June 16, 2025

Montebanc Management, LLC
Attn: Chip McBroom and Paul DeVenzio
400 NW Gilman Blvd., #2781
Issaquah, Washington 98027

Re: Geotechnical Engineering Report - Addendum

Johnson Residential Development
Kitsap County Parcel Numbers: 242601-3-018-2001, 242601-3-005-2006, and 242601-3-019-2000
Poulsbo, Washington
Project No. AS240561-03

Dear Mr. McBroom and Mr. DeVenzio:

Aspect Consulting, a Geosyntec company (Aspect), prepared a Geotechnical Engineering Report dated February 14, 2025 (Aspect, 2025), documenting our geologic hazard assessment and geotechnical engineering evaluation for the proposed residential development (Project) on three parcels north of State Route 305 in Poulsbo, Washington, known as Kitsap County (County) parcel numbers 232601-4-001-2009, 242601-3-003- 2008, and 252601-2-047-2007 (collectively the Site).

We understand you are now contracted to purchase three additional County parcels: 242601-3-018-2001, 242601-3-005-2006, and 242601-3-019-2000, which collectively cover about 8 acres. These parcels are referred to as the Owl Ridge Parcels. Our additional scope of work included a geologic reconnaissance, the advancement of additional test pits to understand the subsurface soil and groundwater conditions, laboratory testing, and the associated analysis and this addendum.

Project Understanding

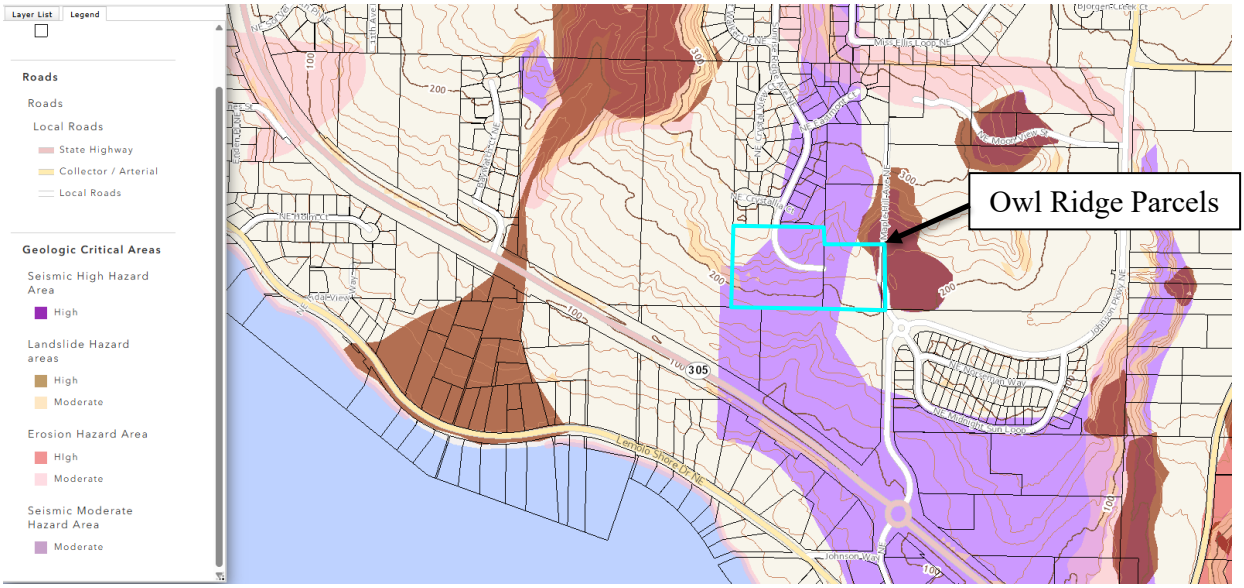
Current project plans for the Owl Ridge Parcels include about 26 residential parcels, a connector roadway from Sunrise Ridge Avenue NE from the northern property line near the northwest corner that will extend through the properties to the southern property line near the southeast corner, and associated utilities and infrastructure (Graphic 1; ESM, 2025).

Graphic 1. *Current Project Plans (ESM, 2025)*

The County's geologic hazard map designates four hazards on the Owl Ridge Parcels (Graphic 2 below):

- A high landslide hazard, defined as steeper than 30 percent slopes, is present along the east side of the parcels.
- A limited area of moderate landslide hazard, defined as slopes between 15 to 30 percent is along the west property line, extending onto the previously evaluated property.
- A moderate seismic hazard covers a large area through the middle and east side of the parcels.

The City's standard buffer requirement is 25 feet from the top, toe, and all edges of geologically hazardous areas and areas of geologic concern, unless otherwise specified. In our experience, a geotechnical report will be required by the City for the Project.



Graphic 2. *County Geologic Hazards Map (County, 2025)*

Existing Conditions

The Owl Ridge Parcels consists of three undeveloped parcels. The west parcel (242601-3-018-2001) is approximately 5 acres and measures about 440 feet north to south and 490 feet east to west, with Sunrise Ridge Avenue NE to the north. The central parcel (242601-3-005-2006) is approximately 2.5 acres and measures approximately 310 feet north to south and 345 feet east to west. The eastern parcel (242601-3-019-2000) is about 0.12 acres and measures approximately 140 feet north to south and 15 feet east-to-west (County, 2025).

The central parcel is developed with a one-story, 577-square-foot residence built in 1935 with a gravel access driveway from the south, near the central area of the parcel (Photograph 1). A stormwater pond is located in the southeast corner of the central parcel (Photograph 2).

An asphalt paved roadway (Sunrise Ridge Avenue NE) cuts through the parcels and other gravel and dirt roadways cross throughout the parcels. A gravel roadway along the southern boundary provides access to a residential property to the west while another roadway provides access along the eastern boundary to the north, Maple Hill Avenue NE.

Topography

The ground surface of the Owl Ridge Parcels slopes down to the south with about 90 feet of elevation loss and an average slope of about 27 percent (15 degrees).

Drainage

Water was observed in the stormwater pond. Outside the pond, no water seepage, springs, flowing water, evidence of past standing or flowing water, hydrophilic vegetation, or saturated soils were observed.

Photograph 1. *Existing Residence on central parcel, view to the northwest, on April 17, 2025.*

Photograph 2. *Stormwater pond in southeast corner of central parcel, view to the east, on April 17, 2025.*

Vegetation

Vegetation in the areas of more recent development (i.e., the roadways, stormwater pond, and residence), consists largely of alders, maples, scotch broom, grasses, and woody shrubs. Other areas contain more mature evergreens up to 40 inches diameter at breast height, and forest undergrowth of sword ferns and woody underbrush.

Subsurface Conditions

The geologic map (Haugerud and Troost, 2011) indicates the center of the Owl Ridge Parcels is underlain by Vashon Esperance Sand Member (Qve) with Vashon till (Qvt) to both the east and west. Landslide deposits (Qls) are mapped along the eastern property line and are described as a diamict of sand, gravel, silt, and soil transported in deep-seated landslides.

The Esperance Sand Member was an advance outwash material deposited in broad low areas and fluvial channels in front of the advancing 3,000-foot-tall Cordilleran Glacier icesheet at the end of the Vashon Stade of the Fraser Glaciation (about 13,000 to 16,000 years ago) and is generally described as a mostly quartzofeldspathic fine to medium sand, locally pebbly or with small amounts of gravel or silt with a dense/hard configuration. Vashon till was deposited directly under the glacier and is described as a diamict of dense to very dense silt, sand, gravel, cobbles, and boulders.

Although not mapped, human-placed fill would be expected due to the roadway and stormwater pond constructed on the parcels. Fill is human-placed materials that is often found in developed areas and can be highly variable.

Stratigraphy

On April 17, 2025, we oversaw the advancement of eight (8) test pits, designated ATP-15 through ATP-22, which terminated between 6 and 11 feet below ground surface (bgs). Detailed descriptions of the subsurface conditions and soil characteristics are provided in the exploration logs in Appendix A. The locations of the test pits are shown on Figure 2.

Below surficial topsoil, we encountered Vashon recessional outwash (Qgo) in test pit ATP-17 in the northwest corner of the Owl Ridge Parcels. Recessional outwash is a fluvial deposit laid down during the retreat of the Vashon-age glacier. The geologic map shows this unit about 2,300 feet northwest, in a lower lying area (Polenz et al, 2013). We did encounter this unit on the western adjacent parcel somewhat nearby to this location.

Two of the test pits, APT-18 and ATP-21, encountered Vashon till, in agreement with the geologic map. The remaining five test pits, ATP-15, ATP-16, ATP-19, ATP-20, and ATP-22, encountered pre-Vashon glaciolacustrine deposits with varying degrees of weathering. A geologic map presenting inferred geologic contacts based on our subsurface investigation is presented as Figure 3. A summary table of the units encountered at the respective depths is presented in Table 1 following the descriptions.

Topsoil: Topsoil refers to a unit that contains a high percentage of organics. We encountered topsoil at the ground surface in all of the test pits, extending from 0.5 to 1.8 feet bgs. The topsoil consisted of loose[1], dark brown silt (ML)[2] with sand, abundant wood debris, and roots.

Vashon till: Underlying the topsoil, Vashon till was encountered in two of the explorations, ATP-18 and ATP-22, and both test pits were terminated in this unit. It consisted of very dense, gray, silty sand (ML) with subrounded to faceted gravels socketed into the diamict structure.

Pre-Vashon Fines: Glaciolacustrine Deposits: Underlying the topsoil, glaciolacustrine deposits were encountered in the remaining five test pits to the depths explored. We interpreted the glaciolacustrine deposits to be part of the pre-Vashon silt (Qpf), in agreement with geologic mapped material in the ravine in the northwest corner of the Owl Ridge Parcels. The deposit consisted of medium dense to dense, sand with silt (SM) and silt with sand (SM) with varied degrees of weathering.

The upper horizon of the deposit has been highly weathered, underlain by a slightly less weathered horizon, and lastly underlain by a relatively unweathered horizon. The amount of weathering decreases with depth while the density of the material increases. The highly-weathered glaciolacustrine deposits are loose, moist to very moist, brown silt with sand (ML) with iron-oxide staining and few root fragments. The weathered glaciolacustrine deposits are dense, moist, gray brown silt with sand (ML) with 0.1- to 0.2-inch-thick iron-oxide stained sand partings. The relatively unweathered glaciolacustrine deposits are very dense, blue gray silt with sand (ML) with 0.1- to 0.2-inch-thick sand partings.

[1] Relative density was assessed at various depth intervals in the explorations qualitatively with a 0.5-inch-diameter, pointed steel T-probe, and qualitatively with a dynamic cone penetrometer test (DCPT).

[2] Soils were classified per the Unified Soil Classification System (USCS) in general accordance with ASTM International (ASTM) D2488, *Standard Practice for Description and Identification of Soils* (ASTM, 2022).

Table 1. Geologic Units Encountered

Exploration Number	Depth of Topsoil (feet bgs)	Depth of Vashon Recessional Outwash (feet bgs)	Depth of Vashon Till (feet bgs)	Depth of Highly-Weathered Glaciolacustrine (feet bgs)	Depth of Weathered Glaciolacustrine (feet bgs)	Depth of Glaciolacustrine Deposits (feet bgs)	Total Depth (feet bgs)
ATP-15	0-1	NE	NE	1-4	4-7	7-11	11
ATP-16	0-0.5	NE	NE	0.5-2	2-5	5-9.5	9.5
ATP-17	0-0.5	0.5-9.5	NE	NE	NE	NE	9.5
ATP-18	0-1	1-3	3-5	NE	NE	NE	5
ATP-19	0-0.5	NE	NE	0.5-2	2-3.5	3.5-9	9
ATP-20	0-0.5	NE	NE	0.5-2	2-3.8	3.8-8	8
ATP-21	0-1	NE	1-6	NE	NE	NE	6
ATP-22	0-1.8	NE	NE	1.8-3	3-8	8-8.5	8.5

Notes:
1. NE – not encountered

Groundwater

We encountered groundwater seepage from the sidewalls about 2 to 3 feet bgs in two test pits, ATP-15 and ATP-22. We interpreted the observed seepage to be perched groundwater and not representative of a regional groundwater table. A perched groundwater condition occurs when surface water percolates into the shallow subsurface and collects on relatively impermeable materials. In this case, the topsoil and highly-weathered glaciolacustrine units are considered low permeability units, while the glaciolacustrine deposits are essentially impermeable. Sand partings in the upper highly-weathered and weathered glaciolacustrine deposits allow water to move through the upper units and perch on top of the glaciolacustrine deposits.

Laboratory Testing Results

Geotechnical laboratory tests were conducted on six selected samples to characterize engineering and index properties. Four grain-size distributions and two fines content (particles passing the No. 200 sieve) analyses were completed, and the natural moisture contents of these soil samples were also determined and are presented on the test pit logs. The test methodology and results of all the laboratory testing are presented in Appendix B along with a summary table including the geologic unit classification.

Table 2. Summary of Geotechnical Laboratory Test Results

Exploration Number	Sample Depth (feet bgs)	Percent Gravel	Percent Sand	Percent Fines	Moisture Content (percent)	USCS[2]	Geologic Unit
ATP-16	2	1	97	8	12.6	SP-SM	Highly Weathered Glaciolacustrine
ATP-16	5	NT[1]	NT[1]	66	21.5	ML	Weathered Glaciolacustrine Deposits
ATP-17	5	48	45	7	3.8	GP-GM	Vashon Recessional Outwash
ATP-18	4	14	56	30	7.9	SM	Vashon Till
ATP-19	3	NT[1]	NT[1]	89	29.6	ML	Weathered Glaciolacustrine
ATP-21	5	13	28	59	41.1	ML	Vashon Till

Notes:
1. NT – Not tested
2. USCS – Unified Soils Classification System

Landslide Hazards

The results of our review of publicly available resources are as follows:

- The Owl Ridge Parcels is mapped as "Stable," and described as slopes that generally rise less than 15 percent in grade and are underlain by stable material (Ecology, 1979).
- Analysis using LiDAR maps did not identify this slope as a landslide (McKenna, et al., 2008).
- The geomorphic map indicates a landslide (ls) along the eastern boundary of the Owl Ridge Parcels, meaning there is evidence of a deep-seated landslide as indicated by uphill scarps, bulbous toes, and a position in hillslope hollows (Haugerud, 2009).
- The geologic map is in agreement with the geomorphic map in that a deep-seated rotational landslide is located along the eastern boundary of the Owl Ridge Parcels (Polenz et al, 2013).
- Aspect reviewed the newest publicly available LiDAR data for the Owl Ridge Parcels and surrounding area (DNR, 2019), which shows bowl-shaped topography and hummocky

terrain along the eastern boundary, indicating a possible landslide. None of these features were observed on the Owl Ridge Parcels themselves.

- We reviewed coastal aerial photographs (Ecology, 2025) and aerial photographs (Google, 2025 and NETR, 2025) of the Owl Ridge Parcels area from 1951 through 2024 and did not observe any loss of vegetation that would suggest recent slope movement.

The results of this data review indicate that the Owl Ridge Parcels are not underlain by landslide deposits, but that there may be landslide deposits on the adjoining eastern property. Due to the topography of the area, this landslide is unlikely to put the Project at risk of a landslide.

Conclusions and Recommendations

From our geotechnical investigation, we conclude that the Owl Ridge Parcels is suitable for the proposed residential development, provided the recommendations contained herein are incorporated into the Project design and construction.

Geologically Hazardous Area Considerations

Three geologic hazards are mapped on and within the area of influence of the Owl Ridge Parcels including: high landslide hazard, moderate landslide hazards, and a moderate seismic hazard (Graphic 1). The seismic hazard shape matches the mapped extents of Esperance Sand Member on the geologic map. None of the materials encountered are liquefiable, thus soil liquefaction is not a seismic hazard or design consideration.

The moderate landslide hazard area along the western boundary was fully evaluated during our previous work and we concluded that the area was stable and no setback from the area was needed.

The high landslide hazard along the eastern boundary matches the shape of the deep-seated rotational landslide noted on the geologic and geomorphic maps. Our test pits closest to that boundary did not encounter landslide deposits. It is our opinion that this landslide is currently dormant; therefore, we do NOT recommend a minimum setback from the area; however, this area should be closely monitored during construction by us to confirm no landslide deposits are encountered.

Additional Project Design and Construction Monitoring

All of our previous design and construction recommendations presented in our previous Geotechnical Engineering Report apply to the Owl Ridge Parcels and should be brought to the attention of designers and contractors and incorporated into the Project plans and specifications.

If significant cuts and fills are planned for the Owl Ridge Parcels, we recommend Aspect/Geosyntec be involved during construction, starting with our participation in a pre-construction meeting with you and your contractor. The integrity of the Project and the overall Site and Owl Ridge Parcels stability depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent.

References

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Washington State Department of Natural Resources (DNR), 2018, Washington Lidar Portal, Olympics South Opsw 2019 DTM hillshade, Kitsap County Opsw 2018 DTM hillshade, and Puget Lowlands 2005 DTM hillshade, lidarportal.dnr.wa.gov, accessed January 23, 2025.

Limitations

Work for this project was performed for Montebanc Management, LLC (Client), and this report was prepared consistent with recognized standards of professionals in the same locality and involving similar conditions, at the time the work was performed. No other warranty, expressed or implied, is made by Aspect Consulting (Aspect).

Recommendations presented herein are based on our interpretation of site conditions, geotechnical engineering calculations, and judgment in accordance with our mutually agreed-upon scope of work. Our recommendations are unique and specific to the project, site, and Client. Application of this report for any purpose other than the project should be done only after consultation with Aspect.

Variations may exist between the soil and groundwater conditions reported and those actually underlying the site. The nature and extent of such soil variations may change over time and may not be evident before construction begins. If any soil conditions are encountered at the site that are different from those described in this report, Aspect should be notified immediately to review the applicability of our recommendations.

Risks are inherent with any site involving slopes and no recommendations, geologic analysis, or engineering design can assure slope stability. Our observations, findings, and opinions are a means to identify and reduce the inherent risks to the Client.

It is the Client's responsibility to see that all parties to this project, including the designer, contractor, subcontractors, and agents, are made aware of this report in its entirety. At the time of this report, design plans and construction methods have not been finalized, and the recommendations presented herein are based on preliminary project information. If project developments result in changes from the preliminary project information, Aspect should be contacted to determine if our recommendations contained in this report should be revised and/or expanded upon.

The scope of work does not include services related to construction safety precautions. Site safety is typically the responsibility of the contractor, and our recommendations are not intended to direct the contractor’s site safety methods, techniques, sequences, or procedures. The scope of our work also does not include the assessment of environmental characteristics, particularly those involving potentially hazardous substances in soil or groundwater.

All reports prepared by Aspect for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect. Aspect’s original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

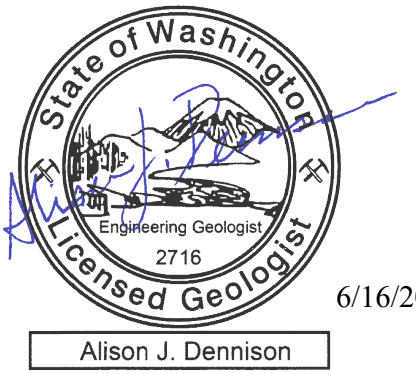
Please refer to Appendix C titled “Report Limitations and Guidelines for Use” for additional information governing the use of this report.

We appreciate the opportunity to perform these services. If you have any questions please call Alison J. Dennison, LEG, Senior Engineering Geologist at 206-780-7717.

We appreciate the opportunity to perform these services.

Sincerely,

Aspect consulting



6/16/2025

Alison J. Dennison

6/16/2025

Alison J. Dennison, LEG
Senior Engineering Geologist
Alison.Dennison@aspectconsulting.com

Erik O. Andersen, PE
Senior Principal Geotechnical Engineer
Erik.Andersen@aspectconsulting.com

Attachments:

Figure 1 – Vicinity Map
Figure 2 – Site Exploration Plan
Figure 3 – Inferred Geologic Map
Appendix A – Exploration Logs
Appendix B – Geotechnical Laboratory Test Results
Appendix C – Report Limitations and Guidelines for Use

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FIGURES

Vicinity Map

Geotechnical Engineering Report
Addendum Johnson Residential Development
Kitsap County Parcel Numbers: 242601-3-018-2001,
242601-3-005-2006, and 242601-3-019-2000
Poulsbo, Washington

Aspect CONSULTING	MAY-2025	BY: AJD / HMD	FIGURE NO. 1
	PROJECT NO. AS240561	REVISED BY: ---/---	

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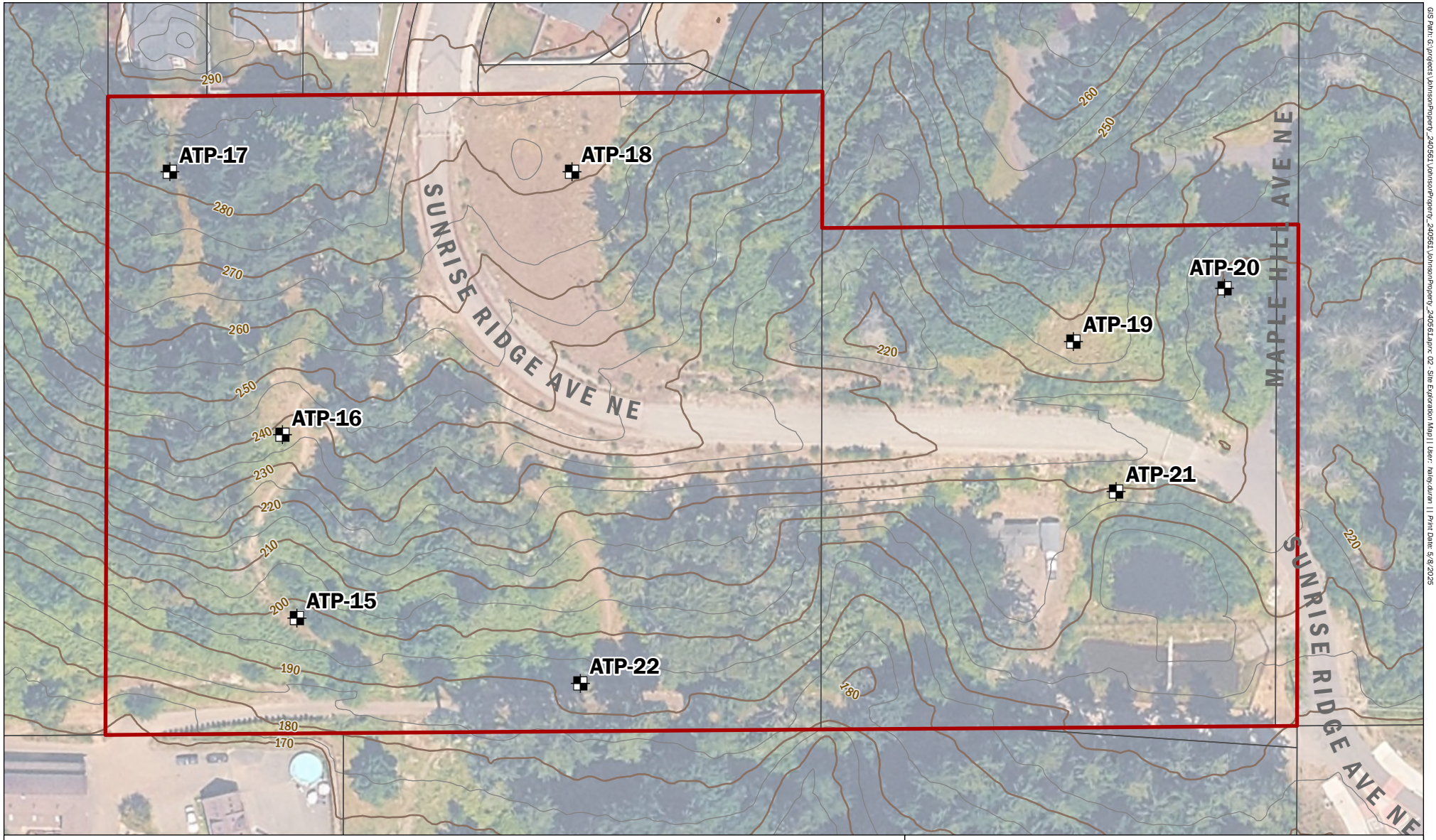


Aspect Test Pit

Site Boundary

Kitsap County Parcels

Topo Contours 5ft

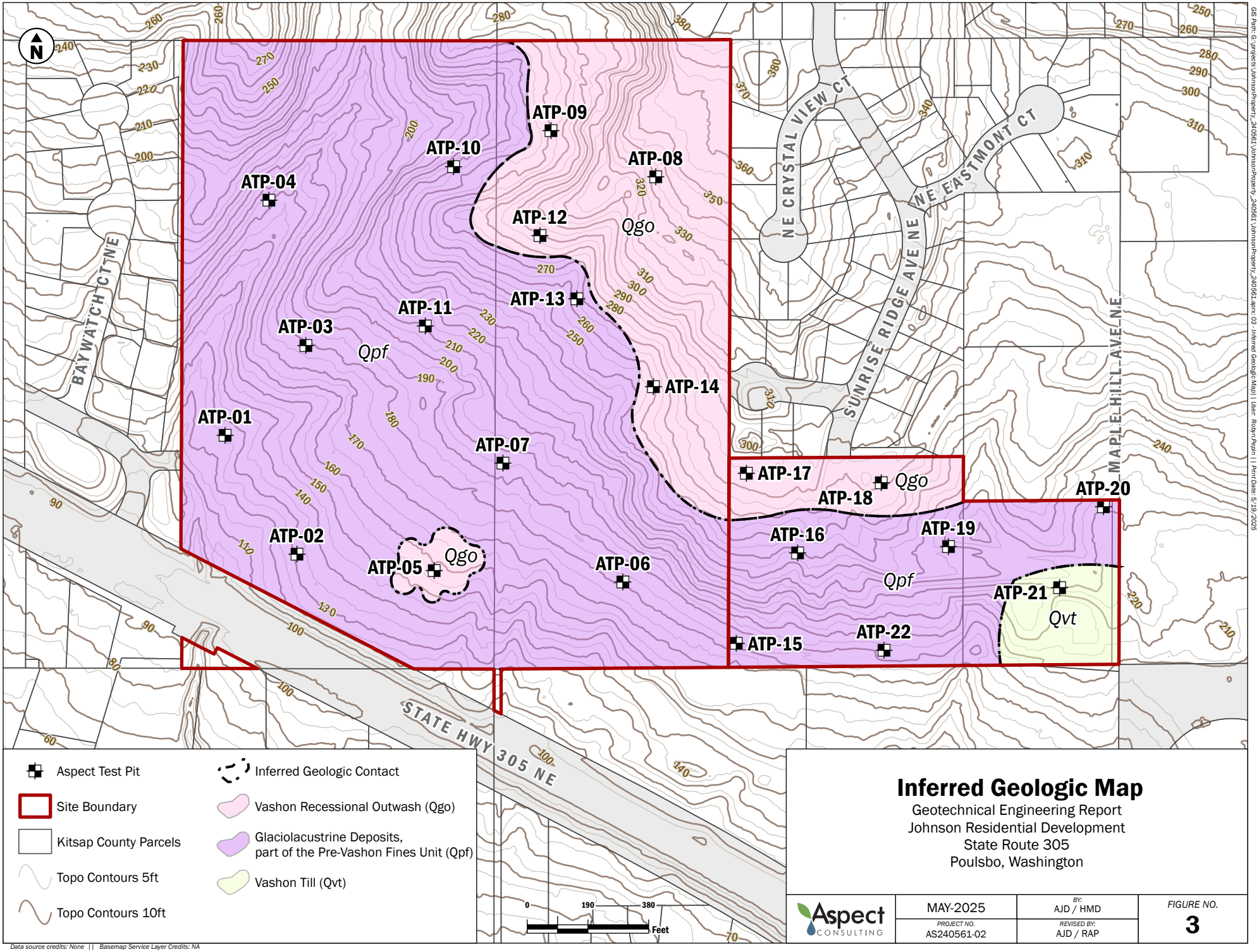
Topo Contours 10ft

Note:
Topography Contours generated from Washington DNR LiDAR Imagery (2018)

Site Exploration Plan

Geotechnical Engineering Report
Addendum Johnson Residential Development
Kitsap County Parcel Numbers: 242601-3-018-2001, 242601-3-005-2006, and 242601-3-019-2000
Poulsbo, Washington

Aspect Consulting	MAY-2025	BY: AJD / HMD	FIGURE NO. 2
	PROJECT NO. AS240561	REVISED BY: ---/---	



Inferred Geologic Map

Geotechnical Engineering Report
Johnson Residential Development
State Route 305
Poulsbo, Washington

Aspect Consulting	MAY-2025	BY: AJD / HMD	FIGURE NO. 3
	PROJECT NO. AS240561-02	REVISED BY: AJD / RAP	

Data source credits: None || Basemap Service Layer Credits: NA

GIS Path: G:\projects\Johnson\Property_240561\Johnson\Property_240561\Johnson\Property_240561.aprx: 03 - Inferred Geologic Map || User: Robyn.Pepin || Print Date: 5/19/2025

APPENDIX A

Subsurface Exploration Logs

A. Subsurface Explorations

On April 17, 2025, Aspect observed the excavation of eight test pits, ATP-15 through ATP-22. The test pits were excavated by an excavation company provided by you. Test pits were excavated using a Kubota KX040-U tracked excavator. An Aspect representative, Chelsea Bush, LG, was present throughout the field exploration program to determine the locations of the explorations, observe the explorations, assist in sampling, and to prepare descriptive logs of each exploration. Samples were obtained from select soil units to aid in the determination of engineering properties of the subsurface materials and laboratory testing. The locations of explorations are shown on Figure 2 and were collected with a Global Positioning System (GPS).

Detailed descriptions of the subsurface conditions encountered in our explorations, as well as the depths where characteristics of the soils changed, are indicated on the logs presented herein. The depths indicated on the log where conditions changed may represent gradational variations between soil types. Soils were described per the Unified Soils Classification System (USCS) in general accordance with the ASTM International Standard Practice for Description and Identification of Soils (ASTM D2488; ASTM, 2022). The depths on the logs where conditions changed may represent gradational variations between soil types and actual transitions may be more gradual. The subsurface conditions depicted are only for the specific date and locations reported, and therefore, are not necessarily representative of other locations and times. A key to the symbols and terms used on the logs is provided in the Exploration Log Key.

The relative density/consistency of the soils was evaluated qualitatively with a 0.5-inch-diameter steel T-probe and observation of digging difficulty. Relative density was quantitatively assessed with Dynamic Cone Penetrometer Testing (DCPT) at various depth intervals within the test pits. The test pits were backfilled with the excavated soils.

The DCPT method involves a 15-pound steel mass falling 20 inches to strike an anvil, which drives a 1.5-inch-diameter, 45-degree cone into the soil. The number of blows required to drive the cone 1.75 inches is considered one data point. The DCPT data has been calibrated with Standard Penetration Test (SPT, ASTM Method D1586) results to provide a more refined estimate of soil relative density and consistency.

The test pits were backfilled with the excavated soils and tamped into place to reduce the amount of settlement.

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines	GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
			GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
		≥15% Fines	GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines	SW	Well-graded SAND Well-graded SAND WITH GRAVEL
			SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
		≥15% Fines	SM	SILTY SAND SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50%		ML	SILT SANDY or GRAVELLY SILT SILT WITH SAND SILT WITH GRAVEL
			CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL
			OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL
	Silts and Clays Liquid Limit 50% or More		MH	ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL
			CH	FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL
			OH	ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL
Highly Organic Soils			PT	PEAT and other mostly organic soils

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

GEOTECHNICAL LAB TESTS

MC	=	Natural Moisture Content
PS	=	Particle Size Distribution
FC	=	Fines Content (% < 0.075 mm)
GH	=	Hydrometer Test
AL	=	Atterberg Limits
C	=	Consolidation Test
Str	=	Strength Test
OC	=	Organic Content (% Loss by Ignition)
Comp	=	Proctor Test
K	=	Hydraulic Conductivity Test
SG	=	Specific Gravity Test

CHEMICAL LAB TESTS

Organic Chemicals

BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons
VOCs	=	Volatile Organic Compounds
SVOCs	=	Semi-Volatile Organic Compounds
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds
PCBs	=	Polychlorinated Biphenyls

Metals

RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)

FIELD TESTS

PID	=	Photoionization Detector
Sheen	=	Oil Sheen Test
SPT[2]	=	Standard Penetration Test
NSPT	=	Non-Standard Penetration Test
DCPT	=	Dynamic Cone Penetration Test

COMPONENT DEFINITIONS

Descriptive Term		*Size Range and Sieve Number*
Boulders	=	Larger than 12 inches
Cobbles	=	3 inches to 12 inches
Coarse Gravel	=	3 inches to 3/4 inches
Fine Gravel	=	3/4 inches to No. 4 (4.75 mm)
Coarse Sand	=	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	=	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	=	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	=	Smaller than No. 200 (0.075 mm)

ESTIMATED[1] PERCENTAGE

% by Weight		*Modifier*	*% by Weight*		*Modifier*
<1	=	Subtrace	15 to 25	=	Little
1 to <5	=	Trace	30 to 45	=	Some
5 to 10	=	Few	>50	=	Mostly

MOISTURE CONTENT

Dry	=	Absence of moisture, dusty, dry to the touch
Slightly Moist	=	Perceptible moisture
Moist	=	Damp but no visible water
Very Moist	=	Water visible but not free draining
Wet	=	Visible free water, usually from below water table

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

Density[3]		*SPT*[2] *Blows/Foot*	*Penetration with 1/2" Diameter Rod*
Very Loose	=	0 to 4	≥ 2'
Loose	=	5 to 10	1' to 2'
Medium Dense	=	11 to 30	3" to 1'
Dense	=	31 to 50	1" to 3"
Very Dense	=	> 50	< 1"

CONSISTENCY

Cohesive or Fine-Grained Soils

Consistency[3]		*SPT*[2] *Blows/Foot*	*Manual Test*
Very Soft	=	0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.
Soft	=	2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.
Medium Stiff	=	5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.
Stiff	=	9 to 15	Indented ~1/4" with effort by thumb.
Very Stiff	=	16 to 30	Indented easily by thumbnail.
Hard	=	> 30	Indented with difficulty by thumbnail.

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Aspect CONSULTING

Exploration Log Key

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7230, -122.6255 (est)	*Exploration Number* **ATP-15**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 195' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* 2.5' (Seep)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
								TOPSOIL SILT WITH SAND (ML); loose, moist, brown; small roots, some organics.	
1	194	Exploration backfilled with excavated materials, tamped in place.							1
								HIGHLY WEATHERED GLACIOLACUSTRINE DEPOSITS SILT WITH SAND (ML); medium dense, moist, light brown; fine to coarse sand; iron-oxide staining.	
2	193								2
		4/17/2025							
3	192								3
4	191							**WEATHERED GLACIOLACUSTRINE DEPOSITS** SILT WITH SAND (ML); dense, moist, gray.	4
5	190								5
6	189								6
7	188								7
8	187							**UNWEATHERED GLACIOLACUSTRINE DEPOSITS** SILT WITH SAND (ML); very dense, moist, blue gray.	8
9	186								9
10	185		S1						10
11	184							Bottom of exploration at 11 ft. bgs. Note: Test pit excavated prior to arrival. No test pit caving observed.	11
12	183								12
13	182								13
14	181								14

Legend

Sample Type: Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: Water Level (Seepage)

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-15
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561	Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.	*Coordinates (Lat,Lon WGS84)* 47.7233, -122.6255 (est)	*Exploration Number* **ATP-16**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 238' (est)
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA
			Depth to Water (Below GS) No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
								TOPSOIL SILT (ML); loose, moist, dark brown; abundant organics.	
1	237	Exploration backfilled with excavated materials, tamped in place.						**VASHON RECESSIONAL OUTWASH** SAND WITH SILT (SP-SM); medium dense, moist, light brown; iron-oxide staining; few small roots.	1
2	236		S1	12.6 ●		DCPT =8,10,12 PS,MC FC=8%			2
3	235							Becomes without roots.	3
4	234					DCPT =10,8,14			4
5	233		S2	21.5 ●		FC, MC FC=66%		**WEATHERED GLACIOLACUSTRINE DEPOSITS** SANDY SILT (ML); dense, moist, gray brown.	5
6	232								6
7	231								7
8	230							**UNWEATHERED GLACIOLACUSTRINE DEPOSITS** SANDY SILT (ML); very dense, moist, blue gray.	8
9	229								9
								Bottom of exploration at 9.5 ft. bgs.	
10	228							Note: No test pit caving observed.	10
11	227								11
12	226								12
13	225								13
14	224								14

Legend

Sample Type: Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-16
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7238, -122.6258 (est)	*Exploration Number* **ATP-17**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 275' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
								TOPSOIL SILT (ML); loose, moist, dark brown; abundant organics.	
1	274	Exploration backfilled with excavated materials, tamped in place.						**VASHON RECESSIONAL OUTWASH** SAND WITH SILT, GRAVEL, AND COBBLES (SP-SM); medium dense, moist, brown; fine to coarse sand; fine to coarse, subrounded gravel; up to 5-inch-diameter subrounded cobbles; iron-oxide staining; roots up to 2-inch-diameter.	1
2	273					T-probe = 4 inches			2
3	272					DCPT =9,12,17		GRAVEL WITH SILT, SAND, COBBLES, AND BOULDERS (GP-GM); medium dense, moist, brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel; up to 5-inch-diameter subangular cobbles.	3
4	271								4
5	270		S1	3.8 ●		PS, MC FC=7%		Becomes very moist, gray.	5
6	269								6
7	268							Becomes dense, moist; fine to coarse sand; fine to coarse, subangular to subrounded gravel; up to 8-inch-diameter subangular to subrounded cobbles. Boulder observed at 7 feet bgs.	7
8	267								8
9	266								9
10	265							Bottom of exploration at 9.5 ft. bgs. Note: No test pit caving observed.	10
11	264								11
12	263								12
13	262								13
14	261								14

Legend

Sample Type: Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-17
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7238, -122.6247 (est)	*Exploration Number* **ATP-18**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 267' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
0								**TOPSOIL** SILT WITH SAND (ML); loose, moist, dark brown; abundant organics; small roots.	0
1	266	Exploration backfilled with excavated materials, tamped in place.						**VASHON TILL** SAND WITH SILT, GRAVEL, AND COBBLES (SP-SM); medium dense, moist, brown; fine to coarse sand; fine to coarse, subrounded gravel; up to 5-inch-diameter subrounded cobbles; iron-oxide staining; roots up to 2-inch-diameter.	1
2	265								2
3	264					DCPT =4,21,30		SILTY SAND (SM); very dense, moist, gray; fine to coarse sand; fine to coarse, subangular to subrounded gravel; gravel socketed in matrix.	3
4	263		S1	7.9●		PS, MC FC=30%			4
5	262							Bottom of exploration at 5 ft. bgs. Note: No test pit caving observed.	5
6	261								6
7	260								7
8	259								8
9	258								9
10	257								10
11	256								11
12	255								12
13	254								13
14	253								14

Legend

Sample Type: ☑ Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-18
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7235, -122.6233 (est)	*Exploration Number* **ATP-19**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 234' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
								TOPSOIL SILT (ML); loose, moist, dark brown; abundant organics.	
1	233	Exploration backfilled with excavated materials, tamped in place.						**HIGHLY WEATHERED GLACIOLACUSTRINE DEPOSITS** SANDY SILT WITH GRAVEL (ML); medium dense, very moist, gray brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel; iron-oxide staining along fractures.	1
2	232							Becomes very moist.	2
3	231		S1	29.6		DCPT =8,17,20 FC,MC FC=89%			3
4	230							**UNWEATHERED GLACIOLACUSTRINE DEPOSITS** SILT WITH SAND (ML); dense, moist, gray brown; fine to medium sand.	4
5	229								5
6	228								6
7	227								7
8	226								8
9	225							Bottom of exploration at 9 ft. bgs. Note: No test pit caving observed.	9
10	224								10
11	223								11
12	222								12
13	221								13
14	220								14

Legend

Sample Type: ☑ Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-19
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7237, -122.6227 (est)	*Exploration Number* **ATP-20**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 267' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
								TOPSOIL SILT WITH SAND (ML); loose, moist, dark brown; abundant organics.	
1	266	Exploration backfilled with excavated materials, tamped in place.						**HIGHLY WEATHERED GLACIOLACUSTRINE DEPOSITS** SILT WITH SAND (ML); medium dense, very moist, brown; fine to medium sand; iron-oxide staining along fractures.	1
2	265								2
3	264					DCPT =4,11,13			3
4	263							**WEATHERED GLACIOLACUSTRINE DEPOSITS** SILT WITH SAND (ML); dense, very moist, gray; fine to medium sand; iron-oxide staining along fractures.	4
5	262								5
6	261								6
7	260								7
8	259							Bottom of exploration at 7.5 ft. bgs. Note: No test pit caving observed.	8
9	258								9
10	257								10
11	256								11
12	255								12
13	254								13
14	253								14

Legend

Sample Type

Water Level — Plastic Limit ⊢⊣ Liquid Limit; No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-20
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7232, -122.6232 (est)	*Exploration Number* **ATP-21**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 222' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
0								**TOPSOIL** SILT WITH SAND (ML); loose, moist, dark brown; fine to medium sand; up to 2 inch diameter roots.	0
1	221	Exploration backfilled with excavated materials, tamped in place.						**VASHON TILL** SILT WITH SAND (ML); medium dense, moist, brown; fine to coarse sand; trace fine to coarse, subrounded gravel; iron-oxide staining.	1
2	220								2
3	219					DCPT =7,13,9		Becomes without roots.	3
4	218							SILT WITH SAND (ML); dense, moist, gray; fine to coarse sand; trace fine to coarse, subrounded gravel; iron-oxide staining.	4
5	217		S1	14 ● 1		PS, MC FC=59%		SILTY SAND WITH GRAVEL AND COBBLES (SM); dense, moist, gray brown; fine to coarse sand; fine to coarse, subangular to rounded gravel; up to 6-inch-diameter, subangular to subrounded cobbles; gravel and cobbles socketed in matrix.	5
6	216		S2					Bottom of exploration at 6 ft. bgs. Note: No test pit caving observed.	6
7	215								7
8	214								8
9	213								9
10	212								10
11	211								11
12	210								12
13	209								13
14	208								14

Legend

Sample Type: ☑ Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-21
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

Aspect CONSULTING	Johnson Property - AS240561		Geotechnical Exploration Log	
	Project Address & Site Specific Location Poulsbo, WA, See Figure 2.		*Coordinates (Lat,Lon WGS84)* 47.7228, -122.6242 (est)	*Exploration Number* **ATP-22**
Contractor Freedom Boring & Excavating	*Equipment* Kubota KX040-4	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 190' (est)	
Operator Neil	*Exploration Method(s)* Trackhoe	*Work Start/Completion Dates* 4/17/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
0								**TOPSOIL** SILTY SAND WITH GRAVEL (SM); loose, moist, dark brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel; organics; up to 1-inch-diameter roots.	0
1	189	Exploration backfilled with excavated materials, tamped in place.							1
2	188							**VASHON TILL** SANDY SILT WITH GRAVEL (ML); loose, wet, gray brown; fine to coarse sand; trace fine to coarse, subrounded gravel; up to 5-inch-diameter cobbles; iron-oxide staining.	2
3	187		S1			DCPT =8,15,9			3
4	186							Becomes dense, moist, gray brown.	4
5	185								5
6	184								6
7	183		S2					Becomes with 0.1- to 0.2-inch-thick SAND partings.	7
8	182		S3					Becomes very moist.	8
9	181							Bottom of exploration at 8.5 ft. bgs. Note: No test pit caving observed.	9
10	180								10
11	179								11
12	178								12
13	177								13
14	176								14

Legend

Sample Type: Grab sample

Plastic Limit ⊢⊣ Liquid Limit

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: AJD 5/14/2025

Exploration Log ATP-22
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS240561 JOHNSON PROPERTY POULSBO.GPJ May 15, 2025

APPENDIX B

Geotechnical Laboratory Testing Results

B. Geotechnical Laboratory Testing Results

Geotechnical laboratory tests were conducted on selected soil samples collected during the field exploration program. The tests performed, and the procedures followed, are outlined below. The laboratory tests were conducted in general accordance with appropriate ASTM International (ASTM) test methods and were conducted by AAR Testing and Inspection, Inc., an accredited laboratory in Redmond, Washington.

B.1. Moisture Content Determination, MC

All four samples submitted for particle-size analyses and the two samples submitted for fines content determination were analyzed for water content by the ASTM D 2216 test method. This test method allows for the laboratory determination of the moisture (water) content of a soil sample by measuring and recording the mass of a sample before and then after drying. Test results are illustrated graphically on the logs in Appendix A.

B.2. Particle-Size Analyses, PF

Two select soil samples were submitted for particle-size with #200 sieve analysis in general accordance with ASTM D-2216, D-2419, D-4318, and D-5821 methods. This test method allows for the laboratory determination of the percent of the size fractions (by weight) of coarse-grained soil and the percent of fines in a soil sample, as well as the grain size diameter percentages of the material. The result of the test is presented in this appendix as curves depicting the percent finer by weight versus particle size.

B.3. Fines Content Determination, FC

The fines content was determined on four selected soil samples in general accordance with ASTM D1140. The results of the tests are shown in the table below, on the exploration logs, and tabulated in this appendix.

MOISTURE CONTENT / PERCENT FINER THAN #200

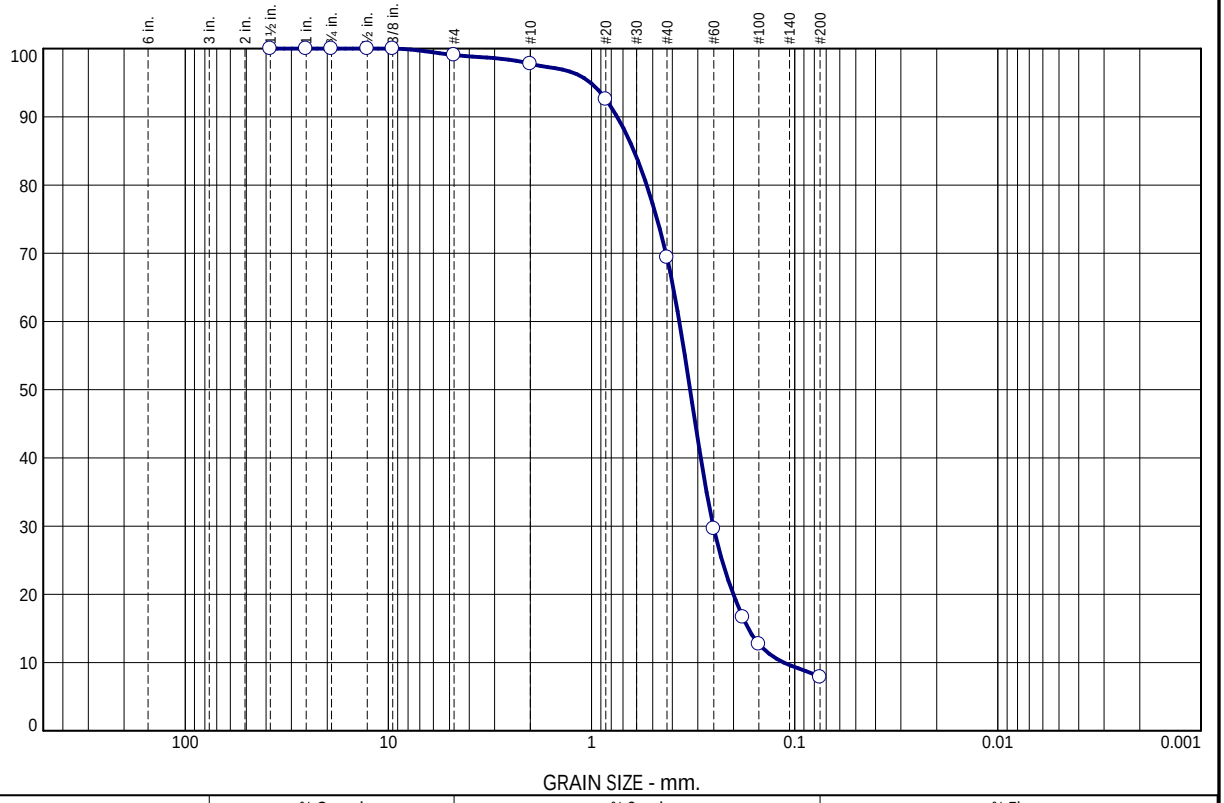
AAR Project No.	25-287	**Lab Number**	See below
Project Name	Johnson Owl Ridge, AS240561	**Sample ID**	See below
Client	Geosyntec Consultants, Inc.	**Source**	See below
Sample By	Chelsea Bush	**Method (s)**	ASTM D2216, D1140
Date Sample	4/17/2025	**Tested By**	Tama L.
Date Received	5/6/2025	**Date Tested**	5/10/2025

Lab No.	27917	27918	27919	27920	27921	27922					
Boring / Location	ATP-16	ATP-16	ATP-17	ATP-18	ATP-19	ATP-21					
Sample / Depth	S1/2	S2/5	S1/5	S1/4	S1/3	S1/5					
Desciption	SP-SM	ML	GP-GM	SM	ML	ML					
Tare ID	Jam	MacBeth	Head	Taco	Pink	Row					
Tare Weight	736.5	177.6	673.4	481.3	174	678.9					
Wet & Tare Weight	1807	929.3	2079.8	1687.4	891.1	2597.8					
Dry & Tare Weight	1687.6	796.4	2028.4	1599	727.4	2360.9					
Washed & Tare	1620	389.1	1996.7	1314.5	237.6	1488.6					
Moistue Content %	**12.6**	**21.5**	**3.8**	**7.9**	**29.6**	**14.1**					
Finer than 200 %	**X**	**66**	**X**	**X**	**89**	**X**					
Dry Weight	951.1	618.8	1355	1117.7	553.4	1682					

Lab No.											
Boring / Location											
Sample / Depth											
Description											
Tare ID											
Tare Weight											
Wet & Tare Weight											
Dry & Tare Weight											
Washed & Tare											
Moistue Content %											
Finer than 200 %											
Dry Weight											

Particle Size Distribution Report

ASTM C117 & C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	1	1	29	61	8	

Test Results (ASTM C117 & C136)

Sieve Size or Diam. (mm.)	Finer (%)	Spec.* (%)	Out of Spec. (%)	Pct. of Fines
1 1/2	100			
1	100			
3/4	100			
1/2	100			
3/8	100			
#4	99			
#10	98			
#20	93			
#40	69			
#60	30			
#80	17			
#100	13			
#200	7.8			

* (no specification provided)

Material Description

Poorly graded sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7473 D_{85}= 0.6181 D_{60}= 0.3696
D_{50}= 0.3271 D_{30}= 0.2517 D_{15}= 0.1695
D_{10}= 0.1132 C_u= 3.26 C_c= 1.51

Classification

USCS= SP-SM AASHTO=

Test Remarks

As Received Moisture: 12.6%
F.M.=1.67

Source of Sample: ATP-16; S1 Depth: 2
Sample Number: 27917

Sample Date: 04/17/2025

AAR Testing and Inspection, Inc.

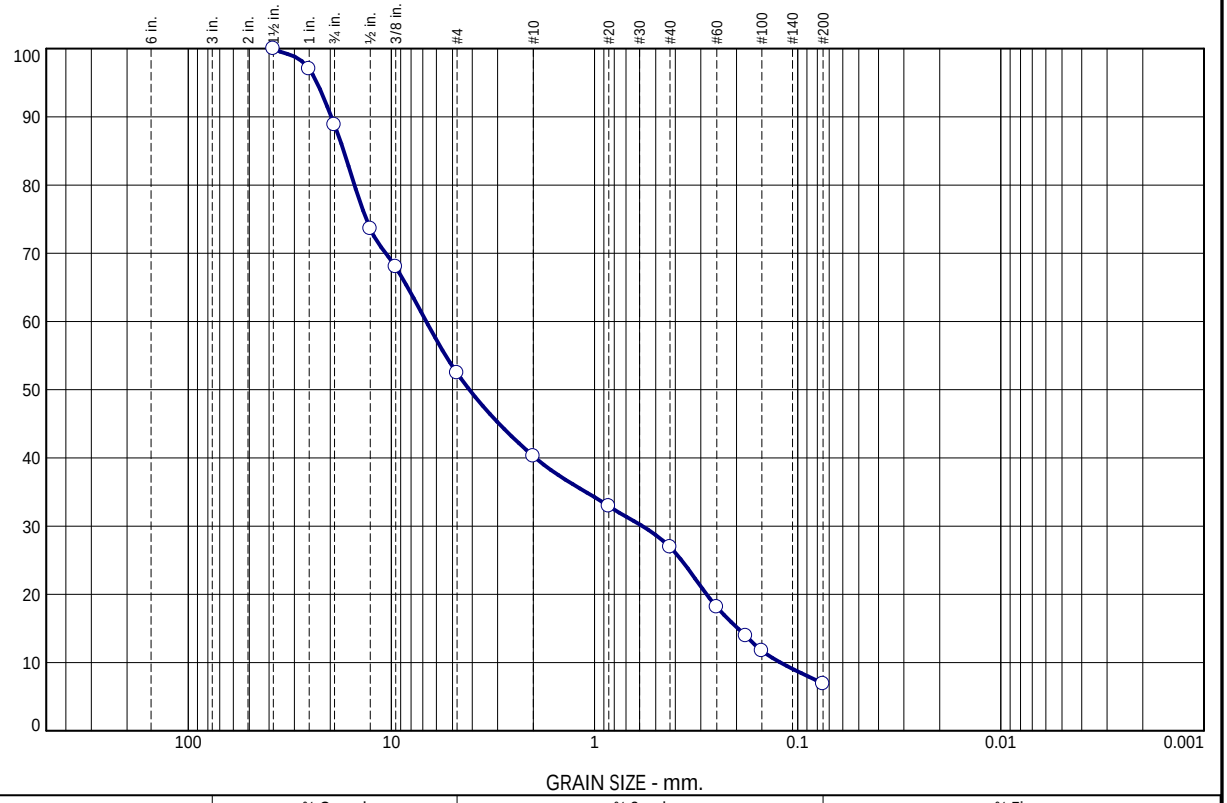
Client: Geosyntec Consultants, Inc.
Project: Johnson Owl Ridge, AS240561

Project No: 25-287

Tested By: Tama Lewis #60698 Checked By: Stu Swenson, CET

Particle Size Distribution Report

ASTM C117 & C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	11	37	12	13	20	7	

Test Results (ASTM C117 & C136)

Sieve Size or Diam. (mm.)	Finer (%)	Spec.* (%)	Out of Spec. (%)	Pct. of Fines
1 1/2	100			
1	97			
3/4	89			
1/2	74			
3/8	68			
#4	52			
#10	40			
#20	33			
#40	27			
#60	18			
#80	14			
#100	12			
#200	6.9			

* (no specification provided)

Material Description

Poorly graded gravel with silt and sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 19.7381 D_{85}= 17.1663 D_{60}= 6.7325
D_{50}= 4.1282 D_{30}= 0.5806 D_{15}= 0.1968
D_{10}= 0.1217 C_u= 55.34 C_c= 0.41

Classification

USCS= GP-GM AASHTO=

Test Remarks

As Received Moisture: 3.8%
F.M.=4.50

Source of Sample: ATP-17; S1 Depth: 5
Sample Number: 27919

Sample Date: 04/17/2025

AAR Testing and Inspection, Inc.

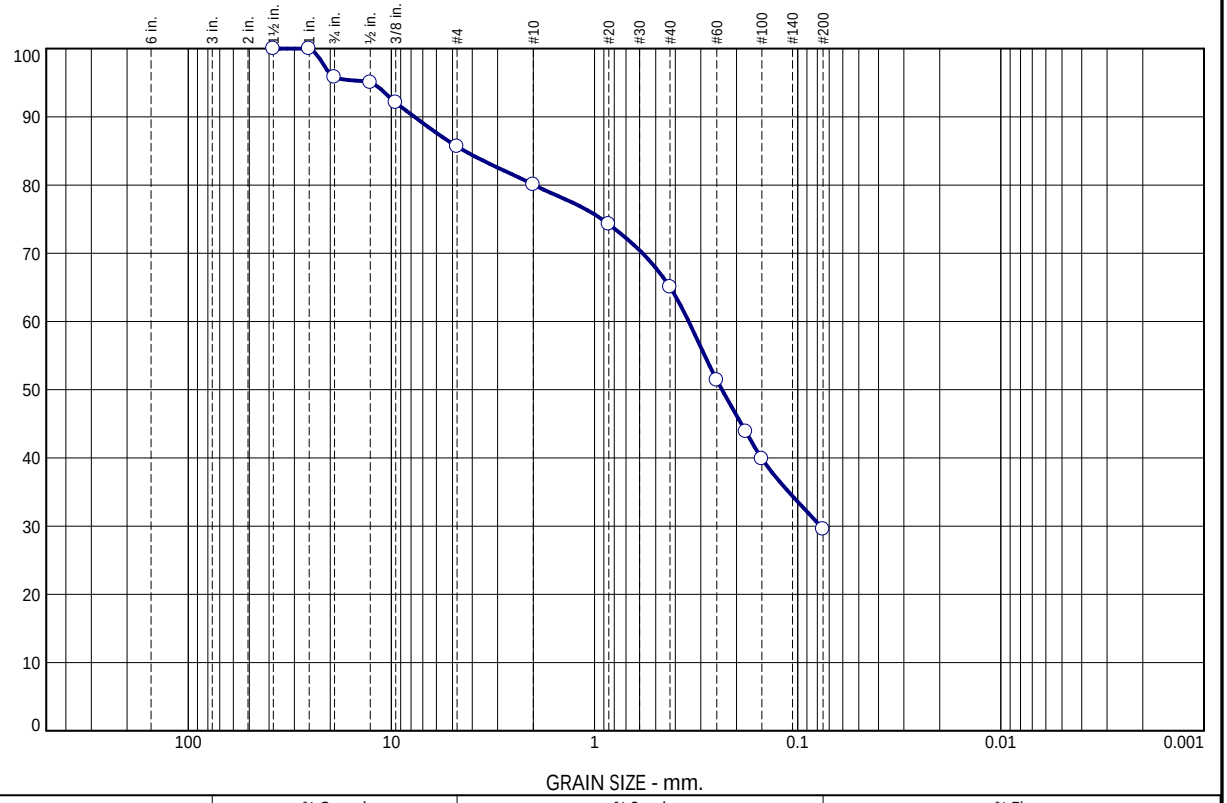
Client: Geosyntec Consultants, Inc.
Project: Johnson Owl Ridge, AS240561

Project No: 25-287

Tested By: Tama Lewis #60698 Checked By: Stu Swenson, CET

Particle Size Distribution Report

ASTM C117 & C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	4	10	6	15	35	30	

Test Results (ASTM C117 & C136)

Sieve Size or Diam. (mm.)	Finer (%)	Spec.* (%)	Out of Spec. (%)	Pct. of Fines
1 1/2	100			
1	100			
3/4	96			
1/2	95			
3/8	92			
#4	86			
#10	80			
#20	74			
#40	65			
#60	51			
#80	44			
#100	40			
#200	30			

* (no specification provided)

Material Description

Silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 7.6977 D_{85}= 4.3545 D_{60}= 0.3439
D_{50}= 0.2358 D_{30}= 0.0774 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Test Remarks

As Received Moisture: 7.9%
F.M.=2.02

Source of Sample: ATP-18; S1 Depth: 4
Sample Number: 27920

Sample Date: 04/17/2025

AAR Testing and Inspection, Inc.

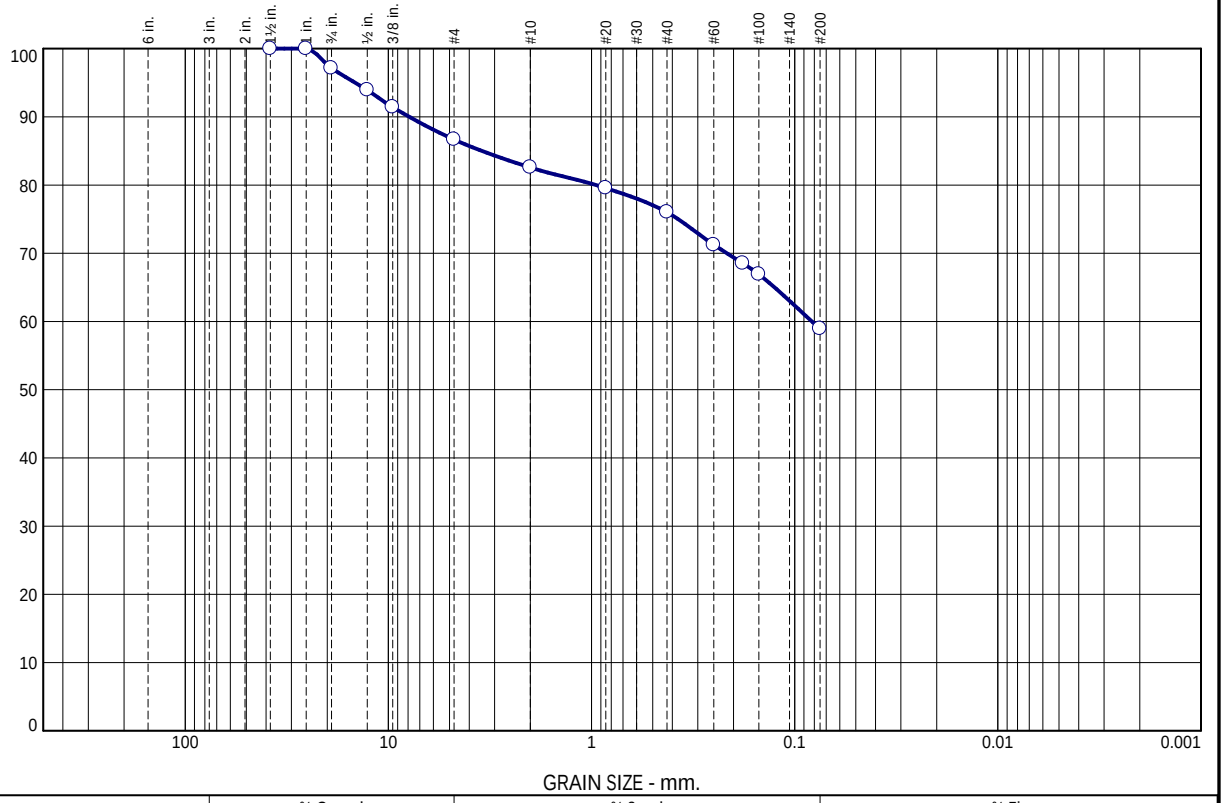
Client: Geosyntec Consultants, Inc.
Project: Johnson Owl Ridge, AS240561

Project No: 25-287 .

Tested By: Tama Lewis #60698 Checked By: Stu Swenson, CET

Particle Size Distribution Report

ASTM C117 & C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	3	10	4	7	17	59	

Test Results (ASTM C117 & C136)

Sieve Size or Diam. (mm.)	Finer (%)	Spec.* (%)	Out of Spec. (%)	Pct. of Fines
1 1/2	100			
1	100			
3/4	97			
1/2	94			
3/8	91			
#4	87			
#10	83			
#20	80			
#40	76			
#60	71			
#80	69			
#100	67			
#200	59			

* (no specification provided)

Material Description

Sandy silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 7.8918 D_{85}= 3.4619 D_{60}= 0.0822
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Test Remarks

As Received Moisture: 14.1%
F.M.=1.43

Source of Sample: ATP-21; S1 Depth: 5
Sample Number: 27922 Sample Date: 04/17/2025

AAR Testing and Inspection, Inc.

Client: Geosyntec Consultants, Inc.
Project: Johnson Owl Ridge, AS240561

Project No: 25-287 .

Tested By: Tama Lewis #60698 Checked By: Stu Swenson, CET

APPENDIX C

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND GUIDELINES FOR USE

Geoscience is Not Exact

The geoscience practices (geotechnical engineering, geology, and environmental science) are far less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or property, you should contact Aspect Consulting (Aspect).

This Report and Project-Specific Factors

Aspect's services are designed to meet the specific needs of our clients. Aspect has performed the services in general accordance with our agreement (the Agreement) with the Client (defined under the Limitations section of this project's work product). This report has been prepared for the exclusive use of the Client. This report should not be applied for any purpose or project except the purpose described in the Agreement.

Aspect considered many unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you;
- Not prepared for the specific purpose identified in the Agreement;
- Not prepared for the specific subject property assessed; or
- Completed before important changes occurred concerning the subject property, project, or governmental regulatory actions.

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual limitations. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with our Agreement with the Client and recognized geoscience practices in the same locality and involving similar conditions at the time this report was prepared.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope instability, or groundwater fluctuations. If any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Geotechnical, Geologic, and Environmental Reports Are Not Interchangeable

The equipment, techniques, and personnel used to perform a geotechnical or geologic study differ significantly from those used to perform an environmental study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions, or recommendations (e.g., about the likelihood of encountering underground storage tanks or regulated contaminants). Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

We appreciate the opportunity to perform these services. If you have any questions, please contact the Aspect Project Manager for this project.