCHEDULE

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
Kittelson & Associates
Fee Summary

	Task	*KAI* See Attached breakdown	*KPFF* See attached breakdown	*PHS* See attached breakdown	*3J* See attached breakdown	*H&A* See attached breakdown	*WCRA* See attached breakdown	*MHA* See attached breakdown	*Reimbursables*	Total
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**									
1.1	Project Management	$20,622.40				$7,688.00	$690.00		$0.00	$29,000.40
1.2	Project Coordination									
1.2.1	Project Kickoff meeting	$3,247.60							$0.00	$3,247.60
1.2.2	Bi-Monthly Team Meetings (14)	$19,215.25		$1,041.00	$364.00			$185.00	$0.00	$20,805.25
1.2.3	Bi-Weekly Coordination Meetings (56)	$26,471.76	$1,230.00	$1,388.00	$728.00	$3,258.00	$525.00	$370.00	$0.00	$33,970.76
1.2.4	Design Review Meetings (4)	$18,717.76							$369.84	$18,717.76
1.2.5	Project Scheduling	$4,892.96							$0.00	$4,892.96
	Total Hours	440.00	6.00	14.00	6.00	48.00	9.00	3.00		526.00
	Labor Cost	$93,167.73	$1,230.00	$2,429.00	$1,092.00	$10,946.00	$1,215.00	$555.00	$369.84	$110,634.73
	Total Cost This Task	**$93,167.73**	**$1,230.00**	**$2,429.00**	**$1,092.00**	**$10,946.00**	**$1,215.00**	**$555.00**	**$369.84**	**$110,634.73**
Task 2.0	**Field Investigations, Reports, and Studies**									
2.1	Topographic Survey	$5,174.64	$59,780.00						$0.00	$64,954.64
2.2	Horizontal Control, Monument Rec., and Pre-Con. ROS	$1,768.10	$45,950.00						$1,105.00	$47,718.10
	Total Hours	36.00	586.00							622.00
	Labor Cost	$ 6,942.74	$105,730.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,105.00	$112,672.74
	Total Cost This Task	**$6,942.74**	**$105,730.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$1,105.00**	**$112,672.74**
Task 3.0	**Environmental Reconnaissance & Permitting**									
3.1	Wetland Delineation & OHW Determination	$678.38		$12,366.00					$530.40	$13,044.38
3.2	Stream Assessement									
3.2.1	River and Stream Conservation Area	$0.00		$4,880.00					$0.00	$4,880.00
3.2.3	Fish Passage Plan	$13,971.76							$0.00	$13,971.76
3.3	Joint Permit Application	$6,155.48		$28,401.00					$990.00	$34,556.48
3.4	SLOPES V Endangered Species Act Compliance Document	$133.52		$4,490.00					$0.00	$4,623.52
3.5	Clackamas County Land Use	$2,687.96			$19,480.00				$0.00	$22,167.96
3.6	Washington County Land Use	$2,687.96			$26,160.00				$0.00	$28,847.96
3.7	Hazardous Materials								$0.00	$0.00
3.7.1	Hazardous Materials Corridor Study (HMCS)	$472.71				$10,179.00			$605.00	$10,651.71
3.8	Cultural Resource/Archaeological Survey	$133.52					$18,260.00		$26.80	$18,393.52
3.9	Tree Assessment	$133.52						$7,400.00	$80.40	$7,533.52
	Total Hours	138.50		343.00	320.00	61.00	140.00	40.00		1,042.50
	Labor Cost	$27,054.81	$0.00	$50,137.00	$45,640.00	$10,179.00	$18,260.00	$7,400.00	$2,232.60	$158,670.81
	Total Cost This Task	**$27,054.81**	**$0.00**	**$50,137.00**	**$45,640.00**	**$10,179.00**	**$18,260.00**	**$7,400.00**	**$2,232.60**	**$158,670.81**
Task 4.0	**Storm Water/Hydraulics Related Services**									
4.1	Hydraulic Site Investigation	$3,730.56							$0.00	$3,730.56
4.2	Hydrologic Analysis	$5,061.76							$0.00	$5,061.76
4.3	Hydraulic Analysis	$9,860.48							$0.00	$9,860.48
4.4	Hydraulics Report	$7,995.20							$0.00	$7,995.20
4.5	Stormwater Management Design									
4.4.1	Storm Sewer Conveyance	$4,930.24							$0.00	$4,930.24
4.4.2	Roadside Channel Conveyance	$4,930.24							$0.00	$4,930.24
4.4.3	Stormwater Quality Design	$11,468.56							$0.00	$11,468.56
4.4.4	Stormwater Quantity Design	$4,930.24							$0.00	$4,930.24
4.6	Stormwater Design Report	$18,652.80							$0.00	$18,652.80
4.7	Stormwater Operation & Maintenance Manual	$3,196.48							$0.00	$3,196.48
	Total Hours	394.00								394.00
	Labor Cost	$74,756.56	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$74,756.56
	Total Cost This Task	**$74,756.56**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$74,756.56**
Task 5.0	**Utility Coordination**									
5.1	Utility Coordination	$21,595.50	$3,930.00						$311.64	$25,525.50
	Total Hours	130.00	18.00							148.00
	Labor Cost	$21,595.50	$3,930.00	$0.00	$0.00	$0.00	$0.00	$0.00	$311.64	$25,525.50
	Total Cost This Task	**$21,595.50**	**$3,930.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$311.64**	**$25,525.50**

	Task	*KAI* See Attached breakdown	*KPFF* See attached breakdown	*PHS* See attached breakdown	*3J* See attached breakdown	*H&A* See attached breakdown	*WCRA* See attached breakdown	*MHA* See attached breakdown	*Reimbursables*	Total
Task 6.0	**Geotechnical and Geologic Services**									
6.1	Site Reconnaissance, Exploration and Testing Work Plan	$236.36				$18,661.00			$6,050.00	$18,897.36
6.2	Field Exploration and Laboratory Testing	$0.00				$19,023.00			$83,623.00	$19,023.00
6.3	Geotechnical Data Review and Analysis	$0.00				$18,948.00			$0.00	$18,948.00
6.4	Geotechnical Report	$678.38				$23,743.00			$0.00	$24,421.38
6.5	Asphalt Pavement Analysis and Report	$678.38				$4,552.00			$0.00	$5,230.38
	Total Hours	7.00				422.00				429.00
	Labor Cost	$1,593.12	$0.00	$0.00	$0.00	$84,927.00	$0.00	$0.00	$89,673.00	$86,520.12
	Total Cost This Task	**$1,593.12**	**$0.00**	**$0.00**	**$0.00**	**$84,927.00**	**$0.00**	**$0.00**	**$89,673.00**	**$86,520.12**
Task 7.0	**Traffic Engineering & Management**									
7.1	Traffic Data Collection	$1,865.28							$3,500.00	$1,865.28
7.2	Traffic Operations Alternatives Analysis	$8,126.72							$0.00	$8,126.72
7.3	Safety Performance Analysis	$2,530.88							$0.00	$2,530.88
7.4	Alternatives Preliminary Design & Estimate	$39,785.32							$0.00	$39,785.32
7.5	Traffic Analysis / Intersection Control Evaluation Report	$9,386.30							$0.00	$9,386.30
	Total Hours	324.00								324.00
	Labor Cost	$61,694.50	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3,500.00	$61,694.50
	Total Cost This Task	**$61,694.50**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$3,500.00**	**$61,694.50**
Task 8.0	**Preliminary Design**									
8.1	Design Criteria	$17,781.12							$0.00	$17,781.12
8.2	Horizontal and Vertical Alignments (30% submittal)	$16,607.84							$0.00	$16,607.84
8.3	Stormwater Conveyance Concept Alignment and Grade (30%	$10,979.76							$0.00	$10,979.76
8.4	Retaining Wall Alternatives Analysis	$7,999.60							$0.00	$7,999.60
8.5	Culvert Alternatives Analysis	$8,063.88							$0.00	$8,063.88
8.6	Construction Estimate	$7,309.88							$0.00	$7,309.88
8.7	Design Memorandum	$7,241.20							$0.00	$7,241.20
8.8	Design Exceptions	$10,173.56							$0.00	$10,173.56
	Total Hours	446.00								446.00
	Labor Cost	$86,156.84	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$86,156.84
	Total Cost This Task	**$86,156.84**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$86,156.84**
Task 9	**Public Involvement/Outreach**									
9.1	Open House	$18,000.48							$0.00	$18,000.48
9.2	Virtual Open House	$14,940.70							$0.00	$14,940.70
9.3	Outreach & Presentations	$9,208.72							$0.00	$9,208.72
9.4	3D Visualization	$23,745.20							$0.00	$23,745.20
	Total Hours	334.00								334.00
	Labor Cost	$65,895.10	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$65,895.10
	Total Cost This Task	**$65,895.10**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$65,895.10**

	Task	*KAI* See Attached breakdown	*KPFF* See attached breakdown	*PHS* See attached breakdown	*3J* See attached breakdown	*H&A* See attached breakdown	*WCRA* See attached breakdown	*MHA* See attached breakdown	*Reimbursables*	Total
Task 10	**Final Design (60%, 90% and 100% Bid Ready) Plans, Specifications, and Estimate (PS&E)**									
10.1	60% Design									
10.1.1	Roadway Construction Plans									
a	Cover Page, Legend	$1,218.22							$300.00	$1,218.22
b	Typical Sections	$3,324.88							$0.00	$3,324.88
c	Details	$5,088.80							$0.00	$5,088.80
d	Grading & Erosion Control Plan	$19,974.72							$0.00	$19,974.72
e	Detailed Grading	$30,150.52							$0.00	$30,150.52
f	Roadway Plan & Profile	$64,645.88							$0.00	$64,645.88
g	Storm Design	$14,197.20							$0.00	$14,197.20
h	Landscape Design	$14,954.86							$0.00	$14,954.86
i	Illumination Plans (w/ photometrics)	$12,589.68							$0.00	$12,589.68
10.1.2	Signing & Striping Plans	$20,921.52							$0.00	$20,921.52
10.1.3	Culvert & Wall Plans	$24,101.16							$0.00	$24,101.16
10.1.4	Construction Staging Plans	$21,010.40							$0.00	$21,010.40
10.1.5	Erosion Control Permit	$3,474.96							$0.00	$3,474.96
10.1.6	Earthwork Cross Sections & AMG Model Preparation	$5,906.00							$0.00	$5,906.00
10.1.7	Construction Specification Outline	$2,220.44							$0.00	$2,220.44
10.1.8	Construction Estimates	$5,822.60							$0.00	$5,822.60
10.1.9	Construction Schedule	$3,164.67							$0.00	$3,164.67
10.2	90% Design									
10.2.1	Update Roadway & Storm Plans	$48,770.54							$300.00	$48,770.54
10.2.2	Update Traffic Plans	$15,047.62							$0.00	$15,047.62
10.2.3	Draft Specifications	$7,651.76							$0.00	$7,651.76
10.2.4	Update Cost Estimate & Const. Schedule	$9,647.40							$0.00	$9,647.40
10.3	100% Design									
10.3.1	Update Roadway & Storm Plans	$29,346.99							$300.00	$29,346.99
10.3.2	Update Traffic Plans	$9,160.35							$0.00	$9,160.35
10.3.3	Update Specifications	$4,937.70							$0.00	$4,937.70
10.3.4	Update Cost Estimate & Const. Schedule	$6,616.22							$0.00	$6,616.22
10.4	Final Design									
10.4.1	Final Roadway & Storm Plans	$9,592.96							$300.00	$9,592.96
10.4.2	Final Traffic Plans	$3,273.08							$0.00	$3,273.08
10.4.3	Final Specifications	$1,912.94							$0.00	$1,912.94
10.4.4	Final Cost Estimate & Const. Schedule	$2,678.89							$0.00	$2,678.89
	Total Hours	2,355.00								2,355.00
	Labor Cost	$401,402.96	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,200.00	$401,402.96
	Total Cost This Task	**$401,402.96**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$1,200.00**	**$401,402.96**
Task 11	**ROW Acquisition**									
11.1	ROW Research	$0.00	$1,250.00						$0.00	$1,250.00
11.2	Right-of-Way Map & Impact Maps	$15,636.80	$0.00						$0.00	$15,636.80
11.3	Right-of-Way Descriptions & Exhibit Maps	$0.00	$10,880.00						$0.00	$10,880.00
11.4	ROW Staking	$0.00	$11,050.00						$0.00	$11,050.00
11.5	ROW Support	$15,126.72	$0.00						$0.00	$15,126.72
	Total Hours	148.00	126.00							274.00
	Labor Cost	$30,763.52	$23,180.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$53,943.52
	Total Cost This Task	**$30,763.52**	**$23,180.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$53,943.52**
Task 12	**Bid and Award Assistance**									
12.1	Bidding Support	$11,380.16							$250.00	$11,380.16
	Total Hours	56.00								56.00
	Labor Cost	$11,380.16	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$250.00	$11,380.16
	Total Cost This Task	**$11,380.16**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$250.00**	**$11,380.16**
PROJECT SUMMARY										
	Total Project Hours	4,808.5	736.0	357.0	326.0	531.0	149.0	43.0		6,950.5
	Total Salary Cost	$882,403.54	$134,070.00	$52,566.00	$46,732.00	$106,052.00	$19,475.00	$7,955.00		**$1,249,253.54**
	Reimbursables Subtotal	$ 5,631.48	$1,105.00	$1,520.40	$0.00	$90,278.00	$26.80	$80.40	$98,642.08	**$98,642.08**
	Total Fee	**$888,035.02**	$135,175.00	$54,086.40	$46,732.00	$196,330.00	$19,501.80	$8,035.40	$98,642.08	**$1,347,895.62**
PROJECT TOTAL										**$1,347,895.62**

* Rates shown above are for budgeting purposes only. Additional

	Contingency Tasks									
3.2.2	Stream and Wetland Function Assessment (CONTINGENCY)	$0.00		$10,252.00					$0.00	$10,252.00
3.7.2	Shoulder Soil Investigation (CONTINGENCY)	$1,089.72				$18,322.00			$17,390.00	$36,801.72
3.7.3	Surface Soil and Sediment Investigation (CONTINGENCY)	$1,089.72				$4,510.00			$2,250.00	$7,849.72
3.7.4	Special Provision Preparation (CONTINGENCY)	$678.38				$4,386.00			$0.00	$5,064.38
	Total Hours	13.00	0.00	69.00	0.00	276.00	0.00	0.00		358.00
	Labor Cost	$2,857.82	$0.00	$10,252.00	$0.00	$27,218.00	$0.00	$0.00	$19,640.00	$59,967.82
	Total Cost This Task	**$2,857.82**	**$0.00**	**$10,252.00**	**$0.00**	**$27,218.00**	**$0.00**	**$0.00**	**$19,640.00**	**$59,967.82**
PROJECT TOTAL W/ CONTINGENCY		**$ 890,892.84**	**$ 135,175.00**	**$ 64,338.40**	**$ 46,732.00**	**$ 223,548.00**	**$ 19,501.80**	**$ 8,035.40**	**$ 118,282.08**	**$1,407,863.44**

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
Kittelson & Associates
Fee Summary

	Task	$ 227.62 SL6 - Sr. Principal HJS	$ 267.04 SL5 - Principal / PM AMR	$ 205.67 SL3 - Sr. Engineer CEC	$ 205.67 SL3 - Sr. Engineer ARD	$ 166.40 SL2 - Engineer MLM	$ 267.04 SL5 - Principal Traffic WES	$ 166.40 SL2 - Engineer MRH	$ 267.04 SL5 - Principal Storm CXJ	$ 166.40 Engineer (Drainage) DEC	$ 267.04 Landscape Architect JPW	$ 142.23 Analyst DZS/CLF	$ 134.96 Tech II BSC	$ 107.96 Tech I KLS	$ 196.91 Sr. Tech SJR	*KAI* See Attached breakdown
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**															
1.1	Project Management		16.00	48.00										60.00		$20,622.40
1.2	Project Coordination															
1.2.1	Project Kickoff meeting		3.00	8.00					3.00							$3,247.60
1.2.2	Bi-Monthly Team Meetings (14)		21.00	35.00			12.00		12.00							$19,215.25
1.2.3	Bi-Weekly Coordination Meetings (56)		56.00	56.00												$26,471.76
1.2.4	Design Review Meetings (4)		16.00	24.00	8.00	16.00			12.00	12.00						$18,717.76
1.2.5	Project Scheduling		6.00	16.00												$4,892.96
	Total Hours	0.00	118.00	187.00	8.00	16.00	12.00	0.00	27.00	12.00	0.00	0.00	0.00	60.00	0.00	440.00
	Labor Cost	$0.00	$31,510.72	$38,460.29	$1,645.36	$2,662.40	$3,204.48	$0.00	$7,210.08	$1,996.80	$0.00	$0.00	$0.00	$6,477.60	$0.00	$93,167.73
	Total Cost This Task															**$93,167.73**
Task 2.0	**Field Investigations, Reports, and Studies**															
2.1	Topographic Survey		2.00	6.00	2.00	16.00				2.00						$5,174.64
2.2	Horizontal Control, Monument Rec., and Pre-Con. ROS		2.00	6.00												$1,768.10
	Total Hours	0.00	4.00	12.00	2.00	16.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	36.00
	Labor Cost	$ -	$ 1,068.16	$ 2,468.04	$ 411.34	$ 2,662.40	$ -	$ -	$ -	$ 332.80	$ -	$ -	$ -	$ -	$ -	$ 6,942.74
	Total Cost This Task															**$6,942.74**
Task 3.0	**Environmental Reconnaissance & Permitting**															
3.1	Wetland Delineation & OHW Determination		1.00	2.00												$678.38
3.2	Stream Assessement															
3.2.1	River and Stream Conservation Area															$0.00
3.2.3	Fish Passage Plan		2.00	8.00					16.00	40.00				8.00		$13,971.76
3.3	Joint Permit Application		2.00	4.00					8.00	16.00						$6,155.48
3.4	SLOPES V Endangered Species Act Compliance Documentation		0.50													$133.52
3.5	Clackamas County Land Use		2.00	4.00		8.00										$2,687.96
3.6	Washington County Land Use		2.00	4.00		8.00										$2,687.96
3.7	Hazardous Materials															
3.7.1	Hazardous Materials Corridor Study (HMCS)		1.00	1.00												$472.71
3.8	Cultural Resource/Archaeological Survey		0.50													$133.52
3.9	Tree Assessment		0.50													$133.52
	Total Hours	0.00	11.50	23.00	0.00	16.00	0.00	0.00	24.00	56.00	0.00	0.00	0.00	8.00	0.00	138.50
	Labor Cost	$0.00	$3,070.96	$4,730.41	$0.00	$2,662.40	$0.00	$0.00	$6,408.96	$9,318.40	$0.00	$0.00	$0.00	$863.68	$0.00	$27,054.81
	Total Cost This Task															**$27,054.81**
Task 4.0	**Storm Water/Hydraulics Related Services**															
4.1	Hydraulic Site Investigation								4.00	16.00						$3,730.56
4.2	Hydrologic Analysis								4.00	24.00						$5,061.76
4.3	Hydraulic Analysis								12.00	40.00						$9,860.48
4.4	Hydraulics Report								10.00	32.00						$7,995.20
4.5	Stormwater Management Design															
4.4.1	Storm Sewer Conveyance								6.00	20.00						$4,930.24
4.4.2	Roadside Channel Conveyance								6.00	20.00						$4,930.24
4.4.3	Stormwater Quality Design		6.00	24.00					6.00	20.00						$11,468.56
4.4.4	Stormwater Quantity Design								6.00	20.00						$4,930.24
4.6	Stormwater Design Report								20.00	80.00						$18,652.80
4.7	Stormwater Operation & Maintenance Manual								2.00	16.00						$3,196.48
	Total Hours	0.00	6.00	24.00	0.00	0.00	0.00	0.00	76.00	288.00	0.00	0.00	0.00	0.00	0.00	394.00
	Labor Cost	$0.00	$1,602.24	$4,936.08	$0.00	$0.00	$0.00	$0.00	$20,295.04	$47,923.20	$0.00	$0.00	$0.00	$0.00	$0.00	$74,756.56
	Total Cost This Task															**$74,756.56**
Task 5.0	**Utility Coordination**															
5.1	Utility Coordination		8.00	50.00		24.00								48.00		$21,595.50
	Total Hours	0.00	8.00	50.00	0.00	24.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00	0.00	130.00
	Labor Cost	$0.00	$2,136.32	$10,283.50	$0.00	$3,993.60	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5,182.08	$0.00	$21,595.50
	Total Cost This Task															**$21,595.50**

		$ 227.62	$ 267.04	$ 205.67	$ 205.67	$ 166.40	$ 267.04	$ 166.40	$ 267.04	$ 166.40	$ 267.04	$ 142.23	$ 134.96	$ 107.96	$ 196.91	
	Task	SL6 - Sr. Principal	SL5 - Principal / PM	SL3 - Sr. Engineer	SL3 - Sr. Engineer	SL2 - Engineer	SL5 - Principal Traffic	SL2 - Engineer	SL5 - Principal Storm	Engineer (Drainage)	Landscape Architect	Analyst	Tech II	Tech I	Sr. Tech	*KAI* See Attached breakdown
		HJS	AMR	CEC	ARD	MLM	WES	MRH	CXJ	DEC	JPW	DZS/CLF	BSC	KLS	SJR	
Task 6.0	**Geotechnical and Geologic Services**															
6.1	Site Reconnaissance, Exploration and Testing Work Plan		0.50	0.50												$236.36
6.2	Field Exploration and Laboratory Testing															$0.00
6.3	Geotechnical Data Review and Analysis															$0.00
6.4	Geotechnical Report		1.00		2.00											$678.38
6.5	Asphalt Pavement Analysis and Report		1.00	2.00												$678.38
	Total Hours	0.00	2.50	2.50	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
	Labor Cost	$0.00	$667.60	$514.18	$411.34	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,593.12
	Total Cost This Task															**$1,593.12**
Task 7.0	**Traffic Engineering & Management**															
7.1	Traffic Data Collection						2.00	8.00								$1,865.28
7.2	Traffic Operations Alternatives Analysis						8.00	36.00								$8,126.72
7.3	Safety Performance Analysis						2.00	12.00								$2,530.88
7.4	Alternatives Preliminary Design & Estimate		12.00	60.00		96.00	16.00	24.00								$39,785.32
7.5	Traffic Analysis / Intersection Control Evaluation Report		2.00	10.00		4.00	8.00	24.00								$9,386.30
	Total Hours	0.00	14.00	70.00	0.00	100.00	36.00	104.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	324.00
	Labor Cost	$0.00	$3,738.56	$14,396.90	$0.00	$16,640.00	$9,613.44	$17,305.60	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$61,694.50
	Total Cost This Task															**$61,694.50**
Task 8.0	**Preliminary Design**															
8.1	Design Criteria		8.00	24.00	8.00	24.00	8.00		4.00	8.00	2.00					$17,781.12
8.2	Horizontal and Vertical Alignments (30% submittal)		4.00	24.00		40.00	2.00					24.00				$16,607.84
8.3	Stormwater Conveyance Concept Alignment and Grade (30% submittal)		4.00	8.00					16.00	24.00						$10,979.76
8.4	Retaining Wall Alternatives Analysis		2.00	4.00	24.00							12.00				$7,999.60
8.5	Culvert Alternatives Analysis		2.00	4.00	8.00				4.00	24.00						$8,063.88
8.6	Construction Estimate		2.00	16.00	4.00	16.00										$7,309.88
8.7	Design Memorandum		2.00	8.00		24.00	4.00									$7,241.20
8.8	Design Exceptions		2.00	20.00		30.00	2.00									$10,173.56
	Total Hours	0.00	26.00	108.00	44.00	134.00	16.00	0.00	24.00	56.00	2.00	36.00	0.00	0.00	0.00	446.00
	Labor Cost	$0.00	$6,943.04	$22,212.36	$9,049.48	$22,297.60	$4,272.64	$0.00	$6,408.96	$9,318.40	$534.08	$5,120.28	$0.00	$0.00	$0.00	$86,156.84
	Total Cost This Task															**$86,156.84**
Task 9	**Public Involvement/Outreach**															
9.1	Open House		8.00	32.00		48.00								12.00		$18,000.48
9.2	Virtual Open House		2.00	2.00		12.00	24.00							8.00	24.00	$14,940.70
9.3	Outreach & Presentations		16.00	24.00												$9,208.72
9.4	3D Visualization		2.00	8.00		16.00									96.00	$23,745.20
	Total Hours	0.00	28.00	66.00	0.00	76.00	24.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	120.00	334.00
	Labor Cost	$0.00	$7,477.12	$13,574.22	$0.00	$12,646.40	$6,408.96	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,159.20	$23,629.20	$65,895.10
	Total Cost This Task															**$65,895.10**
Task 10	**Final Design (60%, 90% and 100% Bid Ready) Plans, Specifications, and Estimate (PS&E)**															
10.1	60% Design															
10.1.1	Roadway Construction Plans															
a	Cover Page, Legend		1.00	2.00									4.00			$1,218.22
b	Typical Sections		1.00	8.00				2.00					8.00			$3,324.88
c	Details		1.00			12.00				4.00			16.00			$5,088.80
d	Grading & Erosion Control Plan		2.00	24.00		40.00						40.00	16.00			$19,974.72
e	Detailed Grading		1.00	20.00		80.00						80.00	8.00			$30,150.52
f	Roadway Plan & Profile		12.00	80.00		120.00						100.00	80.00			$64,645.88
g	Storm Design		1.00	4.00						48.00		36.00				$14,197.20
h	Landscape Design		1.00	2.00						2.00	32.00		40.00			$14,954.86
i	Illumination Plans (w/ photometrics)			8.00			4.00	32.00				32.00				$12,589.68
10.1.2	Signing & Striping Plans		2.00	8.00			8.00	40.00				32.00	40.00			$20,921.52
10.1.3	Culvert & Wall Plans				60.00				8.00	24.00		32.00	8.00			$24,101.16
10.1.4	Construction Staging Plans		6.00				8.00	60.00					54.00			$21,010.40
10.1.5	Erosion Control Permit		2.00	8.00										12.00		$3,474.96
10.1.6	Earthwork Cross Sections & AMG Model Preparation		1.00	8.00		24.00										$5,906.00
10.1.7	Construction Specification Outline		2.00	4.00										8.00		$2,220.44
10.1.8	Construction Estimates		2.00	4.00		8.00		8.00		4.00		8.00				$5,822.60
10.1.9	Construction Schedule		8.00	2.00	3.00											$3,164.67
10.2	90% Design															
10.2.1	Update Roadway & Storm Plans		6.00	39.00	16.00	72.00	0.00	1.00	3.00	21.00	9.00	75.00	47.00	0.00		$48,770.54
10.2.2	Update Traffic Plans		3.00	5.00	0.00	0.00	6.00	35.00	0.00	0.00	0.00	17.00	25.00	0.00		$15,047.62
10.2.3	Draft Specifications		12.00	4.00	4.00		4.00			4.00	4.00					$7,651.76
10.2.4	Update Cost Estimate & Const. Schedule		2.00	12.00	8.00	4.00	2.00	8.00		8.00		8.00				$9,647.40
10.3	100% Design															
10.3.1	Update Roadway & Storm Plans		4.00	23.00	10.00	42.00	0.00	1.00	2.00	13.00	6.00	44.00	28.00	0.00		$29,346.99
10.3.2	Update Traffic Plans		2.00	3.00	0.00	0.00	4.00	21.00	0.00	0.00	0.00	10.00	15.00	0.00		$9,160.35

	Task	SL6 - Sr. Principal	SL5 - Principal / PM	SL3 - Sr. Engineer	SL3 - Sr. Engineer	SL2 - Engineer	SL5 - Principal Traffic	SL2 - Engineer	SL5 - Principal Storm	Engineer (Drainage)	Landscape Architect	Analyst	Tech II	Tech I	Sr. Tech	*KAI* See Attached breakdown
		$ 227.62	$ 267.04	$ 205.67	$ 205.67	$ 166.40	$ 267.04	$ 166.40	$ 267.04	$ 166.40	$ 267.04	$ 142.23	$ 134.96	$ 107.96	$ 196.91	
		HJS	AMR	CEC	ARD	MLM	WES	MRH	CXJ	DEC	JPW	DZS/CLF	BSC	KLS	SJR	
10.3.3	Update Specifications		6.00	3.00	3.00	0.00	3.00	0.00	0.00	3.00	3.00	0.00	0.00	0.00		$4,937.70
10.3.4	Update Cost Estimate & Const. Schedule		2.00	8.00	5.00	3.00	2.00	5.00	0.00	5.00	0.00	5.00	0.00	0.00		$6,616.22
10.4	Final Design															
10.4.1	Final Roadway & Storm Plans		2.00	7.00	3.00	13.00	0.00	1.00	1.00	4.00	2.00	14.00	9.00	0.00		$9,592.96
10.4.2	Final Traffic Plans		1.00	1.00	0.00	0.00	2.00	7.00	0.00	0.00	0.00	3.00	5.00	0.00		$3,273.08
10.4.3	Final Specifications		3.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00		$1,912.94
10.4.4	Final Cost Estimate & Const. Schedule		1.00	3.00	2.00	1.00	1.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00		$2,678.89
	Total Hours	0.00	87.00	291.00	115.00	419.00	45.00	223.00	14.00	143.00	57.00	538.00	403.00	20.00	0.00	2,355.00
	Labor Cost	$0.00	$23,232.48	$59,849.97	$23,652.05	$69,721.60	$12,016.80	$37,107.20	$3,738.56	$23,795.20	$15,221.28	$76,519.74	$54,388.88	$2,159.20	$0.00	$401,402.96
	Total Cost This Task															**$401,402.96**
Task 11	**ROW Acquisition**															
11.1	ROW Research															$0.00
11.2	Right-of-Way Map & Impact Maps		4.00	32.00		48.00										$15,636.80
11.3	Right-of-Way Descriptions & Exhibit Maps															$0.00
11.4	ROW Staking															$0.00
11.5	ROW Support		32.00	32.00												$15,126.72
	Total Hours	0.00	36.00	64.00	0.00	48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	148.00
	Labor Cost	$0.00	$9,613.44	$13,162.88	$0.00	$7,987.20	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$30,763.52
	Total Cost This Task															**$30,763.52**
Task 12	**Bid and Award Assistance**															
12.1	Bidding Support		8.00	24.00	8.00	8.00		4.00		4.00						$11,380.16
	Total Hours	0.00	8.00	24.00	8.00	8.00	0.00	4.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	56.00
	Labor Cost	$0.00	$2,136.32	$4,936.08	$1,645.36	$1,331.20	$0.00	$665.60	$0.00	$665.60	$0.00	$0.00	$0.00	$0.00	$0.00	$11,380.16
	Total Cost This Task															**$11,380.16**
PROJECT SUMMARY																
	Total Project Hours	0.0	349.0	921.5	179.0	857.0	133.0	331.0	165.0	561.0	59.0	574.0	403.0	156.0	120.0	4,808.5
	Total Salary Cost	$0.00	$55,944.88	$90,906.14	$12,751.54	$39,603.20	$7,477.12	$665.60	$40,323.04	$69,555.20	$534.08	$5,120.28	$0.00	$7,341.28	$0.00	$882,403.54
	Reimbursables Subtotal															$ 5,631.48
	Total Fee	$0.00	$93,196.96	$189,524.91	$36,814.93	$142,604.80	$35,516.32	$55,078.40	$44,061.60	$93,350.40	$15,755.36	$81,640.02	$54,388.88	$16,841.76	$23,629.20	**$888,035.02**
PROJECT TOTAL																
	Contingency Tasks															
3.2.2	Stream and Wetland Function Assessment (CONTINGENCY)															$0.00
3.7.2	Shoulder Soil Investigation (CONTINGENCY)		1.00	4.00												$1,089.72
3.7.3	Surface Soil and Sediment Investigation (CONTINGENCY)		1.00	4.00												$1,089.72
3.7.4	Special Provision Preparation (CONTINGENCY)		1.00	2.00												$678.38
	Total Hours	0.00	3.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.00
	Labor Cost	$0.00	$801.12	$2,056.70	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,857.82
	Total Cost This Task															**$2,857.82**
PROJECT TOTAL W/ CONTINGENCY																**$ 890,892.84**

* Rates shown above are for budgeting purposes only. Additional staff may be added at the contract negotiated billing rates at the time services are performed.

Consulting Firm: Kittelson
Schedule A Reimbursable Estimate

Task #	Description	Firm	Basis of Estimate	Total
	Task 1 - Project Management			***$ 369.84***
1.2.4	PMT Meetings	KAI	12 monthly PMT, 46mi RT	$ 369.84
	Task 2 - Field Investigations			***$ 1,105.00***
2.2	WashCo Survey Filing Fee	KPFF	Stated Fee	$ 455.00
2.2	ClackCo Survey Filing Fee	KPFF	Stated Fee	$ 450.00
2.2	Printing & Delivery	KPFF	Estimated	$ 200.00
	Task 3 - Environmental Reconnaissance & Permitting			***$ 21,872.60***
3.1	Field Investigation	PHS	40mi RT x 3 trips	$ 80.40
3.1	USACE Delineation	PHS	Stated Fee	$ 450.00
3.3	DSL JPA Application	PHS	Stated Fee	$ 990.00
3.7.1	EDR & UofO Photos	H&A	Stated Fee	$ 510.00
3.7.1	Field Truck	H&A	1-day	$ 95.00
3.7.2	Traffic Control (Contingency)	H&A2	Traffic control for shoulder sampling.	$ 7,700.00
3.7.2	Private Utility Locates (Contingency)	H&A2	Utility locates for shoulder sampling.	$ 800.00
3.7.2	Analytical Testing (Contingency)	H&A2	Analytical testing for shoulder sampling	$ 8,100.00
3.7.2	Field Truck (Contingency)	H&A2	Daily field truck rental.	$ 190.00
3.7.2	Field Equipment (Contingency)	H&A2	Sampling field supplies.	$ 600.00
3.7.3	Private Utility Locates (Contingency)	H&A2	Utility locates for surface soil sampling.	$ 500.00
3.7.3	Analytical Testing (Contingency)	H&A2	Analytical testing for surface soil/sediment sampling	$ 1,750.00
3.8	Field visit	WCRA	40mi RT	$ 26.80
3.90	Field visit	MHA	40mi RT x 3 trips	$ 80.40
	Task 5 - Utility Coordination			***$ 311.64***
5.1	Printing & Delivery	KAI	Estimated	$ 250.00
5.1	Mileage	KAI	46 Miles RT x 2	$ 61.64
	Task 6 - Geotechnical & Geologic Services			***$ 89,673.00***
6.1	Traffic Control Plans	H&A	Preparation of multiple traffic control plans.	$ 2,200.00
6.1	Traffic Control Subcontractor	H&A	Traffic Control for initial site visit/pavement assessment.	$ 3,850.00
6.2	Traffic Control Subcontractor	H&A	Traffic Control for utilities site walk with driller and locator.	$ 4,950.00
6.2	Traffic Control Subcontractor	H&A	Traffic Control for final pre-drilling site visit and utility conflict check.	$ 2,000.00
6.2	Field Truck	H&A	Daily field truck rental.	$ 855.00
6.2	Field Supplies	H&A	Drilling field supplies.	$ 168.00
6.2	Drilling Subcontractor	H&A	Up to 5 days of drilling and 1 day of vaccum truck.	$ 37,500.00
6.2	Traffic Control Subcontractor	H&A	Up to 2 days of traffic control for geotechnical drilling.	$ 7,700.00
6.2	FWD Testing (HWA Global)	H&A	FWD testing and data processing	$ 18,000.00
6.2	Traffic Control Subcontractor	H&A	Traffic Control for FWD testing	$ 3,850.00
6.2	Laboratory Testing	H&A	Geotechnical laboratory testing	$ 8,000.00
6.2	GPS Unit	H&A	GPS unit for field locating borings and other features during recon.	$ 600.00
	Task 7 - Traffic Engineering & Management			***$ 3,500.00***
7.1	Traffic Counts	KAI	Estimated	$ 3,500.00
	Task 10 - Final Design			***$ 1,200.00***
a	Printing & Delivery	KAI	Estimated Printing	$ 300.00
10.2.1	Printing & Delivery	KAI	Estimated Printing	$ 300.00
10.3.1	Printing & Delivery	KAI	Estimated Printing	$ 300.00
10.4.1	Printing & Delivery	KAI	Estimated Printing	$ 300.00
	Task 12 -Bid and Award Assistance			***$ 250.00***
12.1	Printing & Delivery	KAI	Estimated	$ 250.00
			Total	**$ 118,282.08**
	Mileage Rate		$ 0.670	$ 118,282.08

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
KPFF

Fee Summary

		$ 280.00	$ 205.00	$ 225.00	$ 135.00	$ 125.00	
Task		Principal Survey	Project Surveyor	2-person crew	Survey Tech	Admin	***KPFF Totals***
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**						
1.2	Project Coordination						
1.2.3	Bi-Weekly Coordination Meetings (56)		6.00				$1,230.00
	Total Hours	0.00	6.00	0.00	0.00	0.00	6.00
	Labor Cost	$0.00	$1,230.00	$0.00	$0.00	$0.00	$1,230.00
	Total Cost This Task						**$1,230.00**
Task 2.0	**Field Investigations, Reports, and Studies**						
2.1	Topographic Survey	6.00	20.00	150.00	150.00		$59,780.00
2.2	Horizontal Control, Monument Rec., and Pre-Con. ROS	10.00	70.00	50.00	130.00		$45,950.00
	Total Hours	16.00	90.00	200.00	280.00	0.00	586.00
	Labor Cost	$ 4,480.00	$ 18,450.00	$ 45,000.00	$ 37,800.00	$ -	$ 105,730.00
Task 5.0	**Utility Coordination**						
5.1	Utility Coordination		6.00	12.00			$3,930.00
	Total Hours	0.00	6.00	12.00	0.00	0.00	18.00
	Labor Cost	$0.00	$1,230.00	$2,700.00	$0.00	$0.00	$3,930.00
	Total Cost This Task						**$3,930.00**
Task 11	**ROW Acquisition**						
11.1	ROW Research					10.00	$1,250.00
11.2	Right-of-Way Map & Impact Maps						$0.00
11.3	Right-of-Way Descriptions & Exhibit Maps	2.00	24.00		40.00		$10,880.00
11.4	ROW Staking		10.00	40.00			$11,050.00
11.5	ROW Support						$0.00
	Total Hours	2.00	34.00	40.00	40.00	10.00	126.00
	Labor Cost	$560.00	$6,970.00	$9,000.00	$5,400.00	$1,250.00	$23,180.00
	Total Cost This Task						**$23,180.00**
PROJECT SUMMARY							
	Total Project Hours	18.0	136.0	252.0	320.0	10.0	736.0
	Total Salary Cost	$5,040.00	$26,650.00	$54,000.00	$43,200.00	$1,250.00	$134,070.00
	Reimbursables Subtotal						$1,105.00
	Total Fee	$5,040.00	$27,880.00	$56,700.00	$43,200.00	$1,250.00	**$135,175.00**

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
Pacific Habitat Services

Fee Summary

		$ 205.00	$ 142.00	$ 135.00	$ 108.00	$ 98.00	
	Task	Principal Scientist	Wetland Scientist 2	Wetland Scientist 1	Graphics Specialist	Technical Editor	***PHS Totals***
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**						
1.2	Project Coordination						
1.2.2	Bi-Monthly Team Meetings (14)	3.00	3.00				$1,041.00
1.2.3	Bi-Weekly Coordination Meetings (56)	4.00	4.00				$1,388.00
	Total Hours	7.00	7.00	0.00	0.00	0.00	14.00
	Labor Cost	$1,435.00	$994.00	$0.00	$0.00	$0.00	$2,429.00
	Total Cost This Task						**$2,429.00**
Task 3.0	**Environmental Reconnaissance & Permitting**						
3.1	Wetland Delineation & OHW Determination	8.00	52.00	14.00	8.00	6.00	$12,366.00
3.2.1	River and Stream Conservation Area	6.00	18.00	2.00	4.00	4.00	$4,880.00
3.3	Joint Permit Application	40.00	95.00	25.00	20.00	12.00	$28,401.00
3.4	SLOPES V Endangered Species Act Compliance Documentati	8.00	18.00			3.00	$4,490.00
	Total Hours	62.00	183.00	41.00	32.00	25.00	343.00
	Labor Cost	$12,710.00	$25,986.00	$5,535.00	$3,456.00	$2,450.00	$50,137.00
	Total Cost This Task						**$50,137.00**
PROJECT SUMMARY							
	Total Project Hours	69.0	190.0	41.0	32.0	25.0	357.0
	Total Salary Cost	$14,145.00	$26,980.00	$5,535.00	$3,456.00	$2,450.00	$52,566.00
	Reimbursables Subtotal						$1,520.40
	Total Fee	$14,145.00	$26,980.00	$5,535.00	$3,456.00	$2,450.00	**$54,086.40**
	Contingency Tasks						
3.2.2	Stream and Wetland Function Assessment (CONTINGENCY)	12.00	35.00	18.00		4.00	$10,252.00
	Total Hours	12.00	35.00	18.00	0.00	4.00	69.00
	Labor Cost	$2,460.00	$4,970.00	$2,430.00	$0.00	$392.00	**$10,252.00**
PROJECT TOTAL W/ CONTINGENCY							**$64,338.40**

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
3J Consulting

Fee Summary

		$ 182.00	$ 122.00	
	Task	Planning Manager	Planner	***3J Totals***
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**			
1.2	Project Coordination			
1.2.2	Bi-Monthly Team Meetings (14)	2.00		$364.00
1.2.3	Bi-Weekly Coordination Meetings (56)	4.00		$728.00
	Total Hours	6.00	0.00	6.00
	Labor Cost	$1,092.00	$0.00	$1,092.00
	Total Cost This Task			**$1,092.00**
Task 3.0	**Environmental Reconnaissance & Permitting**			
3.5	Clackamas County Land Use	40.00	100.00	$19,480.00
3.6	Washington County Land Use	70.00	110.00	$26,160.00
	Total Hours	110.00	210.00	320.00
	Labor Cost	$20,020.00	$25,620.00	$45,640.00
	Total Cost This Task			**$45,640.00**
	Total Project Hours	116.0	210.0	326.0
	Total Salary Cost	$21,112.00	$25,620.00	$46,732.00
	Reimbursables Subtotal			$0.00
	Total Fee	$21,112.00	$25,620.00	**$46,732.00**

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
Haley & Aldrich
Fee Summary

		$ 355.00	$ 262.00	$ 219.00	$ 200.00	$ 191.00	$ 172.00	$ 155.00	$ 143.00	$ 118.00	
Task		Principal	Senior Technical Expert	Project Manager	Technical Specialist	Project Professional	Staff Professional 2	Staff Professional 1	Project Controls / Senior Technician	Project Support	***H&A Totals***
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**										
1.1	Project Management	4.00	4.00	16.00					12.00		$7,688.00
1.2	Project Coordination										
1.2.3	Bi-Weekly Coordination Meetings (56)	4.00	2.00	6.00							$3,258.00
	Total Hours	8.00	6.00	22.00	0.00	0.00	0.00	0.00	12.00	0.00	48.00
	Labor Cost	$2,840.00	$1,572.00	$4,818.00	$0.00	$0.00	$0.00	$0.00	$1,716.00	$0.00	$10,946.00
	Total Cost This Task										**$10,946.00**
Task 3.0	**Environmental Reconnaissance & Permitting**										
3.7	Hazardous Material Corridor Study										
3.7.1	Hazardous Materials Corridor Study ("HMCS")		8.00				6.00	40.00	1.00	6.00	$10,179.00
	Total Hours	0.00	8.00	0.00	0.00	0.00	6.00	40.00	1.00	6.00	61.00
	Labor Cost	$0.00	$2,096.00	$0.00	$0.00	$0.00	$1,032.00	$6,200.00	$143.00	$708.00	$10,179.00
	Total Cost This Task										**$10,179.00**
Task 6.0	**Geotechnical and Geologic Services**										
6.1	Site Reconnaissance, Exploration and Testing Work Plan	7.00		24.00	16.00	8.00	36.00				$18,661.00
6.2	Field Exploration and Laboratory Testing	7.00		14.00	2.00		76.00				$19,023.00
6.3	Geotechnical Data Review and Analysis	4.00		20.00		4.00	72.00				$18,948.00
6.4	Geotechnical Report	15.00		40.00		36.00	10.00			9.00	$23,743.00
6.5	Asphalt Pavement Analysis and Report	2.00		6.00		12.00				2.00	$4,552.00
	Total Hours	35.00	0.00	104.00	18.00	60.00	194.00	0.00	0.00	11.00	422.00
	Labor Cost	$12,425.00	$0.00	$22,776.00	$3,600.00	$11,460.00	$33,368.00	$0.00	$0.00	$1,298.00	$84,927.00
	Total Cost This Task										**$84,927.00**
PROJECT SUMMARY											
	Total Project Hours	43.0	14.0	126.0	18.0	60.0	200.0	40.0	13.0	17.0	531.0
	Total Salary Cost	$2,840.00	$3,668.00	$4,818.00	$0.00	$0.00	$1,032.00	$6,200.00	$1,859.00	$708.00	$106,052.00
	Reimbursables Subtotal										$90,278.00
	Total Fee	$15,265.00	$3,668.00	$27,594.00	$3,600.00	$11,460.00	$34,400.00	$6,200.00	$1,859.00	$2,006.00	**$196,330.00**
	Contingency Tasks										
3.7.2	Shoulder Soil Investigation (CONTINGENCY)	4.00	16.00				64.00		2.00	12.00	$18,322.00
3.7.3	Surface Soil and Sediment Investigation (CONTINGENCY)	2.00	4.00				16.00				$4,510.00
3.7.4	Special Provision Preparation (CONTINGENCY)	2.00	4.00	12.00							$4,386.00
	Total Hours	8.00	24.00	12.00	0.00	0.00	80.00	0.00	2.00	12.00	276.00
	Labor Cost	$2,840.00	$6,288.00	$2,628.00	$0.00	$0.00	$13,760.00	$0.00	$286.00	$1,416.00	$54,436.00
										Total Cost This Task	**$27,218.00**
										Reimbursable	$19,640.00
PROJECT TOTAL W/ CONTINGENCY											**$215,970.00**

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
Willamette CRA

Fee Summary

		$ 175.00	$ 135.00	$ 80.00	$ 105.00	$ 85.00	
Task		PM	Principal Investigator	Field archaeologist	Technical Editor	Project Assistant	***WCRA Totals***
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**						
1.1	Project Management	2.00				4.00	$690.00
1.2	Project Coordination						
1.2.3	Bi-Weekly Coordination Meetings (56)	3.00					$525.00
	Total Hours	5.00	0.00	0.00	0.00	4.00	9.00
	Labor Cost	$875.00	$0.00	$0.00	$0.00	$340.00	$1,215.00
	Total Cost This Task						**$1,215.00**
	Total Cost This Task						**$0.00**
Task 3.0	**Environmental Reconnaissance & Permitting**						
3.8	Cultural Resource/Archaeological Survey	18.00	90.00	16.00	16.00		$18,260.00
	Total Hours	18.00	90.00	16.00	16.00	0.00	140.00
	Labor Cost	$3,150.00	$12,150.00	$1,280.00	$1,680.00	$0.00	$18,260.00
	Total Cost This Task						**$18,260.00**
PROJECT SUMMARY							
	Total Project Hours	23.0	90.0	16.0	16.0	4.0	149.0
	Total Salary Cost	$4,025.00	$12,150.00	$1,280.00	$1,680.00	$340.00	$19,475.00
	Reimbursables Subtotal						$26.80
	Total Fee	$4,025.00	$12,150.00	$1,280.00	$1,680.00	$340.00	**$19,501.80**

Stafford-65th-Elligsen Roundabout Project
Clackamas County #300324301
PROFESSIONAL SERVICES - HOURLY BREAKDOWN
7/1/2024
Morgan Holen & Associates

Fee Summary

		$ 185.00	
	Task	Arborist	***MHA Totals***
Task 1.0	**Project Management, Project Coordination, and Project Scheduling**		
1.2	Project Coordination		
1.2.2	Bi-Monthly Team Meetings (14)	1.00	$185.00
1.2.3	Bi-Weekly Coordination Meetings (56)	2.00	$370.00
	Total Hours	3.00	3.00
	Labor Cost	$555.00	$555.00
	Total Cost This Task		**$555.00**
Task 3.0	**Environmental Reconnaissance & Permitting**		
3.9	Tree Assessment	40.00	$7,400.00
	Total Hours	40.00	40.00
	Labor Cost	$7,400.00	$7,400.00
	Total Cost This Task		**$7,400.00**
PROJECT SUMMARY			
	Total Project Hours	43.0	43.0
	Total Salary Cost	$7,955.00	$7,955.00
	Reimbursables Subtotal		$80.40
	Total Fee	$7,955.00	**$8,035.40**