

September 15, 2022

Rick McClung
City of Yachats
PO Box 345
Yachats, OR 97498

RE: Raw Water Tank Site Geotechnical Evaluation

Dear Rick:

Per your request, we obtained the attached proposal from our geotechnical engineering subconsultant (GeoEngineers, Inc.) to perform a geotechnical evaluation of the potential raw water tank site located west of the water treatment plant. Please review the attached proposal and let us know if it meets the City's needs. We assume that the City prefers to run this work through Westech's existing agreement for ongoing engineering services. With our standard subconsultant markup and a small budget for Westech's direct time to manage the work on the City's behalf. The total proposed not-to-exceed fees are as listed in the following table.

Yachats Raw Water Tank Geotechnical Evaluation Fee Schedule

Task	Not to Exceed Fee
GeoEngineers Fee	\$37,150
Westech Subconsultant Markup @10%	\$3,715
Westech Direct Fees	\$1,000
Total Not To Exceed Fee	\$41,865

Before authorizing this work, please review the assumptions listed on page 3 of the attached proposal from GeoEngineers. Please let us know if these assumptions are not valid.

If the City decides to proceed with this work, we assume that the City will authorize us to proceed with these services under our existing city engineering contract (we will provide separate invoices for this work to allow the City to accurately track costs).

This proposal is valid for 6 months from today's date.

Sincerely,

WESTECH ENGINEERING, INC.



Christopher J. Brugato, P.E.

cjb
enc.



333 High Street NE, Suite 102
Salem, Oregon 97301
971.304.3078

September 14, 2022

City of Yachats
c/o Westech Engineering, Inc.
3841 Fairview Industrial Drive SE, Suite 100
Salem, Oregon 97302

Attention: Christopher J. Brugato, PE

Subject: Proposal
Geotechnical Engineering Services
Proposed City of Yachats Steel Tank Reservoir
Yachats River Road
Yachats, Oregon
File No. 8185-003-00

GeoEngineers, Inc. (GeoEngineers) is pleased to submit this proposal to the City of Yachats (City) through Westech Engineering, Inc. (Westech) to provide geotechnical engineering services for a proposed 500,000-gallon steel water tank at a partially developed home site north of Yachats River Road approximately 750 feet east of its intersection with Combs Road in Yachats, Oregon. Based on information you provided, the tank is to be sited in the open area in the upper elevation of the property where some residential and outbuilding type structures are currently located. We assume the site can be accessed by rubber-tired drilling equipment.

At the time this proposal was prepared, tank dimensions were not provided. Based on similar projects, we estimated a water tank with a 40- to 60-foot diameter footprint and approximately 50 to 25 feet tall respectively, for the capacity described above. Our geotechnical design services will include a geologic hazards assessment based on published geologic information, and on-site subsurface explorations as well as in-house information from nearby sites, and a general slope stability analysis based on borings conducted at the tank site and an additional boring downslope near Yachats River Road.

SCOPE OF SERVICES

The purpose of our geotechnical engineering services is to evaluate soil and groundwater conditions as a basis for developing geotechnical design recommendations for the proposed water tank and to assess the existing slope relative to project development.



Our proposed scope of services is written based on the information you provided, our experience in the site area, published geologic mapping and well logs of the area, and our understanding of the project. The specific scope of our services is summarized as follows:

1. Review information regarding subsurface soil and groundwater conditions at the site, including reports in our files, selected geologic maps, and other geotechnical engineering related information for the project area. This will include reviewing historical aerial stereo-photographs for indications of historic and recent or active mass movement.
2. Coordinate and manage the field investigation, including public utility notification and scheduling of subcontractors and GeoEngineers' field staff. Public locates will be called in by our office as required by law. We have assumed that if utilities are located on the site and cannot be identified by public locates, they will be identified with respect to our proposed exploration locations by Westech or by the City prior to our arrival on site. A private locator has not been included in our scope of services but can be added for an additional fee if requested.
3. Explore subsurface soil and groundwater conditions at the proposed tank location and at a location downslope near Yachats River Road by drilling exploratory borings using a truck-mounted drill rig.
 - a. At the proposed tank location in the upslope portion of the site, we will drill one boring to an approximate depth of 140 to 160 feet below ground surface (bgs) or practical refusal on very dense gravel or rock if encountered at a shallower depth. The intent of such deep explorations is to adequately characterize subsurface soils to a sufficient depth for the large area under the tank load and to extend the boring to below the elevation of the roadway to the south. If the first boring is drilled and meets refusal at 30 feet bgs or less, a second boring will be advanced in the tank footprint to a similar depth to confirm consistent depth of materials in the upper portion of the subsurface.
 - b. In addition, we will drill one boring to a depth of 30 to 40 feet bgs or practical refusal in dense gravel or rock if encountered at a shallower depth.

We have assumed that access to the site will be provided to us by means of right of entry provided by Westech or the City. In addition, we have assumed that if there are areas of the site that our equipment is not allowed to access, that we will be notified prior to equipment mobilization. Drilling activities are completed with large diesel engine driven equipment and can be very loud. Adjacent site users and tenants should be notified of this prior to our arrival.

Drilled explorations will require 2 to 3 full working days (8:00 a.m. to 5 p.m.) to complete. The borings will be backfilled as required by state law and surface disturbance minimized to the extent practical. We will endeavor to clean up exploration areas and minimize surface damage and surface impacts to the explored areas, but some surface damage such as rutted tracks and soiled surface areas will remain as a result of drilling to depth. We can discuss potential for surface damage further with the current site owner or the project team if requested.

4. Conduct a site walk to assess the surficial slope conditions upslope and downslope of the proposed tank location. The intent of the site walk is to perform a geologic visual reconnaissance of the site and immediate vicinity to document existing surface conditions, with particular attention to surficial indications of slope instability.



5. Obtain samples at representative intervals from the explorations, observe groundwater conditions and maintain detailed logs in general accordance with ASTM International (ASTM) Standard Practices Test Method D 2488. Qualified staff from our office will observe and document field activities.
6. Perform laboratory tests on selected soil samples obtained from the explorations to evaluate pertinent engineering characteristics. Specific laboratory tests will depend on soil conditions encountered, but may include moisture/density tests, Atterberg limit tests, and percent fines tests.
7. Provide a geotechnical evaluation of the site and provide geotechnical design and construction recommendations in a geotechnical report that will address the following geotechnical components:
 - a. A general description of site topography, geology and subsurface conditions.
 - b. A summary of our geologic site reconnaissance.
 - c. An opinion regarding the adequacy of the proposed reservoir tank from a geotechnical engineering standpoint.
 - d. Recommendations for site preparation measures, including disposition of undocumented fill and unsuitable native soils, and constraints for wet weather construction.
 - e. Recommendations for temporary excavation and temporary excavation protection.
 - f. Recommendations for earthwork construction, including use of on-site and imported structural fill, and fill placement and compaction requirements.
 - g. Recommendations for foundations to support the proposed tank walls and tank base slab, including minimum width and embedment of footings, design soil bearing pressures, settlement estimates (total and differential), coefficient of friction and passive earth pressures for sliding resistance. We have assumed that shallow spread foundations or a mat foundation can be used to adequately support the tank structure.
 - h. Comments on potential for effect of seismic hazards, including liquefaction, slope failure, surface fault rupture, International Building Code (IBC) geotechnical seismic design parameters, and IBC soil classification.

Our geotechnical work will be directly supervised by a professional geotechnical engineer licensed in the state of Oregon. Our engineer will apply their professional seal to the final report.

ASSUMPTIONS

In preparing this proposal, we have made the following assumptions with respect to the geotechnical engineering services.

1. Full access to the site will be provided for our exploration personnel and equipment and facilitated through Westech and be arranged prior to our arrival at the site to conduct field explorations. This will include access to the slopes adjacent to the tank site.
2. A conventional truck-mounted drill rig can adequately access the site without use of specialized transporting or supporting equipment. Specialized track-mounted or limited access drilling equipment can be mobilized for additional cost if authorized.



3. Minor surface damage that will result from exploration activities is acceptable to the City. We can discuss this item further with the project team or City of Yachats personnel if requested.
4. Excess drill cuttings can be scattered on site and will not require drumming and removal from the site.
5. Contaminated soils will not be encountered during our exploration and sampling. If contaminated or suspected contamination is encountered (based on field screening), we will stop drilling operations, notify you and discuss how to proceed.
6. No specialty permits, or archeological testing provisions are required.
7. A site-specific seismic study with non-linear response spectra is not anticipated and is not included in our scope of services.

SCHEDULE, TERMS, AND FEES

Boring subcontractors are approximately 4 to 6 weeks out for available scheduling. We are prepared to schedule the explorations for the geotechnical evaluation immediately after receiving your written authorization to proceed. To expedite the report completion process, we are prepared to mark boring locations and schedule utility locates immediately following written authorization to proceed so that we can mobilize to the site to conduct proposed explorations if a driller date opens from a cancellation on another project. We estimate that the exploration program will require 2 to 3 working days to complete. Our initial report will be available approximately 4 weeks after completing the explorations. We will provide a verbal summary of our findings as the information becomes available.

Our scope of services will be provided for an estimated fee of **\$37,150** in accordance with the Schedule of Charges and General Conditions that are attached to and part of this proposal. The estimated fee with contingency scope added does not include remobilizing to the site to remove the observation points as noted above. Services requested and authorized in addition to the scope of services outlined above will be provided in accordance with the attached Schedule of Charges.

An approximate itemization of our expenditures for the scope of services outlined above for this proposed phase of work follows.



ESTIMATED FEE BREAKDOWN

Activity	Expenditures
GeoEngineers	
Subsurface Data and Geologic Review, Marking Site	\$1,930
Geologic Reconnaissance On Site	\$1,760
Fieldwork (two working days, including travel and per diem expenses)	\$4,680
Laboratory Testing/Equipment	\$1,960
Analysis and Report Preparation	\$8,380
Project Management	\$1,920
Subtotal	\$20,630
Subcontractor	
Driller	\$15,970
Private Locator	\$550
Subtotal	\$16,520
Total Estimated Budget	\$37,150

Additional required or requested services will be discussed with you and will not be undertaken without your prior approval.

This proposal is valid for a period of 60 days commencing from the first date listed above and subject to renegotiation by GeoEngineers, Inc., after the expiration date.

LIMITATIONS

Our services are for the exclusive use of City of Yachats, Westech, and their authorized agents for this project. There are no intended third-party beneficiaries arising from the services described in this proposal and no party other than those listed above shall have the right to legally rely on the product of our services without prior written permission of GeoEngineers.



We appreciate the opportunity to submit this proposal. Please call if you have any questions regarding this submittal. Formal authorization for our services can be provided by returning one signed copy of this agreement.

Sincerely,
GeoEngineers, Inc.

Julio C. Vela, PhD, PE, GE
Principal Geotechnical Engineer

JCV:alb

Attachments:

- General Conditions – Standard 2021
- Schedule of Charges—Salem 2022

One copy submitted electronically



The parties hereto have made, executed and agreed to this Agreement as of the day and year first above written. By signature below, Client accepts the scope of services and all terms described herein. In addition, Client's signature shall constitute as authorization to proceed on the date listed below Client's printed/typed name unless such authorization has been otherwise provided verbally or in writing.

Westech Engineering, Inc.	
ORGANIZATION	* SIGNATURE
DATE	TYPED OR PRINTED NAME
	*Individual with contracting authority.

Proprietary Notice: The contents of this document are proprietary to GeoEngineers, Inc. and are intended solely for use by our clients and their design teams to evaluate GeoEngineers' capabilities and understanding of project requirements as they relate to performing the services proposed for a specific project. Copies of this document or its contents may not be disclosed to any other parties without the written consent of GeoEngineers.

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Schedule of Charges – 2022

COMPENSATION

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:

Professional Staff	
Staff 1 Scientist	\$ 110/hour
Staff 1 Engineer	\$ 115/hour
Staff 2 Scientist	\$ 121/hour
Staff 2 Engineer	\$ 126/hour
Staff 3 Scientist	\$ 134/hour
Staff 3 Engineer	\$ 137/hour
Engineer/Scientist 1	\$ 141/hour
Engineer/Scientist 2	\$ 150/hour
Senior Engineer/Scientist 1	\$ 168/hour
Senior Engineer/Scientist 2	\$ 180/hour
Associate	\$ 205/hour
Principal	\$ 230/hour
Senior Principal	\$ 235/hour
Technical Support Staff	
Administrator 1	\$ 78/hour
Administrator 2	\$ 83/hour
Administrator 3	\$ 88/hour
CAD Technician	\$ 95/hour
CAD Designer	\$ 107/hour
CAD Design Coordinator	\$ 121/hour
GIS Analyst	\$ 145/hour
Senior GIS Analyst	\$ 160/hour
GIS Coordinator	\$ 180/hour
*Technician	\$ 75/hour
*Senior Technician	\$ 85/hour
*Lead Technician	\$ 95/hour
*Environmental Technician	\$ 95/hour

*Hours in excess of 8 hours in a day or 40 hours in a week will be charged at one and one-quarter times the hourly rates listed above.

Contracted professional and technical services will be charged at the applicable hourly rates listed above. Staff time spent in depositions, trial preparation and court or hearing testimony will be billed at one and one-half times the above rates. Time spent in either local or inter-city travel, when travel is in the interest of this contract, will be charged in accordance with the foregoing schedule. A surcharge may be applied to night and weekend work. See proposal for details.

Rates for data storage and web-based access will be provided on a project-specific basis.

Equipment

Air Quality Monitoring Package, per day	\$	200.00
Asbestos/Lead Paint Sampling Equipment Package, per day	\$	150.00
Environmental Exploration Equipment Package, per day	\$	225.00
Field Exploration Equipment Package (marking paint, stakes, survey flagging, other misc. supplies)	\$	40.00
Geotechnical Exploration Equipment Package, per day	\$	175.00
Groundwater Monitoring & Sampling Equipment (Bladder Pump) Package, per day	\$	450.00
Groundwater Monitoring & Sampling Equipment (Peristaltic Pump) Package, per day	\$	325.00
Surface Water Quality Monitoring Equipment Package, per day	\$	200.00
Operations and Maintenance Equipment Package, per day	\$	300.00
Rock/Slope Fall Protection / Rigging Equipment Package, per day	\$	600.00

Specialized Equipment

4 Gas Meter, per day	\$	150.00
Field Data Acquisition – iPad or GPS, per day	\$	75.00
Flow Meter, per day	\$	150.00
Hydrolab Multi Meter Probe, per day	\$	75.00
Interface Probe, per day	\$	65.00
Nuclear Density Gauge, \$80/day, or \$40/half-day	\$	80.00/40.00
Photoionization Detector (PID)	\$	125.00
Pressure Transducer with Data Logger, per day	\$	150.00
Slope Indicator, per day	\$	135.00
Turbidity Monitoring Meter, per day	\$	50.00
Water Level Indicator, per day	\$	50.00
Vehicle usage, per mile, or \$50/half-day, whichever is greater	\$	0.70
Vehicle - 4-Wheel Drive Truck, per day (1 day min.)	\$	100.00
Other Miscellaneous Field Equipment, at current rates, list available upon request, per day		

Specialized equipment will be quoted on a per-job basis.

OTHER SERVICES, SUPPLIES AND SPECIAL TAXES

Charges for services, equipment, supplies and facilities not furnished in accordance with the above schedule, and any unusual items of expense not customarily incurred in our normal operations, are charged at cost plus 15 percent. This includes shipping charges, subsistence, transportation, printing and reproduction, miscellaneous supplies and rentals, surveying services, drilling equipment, construction equipment, watercraft, aircraft, and special insurance which may be required. Taxes required by local jurisdictions for projects in specific geographic areas will be charged to projects at direct cost.

In-House Disposable Field Supplies

Routinely used field supplies stocked in-house by GeoEngineers, at current rates, list available upon request.

Associated Project Costs (APC)

Computer hardware and software, telephone and fax communications, printing and photocopying and routine postage via USPS will be charged at a flat rate of 6 percent of labor charges.

Laboratory Schedule of Charges

Type of Test	Unit Price*
Moisture Content / Oven (ASTM D2216)	\$ 30.00
Sample Preparation	
Extrusion - Extrude and log (visual classification) Shelby tube sample, per hour	\$ 67.00
Trimming - Trim a soil sample to 2.41-inch dia. for consolidation testing, per hour	\$ 67.00
Remolding - Remold a soil sample to desired moisture and density, per hour	\$ 67.00
Moisture/Density	
Rings	\$ 35.00
Shelby Tubes, waxed chunk	\$ 50.00
Tubes (liners), chunk	\$ 50.00
Organic Content (ASTM D2974)**	\$ 75.00
Particle Size Analysis	
Sieve (ASTM C136) max size < 3/4-inch (includes -200 Wash, Dry Sieve)	\$ 115.00
Sieve (ASTM C136) max size > 3/4-inch (includes -200 Wash, Dry Sieve)	\$ 120.00
Percent Passing No. 200 (ASTM C117-87/D1140)	\$ 60.00
Combined Sieve and Hydrometer (ASTM D422)	\$ 225.00
Hydrometer only (ASTM D422)	\$ 125.00
Atterberg Limits (ASTM D4318)	\$ 130.00
Nonplastic	\$ 90.00
Specific Gravity, Fine Material (ASTM D854)	\$ 90.00
Specific Gravity, Coarse Material (ASTM C-127)	\$ 75.00
Percent of Fracture (ASTM D5821)	\$ 50.00
Sand Equivalent (AASHTO T 176, ASTM D-2419)	\$ 80.00
Compaction (ASTM D1557/D698, Methods A, B and C, AASHTO T-180)	
4 points	\$ 200.00
Direct Shear (ASTM D3080)	
3 points	\$ 450.00
R-Value (ASTM D2844, Idaho T-8)	\$ 500.00
Consolidation (ASTM D2435)	
With 2 timed load increments	\$ 450.00
Permeability	
Constant or falling head in rigid wall permeameter (ASTM D 2434, D 5856)**	\$ 350.00
In triaxial cell with back pressure saturation (ASTM D 5084)**	\$ 800.00
One-Dimensional Swell (ASTM D4546)	
Method A**	\$ 500.00
Method B**	\$ 500.00
Method C**	\$ 750.00
CBR (3 point) with Proctor (ASTM D1883)	\$ 600.00
Rock Point Load Index Test (ASTM D5731)	\$ 45.00
Unconfined compressive strength of rock cores (ASTM D7012)	\$ 55.00
High Strength Grout Cubes (ASTM C109)	\$ 30.00
Compressive Strength of Drilled Concrete Core (ASTM C 42)	\$ 55.00

Other tests charged at negotiated rates

*Increase unit prices by 20 percent – 50 percent for contaminated samples.

** Conducted in our Redmond Laboratory, additional shipping charges may apply.

All rates are subject to change upon notification.