Geotechnical Investigation
Pointer Park Design
Portland, Oregon

Prepared For

Lango Hansen Landscape Architects, P.C.
1100 NW Glisan Street #3A
Portland, Oregon 97209

June 23, 2023
Project No. 00-230034-0

Northwest Geotech, Inc.
Northwest Testing, Inc.
An RMA Company

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Lango Hansen Landscape Architects, P.C.
1100 NW Glisan Street #3A
Portland, Oregon 97209

Attention: Katherine Sheie
Landscape Architect + Senior Associate

Subject: Geotechnical Investigation
Pointer Park Design
Portland, Oregon

Dear Ms. Sheie:

As requested, Northwest Geotech, Inc., (NGI) has completed a geotechnical investigation for the proposed Pointer Park Improvements in Beaverton, Oregon. Our work consisted of subsurface exploration, laboratory testing, field infiltration testing, engineering analysis, and preparation if this report. This report summarizes our findings and presents specific recommendations for design and construction of the project.

SITE DESCRIPTION

Pointer Park is a raw land improvement project located between SW Pointer Road and SW Canyon Lane in Beaverton, Oregon. The location of the project is shown on the Location Map, Figure 1. The subject site is comprised of two parcels of land; Tax Lot 1S101DC04001 (1.62 acres) and Tax Lot 1S101DC3301 (0.29 acres) according to the Metromap database accessed in April 2023. The site is bounded to the north by SW Pointer Road ROW and to the east, west, and south by developed residential properties. A narrow Right-of-Way is located on the south end of the proposed park which will provide connectivity via a path to SW Canyon Lane.

The site is a combination of mildly wooded areas and open grass fields. The site slopes gently down to the southwest from approximate elevation 654 feet to 622 feet.

A single family residence was formerly present on Tax Lot 1S101DC3301; however, it had been demolished at the time of our work.

PROJECT DESCRIPTION

We understand the improvements will include a small parking area, paved hardscape, picnic shelter, play structures, and that shallow on-site infiltration facilities are preferred. At this time, retaining walls are not anticipated.

SITE CONDITIONS AND GEOLOGY

The area is interpreted to be underlain by up to 10 feet of Portland Hills Silt (PHS) underlain by clayey residual soils and weathered basalt bedrock. Seasonal perching of groundwater often occurs above the boundary of the uniform PHS deposit.

SUBSURFACE EXPLORATION

The subsurface exploration consisted of drilling four exploratory borings ranging from 11.5 to 26.5 feet in depth. The subsurface exploration also included excavating two shallow (hand dug) test pits in the north portion of the site (formerly occupied by a single family residence). The borings were advanced with a small trailer mounted drill rig with solid stem auger tooling at the approximate locations shown on the Site Plan, Figure 2. In addition, two shallow infiltration borings were drilled and the approximate locations are also shown on the Site Plan. Standard penetration tests (SPT) were conducted at 2.5 to 5 feet intervals as the borings were advanced.

The borings and test pits were logged by an engineer from our office who visually classified the subsurface soils in general accordance with the Unified Soil Classification System (USCS). Samples of the subsurface soils were returned to our laboratory for further examination and testing.

The laboratory testing program was limited to moisture content and fines content. The results of the laboratory tests are shown on the boring logs. Detailed logs of each boring are presented in Appendix A.

FIELD INFILTRATION TESTING

Field infiltration testing was attempted at two locations identified as borings I-1 and I-2. The approximate locations of the infiltration borings are shown on the Site Plan. The infiltration borings were drilled to depths of approximately 5 feet. Following drilling, clean water was introduced to the boreholes and allowed to stand overnight to presoak the soils. The infiltration tests were conducted the following day by monitoring the drop in water head over time. The infiltration tests showed no decrease in head over time indicating no measurable infiltration. Accordingly, infiltration is not considered to be a feasible method of stormwater management for the site and other options such as detention should be considered.

SUBSURFACE CONDITIONS

The subsurface conditions generally consisted of 8 to 10 inches of sod and topsoil underlain by Portland Hills Silt (PHS) deposits. The PHS deposits are generally wet to very wet, medium stiff to stiff, sandy, clayey silt of low plasticity. The PHS deposits are underlain by colluvium consisting of slightly sandy, silty clay of moderate plasticity. The transition from the PHS and colluvium occurred at a depth of approximately 17.5 feet near the north side of the site and approximately 20 feet near the south side of the site. The PHS and underlying colluvium are considered to possess moderate strength and compressibility characteristics.

Existing debris layden fill was encountered in test pits TP-1 and TP-2 extending to depths of over 3 feet. The existing fill is considered to be poorly compacted and unsuitable for proposed improvements. The existing fill is interpreted as demolition backfill associated with the former home.

Groundwater was encountered at depths of approximately 16.5 feet below the ground surface at the time of our subsurface exploration. Groundwater conditions are expected to fluctuate seasonally.

FINDINGS AND CONCLUSIONS

From a geotechnical engineering standpoint, the site is considered to be suitable for the development as proposed, provided that the following recommendations are incorporated into the design and construction of the project.

SITE EARTHWORK RECOMMENDATIONS

Site Preparation

Prior to grading, the portions of the site to be developed should be cleared of vegetation, foundation and slab remnants, and any surface or buried obstructions. Water wells to be removed (if any) should be capped below finished site grades and abandoned in accordance with local and state guidelines. Removal of topsoil, fill, or any soft, organic, or otherwise unsuitable soils will be required beneath areas to receive fill, pavements, and structure areas. It is anticipated that overall stripping depths will range from approximately 8 to 10 inches; however, localized increased stripping may be required for more extensive root zones or where fill or disturbed soil is encountered during grading. Stripping depths in the vicinity of test pits TP-1 and TP-2 are expected to be in excess of 3 feet. Stripping depths will need to be confirmed by the geotechnical engineer's representative prior to placement of building components, pavement sections, or structural fill.

Materials for Fill

Due to the wet to very wet nature of the near surface soils as well as the season when construction is planned, the use of imported granular fill such as clean sand, pit run gravel, or crushed aggregate (containing less than 5 percent material passing the No. 200 sieve) is recommended. (See Wet Weather Grading/Erosion Control section below).

Representative samples of the materials to be used for fill will need to be approved by NGI and tested in our laboratory to determine the maximum density and optimum moisture content.

Structural Fill

All fill materials placed within structural areas including embankment fill and trench backfill should be compacted while at a moisture content near optimum and to a density that is not less than 92 percent of the maximum dry density as determined in accordance with ASTM D1557 (modified Proctor). For non-structural areas, the compacted dry density should not be less than 85 percent

of the modified Proctor. Unless otherwise specified, the fill materials should be placed in layers that, when compacted, do not exceed 8 inches in thickness. Structural fill will need to be tested by the geotechnical engineer's representative during construction.

Trench Backfill

Trench backfill should consist of a clean crushed aggregate (or other suitable granular material) containing less than 5 percent fine materials passing the No. 200 sieve. Appropriate bedding materials should be placed beneath pipes to ensure no point or concentrated loading. All granular trench backfill above the pipe zone and within structural areas should be compacted by mechanical means to at least 92 percent of the maximum dry density as determined in accordance with ASTM D1557 (modified Proctor). Trench backfill will need to be tested by the geotechnical engineer's representative during construction.

Protection of Exposed Ground

Excavation and construction operations may expose the near-surface moisture sensitive soils to inclement weather conditions. The exposed soils will likely rapidly deteriorate due to precipitation and/or the action of repetitive heavy construction equipment. Accordingly, walls and floors of excavations should be protected from the elements and from the action of repetitive construction traffic.

NGI has provided the following wet weather geotextile and aggregate thickness recommendations for construction of access roads and staging areas, and these should be considered minimum sections to be used in conjunction with track-mounted equipment.

Wet Weather Grading/Erosion Control

Wet weather grading of the near surface, moisture-sensitive soils is generally not recommended. If wet weather grading is unavoidable due to construction schedules, stabilization of the subgrade soils with a geotextile and aggregate (or by other means) will become necessary. Also, construction traffic should be directed over access roads and staging areas constructed of 14 inches (minimum) of compacted crushed aggregate placed over a geotextile such as Mirafi 500X (or equivalent). In addition, the use of lightweight track-mounted equipment is recommended to minimize disturbance of the subgrade. Erosion control measures will need to be undertaken to meet Washington, City of Beaverton, and project requirements.

Excavations

Based on the subsurface exploration, it is anticipated that excavations can be accomplished using conventional heavy earthmoving equipment. Temporary excavations in excess of 5 feet in depth will require shoring or sloping of the sidewalls to provide for worker safety. At the time of the subsurface exploration, groundwater was encountered at a depth of approximately 16.5 feet. Perched groundwater may be present at times and may seep into open excavations, particularly during periods of prolonged wet weather. Any water that accumulates in excavations should be removed by pumping or other suitable means.

SEISMIC CONSIDERATIONS

Based on the subsurface exploration and the 2018 IBC as modified by the 2019 OSSC and applicable provisions of ASCE 7-16, the following seismic design parameters are recommended for the project.

Mapped Spectral Acceleration for Short Periods: $S_s = 0.90$

Mapped Spectral Acceleration for a 1-Second Period: $S_1 = 0.41$

Site Class: D

Site Coefficients: $F_a = 1.2$

Design Spectral Response Acceleration at Short Periods: $S_{DS} = 0.72$

A liquefaction assessment was performed based on the SPT blowcounts, laboratory test data, and physical examination of the soil samples. The potential for seismic induced soil liquefaction was analyzed for a MCE event with a moment magnitude of 6.3 (local crustal event) using an acceleration of 0.45 g. In addition, a liquefaction analysis using a magnitude 9.0 “megathrust” subduction zone event was performed utilizing a peak ground acceleration of 0.20 g.

This assessment found no soil zones to be potentially liquefiable.

Seismic induced slope instability is not considered to be a hazard due to the gently sloping topography in the vicinity of the site as well as the lack of near surface groundwater.

Based on the USGS Earthquake Hazard Program Quaternary Fault Inventory of Oregon, the nearest mapped fault trace is located approximately 2 miles northeast of the site. This fault is identified as an undifferentiated Quaternary fault. Generally the risk of surface displacement is considered to be low if a site is more than 1,000 feet from a mapped fault trace.

FOUNDATION RECOMMENDATIONS

For the picnic shelter and play structures we recommend spread footings or piers be sized for a bearing pressure of up to 1,500 psf assuming a minimum width of 12 inches, and minimum depth of 18 inches below finished grades. Soft soils or historic fills if encountered in footing excavations should be over-excavated and backfilled with imported aggregate or approved fill materials. For cast in drilled hole piles/piers an allowable skin friction value of 0.1 kips per square foot may be assumed for tensile or compression loads.

CONCRETE FLOOR AND GRADE SLABS

Concrete floor slabs or other grade slabs should be at least 4.0 inches in thickness and underlain by a minimum of 8 inches of clean, free-draining, crushed rock compacted to a minimum of 95 percent of the maximum dry density as determined in accordance with ASTM D1557 (modified Proctor). Actual slab thickness and reinforcing should be determined in accordance with structural considerations.

PAVEMENT THICKNESS DESIGN

Although no specific traffic information has been provided, we have prepared the following pavement section recommendations based on our experience with similar projects.

Cars, Light Trucks, and Occasional Delivery Vehicles

- 2.5 Inches of Asphaltic Concrete Pavement
- 8.0 Inches of Crushed Aggregate Base

Prior to placement of the base course, the ground surface should be stripped of topsoil, existing fill, or otherwise unsuitable soils as described above for general grading operations. The upper 6 inches of exposed subgrade should then be scarified and compacted to at least 90 percent of maximum dry density by ASTM D1557 (Modified Proctor). The scarification procedure may be waived at the discretion of the geotechnical engineer if proof-rolling of the subgrade with a fully loaded dump truck (or probing) reveals suitable conditions. A geotextile such as Mirafi 500X (or equivalent) is recommended to be placed between the subgrade and baserock section. Embankment fills and aggregate base for paved areas should be compacted to a minimum of 92 and 95 percent ASTM D1557, respectively. Asphaltic concrete pavements should be compacted to a minimum of 91 percent of the theoretical maximum density per ASTM D2041 (Rice Gravity). Aggregate base and asphaltic concrete materials should meet the requirements as outlined in the current Oregon Department of Transportation Standard Specifications.

SURFACE AND SUBSURFACE DRAINAGE RECOMMENDATIONS

Temporary Construction Drainage

Surface water should be diverted from excavations by means of temporary drainage facilities. Excavations should be de-watered as necessary by pumping or other suitable methods. Ponding of surface water in structural areas should also be prevented to the extent practical utilizing temporary drainage facilities.

Permanent Site Drainage

Surface water should be diverted from foundations by grading the ground surface a minimum of 2 percent away from walls and carrying the runoff from roofs to a suitable gravity outlet.

As discussed in the Field Infiltration Testing section of this report, no measurable infiltration was observed and infiltration is not considered to be a suitable method of stormwater management for this site. Accordingly, other options for stormwater management should be considered for the project.

ADDITIONAL SERVICES

Design Review

This geotechnical report pertains to a specific site and development. It is not applicable to adjacent sites nor is it valid for types of developments other than that to which it refers. Any variation from the site or development necessitates a geotechnical review in order to determine the validity of the design concepts evolved herein.

Additionally, a geotechnical review of final plans and specifications is necessary to determine whether our recommendations have been properly interpreted and incorporated in the design and construction documents.

Construction Monitoring

Because of the judgmental character of soil and foundation engineering, as well as the potential for adverse circumstances arising from construction activity, observations during site preparation, excavation, and construction will need to be carried out by the geotechnical engineer or his representative. These observations then may serve as a basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein to the benefit of the project. Moreover, field engineering observations become increasingly important should earthwork proceed during adverse weather conditions.

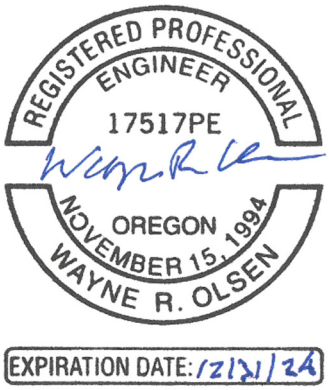
LIMITATIONS

Within the limitations of scope, schedule, and budget, our services have been completed in accordance with the General Conditions with our Client and accepted geotechnical practices in this area at the time this report was prepared. One copy of our General Conditions is included in Appendix B of this report. No warranty is expressed or implied. This report was prepared for the exclusive use of NGI's client for the specific project and NGI does not authorize the segmented use of the advice herein nor the reliance upon the report by third parties without written authorization of NGI. The boring and test pit logs and related information depict generalized subsurface conditions only at these specific locations and at the particular time the subsurface exploration was completed. Soil and groundwater conditions at other locations may differ from the conditions at these boring and test pit locations. Also, the passage of time may result in a change in the soil and groundwater conditions at the site. This report pertains to the subject site only, and is not applicable to adjacent sites nor is it valid for types of development other than that to which it refers. Unless explicitly addressed in this report, slope stability analyses and seismic site hazard evaluation have not been included. If you would like NGI to complete these services, please contact our office.

This opportunity to be of service is sincerely appreciated. Please call if you have any questions.

Respectfully submitted,

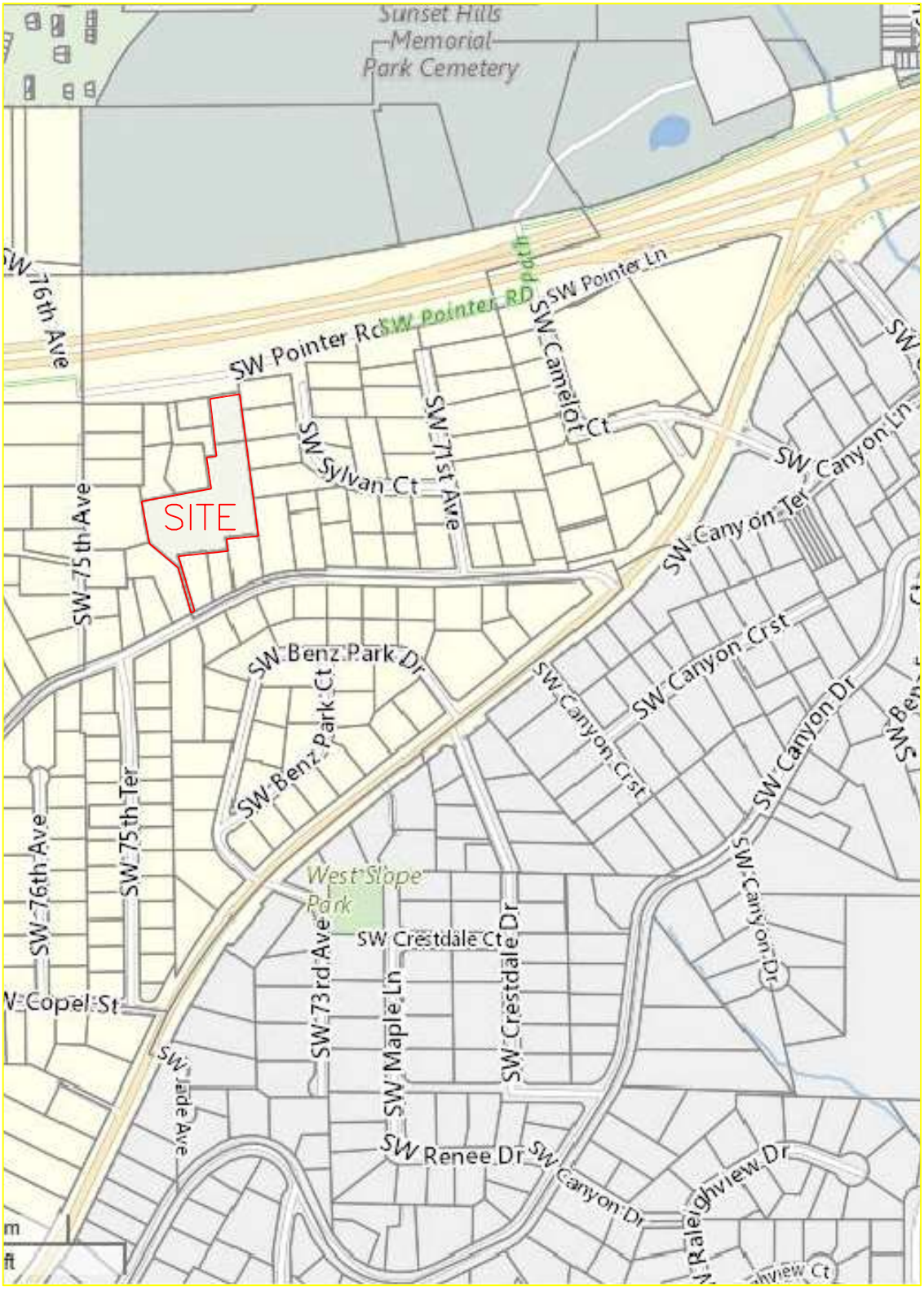
NORTHWEST GEOTECH, INC.



Wayne R. Olsen, P.E., G.E.
Project Engineer

Thomas S. Ginsbach, P.E., G.E.
Principal Engineer

Copies: (1) Addressee (E-mail only)



NOTE: LOCATION MAP BASED ON METROMAP APRIL, 2023

LOCATION MAP

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. 1

Northwest Geotech, Inc.
An RMA Company

LEGEND:

B-4 APPROXIMATE BORING LOCATION

I-2 PERCOLATION TEST LOCATION

TP-2 APPROXIMATE TEST PIT LOCATION

SW CANYON LANE

SW POINTER ROAD

I-2

B-4

I-1

TP-1

B-1

B-2

TP-2

B-3

0 25 50 100

APPROXIMATE SCALE (FEET)

POINTER PARK

7360 SW POINTER ROAD
BEAVERTON, OREGON

PROJECT NO. 00-230034	FIGURE NO. 2

Northwest Geotech, Inc.
An RMA Company

APPENDIX A

DRILLING COMPANY: DAN FISHER EXCAVATING | RIG: LITTLE BEAVER | DATE: 2-27-2023

BORING DIAMETER: 4.0 INCHES HAMMER WEIGHT: 140 LBS | DROP: 30 INCHES | ELEVATION:

DEPTH (FEET)	DCP	DRIVE SAMPLE BLOWS/FOOT	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	SOIL CLASS (U.S.C.S.)	SOIL DESCRIPTION BORING NO. B-1
0		5		22.5	ML	DARK BROWN, WET, MEDIUM STIFF, SANDY, CLAYEY SILT (PORTLAND HILLS SILT)
		11				BECOMES BROWN, STIFF
5		6		26.9		BECOMES MEDIUM STIFF (FINES CONTENT = 62.2%)
		6				
10		6				
15		6		▽		BECOMES SATURATED
		10			CL	BROWN, SATURATED, STIFF, SLIGHTLY SANDY, SILTY CLAY, MODERATE TO HIGH PLASTICITY (COLLUVIUM)
20						
25		50-51/2"				
						TOTAL DEPTH: 25.5 FEET GROUUNDWATER ENCOUNTERED @ ±16.5 FEET
30						

BORING LOG

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. A-1

Northwest Geotech, Inc.
An RMA Company

DRILLING COMPANY: DAN FISHER EXCAVATING | RIG: LITTLE BEAVER | DATE: 2-27-2023

BORING DIAMETER: 4.0 INCHES | HAMMER WEIGHT: 140 LBS | DROP: 30 INCHES | ELEVATION:

DEPTH (FEET)	DCP	DRIVE SAMPLE BLOWS/FOOT	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	SOIL CLASS (U.S.C.S.)	SOIL DESCRIPTION BORING NO. B-2
0		3			ML	DARK BROWN, WET, SOFT, SANDY, CLAYEY SILT (PORTLAND HILLS SILT)
		7				BECOMES BROWN, MEDIUM STIFF
5		9				BECOMES VERY WET, STIFF
		6				BECOMES MEDIUM STIFF
10		4				
						TOTAL DEPTH: 11.5 FEET NO GROUUNDWATER ENCOUNTERED
15						
20						
25						
30						

BORING LOG

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. A-2

Northwest Geotech, Inc.
An RMA Company

DRILLING COMPANY: DAN FISHER EXCAVATING | RIG: LITTLE BEAVER | DATE: 2-27-2023

BORING DIAMETER: 4.0 INCHES | HAMMER WEIGHT: 140 LBS | DROP: 30 INCHES | ELEVATION:

DEPTH (FEET)	DCP	DRIVE SAMPLE BLOWS/FOOT	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	SOIL CLASS (U.S.C.S.)	SOIL DESCRIPTION BORING NO. B-3
0		3			ML	DARK BROWN, WET, SOFT, SANDY, CLAYEY SILT (PORTLAND HILLS SILT)
		10				BECOMES BROWN, STIFF
5		11				BECOMES VERY SET, MEDIUM STIFF
		8				
10		4				BECOMES SOFT
						TOTAL DEPTH: 11.5 FEET NO GROUUNDWATER ENCOUNTERED
15						
20						
25						
30						

BORING LOG

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. A-3

Northwest Geotech, Inc.
An RMA Company

DRILLING COMPANY: DAN FISHER EXCAVATING | RIG: LITTLE BEAVER | DATE: 2-27-2023

BORING DIAMETER: 4.0 INCHES | HAMMER WEIGHT: 140 LBS | DROP: 30 INCHES | ELEVATION:

DEPTH (FEET)	DCP	DRIVE SAMPLE BLOWS/FOOT	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	SOIL CLASS (U.S.C.S.)	SOIL DESCRIPTION BORING NO. B-4
0		2			ML	DARK BROWN, WET, MEDIUM STIFF, SANDY, CLAYEY SILT (PORTLAND HILLS SILT)
		7		31.9		BECOMES BROWN, MEDIUM STIFF
5		9				BECOMES STIFF
		7				BECOMES MEDIUM STIFF
10		5				
15		24		32.6 ▽		BECOMES SATURATED, VERY STIFF
20		50-2"			CL	BROWN, SATURATED, VERY STIFF TO HARD, SLIGHTLY SANDY, SILTY CLAY, MODERATE TO HIGH PLASTICITY (COLLUVIUM)
						TOTAL DEPTH: 21.5 FEET GROUUNDWATER ENCOUNTERED @ ±16.5 FEET
25						
30						

BORING LOG

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. A-4

Northwest Geotech, Inc.
An RMA Company

BACKHOE COMPANY: NGI | BUCKET SIZE: HAND AUGER & SHOVEL | DATE: 04/21/2023

DEPTH (FEET)	BAG SAMPLE	DRIVE SAMPLE	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	SOIL CLASS (U.S.C.S.)	SOIL DESCRIPTION
						TEST PIT NO.: TP-1 ELEVATION:
0	X				ML	FILL: BROWN, WET, POORLY COMPACTED, SANDY, CLAYEY SILT, WITH DEBRIS (CONCRETE, ASPHALTIC CONCRETE, GRAVEL, TRASH)
	X					
	X					
	X					
	X					
	X					
5						TOTAL DEPTH: 8 FEET NO GROUNDWATER ENCOUNTERED X - BAG SAMPLE
10						
15						

TEST PIT LOG

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. A-5

Northwest Geotech, Inc.
An RMA Company

BACKHOE COMPANY: NGI | BUCKET SIZE: HAND AUGER & SHOVEL | DATE: 04/21/2023

DEPTH (FEET)	BAG SAMPLE	DRIVE SAMPLE	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	SOIL CLASS (U.S.C.S.)	SOIL DESCRIPTION
						TEST PIT NO.: TP-2 ELEVATION:
0	X				ML	FILL: BROWN, WET, POORLY COMPACTED, SANDY, CLAYEY SILT, WITH DEBRIS (WOOD, CONCRETE, GRAVEL, TRASH) NOTE: FOUNDATION REMNANTS (STEMWALL) ±15' LONG ENCOUNTERED
	X					
	X					
	X					
	X					
	X					
5						TOTAL DEPTH: 8 FEET NO GROUNDWATER ENCOUNTERED X - BAG SAMPLE
10						
15						

TEST PIT LOG

PROJECT NO. 00-230034	POINTER PARK 7360 SW POINTER ROAD BEAVERTON, OREGON	FIGURE NO. A-6

Northwest Geotech, Inc.
An RMA Company

APPENDIX B

GENERAL CONDITIONS
GEOTECHNICAL ENGINEERING SERVICES

1. PARTIES AND SCOPE OF WORK: Northwest Geotech, Inc., an RMA Group Company (NGI) shall include said company, its engineers, employees, insurers, or authorized representatives. "Work" means the service(s) performed by NGI for Client or at Client's direction. This "Agreement" consists of NGI's proposal, NGI's Schedule of Fees and Services, Client's written acceptance, NGI's signed acceptance, and these General Conditions. "Client" refers to the individual or business entity executing this Agreement. The individual executing this Agreement represents and warrants that he/she is the duly authorized agent of the Client. Client may choose representatives for the purpose of ordering and directing the Work and in such case the term "Client" also includes the principal for whom the Work is being performed and the Client's representatives. Prices quoted and charged by NGI for its Work are predicated upon the conditions and the allocations of risks and obligations expressed in this Agreement. Unless this Agreement specifically provides that NGI is to perform its Work pursuant to specified Federal, State, or local regulations, Client assumes sole responsibility for determining whether the quantity and the nature of the Work ordered by Client is adequate and sufficient for Client's intended purpose. Client shall communicate this Agreement including these General Conditions to each and every third party to whom Client transmits any part of NGI's Work or to whom Client sells, transfers, or assigns an interest in the site or project. NGI shall have no duty or obligation to any third party greater than that set forth in this Agreement. Executing this Agreement or ordering Work from NGI shall constitute acceptance of the terms of these General Conditions. NGI shall be under no obligation to inform other parties of its activities or discoveries, but shall not be negligent if it does so.

2. PAYMENT FOR SERVICES: Invoices will be submitted monthly for services and Client agrees that the invoice amount is due when received unless otherwise agreed. A service charge of one and one-half percent (1-½%) per month (but not exceeding the maximum allowable by law) will be added to any account not paid within 30 days after billing. In the event that any portion of the account remains unpaid 30 days after billing, NGI may immediately discontinue services on any and all projects for Client and/or demand prepayment of fees at NGI's option. Client shall pay all costs incurred by NGI in collecting any delinquent amount, including staff time, court costs and attorney fees at trial and appeal. In the event that NGI obtains a judgment against Client and must execute upon that judgment, Client agrees to pay all attorney fees and costs associated with the execution. If Client objects to all or any portion of any invoice, Client shall notify NGI in writing of the same within ten (10) days from the date of receipt of said invoice and shall pay that portion of the invoice not in dispute, and the parties shall immediately make every effort to settle the disputed portion of the invoice. Failure to make payment within sixty (60) days of invoice shall constitute a release of NGI from any and all claims which Client may have, either in tort or contract, and whether known or unknown at the time. These General Conditions are notice that a construction lien may be claimed for all material, labor and services furnished.

3. SITE CONDITIONS: Client will grant or obtain free access to the site for all personnel and equipment required for NGI to perform the Work. NGI shall take reasonable measures and precautions to minimize damage to each site and any improvements located thereon as the result of its Work and the use of its equipment; however, NGI has not included in its fee the cost of restoration of damage which may occur. If Client or the possessor of any interest in any site desires or requires NGI to restore site to its former conditions, upon written request, NGI will perform such additional work as is necessary and Client agrees to pay to NGI the cost thereof. While NGI will take reasonable precautions to minimize damage to site, Client is responsible for identifying underground structures and agrees to defend, indemnify and hold NGI harmless from all loss, liability, costs (including attorney fees at trial and on appeal), and damage resulting from underground structures not properly located and marked, and from all third party suits for trespass.

4. DISCLOSURE: Client agrees to provide NGI all information in its possession that may be pertinent to the scope of Work, including any information concerning actual or possible presence of hazardous materials. Client agrees that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a re-negotiation of the scope of Work or termination of services. Client agrees to compensate NGI for all costs incident to the discovery of unanticipated hazardous materials. NGI will immediately inform Client of the detection of unanticipated hazardous materials. Client will defend, indemnify, and hold NGI harmless from any claim, liability, costs (including attorney fees at trial and on appeal), or injury, including delay of the project associated with the discovery of unanticipated hazardous materials or any disclosure of these conditions as required by governing law or regulation. All hazardous materials, including samples taken for testing will remain the property and responsibility of Client.

5. ENVIRONMENTAL INDEMNITY: To the fullest extent permitted by law Client agrees to defend, indemnify, and hold harmless NGI from any loss, costs, damage, expense (including attorney fees and costs at trial and appeal), or any theory of liability arising out of or in connection with NGI's exacerbation of existing environmental pollution or contamination or any newly caused pollution or contamination.

6. THIRD PARTY INDEMNITY: To the fullest extent permitted by law Client agrees to defend, indemnify and hold NGI harmless from any claims, demands, suits, charges, expense (including attorney fees and costs at trial and appeal), and/or allegations of responsibility by any and all third parties including but not limited to contractors, subcontractors, agents, employees, assignees, transferees, successors, invitees, neighbors, and the public relating to conditions on or about the project, except to the extent that a claim is the result of negligence of NGI. Client shall notify any third party who may perform work on the project or to whom Client sells, transfers, or assigns an interest in the site or project of the standard of care being undertaken by NGI pursuant hereto and of the limitations of liability contained herein. Client shall require as a condition to the performance of any such third party a like indemnity and limitation of liability on their part against NGI.

7. CONTRACTOR'S RESPONSIBILITY: Our duties do not include supervising the Client's contractors or overseeing, or providing the means and methods of their work. NGI shall have no authority to control any contractor or other entity regarding their work or their safety practices. The purpose of NGI's Work shall be to provide our Client with a greater degree of confidence that the work will meet specifications, not to control or guarantee the work of the contractor. NGI has no duty to inspect or correct health and safety deficiencies of the Client, contractors, or other entities except for NGI personnel. We will not be responsible for the failure of the Client's contractors to perform in accordance with their undertakings and the providing of our services shall not relieve others of their responsibilities to the Client or to others. NGI reserves the right to report to the Client any unsafe condition observed at the project without altering the foregoing.

8. FEE SCHEDULE: Where NGI's services are quoted or estimated on the basis of the current fee schedule, should the project extend beyond the end of the calendar year, the fee schedule then in use shall apply unless otherwise negotiated in advance.

9. LIMITATIONS OF PROCEDURES: Information obtained from inspections, analysis and testing of sample materials shall be accurately reported in reports. However, variations between inspected or tested discrete locations may occur and the risk of such occurrence is understood and accepted by Client. If conditions different than are indicated in our report come to your attention after you receive the report, it is recommended that you contact NGI immediately to authorize appropriate further investigation and to inform NGI completely on what you have discovered. If NGI completes borings or test pits in the performance of its Work there is the possibility that settlement of the backfill will occur. Client agrees to accept all responsibility for conditions related to backfill settlement. Unless explicitly addressed in NGI's proposals or reports our services do not include seismic or slope stability evaluation.

10. SCHEDULES AND DELAYS: All promises of services time are approximations by NGI and are subject to the Client and contractor's schedules, weather conditions, traffic conditions, disputes with workmen or parties, accidents, strikes, natural disasters or other causes. In no event shall NGI be responsible for any damage or expense due to delays from any cause, other than to the extent the damage or expense is caused by NGI's own negligence after having been warned in writing by the Client of the damage or expense which may result from the delay.

COPY

11. USE OF CONSULTING ADVICE: NGI's reports, notes, calculations, and other documents are instruments of our service to the Client and are only applicable for immediate use on this project. Such documents remain the property of NGI. We agree to provide our reports for the Client's use only for the purposes disclosed to us. The Client agrees not to transfer our reports to others or to use them for a purpose for which they were not prepared without our prior written approval. On the Client's written request, NGI may provide endorsements to others of our reports or letters of reliance, but only if those others agree in writing to be bound by the conditions of our Agreement including these General Conditions in full and only if we are paid an additional fee which will be quoted upon request. Client may not assign this Agreement or any portion thereof to any other person or entity without the express written consent of NGI.

12. SAMPLES: All samples of soil and rock may be disposed after 30 days from the date of submission of our report unless otherwise directed by the Client. On request, we will deliver samples to the Client. Shipping charges shall be collect on delivery, or we will store samples for an agreed charge.

13. CONTINUITY OF SERVICES: It is customary for the consultant that provides construction recommendations to be retained to provide observation and confirmation of design parameters during construction. To the fullest extent permitted by law if NGI is not retained to confirm that the construction is in substantial compliance with our conclusions and recommendations, the Client agrees to defend, indemnify, and hold NGI harmless from all claims, losses, and expenses, including attorney fees and costs at trial and on appeal, arising out of NGI's Work including any interpretations, clarifications, substitutions, or modifications of NGI's Work provided by the Client or others.

14. TERMINATION AND SURVIVAL: This Agreement may be terminated by either party on written notice. In the event of termination, NGI shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses, and for the completion of such services as are necessary to place NGI's files in order and/or protect its professional reputation. The Payment for Services, Environmental Indemnity, Third Party Indemnity, Limitations of Procedures, Use of Consulting Advice, Continuity of Services, Mutual Waiver, Witness Fees, State Law/Venue, Standard of Care, and Limitation of Liability provisions of this Agreement shall survive any termination or completion of this Agreement.

15. WITNESS FEES: NGI's employees shall not be retained as expert witnesses except by separate written agreement. Client agrees to pay NGI's legal expenses, administrative costs, staff time, and fees pursuant to NGI's current fee schedule for NGI to respond to any subpoena.

16. STATE LAW/VENUE: This Agreement shall be interpreted and construed in accordance with the laws of the State of Oregon. Exclusive of lien claims, any action or proceeding brought to enforce or otherwise arising out of or relating to this Agreement shall be brought in the Circuit Court of Clackamas County, Oregon.

17. STANDARD OF CARE: NGI will perform the contracted services in a manner consistent with the skill and care ordinarily exercised under similar circumstances by members of our profession practicing in the same locality, at the same time, and performing similar services. No warranty, expressed or implied, is made or intended in our proposals, reports or contracts. No action or claim, whether in tort, contract, or otherwise, may be brought against NGI, arising from or related to NGI's Work, more than two years after the cessation of NGI's Work hereunder. NGI will not be liable to Client unless Client has notified us in writing of the discovery of the claimed negligent act, error, or omission within 30 days of the date of its discovery and unless Client has given us an opportunity to investigate and to recommend ways of mitigating Client's damages.

18. PROVISIONS SEVERABLE: Any provision or part of the Agreement held to be void or unenforceable under any laws or regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Client and NGI, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

19. MUTUAL WAIVER: To the fullest extent permitted by law, Client and NGI waive against each other any and all claims for or entitlement to special, incidental, indirect, consequential, delay, punitive, or similar losses or damages arising out of, resulting from, or in any way related to the project.

20. ENTIRE AGREEMENT: This Agreement comprises the final and complete understanding between Client and NGI. It supersedes all prior or contemporaneous communications, representations, or agreements, whether oral or written, relating to the subject matter of this Agreement. Execution of this Agreement signifies that each party has read the document thoroughly, has had any questions explained by independent counsel, and is satisfied. Any additional provisions contained in any Client purchase order, acknowledgment, or other form previously or subsequently submitted by Client shall not operate to modify this Agreement. Amendments to these General Conditions shall not be binding unless made in writing and signed by both Client and NGI. This Agreement may be executed in several counterparts, each of which shall be deemed an original having identical legal effect.

21. LIMITATION OF LIABILITY: In recognition of the fees charged by NGI, the relative risks and benefits of this project to both Client and NGI, Client, all parties claiming through Client, and all parties claiming to have in any way relied on NGI's Work, agree that to the fullest extent permitted by law, NGI's total liability arising out of or in any way related to NGI's Work, the project or this Agreement, from any cause or causes, including but not limited to NGI's employees or agents negligent acts, errors, omissions, design defect, breach of contract or any other theory of liability shall be limited to One Million Dollars ($1,000,000.00).

CLIENT: Katherine Sheie
Lango Hansen Landscape Architects, P.C.
1100 NW Glisan Street #3A
Portland, Oregon 97209

CLIENT SIGNATURE: _____

DATE: 2-23-23

PROJECT: Geotechnical Services
Pointer Park Design
Portland, Oregon