

Project title: Amendment No. 2 to Professional Services Agreement with David Evans and Associates, Inc. for Design and Construction Support Services for Sewer Lift Station 15 and Shore Ave. Force Main

Council Bill #

Agenda dates requested:
6/16/21

Briefing
Proposed action
Consent 6/16/21
Action
Ordinance
Public hearing
Yes No

Budget amendment:
Yes No

PowerPoint presentation:
Yes No

Attachments:
Amendment to PSA

Department(s) involved:
Public Works

Contact person:
Dave Voigt

Phone number:
425-257-8983

Email:
dvoigt@everettwa.gov

Initialed by:
RLS
Department head

Administration
Council President

Consideration: Amendment No. 2 to Professional Services Agreement

Project: Sewer Lift Station 15 and Shore Ave. Force Main

Partner/Supplier: David Evans and Associates, Inc. (DEA)

Preceding action: Amendment No. 1, July 8, 2020

Fund: Fund 336 – Water & Sewer System Improvements Fund

Fiscal summary statement: Project funding was established by Ordinance No. 3725-20 and has a budget of \$2,000,000.

Project summary statement:

Based on a recent evaluation, the southernmost segment of the Mukilteo Beach Interceptor has deteriorated and needs to be removed from service. Due to cost and environmental reasons, it is not appropriate to replace that sewer pipe with a new pipe in the beach. This project will collect flow from 413 single family homes at a new sewer lift station near Edgewater Park and discharge through a new pressure sewer (force main) pipe for approximately 2,700 linear feet along Shore Avenue.

This project is also necessary in order to proceed with subsequent condition inspection of the Mukilteo Beach Interceptor.

In addition, the City is replacing the Edgewater Bridge in 2022-2023 and existing sewer facilities must be relocated to avoid conflicts with the bridge construction. The work included in this scope is to prepare final design plans, specifications, cost estimates and provide engineering support during construction.

Recommendation (exact action requested of Council): Authorize the mayor to sign Amendment No. 2 with David Evans and Associates, Inc. for design and construction support services for Sewer Lift Station 15 and Shore Ave Force Main for the additional amount of \$330,000.

**AMENDMENT NO. 2 TO PROFESSIONAL SERVICES AGREEMENT BETWEEN
THE CITY OF EVERETT
AND
David Evans and Associates, Inc.**

Sewer Lift Station 15 and Shore Ave. Force Main
Final Design and Construction Support
WO # UP3734

The City and David Evans and Associates, Inc. agree to amend and modify their professional services agreement dated May 4, 2020 (the "Agreement") as follows:

1. The effective date of this Amendment is (month)_____, (day)_____, (year)_____.
2. The work included in Exhibit A-1 of this Amendment No. 2 is added to the Scope of Work described in Exhibit A of the Agreement .
3. Paragraph 3 is modified to read as follows:

This Agreement shall commence as of the date of execution and shall be completed December 31, 2022.
4. Paragraph 4(B) is revised to read as follows:


The Contractor shall be paid such amounts and, in such manner, as described in Exhibit B of the Agreement and Exhibit B-1 of this Amendment No. 2.
5. Paragraph 4(D) is revised to read as follows:

Total compensation including all services and expenses, shall not exceed a maximum of three hundred seventy-eight thousand Dollars (\$378,000).
6. All terms, conditions and provisions of the Agreement remain in full force and effect except as expressly modified by this Amendment.
7. Exhibits associated with this Amendment No. 2 are attached herewith.

**CITY OF EVERETT
WASHINGTON**

DAVID EVANS AND ASSOCIATES INC.

By: _____
Cassie Franklin, Mayor

By:  _____
Craig Sheahan, Vice President

Date
ATTEST:

May 26, 2021
Date
APPROVED AS TO FORM:

Sharon Fuller, City Clerk

David C. Hall, City Attorney

Date: _____

Date: _____

EXHIBIT A-1

City of Everett Lift Station #15 and Force Main Amendment 2

Scope of Work – Design, Bidding and Construction Support Services

May 24, 2021

Introduction

The City of Everett owns and operates a domestic wastewater “lift station” (hereinafter referred to as the “existing station”) immediately adjacent to an existing City-owned bridge along W. Mukilteo Blvd. The existing station is situated on the north side of the road, on a steep bank above Edgewater Creek, immediately west of Shore Ave. The existing station is west of the City’s Edgewater Park, a 1.25 acre neighborhood park. The park includes limited parking immediately east of the existing station/west of the park, a large lawn and sport and play areas.

The City is planning a project to replace the W Mukilteo Blvd. roadway bridge that crosses Edgewater Creek and will require additional space for construction and temporary facilities. That work is anticipated to require decommissioning of the existing station and rerouting of various sewer pipes. As of May 2021, construction drawings for the proposed Edgewater Creek Bridge Replacement, show that a temporary work bridge will be constructed in the area directly in conflict with the existing station. The temporary work bridge will be constructed above the existing station and require multiple deep piles to be installed. Preliminary coordination with the City’s project manager for the bridge project confirms that the Bioxide® tank and its block retaining walls and slab can remain in place, but that the existing station structure will need to be modified to allow completion of the temporary work bridge.

The City desires to complete a new lift station and force main project prior to starting the bridge replacement project, in order to not hinder the bridge project. The new submersible pump station will be located in the parking area and immediately adjacent area at the northwest corner of Edgewater Park. The temporary bridge support piers will be strategically located in order to allow the Bioxide® tank to remain and operate in its current location.

The City also desires to construct, by contract separate from the lift station project, approximately 2,700 feet of new 6” force main along Shore Ave, from the proposed lift station location to a new manhole on an existing 20” sewer main. Flow will then continue northerly in existing sewer mains down to the City’s Mukilteo Beach interceptor.

Lift Station #15 and Force Main Improvements

The proposed upgrade, modifications or additions are detailed in a pre-design memo from DEA to the City dated May 11, 2021 and are summarized generally as follows:

- New duplex submersible pump station at northwest corner of Edgewater Park, in parking area and corner of park lawn, adjacent to inside of bend of Shore Ave. Station structures will be precast concrete wet well with flat top slab and aluminum double door hatch, with safety grade and a separate precast concrete valve vault with flat top slab and aluminum double door hatch. Pumps shall be Flygt/Xylem with N-impeller, rated for 450 gallons per minute each.

- Three phase 480V electrical power and control equipment, rack mounted, on a free standing post and roof assembly including utility power service equipment and automatic transfer switch for standby generator power service, 120V power distribution, variable frequency drives (VFDs) and PLC-based control panel. Primary level sensing will be by ultrasonic level sensor with a single float for high level alarm.
- A Cummins 480V diesel fueled generator with level 2 factory enclosure, and skid-mount fuel tank will provide standby power. Final generator sizing will be confirmed during the design phase of work.
- Add new water service including meter, reduced pressure principle backflow device with heat trace, in an insulated Hot Box, for service to a frost-proof yard hydrant.
- The electrical equipment and Hot Box will be secured with an eight-foot tall vinyl coated chain link fence, with single person gate and three strand barb wire. Some park fencing will be relocated to “reset” the perimeter of the park and adjust the existing park maintenance access gate locations.
- Extend or re-route existing gravity sewer connections from Shore Ave. and W. Mukilteo Blvd to discharge to the new station rather than the existing station
- Add a new 6” HDPE force main by open-cut construction from the new lift station valve vault about 2,700 feet east along Shore Ave. to a new saddle manhole over an existing 20” sewer main.

The lift station and gravity sewer improvements are proposed to be completed under one construction contract and the force main shall be completed under a separate construction contract. The City Technical Service Group will furnish and fabricate the VFD and control panel elements including the primary elements in each panel.

Scope of Work:

The proposed scope of services for the design, bidding and construction support phases of engineering services is presented below. DEA will be supported by Bob Casne, P.E. of RJC Engineering, PLLC, for the electrical engineering elements and will be supported by HWA GeoSciences, Inc. for the geotechnical evaluation. RJC Engineering will be supported by Richard Sample Engineering for completion of the Arc Flash Analysis. (The task numbering is continued from the Pre-design phase Scope of Work.)

5. Project Management – Design, Bidding and Construction Support

5.1. Project Planning

5.2. Monitoring and Control – review and preparation of monthly status reports and invoice packets

5.3. Closeout – complete final project closeout

6. Design Support and Submittals

6.1. Geotechnical Evaluation – complete two additional soil borings to a total combined depth of 65 feet and evaluate soil conditions on Shore Ave. in the vicinity of the proposed replacement sanitary sewer and the proposed wet well structure.

6.2. Additional Survey – allowance to complete up to one additional day of field survey and supporting research and base map updates for additional detail or area in the project impact area.

6.3. SEPA Checklist Input – provide data regarding anticipated disturbance area and cut and fill quantity estimates for each construction contract, for City’s use in preparing the SEPA checklist for the project impacts.

6.4. Design Development

- 6.4.1. Confirm final design criteria for wet well sizing and total dynamic head calc based on final force main length and profile and final wet well depth and control level setpoints.
- 6.4.2. Coordinate with Snohomish County PUD for new electrical service location and requirements including development of final electrical load and completion of application for new service.

6.5. Submittals and Review Meetings

- 6.5.1. Prepare and submit plans at 60% stage of completion for City review and comment, for each set of contract documents
- 6.5.2. Meet via Zoom¹ to review 60% plan review comments and remaining design work, for each set of contract documents
- 6.5.3. Prepare and submit plans, special provisions, with construction cost estimate at 95% stage of completion for City review and comment
- 6.5.4. Meet via Zoom to review comments and remaining design work, for each set of contract documents
- 6.5.5. Prepare and submit final “proof” set of plans, special provisions and technical specifications for City review and comment
- 6.5.6. Meet via Zoom to receive and address final City comments, for each set of contract documents.
- 6.5.7. Provide signed and stamped final construction documents, for each set of contract documents

7. Plans, Project Manual (Specifications, Proposal and Special Provisions) and Estimate

7.1. Lift Station

7.1.1. Plans (about 19 sheets)

- 7.1.1.1. Cover, sheet index and vicinity map, legend, general notes, survey existing conditions map (4 sheets)
- 7.1.1.2. Site Plans (5 sheets)
 - 7.1.1.2.1. TESC and site demolition/upgrade for station
 - 7.1.1.2.2. Site and TESC details
 - 7.1.1.2.3. Park parking area striping plan and details
 - 7.1.1.2.4. Bioxide tank site plan
- 7.1.1.3. Mechanical/Structural Plan and Details (5 sheets)
 - 7.1.1.3.1. Station plan and elevation
 - 7.1.1.3.2. Shelter plan, section, and details
 - 7.1.1.3.3. Station detail sheets
- 7.1.1.4. Electrical Design and Plans (5 sheets)
 - 7.1.1.4.1. Electrical Site Plan and Legend
 - 7.1.1.4.2. Enlarged plan and elevation
 - 7.1.1.4.3. Wet well plan and elevation and cable splice enclosure
 - 7.1.1.4.4. One line diagram, conduit, and cable schedule
 - 7.1.1.4.5. Details

7.1.2. Project Manual

- 7.1.2.1. Proposal and Contract Documents – adapt City standard proposal and contract documents to the project details including advertisement for bid,

¹ Or similar virtual meeting program, typical.

proposal, bond, contract, general requirements to modify the current edition of the WSDOT Standard Specifications and measurement and payment descriptions. Prepare proposal form in spreadsheet format, for use for construction cost estimate, and bid tabulation by City.

7.1.2.2. Special Provisions – adapt City typical special provisions with project requirements and add special provisions for project requirements including sections for:

- construction sequencing and bypass plan
- sewer main and manhole
- wet well, valve vault and access hatches
- pump equipment, piping, and valves
- power, control and telemetry equipment including standby generator
- water service and backflow preventer
- fencing

7.1.2.3. Appendices – prepare appendices including geotechnical evaluation report, applicable City standard details, City-provided change order forms, permits (if any) and applicable WSDOT standard plans.

7.1.3. Construction Cost Estimate

7.1.3.1. Prepare engineer’s estimate of construction cost based on 95% completion of plans and specifications.

7.2. Force Main

7.2.1. Plans (about 19 sheets)

7.2.1.1. Cover, sheet index and vicinity map, legend, general notes, survey existing conditions map (6 sheets)

7.2.1.2. Site Plans (13 sheets)

7.2.1.2.1. TESC plans

7.2.1.2.2. Site and TESC details

7.2.1.2.3. Plan and profile sheets

7.2.1.2.4. Details

7.2.2. Project Manual

7.2.2.1. Proposal and Contract Documents – adapt City standard proposal and contract documents to the project details including advertisement for bid, proposal, bond, contract, general requirements to modify the current edition of the WSDOT Standard Specifications and measurement and payment descriptions. Prepare proposal form in spreadsheet format, for use for construction cost estimate, and bid tabulation by City.

7.2.2.2. Special Provisions – adapt City typical special provisions with project requirements and add special provisions for project requirements including sections for:

- construction sequencing and bypass plan
- force main and saddle manhole
- trench and road restoration

7.2.2.3. Appendices – prepare appendices including geotechnical evaluation report, applicable City standard details, City-provided change order forms, permits (if any) and applicable WSDOT standard plans.

7.2.3. Construction Cost Estimate

7.2.3.1. Prepare engineer's estimate of construction cost based on 95% completion of plans and specifications.

8. Bidding Support

8.1. Bidding Support – Lift Station

- 8.1.1. Advertisement for Bid – finalize Ad for City Clerk approval and publication and prepare PDFs of contract documents for posting by City to Builders Exchange of Washington (BXWA)
- 8.1.2. Bidder Inquiries – respond to inquiries, including preparation of one addendum as warranted, provide PDF to City to post to BXWA for distribution.
- 8.1.3. Bid Review – Review of contractor bids and recommendation of award to support City's evaluation of bids and recommendation of award or other action.

8.2. Bidding Support – Force Main

- 8.2.1. Advertisement for Bid – finalize Ad for City Clerk approval and publication and prepare PDFs of contract documents for posting by City to Builders Exchange of Washington (BXWA)
- 8.2.2. Bidder Inquiries – respond to inquiries, including preparation of one addendum as warranted, provide PDF to City to post to BXWA for distribution.
- 8.2.3.** Bid Review – Review of contractor bids and recommendation of award to support City's evaluation of bids and recommendation of award or other action.

9. Construction Support

9.1. Construction Support - Lift Station

- 9.1.1. Preconstruction Conference – attend and lead or support pre-construction conference at City between City and contractor, including preparation of meeting summary.
- 9.1.2. Shop Drawings and Submittal Review – Review contractor's shop drawing and construction method submittals for conformance with project documents. Up to 40 original and re-submittals are anticipated.
- 9.1.3. RFI Response –review requests for information from contractor. Coordinate review with City staff including update of master log, and electrical and controls sub-consultant. Up to 15 are anticipated.
- 9.1.4. Construction Meetings – support 12 bi-weekly construction meetings via Zoom or similar remote meeting platform between City and contractor and conduct up to four construction meetings in person at City or project site.
- 9.1.5. Limited Construction Observation as requested by City
 - 9.1.5.1. Civil engineer perform up to four site visits and provide up to 16 hours of general office consultations for review of specific conditions and general progress monitoring. Site visits shall be documented by written report, related sketches, and digital photos.
 - 9.1.5.2. Electrical engineer perform up to two site visits and provide up to 8 hours of general office consultation for review of specific conditions.
 - 9.1.5.3. Inspection and consultation (up to two site visits) by HWA GeoSciences for guidance with respect to geotechnical aspects of the work.
- 9.1.6. Changes, Force Account and Change Orders - review miscellaneous work/force account bid item activities with City as requested. Prepare changes initiated by the City/Engineer in the form of Engineer's Supplemental Instructions (ESIs) for no cost changes. Review Change Order Proposals (COPs) from Contractor whether in response to an RFI/ESI/COP or Contractor initiated. Up to five ESIs and five COPs are anticipated.

- 9.1.7. Design Interpretation – additional general coordination with Contractor outside the RFI, changes and submittal review process. Up to 30 hours of support are anticipated.
- 9.1.8. Arc Flash Analysis – complete arc flash research and calculations, prepare labels and apply to power equipment enclosures
- 9.2. Construction Support – Force Main
 - 9.2.1. Preconstruction Conference – attend and lead or support pre-construction conference at City between City and contractor, including preparation of meeting summary.
 - 9.2.2. Shop Drawings and Submittal Review – Review contractor’s shop drawing and construction method submittals for conformance with project documents. Up to 10 original and re-submittals are anticipated.
 - 9.2.3. RFI Response –review requests for information from contractor. Coordinate review with City staff including update of master log, and electrical and controls sub-consultant. Up to five are anticipated.
 - 9.2.4. Construction Meetings – support four bi-weekly construction meetings via Zoom or similar remote meeting platform between City and contractor and conduct up to two construction meetings in person at City or project site.
 - 9.2.5. Limited Construction Observation as requested by City
 - 9.2.5.1. Perform up to two site visits and provide up to eight hours of general office consultations for review of specific conditions and general progress monitoring. Site visits shall be documented by written report, related sketches, and digital photos.
 - 9.2.6. Changes, Force Account and Change Orders - review miscellaneous work/force account bid item activities with City as requested. Prepare changes initiated by the City/Engineer in the form of Engineer’s Supplemental Instructions (ESIs) for no cost changes. Review Change Order Proposals (COPs) from Contractor whether in response to an RFI/ESI/COP or Contractor initiated. Up to three ESIs and two COPs are anticipated.
 - 9.2.7. Design Interpretation – additional general coordination with Contractor outside the RFI, changes and submittal review process. Up to 12 hours of support are anticipated.

10. Management Reserve

- 10.1. Tasks not included in Items 5 through 9 of the Scope of Work but that may be authorized by the City on a time and expense basis to support completion of the design, bidding and/or construction support services phase of the work.

Assumptions:

- The design phase services are anticipated to be accomplished in four months of services.
- The City will be the SEPA Lead Agency and City staff will prepare the SEPA checklist and assemble and distribute the SEPA threshold determination (with limited support as indicated in the Scope of Work).
- The only required permits for this project are the electrical, demolition or mechanical permits to be obtained by the contractor.
- If required, the City will submit the final plans and specifications to the State Department of Ecology for review and approval.

- The City will pay for permit fees and costs of advertising as required for public notices, bid document posting online, permits or other governmental approvals.
- City will prepare and issue right of way permit, if required.
- Building and landscaping permits and noise variance will not be necessary or are not included.
- The project area will encompass less than one acre of disturbed ground surface and therefore the State Department of Ecology Stormwater Construction Permit coverage will not be required.
- Plan and profile sheets will be prepared per City standards, generally as presented in the preliminary plans prepared for the predesign phase scope of work and deliverable.
- New lift station concrete structures will be precast including top slabs and no structural work or reinforcement is required
- Full overlay of Shore Ave. will not be required following completion of the force main construction project.
- The City's bridge project will address decommissioning and partial or full demolition of existing station structure and/or address its function as a slope retaining wall. The City's bridge project will accommodate retaining the existing Bioxide tank in its present location.
- The City will provide City-standard proposal and contract documents and special provisions in Microsoft Word format.
- There are no known hazardous materials in existing structures or soil/groundwater (e.g. asbestos, lead paint, etc.).
- Archaeological assessment is not warranted for the previously developed project area or will be addressed by the City as needed.
- City will prepare bid tabulations of the bids received for each construction contract.
- City will receive pay applications, review progress, and prepare monthly pay estimates and payments.
- City will provide daily or regular construction observation of the construction work in progress for both the lift station and force main projects.
- City will prepare construction punch list and confirmation of completion of punch list work.
- City will provide CAD files to contractor for use in construction staking
- City will prepare record drawings.

Deliverables

- Geotechnical evaluation report for lift station project area.
- Electrical load summary and completed application for new electrical power service, ready for the City to submit to the PUD.
- Preliminary plans in PDF format at 60% completion for each construction contract.
- Preliminary plans, project manual, and engineer's construction cost estimate in PDF format at 95% completion for each construction contract.
- Final or "proof" plans and project manual in PDF format at final completion for each construction contract.
- Final plans in CAD format for City to share with contractors for construction staking and for City's use to prepare record drawings
- Signed and stamped plans and project manual for City's use as bid documents, in PDF format, for each construction contract.
- One Advertisement for Bid for each construction contract for publication by City.
- One bid document addendum per construction contract for distribution by BXWA.

- One bid review and recommendation letter per construction contract.
- Submittal log and review responses
- RFI log and responses
- Construction site visit reports
- Completed arc flash analysis with labels for power equipment enclosures

David Evans and Associates, Inc.

EXHIBIT B-1 Project Fee Estimate
Lift Station 15 and Force Main Design/Const. Support - Amendment 2
City of Everett

Project Number EPWX0000-1901
 Date 5/24/2021
 Prepared By RCLA

Task/Subtask (1)		Personnel Positions and Hourly Billing Rates							DEA Labor		Total - w/ Subs., Exp. & Rounding
		Project Manager	Project Engineer	Survey Manager	Survey Crew	Design Engineer	CAD/GIS Technician	Admin. Assistant	Total Hours	Total Est. Fee	
		\$218.00	\$155.00	\$218.00	\$215.00	\$130.00	\$125.00	\$100.00			
5	Project Management-Design								87	\$14,524.00	\$14,602.40
	5.1 Project Planning	20	6			12	4	3	45	\$7,650.00	
	5.2 Monitoring and Control	16	8					12	36	\$5,928.00	
	5.3 Closeout	2	2					2	6	\$946.00	
6	Design Support and Submittals								127	\$19,606.00	\$65,671.04
	6.1 Geotechnical Evaluation	2	10			12	2		26	\$3,796.00	
	6.2 Additional Survey		2	2	8		6		18	\$3,216.00	
	6.3 SEPA Checklist Input	1	2			4			7	\$1,048.00	
	6.4 Design Development	6	12			16			34	\$5,248.00	
	6.5 Submittals and Review Meetings	6	14			14	8		42	\$6,298.00	
7	Plans, Project Manual and Estimate								784	\$106,962.00	\$129,302.87
	7.1 PSE - Lift Station										
	Plans	18	32			106	186		342	\$45,914.00	
	Project Manual	8	24			48		20	100	\$13,704.00	
	Construction Cost Estimate	2	8			12			22	\$3,236.00	
	7.2 PSE - Force Main										
	Plans	16	36			50	140		242	\$33,068.00	
	Project Manual	8	16			24		16	64	\$8,944.00	
	Construction Cost Estimate	2	4			8			14	\$2,096.00	
8	Bidding Support								58	\$8,478.00	\$10,669.36
	8.1 Lift Station										
	Ad for Bid/Project Posting		1			2			3	\$415.00	
	Bidder Inquiries/Addendum	2	6			10	4		22	\$3,166.00	
	Bid Review	1	4			2			7	\$1,098.00	
	8.2 Force Main										
	Ad for Bid/Project Posting		1			2			3	\$415.00	
	Bidder Inquiries/Addendum	2	4			8	4		18	\$2,596.00	
	Bid Review	1	2			2			5	\$788.00	
9	Construction Support								480	\$72,492.00	\$89,754.33
	9.1 Const. Support - Lift Station										
	Preconstruction Conference	2	2			3			7	\$1,136.00	
	Shop Drawings/Submittals	8	40			60			108	\$15,744.00	
	RFI Response	8	16			16			40	\$6,304.00	
	Construction Meetings	10	24			30			64	\$9,800.00	
	Limited Const. Observation	4	8			24			36	\$5,232.00	
	Changes	8	16			16	4		44	\$6,804.00	
	Design Interpretation	4	20			6			30	\$4,752.00	
	Arc Flash Analysis	2	2						4	\$746.00	
	9.2 Const. Support - Force Main										
	Preconstruction Conference	1	2			3			6	\$918.00	
	Shop Drawings/Submittals	4	10			16			30	\$4,502.00	
	RFI Response	2	8			10			20	\$2,976.00	
	Construction Meetings	4	10			12			26	\$3,982.00	
	Limited Const. Observation	2	8			24			34	\$4,796.00	
	Changes	3	6			6	4		19	\$2,864.00	
	Design Interpretation	2	8			2			12	\$1,936.00	
10	Management Reserve									\$20,000.00	\$20,000.00
	10.1 Management Reserve										
	Total	177	374	2		560	362	53	1528	\$242,062.00	\$330,000.00

Estimated Direct Expenses	
Mileage & Reproduction	\$881
Subconsultant - RJC	\$42,987
Subconsultant - HWA	\$44,096
Total	\$87,964

Project Fee Estimate Summary and Total	
Total Estimated Labor	\$242,062
Total Estimated Expenses	\$87,964
Total Fee Estimate (Rounded)	\$330,000

Notes and Assumptions:

- See detailed Scope of Work dated May 24, 2021.
- All hours and expenses are estimated, and may be increased or decreased within the total budget limit at the discretion of DEA's project manager. The DEA project manager may transfer budget from estimated expenses to labor and vice versa, as the project manager may determine as appropriate. Work will be billed on a time and expense basis, subject to the limit of the not-to-exceed Total Fee Estimate (Rounded) value.
- Client shall be responsible for direct payment of all permit, agency review, advertisement, service or other project expenses not expressly included in the Project Fee Estimate and/or Scope of Work.
- Fee Estimate includes the following factors: Subconsultant administrative markup of 5%, fee/profit is 8.1% of direct labor cost, and overall project multiplier is 3.00.

Date: 12-May-2021
 Prepared For: DEA
 Prepared By: RNB

**GEOTECHNICAL EXPLORATIONS
 LIFT STATION 15 & FORCE MAIN
 EVERETT, WASHINGTON**

	Rate	Quantity	Subtotal	Subtotal
SUBCONTRACT				
Borings				
Mob & Demob	\$1,000.00 each	1 total	\$1,000	
Drilling, <50 ft	\$22.00 /ft	65 ft	\$1,430	
, Hard/>50'	\$3.00 /ft	40 ft	\$120	
Extra Samples, SPT	\$25.00 /sample	8 samples	\$200	
Tube Samples	\$22.00 /sample	2 samples	\$44	
Install Piezo & Moving	\$220.00 /hr	3 hrs	\$660	
Cleanup & Standby	\$220.00 /hr	2 hrs	\$440	
PVC Pipe & Fittings	\$4.50 /ft	65 ft	\$293	
Boring Decommission	\$6.00 /ft	65 ft	\$390	
Monument Casings	\$125.00 each	2 each	\$250	
Coring Pavement	\$350.00 /core	2 cores	\$700	
Cement/Asphalt	\$8.00 /sack	6 sacks	\$48	
Sand/Gravel	\$5.00 /sack	8 sacks	\$40	
Start Cards	\$50.00 /each	2 cards	\$100	
Cuttings Removal	\$110.00 /Barrel	5 total	\$550	
Traffic Control	\$39.50 /hour	8 total	\$316	
Signs & Barricades	\$250.00 /day	2 days	\$500	
Backhoe Subcontract	\$85.00 /hour	0 hrs	\$0	
Subtotal			\$7,081	
Washington State Sales Tax	10.2%		\$722	
Subtotal			\$7,803	
Subcontract Contingency	20.0%		\$1,561	
Subcontract Subtotal				\$9,363

LABORATORY TESTS

Water Content (Jars & Bags)	\$17.50 /test	21 tests	\$368	
Shelby Tube & W.C.	\$100.00 /test	2 tests	\$200	
Grainsize Analysis (Wet Sieve)	\$115.00 /test	3 tests	\$345	
Atterberg Limits	\$220.00 /test	2 tests	\$440	
Consolidation (24 hr loads)	\$1,000.00 /test	tests	\$0	
Laboratory Subtotal				\$1,353

This estimate includes drilling two borings totaling 65 lineal feet. Monitoring wells will be installed in both boreholes.

**COST ESTIMATE FOR GEOTECHNICAL SERVICES
LIFT STATION 15 & FORCE MAIN
EVERETT, WASHINGTON**

**Date: 12-May-2021
Prepared for: DEA**

PROPOSED SCOPE:

This estimate includes drilling two borings totaling 65 lineal-feet. Geotechnical analyses will be performed to develop recommendations for design and construction of the proposed wet well and sewer pipelines. Tasks to be performed in this study are listed below, along with the estimated hours and cost for each. Draft and Final geotechnical reports will be prepared summarizing the results of the explorations and presenting our recommendations. This scope includes two site visits during construction with field reports.

ESTIMATED HWA LABOR:

WORK TASK DESCRIPTION	PERSONNEL AND 2021 HOURLY RATES					TOTAL HOURS	DIRECT LABOR AMOUNT
	Principal \$297.00	Engineer \$156.00	Geologist \$117.00	Admin \$86.00	CAD \$94.00		
Review of Existing Information	4	2				6	\$1,500
Explorations							
Utility Locates		2	2			4	\$546
Explorations	1	2	10			13	\$1,779
Logs & Profiles		1	2		4	7	\$766
Analyses							
Assessment of On-site Soils	2	4	2			8	\$1,452
Seismic Design Criteria	2	4				6	\$1,218
Excavation & Shoring	6	4				10	\$2,406
Dewatering	6	4	1			11	\$2,523
Pavement Design	1	4				5	\$921
Pipe Bedding & Backfilling	2	4				6	\$1,218
Meetings & Consultation	2	2				4	\$906
Draft Geotechnical Report	12	20	2	4	8	46	\$8,014
Project Management	2	2		4		8	\$1,250
Final Report	4	8		1	2	15	\$2,710
Construction Site Visits (2) & Reports	1	8				9	\$1,545
Review of Plans & Specifications	4	8				12	\$2,436
TOTAL LABOR:	45	77	19	9	14	164	\$31,190

ESTIMATED OTHER COSTS

Exploration Subcontracts	\$9,363
Mileage / Misc.	\$90
Laboratory Testing	\$1,353
Total Other Costs:	\$10,806

TOTAL COSTS

Labor Costs	\$31,190
Other Costs	\$10,806
TOTAL ESTIMATED COST:	\$41,996

RJC ENGINEERING, PLLC**Fee Estimate - Lift Station 15 Design**

Task No	Description	Hrs	Rate	Amt
6	Design Support and Submittals			
6.3.2	SNOPUD Coordination, final application, final load calculation	8	\$150.00	\$ 1,200.00
6.4.2	Zoom meeting at 60% submittal	2	\$150.00	\$ 300.00
6.4.4	Zoom meeting at 95% submittal	1	\$150.00	\$ 150.00
6.4.6	Zoom meeting at final submittal	1	\$150.00	\$ 150.00
7	Plans, Project Manual and Estimate			
7.1.1.4.1	Electrical Site Plan, Legend and Notes	8	\$150.00	\$ 1,200.00
7.1.1.4.2	Enlarged Plan and Elevations	20	\$150.00	\$ 3,000.00
7.1.1.4.3	Wet Well Plan and Elevation, Details	12	\$150.00	\$ 1,800.00
7.1.1.4.4	One Line Diagram, Conduit & Cable Schedules	20	\$150.00	\$ 3,000.00
7.1.1.4.5	Details	16	\$150.00	\$ 2,400.00
7.1.2	Project Manual			
7.1.2.2	Special Provisions - Adapt Specifications to WSDOT Standards	50	\$150.00	\$ 7,500.00
7.1.3	Construction Cost Estimate			
7.1.3.1	Engineers Estimate of Construction Costs based on 95% Dwgs	16	\$150.00	\$ 2,400.00
8	Bidding Support			
8.1.3	Bidder inquiries-respond & prepare addendum	12	\$150.00	\$ 1,800.00
8.1.4	Bid review	2	\$150.00	\$ 300.00
9	Construction Support			
9.1.2	Submittal Review	20	\$150.00	\$ 3,000.00
9.1.3	RFI response	12	\$150.00	\$ 1,800.00
9.1.6	Limited Construction Observation			
9.1.6.2	Site visits plus office support	16	\$150.00	\$ 2,400.00
9.1.7	Changes	6	\$150.00	\$ 900.00
9.1.8	Design interpretation	4	\$150.00	\$ 600.00
9.1.9	Arc Flash Analysis-research, calculations, print & install labels	44	\$160.00	\$ 7,040.00
9.1.11	Record Drawings			
Total		134		\$ 40,940.00