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August 5, 2022

Azure Green Consultants
409 E Pioneer
Puyallup, WA 98372
(253) 770-3144

Attn: Jim Job
jim@mailagc.com

Soils Report
Proposed Redevelopment
204 4th Street SW
Puyallup, Washington
PN: 57450016-31, -32, -41
Doc ID: AGC.4thStSW.SR

INTRODUCTION

This *Soils Report* summarizes our site observations and geotechnical data review and addresses the feasibility of stormwater infiltration for the proposed residential redevelopment to be constructed at 204 – 4th Street SW in Puyallup, Washington. The approximate site location is shown on Figure 1.

Our understanding of the project is based on our correspondence with Azure Green Consultants, our understanding of the City of Puyallup's development codes, and our experience in the site area. We understand that the site is currently developed with a single-family residence. Furthermore, we understand that you propose to demolish the existing residence and construct a new mixed use building at the site. We have not been provided with conceptual plans for the proposed structure at the time of this report, but we anticipate the new structure will consist of one to two stories of concrete construction with two to four stories of wood-framing above. Support for the proposed structure will likely consist of shallow foundations bearing on improved ground, or deep foundations such as continuous flight auger piles.

SCOPE

The purpose of our services was to evaluate the surface and subsurface conditions across the site as a basis for providing geotechnical recommendations and design criteria for the proposed restaurant. Specifically, the scope of services for this project included the following:

1. Reviewing the available geologic, hydrogeologic, and geotechnical data for the site area;
2. Exploring the subsurface conditions by observing four direct push Geoprobes and installing groundwater monitoring wells in each exploration at selected locations at the site;
3. Installing Leveloggers in each well and monitoring of groundwater levels within each groundwater monitoring well during the prescriptive wet season (December 21 through April 1);

4. Providing our opinion about the feasibility of onsite infiltration in accordance with the 2014 SWMMWW, including a preliminary design infiltration rate based on grain size analysis and in-situ testing, as applicable; and,
5. Preparing a *Soils Report* that satisfies the 2014 SWMMWW requirements and summarizes our site observations and conclusions, our geotechnical recommendations and design criteria, along with the supporting data.

The above scope of work was summarized in our *Proposal for Geotechnical Engineering Services* dated December 2, 2021. We received authorization to proceed from you the same day.

SITE CONDITIONS

Surface Conditions

As stated, the site is located at 204 – 4th Street SW in Puyallup, Washington. The site consists of three tax parcels that, when combined, are generally rectangular in shape, measure approximately 135 feet wide (north to south) by approximately 240 feet long (east to west), and encompasses approximately 0.74 acres. The site is bounded by existing residential development to the west, West Pioneer Avenue to the south, West Meeker to the north, and 4th Street SW to the east.

Based on topographic information obtained from Pierce County Public GIS and our site observations, the ground surface of the site is generally level with small rises and falls in elevation on the order of approximately 1 foot. The total topographic relief of the site is on the order of approximately 2 feet. The existing site configuration and topography are shown on the Site Vicinity Map, Figure 3.

Vegetation across the site generally consisted of maintained grass with typical residential landscaping. No seeps or springs were observed at the site however some small areas of standing water were observed. No signs of erosion or soil instability were observed during our site reconnaissance.

Site Soils

The Natural Resource Conservation Service (NRCS) Web Soil Survey maps the site as being underlain by Puyallup fine sandy loam (31A) soils. These soils are derived from alluvium, form on slopes of 0 to 3 percent, are considered to have a “slight” erosion hazard when exposed, and are included in hydrologic soils group A. A copy of the NRCS soils map is included as Figure 3.

Site Geology

According to the *draft Geologic map of the Puyallup 7.5-minute Quadrangle, Washington* by Troost, (in review) the site is mapped as being underlain by Quaternary Alluvium (Qal). Alluvial soils generally consist of normally consolidated, stratified deposits of sand, silt, clay, and occasional peat that were deposited along the Puyallup River channel. The existing topography, as well as the surficial and shallow soils in the area, are the result of fluvial action, including down-cutting by the river, channel meandering and migration, and flood deposits. An excerpt from the geologic map is included as Figure 4.

Subsurface Explorations

On December 22, 2021, a field representative from GeoResources visited the site and monitored 4 direct push probes (GeoProbes) to a depth of approximately 15 feet, logged the

subsurface conditions, and obtained representative soils samples. The probes were completed by a licensed drilling company working for GeoResources. The approximate locations of the probes are indicated in the attached Site & Exploration Plan, Figure 2.

A representative from GeoResources continuously monitored the borings, maintained logs of the subsurface conditions encountered, and obtained representative samples in sealed containers for transportation to our laboratory. The soil densities presented on the logs were based on the difficulty of excavation and our experience. The number and location of the explorations were selected in the field based on project information provided by Azure Green Consultants, consideration for underground utilities, existing site conditions, and current site usage. Each exploration was completed as a groundwater monitoring well.

The subsurface explorations excavated as part of this evaluation indicate the subsurface conditions at specific locations only, as actual subsurface conditions can vary across the site. Furthermore, the nature and extent of such variation would not become evident until additional explorations are performed or until construction activities have begun. Based on our experience in the area and extent of prior explorations in the area, it is our opinion that the soils encountered in the explorations are generally representative of the soils at the site.

The soils encountered were visually classified in accordance with the Unified Soil Classification System (USCS) and ASTM D: 2488. The approximate locations of our explorations are indicated on the attached Site & Exploration Map, Figure 2. The USCS is included in Appendix A as Figure A-1, while the descriptive logs of our explorations are included as Figures A-2 through A-5.

Subsurface Conditions

At the locations of our explorations, we encountered relatively uniform subsurface conditions that in our opinion generally confirmed the mapped stratigraphy at the site. Our explorations encountered approximately ¾ to 1 foot of topsoil. Underlying the topsoil we encountered approximately 2¼ to 3 feet of brown poorly graded sand with some silt to brown sandy silt in a loose to medium dense/medium stiff, moist to wet condition. We interpret these soils to be weathered alluvium. Underlying the weathered alluvium we encountered brown-grey sand with varying amounts of silt interbedded with silt and varying amounts of sand. We interpret these soils to be alluvium. The alluvial soils were encountered to the full depth explored in each exploration.

Laboratory Testing

Geotechnical laboratory tests were performed on two samples retrieved from the explorations to estimate index engineering properties of the soils encountered. Laboratory testing included visual soil classification per ASTM D:2487 and ASTM D:2488, moisture content determinations per ASTM D:2216, and grain size analyses per ASTM D:6913 standard procedures. The results of the laboratory tests are included in Appendix B.

Groundwater Conditions

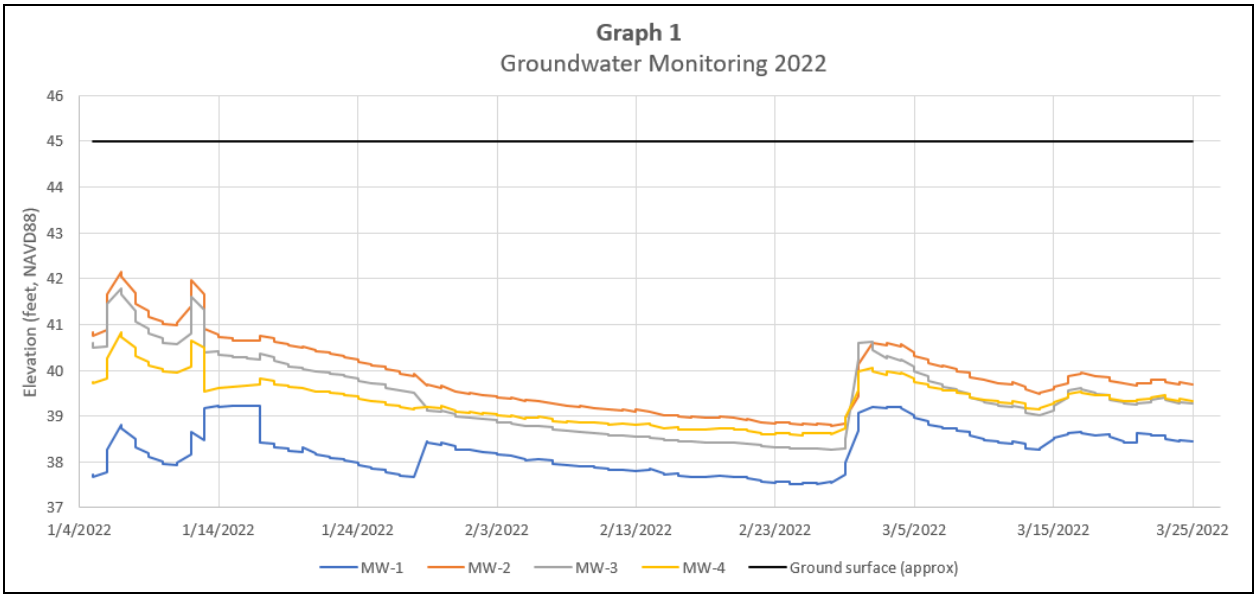
We encountered ground water in all explorations at approximately 3.7 to 6.2 feet below existing ground surface at the time of drilling. Additionally, mottling was encountered as shallow as 1 to 2½ feet below existing ground surface. Mottling may be indicative of a seasonal or fluctuating groundwater surface, often associated with perched groundwater. Perched groundwater table develops when the vertical infiltration of precipitation through a more permeable soil, is slowed at depth by a deeper, less permeable soil type. We anticipate fluctuations in the local groundwater levels will occur in response to precipitation patterns, off-site construction activities, and site

utilization. Analysis or modeling of anticipated groundwater levels during construction is beyond the scope of this report.

We installed downhole pressure transducers in each groundwater monitoring well on January 5, 2022. Water temperature and pressure were collected on 12-hour intervals on each instrument. An additional pressure transducer was installed in one monitoring well above the water line to record barometric pressure. All instruments were removed on March 25, 2022.

Data sets were uploaded into Solinst Levelogger Software (v 4.40), where water level measurements captured by the deployed instruments were adjusted to compensate for barometric pressure variations. The resulting compensated water level dataset provides a barometrically corrected record of groundwater levels within each groundwater monitoring well.

Based on our groundwater monitoring over the wet season, it appears that seasonal high groundwater levels occurred between elevation 39 to 42 feet (NAVD 88) in early to mid-January. Graph 1, below, summarizes the groundwater levels recorded as part of our groundwater monitoring program during our monitoring period.



CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our data review, site reconnaissance, and subsurface explorations, it is our opinion that soil conditions and shallow groundwater levels preclude the use of conventional infiltration facilities at the site. Low-impact development methods may be feasible, depending on site configuration. Additional discussion regarding stormwater management methods is included in the following sections.

Infiltration Recommendations

Low Impact Development (LID) BMPs

LID infiltration BMPs such as pervious pavement could be considered to manage stormwater for this project. Per the 2014 SWMMWW, Volume V, Chapter 5, BMP T5.15, permeable pavements are infeasible if saturated conditions would be created within 1 foot of the bottom elevation of the lowest layer and the seasonal high groundwater table or an underlying impermeable/low permeable layer.

Based on our groundwater monitoring measurements, the bottom of the proposed infiltration facilities should be no greater than 1.5 feet below existing grades, in order to meet the minimum 1 foot of vertical separation. We do not recommend infiltration in the area of MW-3. The surficial silty alluvium soils encountered at the surficial elevation of each exploration contain a significant amount of fines that will not support infiltration. The silty sands located at the surficial elevation in MW-1, MW-2, and MW-4 should be suitable for infiltration

Infiltration BMPs

Per the 2014 SWMMWW, Volume V, Chapter 4, BMP T5.10A, downspout infiltration is feasible on sites where 3 feet or more of permeable soil from the proposed final grade to the seasonal high-water table is available, and/or at least 1 foot of clearance from the bottom elevation of the infiltration trench to the seasonal high groundwater table is available. We observed 3 feet or more of permeable soil in MW-1, MW-2, and MW-4, however, based on our groundwater monitoring measurements to date, the vertical separation requirement from groundwater is not able to be met. Therefore, downspout infiltration does not appear feasible for this project. Stormwater runoff generated by the proposed impermeable surfaces should be collected and routed to an appropriate discharge location.

Design Infiltration Rate

We completed a soil gradation analyses on three representative soil sample from the site per the 2014 SWMMWW, Volume III, Section 3.3.6, Method 3 and in accordance with ASTM D6913. Based on our gradation analyses, we recommend a design infiltration rate of 0.5 inches per hour for permeable pavements or bio swales founded no greater than 1.5 feet below existing grades in the shallow silty sand alluvium soils encountered in the areas of MW-1, MW-2, and MW-4. Appropriate correction factors have been applied to these values in accordance with the 2014 SWMMWW, Volume III, Section 3.3.6, Table 3.3.1, including correction factors 0.33 for site variability ($F_{variability}$), 0.4 for testing method ($F_{testing}$) and 0.9 for maintenance for situation biofouling ($F_{maintenance}$).

Construction Considerations

We recommend that a representative from our firm be onsite at the time of excavation of the proposed infiltration facilities to verify that the soils encountered during construction are consistent with the soils observed in our subsurface explorations. Verification infiltration testing should also be performed at the time of construction to verify the recommended infiltration rates for infiltration facilities such as infiltration trenches and permeable pavements per the 2014 SWMMWW.

Appropriate design, construction and maintenance measures will be required to ensure the infiltration rate can be effectively maintained over time. Appropriate temporary erosion and sediment control methods should be included in the project plans and specifications to minimize the potential for fines contamination of infiltration facility utilized at the site. To further reduce the potential for fines migration, the infiltration system should not be connected to the stormwater runoff system until after construction is complete and the site area is landscaped, paved or otherwise protected.

Additional measures may also be taken during construction to minimize the potential of fines contamination of the proposed infiltration system, such as utilizing an alternative storm water management location during construction or leaving the bottom of the permanent systems 1 to 2 feet high, and subsequently excavating to the finished grade once the site soils have been stabilized. All contractors working on the site (builders and subcontractors) should divert sediment laden

stormwater away from proposed infiltration facilities during construction and landscaping activities. No concrete trucks should be washed or cleaned, and washout areas should not be within the vicinity of the proposed infiltration facilities. After construction activities have been completed, periodic sweeping of the paved areas will help extend the life of the infiltration system.

LIMITATIONS

We have prepared this report for use by Azure Green Consultants and other members of the design team, for use in the permitting and design of a portion of this project. The data used in preparing this report and this report should be provided to prospective contractors for their bidding or estimating purposes only. Our report, conclusions and interpretations are based on subsurface explorations and data from others and limited site reconnaissance, and should not be construed as a warranty of the subsurface conditions.

Variations in subsurface conditions are possible between the explorations and may also occur with time. A contingency for unanticipated conditions should be included in the budget and schedule. Sufficient monitoring, testing and consultation should be provided by our firm during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork and foundation installation activities comply with contract plans and specifications.

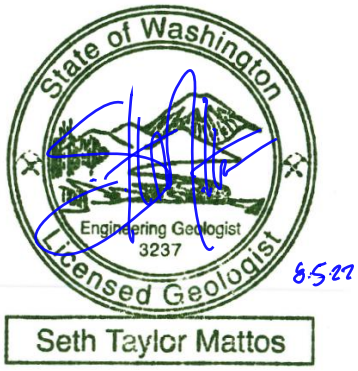
The scope of our services does not include services related to environmental remediation and construction safety precautions. Our recommendations are not intended to direct the contractor's methods, techniques, sequences or procedures, except as specifically described in our report for consideration in design.

If there are any changes in the loads, grades, locations, configurations or type of facilities to be constructed, the conclusions and recommendations presented in this report may not be fully applicable. If such changes are made, we should be given the opportunity to review our recommendations and provide written modifications or verifications, as appropriate.

◆ ◆ ◆

We have appreciated the opportunity to be of service to you on this project. If you have any questions or comments, please do not hesitate to call at your earliest convenience.

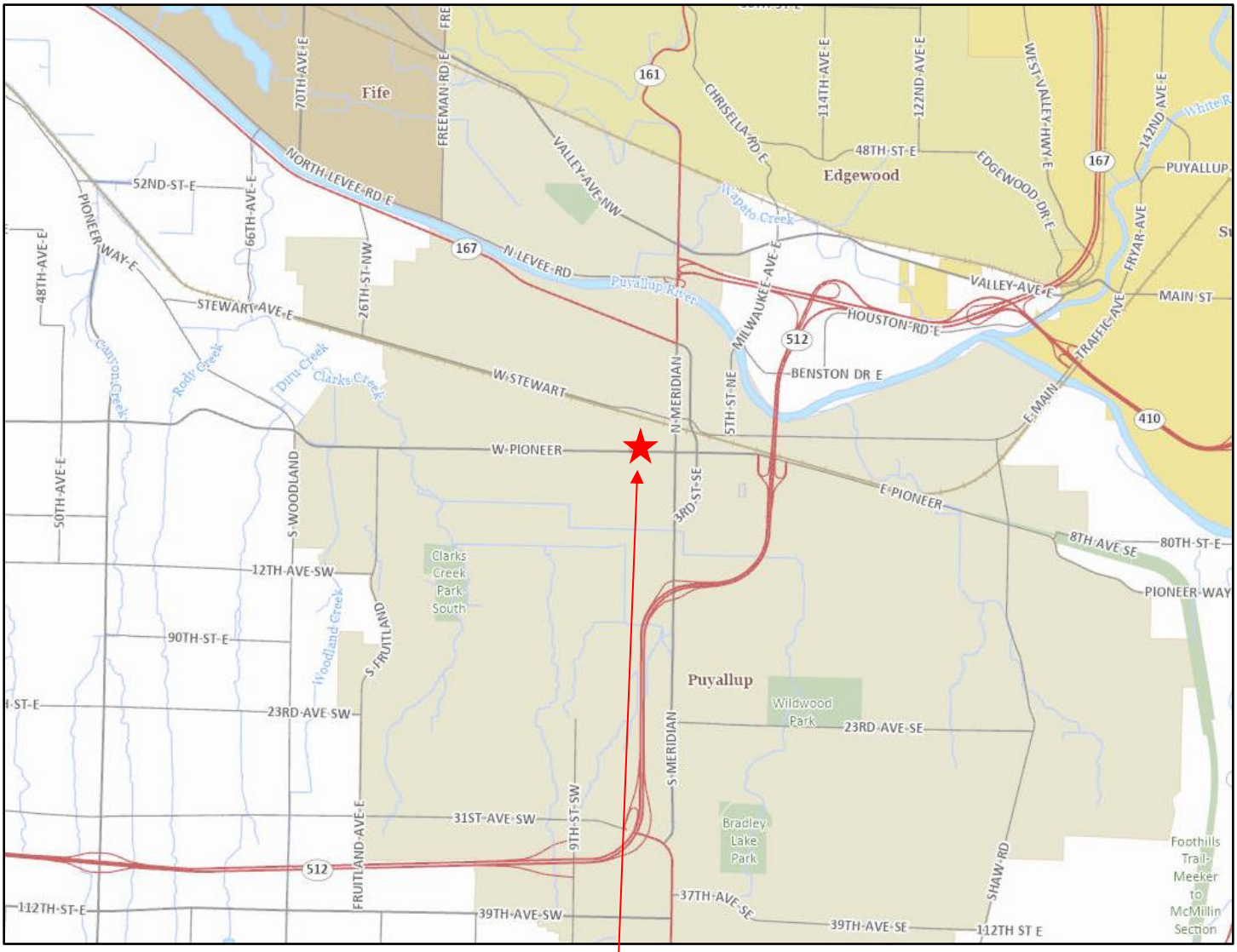
Respectfully submitted,
GeoResources, LLC



Andrew Schnitger, EIT
Staff Engineer

Seth Mattos, LEG
Associate

AES:STM/aes
DocID: AGC.4thStSW.SR.U
Attachments: Figure 1: Site Vicinity Map
Figure 2: Site & Exploration Map
Figure 3: NRCS Soils Map
Figure 4: Geologic Map
Appendix A – Subsurface Explorations
Appendix B – Laboratory Test Results



Approximate Site Location

Map created from Peirce County Public GIS (https://matterhornwab.co.pierce.wa.us/publicgis/)

N
W
E
S

Not to Scale

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Site Location Map

Proposed Redevelopment
204 4th Street SW
Puyallup, Washington
PN: 57450016-31,-32,-41

DocID: AGC.4thStSW.F	August 2022	Figure 1

Exploration number and approximate locations (GeoResources 2021)

Additional Notes:
Imagery and topography accessed from Pierce County Public GIS, not to scale, NAVD88
Downhole pressure transducers installed in all wells, suspended via mason line secured under well cap
Barometric pressure transducer installed in MW-1, suspended 18-inches below well cap
Must secure mason line before removing well cap
All instruments set to record at 1200 and 2400 hours daily

N W E S

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Site & Exploration Plan

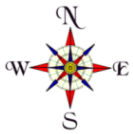
Proposed Mixed-use Development
204 – 4th St SW
Puyallup, Washington
PN: 5745001631, -32, -41

Doc ID: AGC.4thStSW.F2	December 2021	Figure 2

Approximate Site Location

Map created from Web Soil Survey (http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

Soil Type	Soil Name	Parent Material	Slopes	Erosion Hazard	Hydrologic Soils Group
31A	Puyallup fine sandy loam	Alluvium	0 to 3	Slight	A



Not to Scale

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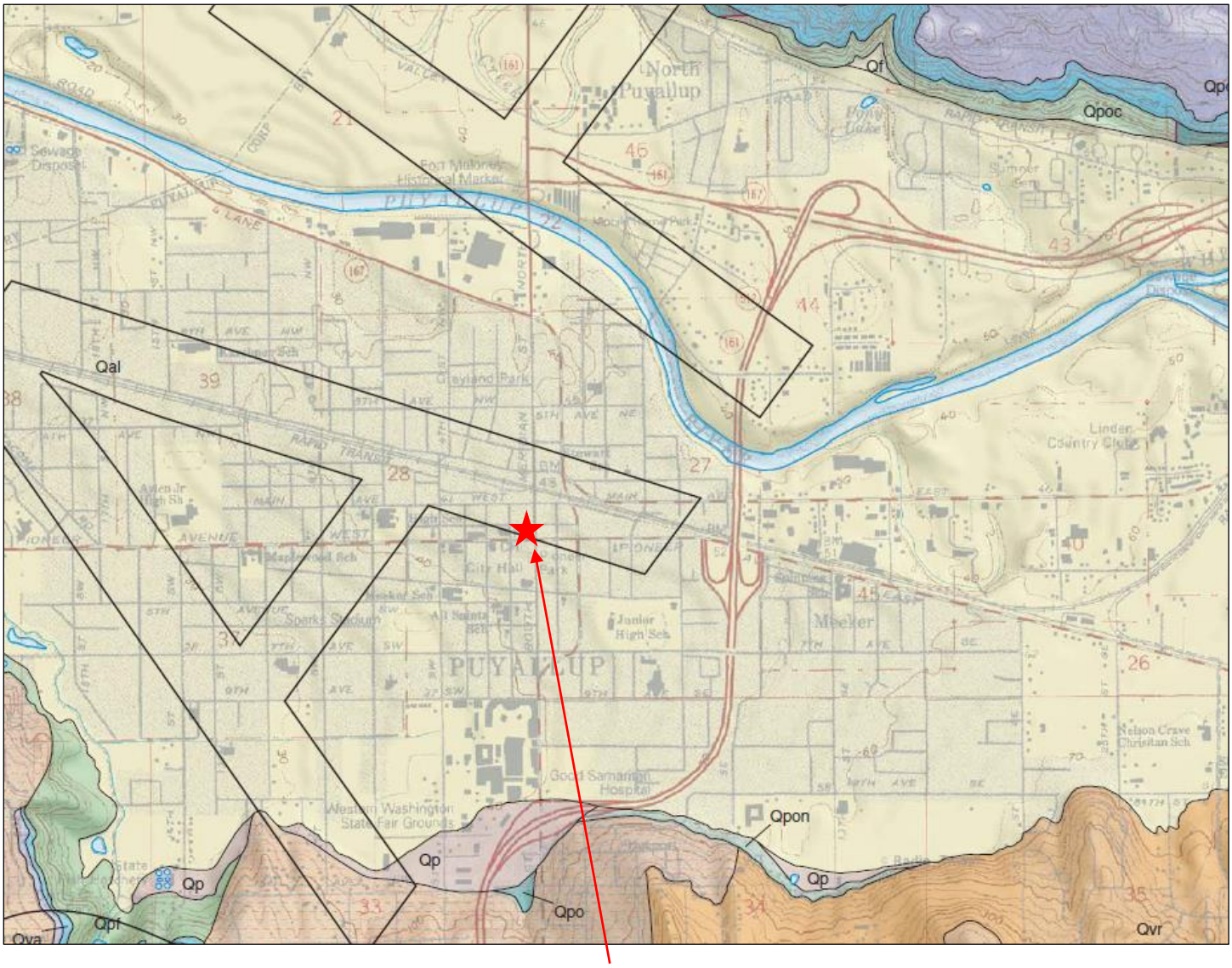
NRCS Soils Map

Proposed Redevelopment
204 4th Street SW
Puyallup, Washington
PN: 57450016-31,-32,-41



Approximate Site Location

Excerpt from the draft *Geologic Map of the Puyallup 7.5-Minute Quadrangle, Washington*
By Troost, K.G. (in review)

Qal	Alluvium

Not to Scale

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Geologic Map

Proposed Redevelopment
204 4th Street SW
Puyallup, Washington
PN: 57450016-31,-32,-41

DocID: AGC.4thStSW.F	August 2022	Figure 4

Appendix A

Subsurface Explorations

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LOG OF BORING

MW-1

AGC.4thStSW
204 4th Street SW
Puyallup, WA

1. Refer to log key for definition of symbols, abbreviations, and codes
2. USCS disination is based on visual manual classification and selected lab testing
3. Groundwater level, if indicated, is for the date shown and may vary
4. NE = Not Encountered
5. ATD = At Time of Drilling
6. HWM = Highest Groundwater Level

Notes: East side of site

Drilling Company:	ESN NW	**Logged By:**	DC
Drilling Method:	Direct push/Geoprobe	**Drilling Date:**	12/22/2021
Drilling Rig:	Truck	**Datum:**	NAVD 88
Sampler Type:	Dual Tube	**Elevation:**	42
Hammer Type:		**Termination Depth:**	15
Hammer Weight:		**Latitude:**	
		Longitude:	

Depth (feet)	Elevation (feet)	Soil description
0	42	Topsoil
		Brown poorly graded snad with some silt (loose to medium dense, moist to wet) (SP-SM) (Weathered Alluvium)
2.5	40	Poorly graded SAND with some silt (SP-SM)
		Brown-grey SILT with trace sand (medium stiff, moist) (ML) (Alluvium)
5	37.5	Brown poorly graded SAND with some SILT (loose to medium dense, moist to wet) (SP-SM) (Alluvium)
7.5	35	Brown sandy SILT (medium stiff, wet) (ML) (Alluvium)
		Grey SILT, trace organics (stiff, moist) (ML) (Alluvium)
10	32.5	Brown silty SAND (medium dense, moist to wet) (SM) (Alluvium)
12.5	30	
15	27.5	*(Termination Depth - 12/22/2021)*

Exploration notes

STP Blowcounts

Sampler

Symbol

Test Results
Plastic Limit — Liquid Limit
% Fines (<0.075mm) ◇
% Water Content ●
Penetration - ▲ (blows per foot)
10 20 30 40 50

Groundwater
ATD

Topsoil
Poorly graded sand with silt
Silt

Sheet 1 of 1	JOB:	FIG.

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LOG OF BORING

MW-2

AGC.4thStSW
204 4th Street SW
Puyallup, WA

1. Refer to log key for definition of symbols, abbreviations, and codes
2. USCS disination is based on visual manual classification and selected lab testing
3. Groundwater level, if indicated, is for the date shown and may vary
4. NE = Not Encountered
5. ATD = At Time of Drilling
6. HWM = Highest Groundwater Level

Notes: Southern portion of site

Drilling Company:	ESN NW	**Logged By:**	DC
Drilling Method:	Direct push/geoprobe	**Drilling Date:**	12/22/2021
Drilling Rig:	truck	**Datum:**	NAVD 88
Sampler Type:	Dual Tube	**Elevation:**	42
Hammer Type:		**Termination Depth:**	15
Hammer Weight:		**Latitude:**	
		Longitude:	

Depth (feet)	Elevation (feet)	Soil description
0	42	Topsoil
		Brown poorly graded SAND interbedded with thin silt layers (loose to medium dense, moist to wet) (SP-SM) (Weathered Alluvium)
2.5	40	Silty SAND (SM)
5	37.5	Brown sandy SILT (medium stiff, wet) (ML) (Alluvium)
7.5	35	Grey SILT with trace organics (stiff, moist) (ML) (Alluvium)
10	32.5	Brown silty SAND (medium dense, moist) (SM) (Alluvium)
12.5	30	Brown sandy SILT (medium stiff, wet) (Alluvium)
15	27.5	*(Termination Depth - 12/22/2021)*

Exploration notes

STP Blowcounts

Sampler

Symbol

Test Results
Plastic Limit — Liquid Limit
% Fines (<0.075mm) ◇
% Water Content ●
Penetration - ▲ (blows per foot)
10 20 30 40 50

Groundwater
ATD

Topsoil
Poorly graded sand with silt
Silt
Silty sand

Sheet 1 of 1	JOB:	FIG.

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LOG OF BORING

MW-3

AGC.4thStSW
204 4th Street SW
Puyallup, WA

1. Refer to log key for definition of symbols, abbreviations, and codes
2. USCS disination is based on visual manual classification and selected lab testing
3. Groundwater level, if indicated, is for the date shown and may vary
4. NE = Not Encountered
5. ATD = At Time of Drilling
6. HWM = Highest Groundwater Level

Notes: Northern portion of site

Drilling Company:	ESN NW	**Logged By:**	DC
Drilling Method:	Direct push/Geoprobe	**Drilling Date:**	12/22/2021
Drilling Rig:	truck	**Datum:**	NAVD 88
Sampler Type:	Dual Tube	**Elevation:**	42
Hammer Type:		**Termination Depth:**	15
Hammer Weight:		**Latitude:**	
		Longitude:	

Depth (feet)	Elevation (feet)	Soil description
0	40	Topsoil
2.5	37.5	Brown sandy SILT (medium stiff, moist to wet) (ML) (Weathered Alluvium)
5	35	Brown poorly graded SAND with some SILT (loose to medium dense, moist to wet) (SP-SM) (Alluvium)
7.5	32.5	grey-blue SILT, trace organics (Stiff, moist) (ML) (Alluvium)
10	30	Brown-grey sandy silt (medium stiff, wet) (ML) (Alluvium)
12.5	27.5	
15		*(Termination Depth - 12/22/2021)*

Exploration notes

STP Blowcounts

Sampler

Symbol

Test Results
Plastic Limit — Liquid Limit
% Fines (<0.075mm) ◇
% Water Content ●
Penetration - ▲ (blows per foot)
10 20 30 40 50

Groundwater
ATD

Topsoil
Poorly graded sand with silt
Silt
Silty sand

Sheet 1 of 1

JOB:

FIG.

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LOG OF BORING

MW-4

AGC.4thStSW
204 4th Street SW
Puyallup, WA

1. Refer to log key for definition of symbols, abbreviations, and codes
2. USCS disination is based on visual manual classification and selected lab testing
3. Groundwater level, if indicated, is for the date shown and may vary
4. NE = Not Encountered
5. ATD = At Time of Drilling
6. HWM = Highest Groundwater Level

Drilling Company:	ESN NW	**Logged By:**	DC
Drilling Method:	Direct push/geprobe	**Drilling Date:**	12/22/2021
Drilling Rig:	truck	**Datum:**	NAVD 88
Sampler Type:	Dual Tube	**Elevation:**	42
Hammer Type:		**Termination Depth:**	15
Hammer Weight:		**Latitude:**	
		Longitude:	

Notes: Southwest portion of the Site

Depth (feet)	Elevation (feet)	Soil description
0	40	Topsoil
		Dark brown poorly graded SAND with some silt (loose to medium dense, moist to wet) (SP-SM) (Weathered Alluvium)
2.5	37.5	Brown poorly graded SAND with some silt (loose to medium dense, moist to wet) (SP-SM) (Alluvium)
		Brown sandy SILT (medium stiff, wet) (ML) (Alluvium)
5	35	Brown silty SAND (medium dense, moist, wet) (SM) (Alluvium)
7.5	32.5	Grey-blue SILT with trace organics, thin sand lenses (stiff, moist) (ML) (Alluvium)
10	30	
12.5	27.5	
15		*(Termination Depth - 12/22/2021)*

Exploration notes

STP Blowcounts

Sampler

Symbol

Test Results
Plastic Limit — Liquid Limit
% Fines (<0.075mm) ◇
% Water Content ●
Penetration - ▲ (blows per foot)
10 20 30 40 50

Groundwater
ATD

Topsoil | Poorly graded sand with silt | Silt | Silty sand

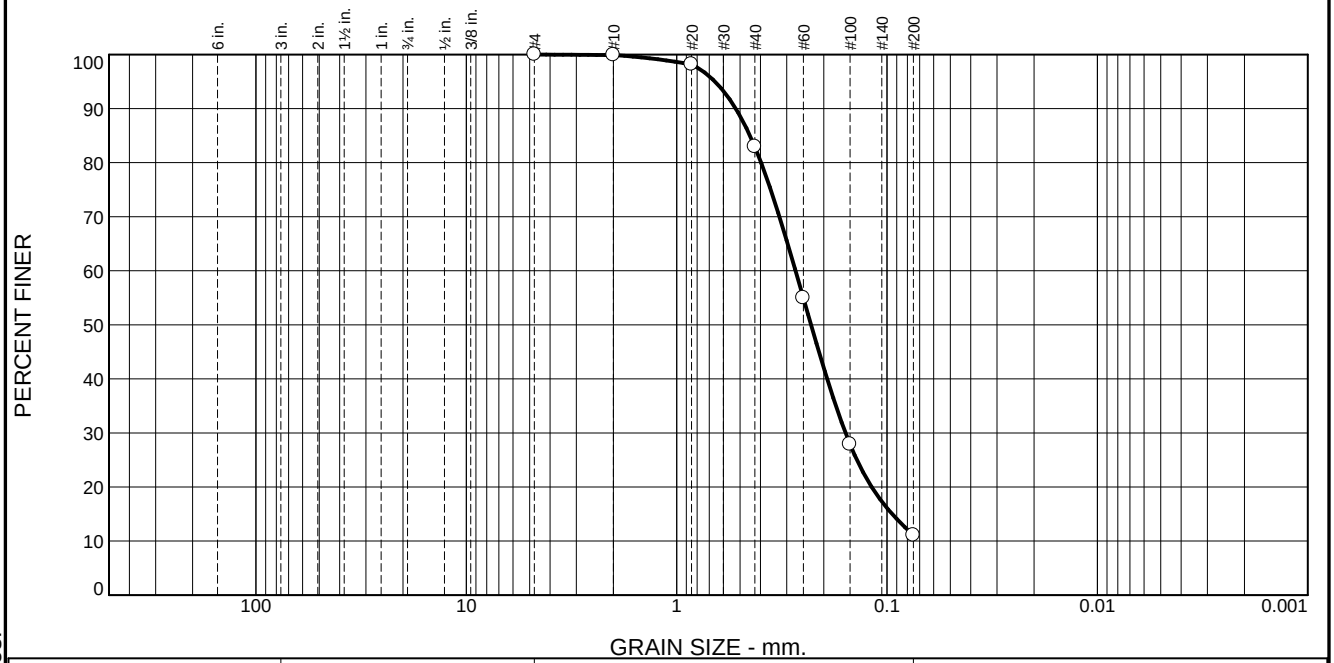
JOB:

FIG.

Appendix B

Laboratory results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	17.0	71.8	11.1	

Test Results (ASTM D 6913 & ASTM D 1140)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	99.9		
#20	98.2		
#40	82.9		
#60	55.0		
#100	27.9		
#200	11.1		

* (no specification provided)

Material Description

Poorly graded SAND with some silt (SP-SM)

Atterberg Limits (ASTM D 4318)

PL= NP **LL=** NV **PI=** NP

Classification

USCS (D 2487)= SP-SM **AASHTO (M 145)=** A-2-4(0)

Coefficients

D_{90}= 0.5235 D_{85}= 0.4483 D_{60}= 0.2724
D_{50}= 0.2297 D_{30}= 0.1576 D_{15}= 0.0946
D_{10}= C_u= C_c=

Remarks

Natural Moisture: 15.7%

Date Received: 12/22/21 **Date Tested:** 12/28/21

Tested By: MAW

Checked By: STM

Title: PM

Source of Sample: B-1 **Depth:** 3 **Date Sampled:** 12/22/21

GeoResources, LLC

Fife, WA

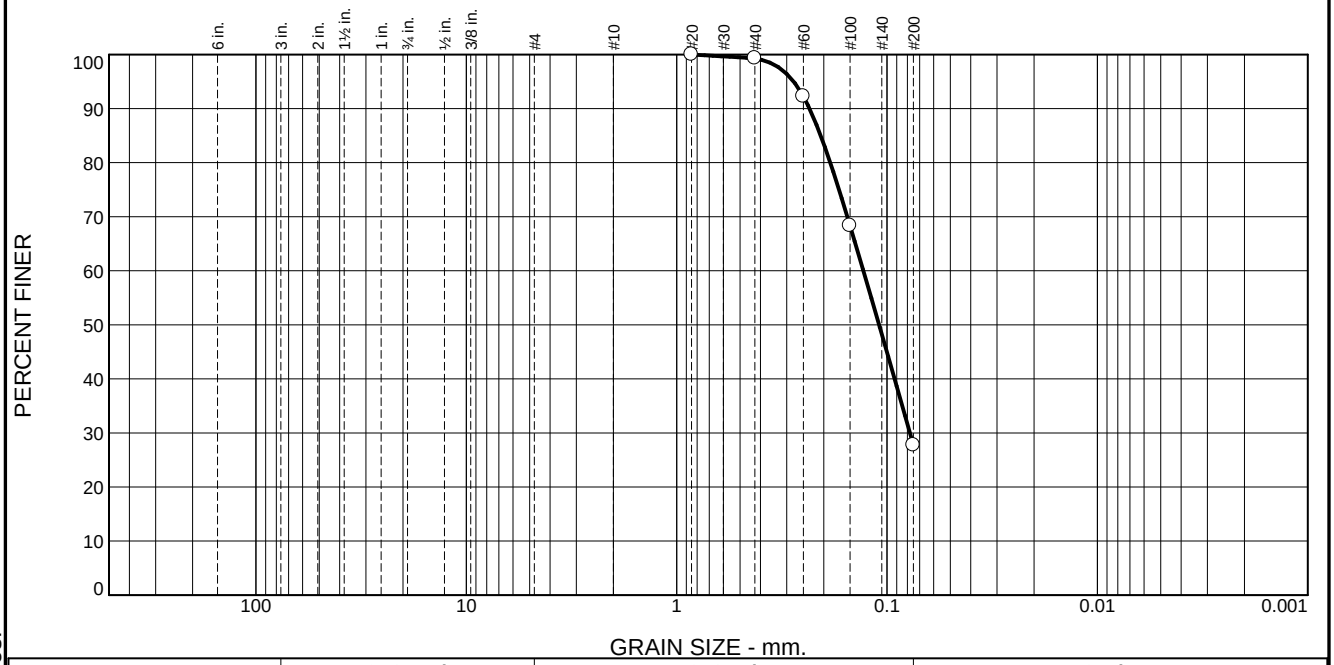
Client: Azure Green Consultants
Project: AGC.4thStSW

Project No: **Figure** B-1

These results are for the exclusive use of the client for whom they were obtained. They apply only to the samples tested and are not indicitive of apparently identical samples.

Tested By: _____ **Checked By:** _____

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.7	71.6	27.7	

Test Results (ASTM D 6913 & ASTM D 1140)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#20	100.0		
#40	99.3		
#60	92.2		
#100	68.3		
#200	27.7		

* (no specification provided)

Material Description

Silty SAND (SM)

Atterberg Limits (ASTM D 4318)

PL= NP **LL=** NV **PI=** NP

Classification

USCS (D 2487)= SM **AASHTO (M 145)=** A-2-4(0)

Coefficients

D_{90}= 0.2337 D_{85}= 0.2067 D_{60}= 0.1296
D_{50}= 0.1091 D_{30}= 0.0779 D_{15}=
D_{10}= C_u= C_c=

Remarks

Natural Moisture: 31.5%

Date Received: 12/22/21 **Date Tested:** 12/28/21

Tested By: MAW

Checked By: STM

Title: PM

Source of Sample: B-2 **Depth:** 3

Date Sampled: 12/22/21

GeoResources, LLC

Fife, WA

Client: Azure Green Consultants
Project: AGC.4thStSW

Project No: **Figure** B-2

These results are for the exclusive use of the client for whom they were obtained. They apply only to the samples tested and are not indicitive of apparently identical samples.

Tested By: _____ **Checked By:** _____