



PROFESSIONAL SERVICES AGREEMENT
PSA 6/30/2020
SDC1640000 Silver Spurs Storm System Upgrade – Subsurface Exploration and Hydrogeologic Study

The City of Kirkland, Washington, a municipal corporation ("City") and Associated Earth Sciences, Inc., whose address is 911 Fifth Avenue, Kirkland, WA 98033 ("Consultant"), agree and contract as follows.

In consideration of the mutual benefits and conditions set forth below, the parties agree as follows:

I. SERVICES BY CONSULTANT

- A. The Consultant agrees to perform the services described in Attachment A to this Agreement, which attachment is incorporated herein by reference.
- B. All services and duties shall be conducted and performed diligently, completely and in accordance with professional standards of conduct and performance.

II. COMPENSATION

- A. The total compensation to be paid to Consultant for these services shall not exceed \$80,200, as detailed in Attachment A.
- B. Payment to Consultant by the City in accordance with the payment ceiling specified above shall be the total compensation for all services performed under this Agreement and supporting documents hereto as well as all subcontractors' fees and expenses, supervision, labor, supplies, materials, equipment or the use thereof, reimbursable expenses, and other necessary incidentals.
- C. The Consultant shall be paid on the basis of invoices submitted. Invoicing will be on the basis of percentage complete or on the basis of time, whichever is applicable in accordance with the terms of this Agreement.
- D. The City shall have the right to withhold payment to Consultant for any services not completed in a satisfactory manner until such time as Consultant modifies such services to the satisfaction of the City.
- E. Unless otherwise specified in this Agreement, any payment shall be considered timely if a warrant is mailed or is available within 45 days of the date of actual receipt by the City of an invoice conforming in all respects to the terms of this Agreement.

III. TERMINATION OF AGREEMENT

The City or the Consultant may terminate or suspend this Agreement at any time, with or without cause, by giving ten (10) days' notice to the other in writing. In the event of termination, all finished or unfinished reports, or other material prepared by the Consultant pursuant to this Agreement, shall be provided to the City. In the event the City terminates prior to completion without cause, consultant may complete such analyses and records as may be necessary to place its files in order. Consultant shall be entitled to receive just and equitable compensation for any satisfactory services

completed on the project prior to the date of termination, not to exceed the payment ceiling set forth above.

IV. OWNERSHIP OF WORK PRODUCT

- A. Ownership of the originals of any reports, data, studies, surveys, charts, maps, drawings, specifications, figures, photographs, memoranda, and any other documents which are developed, compiled or produced as a result of this Agreement, whether or not completed, shall be vested in the City. Any reuse of these materials by the City for projects or purposes other than those which fall within the scope of this Agreement or the project to which it relates, without written concurrence by the Consultant will be at the sole risk of the City.
- B. The City acknowledges the Consultant's plans and specifications as instruments of professional service. Nevertheless, the plans and specifications prepared under this Agreement shall become the property of the City upon completion of the services. The City agrees to hold harmless and indemnify consultant against all claims made against Consultant for damage or injury, including defense costs, arising out of any reuse of such plans and specifications by any third party without the written authorization of the Consultant.
- C. Methodology, materials, software, logic, and systems developed under this Agreement are the property of the Consultant and the City, and may be used as either the consultant or the City sees fit, including the right to revise or publish the same without limitation.
- D. The Consultant at such times and in such forms as the City may require, shall furnish to the City such statements, records, reports, data, and information as the City may request pertaining to matters covered by this Agreement. All of the reports, information, data, and other related materials, prepared or assembled by the Consultant under this Agreement and any information relating to personal, medical, and financial data will be treated as confidential only as allowed by Washington State laws regarding disclosure of public information, Chapter 42.56 RCW

The Consultant shall at any time during normal business hours and as often as the City may deem necessary, make available for examination all of its records and data with respect to all matters covered, directly or indirectly, by this Agreement and shall permit the City or its designated authorized representative to audit and inspect other data relating to all matters covered by this Agreement. The City shall receive a copy of all audit reports made by the agency or firm as to the Consultant's activities. The City may, at its discretion, conduct an audit, at its expense, using its own or outside auditors, of the Consultant's activities which relate, directly or indirectly, to the Agreement.

Consultant will provide all original operation and maintenance manuals, along with all warranties, from the manufacturer for any equipment or items installed or supplied to the City as part of this contracted project.

The Consultant shall maintain accounts and records, including personnel, property, financial, and programmatic records, which sufficiently and properly reflect all direct and indirect costs of any nature expended and services performed pursuant to this Agreement. The Consultant shall also maintain such other records as may be deemed necessary by the City to ensure proper accounting of all funds contributed by the City to the performance of this Agreement.

The foregoing records shall be maintained for a period of seven years after termination of this Agreement unless permission to destroy them is granted by the Office of the Archivist in accordance with RCW Chapter 40.14 and by the City.

V. GENERAL ADMINISTRATION AND MANAGEMENT

The Project Engineer for the City of Kirkland shall review and approve the Consultant's invoices to the City under this Agreement, shall have primary responsibility for overseeing and approving services to be performed by the Consultant, and shall coordinate all communications with the Consultant from the City.

VI. COMPLETION DATE

The estimated completion date for the Consultant's performance of the services specified in Section I is 8/31/2025.

Consultant will diligently proceed with the services contracted for, but consultant shall not be held responsible for delays occasioned by factors beyond its control which could not reasonably have been foreseen at the time of the execution of this Agreement. If such a delay arises, Consultant shall forthwith notify the City.

VII. SUCCESSORS AND ASSIGNS

The Consultant shall not assign, transfer, convey, pledge, or otherwise dispose of this Agreement or any part of this Agreement without prior written consent of the City.

VIII. NONDISCRIMINATION

Consultant shall, in employment made possible or resulting from this Agreement, ensure that there shall be no unlawful discrimination against any employee or applicant for employment in violation of RCW 49.60.180, as currently written or hereafter amended, or other applicable law prohibiting discrimination, unless based upon a bona fide occupational qualification as provided in RCW 49.60.180 or as otherwise permitted by other applicable law. Further, no person shall be denied or subjected to discrimination in receipt of the benefit of any services or activities made possible by or resulting from this Agreement in violation of RCW 49.60.215 or other applicable law prohibiting discrimination.

IX. HOLD HARMLESS/INDEMNIFICATION

To the greatest extent allowed by law the Contractor shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials, employees, and volunteers, the Consultant's liability hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the

indemnification provided herein constitutes the Consultant's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purpose of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

X. LIABILITY INSURANCE COVERAGE

The Consultant shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees. A failure to obtain and maintain such insurance or to file required certificates and endorsements shall be a material breach of this Agreement.

Consultant's maintenance of insurance as required by the agreement shall not be construed to limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

A. Minimum Scope of Insurance

Consultant shall obtain insurance of the types described below:

1. Automobile Liability insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be as least as broad as Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
2. Commercial General Liability insurance shall be as least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent contractors and personal injury and advertising injury. The City shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the City using an additional insured endorsement at least as broad as ISO CG 20 26.
3. Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.
4. Professional Liability insurance appropriate to the Consultant's profession.

B. Minimum Amounts of Insurance

Consultant shall maintain the following insurance limits:

1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident.
2. Commercial General Liability insurance shall be written with limits no less than \$1,000,000 each occurrence, \$2,000,000 general aggregate.
3. Professional Liability insurance shall be written with limits no less than \$1,000,000 per claim and \$1,000,000 policy aggregate limit.

C. Other Insurance Provisions

The insurance policies are to contain, or be endorsed to contain, the following provisions for Automobile Liability and Commercial General Liability insurance:

1. The Consultant's insurance coverage shall be primary insurance as respects the City. Any insurance, self-insurance, or self-insured pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not contribute with it.
2. The Consultant shall provide the City and all Additional Insureds for this services with written notice of any policy cancellation, within two business days of their receipt of such notice.

D. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.

E. Verification of Coverage

Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Consultant before commencement of the services.

F. Failure to Maintain Insurance

Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of agreement, upon which the City may, after giving five business days' notice to the Consultant to correct the breach, immediately terminate the agreement or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.

G. City Full Availability of Consultant Limits

If the Consultant maintains higher insurance limits than the minimums shown above, the City shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Consultant, irrespective of whether such limits maintained by the Consultant are greater than those required by this agreement or whether any certificate of insurance furnished to the City evidences limits of liability lower than those maintained by the Consultant.

XI. COMPLIANCE WITH LAWS/BUSINESS LICENSE

The Consultant shall comply with all applicable State, Federal, and City laws, ordinances, regulations, and codes. Consultant must obtain a City of Kirkland business license or otherwise comply with Kirkland Municipal Code Chapter 7.02.

XII. FUTURE SUPPORT

The City makes no commitment and assumes no obligations for the support of Consultant activities except as set forth in this Agreement.

XIII. INDEPENDENT CONTRACTOR

Consultant is and shall be at all times during the term of this Agreement an independent contractor and not an employee of the City. Consultant agrees that he or she is solely responsible for the payment of taxes applicable to the services performed under this Agreement and agrees to comply with all federal, state, and local laws regarding the reporting of taxes, maintenance of insurance and records, and all other requirements and obligations imposed on him or her as a result of his or her status as an independent contractor. Consultant is responsible for providing the office space and clerical support necessary for the performance of services under this Agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance of unemployment compensation programs or otherwise assuming the duties of an employer with respect to the Consultant or any employee of Consultant.

XIV. EXTENT OF AGREEMENT/MODIFICATION

This Agreement, together with all attachments and addenda, represents the final and completely integrated Agreement between the parties regarding its subject matter and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended only by written instrument properly signed by both parties.

XV. ADDITIONAL WORK

The City may desire to have the Consultant perform work or render services in connection with the project other than provided for by the express intent of this Agreement. Any such work or services shall be considered as additional work, supplemental to this Agreement. This Agreement may be amended only by written instrument properly signed by both parties.

XVI. NON-ENDORSEMENT

As a result of the selection of a consultant to supply services to the City, the consultant agrees to make no reference to the City in any literature, promotional material, brochures, sales presentation or the like without the express written consent of the City.

XVII. NON-COLLUSION

By signature below, the Consultant acknowledges that the person, firm, association, co-partnership or corporation herein named, has not either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in the preparation or submission of a proposal to the City for consideration in the award of a contract on the specifications contained in this Agreement.

XVIII. WAIVER

Waiver by the City of any breach of any term or condition of this Agreement shall not be construed as a waiver of any other breach.

XIX. ASSIGNMENT AND SUBCONTRACT

The Consultant shall not assign or subcontract any portion of the services contemplated by this Agreement without the prior written consent of the City.

XX. DEBARMENT

Recipient certifies that it is not suspended, debarred, proposed for debarment, declared ineligible or otherwise excluded from contracting with the federal government, or from receiving contracts paid for with federal funds.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates written below:

CONSULTANT:

CITY OF KIRKLAND:

Signature: *Jennifer Saltonstall*

Signature: *Julie Underwood*
Julie Underwood (Jun 14, 2024 16:34 PDT)

Printed Name: Jennifer Saltonstall

Printed Name: Julie Underwood

Title: Principal Hydrogeology, Vice President

Title: Deputy City Manager of Operations

Date: Jun 14, 2024

Date: Jun 14, 2024



May 21, 2024
Project No. 20240089H001

City of Kirkland, Public Works Department
123 Fifth Avenue
Kirkland, WA 98033

Attention: Ms. Kimberly Coraza, P.E.

Subject: Proposal for Subsurface Exploration and Hydrogeologic Study
Silver Spurs Storm System Upgrade
130th Avenue NE near NE 64th Street
Kirkland, Washington

Dear Ms. Coraza,

This letter provides a detailed scope and fee estimate for Associated Earth Sciences, Inc. (AESI) to complete a subsurface exploration and hydrogeologic study for the City of Kirkland's proposed stormwater system improvements along 130th Ave NE. Our proposal is based on discussions and email correspondence with you, a site plan of the project location, titled "Silver Spurs Storm System Upgrade (Bridle Trails)," and our experience working in the project vicinity.

SITE LOCATION AND PROJECT DESCRIPTION

The project site is located along 130th Ave NE near the intersection with NE 64th Street in Kirkland, Washington. Stormwater runoff from the roadway is collected in several grass ditches which convey water to a drywell near the residence of 6139 130th Ave NE. According to City records, the existing drywell is undersized and has no design overflow resulting in the flooding of the crawl space and driveway of residential homes near 6139 130th Ave NE.

The proposed project will evaluate drainage improvements, specifically feasibility of an infiltration gallery with a treatment facility within the right of way. The facility would be used to manage overflow and treatment for the existing system along 130th Ave NE. We have been requested to assess the subsurface conditions near the existing and proposed infiltration facilities, conduct infiltration testing, identify high groundwater levels and to provide recommendations to determine the feasibility and sizing of infiltration facilities.

Review of available geologic mapping and our experience on the nearby City of Kirkland South Reservoir Seismic Retrofit Water Storage Tank project indicates the project site is underlain by low permeability Vashon ice contact and lodgement till sediments. Lodgement till generally consists of a dense, unsorted mixture of gravel, sand, silt, and clay, and it is commonly known as

“hardpan.” More permeable Vashon advance outwash is present under the till layer in other areas of Kirkland and can be an excellent stormwater receptor horizon if the till layer is relatively thin.

SCOPE OF WORK

Our scope will include the following tasks:

- Task 1. Desktop Review, Exploration Borings/Monitoring Well and Meeting with City to Plan Next Steps
- Task 2A. Shallow Infiltration Testing (PITs)
- Task 2B. Groundwater Level Monitoring
- Task 3. Hydrogeologic/Geotechnical Report and Recommendations

Task 1. Desktop Review, Exploration Borings/Monitoring Well and Meeting with City to Plan Next Steps

Task 1 includes review of AESI’s in-house database, regional geologic/hydrogeologic information and information provided by the City. We will then conduct soil borings in two to three locations to obtain shallow soil and groundwater information for infiltration feasibility. The exploration will provide information on thickness of low-permeability sediments (Vashon ice-contact and Vashon till), depth to underlying Vashon advance outwash, and depth to groundwater. Task 1 will require utility locating services and traffic control, as described below. Following field activities, we will prepare a summary data technical memorandum and present results of Task 1 at a design team meeting with City to plan next steps.

Utility Locating

Before performing any subsurface exploration work, we will make a one-call utility locate request to mark publicly-owned on-site utilities. It should be noted that any privately-owned underground utilities at the site will not be marked by the public locating service. For this reason, we will also hire a private utility locating service to supplement the public locate. Private utility locating services are able to mark electrically conductive utilities, such as power lines, steel water and gas lines, and plastic pipes with clearly visible trace wires.

This proposal includes costs for completing a shallow vacuum truck assisted shallow excavation at each boring location. The vacuum truck assisted excavation will be completed to depths of about 4 to 6 feet and will have a similar dimension to the proposed borings. This excavation method is proposed due to the presence of numerous underground utilities in the project vicinity.

Even private utility locators are not able to mark non-conductive utilities, such as plastic water and sewer lines, plastic irrigation and drainpipes, plastic gas lines, fiber optic cables, and concrete

drainpipes. The only way to locate non-conductive privately-owned utilities is by the use of accurate and complete as-built drawings. We understand there is a 24-inch water transmission line on NE 64th Street and an 8-inch water line along the east side of 130th Ave NE within the proposed project area. We request that AESI be provided with as-built plans or other information regarding existing pipes, underground storage tanks (USTs), and/or vaults. This information will greatly reduce—but not necessarily eliminate—the likelihood of damage. We will not be responsible for damage to buried utilities that are not marked on the ground prior to our work, or not shown on as-built plans provided to us.

Right-of-Way Permit Coordination: We understand that a right of way (ROW) permit is not required for this project since the work is for a capital project. Therefore, the costs of obtaining the permit is not included in this scope.

Traffic Control: AESI will manage the coordination and implementation of a traffic control plan. We have incorporated the expenses related to securing the traffic control permit and the costs for subcontractors who will handle temporary traffic management while we carry out subsurface explorations in the right of way. Our estimate assumes that flaggers will be onsite for two full days for exploration borings.

Exploration Borings: The borings will be drilled using a track-mounted drill rig by an independent subcontractor. For budgeting purposes, we have included up to 3 borings, with one completed as a well. The well will be drilled first to a depth of 100 feet. After well drilling, one or two additional borings will be completed to depths of 30 feet within the remaining scoped 2 days of drilling field work. An AESI geologist or engineer will continuously observe the drilling operations, log the subsurface conditions, and collect representative soil samples. We have included costs to haul the soil cuttings offsite.

Monitoring Well: Depth to season high groundwater is a key variable for infiltration feasibility and design and is also useful for other basin planning efforts. We propose that one boring be completed as a 100-foot exploratory monitoring well to document depth to groundwater and characterize the Vashon advance outwash. Should infiltration be pursued, it will be required that the infiltration facility subgrade meets the minimum required separation from groundwater. Obtaining the seasonal groundwater high elevation via a groundwater monitoring well will provide information needed to assess the actual separation distance from groundwater. The well will consist of a 2-inch-diameter polyvinyl chloride (PVC) casing with a slotted section near the bottom. The top of the well will be protected by a steel monument flush with surrounding grade.

Well Development: After the well has been completed, we will make a separate site visit to develop the well by surging water through the well screen and purging a minimum of 3 well volumes from the well.

Laboratory Testing: Six samples from our exploration borings will be tested (sieved) by our in-house geotechnical laboratory for preliminary characterization of infiltration potential.

Project Documentation and Team Meeting:

We will compile our infiltration feasibility findings from data review, the initial drilling and groundwater level monitoring well into a data technical memorandum that will include the following:

- Project and site description, including a site plan showing exploration locations;
- Summary of geologic, soil, and groundwater conditions including interpretive logs of our explorations, laboratory testing data and indications of high groundwater level;
- Initial infiltration feasibility findings, data gaps and recommendations for next steps.

This task includes a team meeting to discuss results of Task 1 and plan for Task 2.

Task 2A. Pilot Infiltration Testing

Task 2A includes two small Pilot Infiltration Tests (PITs) generally corresponding to the procedure described as a small-scale PIT in the 2021 King County Surface Water Design Manual. A subcontracted excavator will be used to dig an initial test pit at each proposed test location. The required duration of the small PIT is 7 hours and includes a 6-hour soaking period followed by a 1-hour test period, after steady-state, relatively constant-head conditions are achieved. Following the test period, the discharge will be discontinued, and the level in the pit will be monitored at timed intervals for up to 1 hour to determine the falling-head rate. Task 2A will require utility locating services and traffic control, similar to Task 1 above. Following field activities, we will update the Task 1 summary data technical memorandum with the results of field infiltration testing.

Site Visit: field visit with you to select the pilot infiltration test locations.

Utility Locating: The test locations are unknown at this time. We have included a separate mobilization of the vacuum-truck to clear for utilities at each proposed PIT location, similar to the Task 1 utility locating activities.

Traffic Control: AESI will manage the coordination and implementation of a traffic control plan. We have incorporated the expenses related to securing the traffic control permit and the costs for subcontractors who will handle temporary traffic management while we carry out subsurface explorations in the right of way. Our estimate assumes that flaggers will be onsite for two full days for the PIT tests.

Test Location and Depth: The test locations and depth will be determined from findings from Task 1, discussions with you and to areas unencumbered by utilities. For budgeting purposes, we have assumed tests would be completed at 15 feet or shallower. Tests deeper than 15 feet will require specialty equipment and will require an additional scope of work.

Water Supply: We have included costs for a water truck to supply water for the infiltration test. We understand the water truck can be filled at the Kirkland Public Works Maintenance Yard.

Site Restoration: Restoration will be limited to backfilling with excavated soils and “bucket-tamping” of the backfill. Settlement of the backfill should be expected. We assume that the City will conduct any additional resurfacing or planting.

Laboratory Testing: Two samples from each PIT will be tested (sieved) by our in-house geotechnical laboratory for preliminary characterization of infiltration potential. Two samples each PIT will be submitted to a subcontracted analytical laboratory for cation exchange capacity and organic matter content testing.

Project Documentation: We will update the Task 1 summary data technical memorandum with the results of field infiltration testing and laboratory testing.

Task 2B. Groundwater Level Monitoring

For seasonal high-water table monitoring, we propose to install a pressure transducer connected to an automatic data logger in the well. The data logger will record hourly water levels, be installed shortly after drilling, and be left in place for a wet season (6 months). Periodic hand measurement of the water level in the well will be collected in conjunction with downloading of water level data recorded by the data logger. The data will be downloaded, entered into a spreadsheet, compensated for barometric pressure effects, and calibrated with the manual water level measurements.

Task 3. Hydrogeologic/Geotechnical Report and Recommendations

Upon completion of our field exploration and testing and laboratory testing programs, we will provide a report that presents our various findings, measurements, conclusions, and recommendations. Specific items to be addressed in our report will include the following:

- Project and site description, including a site plan showing exploration boring and pit locations;
- Summary of geologic, soil, and groundwater conditions including interpretive logs of our explorations and indications of high groundwater level;
- Laboratory testing results;
- Infiltration evaluation and preliminary design infiltration rates based on infiltration testing, grain-size correlations, site variability, and groundwater;
- Review of infiltration site suitability criteria;
- Geotechnical recommendations:
 - Site preparation recommendations;
 - Temporary excavation recommendations;
 - Wet weather recommendations;

- Structural fill recommendations, including suitability of site materials for reuse in structural fill applications;
- Site drainage recommendations;
- Infiltration facility construction considerations;
- Utility backfill recommendations;
- Pavement restoration recommendations, if necessary;
- Recommendations for further study, if required.

Project Administration, Meetings and Coordination: We have included a budget placeholder line item for project administration, meetings, and consultation. This cost includes 4 hours of principal and 4 hours of associate consultation time.

ESTIMATED COST AND SCHEDULE

A summary of estimated project costs is outlined in the following table. If difficult or unanticipated conditions are encountered, we will notify you as soon as possible and no work beyond the authorized scope will be conducted without your prior approval. Meetings or other tasks requested by you that are not included in the scope of work described above will be conducted on a time and expenses basis. Our work will be performed in accordance with our Schedule of Charges, a copy of which is attached.

Task	Subcontracted or Other Direct Costs	AESI Labor
Task 1. Desktop Review, Exploration Borings, Monitoring Well Installation and Meeting with City to Plan Next Steps		
Field Coordination: Utility Locates, Vacuum Potholing and Conductible Locates (\$4,400), Traffic Control (2-days of flaggers and signage estimated at \$1,000 each day)	\$6,400	\$3,500
Exploratory Monitoring Well Installation and Well Development (1 well at 100-feet each, and 2 borings at 30-feet, installed over 2 days, and well development site visit)	\$15,400	\$5,900
Laboratory analysis – six grain size distribution (sieve) tests	\$1,500	\$100
Summary Data Technical Memorandum	--	\$3,800
Meeting Preparation and Attendance	--	\$1,800
Task 1 Subtotal	\$23,300	\$15,100
Task 2A. Shallow Infiltration Testing (PITs)		
Field Coordination: Field Visit with City to Determine Infiltration Test Locations, Vacuum Potholing and Conductible Locates (\$4,400), Traffic Control (2-days of flaggers and signage estimated at \$1,000 each day)	\$6,400	\$2,900

Task	Subcontracted or Other Direct Costs	AESI Labor
Two Pilot Infiltration Tests, one day each for 2 days. Subcontractor includes backhoe excavator, dump truck for soil storage, and water truck for water supply.	\$12,700	\$5,600
Laboratory analysis – four grain size distribution (sieve) tests, cation exchange and organic matter tests	\$1,500	\$100
Project Documentation		\$1,000
Task 2A Subtotal	\$25,700	\$9,600
Task 2B. Water Level Monitoring		
Groundwater Level Monitoring (6-months with dataloggers)	\$1,400	\$2,200
Task 2B Subtotal	\$1,400	\$2,200
Task 3. Hydrogeologic/Geotechnical Report and Recommendations		
Office Engineering and Report Preparation	--	\$5,900
Project Administration, Meetings and Coordination	--	\$2,100
Task 3 Subtotal	--	\$8,000
Project Subtotal	\$45,300	\$34,900
Project Total Estimate	\$80,200	


Schedule

We typically schedule our fieldwork within approximately 3 to 6 weeks, contingent on right-of-way approval and subcontractor availability. Typically, our drilling and excavation subcontractors are scheduling about 3 weeks out. Our fieldwork for this project will be completed on separate mobilizations. We will complete Task 1 field work first. The findings from the exploration borings will guide the Task 2A infiltration testing depth. The infiltration testing will be completed 3 weeks after the exploration borings pending subcontractor availability and coordination with the City. We can deliver our report for this project within approximately 3 weeks after completion of final task laboratory testing. Our cost estimate assumes that our subsurface exploration work will be completed during the days specified in the above tables. Our fieldwork is assumed to occur during normal working hours on non-holiday weekdays.

CLOSURE

We appreciate the opportunity to submit this proposal and hope that it meets your needs. If you approve of our scope of work and would like for us to proceed, please provide a subconsultant agreement with a copy of our proposal attached for reference to our Kirkland office address (AESI, 911 5th Avenue, Kirkland, Washington 98033).

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



Jennifer H. Saltonstall, L.G., L.Hg.
Principal Geologist/Hydrogeologist

Attachment: Schedule of Charges

AESI offers paperless invoicing as an emailed PDF document to your accounts payable department/representative. By providing an email address, you will receive emailed PDF versions of your invoices (no copies will be mailed).

Please provide the appropriate email billing address here:

APinvoices@kirklandwa.gov _____

**ASSOCIATED EARTH SCIENCES, INC.
SCHEDULE OF CHARGES**

Our compensation will be determined on the basis of time and expenses in accordance with the following schedule unless a lump sum amount is so indicated in the proposal or services agreement. Current rates are as follows:

Personnel Charges - Engineers, Hydrogeologists, Geologists, Geophysicists, and Scientists

Senior Principal.....	\$305.00/hour
Principal.....	\$285.00/hour
Senior Associate	\$260.00/hour
Associate	\$240.00/hour
Senior	\$230.00/hour
Senior Project.....	\$215.00/hour
Project	\$185.00/hour
Senior Staff.....	\$160.00/hour
Staff	\$140.00/hour
Legal Testimony (4 hour minimum)	\$400.00/hour

Personnel Charges - Technicians

Senior Field Technician.....	\$135.00/hour
Senior Field Technician Overtime	\$160.00/hour
Technician	\$120.00/hour
Technician Overtime.....	\$140.00/hour

Personnel Charges – Technical Support Staff

Senior Geographic Information Services (GIS) Analyst.....	\$170.00/hour
Geographic Information Services (GIS) Analyst	\$150.00/hour
Drafting and Graphics Specialist.....	\$130.00/hour
Project Assistant.....	\$120.00/hour
Technical Editor.....	\$110.00/hour
Administrative Staff.....	\$90.00/hour

Technology Fee

A one-time technology fee of **\$150** will be applied to the first invoice. This fee reflects costs for software subscriptions/licenses, network data storage and connectivity, and information security that are not included in hourly rates or direct expenses.

Other Direct Expenses

Per Diem.....	To be established on a project basis
Subcontractors and Miscellaneous Expenses.....	cost plus 15%
ArcGIS Online Viewer License	\$150.00/year
Bank/Wire Service Fees	\$25.00/unit
Field Report Processing and Archiving	\$25.00/each
Mileage.....	Federal Reimbursable Rate + 15%

Equipment Charges*Groundwater Monitoring*

Barometer Data Logger	\$50.00/month
Water Level Data Logger	\$75.00/month
Water Level Data Logger Installation	\$35.00/each
Water Level Meter	\$25.00/day

Field Investigations

Aquifer Testing	\$300.00/day
Flow Meter	\$25.00/day
Geotechnical Exploration	\$60.00/day
Turbidimeter	\$35.00/day
Slope Indicator	\$850.00/day
Water Quality Sampling	\$250.00/day
Well Development.....	\$150.00/day

Streamflow Monitoring

Swoffer Streamflow Monitoring.....	\$35.00/day
FlowTracker Streamflow Monitoring	\$250.00/day

Geophysics

Vibration monitoring equipment	\$90.00/day
.....	\$2,000/month
Geophysics – 24-Channel Geophones.....	\$650.00/day
Geophysics – SmartSolo Three Channel Sensor System.....	\$440.00/day

Other

Aerial Drone Equipment (certified drone operator charged separately).....	\$250.00/day
Satellite Phone	\$50.00/day

Laboratory Charges

Atterberg Limit	\$200.00/test
Constant Head Permeability (ASTM D2434-68)	\$550.00/test
Ethylene Glycol Test (3 rock minimum).....	\$200.00/test
Fractured Face Count (AASHTO T-335)	\$125.00/test
Hydrometer	\$210.00/test
Moisture Content.....	\$25.00/test
Organic Content	\$100.00/test
Percent Passing #200	\$125.00/test
Permeability (Falling Head)	\$250.00/test
Proctor ASTM D-1557 and ASTM D-698.....	\$300.00/test
Sand Equivalent.....	\$125.00/test
Sieve with Wash #200	\$250.00/test
Specific Gravity + #4	\$125.00/test
Specific Gravity - #4	\$150.00/test
Unit Weight	\$80.00/test
Void Ratio.....	\$125.00/test

Additional or Miscellaneous Charges

Unlisted equipment rental, laboratory tests, fees, and supplies will be provided on a project basis.