GEOTECHNICAL ENGINEERING REPORT

FOR

WOODRIDGE VIEW ESTATES

Shawnee Avenue and Wieber Drive Spokane, Washington

STI W.O. # C-70-S010001

PRESENTED TO:

North Division Complex 8225 North Division Spokane, Washington 99208

PREPARED BY:

STI Northwest 3628 East Ferry Spokane, Washington 99202

(509) 534-9711

March 26, 2001







SOILS, TESTING & INSPECTION

March 26, 2001 STI W.O. C-70-S010001

Mr. Buster Heitman North Division Complex 8225 North Division Spokane, WA 99208

Re: Geotechnical Evaluation

Woodridge View Estates Subdivision Shawnee Avenue and Wieber Drive Spokane, Washington

Dear Mr. Heitman.

We have completed our initial evaluation of soil and groundwater conditions for the Woodridge View Estates subdivision at the above-referenced site in Spokane, Washington. The purpose of this report is to address geotechnical issues identified in the Pre-Development Conference Notes dated November 9, 2000.

AVAILABLE INFORMATION

The data we used to evaluate the site soil and groundwater conditions for the purposes of this report were obtained from previous test pit data we obtained in January, 2000, and our visual observations during utility and stormwater drainage structure installations for the Woodridge 8th Subdivision. The field investigation for this geotechnical report consisted of seventeen test pits. Attached are logs of these test pits along with our previous test pit data. Our recent test pits were excavated at the locations shown on the attached sketch.

RESULTS

In general, the soils encountered consisted of silt to silty sand topsoil overlying water-deposited sands and silts (alluvium and colluvium). These soils are flood deposits. Bedrock was encountered in test pits TP-11, TP-13, TP-15 and TP-16 at depths ranging from 3 to 13 feet. The alluvium consists primarily of permeable sands. Silt was encountered in test pits TP-12 and TP-14 at depths of 4 and 6 feet, respectively. We believe this silt layer to be part of the Latah Formation.

Groundwater was not observed in the test pits during excavation or backfilling. Groundwater is believed to be at some depth below the termination depths of the test pits.

ANALYSIS AND RECOMMENDATIONS

Stormwater Disposal

According to the Spokane County Soils Survey, the soils at this site consist primarily of Marble (Mbc) soils. These soils were the predominant soil type encountered in the test pits. The maps also indicate that Bernhill very rocky complex (BkC) and Bernhill silt loam (BbB) soils are present. We did not encounter these soils in any of our test pits. However, we believe these soils are likely present in the Tract "D" Common Area east of the PUD boundary. This area has relatively shallow bedrock and currently is not proposed for disposal of stormwater or construction of houses.

The Marble soils are classified as Type A soils and are pre-approved for stormwater disposal. These soils are deepest at the north and south ends of the plat (i.e., we did not encounter bedrock within the depths explored). We recommend that these areas be evaluated for disposal of stormwater.

It is likely that water entering the permeable sand soils moves down slope along the soil/bedrock interface. For infiltration, down-gradient effects should be evaluated. We recommend that infiltration rates be obtained using either test pit or full-scale drywell permeability tests. We recommend performing these types of permeability tests so that sufficient volumes of water are introduced into the subsurface for monitoring and evaluating down-gradient effects. These tests may not be feasible until water service has been installed so that an adequate water supply is available.

We recommend that piezometers be installed down-gradient to assist in evaluated subsurface water flow. We recommend installing the piezometers to the soil/bedrock interface or to a maximum depth of 40 feet, whichever is shallower. Water levels should be monitored during and immediately after performing the permeability testing.

Geologic Hazards

The Pre-Development Conference Notes indicated a concern regarding crodible soils and steepness of slopes. The Spokane County Critical Areas Map shows the presence of crodible soils, inclined slopes, and landslide deposits. We did not encounter any soils that would classify as a landslide deposit and we do not believe that this type of deposit exists within the plat. We did however encounter deposits that we classified as a said to roution. These deposits were alternative and deposits and could extend the confidence of the confi

The steepness of the slapes mereuse the potential for steesion. For grading, it is our opinion that the methods used for Woodridge 8th would be suitable for the proposed new plat. Cutoff midconstructes with graves simple should never to a desputate erosion control. A cutoff midcontrol was constructed with the mitematical states and the states are constructed with the mitematical states.

The states presented the steem relatively-stable, even on the rather steep slopes of the provide adequate support for the anticipated foundation loads. Reposed grades should be





evaluated for stability (e.g. retaining walls for terracing setc.).

GENERAL RECOMMENDATIONS

This report is for the exclusive use of the addressee and the copied parties to use to design the proposed project and prepare construction documents. In the absence of our written approval, we make no representation and assume no responsibility to other parties regarding this report. The data, analyses and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us.

Services performed by the geotechnical engineers for this project have been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in this area under similar budget and time restraints. No warranty, expressed or implied, is made.

REMARKS

We appreciate the opportunity to provide our services to you. If you have any questions or need additional information, please do not hesitate to call Paul Nelson or Bruce Howard at 534-9711.

Sincerely, STI Northwes

Paul T. Nelson, P.E.

Geotechnical Engineer

EXPIRES: 11-2-4-01

Bruce A. Howard Vice President

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Andrew Worlock CC:

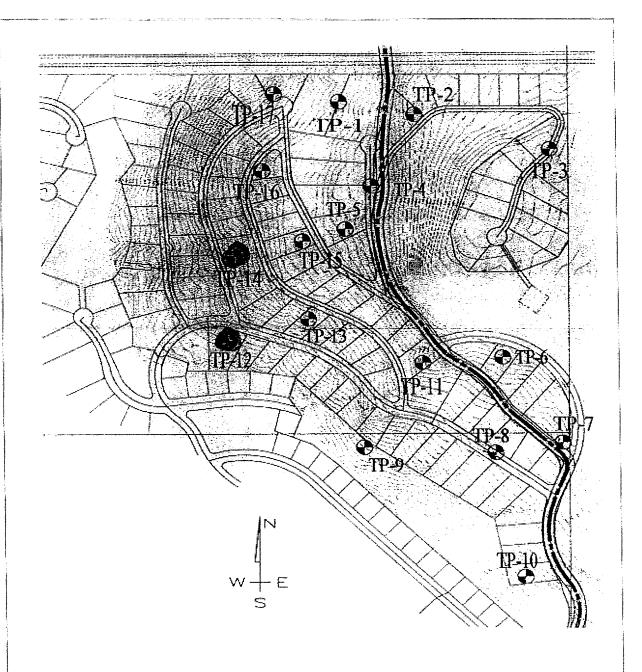
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CLC Associates. Inc.

Attachments: Logs of Test Pits TP-1 through TP-17

Sieve Analysis Test Results



		TEST PIT LOCATION MAP			
STI NOI	RTHWEST	Woodridge View Estates	March 26, 2001		
DESIGN-	PTN	Shawnee Ave. and Wieber Dr.	JOB NO. S010001		
REVIEWED	BY: PTN	Spokane, Washington	FIGURE 1		



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PROJECT: C-70-S010001 TEST PIT: TP-1 Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1'' = 4'**ASTM** Elev. Depth D2487 Description of Materials WLTests or Notes Symbol 2254.9 0.0 SILT, dark brown, moist. ML 2253.9 1.0 (Topsoil)
POORLY GRADED SAND, fine grained, brown, moist. (Alluvium) Report and Standard Plates for evaluation and descriptive terminology SP 2239.9 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. (Sec. SOLOGOLOPU STI GIDT TEST PIT 1.0G

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NORTHWE PROJECT: C-70-S010001 TP-2 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1'' = 4'**ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes Symbol 2335.6 0.0 POORLY GRADED SAND, fine grained, brown, moist. (Alluvium) SP Plates for evaluation and descriptive terminology 2329.6 6.0 WELL GRADED SAND with GRAVEL, fine to medium grained, brown, moist. (Alluvium) SW2322.1 13.5 END OF TEST PIT Water not observed to bottom of test pit. (See Report and Standard Test pit immediately backfilled. SOLCOOLGEN STLODY TEST FIT LOG



PROJECT: C-70-S010001 TP-3 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^{e} = 4^{\circ}$ ASTM Elev. Depth D2487 Description of Materials WL Tests or Notes 2396.5 Symbol 0.0 SILTY SAND, fine to medium grained, dark brown SM to brown, moist. 2395.0 1.5 POORLY GRADED SAND WITH SILT, fine to medium grained, brown, moist. (Alluvium) Report and Standard Plates for evaluation and descriptive terminology ŚĒ SM 2383.0 13.5 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. TEST

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NORTHWE PROJECT: C-70-S010001 TP-4 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^{\prime\prime}=4^{\prime}$ **ASTM** Elev. Depth D2487 Description of Materials WLTests or Notes Symbol 2293.6 0.0 SANDY SILT, dark brown to brown, moist. ML 1.0 2292.6 (Topsoil) POORLY GRADED SAND, fine grained, brown, moist. (Alluvium) Plates for evaluation and descriptive terminology SP 2277.6 16.0 Report and Standard END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. STLODI GE 1000108



NORTHWE PROJECT: C-70-S010001 TEST PIT: TP-5 Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^{\prime\prime\prime}=4^{\prime\prime}$ **ASTM** Elev. Depth D2487 Description of Materials WLTests or Notes 2279.1 Symbol 0.0 SANDY SILT, dark brown to brown, moist. MI. 2278.1 (Topsoil) POORLY GRADED SAND, fine grained, brown, moist. (Alluvium) See Report and Standard Plates for evaluation and descriptive terminology SP 2262.6 16.5 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. SOLOGOLIGES CAPLICACION PITTO

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PROJECT: C-70-S010001 TP-6 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1''' = 4'**ASTM** Elev. Depth D2487 Description of Materials WL. Tests or Notes 2305.9 Symbol 0.0 SANDY SILT, dark brown to brown, moist. ML. 2304.9 1.0 (Topsoil) POORLY GRADED SAND WITH SILT, fine grained, brown, moist. (Alluvium) Report and Standard Plates for evaluation and descriptive terminology SP SM 2297.9 8.0 POORLY GRADED SAND, fine to medium grained, brown, moist. (Alluvium) SP 2293.4 12.5 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. See STIGDI Sprocer, OPF TEST PIT LCO



NORTHWI PROJECT: C-70-S010001 TEST PIT: **TP-7** Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^{\prime\prime\prime} = 4^{\prime\prime}$ **ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes 2282.1 Symbol 0.0 SANDY SILT, dark brown to brown, moist. ML 2281.1 1.0 (Topsoil) POORLY GRADED SAND WITH SILT, fine grained, brown, moist. SP (Alluvium) SM (See Report and Standard Plates for evaluation and descriptive terminology 2277.1 5.0 POORLY GRADED SAND, fine to medium grained, brown, moist, (Alluvium) SP 2270.1 12.0 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. STLCDT 3/27/01 Spieral del TEST PET LOG

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PROJECT: C-70-S010001 TP-8 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $\mathbf{1}^{n}=\mathbf{4}^{r}$ **ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes Symbol 2246.8 0.0 SILTY SAND, fine to medium grained, dark brown SM 2245.8 to brown, moist. (Topsoil)
POORLY GRADED SAND WITH SILT, fine grained, brown, moist. SP (Alluvium) SM Plates for evaluation and descriptive terminology 2240.8 6.0 POORLY GRADED SAND, fine to medium grained, brown, moist. (Alluvium) SP 12.0 2234.8 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. See Report and Standard STIODT 3/23/01 Selection opy TEST PIT LOG



PROJECT: C-70-S010001 TP-9 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^{11} = 4^{1}$ **ASTM** Elev. Depth D2487 Description of Materials WLTests or Notes Symbol 2176.1 0.0 SILTY SAND, fine to medium grained, dark brown SM 2175.1 1.0 to brown, moist. (Topsoil)
POORLY GRADED SAND WITH SILT, fine grained, brown, moist. SP (Alluvium) SM See Report and Standard Plates for evaluation and descriptive terminology 2170.1 6.0 POORLY GRADED SAND, fine to medium grained, brown, moist. (Alluvium) SP Granitic Bedrock at 12' 2164.1 12.0 END OF TEST PIT Water not observed to bottom of test pit, Test pit immediately backfilled. STUDI 301000LGP DOLL PIT TEST

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PROJECT: C-70-S010001

Geotechnical Evaluation

TEST PIT:

TP-10

LOCATION:

Woodridge View Estates Subdivision Shawnee Avenue and Wieber Drive Spokane, Washington			LOCATION: See Attached Sketch						
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PROJECT: C-70-S010001 TEST PIT: **TP-11** Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1'' = 4'**ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes Symbol 2281.4 0.0 SILTY SAND, fine to medium grained, dark brown SM2280.4 to brown, moist. (Topsoil)
POORLY GRADED SAND with SILT and SP SM 2278.4 3.0 GRAVEL, fine to medium grained, brown, moist.

(Alluvium) 2277.4 4.0 Weathered Granite bedrock Report and Standard Plates for evaluation and descriptive terminology. END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. STIGIDIT solocol opr



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PROJECT:

C-70-S010001

Geotechnical Evaluation

Woodridge View Estates Subdivision Shawnee Avenue and Wieber Drive TEST PIT:

TP-12

LOCATION:

See Attached Sketch

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PROJECT: C-70-S010001 TP-13 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1'' = 4'**ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes 2215.5 Symbol 0.0 POORLY GRADED SAND WITH SILT, fine grained, brown, moist. SP (Alluvium) SM 2212.5 3.0 POORLY GRADED SAND WITH GRAVEL, medium to coarse grained, brown, moist, SP evaluation and descriptive terminology 5.0 (Alluvium) 2210.5 POORLY GRADED SAND, fine to medium grained, brown, moist. (Alluvium) SP Bedrock at 13', 2202.5 13.0 See Report and Standard Plates for END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. STICENT S010001.GP3 TEST PIT LOG

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NORTHWI PROJECT: C-70-S010001 **TP-14** TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1'' = 4'**ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes Symbol 2192.6 0.0 POORLY GRADED SAND WITH SILT, fine grained, brown, moist. SP (Alluvium) SM 2189.6 3.0 POORLY GRADED SAND WITH GRAVEL, medium to coarse grained, brown, moist. See Report and Standard Plates for evaluation and descriptive terminology SP (Alluvium) 2186.6 6.0 SILT, white, moist. (Alluvium) ML 2182.6 10.0 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. MANAGES TOTALITY STUDIES DOT IT! TEHT



NORTHWE PROJECT: C-70-S010001 **TP-15** TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: 1'' = 4'ASTM Elev. Depth D2487 Description of Materials WL Tests or Notes Symbol 2279.1 0.0 POORLY GRADED SAND WITH GRAVEL, medium to coarse grained, brown, moist. (Alluvium) SP Basalt Bedrock at 5' See Report and Standard Plates for evaluation and descriptive terminology 2274.1 5.0 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. STLODI JETANI TEST PIT LOS

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NORTHWE PROJECT: C-70-S010001 **TP-16** TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^m=4^*$ **ASTM** Elev. Depth D2487 Description of Materials WL Tests or Notes Symbol 2237.9 0.0 POORLY GRADED SAND WITH SILT, fine grained, brown, moist. SP (Alluvium) SM 2233.9 4.0 See Report and Standard Plates for evaluation and descriptive terminology. POORLY GRADED SAND WITH GRAVEL, SP medium to coarse, brown, moist. 2232.4 (Alluvium) Weathcred Basalt Bedrock. 2224.9 13.0 END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. STLODT 5510001.091 TEST PIT LOG

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NORTHWE PROJECT: C-70-S010001 TP-17 TEST PIT: Geotechnical Evaluation LOCATION: Woodridge View Estates Subdivision See Attached Sketch Shawnee Avenue and Wieber Drive Spokane, Washington DATE: 2/6/01 SCALE: $1^{11} = 4^{1}$ **ASTM** Elev. Depth D2487 Description of Materials WI. Tests or Notes Symbol 2202.2 0.0 POORLY GRADED SAND WITH SILT, fine grained, brown, moist. (Alluvium) SP SM and descriptive terminology 2196.2 POORLY GRADED SAND, fine to medium grained, brown, moist, (Alluvium) SP Report and Standard Plates for evaluation 2189.2 <u>13.0</u> END OF TEST PIT Water not observed to bottom of test pit. Test pit immediately backfilled. 5010001.017 EST PIT LOG

Woodridge 8th Add.

Test Pit Logs

January 18, 2000

Excavator: C&B Excavation Technician: David Lehn

Test Pit 7

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Millbury Ct. STA 21+00 LT

Depth in feet

0.0 to 10 Medium dense, brown, silty fine SAND, moist

10 to 12 Dense, brown, gravelly SAND to sandy GRAVEL, moist

12 to >14 Medium dense, reddish brown, clayey SILT, moist

Samples from 9 and 13 ft.

No ground water encountered

Test pit 6

Millbury Ct. STA 19+00 LT

0.0 to 1.5 Medium dense, brown, gravelly silty SAND, moist (fill)

1.5 to 4 Medium dense, brown, silty fine SAND, moist

4 to 7 Dense, brown, gravelly SAND to sandy GRAVEL, moist

>7 Hard, gray, basalt bedrock

No ground water encountered

Test Pit 5

Millbury Ct. STA 15+50 LT

0.0 to 1.5 Medium dense, brown, gravelly silty SAND, moist (fill)

1.5 to ≥12 Medium dense, brown, sl. Silty fine SAND, sl. moist

Sample from 10 ft.

No ground water encountered

Test Pit 4

Millbury Ct. STA 13+50 LT

There was an existing manhole adjacent to the roadway, down slope of the test pit location. The manhole cover was 12 ft. below the road grade. The fill and soil around the MH consisted of sl. Silty fine SAND. According to the excavator's personnel who used to work for Bob Loshbaugh, the MH was placed in SAND similar to TP 5 above.

Test Pit 3

Fleetwood STA 5+50 LT

0.0 to 1.5 Loose, brown, silty SAND, moist

1.5 to 9 v. dense, brown, gravelly SILT, moist

>9 Hard, gray, basalt bedrock

No ground water encountered

Test Pit 2

Fleetwood STA 3+50 RT

0.0 to 5 Medium dense, brown, gravelly silty SAND, moist

5 to >10 Medium dense, grayish white, clayey SILT, moist (Latah Fm?)

Sample from 8 ft.

No ground water encountered

Test Pit 1

Fleetwood STA 3+50 LT

0.0 to 4 Medium dense, brown, gravelly silty SAND, moist

4 to >10 Medium dense, grayish white, clayey SILT, moist (Latah Fm?)

No ground water encountered

Woodridge 8th Add.

Test Pit Logs

January 25, 2000

Excavator; C&B Excavation Technician: David Lehn

Test Pit 3 (EXTENDED)

Fleetwood STA 5+50 LT

Depth in feet

0.0 to 1.5

Loose, brown, silty SAND, moist

1.5 to 9

v. dense, brown, gravelly SILT, moist

9 to >13

med. Dense, grayish brown, SAND, dry, layered with gravelly silt lenses.

Sample at 12 ft.

No ground water encountered

Test Pit 8

Fleetwood STA 6+50 RT

0.0 to 4

Medium dense, brown, silty fine SAND, moist

4 to > 16

Medium dense, grayish white, clayey SILT, moist (Latah Fm?)

No ground water encountered

Test pit 9

Fleetwood STA 8+10 LT

0.0 to 2

Medium dense, brown, silty SAND, moist

2 to 12

Dense, brown, gravelly SAND to sandy GRAVEL, moist

12 to > 16

med. Dense, brown, SAND, dry, layered with gravelly silt lenses.

Sample at 14 ft.

No ground water encountered

Test Pit 10

Fleetwood STA 9+50 RT

0.0 to 4

Medium dense, brown, gravelly silty SAND, moist

>4

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Hard, gray, basalt

No ground water encountered

Test Pit 11

Fleetwood STA 10+30 RT

0.0 to > 12

Medium dense, brown, sl. gravelly silty med. SAND, moist

Sample at 11 ft.

No ground water encountered

Test Pit 12 Fleetwood STA 3+50 (100 ft.)LT

0.0 to 5 Medium dense, brown, gravelly silty SAND, moist

5 to 12 Medium dense, tan, silty fine SAND, moist

12 to >18 Medium dense, grayish white, clayey SILT, moist (Latah Fm?)

No ground water encountered

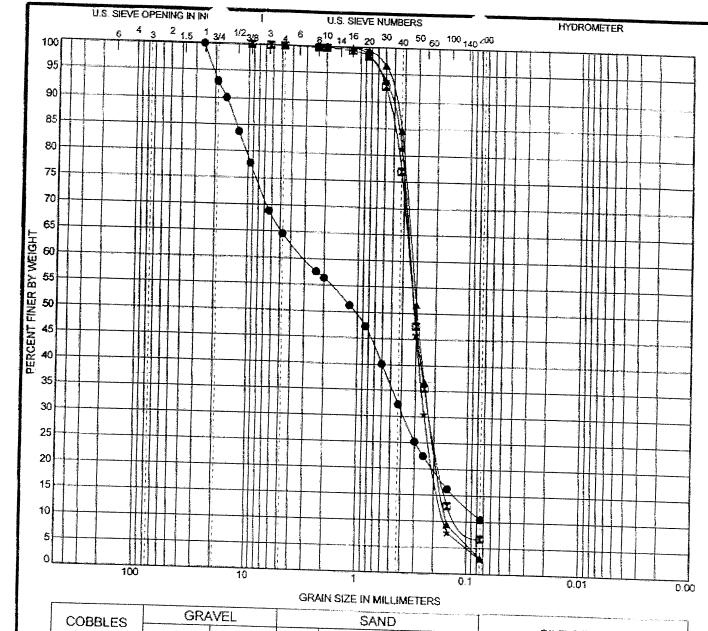
Test Pit 13 Fleetwood STA 7+50 RT

0.0 to 6 Medium dense, brown, silty SAND, moist

6 to >10 Medium dense, grayish white, clayey SILT, moist (Latah Fm?)

No ground water encountered

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	coarse	fine	coarse medium fine			SILT OR CLAY					
cimen Identifica	ation		Descrin	tion of Materi	⇒1	1			7		
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P-8	10.0								+	2.1	
	cimen Identifica P-10 P-6 P-7	consection Coarse Coarse	ccarse fine	coarse fine coarse coarse coarse fine coarse coarse fine coarse coarse fine coarse coarse coarse coarse fine coars	coarse fine coarse medium common identification Description of Materia P-10 8.0 SP-SM, Poorly graded Sand P-6 8.0 SP-SM, Poorly Graded Sand P-7 8.0 SP, Poorly Graded Sand	coarse fine coarse medium fine cimen Identification P-10 8.0 SP-SM, Poorly graded Sand with Silt P-6 8.0 SP-SM, Poorly Graded Sand with Silt P-7 8.0 SP, Poorly Graded Sand	coarse fine coarse medium fine color lidentification Description of Material P-10 8.0 SP-SM, Poorly graded Sand with Silt P-6 8.0 SP-SM, Poorly Graded Sand with Silt P-7 8.0 SP, Poorly Graded Sand	coarse fine coarse medium fine SILT OR comen Identification Description of Material LL PL P-10 8.0 SP-SM, Poorly graded Sand with Silt P-6 8.0 SP-SM, Poorly Graded Sand with Silt P-7 8.0 SP, Poorly Graded Sand	coarse fine coarse medium fine SILT OR CLAY comen Identification Description of Material LL PL PI P-10 8.0 SP-SM, Poorly graded Sand with Silt P-6 8.0 SP-SM, Poorly Graded Sand with Silt P-7 8.0 SP, Poorly Graded Sand	coarse fine coarse medium fine SILT OR CLAY comen Identification Description of Material LL PL PI Cc P-10 8.0 SP-SM, Poorly graded Sand with Silt P-6 8.0 SP-SM, Poorly Graded Sand with Silt P-7 8.0 SP, Poorly Graded Sand SP, Poorly Graded Sand D 98	

		s administrativa (natural program in the construction of the construction)	- 11 QQ1	iy Graded S	and			1	.12 2.3
Specimen Ide	ntification	D100	D60	D30	D10	%Gravel	5/.0		
● TP-10	8.0	25.4	2.991	0.378	1		%Sand	%Silt	%Cla
▼ TP-6	.8.0	9.5	0.348	0.221	0.400	35.3	54.2	1	0.5
▲ TP-7	8.0	4.75	0.328		0.108	0.1	93.1	6	5.7
★ TP-8	10.0			0.22	0.152	0.0	96.9	3	1.1
1	10.0	2.36	0.345	0.247	0.157	0.0	97.1	2	.9



NORTHWEST

GRAIN SIZE DISTRIBUTION

Project: Woodridge View Estates Subdivision Location: Shawnee Avenue and Wieber Drive

Number: C-70-S010001

the transfer among one arrange