

January 12, 2023



ODOT District 11
2201 Reiser Ave. SE
New Philadelphia, OH 44663

Attn: Mr. Timothy E. Stillion, P.E.
P: (303) 308-6936
E: Tim.Stillion@dot.ohio.gov

Re: Task Order Proposal for Geotechnical Engineering Services
BEL-250-8.15 PID 118151 - Retaining Wall Replacement
Bridgeport, Belmont County, Ohio
Terracon Proposal No. PN4225519

Dear Mr. Stillion:

We appreciate the opportunity to submit this proposal to ODOT District 11 to provide Geotechnical Engineering services for the above referenced project. The following are exhibits to the attached Agreement for Services.

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule
Exhibit D	Site Location Plan
Exhibit E	Anticipated Exploration Plan
Exhibit F	ODOT Cost Proposal

Our total base fee to perform the Scope of Services described in this proposal is **\$9,470**. See **Exhibit C** and **Exhibit F** for more details of our fees. These services will be provided under ODOT Agreement No. 36285 dated October 5, 2021. Authorization to proceed in accordance with this task order proposal can be provided by ODOT's written notice to proceed. This proposal is valid only if authorized within 60 days from the listed proposal date.

Sincerely,
Terracon Consultants, Inc.

Bijoy K Halder, PhD, P.E.
Project Engineer

Kevin M. Ernst, P.E.
Principal | Regional Manager



Proposal for Geotechnical Engineering Services

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EXHIBIT A - PROJECT UNDERSTANDING

Our Scope of Services is based on our understanding of the project as described by ODOT District 11 and the expected subsurface conditions as described below. We have not visited the project site to confirm the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request the design team verify all information prior to our initiation of field exploration activities.

Site Location and Anticipated Conditions

Item	Description
Parcel Information	The project site located along Sunset Road (US Route 250) is in Bridgeport, Belmont County, Ohio. The center of the site is at approximately: 40.0869°, -80.7510°
Existing Improvements	Asphalt pavement, retaining wall adjacent to the roadway
Existing Topography (from Google Earth™)	The existing ground is sloped upward from east to west with surface elevations ranging from approximately EL. 1014 feet to EL. 1036 feet. The site has existing slope along south side of the existing roadway, with site grades fall from an approximate elevation of EL.1036 feet to EL.961 feet.
Site Access	We expect the site, and all exploration locations, are accessible with our ATV/truck-mounted drilling equipment.
Expected Subsurface Conditions	Our experience near the vicinity of the proposed development or geologic maps indicates subsurface conditions consist of lean clay and silt with interbedded sand and gravel. Bedrock depth is anticipated between depths of approximately 15 to 20 feet below existing grades.

Planned Construction

Based on the information provided in ODOT's document titled "Request for Task Order Proposal" dated December 2, 2022, the proposed replacement of existing retaining wall adjacent to roadways is anticipated along State Route 250 in Bridgeport, Belmont County, Ohio. The proposed retaining wall replacement is assumed to be drilled shaft wall.

EXHIBIT B - SCOPE OF SERVICES

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

Field Exploration

ODOT District 11 prescribed the following boring locations and depths:

Existing structure	Boring ID ²	Planned Exploration (feet) ¹	Estimated Overburden Drilling (lf)	Estimated Rock Coring (lf)
Retaining wall	B-001-0-23	30	20	10

1. Below ground surface.

2. Refer to **Exhibit E**. The borings are located along the edge of the slipped roadway.

It is estimated that approximately 30 lineal feet of drilling would be required for this project with approximately 20 lineal feet of overburden soil drilling and 10 feet of rock coring. However, additional drilling may be required depending on the subsurface conditions.

Boring Layout and Elevations: We have assumed that District 11 Engineer's Office will mark the boring location. Approximate ground surface elevations will be obtained by interpolation between ground surface contours on a topographic survey plan, if available. Otherwise, we will estimate ground surface elevations based on satellite imagery. We have assumed that District 11 Engineer's Office will survey the drilled boring locations and provide the coordinates and elevations to Terracon.

Subsurface Exploration Procedures: Please note that the drilling footage presented in the above table is estimated. The actual drilling footage will be determined by the project geotechnical engineer based on conditions encountered in the field and the boring termination criteria of the ODOT's Specifications for Geotechnical Explorations (SGE).

For retaining walls more than 8 feet high, the boring will be extended below the estimated bottom of the wall face through soft or loose strata 20 feet into very stiff or medium dense soils requiring not less than 16 blows per foot or having an estimated undrained shear strength >2.0 ksf, but not less than 1.5 times the wall height. For borings that encounter bedrock above the estimated bottom of the wall face, core bedrock to a depth of 10 feet below the estimated bottom of the wall face. For borings that encounter bedrock below the estimated bottom of the wall face, extend the boring 10 feet into bedrock. For retaining walls which have a drilled-in foundation, such as soldier pile and drilled shaft wall types, extend the borings to a depth below the bottom of the wall face equal to the wall height whether bedrock is encountered or not.

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The boring will be advanced with an ATV or Truck mounted rotary drill rig using continuous flight augers (solid-stem and/or hollow-stem as necessary depending on soil conditions). SPT soil samples using 18-inch split spoon will be obtained at 2.5 feet interval in the upper 20 feet of the boring and every 5 feet interval thereafter per ODOT SGE sampling specifications. Soil sampling is typically performed using thin-wall tube and/or split-barrel sampling procedures. Split-barrel sampling will be performed using a standard 2-inch outer diameter split-barrel sampling spoon that will be driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, will be indicated on the boring log at the depths where they are performed. The samples will be classified in the field, placed in appropriate containers, taken to our soil laboratory for testing, and reviewed by a Geotechnical Engineer. Thin-walled tube sampling procedures may be performed if soil conditions are conducive for sampling. Thin-walled tube samples would be obtained by hydraulically pushing a seamless steel tube with a sharp cutting edge into the soil to obtain a relatively undisturbed sample.

Upon encountering bedrock or refusal-to-drilling conditions prior to planned depth within the boring, rock coring (using NQ/NX rock core barrel) will be performed up to a minimum of 10 feet within bedrock. Water will be used as a drilling fluid for rock coring, and the spent water will be discharged on site.

Groundwater observations will be recorded in the field and noted on the boring log. Groundwater levels will be recorded in the boring during drilling and upon completion of drilling. Upon completion of groundwater level measurements, the boreholes will be backfilled following ODOT borehole abandonment procedures per SGE. To better evaluate groundwater conditions, delayed groundwater readings could be obtained for an additional fee and are not included in proposed scope of services.

Our exploration team will prepare a field boring log as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. The field log includes visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. A final boring log, prepared from the field log, represents the Geotechnical Engineer's interpretation, and include modifications based on observations and laboratory tests.

Property Disturbance: The boring will be backfilled following ODOT borehole abandonment procedures per SGE. The proposed boring will be offset based on the site access and to avoid utilities. We will perform traffic control services based on the rates provided in Exhibit C. We also assume a pavement core will not be required during drilling operations of the proposed boring. Our base scope of services does not include repair of the site beyond backfilling our borehole. Excess auger cuttings will be dispersed in the general vicinity of the borehole. The Client should

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understand that some settlement of the borehole fill may occur. No future maintenance or filling of the hole is included in our fee.

Site Access: Items to be provided by the Client include the right of entry to conduct the exploration and an awareness and/or location of any private subsurface utilities existing at the sites. Also, if there are any other restrictions or special requirements regarding the sites or exploration, Terracon should be made aware of prior to commencing the subsurface exploration. We will apply for a soil boring permit using ODOT's e-permitting system should the boring need to be performed within the ODOT's right-of-way. It is our understanding that all borings are within District 11 right of way. Terracon will maintain traffic control while performing field exploration within the Sunset Heights Roadway.

Safety

This proposal assumes that no environmental concerns or hazards are present at the site and all field activity will be performed in Level 'D' personal protective equipment. If this assumption is not correct, it will be necessary for us to evaluate the nature of the contamination and modify our site-specific safety plan to address the contamination issues for the protection of our employees. Any fees associated with or consequential to the preparation and implementation of the site-specific health and safety plan (e.g., monitoring equipment, personal protective equipment beyond Level 'D', special handling and disposal of drill spoils, decontamination, etc.) would be in addition to our fee described below. Our scope of services does not include environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Other than obtaining District 11 right-of-way work permit, Client shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the Services and will execute any necessary site access agreement. Terracon will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site.

In addition, Terracon retains the right to stop work without penalty at any time Terracon believes it is in the best interests of Terracon's employees or subcontractors to do so in order to reduce the risk of exposure to the coronavirus. Client agrees it will respond quickly to all requests for information made by Terracon related to Terracon's pre-task planning and risk assessment processes. Client acknowledges its responsibility for notifying Terracon of any circumstances that present a risk of exposure to the coronavirus or individuals who have tested positive for COVID-19 or are self-quarantining due to exhibiting symptoms associated with the coronavirus.

Utility Clearances

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Terracon will contact Ohio811 to mark out public utilities before the start of our field exploration program. It should be noted that OUPS requires a minimum of two business days (Monday through Friday) to locate utilities. Locating private utilities is the responsibility of the owner. Terracon will not be responsible for any damage to utilities not marked or improperly located.

Laboratory Testing

A laboratory testing program will be initiated and include visual classification in accordance with ODOT SGE. Laboratory testing might include but not limited to gradation, Atterberg limits, hand penetrometer tests, moisture content tests and unconfined compression strength tests performed on select soil and rock samples. The test boring logs will be reclassified using ODOT standards by the project geotechnical engineer using the lab testing data, review of the soil samples, and notes recorded by the drill foreman. The laboratory testing will be performed under the supervision of the laboratory manager.

All samples will be retained by Terracon for a period of 60 days following the submission of our geotechnical engineering report.

Engineering and Project Delivery

Results of our field and laboratory programs will be evaluated by a professional engineer. The engineer will develop a geotechnical site characterization, perform the engineering calculations necessary to evaluate foundation alternatives, and develop appropriate geotechnical engineering design criteria for earth-related phases of the project.

Your project will be delivered using our **GeoReport®** system. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. The typical delivery process includes the following:

- Project Planning – Proposal information, schedule and anticipated exploration plan will be posted for review and verification
- Site Characterization – Findings of the site exploration
- Geotechnical Engineering – Recommendations and geotechnical engineering report

When services are complete, we upload a printable version of our completed geotechnical engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration and the report are maintained in our system. This allows future reference and integration into subsequent aspects of our services as the project goes through final design and construction.

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The geotechnical engineering report will follow ODOT SGE requirements and will provide the following:

- Boring logs with field and laboratory data
- Stratification based on visual soil classification
- Groundwater levels observed during and after the completion of drilling
- Site Location and Exploration Plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Subgrade preparation and earthwork recommendation
- Recommended lateral earth pressure design parameters
- Recommended soil and rock design parameters for retaining walls

In addition to providing the geotechnical engineering report, we will also provide the following services:

- Terracon will review Stage 2 and final plan sets when made available in accordance with the geotechnical engineering report and issue a review letter certifying it.

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EXHIBIT C - COMPENSATION AND PROJECT SCHEDULE

Compensation

Based upon our understanding of the site, the project as summarized in **Exhibit A**, and our planned Scope of Services outlined in **Exhibit B**, our base fee is shown in the following table. A further breakdown of our cost estimate is provided in **Exhibit F**.

Base Scope of Services Description	Estimated Fee
BEL 250-8.15 Retaining Wall Replacement (Geotechnical Evaluation)	\$7,950
Traffic Control Services	\$1,520
TOTAL FOR BASE SCOPE OF SERVICES^{1,2}	\$9,470

1. We assume geotechnical evaluation for BEL-250 and BEL-147 projects will be authorized together.

2. We assume one day of traffic control services are required to perform drilling safely.

The total estimated fee provided in here is for reference only, our base scope of services will be performed based on the unit rates provided in the ODOT cost proposal attached in **Exhibit F** and not on a lumpsum fee basis.

Additional fees would apply for **traffic control** and **drilling services** in excess of the amount associated with the above estimated fee. Unit rates for additional mobilizations, drilling, sampling, rock coring, and traffic control would be consistent with unit rates presented in **Exhibit F**. We would submit a supplemental proposal to ODOT requesting authorization to proceed with additional services beyond those presented in our base scope of services.

We have assumed 2, one-hour long virtual meetings and about 4 hours to respond for RFI's in our base scope of services. If additional meeting attendance or consultation services are requested and/or necessary, beyond the engineering report preparation, they will be provided in accordance with the unit rates presented below. Please note that any additional meetings/consultation beyond budgeted quantities in our estimated total fee above would only be invoiced for the services actually performed. In addition, we have assumed that public space permit or any other permits will be obtained by others for this project. If any of the aforementioned services are required, they will be provided based on our labor rates presented in the ODOT Proposal Spreadsheet attached as **Exhibit F**.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. If conditions are encountered that require scope of work revisions and/or result in higher fees, we will contact you for approval, prior to initiating these services. A supplemental proposal stating the modified scope of services as well as its effect on our fee will be prepared. We will not proceed without ODOT's prior authorization.

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Our scope of services does not include services associated with site clearing, wet ground conditions, tree or shrub clearing, or repair of/damage to existing landscape or crops. If such services are desired by the owner/client, we should be notified so we can adjust our scope of services.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission to access the exploration locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

GeoReport® Delivery	Approximate Posting from Notice to Proceed ¹
Project Planning	1 to 2 weeks
Field Exploration Work	3 to 4 weeks
Laboratory Testing	4 to 5 weeks
Report	5 to 6 weeks

1. In the event of a need to modify the schedule, the schedule will be updated to maintain a current awareness of our plans for delivery.

EXHIBIT D – SITE LOCATION

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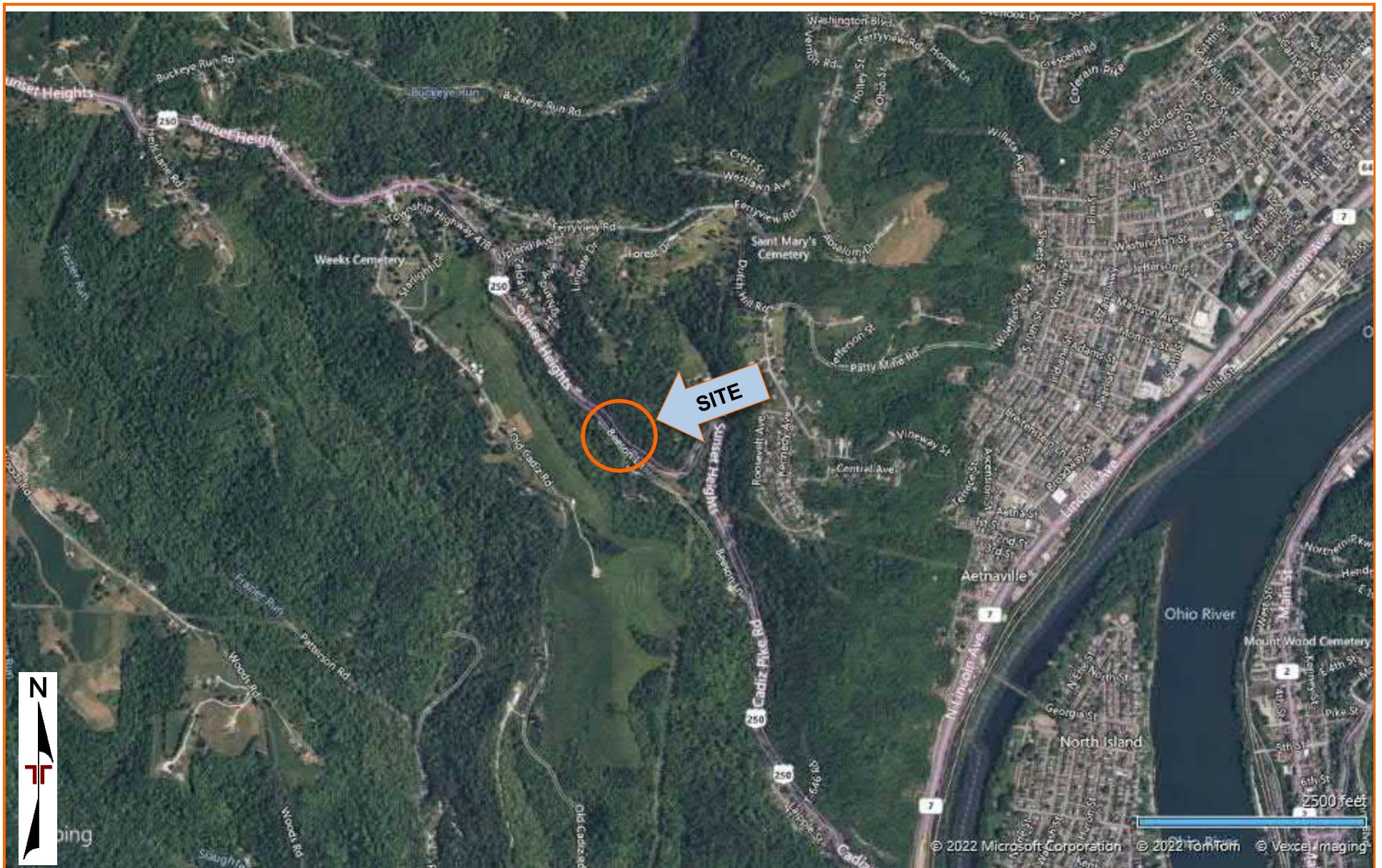


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXHIBIT E – ANTICIPATED EXPLORATION PLAN

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Terracon

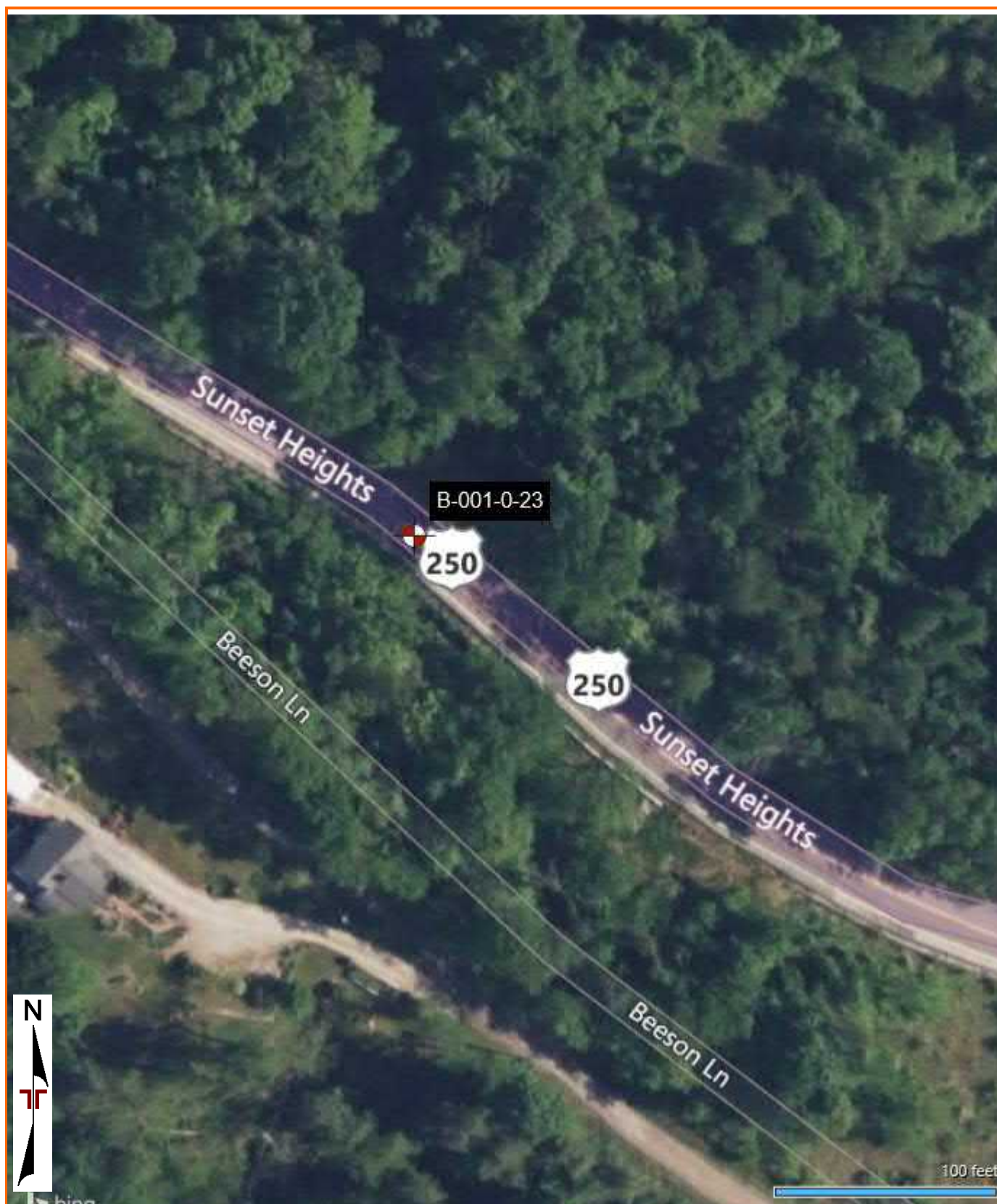


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS



OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

PROPOSAL
for the
GEOTECHNICAL EXPLORATION

BEL - 250 - 8.15

PID-118151

RETAINING WALL REPLACEMENT

TERRACON CONSULTANTS INC

Prepared By: **Bijoy K. Halder**

Date prepared: **January 12, 2023**

Terracon Consultants, Inc
800 Morrison Road
Columbus, OH 43230

Phone: (614) 328 -1197
bkhalder@terracon.com

GEOTECHNICAL EXPLORATION PROPOSAL					COST SUMMARY					
C/R/S :	BEL - 250 - 8.15				Overhead Percentage =		198.14%			
PID NO.:	PID-118151				ODOT Statewide Percentage for Net Fee =		157.25%			
CONSULTANT:	TERRACON CONSULTANTS INC				Net Fee Percentage =		11.00%			
DATE:	January 12, 2023				Cost of Money =		1.07%			
Task	Hourly Rate	Total Hours	Direct Labor Costs	Overhead Costs	Cost of Money	Other Direct Costs	Subcon. Costs	Net Fee	Total Cost	Percent of Total Cost
RECONNAISSANCE AND PLANNING										
Office Reconnaissance	\$0.00	0	\$0	\$0	\$0			\$0	\$0	
Field Reconnaissance	\$0.00	0	\$0	\$0	\$0			\$0	\$0	
Exploration Plan	\$41.50	2	\$83	\$164	\$1	\$0	\$0	\$23	\$271	
Subtotal	\$41.50	2	\$83	\$164	\$1	\$0	\$0	\$23	\$271	3%
	Avg. Rate									
FIELD COORDINATION										
Field Coordination	\$40.50	4	\$162	\$321	\$2	\$1,520		\$46	\$2,051	22%
Logging (if drilling is subcontracted)	\$0.00	0	\$0	\$0	\$0	\$0		\$0	\$0	0%
Subtotal	\$40.50	4	\$162	\$321	\$2	\$1,520		\$46	\$2,051	
	Avg. Rate									
FIELD EXPLORATION										
Subtotal							\$0		\$3,070	32%
LABORATORY TESTING										
Subtotal							\$0		\$800	8%
GEOTECHNICAL EXPLORATION REPORT										
Subgrade and Roadway	\$0.00	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Bridge	\$0.00	0	\$0	\$0	\$0		\$0	\$0	\$0	
Retaining wall	\$40.04	25	\$1,001	\$1,983	\$11		\$0	\$283	\$3,278	
Geohazard (describe)	\$0.00	0	\$0	\$0	\$0		\$0	\$0	\$0	
Stage 2 Plan Review	\$0.00	0	\$0	\$0	\$0		\$0	\$0	\$0	
Final Plan Review	\$0.00	0	\$0	\$0	\$0		\$0	\$0	\$0	
Subtotal	\$40.04	25	\$1,001	\$1,983	\$11	\$0	\$0	\$283	\$3,278	35%
	Avg. Rate									
GRAND TOTAL ALL PARTS										Cost per foot*
Total	\$40.19	31	\$1,246	\$2,468	\$14	\$1,520	\$0	\$352	\$9,470	\$316
	Avg. Rate									

*Cost per foot does not include sub-contracted traffic maintenance

GEOTECHNICAL EXPLORATION PROPOSAL				LABOR HOURS						
C/R/S :	BEL - 250 - 8.15				HOURLY RATES					
PID NO.:	PID-118151				<u>Personnel Category</u>		<u>Salary Rate</u>			
CONSULTANT:	TERRACON CONSULTANTS INC				Manager, P.E.		\$65.10			
DATE:	January 12, 2023				Project Engineer, P.E.		\$45.99			
					Staff Engineer		\$37.28			
					CADD Technician		\$32.83			
					Field Supervisor		\$39.33			
					Technician		\$22.22			
					Geologist		\$30.42			
					Secretary		\$30.70			
HOURS BY PERSONNEL CATEGORY										
Task	Manager	Project Engineer	Staff Engineer	CADD Technician	Field Supervisor	Technician	Geologist	Secretary	Total Hours	Labor Costs
RECONNAISSANCE AND PLANNING										
Office Reconnaissance	0	0	0	0	0	0	0	0	0	\$0
Field Reconnaissance	0	0	0	0	0	0	0	0	0	\$0
Exploration Plan	0	1	1	0	0	0	0	0	2	\$83
Subtotal	0	1	1	0	0	0	0	0	2	\$83
FIELD COORDINATION										
Field Coordination	0	1	1	0	2	0	0	0	4	\$162
Logging (if drilling is subcontracted)	0	0	0	0	0	0	0	0	0	\$0
Subtotal	0	1	1	0	2	0	0	0	4	\$162
GEOTECHNICAL EXPLORATION REPORT										
Subgrade and Roadway	0	0	0	0	0	0	0	0	0	\$0
Bridge	0	0	0	0	0	0	0	0	0	\$0
Retaining wall	1	6	16	1	0	0	0	1	25	\$1,001
Geohazard (describe)	0	0	0	0	0	0	0	0	0	\$0
Stage 2 Plan Review	0	0	0	0	0	0	0	0	0	\$0
Final Plan Review	0	0	0	0	0	0	0	0	0	\$0
Subtotal	1	6	16	1	0	0	0	1	25	\$1,001
LABOR TOTAL ALL PARTS										
Total	1	8	18	1	2	0	0	1	31	\$1,246

GEOTECHNICAL EXPLORATION PROPOSAL				FIELD EXPLORATION		
C/R/S :	BEL - 250 - 8.15					
PID NO.:	PID-118151					
CONSULTANT:	TERRACON CONSULTANTS INC					
DATE:	January 12, 2023					
Task	Quantity	Unit	Unit Cost	Cost	Task Description	
Mobilization/Demobilization	1	lump	\$1,500.00	\$1,500	Getting the necessary equipment and personnel to and from the project site. Includes crew travel time and mileage to and from the site, at the start and upon completion.	
Subtotal				\$1,500		
Traffic Maintenance					Describe each traffic control set-up, as referenced in the Ohio Manual of Uniform Traffic Control Devices, by the Typical Application No. Includes all flaggers, law enforcement, per-diem, mileage, and equipment and personnel to set-up, maintain, and tear down traffic control zones	
Typical Application No.		days		\$0		
Typical Application No.		days		\$0		
Railroad Traffic Control		days		\$0		
Subtotal				\$0		
Subsurface Exploration					Includes all necessary equipment, materials, and personnel to move equipment and crew between borings, set-up, drill, sample, supply water, perform visual descriptions of rock samples, prepare field logs, backfill borehole, and contain, preserve and transport samples. All drilling footage measured from the ground surface or the bottom of the body of water, as applicable.	
Hand Sampling						Includes all equipment and personnel to excavate, sample, log and backfill each hand sampling method
Method Description		feet		\$0		
Method Description		feet		\$0	Includes all equipment and personnel to excavate, sample, log and backfill test pit	
Test Pits		each		\$0		
Pavement/Bridge Deck Coring						Includes all equipment, personnel, and material to core and patch pavement/bridge deck and either handle or dispose of core.
Core Diameter		in.				
Core Diameter		each		\$0		
Core Diameter		in.				
Core Diameter		each		\$0	Includes all methods of rotary drilling on land, except skid rig	
Truck/ATV/Trailer Mounted Rotary Drilling						
Number of Drill Rig Days	0.75	days				
Total Soil Footage (ft)	20	27 ft/day				
Total Rock Footage (ft)	10	13 ft/day				
No Sampling		feet		\$0		
5-ft SPT	0	feet		\$0		
2.5-ft SPT	20	feet	\$32.00	\$640		
Continuous SPT		feet		\$0		
Undisturbed Samples		each		\$0		
Rock Coring	10	feet	\$60.00	\$600		
Permanent Borehole Sealing	30	feet	\$11.00	\$330		Includes press, preservation, transport, and extraction, minimum 50% recovery
Skid Drilling						
Number of Drill Rig Days		days				
Total Soil Footage (ft)	0	0 ft/day				
Total Rock Footage (ft)	0	0 ft/day				
No Sampling		feet		\$0		
5-ft SPT		feet		\$0		
2.5-ft SPT		feet		\$0		
Continuous SPT		feet		\$0		
Undisturbed Samples		each		\$0		
Rock Coring		feet		\$0		
Permanent Borehole Sealing		feet		\$0	Includes press, preservation, transport, and extraction, minimum 50% recovery	
Barge Drilling						
Number of Drill Rig Days		days				
Total Soil Footage (ft)	0	0 ft/day				
Total Rock Footage (ft)	0	0 ft/day				
5-ft SPT		feet		\$0		
2.5-ft SPT		feet		\$0		
Continuous SPT		feet		\$0		
Undisturbed Samples		each		\$0		
Rock Coring		feet		\$0		
Permanent Borehole Sealing		feet		\$0		
Barge		days		\$0		Includes all costs associated with barge drilling access (permits, spuds, safety equipment, boats, tugs, etc.)
Other Exploratory Methods						
Method Description		days		\$0	CPT, DCP, Geophysical, etc. Propose a daily rate to include all costs associated with performing the described exploratory method.	
Method Description		days		\$0		
In-situ Testing					Includes all mobilization/demobilization, equipment, material, labor, travel, per diem, calibration, and data reduction	
Test:		days		\$0		
Test:		days		\$0		
Installation/Reading of Geotechnical Instruments					Excludes cost of drilling - present above. Includes all material and labor for installation	
Open Standpipe Piezometer		feet		\$0		
Monitoring Well		feet		\$0	pneumatic or vibrating wire piezometers, strain gages, extensometers, TDR cable, etc.	
Inclinometer		feet		\$0		
Misc (describe)		each		\$0	Includes all equipment, material, labor, travel, per diem, calibration, and data reduction	
Instrument Readings		trips		\$0		
Subtotal				\$1,570		
Direct Costs						
Drill Crew Meals and Lodging				\$0		
Other (describe)				\$0		
Subtotal				\$0		
FIELD EXPLORATION TOTAL ALL PARTS			Total	\$3,070		

LABORATORY TESTING

DATE: **January 12, 2023**

	Test	Test Method		Quantity	Unit	Unit Cost	Cost	Remarks	
		AASHTO	ASTM						
Soil Testing	Complete Classification	Multiple	Multiple	3	each	\$199	\$597	Includes Visual Description per SGE Section 602, T265, T88, T89, T90	
	Water Content Test and Visual Description	T265	D2216	6	each	\$16	\$93	Visual Description per SGE Section 602	
	Particle Size Analysis - Sieve Only	T88	D422	0	each	\$86	\$0	As modified per SGE Section 603.3	
	Particle Size Analysis - Sieve and 2-hour Hydrometer	T88	D422	0	each	\$113	\$0	As modified per SGE Section 603.3	
	Liquid Limit Test	T89	D4318	0	each	\$44	\$0	As modified per SGE Section 603.3	
	Plastic Limit Test	T90	D4318	0	each	\$43	\$0	As modified per SGE Section 603.3	
	Organic Content by Loss on Ignition	T267	D2974	0	each	\$60	\$0		
	Soil Unconfined Compression Test	T208	D2166	0	each	\$91	\$0		
	Unconsolidated-Undrained Triaxial Compression Test	T296	D2850	0	1 point	\$193	\$0		
	Consolidated-Undrained Triaxial Compression Test (with pore pressure measurement)	T297	D4767	0	3 points	\$1,032	\$0		
	One-Dimensional Consolidation Test	T216	D2435	0	each	\$585	\$0		
	Specific Gravity Test	T100	D854	0	each	\$76	\$0		
	Direct Shear Test	T236	D3080	0	3 points	\$580	\$0		
	Sulfate Content in Soils, Colorimetric Method	ODOT S1122	NA	0	each	\$117	\$0		
	Misc. (identify test)			0			\$0	Identify the test and test method for any tests not listed above	
	Misc. (identify test)			0			\$0	Identify the test and test method for any tests not listed above	
	Subtotal							\$690	
Rock Testing	Unconfined Compressive Strength of Intact Rock Core Specimen	NA	D7012, Method C	1	each	\$110	\$110		
	Slake Durability of Shales and Similar Weak Rocks	NA	D4644	0	each	\$243	\$0		
	Determination of the Point Load Strength Index of Rock	NA	D5731	0	each	\$75	\$0		
	Elastic Moduli of Intact Rock Core Specimens in Uniaxial Compression	NA	D7012, Method D	0	each	\$278	\$0		
	Misc. (identify test)			0			\$0	Identify the test and test method for any tests not listed above	
	Misc. (identify test)			0			\$0	Identify the test and test method for any tests not listed above	
	Misc. (identify test)			0			\$0	Identify the test and test method for any tests not listed above	
Subtotal							\$110		
LABORATORY TESTING TOTAL ALL PARTS							Total	\$800	

GEOTECHNICAL EXPLORATION PROPOSAL**DIRECT COSTS**C/R/S : **BEL - 250 - 8.15**PID NO.: **PID-118151**CONSULTANT: **TERRACON CONSULTANTS INC**DATE: **January 12, 2023**

Task	Quantity	Unit	Unit Cost	Cost
RECONNAISSANCE AND PLANNING				
Mileage	0		\$0.58	\$0.00
(describe)	0		\$0.00	\$0.00
(describe)	0		\$0.00	\$0.00
Subtotal				\$0.00
FIELD COORDINATION				
Field Coordination				
Meals and Lodging	0	day	\$0.00	\$0.00
Mileage	0	mile	\$0.58	\$0.00
Permits	0	each	\$0.00	\$0.00
Dozer and Operator (site access and restoration)	0	hour	\$0.00	\$0.00
Site Restoration (not including Dozer)	0	site	\$0.00	\$0.00
Railroad Permits	0	each	\$0.00	\$0.00
Traffic Control - Surface Street Lan Closure	1	day	\$1,520.00	\$1,520.00
Other (describe)	0		\$0.00	\$0.00
Subtotal				\$1,520.00
Logging (If drilling is subcontracted)				
Meals and Lodging	0	day	\$0.00	\$0.00
Mileage	0	mile	\$0.58	\$0.00
Other (describe)	0		\$0.00	\$0.00
Subtotal				\$0.00
Subtotal				\$1,520.00
GEOTECHNICAL EXPLORATION REPORT				
(describe)	0		\$0.00	\$0.00
(describe)	0		\$0.00	\$0.00
Subtotal				\$0.00
DIRECT COSTS TOTAL ALL PARTS			Total	\$1,520.00