Addendum Transmittal

To:	Rick Beason	From:	Viola Lai
Company:	CenterCal Properties, LLC	Date:	November 13, 2015
Address:	1600 East Franklin Avenue El Segundo, CA 90245		

cc:	Alex Paddock, CenterCal Properties, LLC (via email only)

GDI Project:	CenterCal-23-01
RE:	Totem Lake Mall

Original File Name	Date	Document Title
CenterCal-23-01-030215-geor	3/2/15	Report of Geotechnical Engineering Services; Totem Lake Mall; Kirkland, Washington

Addendum Number	Date	Description
1	11/13/15	Additional Explorations – Lower Mall (attached)

kt

Attachment

One copy submitted (via email only)

Document ID: CenterCal-23-01-111315-geoat-1.docx

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GEODESIGN INC

November 13, 2015

CenterCal Properties, LLC
1600 East Franklin Avenue
El Segundo, CA 90245

Attention: Mr. Rick Beason

Addendum 1
Additional Explorations – Lower Mall
Totem Lake Mall
Kirkland, Washington
GeoDesign Project: CenterCal-23-01

INTRODUCTION

This addendum summarizes our additional explorations and geotechnical recommendations for the proposed Totem Lake Mall development located at 12650 Totem Lake Boulevard NE in Kirkland, Washington. The proposed site layout has been revised since our initial geotechnical report. A copy of the current site layout is presented in Attachment B of this addendum (after Attachment A, which includes descriptions of the additional explorations and laboratory testing). Based on discussions with the project team, additional explorations were drilled in the lower mall area to further delineate the extent of peat in proposed building areas.

PURPOSE AND SCOPE

The purpose of our additional explorations was to further identify the extent and location of the peat and to provide additional geotechnical recommendations for building foundation support. Specifically, we performed the following scope of services:

- Coordinated and managed the field investigation, utility locates, and scheduling of subcontractors and GeoDesign field staff.
- Completed the following subsurface explorations at the site:
  - Drilled nine borings to depths ranging from approximately 25.4 to 46.5 feet below ground surface (BGS).
  - A standpipe piezometer was installed in boring B-9, which was drilled near the hillside at the north end of the lower mall.
- Obtained disturbed soil samples for laboratory testing at selected depths from the explorations.

- Classified the materials encountered in the explorations. Maintained a detailed log of each exploration. Observed groundwater conditions in the explorations.
- Completed the following laboratory tests:
  - Twenty-six natural moisture content determinations in general accordance with ASTM D 2216
  - Two organic content determinations in general accordance with ASTM D 2974
  - One particle-size analysis in general accordance with ASTM C 136
- Provided this addendum to our geotechnical report summarizing our findings.

SITE CONDITIONS

SUBSURFACE CONDITIONS

We drilled nine borings (B-1 through B-9) to depths ranging from approximately 25.4 to 46.5 feet BGS. A standpipe piezometer was installed in boring B-9 at a depth of 15 feet BGS. The original intent was to drill borings B-7 and B-8 within the mall; however, since access was limited, we drilled the borings as close to the mall structure as possible. The approximate locations of our explorations are shown on Figure 1. Descriptions of the subsurface explorations and laboratory testing program, and copies of the exploration logs, are presented in Attachment A.

In general, soil conditions were consistent with the previous explorations and consist of variable amounts of fill overlying alluvial soil, which in turn overlies dense to very dense sand and gravel that have been interpreted as advance outwash sand, ablation and glacial till, or transitional beds.

Asphalt concrete (AC) pavement was present at the surface of all boring locations, with the exception of boring B-5. Observed AC thicknesses ranges between approximately 3 and 10.5 inches. Aggregate base thickness beneath the AC ranges between 3.0 and 12.0 inches. The soil encountered in our explorations is described in the following sections.

Fill

Fill was encountered in four borings to depths ranging from approximately 7 to 20 feet BGS. The deepest fill, approximately 20 feet thick, was encountered at boring B-5, which was drilled near the former Chevron gas station. Approximately 15 feet of fill was encountered in boring B-7. The fill ranges from very loose to dense and is composed of sand and gravel with variable amounts of silt, clay, organics, and wood debris. Laboratory testing indicates that the moisture content of a sample of the fill was 19 percent at the time of our exploration.

Alluvial Deposits

Native alluvium was encountered in all borings either directly beneath the AC or underlying the fill and extends to depths ranging from 15 feet BGS to the maximum depth explored (46.5 feet BGS). The alluvium is generally composed of silt and sand with variable amounts of gravel, clay, and organics. The silt is soft to very stiff and the sand is loose to medium dense. Layers of peat and organics were embedded in the alluvial deposits. The peat is described separately below.

Laboratory testing indicates that the moisture contents of the alluvial silt and sand was between 13 and 31 percent at the time of our explorations.

Peat and Wood

Layers of concentrated organics consisting of peat and wood were encountered in borings B-1, B-4, B-5, B-6, B-7, and B-8 at depths ranging between 8 and 36.5 feet BGS. The thicknesses of the observed peat ranged from approximately 3 to 13 feet. Laboratory testing indicates the moisture contents and organic contents at the time of our explorations ranged from 34 to 541 percent and 13.5 to 41.2 percent, respectively.

Figure 1 summarizes the depths and estimated thicknesses of the peat encountered, along with the information from our geotechnical report.

Dense to Very Dense Sand and Gravel

Dense to very dense sand with various amounts of silt and gravel and gravel with various amounts of sand and silt was encountered in all borings, except B-5 and B-8, at depths between 15.0 and 30.5 feet BGS.

GROUNDWATER

Groundwater was observed at depths ranging from 3.4 to 16 feet BGS in our explorations. This was consistent with the groundwater levels encountered in the previous explorations by GeoDesign and others. The groundwater level measured in the piezometer after drilling rose to a depth of approximately 2.5 feet BGS, indicating potential shallow groundwater conditions near the hillside. The depth to groundwater may fluctuate in response to seasonal changes, prolonged rainfall, changes in surface topography, and other factors not observed in this study.

GEOTECHNICAL RECOMMENDATIONS

Based on our additional explorations, it appears that more extensive areas in the lower mall area are underlain with peat. Figure 1 shows approximate zones of potential peat at the site. We recommend that all buildings proposed within areas where peat was encountered be supported on deep foundations to minimize the risk of future foundation settlement. Our recommendations for deep foundations that were included in our geotechnical report remain applicable. As discussed in our geotechnical report, the piles will achieve axial capacity through end bearing in the underlying dense sand and gravel layers. The depth to dense sand and gravel are variable. Based on the current and previous explorations in the lower mall, the anticipated depth ranges from approximately 10 to 35 feet BGS, but could be deeper in areas that were not explored. The variable contact elevations to the underlying sand and gravel layer will require close observation in the field during construction.

LIMITATIONS

We have prepared this addendum for use by CenterCal Properties and the design and construction team for the proposed project. The data and addendum can be used for bidding or estimating purposes, but our addendum, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to other sites.

Exploration observations indicate soil conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect soil strata or water level variations that may exist between exploration locations. If subsurface conditions differing from those described are noted during the course of excavation and construction, re-evaluation will be necessary.

The site development plans and design details were preliminary at the time this addendum was prepared. When the design has been finalized and if there are changes in plans, the conclusions and recommendations presented may not be applicable. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification.

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

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time the addendum was prepared. No warranty, express or implied, should be understood.

♦ ♦ ♦

We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this addendum or if we can provide additional services.

Sincerely,

GeoDesign, Inc.

Viola C. Lai, P.E.
Project Engineer

Brett A. Shipton, P.E.
Principal Engineer

BRETT ALAN SHIPTON
STATE OF WASHINGTON
38128
REGISTERED
PROFESSIONAL ENGINEER

Signed 11/13/2015

cc: Mr. Alec Paddock, CenterCal Properties, LLC (via email only)

VCL:BAS:kt
Attachments
One copy submitted (via email only)
Document ID: CenterCal-23-01-111315-geoa-1.docx
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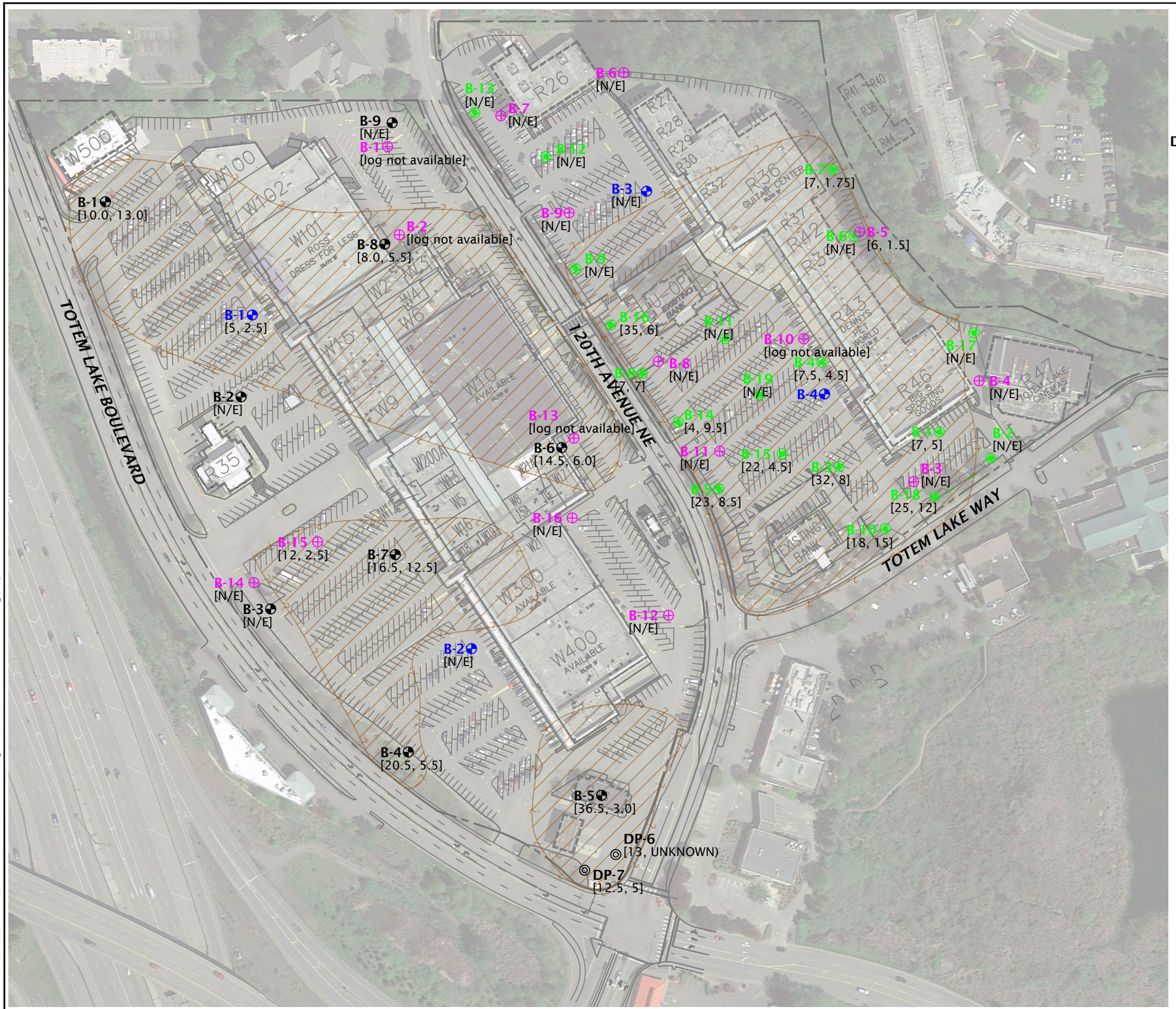
FIGURES



LEGEND:

B-1	BORING (GEODESIGN, 2014)
B-1	BORING (LANDAU ASSOCIATES, 2008)
B-1	BORING (PSI, 2004)
DP-6	DIRECT-PUSH BORING (GEODESIGN, 2015)
B-1	BORING (GEODESIGN, 2015)
[5, 2.5]	PEAT AND WOOD ENCOUNTERED [DEPTH ENCOUNTERED, THICKNESS (FEET)]
[N/E]	NOT ENCOUNTERED
	APPROXIMATE ZONE OF POTENTIAL PEAT IN SUBSURFACE; DEEP FOUNDATIONS RECOMMENDED.

N

0 150 300

(SCALE IN FEET)

SITE PLAN BASED ON DRAWING PROVIDED BY CENTERCAL AND IMAGE OBTAINED FROM GOOGLE EARTH PRO®, DECEMBER 26, 2014

FIGURE 1

SITE PLAN

TOTEM LAKE MALL
KIRKLAND, WA

CENTERCAL-23-01

NOVEMBER 2015

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File Name: J:\A-D\CenterCal\CenterCal-23\CenterCal-23-01\Figures\CAD\CenterCal-23-01-SP01.dwg | Layout: FIGURE 1

ATTACHMENT A

ATTACHMENT A

FIELD EXPLORATIONS

GENERAL

We explored subsurface conditions by drilling nine borings (B-1 through B-9) to depths of 25.4 to 46.5 feet BGS. The borings were drilled by Holocene Drilling, Inc. of Puyallup, Washington, using truck-mounted and track-mounted drill rigs with hollow-stem auger drilling methods. Figure 1 shows the approximate exploration locations relative to the existing site features and the previous explorations by GeoDesign, Inc. and others. Locations were determined by pacing from existing site features and should be considered accurate to the degree implied by the methods used. Members of our geology and geotechnical staff observed all explorations and obtained representative samples of the various soil encountered in the explorations for geotechnical laboratory testing. Classifications and sampling intervals are shown on the exploration logs presented in this attachment.

SOIL SAMPLING

Samples were obtained from the borings using a 1½-inch-inside diameter (SPT) split-spoon sampler in general accordance with ASTM D 1586. The split-spoon samplers were driven into the soil with a 140-pound hammer free-falling 30 inches. The samplers were driven a total distance of 18 inches. The number of blows required to drive the sampler the final 12 inches is shown on the boring logs, unless otherwise noted.

SOIL CLASSIFICATION

The soil samples were classified in accordance with the "Exploration Key" (Table A-1) and "Soil Classification System" (Table A-2), which are presented in this attachment. The exploration logs indicate the depths at which the soils or their characteristics change, although the change actually could be gradual. If the change occurred between sample locations, the depth was interpreted. Classifications and sampling intervals are shown on the exploration logs presented in this attachment.

The average efficiency of the automatic SPT hammer used by Holocene Drilling, Inc. was 92.5 percent for the track-mounted drill rig. Calibration testing was not available for the truck-mounted drill rig used to drill borings B-1, B-2, and B-9. A copy of the calibration testing for the track-mounted rig is presented at the end of this attachment.

LABORATORY TESTING

CLASSIFICATION

The soil samples were classified in the laboratory to confirm field classifications. The laboratory classifications are shown on the exploration logs if those classifications differed from the field classifications.

MOISTURE CONTENT

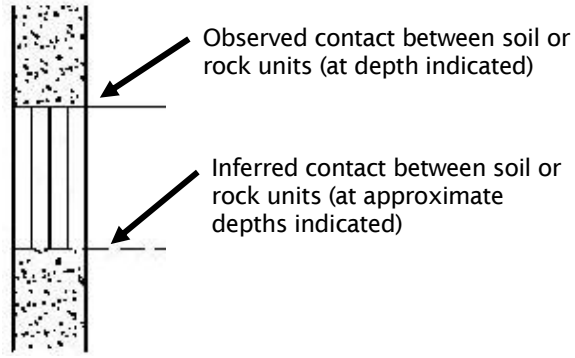
We tested the natural moisture content of selected samples obtained from the explorations in general accordance with ASTM D 2216. The natural moisture content is a ratio of the weight of the water to soil in a test sample and is expressed as a percentage. The test results are presented in this attachment.

GRAIN-SIZE TESTING

Grain-size testing was performed on selected soil samples to determine the distribution of soil particle sizes. The testing consisted of percent fines determination (percent passing the U.S. Standard No. 200 Sieve) analyses completed in general accordance with ASTM C 117 or ASTM D 1140 (P200). The test results are presented in this attachment.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample obtained in general accordance with ASTM D 1586 Standard Penetration Test with recovery
	Location of sample obtained using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D 1587 with recovery
	Location of sample obtained using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample obtained using Dames & Moore and 140-pound hammer or pushed with recovery
	Location of sample obtained using 3-inch-O.D. California split-spoon sampler and 140-pound hammer
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	PP	Pocket Penetrometer
CBR	California Bearing Ratio	P200	Percent Passing U.S. Standard No. 200 Sieve
CON	Consolidation		
DD	Dry Density	RES	Resilient Modulus
DS	Direct Shear	SIEV	Sieve Gradation
HYD	Hydrometer Gradation	TOR	Torvane
MC	Moisture Content	UC	Unconfined Compressive Strength
MD	Moisture-Density Relationship	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal
P	Pushed Sample		

ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen

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EXPLORATION KEY

TABLE A-1

RELATIVE DENSITY - COARSE-GRAINED SOILS

Relative Density	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)
Very Loose	0 – 4	0 - 11	0 - 4
Loose	4 – 10	11 - 26	4 - 10
Medium Dense	10 – 30	26 - 74	10 - 30
Dense	30 – 50	74 - 120	30 - 47
Very Dense	More than 50	More than 120	More than 47

CONSISTENCY - FINE-GRAINED SOILS

Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)
Very Soft	Less than 2	Less than 3	Less than 2	Less than 0.25
Soft	2 - 4	3 – 6	2 - 5	0.25 - 0.50
Medium Stiff	4 - 8	6 – 12	5 - 9	0.50 - 1.0
Stiff	8 - 15	12 – 25	9 - 19	1.0 - 2.0
Very Stiff	15 - 30	25 – 65	19 – 31	2.0 - 4.0
Hard	More than 30	More than 65	More than 31	More than 4.0

PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE-GRAINED SOILS (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVELS (< 5% fines)	GW or GP	GRAVEL
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt
			GW-GC or GP-GC	GRAVEL with clay
		GRAVELS WITH FINES (> 12% fines)	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SANDS (<5% fines)	SW or SP	SAND
		SANDS WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt
			SW-SC or SP-SC	SAND with clay
		SANDS WITH FINES (> 12% fines)	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOILS (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50	ML	SILT
			CL	CLAY
			CL-ML	silty CLAY
			OL	ORGANIC SILT or ORGANIC CLAY
		Liquid limit 50 or greater	MH	SILT
			CH	CLAY
			OH	ORGANIC SILT or ORGANIC CLAY
HIGHLY ORGANIC SOILS			PT	PEAT

MOISTURE CLASSIFICATION

Term	Field Test
dry	very low moisture, dry to touch
moist	damp, without visible moisture
wet	visible free water, usually saturated

ADDITIONAL CONSTITUENTS

Secondary granular components or other materials such as organics, man-made debris, etc.

Percent	Silt and Clay In: Fine-Grained Soils	Silt and Clay In: Coarse-Grained Soils	Percent	Sand and Gravel In: Fine-Grained Soils	Sand and Gravel In: Coarse-Grained Soils
< 5	trace	trace	< 5	trace	trace
5 – 12	minor	with	5 – 15	minor	minor
> 12	some	silty/clayey	15 – 30	with	with
			> 30	sandy/gravelly	Indicate %

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SOIL CLASSIFICATION SYSTEM

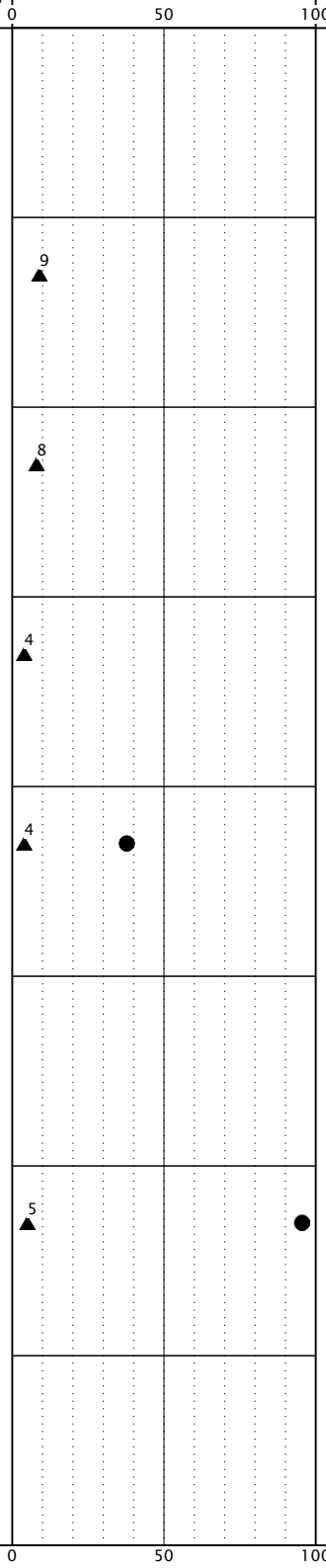
TABLE A-2

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (6.0 inches).			
	AGGREGATE BASE (4.0 inches).	0.5		
	Loose, gray SAND (SP), trace gravel; wet - **FILL**.	0.8		
2.5				
	Loose, gray GRAVEL with silt and sand (GW-GM), trace clay and organics (wood fragments); wet, wood fragments are up to 1/4-inch diameter - **FILL**.	4.5		
5.0				
7.5	very loose to loose at 7.5 feet			
10.0	Soft, brown PEAT with sand and silt (PT); wet.	10.0		
12.5				
15.0	medium stiff, trace gravel and clay, without sand; moist to wet, gravel is rounded at 15.0 feet		OC	OC = 13.5%
17.5				
20.0				

GRAPHIC LOG

SAMPLE

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%



DRILLED BY: Holocene Drilling, Inc.

LOGGED BY: AKD

COMPLETED: 10/12/15

BORING METHOD: hollow-stem auger (see document text)

BORING BIT DIAMETER: 4 inches

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BORING B-1

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-1

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		soft to medium stiff at 20.0 feet		OC		▲ 4 ●	OC = 41.2%
22.5							
		Medium dense, white with black mottled GRAVEL with sand (GP); wet, rounded.	23.0				
25.0						▲ 27	
		Exploration completed at a depth of 26.5 feet. Latitude: 47.71335853 Longitude: -122.18293061 (determined from smartphone with GPS application)	26.5				Surface elevation was not measured at the time of exploration.
27.5							
30.0							
32.5							
35.0							
37.5							
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/12/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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CENTERCAL-23-01

BORING B-1
(continued)

NOVEMBER 2015

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-1

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).					
		AGGREGATE BASE (4.0 inches).	0.3				
		Medium stiff, brown-gray SILT with sand and organics (wood fragments, peat) (ML); moist.	0.6				
2.5						5	
5.0		Medium stiff, blue-green with brown mottled CLAY (CL), some silt, trace organics (rootlets); moist (organics are 1/16-inch in diameter).	5.0			7	
7.5						9	
		Loose, gray SAND with silt and gravel (SP-SM), trace clay; moist.	8.3				
10.0						10	
		Stiff, green-gray SILT with sand (ML); moist, sand is fine.	11.0				
12.5							
15.0		very stiff, without sand at 15.0 feet				22	
17.5		Very dense, gray SAND with silt and gravel (SP-SM); wet, fine to coarse, gravel is fine to coarse and subrounded.	17.5				
20.0							

16.0 feet, during drilling

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/12/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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NOVEMBER 2015

BORING B-2

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-2

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		(continued from previous page)					
						1-6-50/5"	
22.5							
25.0						15-50/6"	
27.5							
		Very dense, gray SAND with silt and gravel (SP-SM); moist.	29.0				
30.0						31-42-50/5"	
		Exploration completed at a depth of 31.5 feet. Latitude: 47.71256321 Longitude: -122.18207834 (determined from smartphone with GPS application)	31.5				Surface elevation was not measured at the time of exploration.
32.5							
35.0							
37.5							
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/12/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-2
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-2

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (4.0 inches).					
		AGGREGATE BASE (5.0 inches).	0.3				
		Medium dense, gray GRAVEL with sand (GP); moist.	0.8				
2.5						▲ 16	
		Medium stiff to stiff, gray SILT with sand and gravel (ML); moist.	4.0				
5.0						▲ 8 ●	
		brown to gray at 7.0 feet					
7.5							
		Medium stiff to stiff, gray CLAY (CL), some silt; moist.	8.0			▲ 8 ●	
10.0		Stiff, blue-green SILT (ML); moist.	10.0			▲ 14 ●	
		lens of fine, blue-green SAND at 11.5 feet					
12.5							
15.0		Very dense, gray SAND with gravel (SP); wet, fine to coarse.	15.0			▲ 60	
17.5							
20.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-3

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-3

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		(continued from previous page)				71	
22.5							
		Very dense, gray GRAVEL with silt and sand (GP-GM); wet.	24.0				
25.0						50/5"	Surface elevation was not measured at the time of exploration.
		Exploration completed at a depth of 25.4 feet.	25.4				
		Hammer efficiency factor is 92.5 percent. Latitude: 47.711689 Longitude: -122.181868 (determined from Google Earth)					
27.5							
30.0							
32.5							
35.0							
37.5							
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-3
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-3

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).					
		AGGREGATE BASE (6.0 inches).	0.3				
		Stiff to very stiff, brown-gray SILT with sand (ML); moist.	0.8				
2.5						▲ 15	
5.0		stiff, brown, with gravel at 5.0 feet				▲ 13	
7.5		medium stiff, gray, sandy at 7.5 feet				▲ 7	
		orange-brown at 8.5 feet					
10.0		brown at 10.0 feet				▲ 6 ●	
12.5							
15.0							
		Loose, brown, silty SAND (SM), trace organics (wood fragments); moist.	15.5			▲ 9 ●	
17.5							
20.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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NOVEMBER 2015

BORING B-4

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-4

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		(continued from previous page)					
		Loose, brown PEAT (PT); moist.	20.5	OC		▲ 7 ●	OC = 15.1%
22.5							
25.0						▲ 5 ●	
		Loose, brown SAND (SP); moist.	26.0				
27.5							
		Medium dense, gray GRAVEL with sand (GP); moist, coarse and subangular to subrounded.	29.5				
30.0						▲ 14	
32.5							
35.0		very dense at 35.0 feet				▲ 10-50/5"	
		Exploration completed at a depth of 35.9 feet.	35.9				Surface elevation was not measured at the time of exploration.
37.5		Hammer efficiency factor is 92.5 percent. Latitude: 47.711107 Longitude: -122.181000 (determined from Google Earth)					
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-4
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-4

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		Medium dense, gray SAND with silt and gravel (SP-SM); wet, medium to coarse - **FILL**.					
2.5						12	
5.0		loose; moist to wet at 5.0 feet				7	
7.5		wet at 7.5 feet				7	
10.0		moist to wet at 10.0 feet				9	
12.5							
		Loose, gray GRAVEL with sand (GP); moist, coarse and angular - **FILL**.	14.5				
15.0						8	
17.5							
20.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-5

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-5

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		Medium still, gray with brown-orange mottled, sandy SILT with gravel (ML); moist.	20.0			6	
22.5							
25.0		stiff, gray, trace organics (wood/peat) at 25.0 feet				9	
27.5							
30.0		brown with gray mottles, without organics at 30.0 feet		P200		10	P200 = 65%
32.5							
35.0						12	
		Medium stiff, brown PEAT (PT); moist.	36.5				
37.5							
		Medium stiff, gray SILT with sand (ML);	39.5				
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-5
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-5

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
40.0		moist to wet, sand is fine.				6	
42.5							
45.0							One rounded, 1-inch-diameter piece of gravel in sample.
		Medium stiff, gray CLAY (CH); moist to wet, high plasticity.	45.5			5	
		Exploration completed at a depth of 46.5 feet.	46.5				Surface elevation was not measured at the time of exploration.
47.5		Hammer efficiency factor is 92.5 percent. Latitude: 47.710938 Longitude: -122.179801 (determined from Google Earth)					
50.0							
52.5							
55.0							
57.5							
60.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/13/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-5
(continued)

NOVEMBER 2015

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-5

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (6.0 inches).					
		AGGREGATE BASE (5.0 inches).	0.5				
		Dense, gray GRAVEL with silt and sand (GW-GM); moist, fine to coarse, sand is fine to coarse - **FILL**.	0.9				
2.5						▲ 31	
5.0		medium dense at 5.0 feet				▲ 18	
		Medium dense, gray with orange mottled, silty SAND (SM); moist, fine.	7.0				
7.5						▲ 17	
		Stiff, gray SILT (ML), trace organics (wood debris); moist.	9.5				
10.0						▲ 11	
		Medium dense, gray with orange mottled, silty SAND (SM); moist, fine.	11.0				Bottom 6 inches of split-spoon sample is wet.
12.5							
		Very stiff, brown to black PEAT (PT); moist, lenses of gray silt, trace gravel.	14.5				
15.0						▲ 24 ●	
17.5							
20.0							

◁ 11.5 feet, during drilling

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: JTW COMPLETED: 10/26/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 3 inches

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BORING B-6

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-6

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		(continued from previous page)					
		Very dense, gray GRAVEL with sand (GP), trace silt; wet, fine to coarse, sand is fine to coarse.	20.5			2-50/6" ▲	Top 4 inches of split-spoon sample is peat.
22.5							
25.0						50/6" ▲	
27.5							
30.0						15-50/6" ▲	
		Exploration completed at a depth of 31.0 feet.	31.0				Surface elevation was not measured at the time of exploration.
32.5		Hammer efficiency factor is 92.5 percent. Latitude: 47.712382 Longitude: -122.180084 (determined from smartphone with GPS application)					
35.0							
37.5							
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: JTW COMPLETED: 10/26/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 3 inches

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NOVEMBER 2015

BORING B-6
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-6

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (6.0 inches).					
		AGGREGATE BASE (3.0 inches).	0.5				
		Medium dense, gray, silty SAND with gravel (SM); moist, fine to coarse, gravel is fine to coarse - **FILL**.	0.8				
2.5						14	
		Stiff, gray with orange mottled, sandy SILT (ML); moist, sand is fine - **FILL**.	3.3				
		Medium dense, gray GRAVEL with silt and sand (GW-GM); wet, fine to coarse, sand is fine to coarse - **FILL**.	4.5				
5.0						19	
7.5		loose at 7.5 feet				5	
10.0						8	Gravel in tip of sampler.
12.5							
15.0		very loose at 15.0 feet				3 ●	
		Soft, black PEAT (PT); moist.	16.5				
17.5							
20.0							

▽ 3.4 feet, at completion of drilling

◁ 8.2 feet, during drilling

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: JTW COMPLETED: 10/26/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 3 inches

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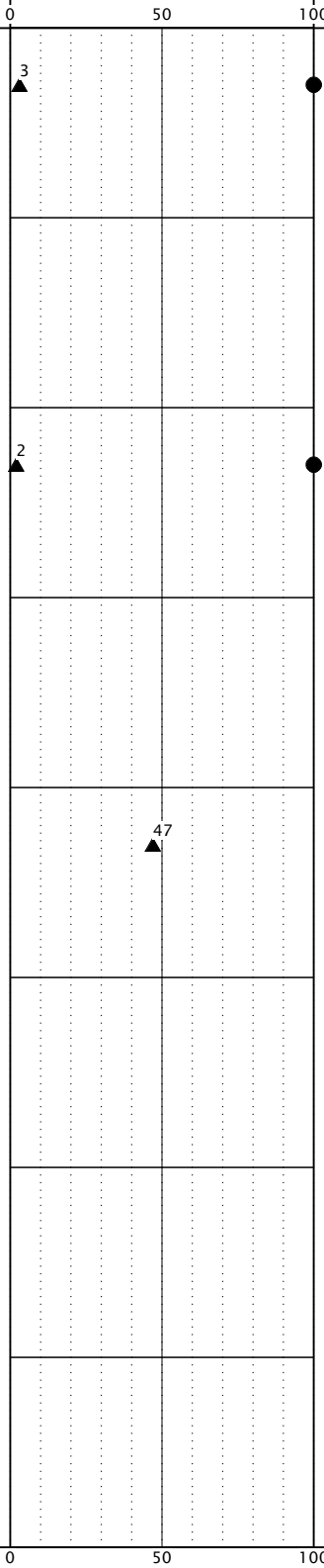
BORING B-7

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-7

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		(continued from previous page)					
22.5							
25.0							
27.5							
		Dense, gray, silty GRAVEL with sand (GM); wet.	29.0				
30.0							
		Exploration completed at a depth of 31.5 feet. Hammer efficiency factor is 92.5 percent. Latitude: 47.711923 Longitude: -122.181103 (determined from smartphone with GPS application)	31.5				Surface elevation was not measured at the time of exploration.
32.5							
35.0							
37.5							
40.0							



DRILLED BY: Holocene Drilling, Inc. LOGGED BY: JTW COMPLETED: 10/26/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 3 inches

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BORING B-7
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-7

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (10.5 inches).					
		AGGREGATE BASE (12.0 inches).	0.9				
2.5		Medium stiff, gray, gravelly SILT with sand (ML); moist, gravel is fine to coarse, sand is fine to coarse.	1.9			5	
5.0		wet at 5.0 feet				7	⊲ 5.8 feet, at completion of drilling
7.5		Medium stiff, black PEAT (PT), trace gravel; wet.	8.0			5	
10.0						7	
12.5		Medium dense, gray GRAVEL with sand (GP); wet, fine to coarse, sand is fine to coarse.	13.5				
15.0						15	
17.5		Medium dense, gray SAND with gravel (SP); wet, fine to coarse, gravel is fine to coarse.	18.0				
20.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: JTW COMPLETED: 10/26/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 3 inches

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NOVEMBER 2015

BORING B-8

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-8

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		(continued from previous page)				▲ 18	
22.5							
		Medium dense, gray SAND with silt and gravel (SP-SM); wet, medium to coarse, gravel is fine to coarse.	23.0				
25.0						▲ 18	
27.5							
		Very stiff, gray with orange mottled SILT with gravel (ML); wet.	28.5				
30.0						▲ 27	
		Exploration completed at a depth of 31.5 feet.	31.5				Surface elevation was not measured at the time of exploration.
32.5		Hammer efficiency factor is 92.5 percent. Latitude: 47.713217 Longitude: -122.181206 (determined from smartphone with GPS application)					
35.0							
37.5							
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: JTW COMPLETED: 10/26/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 3 inches

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BORING B-8
(continued)

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-8

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (6.0 inches).					Flush-mount monument with 1 foot of concrete backfill
		AGGREGATE BASE (3/4-inch-minus; 4.0 inches).	0.5				2-inch, Schedule 40 PVC well casing
		Stiff, gray with orange mottled, sandy SILT with gravel (ML); moist to wet.	0.8				
2.5						13	Bentonite chips
5.0						11	2-inch, Schedule 40, 0.010-slot PVC screen
		medium dense, brown-gray GRAVEL with silt and sand (GP-GM), trace clay; wet.	7.0				
7.5						15	
10.0		Dense, gray SAND (SW); wet, coarse and subangular to subrounded.	10.0			47	Filter pack sand
		Dense, dark gray GRAVEL with silt and sand (GP-GM); wet, fine to coarse and subangular to subrounded.	11.0				
12.5							
15.0		medium dense; interbedded sand layers at 15.0 feet				19	Bentonite chips
17.5							
20.0							

2.05 feet, during drilling

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/12/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-9

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-9

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▥ RQD% ▨ CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
20.0		very dense at 20.0 feet				51	
22.5							
25.0		Medium dense, gray SAND with silt (SP-SM), trace gravel; wet, fine, interbedded with brown silt and gray clay.	25.0			17	
27.5							
30.0							Trace peat fragments (1- to 2-inch diameter) in sample.
		Very dense, gray GRAVEL with sand (GP), trace silt; wet, subrounded, sand is fine to coarse.	30.5			53	
		Exploration completed at a depth of 31.5 feet.	31.5				Surface elevation was not measured at the time of exploration.
32.5		Latitude: 47.71371023 Longitude: -122.18118880 (determined from smartphone with GPS application)					
35.0							
37.5							
40.0							

DRILLED BY: Holocene Drilling, Inc. LOGGED BY: AKD COMPLETED: 10/12/15

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 4 inches

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BORING B-9
(continued)

NOVEMBER 2015

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-9

SAMPLE INFORMATION			MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	SIEVE			ATTERBERG LIMITS		
EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	ELEVATION (FEET)			GRAVEL (PERCENT)	SAND (PERCENT)	P200 (PERCENT)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
B-1	10.0		38							
B-1	15.0		96							
B-1	20.0		541							
B-2	2.5		30							
B-2	5.0		30							
B-2	7.5		17							
B-2	15.0		23							
B-3	5.0		13							
B-3	7.5		31							
B-3	10.0		24							
B-4	10.0		13							
B-4	15.0		17							
B-4	20.0		79							
B-4	25.0		90							
B-5	25.0		23							
B-5	30.0		22				65			
B-6	15.0		34							
B-7	15.0		19							
B-7	20.0		363							
B-7	25.0		130							
B-8	2.5		14							
B-8	5.0		15							
B-8	7.5		31							
B-8	10.0		28							
B-9	2.5		14							
B-9	5.0		21							

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SUMMARY OF LABORATORY DATA

TOTEM LAKE MALL
KIRKLAND, WA

FIGURE A-10

HOLOCENE-4-01 - B-20 20FT
OP: WMN

TRACK RIG NO.26
Date: 19-August-2015

AR: 1.41 in²
LE: 24.75 ft
WS: 16,807.9 f/s

SP: 0.492 k/ft³
EM: 30,000 ksi
JC: 0.00 []

ETR: Energy Transfer Ratio
EMX: Max Transferred Energy
CSB: Compression Stress at Bottom
BPM: Blows per Minute
FFS: Force Full Scale

DMX: Maximum Displacement
SFR: Skin friction w/ damping correction
MEX: Maximum Strain
VMX: Maximum Velocity

BL#	depth	BLC	ETR	EMX	CSB	BPM	FFS	DMX	SFR	MEX	VMX
	ft	bl/ft	(%)	k-ft	ksi	bpm	kips	in	kips	µE	f/s
5	20.15	20	91.5	0.3	0.0	45.4	60	0.45	0	1,169	19.2
9	20.34	20	92.9	0.3	0.0	45.3	60	0.53	0	1,127	18.9
13	20.54	20	98.1	0.3	0.0	45.5	60	0.99	0	1,163	19.1
17	20.74	20	94.3	0.3	0.0	45.0	60	0.93	0	1,128	18.5
21	20.93	20	91.5	0.3	0.0	45.0	60	0.56	0	1,106	18.0
25	21.13	20	94.5	0.3	0.0	44.9	60	0.61	0	1,126	18.5
29	21.32	20	92.8	0.3	0.0	45.4	60	0.34	0	1,148	19.6
33	21.52	20	97.4	0.3	0.0	45.4	60	0.71	0	1,165	19.3
37	21.72	20	98.7	0.3	0.0	45.5	60	0.73	0	1,152	19.3
41	21.91	20	99.5	0.3	0.0	44.5	60	0.97	0	1,152	19.0
45	22.11	20	95.7	0.3	0.0	45.4	60	0.55	0	1,143	19.0
49	22.30	20	94.9	0.3	0.0	44.5	60	0.64	0	1,127	19.0
53	22.50	20	91.9	0.3	0.0	45.4	60	0.48	0	1,053	17.7
57	22.70	20	95.6	0.3	0.0	45.3	60	0.95	0	1,121	18.5
61	22.89	20	92.5	0.3	0.0	45.1	60	0.61	0	1,104	18.7
65	23.09	20	92.1	0.3	0.0	44.9	60	0.83	0	1,063	17.9
69	23.28	20	87.2	0.3	0.0	44.9	60	0.43	0	1,018	17.2
73	23.48	20	92.8	0.3	0.0	44.7	60	0.44	0	1,112	18.4
77	23.68	20	101.2	0.4	0.0	45.1	60	1.33	0	1,068	18.1
81	23.87	20	89.8	0.3	0.0	45.2	60	0.47	0	1,043	17.3
85	24.07	20	87.5	0.3	0.0	45.2	60	0.30	0	1,062	17.2
89	24.26	20	98.8	0.3	0.0	44.9	60	0.94	0	1,110	18.3
93	24.46	20	95.7	0.3	0.0	45.4	60	0.77	0	1,074	18.2
97	24.66	20	99.5	0.3	0.0	45.3	60	0.95	0	1,095	17.8
101	24.85	20	98.0	0.3	0.0	44.8	60	1.03	0	989	19.6
106	25.20	10	91.8	0.3	0.0	45.2	60	0.60	0	1,131	19.2
110	25.59	10	93.3	0.3	0.0	45.0	60	0.35	0	1,143	19.3
114	25.98	10	97.8	0.3	0.0	44.5	60	0.59	0	1,194	19.5
118	26.37	10	95.5	0.3	0.0	44.7	60	0.59	0	1,171	19.4
122	26.76	10	101.7	0.4	0.0	43.7	60	0.68	0	1,196	19.8
126	27.16	10	105.2	0.4	0.0	18.0	60	0.57	0	1,216	19.9
130	27.55	10	94.5	0.3	0.0	45.0	60	0.31	0	1,115	19.7
134	27.94	10	96.9	0.3	0.0	42.6	60	0.35	0	1,126	20.4
138	28.33	10	93.8	0.3	0.0	43.4	60	0.35	0	1,172	20.2
142	28.73	10	94.1	0.3	0.0	44.2	60	0.31	0	1,148	20.5
146	29.12	10	89.1	0.3	0.0	45.1	60	0.76	0	1,127	19.1
150	29.51	10	94.9	0.3	0.0	45.5	60	0.29	0	1,203	19.4
155	30.00	10	86.5	0.3	0.0	1.9	60	0.62	0	1,098	18.4
159	30.39	10	82.7	0.3	0.0	44.8	60	0.32	0	1,151	17.3
163	30.78	10	79.0	0.3	0.0	44.7	60	0.29	0	1,093	16.8
167	31.18	10	80.3	0.3	0.0	45.0	60	0.32	0	1,093	16.2
171	31.57	10	86.7	0.3	0.0	44.9	60	0.32	0	1,046	16.1
175	31.96	10	86.5	0.3	0.0	44.5	60	0.32	0	1,118	16.5
179	32.35	10	89.3	0.3	0.0	43.6	60	0.35	0	1,122	16.4
183	32.75	10	79.2	0.3	0.0	44.6	60	0.29	0	1,082	16.3

HOLOCENE-4-01 - B-20 20FT
OP: WMN

TRACK RIG NO.26
Date: 19-August-2015

BL#	depth	BLC	ETR	EMX	CSB	BPM	FFS	DMX	SFR	MEX	VMX
	ft	bl/ft	(%)	k-ft	ksi	bpm	kips	in	kips	µE	f/s
187	33.14	10	93.0	0.3	0.0	44.3	60	0.88	0	1,180	16.9
191	33.53	10	94.7	0.3	0.0	44.1	60	0.68	0	1,208	17.0
195	33.92	10	83.3	0.3	0.0	43.2	60	0.31	0	1,140	16.0
199	34.31	10	82.0	0.3	0.0	45.4	60	0.28	0	1,140	16.6
203	34.71	10	91.4	0.3	0.0	44.8	60	0.36	0	1,183	16.8
208	35.10	19	93.2	0.3	0.0	44.5	60	0.69	0	1,136	18.4
212	35.31	19	97.4	0.3	0.0	44.4	60	0.52	0	1,175	19.6
216	35.52	19	98.5	0.3	0.0	44.6	60	1.37	0	1,179	20.2
220	35.72	19	95.7	0.3	0.0	44.3	60	1.09	0	1,199	19.9
224	35.93	19	92.0	0.3	0.0	45.1	60	0.70	0	1,215	20.0
228	36.13	19	92.8	0.3	0.0	44.5	60	0.35	0	1,207	20.3
232	36.34	19	92.8	0.3	0.0	45.9	60	0.36	0	1,189	20.1
236	36.55	19	91.3	0.3	0.0	45.0	60	0.32	0	1,207	19.9
240	36.75	19	94.5	0.3	0.0	44.7	60	0.34	0	1,190	19.6
244	36.96	19	94.5	0.3	0.0	44.5	60	0.40	0	1,230	20.0
248	37.16	19	91.0	0.3	0.0	44.9	60	0.31	0	1,160	19.6
252	37.37	19	93.3	0.3	0.0	44.1	60	0.44	0	1,199	19.9
256	37.58	19	95.1	0.3	0.0	45.2	60	0.80	0	1,198	19.7
260	37.78	19	89.0	0.3	0.0	44.1	60	0.37	0	1,114	19.2
264	37.99	19	92.5	0.3	0.0	44.7	60	0.45	0	1,171	19.6
268	38.20	19	89.4	0.3	0.0	44.4	60	0.42	0	1,140	19.7
272	38.40	19	96.8	0.3	0.0	42.3	60	0.89	0	1,212	19.6
276	38.61	19	88.7	0.3	0.0	44.7	60	0.74	0	1,146	19.1
280	38.81	19	94.3	0.3	0.0	44.2	60	0.43	0	1,171	19.4
284	39.02	19	94.5	0.3	0.0	44.9	60	0.61	0	1,131	19.2
288	39.23	19	92.4	0.3	0.0	45.4	60	0.32	0	1,189	19.4
292	39.43	19	93.5	0.3	0.0	44.3	60	0.30	0	1,228	20.0
296	39.64	19	93.1	0.3	0.0	44.9	60	0.30	0	1,176	19.6
300	39.85	19	94.3	0.3	0.0	44.6	60	0.32	0	1,112	19.1
305	40.10	19	90.4	0.3	0.0	45.7	60	1.06	0	1,098	19.5
309	40.31	19	87.6	0.3	0.0	44.9	60	0.36	0	1,079	19.9
313	40.52	19	97.6	0.3	0.0	44.4	60	0.38	0	1,165	20.3
317	40.72	19	96.0	0.3	0.0	44.4	60	0.37	0	1,118	20.2
321	40.93	19	92.7	0.3	0.0	45.2	60	0.35	0	1,156	20.1
325	41.13	19	95.8	0.3	0.0	44.3	60	0.35	0	1,155	20.7
329	41.34	19	95.8	0.3	0.0	44.4	60	0.78	0	1,144	20.6
333	41.55	19	93.0	0.3	0.0	44.6	60	1.00	0	1,122	20.3
337	41.75	19	90.7	0.3	0.0	44.5	60	0.78	0	1,048	19.6
341	41.96	19	94.4	0.3	0.0	44.9	60	0.90	0	1,145	20.4
345	42.16	19	90.7	0.3	0.0	44.4	60	0.52	0	1,098	20.0
349	42.37	19	91.5	0.3	0.0	45.0	60	0.54	0	1,144	20.1
353	42.58	19	90.5	0.3	0.0	44.5	60	0.92	0	1,081	20.0
357	42.78	19	94.4	0.3	0.0	44.8	60	0.82	0	1,116	20.3
361	42.99	19	92.2	0.3	0.0	44.4	60	0.65	0	1,087	19.2
365	43.20	19	92.9	0.3	0.0	42.8	60	0.30	0	1,080	19.8
369	43.40	19	91.4	0.3	0.0	43.8	60	0.44	0	1,076	19.7
373	43.61	19	83.8	0.3	0.0	44.9	60	0.29	0	1,059	19.6
377	43.81	19	88.1	0.3	0.0	44.4	60	0.47	0	1,091	19.5
381	44.02	19	83.5	0.3	0.0	44.6	60	0.28	0	1,042	18.9
385	44.23	19	85.4	0.3	0.0	44.4	60	0.50	0	1,067	19.4
389	44.43	19	88.7	0.3	0.0	43.4	60	0.48	0	1,083	19.7
		Average	92.5	0.3	0.0	43.7	60	0.59	0	1,133	19.1
		Std. Dev.	5.5	0.0	0.0	5.8	0	0.29	0	59	1.2

HOLOCENE-4-01 - B-20 20FT
OP: WMN

TRACK RIG NO.26
Date: 19-August-2015

BL#	depth	BLC	ETR	EMX	CSB	BPM	FFS	DMX	SFR	MEX	VMX
	ft	bl/ft	(%)	k-ft	ksi	bpm	kips	in	kips	µE	f/s

Total number of blows analyzed: 387

BL#	Sensors
2-153	F3: [SPT B2] 218.9 (1.00); F4: [SPT B1] 217.8 (1.00); A3: [K0231] 325.0 (1.00); A4: [K0232] 290.0 (1.00)
155-204	F3: [SPT B2] 218.9 (1.00); F4: [SPT B1] 217.8 (1.00); A3: [K0231] 325.0 (1.00); A4: off
206-392	F3: [SPT B2] 218.9 (1.00); F4: [SPT B1] 217.8 (1.00); A3: [K0231] 325.0 (1.00); A4: [K0232] 290.0 (1.00)

BL#	Comments
102	N: 31,30,40
104	LE = 28.00 ft; WC = 16,723.0 f/s
153	N: 50 (5IN)
155	LE = 33.00 ft; WC = 16,766.5 f/s
204	N: 50 (5IN)
206	LE = 38.40 ft; WC = 16,751.3 f/s
301	N: 46, 50 (1.5IN)
303	LE = 43.00 ft; WC = 16,768.6 f/s
392	N: 40, 50 (3IN)

Time Summary

Drive	2 minutes 13 seconds	8:20 AM - 8:23 AM (8/19/2015) BN 2 - 102
Stop	19 minutes 12 seconds	8:23 AM - 8:42 AM
Drive	1 minute 11 seconds	8:42 AM - 8:43 AM BN 104 - 153
Stop	10 minutes 34 seconds	8:43 AM - 8:54 AM
Drive	1 minute 8 seconds	8:54 AM - 8:55 AM BN 155 - 204
Stop	13 minutes 31 seconds	8:55 AM - 9:08 AM
Drive	2 minutes 10 seconds	9:08 AM - 9:10 AM BN 206 - 301
Stop	16 minutes 20 seconds	9:10 AM - 9:27 AM
Drive	1 minute 59 seconds	9:27 AM - 9:29 AM BN 303 - 392

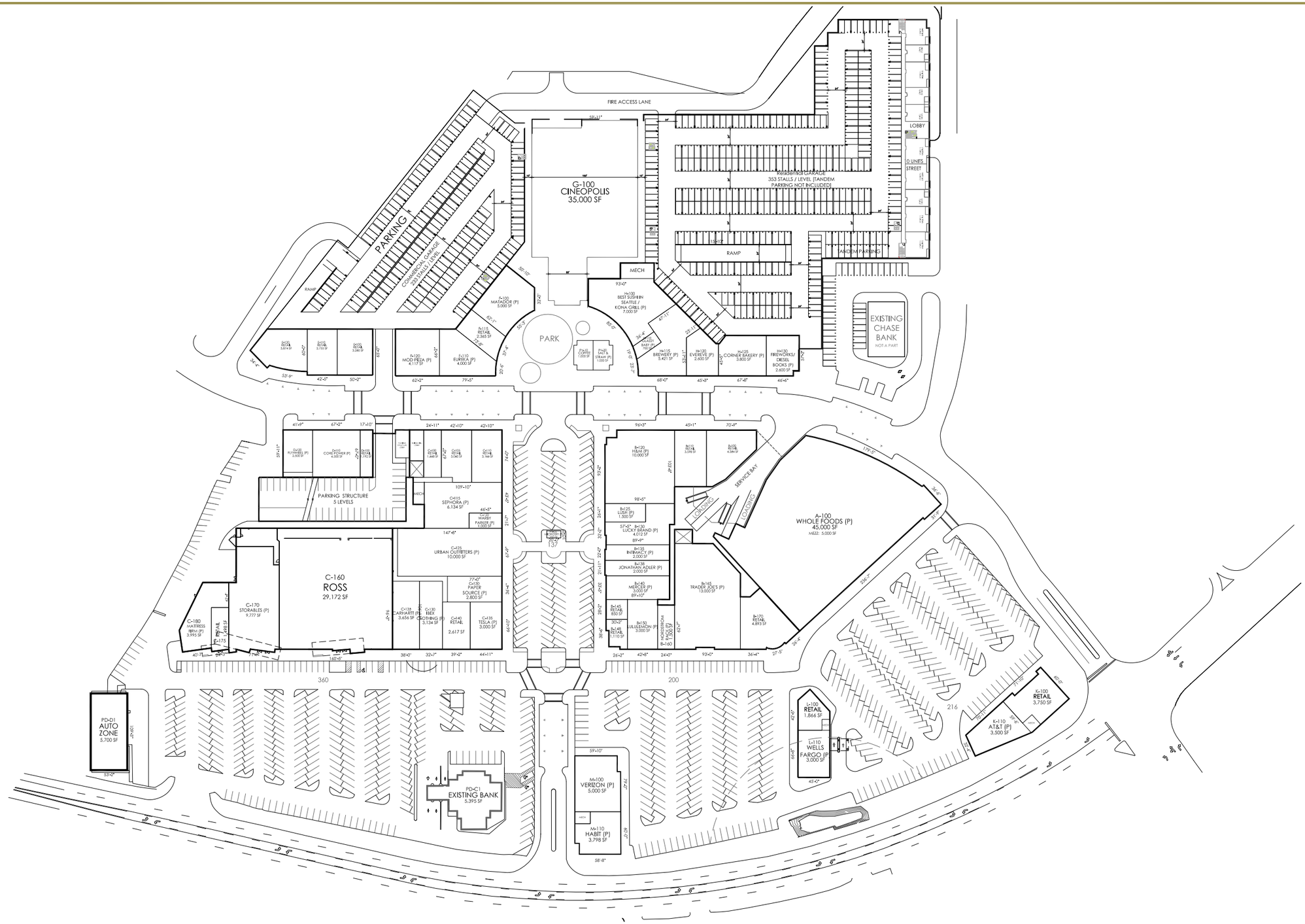
Total time [01:08:23] = (Driving [00:08:43] + Stop [00:59:39])

ATTACHMENT B

ATTACHMENT B

CURRENT PROPOSED SITE LAYOUT PROVIDED BY CENTERCAL PROPERTIES

THE VILLAGE AT TOTEM LAKE



PROJECT SUMMARY:

SITE AREA:

LOWER MALL	
RETAIL - LEVEL 1:	
BUILDING A:	45,000 SF
BUILDING B:	55,143 SF
BUILDING C:	42,343 SF
EXISTING BUILDING C:	44,549 SF
BUILDING D:	8,485 SF
BUILDING K:	7,580 SF
BUILDING L:	5,037 SF
BUILDING M:	8,800 SF
BUILDING PD-C1:	5,395 SF
BUILDING PD-D1:	5,700 SF
RETAIL - LEVEL 2:	
BUILDING B:	47,000 SF
LOWER MALL TOTAL:	275,032 SF
LOWER MALL PARKING PROVIDED:	1110 STALLS
LOWER MALL RETAIL PARKING RATIO:	4.0/1000
UPPER MALL	
RETAIL - LEVEL 1:	
BUILDING E:	9,890 SF
BUILDING F:	15,481 SF
BUILDING G:	35,000 SF
BUILDING H :	23,018 SF
PAVILION:	2,200 SF
UPPER MALL TOTAL:	85,589 SF
UPPER MALL PARKING PROVIDED:	200 STALLS
UPPER MALL RETAIL PARKING RATIO:	4.0/1000
OVERALL PARKING PROVIDED:	
-SURFACE	911
-STRUCTURE	399
TOTAL:	1,310
OVERALL PARKING REQUIREMENTS:	
-THEATER	200
-RETAIL	1,296
TOTAL	1,496

NOTE:
RESIDENTIAL TO BE SELF PARKED

CENTERCAL PROPERTIES, LLC

PRELIMINARY MERCHANDISING PLAN

THE VILLAGE AT TOTEM LAKE KIRKLAND, WASHINGTON

17 June 2015

PRELIMINARY MERCHANDISING PLAN

VERSION: PLP-03N

SCALE: 0 35' 70' 140'

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