

Received  
Planning Division  
3/11/2022

EXHIBIT 3.5

# Geotechnical Report for Food Cart Pods

12675 SW 1<sup>st</sup> Avenue  
Beaverton, Oregon

Prepared for:  
Ray Veillet

4 November 2021 2021



**Rapid**  
**Soil Solutions** INC  
503-816-3689

## **PROJECT AND SITE DESCRIPTIONS**

### **Introduction**

Rapid Soil Solutions Inc (RSS) has prepared this geotechnical report, as requested, for the proposed improvements on a pair of Washington County parcels assigned the state tax lot identification number of 1S116AD00900 and 1S116AD00800. RSS understands that the proposed development will include the renovation of an existing structure to be used as a brewery (southern half of the parcel) and the construction of a new food cart pod (northern half of the parcel); the proposed features of the pod space will include six spaces for food carts, a bar associated with the brewery, a restroom and trash enclosure, as well as artificial turf surfaces with seating. The property extends along the eastern side of SW Angel Ave from SW 1<sup>st</sup> Street to SW Farmington Road. The proposed food cart space is positioned at the southeastern corner of SW Farmington Road and SW Angel Ave. The existing building is situated at the northeastern corner of SW 1<sup>st</sup> Street and SW Angel Ave, and is assigned the street address of 12675 SW 1<sup>st</sup> Street within the City of Beaverton, Oregon (97005). A recently removed structure in the eastern third of the proposed food cart pod space was assigned the street address of 12680 SW Farmington Road. The subject property can generally be divided into two project areas: the southern 100' of the site contains an existing structure that will be remodeled, the northern 100' of the site will contain the food cart pod. This report will focus on the portion of the property designated for the proposed new food car.

The subject site can be found in the southeast quarter of the northeast quarter of Section 16, Township 1-South, Range 1-West (W.M.) in Washington County, and can be distinguished as lots number 800 and 900. The site is located within the plat of Beaverton (Book 1, Page 1) as recorded in 1868. The project area includes lots 4, 5, and the western two thirds of lot 3 in block 7 of the Beaverton subdivision. The abbreviated legal descriptions of the two parcels are "BEAVERTON, BLOCK 7, LOT PT 3, ACRES 0.06" and "BEAVERTON, BLOCK 7, LOT 4-5, ACRES 0.23". The account numbers for the two lots are R125322 and R125331. The latitude and longitude of the site are 45.486938 and -122.806828 (45°29'13.0"N, 122°48'24.6"W). The site can be found in the northeastern corner of the Beaverton 7.5-minute quadrangle (NE ¼ of the Tualatin 15' Quad).

## **SITE CONDITIONS**

### **Surface Conditions**

The subject site spans two tax parcels in the incorporated city of Beaverton. The site is situated along the western edge of the Beaverton Downtown Historic District as listed in the National Register of Historic Places Database and is positioned within the first plat of the City of Beaverton. The local blocks were platted in 1868 as a small railroad town and incorporated in 1893. Many of the local structures were constructed in the late 1910s and early 1920s. The site is part of the central Beaverton neighborhood and is roughly one block south of the original plank road (Canyon Road) connecting Portland to Beaverton by 1960. The Oregon Central Railroad, passing just north of the subject site, was operating by 1871;

the rail line is separated from the subject site by Farmington Road, historically called Front Street.

The subject site is located in the Regional Center – Old Town zoning district (RC-OT), a multiple use district intended to “encompasses Beaverton’s original Downtown and is intended to provide a mix of housing, jobs, and services at a scale that acknowledges and complements historic development patterns.” The general minimum development density is between 18 and 24 units an acre, with no noted maximum density. Local land use includes both new and old mixed-use buildings as well as smaller structures with retail businesses and restaurants.

The local slopes are situated within the relatively low relief Tualatin River Valley and structural basin. Basin morphology is typified by broad, low-relief slopes draped in a blanket of unconsolidated fine-grained sedimentary materials. The morphology of the local slopes is consistent with that generally found across the topographic and structural depression. The site is tucked between Beaverton Creek and Erickson Creek. The slopes on the subject site generally descend northwards, towards Beaverton Creek roughly 0.28 miles away and about 24 feet lower in elevation. Erickson Creek is roughly 0.30 miles southwest of the subject site and less than 10 feet lower in elevation; additionally, there is a broad rise separating the stream from the subject site, with a crest about 16 feet higher than the subject site.

#### *General Site Conditions*

The site occupies 0.29 acres in Beaverton’s original downtown. The site is comprised of two tax parcels, forming an irregular outline. The northern half of the site is roughly 25 feet wider than the southern half of the site. The entire project area extends the full length of the block along SW Angel Ave between SW Farmington Road and SW 1<sup>st</sup> Street. The local streets are all paved in asphalt concrete with concrete curbs and sidewalks. SW Farmington Road is a substantial, divided, four-lane roadway; a line of street trees and English Ivy occupies the median divider along the local stretch of SW Farmington Road. North of SW Farmington Road is a single-set of railroad tracks, placed on gravel at a slightly higher elevation than the adjacent roadways.

Properties adjacent to the subject site include: 12670 SW Farmington Road (east), a mixed retail and residential structure originally constructed in 1910; 12655 SW 1<sup>st</sup> Street (southeast), a retail store originally constructed in 1948; 4545 SW Angel Ave (west), a mixed used retail and residential structure constructed in 2016; and 4600 SW Angel Ave (south), a commercial/retail structure originally constructed in 1960.

The subject site can generally be divided into two project areas. In the southern half of the property, a 2,777 square foot commercial structure faces SW 1<sup>st</sup> Street and SW Angel Ave. The structure was originally constructed in 1955. Until recently the structure housed Rose City Modern, a furniture and housewares store specializing in mid century modern pieces. The building does not appear to be currently housing an active business.

The northern half of the property is currently vacant and undeveloped. A foundation is present where a building once stood. This building was recently demolished. It was a two-story structure with no basement. County records indicate that the structure was constructed in 1910. The freestanding structure was around 2,500 to 3,000 square feet. The previous tenant of the structure was a vintage clothing shop. A small square of property directly south of the structure historically contained a plot of land periodically utilized for growing vegetables; at the time of the site visit this patch of ground contained short grasses. A row of grape vines appears to be growing along the property line and onto the adjacent building. The western two thirds of the northern half of the property contains an asphalt-concrete paved parking lot. RSS observed the asphalt to be in good condition.

No standing or flowing water was observed on the subject site.



Figure 1: Existing conditions on the subject site, aerial image from 2019 and presented by Washington County Intermap.

### *Historic Site Conditions*

The subject site is situated in the original downtown area of the City of Beaverton; this area was platted in 1868 and incorporated in 1893. The rail line north of the subject site was present by 1871. The oldest structures still standing in the local blocks are from the early 1910s.

Historical aerial imagery dating back to 1952 was referend as part of this investigation. This imagery indicates that the local streets were developed, with their modern orientation and size, prior to 1952. The imagery of the local blocks depicts an assortment of buildings and undeveloped yards/gardens. This early image suggests that the southern end of the subject site was undeveloped; the low-resolution image appears to suggest grasses or a small field within the site. The building in the northern end of the site is present in 1952, it is unclear if the modern parking area in the northwestern corner of the block contained a paved surface in

these early images. Most of the buildings within the local block were developed prior to 1952.

By 1960, the dwelling structure in the southern end of the subject site was constructed. The first available color image, collected in 1981, indicates that the modern parking area in the northwestern corner of the site was paved sometime prior to 1981.

The observed imagery does not suggest any major changes to the subject site between 1960 and 2020. The structure in the northeastern quadrant of the site was removed in 2021. The block west of the subject site was re-developed relatively recently, in 2016.

### *Slopes*

The subject site is generally situated within the Tualatin Basin and contains low slopes, consistent with the regional morphology. Local slopes generally descend northwards and the site is within the Beaverton Creek drainage basin. The slopes within the subject site are very low. Two-foot contours, as presented by metro map, suggest that there is very little topographic relief across the subject site. The Google Earth DEM indicates that the elevation of the subject site ranges from 195 feet above sea level at the southern edge of the parcel to 193 feet above sea level at the northern edge of the property.

A slope model derived from a 5-ft DEM of Portland and the surrounding area suggests that the majority of the property contains slopes of less than 5%. Small areas within the subject property contain modeled slopes of 5-10%. No slopes greater than 10% are mapped on or adjacent to the subject site.

Observations of the slopes on site are constant with the modeled slopes, as presented below. Some grading may have historically occurred across the historic downtown region, as the area was developed in late ninetieth and early twenty centuries. Lidar imagery also presents low slopes, where paved surfaces are artificially smoothed. No steep slopes are observed on or adjacent to the subject site.



Figure 2: Slopes on the Site. LEFT: two-foot contours from Metro Map. RIGHT: slope model from Portland Maps. blue: <5%, green: 5-10%, yellow: 10-15%, orange 15-20%, red: >20%.

## **Regional Geology**

Current geologic literature classifies the slopes underlying the subject site as Pleistocene aged Missoula floods deposits. The deposits on site are further classified as part of the fine-grained or silt and sand dominated facies of the Missoula Floods deposits. These sediments are generally comprised of unconsolidated silt, sand, and gravels and were emplaced between about 21,000 to 12,000 years ago.

### *Geologic History*

The subject site is generally situated within the forearc basin of the Cascadia subduction system between the Cascade Range (volcanic arc) and the Coastal Range (accretionary/subduction complex). The site is part of the Tualatin Basin, which is one of several topographic and structural depressions that collectively constitute the Puget-Willamette forearc trough. The local basin formed due to tectonic compressional stress that both initiated the basin's formation and produced prolonged the enlargement of the basin. As the Tualatin Basin continued to subside during the late Miocene and Pliocene, it filled with continental fluvial and lacustrine sediments that were transported long distances by the ancestral version of modern rivers, as well as with locally derived detritus carried in by tributaries draining the surrounding highlands. This resulted in a thick accumulation of material preserving a complex record of deposition and erosion (aggradation and incision). Deposits laid down by ancient rivers are buried beneath the thick deposit of catastrophic flood deposits.

At the end of the last glacial maximum, an ice dam in western Montana began to melt. The periodic failure of the ice dam retaining Glacial Lake Missoula resulted in dozens of gigantic floods that stretched from their origin in Montana generally following the Columbia River and eventually reaching the Pacific Ocean. The hydraulically restrictive Oregon Coast Range causes the sediment filled waters to temporarily pond across much of the Willamette forearc trough including the Portland, Tualatin and Willamette basins. The floodwaters, which reached an elevation of 400 feet above sea level, soured many areas down to bedrock and buried others beneath thick layers of gravel, sand and silt that can be divided into a fine-grained unit and a coarse-grained unit. Dramatic scour features and giant bars can be seen within the Portland Basin, and demonstrate the great influence the floodwaters had on shaping the Quaternary geomorphology of the region. Substantial slackwater deposits formed as the floodwaters ponded across the local lowlands. As a group, the sediments are generally comprised of unconsolidated silt, sand, and gravels and were emplaced between about 21,000 to 12,000 years ago.

### *Site Geology*

The sediments brought into the lowlands by the Missoula Floods were deposited when the waters slowed down, blanketing older fluvial and igneous deposits with swaths of rhythmic sedimentary beds. Various studies have divided the Missoula Floods deposits into distinct facies defined by grain size. The materials found at the subject site are part of the fine-grained facies.

The fine-grained facies of the Missoula Floods are described as an unconsolidated light-brown to light-gray silt, clay and fine to medium sand. The sediments are deposited in a series of distinct layers, a few inches to a few feet thick, each of which represents a single flood. The finer sediments are predominantly quartz and feldspar and also contain white mica. The coarser sediments can be comprised of Columbia River Basalt fragments. Poorly defined beds of 1- to 3-feet thickness are observed in outcrops, and complex layering has been recorded in boreholes. These deposits have been interpreted as slack-water sediments settling from the slowing floodwaters. In some areas of this unit, it can include sediments compositionally similar to loess. Soil development commonly introduces significant clay and iron oxides into the upper 6-10 feet of the deposit.

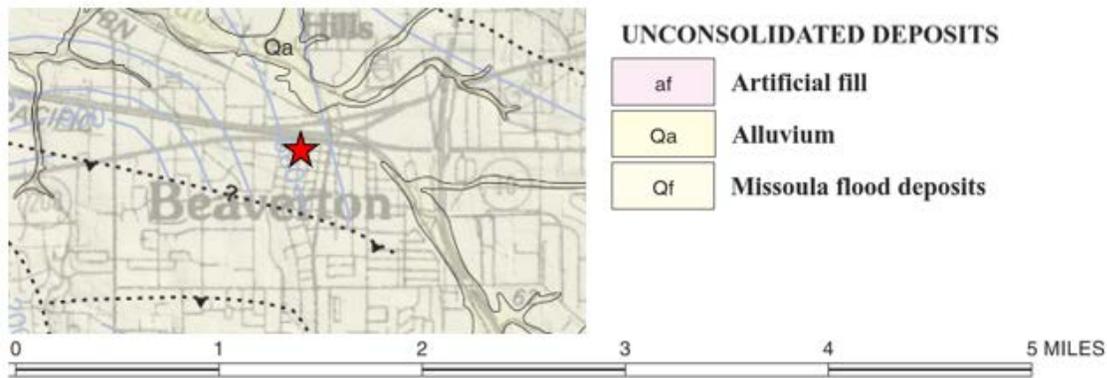


Figure 3: Geology at the subject site, excerpt from Wells et al (2020).

### Geohazard Review

The Oregon HazVu: Statewide Geohazard Viewer, Portland Maps, and Metro Map were reviewed 04 November 2021 to investigate mapped geological hazards.

This review indicates that the subject site is outside the 100-year floodplain, as mapped by FEMA.

The expected earthquake-shaking hazard is classified as ‘very strong’ to ‘severe’. The subgrade is classified as having a high susceptibility to liquefaction during severe shaking events. Numerous faults are mapped across the local region, many of which are part of the Elmonica Fault Zone. Only one of the local faults is mapped as active by DOMGAI, this west-trending fault that passes roughly 0.9 miles south of the subject site.

IMS-15 rates the site vicinity as having a peak horizontal acceleration of 0.5 to 0.6g for a magnitude 6.8 Portland Hills Fault earthquake. This falls on the Modified Mercalli Intensity scale within the categories of ‘severe shaking’. Severe shaking will cause slight damage in specially designed structure, considerable damage to ordinary substantial buildings, with partial collapse, and can cause great damage in poorly built structures.

The DOGAMI SLIDO interactive map suggests that there are no landslides on or adjacent to the subject site. There is very little topographic relief across and around the subject site. Regional susceptibility maps indicate that the slopes on site contain a low susceptibility to mass wasting.

## **Field Exploration and subsurface conditions**

### *Surface Explorations*

RSS conducted field explorations of the subject on 28 October 2021. RSS traversed the exterior areas of the subject site on foot. RSS observed all exterior areas of the property. RSS observed adjacent properties from the subject site. RSS visited the subject site unaccompanied.

The slopes within the subject site are extremely low and consistent with surrounding properties. Minor grading may have been conducted when the original structures and parking lots were installed.

The exposed crawl spaces of the old building area contain medium-brown to purplish brown, fine-grained soils. A few pipes remain buried in the subgrade. The concrete foundation of the demolished structure still remains, and may periodically trap water during heavy rain events. A small patch of grass was observed growing in the soils exposed along the southern edge of the now demolished building. The majority of the property is surfaced with asphalt concrete. No standing or flowing water was observed on site. Conditions on site are consistent with mapped conditions.

### *Subsurface Exploration*

A total of two shallow hand auger borings were conducted within the subject site. One boring was conducted within the soils of the now exposed crawl space. RSS observed a minor amount of fill within the crawl space, presumably backfill comprised of locally sourced, fine-grained material. This fine-grained material was likely placed/disturbed when the structure was originally constructed and is less than 1 foot thick. The second boring was conducted in the grassy patch located at the southern edge of the now demolished structure. RSS found fill to a depth of about 1.6 feet; the fill is comprised of layers of (1) imported organic material, (2) fine grained soils, and (3) grey colored, angular, hard gravels and sand. Below the surficial fills, both borings contained interbedded horizons of silts and clays. Both borings appeared to contain a decreasing amount of clay content with depth. Both borings were conducted to a depth of 4 feet.

No groundwater was encountered during this investigation.

The locations of the borings are shown on Figure 3 in the Appendix. A Geologist in Training (GIT) observed the borings and logged the subsurface materials. The soil descriptions were reviewed by a professional engineer. The logs were created using the Unified Soil Classification and Visual Manual Procedure (ASTM-D 2488). Samples were transported in sealed plastic bags. Moisture content of the collected samples ranged from 19.8% to 27.6%.

## **Foundation Design**

Footings placed into the silty CLAY shall be designed for an allowable bearing capacity of 1,500 *pounds per square foot (psf)*, at a depth of 1ft below existing grade. *Please allow for up to 48hours for sub-grade inspection by phone call.*

The recommended allowable bearing pressure can be increased by 1/3 for short-term loads such as those resulting from wind or seismic forces. If a greater bearing capacity is

required then remove one foot of soil and replace with 1ft of compacted ¾” minus rock for a bearing capacity of 3,500psf. Compaction of the rock must be tested as per the structural fill section of the report. Deeper footings for roof covers will be in SILT or clayey SILT with the same bearing capacity.

Continuous wall and isolated spread footings should be at least 16 and 24 inches wide, respectively. The bottom of interior footings should be at least 12 inches below the base of the floor slab. Based on our analysis the total post-construction settlement is calculated to be less than 1 inch, with differential settlement of less than 0.5 inch over a 50-foot span for maximum column, perimeter footing loads of less than 100 kips and 6.0 kips per linear foot.

Lateral loads on footings can be resisted by passive earth pressure on the sides of the structures and by friction at the base of the footings. An allowable lateral bearing pressure of 150 *pounds per cubic foot (psf/f)* below grade may be used. Adjacent floor slabs, pavements or the upper 12-inch depth of adjacent, unpaved areas should not be considered when calculating passive resistance.

**Structural Fills**

Fills shall be placed on level benches in thin lifts and compacted to a dry density of at least 92% of its Maximum Dry Density (MDD) as determined by the Modified Proctor Test (ASTM D-1557) when using imported rock. Compaction testing shall take place every 18in. A minimum of three days prior to the placement of any fill, please supply Engineer with a 30-pound sample (approximately a full 5-gallon bucket) of any soil or base rock to be used as fill (including native and import materials) for testing and approval

Engineering values summary

Bearing capacity – soil existing	1500psf
Coefficient of friction - existing	0.28
Active pressure – with drainage	40pcf
Passive pressure	300pcf

**Seismic Design Criteria**

The seismic design criteria for this project found herein is based on the ASCE 71-16 from the USGS Earthquake Hazards Program. A summary of IBC seismic design criterion below using the following Lat 45.486938 and Long of -122.806828: null = see section 11.4.6

	<b>Short Period</b>	<b>1 Second</b>
Maximum Credible Earthquake Spectral Acceleration	Ss = 0.883g	S1 = 0.406g
Adjusted Spectral Acceleration	Sms = 1.059	Sm1 = null
Design Spectral Response Acceleration Perimeters	Sds = 0.706	Sd1= null

**Pavement section**

RSS recommends the pavement section to accommodate should be a total of 8in of rock, 6in 1 ½” minus, then 2in of 5/8” to cap then 3in of AC. RSS should be given at least 48hours notice by phone to proof roll the native sub-grade prior to rock placement. If site work is done during the dry season June to Sept no geo-textile fabric is required otherwise a layer of Mirafi roadway fabric is required.

**Construction Observations**

Satisfactory pavement and earthwork performance depends on the quality of construction. Sufficient monitoring of the activities of the contractor is a key part of determining that the work is completed in accordance with the construction drawings and specifications. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions requires experience. Therefore, qualified personnel should visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those anticipated.

**Limitations**

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations. The opinions, comments and conclusions presented in this report were based upon information derived from our literature review, field investigation, and laboratory testing. Conditions between, or beyond, our exploratory borings may vary from those encountered. Unanticipated soil conditions and seasonal soil moisture variations are commonly encountered and cannot be fully determined by merely taking soil samples or soil borings. Such variations may result in changes to our recommendations and may require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

If there is more than 2years time between the submission of this report and the start of work at the site; if conditions have changed due to natural causes or construction operations at, or adjacent to, the site; or, if the basic project scheme is significantly modified from that assumed, it is recommended this report be reviewed to determine the applicability of the conclusions and recommendations.

The work has been conducted in general conformance with the standard of care in the field of geotechnical engineering currently in practice in the Pacific Northwest for projects of this nature and magnitude. No warranty, express or implied, exists on the information presented in this report. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of development at the site, as outlined within the report.

## References

- Google Maps <https://www.google.com/maps>
- Google Earth 2020
- Portland Maps <https://www.portlandmaps.com/>
- Metro Maps <https://gis.oregonmetro.gov/metromap/>
- Washington County Maps Online  
<https://www.co.washington.or.us/AssessmentTaxation/GISCartography/maps-online.cfm>
- City of Beaverton Map Center <https://www.beavertonoregon.gov/595/Geographic-Information-Systems-GIS>
- USGS Topo View <https://ngmdb.usgs.gov/topoview/>
- DOGAMI Oregon State Wide Geohazard Viewer (HazVu)  
<https://gis.dogami.oregon.gov/maps/hazvu/>
- DOGAMI Lidar Viewer <https://gis.dogami.oregon.gov/maps/lidarviewer/>
- DOGMAI Statewide Landslide Information Layer for Oregon  
<https://gis.dogami.oregon.gov/maps/slido/>
- United States Department of Agriculture Natural Resources Conservation Service, Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- DOGAMI Geology Map <http://www.oregongeology.org/geologicmap/>
- Oregon Water Resources Department Well Report Mapping Tool  
[https://apps.wrd.state.or.us/apps/gw/wl\\_well\\_report\\_map/Default.aspx](https://apps.wrd.state.or.us/apps/gw/wl_well_report_map/Default.aspx)
- Ma, L., Madin, I.P., Duplantis, S., and Williams, K.J., 2012, Lidar-based surficial geologic map and database of the greater Portland, Oregon, area, Clackamas, Columbia, Marion, Multnomah, Washington, and Yamhill Counties, Oregon, and Clark County, Washington: Oregon Department of Geology and Mineral Industries, Open-File Report 0-2012-02, scale 1:8,000.
- Wells, R.E., Haugerud, R.A., Niem, A.R., Niem, W.A., Ma, Lina, Evarts, R.C., O'Connor, J.E., Madin, I.P., Sherrod, D.R., Beeson, M.H., Tolan, T.L., Wheeler, K.L., Hanson, W.B., and Sawlan, M.G., 2020, Geologic map of the greater Portland metropolitan area and surrounding region, Oregon and Washington: U.S. Geological Survey, Scientific Investigations Map SIM-3443, scale 1:63,360.
- Burns, W.J., Madin, I.P., and Mickelson, K.A., 2011, Landslide inventory maps of the Beaverton quadrangle, Washington County, Oregon: Oregon Department of Geology and Mineral Industries, Interpretive Map Series 34, scale 1:8,000.
- Hart, D.H., and Newcomb, R.C., 1965, Geology and ground water of the Tualatin Valley, Oregon: U.S. Geological Survey, Water-Supply Paper 1697, scale 1:48,000.
- Schlicker, H.G., and Deacon, R.J., 1967, Engineering geology of the Tualatin Valley region: Oregon Department of Geology and Mineral Industries, Bulletin 60, scale 1:48,000.
- Snyder, D.T., 2008, Estimated depth to ground water and configuration of the water table in the Portland, Oregon area: U.S. Geological Survey, Scientific Investigations Report SIR-2008-5059, scale 1:60,000.
- Trimble, D.E., 1957, Geology of the Portland quadrangle, Oregon-Washington: U.S. Geological Survey, Geologic Quadrangle Map GQ-104, scale 1:62,500.
- Trimble, D.E., 1963, Geology of Portland, Oregon and adjacent areas: U.S. Geological Survey, Bulletin 1119, scale 1:62,500.
- Treasher, R.C., 1942, Geologic map of the Portland area, Oregon: Oregon Department of Geology and Mineral Industries, Quadrangle Map 9, scale 1:96,000.

- Madin, I.P., 2004, Geologic mapping and database for the Portland area fault studies: Final report, Clackamas, Multnomah, and Washington Counties, Oregon: Oregon Department of Geology and Mineral Industries, Open-File Report O-04-02, scale 1:100,000.
- Phillips, W.M., 1987, Geologic map of the Vancouver quadrangle, Washington: Washington Division of Geology and Earth Resources, Open File Report 87-10, scale 1:100,000.
- Wong, Ivan, Silva, Walter, Bott, Jacqueline, Wright, Douglas, Thomas, Patricia, Gregor, Nick, Li, Sylvia, Mabey, M.A., Sojourner, Anna, and Wang, Yumei, 2000, Earthquake scenario and probabilistic ground shaking maps for the Portland, Oregon, metropolitan area. Portland Hills fault M 6.8 earthquake, peak horizontal acceleration (g) at the ground level: Oregon Department of Geology and Mineral Industries, Interpretive Map Series 15, scale 1:62,500.

## APPENDIX

---

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
BEAVERTON QUADRANGLE  
OREGON—WASHINGTON CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

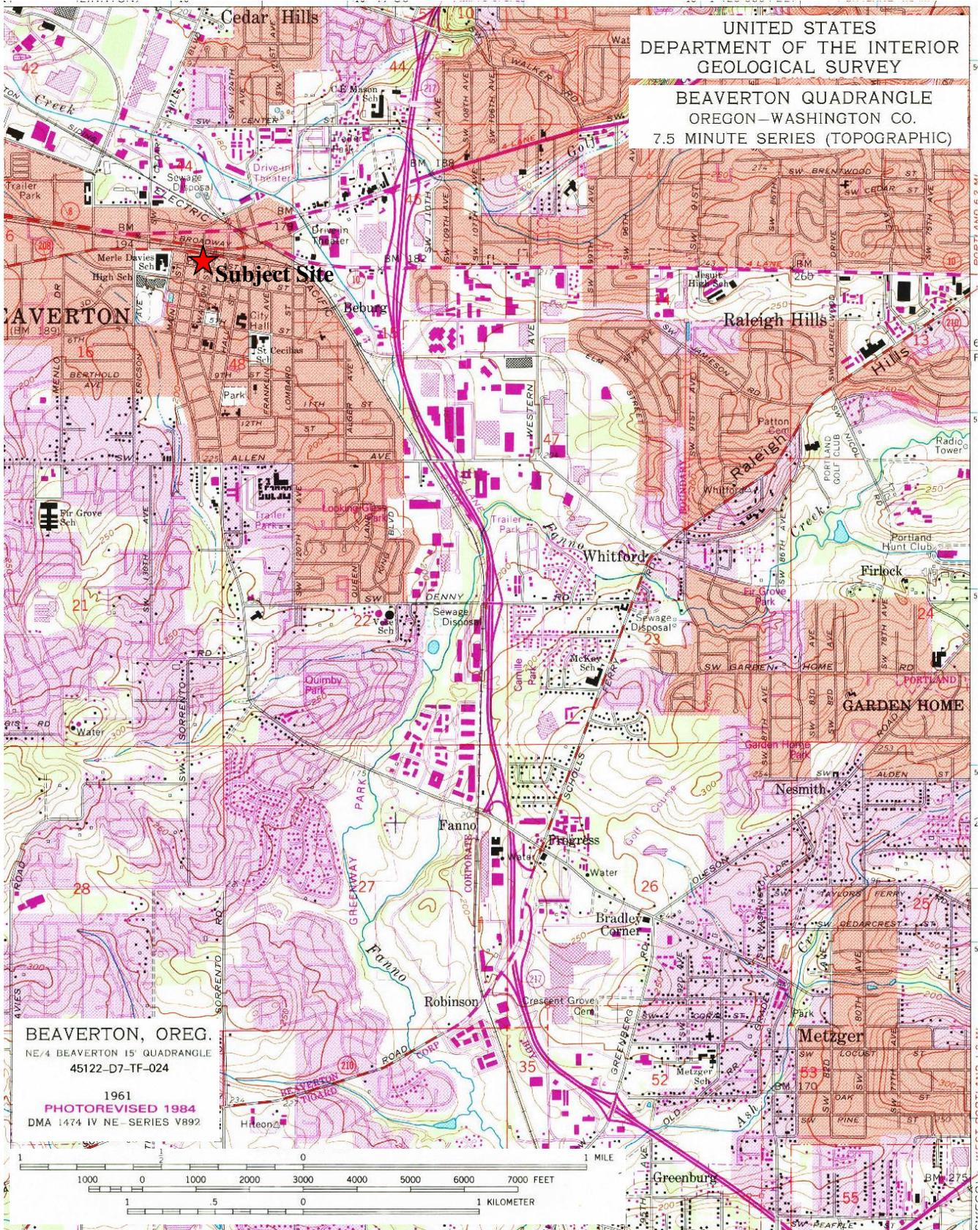


Figure 1: Subject site location on the NE quarter of the Beaverton Quadrangle

WASHINGTON COUNTY OREGON  
SE 1/4 NE 1/4 SECTION 16 T1S R1W W.M.

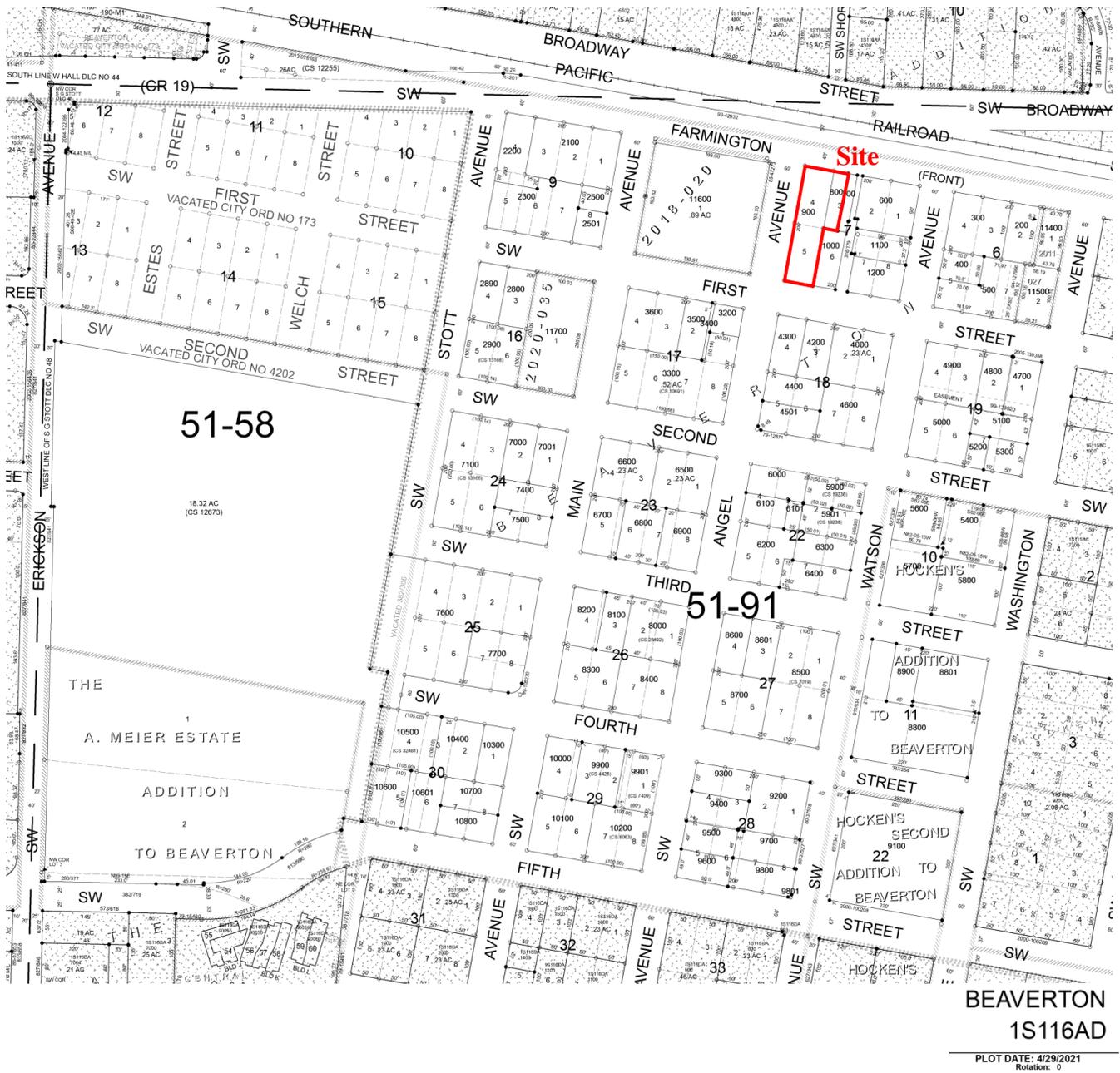


Figure 2: Subject site location on the Washington County Assessor's Map



Figure 3: Approximate boring locations on an aerial image collected from Washington County Intermap

Moisture

	Sample number	HA#1A	HA#1B	HA#2A	HA#2B
1	Date and time in oven	10/28/21 2:00 PM	10/28/21 2:00 PM	10/28/21 2:00 PM	10/28/21 2:00 PM
2	Date and time out of oven	10/30/21 7:00 AM	10/30/21 7:00 AM	10/30/21 7:00 AM	10/30/21 7:00 AM
3	Depth (ft)	2	4	2.3	4
4	Tare No.	1	2	3	4
5	Tare Mass	234	234	235	230
6	Tare plus sample moist	1079	1062	888	954
7	Tare plus sample dry	897	883	780	819
8	Mass of water (g)	182	179	108	135
9	Mass of soil (g)	663	649	545	589
10	Water Content (%)	27.5	27.6	19.8	22.9

Atterberg Limit Test

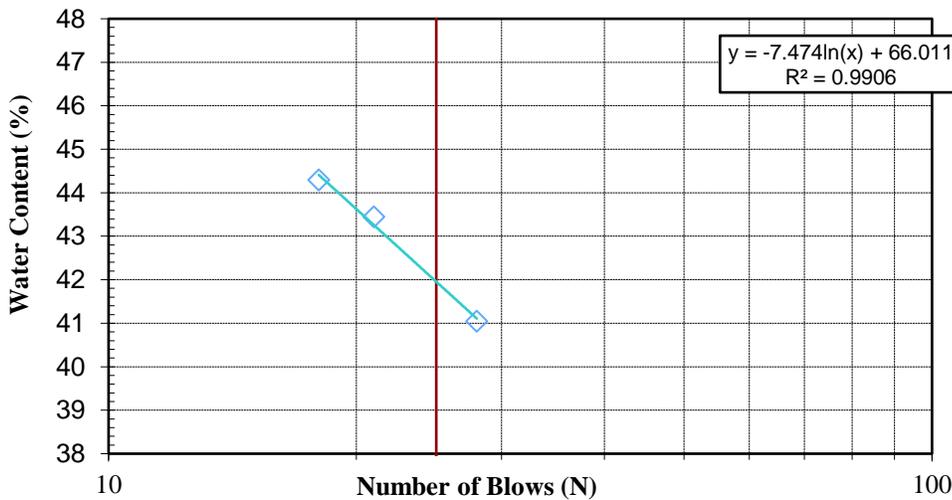
Sample Number: HA#2A

Depth: 2.3'

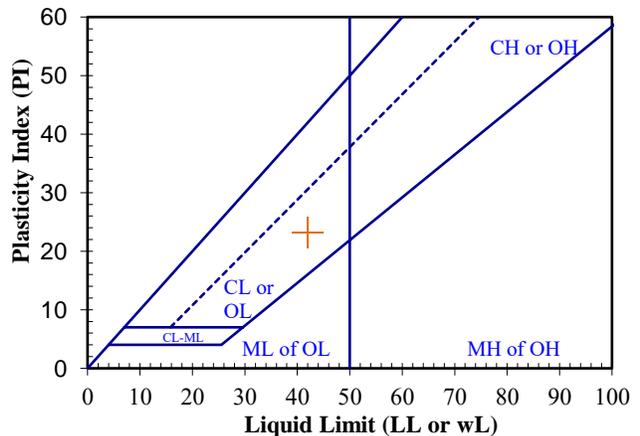
Liquid Limit

Plastic Limit

	Tare No.	D#1.1	D#1.2	D#1.3	R#1.1	R#1.2
1	Tare No.					
2	Tare Mass (g)	39.53	39.86	40.53	39.36	40.15
3	Tare Plus Wet Soil (g)	69.29	69.94	68.32	51.27	52.21
4	Tare Plus Dry Soil (g)	60.63	60.83	59.79	49.39	50.30
5	Mass of Water (g)	8.66	9.11	8.53	1.88	1.91
6	Mass of Soil (g)	21.10	20.97	19.26	10.03	10.15
7	Water Content (%)	41.04	43.44	44.29	18.74	18.82
8	No. Blows	28	21	18		



Liquid Limit (%) 42.0  
 Plastic Limit (%) 18.8  
 Plasticity Index (%) 23.2  
 USCS Classification of fines: CL



# HA#1

**Surface Elevation:**  
**Boring Date: 28 October 2021**  
**Boring Location: Beaverton, OR**  
**Drilling Method: Hand Auger**

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Users\Owner\Documents\In Progress Reports\12675 SW 1st St Geotech 28Oct21\2675 SW 1st St Logs.log Date: 11/1/2021

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table
0					FL	Damp, medium stiff, medium brown with reddish-purple hue, fine grained, silty clay FILL. Old crawl space back fill.
					ML	Damp, medium stiff, medium dark brown, fine grained, clayey SILT with fine grained organics. Old subsoil.
1					ML-CL	Damp, stiff, medium brown with dull grey and rust mottling, fine grained, silty CLAY to clayey SILT.
2	Tree root	27.5			CL	Damp-dry, stiff to very stiff, medium dull grey grown, fine grained, silty CLAY.
3					ML	Damp-dry, stiff to very stiff, dull tan-brown with some red-hued mottling, fine grained, clayey SILT.
4		27.6			ML	Damp-dry to dry, stiff, mottled grey-brown, tan, and rust-red; fine grained, SILT with trace to some fine grained sand.
5						
6						
7						

## LOG OF BORING

Boring completed at depth of 4 feet.

# HA#2

Surface Elevation:  
 Boring Date: 28 October 2021  
 Boring Location: Beaverton, OR  
 Drilling Method: Hand Auger

Date: 11/1/2021  
 File: C:\Users\Owner\Documents\In Progress Reports\12675 SW 1st St Geotech 28Oct21\2675 SW 1st St Logs.log  
 SuperLog CivilTech Software, USA www.civiltech.com

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table
0						FL
						FL
1						FL
						CL
2	LL=42, PI=23	19.8				ML-CL
3						CL
4		22.9				ML
5						
6						
7						

## LOG OF BORING