First Hill Booster Pump Station Generator Replacement
PROJECT NUMBER: 25-55

ADDENDUM NO. 1

ISSUED THIS DATE: January 13, 2026

BID OPENING: **2:00 PM (PST) on Thursday, January 29, 2026**

This addendum is for the First Hill Booster Pump Station Generator Replacement project , Project No. 25-55, issued December 29, 2025. This document is issued to revise the contract documents and to compile questions received during the first half of the open question period, including those submitted via email and those raised by bidders in person at the pre-bid walkthrough. Agency responses are provided herein. All questions must be received by Thursday, January 22, 2026, at 12 noon. If additional questions are received, a second addendum will be issued.

The addendum shall become fully a part of the above-named project drawing, specifications, and bid documents. Each bidder shall be responsible for reading this addendum to ascertain to what extent and in what manner it affects the work to be performed. All bidders must acknowledge their receipt of this addendum on the Bid Form.

This Addendum consists of a total of thirty-three (33) pages, consisting of the following:

1. ADDENDUM No. 01, dated January 13, 2026. Total of 2 pages.
2. Non-Mandatory Prebid Mtg Sign-In Sheet. Total of 2 pages.
3. Gas Line Location Exhibit. Total of 1 page.
4. Tree and Plantings Exhibit. Total of 1 page.
5. Geotech Report_2976 74th Ave SE_2/24/1989. Total of 12 pages.
6. Geotech Report_7246 SE 32nd_5/29/2014. Total of 13 pages.
7. Original Station Structural Sheets. Total of 2 pages.

Questions & Answers

Q1: The project working days are listed as 130. If more time is needed for lead times on electrical and generator gear will that be issued?

A1: Upon placement of orders for these items, an adjustment to the number of allotted working days or a suspension of working days may be granted if supplier lead times are determined to delay the project and prevent completion within the allotted working days. It is understood that these items may have lead times of five to six months or longer, and the Contractor will not be penalized for delays attributable to such lead times.

Q2: The contract documents include extensive dewatering requirements, but no geotechnical or soils reports are provided. Is a high groundwater table anticipated, or is substantial dewatering expected at the site?

A2: The site sites at an elevation of roughly 332 feet. The need for extensive dewatering is not expected.

I am providing two Geotechnical Reports with this addendum: One for the First Hill Site and one for 7246 SE 32nd, which is approx. 250' NW of project site.

In summary: No groundwater is encountered, but seepage could be expected in new excavations deeper than 10.5' where surface water is perched and runs on top of more impermeable soil layers.

To note, the area directly adjacent to the existing vault is highly disturbed by original station construction (1990) and modification (2011). Most of the excavation area should be made up of granular base. Any seepage, if encountered, will be heavily dependent on precipitation.

Q3: Are original structural drawings showing the existing vault available?

A3: The as-built 1990 structural sheets are being provided as part of this addendum. The generator is actually located in the pre-1990's vault section. Unfortunately, there are no drawings available for this section.

Additions and/or Modifications to the Contract Documents

Ref	Spec or Drawing	Location and Description of Change
A	Spec Section 01025 Measurement and Payment	Modify Bid Item T. "Minor Changes" **Page TS-12** Amend to read: "Payments or credits for changes amounting to $32,000.00 or less…" This is consistent with what is shown on the Bid Form
B	Spec Section 16400 Service Modifications & Equipment Continuous Power Cutover Procedure	Modify Notes on page TS-195, TS-196, and TS-197 **Page TS-195** Change "Steps 3-5" to "Steps C-E" **Page TS-196** Change "Step "5" to Step "E" **Page TS-197** Change "Steps 3-5" to "Steps C-E" Change "Step 4" to "Step D"

Christopher Marks, P.E.
Utilities Engineer, City of Mercer Island

First Hill Booster Pump Station Generator Replacement

Non-Mandatory Pre-Bid Site Visit

Tuesday, Jan 13, 2026

10:00am – 11:00am

SIGN-IN SHEET

	NAME	AGENCY/ORGANIZATION	TITLE	EMAIL ADDRESS	PHONE NO.	INITIAL
1.	RAY BISHOP	PSW	TECH.	raybishop@powersystemswest.com	253 878 2444	RB
2.	KIRK HALE	STRIDER CONST.	SUPER	kirk@striderconstruction.com	360-305-7103	KH
3.	Tobin Fogle	Brink Electric	Foreman	BDana@BrinkElectric.com	425-786-6702	T.F.
4.	Kyle Nordgren	Elite Airworks	owner	Axel@eliteairworks.net	206 853-8617	
5.	Evan McKay	McClure and Sons, Inc.	PM	bids@mcclureandsons.com	425-316-6999	EM
6.	DARIN NISKANEN	WOODRIDGE CONSTRUCTION LLC	SUPT	DARIN@WOODRIDGECONSTRUCTION.NET	425 870 5365	D.N.
7.	Will Hennessy	WACO Construction	Super	Will@wacoconstruction.com	425-200-7552	

	NAME	AGENCY/ORGANIZATION	TITLE	EMAIL ADDRESS	PHONE NO.	INITIAL
8.	Ben Ellingsworth	Valley Elect.	PM	Bene@Velectric.com	206 280-3199	
9.	DAN MULVIHILL	CDK CONST. SERVICE	PM	BIDS@CDKCONSTRUCTION.COM	425-788-5441	
10.	JOSH MILLER	DIVISION 26 ELECTRIC	PM	JOSH.MILLER@DIV26.NET	206.552.0014	
11.	MIKAL BOYER ~~MIKALB@BRIN~~	BRINK ELECTRIC	PM	MIKALB@BRINKELECTRIC.com	425 971 3265	
12.	Nahum Estrada	Judna ofs Lion Landscapey		Estradanahum@gmail	206 307-6967	
13.						
14.						
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19.						
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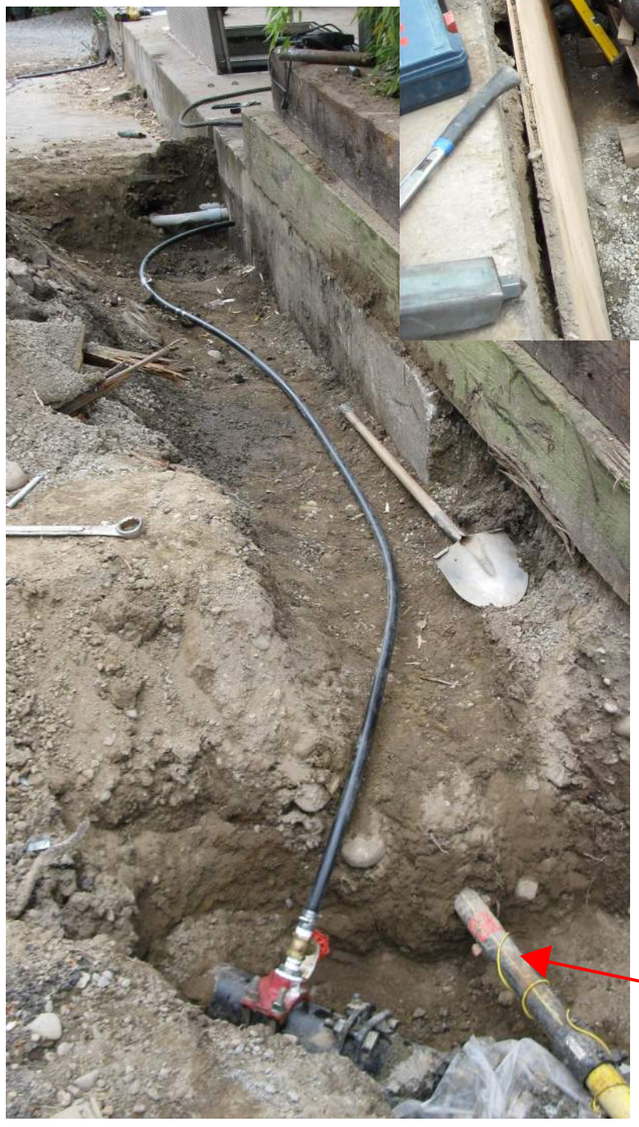
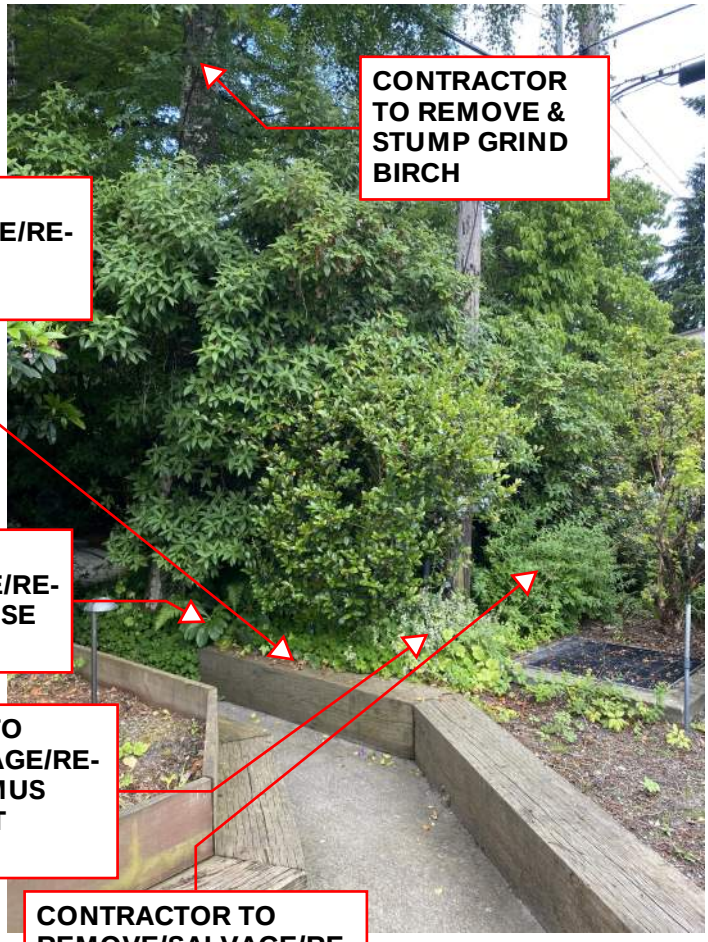
CONSTRUCTION PHOTOS FROM 2011 STATION UPGRADE

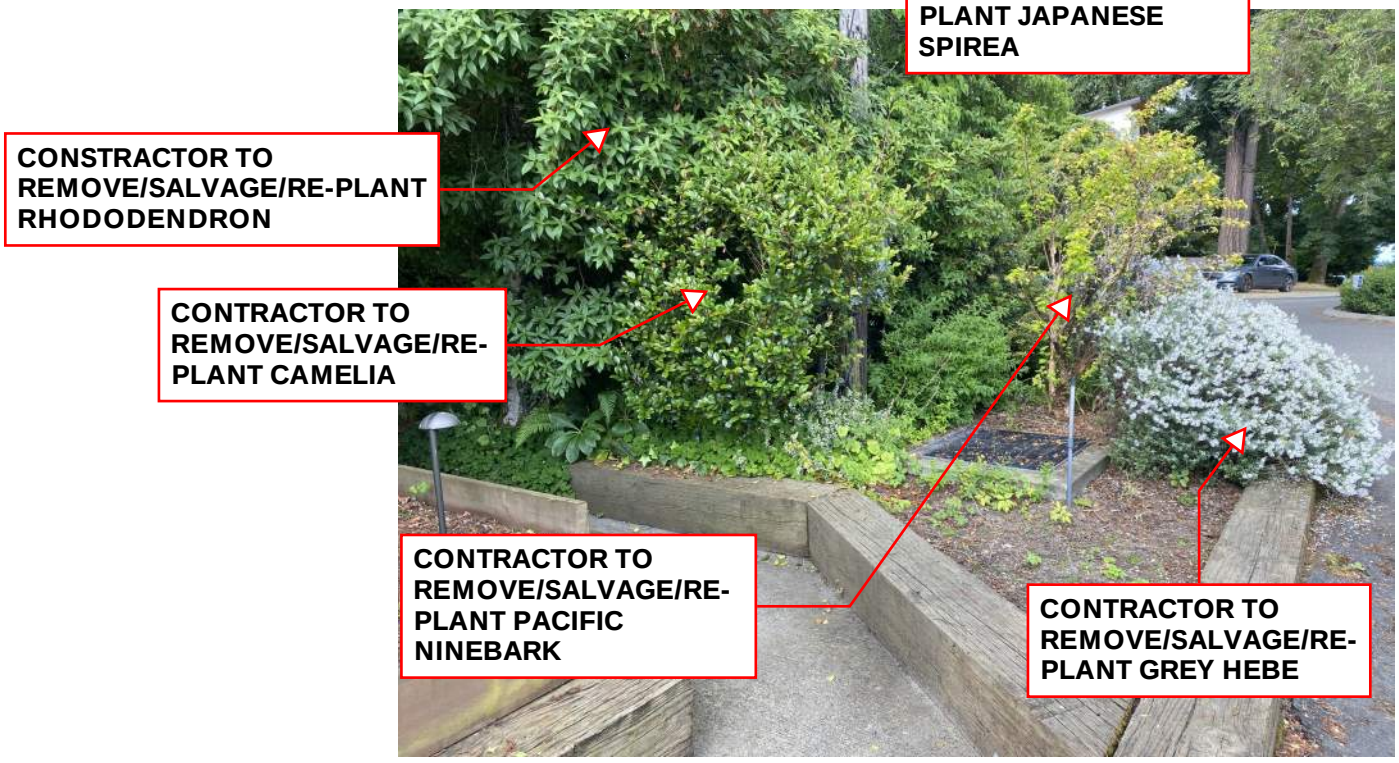
2" GAS IN 4" PVC



2" GAS IN 4" PVC

FIRST HILL BOOSTER PUMP STATION GENERATOR REPLACEMENT
TREE AND PLANTINGS EXHIBIT





REV.18JULY.2025

Area: Mercer Island

Status:

DocID 13828

Source: City of Mercer Island DSG-Archives

Local ID#1: 1376

Local ID#2:

Site Address 2976 74th Ave SE

Date Copied: 10/28/04 By: PTI

- ☒ **Title page with the following information:**
  - o *Company (Author) name*
  - o *Report date*
  - o *Project Name*
  - o *Company's job number*
  - o *Site address*
- ☒ Executive Summary / Introduction of the report
- ☐ Table of contents
- ☒ Project Location Map / Vicinity Map
- ☒ **Site / Exploration Plans, Boring Location Plans**
- ☐ Cross-sections / Subsurface profiles
- ☒ **Exploration Logs**
- ☐ Monitoring Well Logs
- ☐ Cone Penetrometer Logs
- ☐ Groundwater Elevation Tables / Data

- ☐ Includes data from Previous Reports
- ☐ No new data /data review
- ☐ Missing Data /Illegible Data
  Explanation _____

Comments: _____

ArcView RW Layers RW

Checked RW Checked AF

HARTCROWSER

Earth and Environmental Technologies

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699
FAX 206.328.5581
206.324.9530

J-2347

February 24, 1989

City of Mercer Island
3505 88th Street S.E.
Mercer Island, Washington 98040

Attn: Mr. Dave Torgeson

Re: Preliminary Geotechnical Engineering Design Study
First Hill Booster Pump Station and Reservoir
Mercer Island, Washington

Gentlemen:

This letter report summarizes our subsurface exploration work and preliminary geotechnical engineering recommendations for the above referenced project. The geotechnical work for the project has been accomplished in general accordance with our proposal dated January 12, 1989.

Our work on the project included explorations, laboratory testing, analyses, and development of the preliminary recommendations discussed in this letter report. The subsurface explorations consisted of one hollow-stem auger boring and five test pits that were observed by a geotechnical engineer from our firm. Samples were collected

during the explorations and returned to our laboratory. Moisture contents were determined for all samples. Soil classification data as well as conditions observed in the field were used to estimate soil parameters used for design.

As the project proceeds, we are able to provide final design recommendations for the proposed structures.

This report is prepared for the exclusive use of the City of Mercer Island and its consultants for specific application to the referenced project. Our work has been performed in accordance with generally accepted geotechnical engineering practices in the same or similar localities, related to the nature of the work accomplished at the time the services were performed. No other warranty, express or implied, is made.

SITE AND PROJECT DESCRIPTION

The project site is located at 2976 74th Avenue S.E., on Mercer Island, Washington. The site slopes from west to east with a maximum relief of approximately 15 feet. Vegetation at the site consists of a large area of grass on the east and coniferous and deciduous trees in the southwest and other isolated areas. The west side of the site is currently occupied by a house and a garage. Surface water was not observed at any time during our site visits.

We understand that the pump station will be a below-grade structure located on the southwest portion of the site. The water reservoir will be about 60 feet in diameter with a height of 20 to 22 feet. This tank will be partially below grade. Structural loading on the order of 1,200 to 1,400 psf is anticipated. The tank will be located on the eastern portion of the site.

SUBSURFACE CONDITIONS

The explorations were approximately located as shown on the Site and Exploration Plan, Figure 1. Detailed logs of the explorations are provided on Figures A-2 through A-4. No topographic information was available at the time of this report. In general, the following soil conditions were encountered from the surface downward:

- About 3 feet of loose to medium dense, slightly gravelly, silty SAND;
- Medium dense to very dense, granular soil with interbeds of very stiff, clayey silt from 3 feet to 41 feet below existing ground surface;
- Hard silt (encountered at 41 feet below grade).

Groundwater was encountered in the hollow-stem auger boring at a depth of approximately 10-1/2 feet. The test pit explorations were discontinued at a depth of 10 feet without

groundwater seepage being observed. The groundwater observed may represent a "perched" condition where the vertical flow of the surface water is impeded by the relatively impermeable silt. Groundwater may also be present in cleaner zones of the underlying silty, gravelly sand. It should be noted that groundwater levels may fluctuate with seasonal variations in the rainfall, temperature, and other factors.

PRELIMINARY GEOTECHNICAL ENGINEERING RECOMMENDATIONS

We consider suitable bearing materials for support of shallow footings and slab-on-grade construction to be the medium dense soils below 3 feet for the pump station and the dense to very stiff soils for the tank.

Site Preparation

We recommend the following:

- Clear and strip the surficial organics (trees and grass) and waste this material from the site, or use it as landscaping material.

- Anticipate difficult excavation conditions due to the dense nature of the soils with depth.

- For planning purposes, anticipate open cut excavations using a slope configuration of 1H:1V (Horizontal:

Vertical) or flatter. This assumes there is no interference with existing structures or utilities.

- Anticipate groundwater seepage into excavations that are 10 or more feet deep and provide adequate dewatering provisions (sump pumps, trenches, etc.) to maintain a dry subgrade.

- A working surface may be necessary at the tank location given that portions of the site soils contain a high percentage of "fines" and may be susceptible to disturbance.

- The variable fines content of on-site soils make them generally unsuitable for use as structural fill during wet weather or as drainage material. However, final assessment of the suitability of on-site soils for use as fill can be made when grading plans are provided.

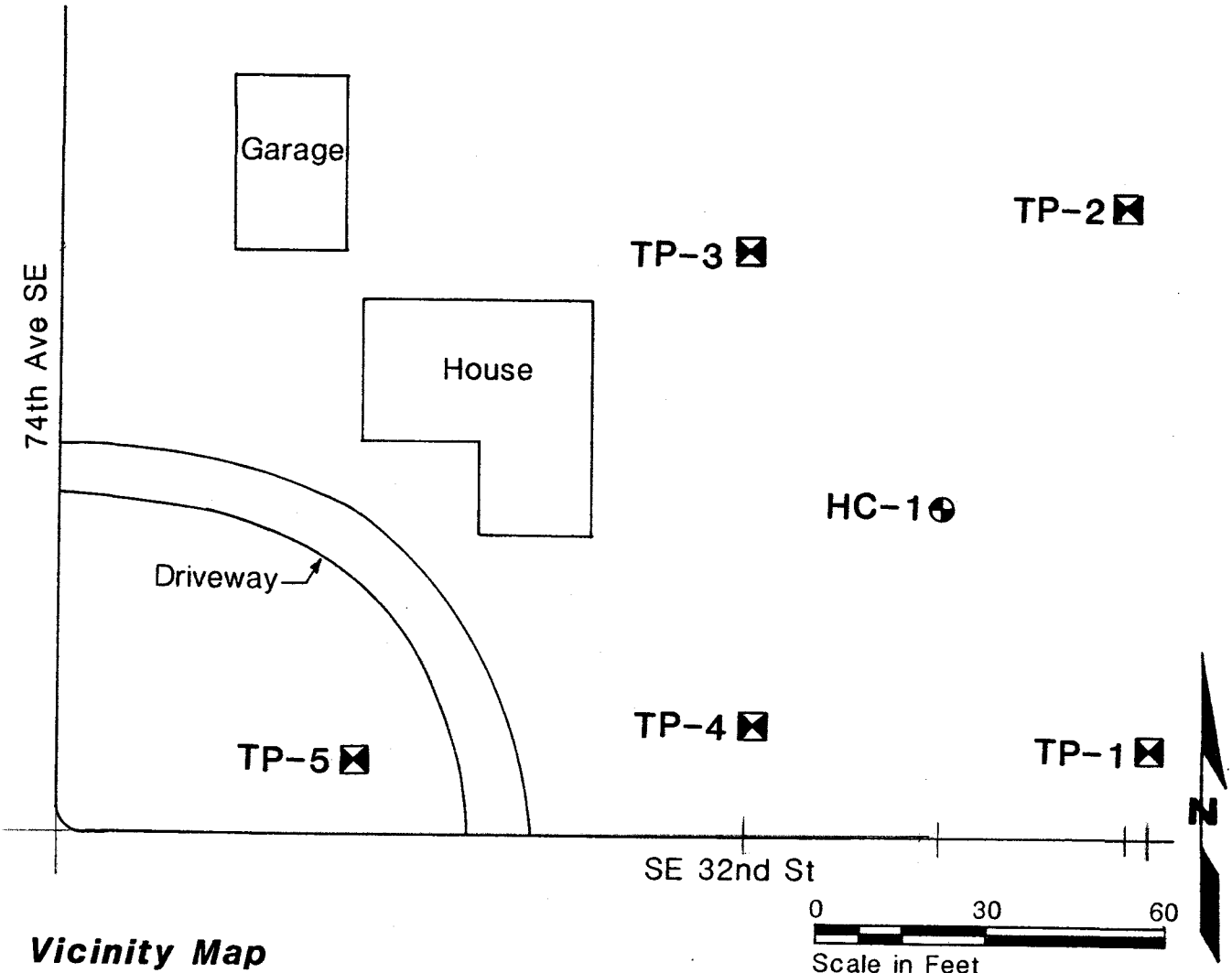
Foundation Recommendations

For foundation support of the proposed structures:

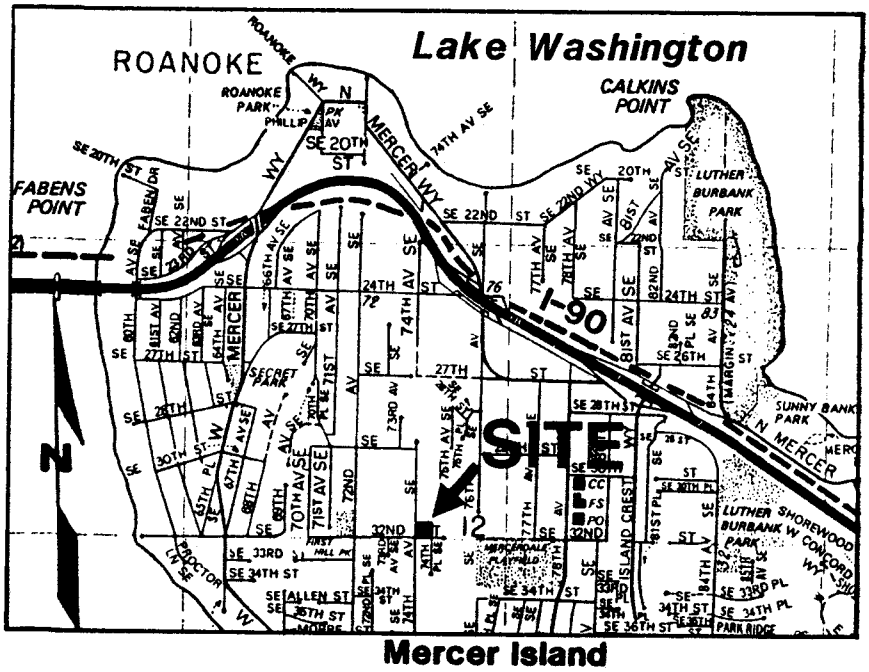
- Found shallow footings in medium dense to dense or very stiff, undisturbed site soils.

- Use an allowable soil bearing pressure of 4,000 pounds per square foot. Higher pressures may be appropriate once final subgrade elevations have been determined for the structures.

Site and Exploration Plan



Vicinity Map



Exploration Location and Number

HC-1 Boring

TP-3 Test Pit

Note: Locations of site features and explorations are approximate.

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J-2347 2/89

Figure 1

Key to Exploration Logs

Sample Descriptions

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND or GRAVEL Density	Standard Penetration Resistance in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance in Blows/Foot	Approximate Shear Strength in TSF
Very loose	0 - 4	Very soft	0 - 2	<0.125
Loose	4 - 10	Soft	2 - 4	0.125 - 0.25
Medium dense	10 - 30	Medium stiff	4 - 8	0.25 - 0.5
Dense	30 - 50	Stiff	8 - 15	0.5 - 1.0
Very dense	>50	Very stiff	15 - 30	1.0 - 2.0
		Hard	>30	>2.0

Moisture

Dry	Little perceptible moisture
Damp	Some perceptible moisture, probably below optimum
Moist	Probably near optimum moisture content
Wet	Much perceptible moisture, probably above optimum

Minor Constituents

	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Sampling

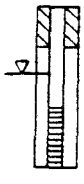
BORING SAMPLES

- Split Spoon
- Shelby Tube
- Cuttings
- Core Run
- * No Sample Recovery
- P Tube Pushed, Not Driven

TEST PIT SAMPLES

- Grab (Jar)
- Bag
- Shelby Tube

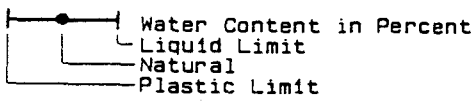
Ground Water Observations



- Surface Seal
- Ground Water Level on Date (ATD) At Time of Drilling
- Observation Well Tip or Slotted Section
- Ground Water Seepage (Test Pits)

Test Symbols

GS	Grain Size Classification
CN	Consolidation
TUU	Triaxial Unconsolidated Undrained
TCU	Triaxial Consolidated Undrained
TCD	Triaxial Consolidated Drained
QU	Unconfined Compression
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture Density Relationship
AL	Atterberg Limits



J-2347 February 1989
HART-CROWSER & associates, inc.
Figure A-1

Boring Log HC-1

Soil Descriptions

Ground Surface Elevation in Feet 0.0

Loose to medium dense, moist, brown, cleon to silty, fine to medium SAND with gravelly zones.

— Becomes wet.

Very stiff, moist, light brown and gray, clayey SILT.

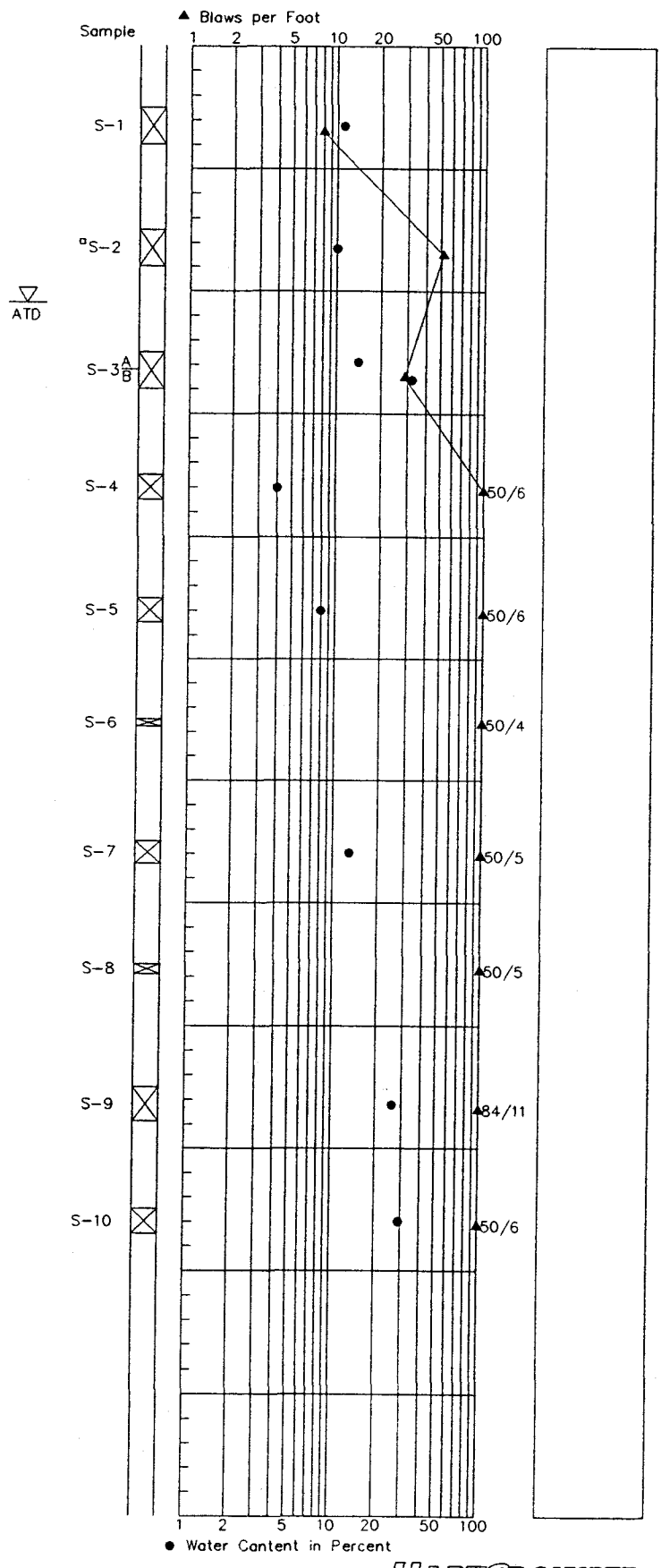
Very dense, moist, brown, silty, gravelly SAND.

— Lens of wet, sandy GRAVEL.

Hard, moist, gray SILT.

Bottom of Boring at 48.5 Feet.
Completed 2/6/89.

[a] High blow count may be due to drilling obstruction, not considered to reflect actual density conditians.



1. Refer to Figure A-1 far explanatian of descriptians and symbals.
2. Soil descriptians and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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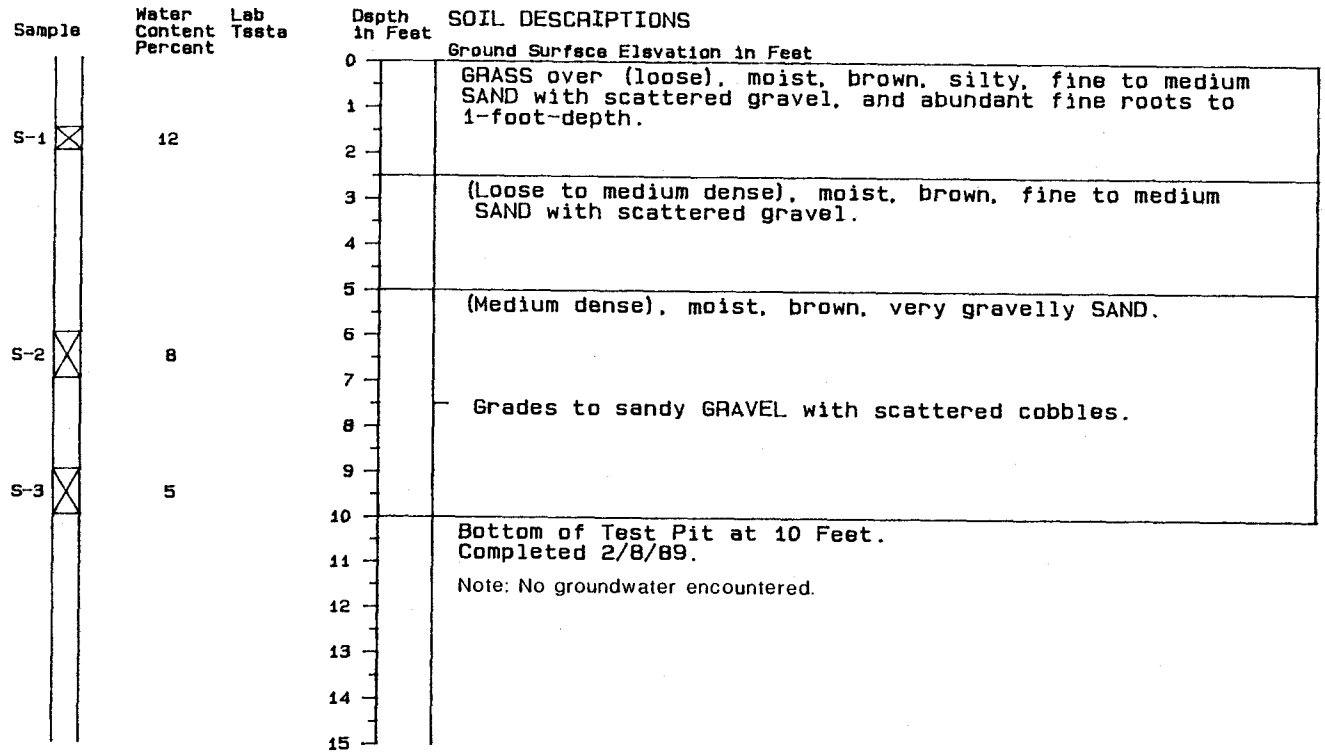
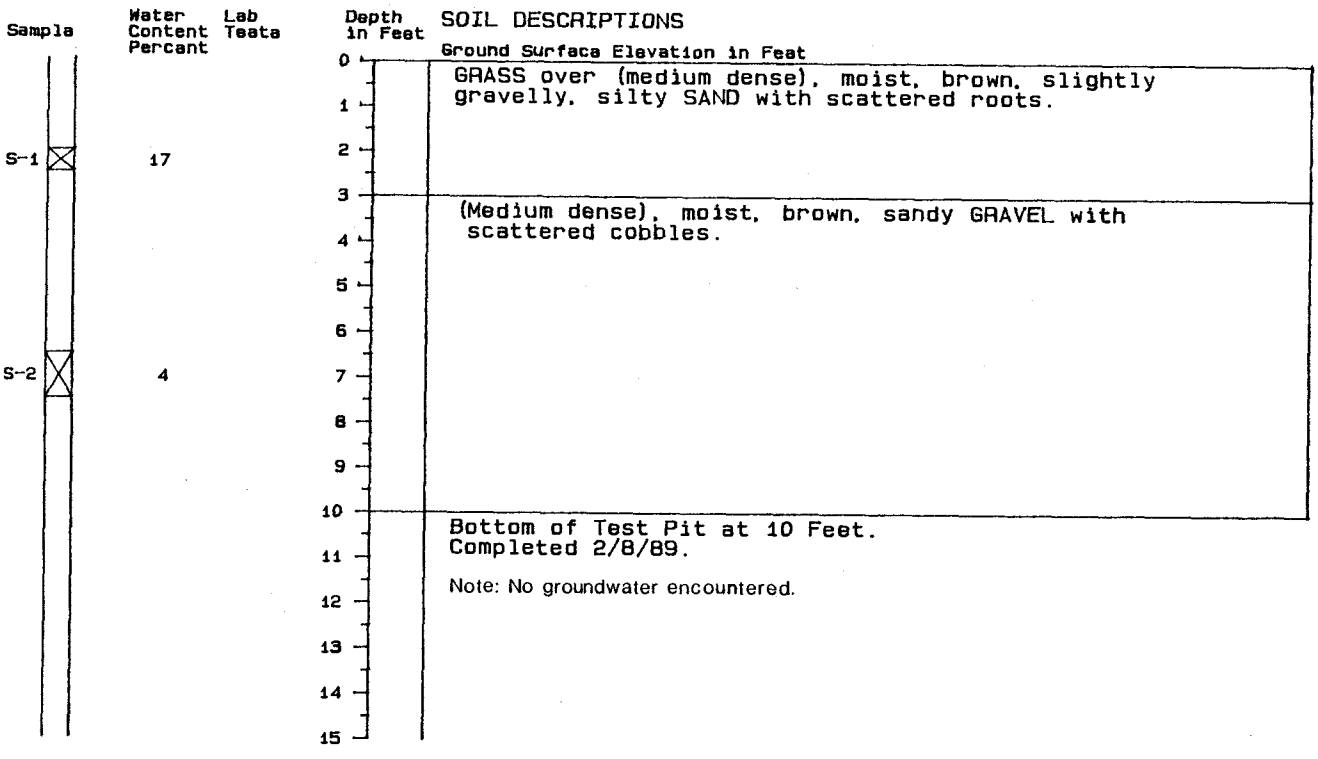
Figure A-2 1/1

Test Pit Log TP-1



Test Pit Log TP-2



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water conditions, if indicated, are at time of excavation. Conditions may vary with time.

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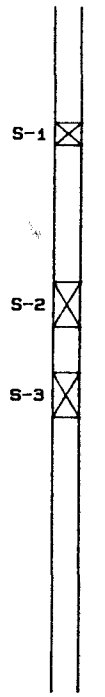
Figure A-3

Test Pit Log TP-3



Water Content Percent	Lab Tests
14	
6	
15	

Depth in Feet

SOIL DESCRIPTIONS

Ground Surface Elevation in Feet

0 – GRASS over (medium dense), moist to wet, brown, slightly gravelly, silty SAND with scattered roots.

4 – (Medium dense), moist, brown, very gravelly SAND.

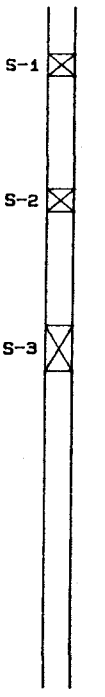
5 – Grades to sandy GRAVEL with scattered cobbles.

7 – (Dense), moist, brown, slightly silty, fine to medium SAND.

10 – Bottom of Test Pit at 10 Feet.
Completed 2/8/89.

Note: No groundwater encountered.

Test Pit Log TP-4



Water Content Percent	Lab Tests
19	
14	
3	

Depth in Feet

SOIL DESCRIPTIONS

Ground Surface Elevation in Feet

0 – GRASS over (medium dense), moist to wet, gray-brown, slightly gravelly, silty SAND with scattered roots.

3 – (Medium dense), moist, brown-grey, slightly grevelly, silty SAND.

4 – (Medium dense), moist, gray, slightly gravelly, silty SAND.

6 – (Medium dense), moist, brown, sandy GRAVEL with scattered cobbles.

9 – (Medium dense to dense), moist, brown, slightly silty, fine to medium SAND.

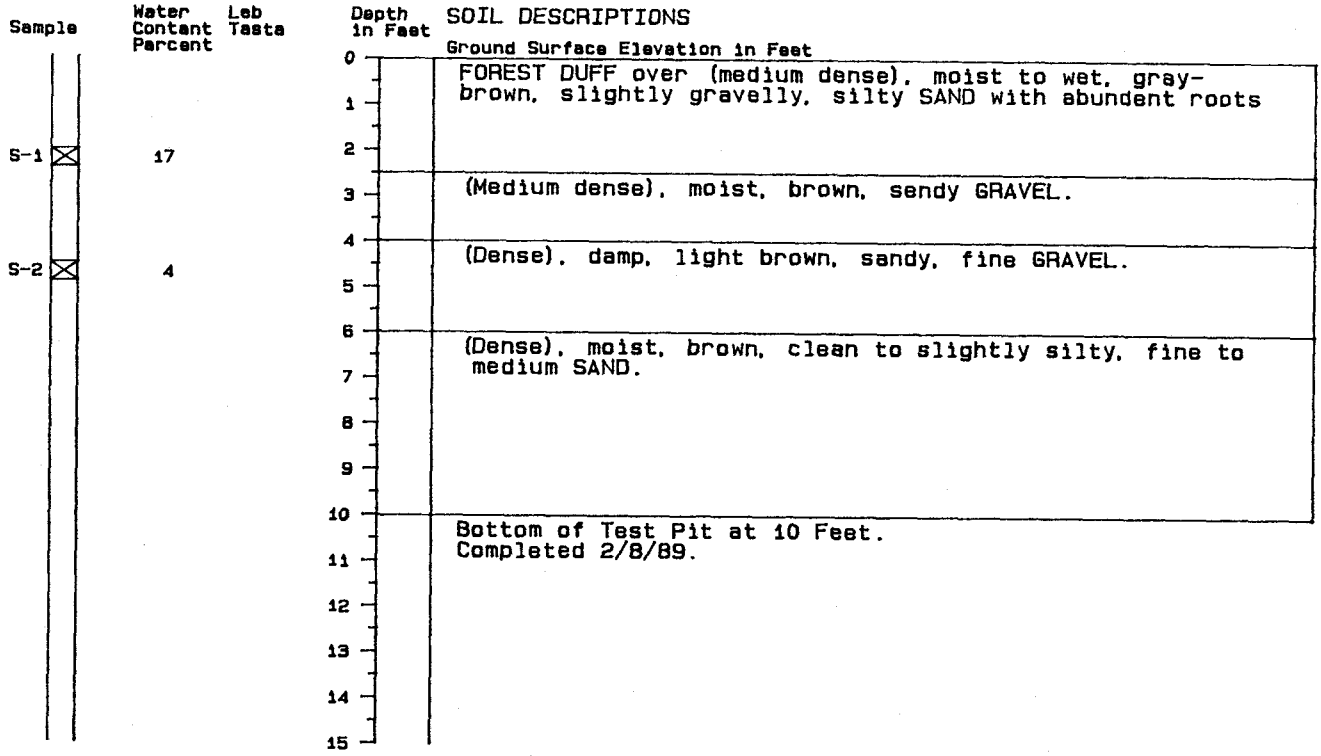
10 – Bottom of Test Pit at 10 Feet.
Completed 2/8/89.

Note: Slight caving below 5-1/2-foot-depth.
No groundwater encountered.

1. Refer to Figure A-1 for explenetion of deecriptione end eymbole.
2. Soil deecriptione end etretum linee are interpretive end actual chengee mey be greduel.
3. Ground weter conditione, if indicated, are et time of excevation. Conditione mey very with time.

J-2347 February 1989
HART-CROWSER & associates, inc.
Figure A-4

Test Pit Log TP-5



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water conditions, if indicated, are at time of excavation. Conditions may vary with time.

J-2347 February 1989
HART-CROWSER & associates, inc.
Figure A-5

associated earth sciences incorporated

May 29, 2014
Project No. KE140289A

JayMarc Homes, LLC
7525 SE 24th Street, Suite 487
Mercer Island, Washington 98040

Attention: Mr. Gary Upper

Subject: Limited Subsurface Exploration and Infiltration Study
Mercer Island Property
7244 SE 32nd Street
Mercer Island, Washington

Dear Mr. Upper:

Associated Earth Sciences, Inc. (AESI) is pleased to present this letter providing the results of our limited subsurface exploration and infiltration study for the above-referenced project. For our use in preparing this letter, we have been provided with an undated survey, prepared by JayMarc Homes, LLC, that shows the subject property and the proposed residence.

This letter has been prepared for the exclusive use of JayMarc Homes, LLC, and its agents for specific application to this project. Within the limitations of scope, schedule, and budget, our services have been performed in accordance with generally accepted geotechnical engineering practices in effect in this area at the time our letter was prepared. No other warranty, express or implied, is made.

SITE AND PROJECT DESCRIPTION

The subject site is located at 7244 SE 32nd Street in Mercer Island, Washington (Figure 1). The property consists of an approximately 0.34-acre, rectangular parcel (King County Parcel No. 5315100776). The ground surface at the proposed building site is generally level. The site is predominantly grass-covered, with a few trees, and is bordered on the north, east, and west sides by existing single-family residential properties, and on the south by SE 32nd Street.

The proposed project consists of building a new single-family residence on the subject parcel. We understand that an infiltration system is currently proposed to handle stormwater collected from the rooftop. We understand that the City of Mercer Island stormwater regulations refer

to the 2005 edition of the Washington State Department of Ecology's (Ecology's) *Stormwater Management Manual for Western Washington* (Ecology Manual) for the handling of rooftop downspout flows. Based on the Ecology Manual, downspout infiltration is considered feasible in "outwash type soils."

The purpose of this study was to document subsurface conditions at the proposed location of the infiltration system. This study included documenting near-surface soil and ground water conditions in three exploration pits completed using an excavator, and grain-size analyses of samples obtained from the pits of the potential receptor soil horizons. An AESI staff geologist logged the soil conditions in each exploration pit.

SUBSURFACE CONDITIONS

Exploration pits EP-1, EP-2, and EP-3 were completed to respective depths of approximately 10, 9.5, and 9.5 feet below ground surface at the approximate locations shown on the "Site and Exploration Plan," Figure 2. Detailed exploration logs are attached to this letter.

All exploration pits encountered approximately 0.25 feet of topsoil and 0.75 to 1.25 feet of fill material over medium dense to dense, brownish gray, moist, silty fine to coarse sand to gravelly sand, trace cobble, which we interpreted to be advance outwash. At exploration pit EP-3, a silt layer was encountered at 3.25 to 3.5 feet below ground surface.

Ground water seepage was not encountered in any exploration pits. It should be noted that the depth of occurrence of ground water seepage may vary in response to changes in season, amount of precipitation, and site use. Exploration for this study was conducted during the month of May.

LABORATORY GRAIN-SIZE ANALYSES

We obtained representative samples from the exploration pits and performed grain-size analyses on samples collected from EP-1, EP-2, and EP-3 at respective depths of approximately 10, 5, and 6 feet below ground surface. The grain-size analysis test results (attached) indicate that the soils encountered correlate with a "sand" classification, based on the United States Department of Agriculture's (USDA's) textural triangle.

CONCLUSIONS AND RECOMMENDATIONS

In the area of the proposed infiltration system, the project site appears to be underlain by Vashon advance outwash soils, with a limited amount of near-surface topsoil and fill. We understand that the City of Mercer Island stormwater regulations currently refer to the 2005 Ecology Manual, and that the City also encourages Low Impact Development (LID) techniques. Based on the grain-size analysis and the subsurface conditions encountered at the

proposed infiltration system location, it is our opinion that stormwater can be mitigated using infiltration.

In accordance to Volume 2, Section 3.1.1, and Figure 3.4 of the Ecology Manual, gravel-filled drywells, designed for 1,000 square feet of impervious surface for medium soils, should be constructed with a minimum diameter of 48 inches and to a depth of 5 feet (4 feet of gravel and 1 foot of suitable cover material). In accordance to the Ecology Manual, a minimum of 3 feet of separation is required between permeable soils from the proposed final grade to the seasonal high ground water table while a minimum of 1 foot of separation is required from the drywell bottom to the seasonal high ground water table (or impermeable soil layers). Based on our explorations, we recommend that the bottom of the drywell at exploration pit EP-3 be extended below the silt layer encountered at 3.25 and 3.5 feet below ground surface.

CLOSURE

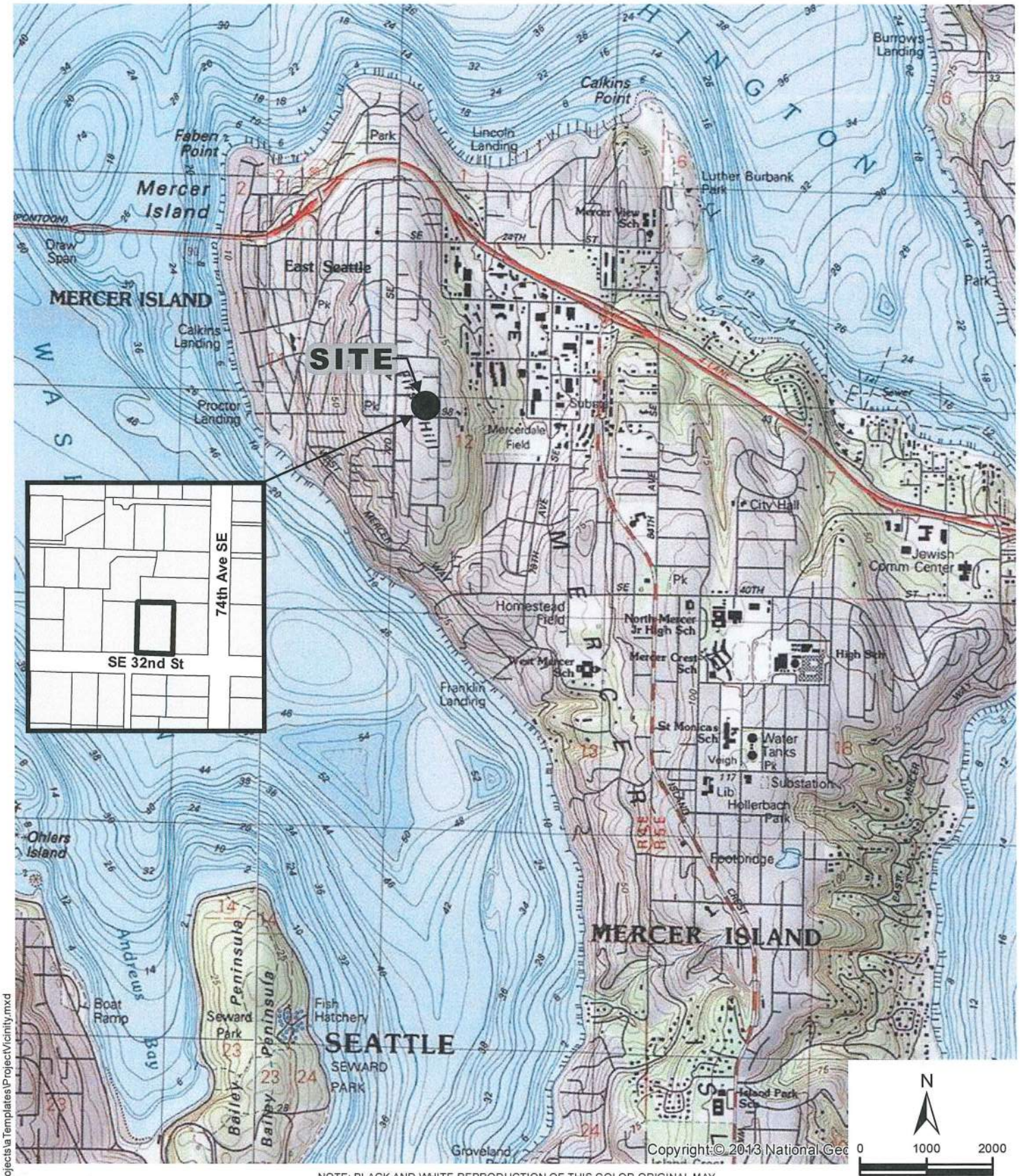
We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this letter or other geotechnical aspects of the project, please call us at your earliest convenience.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

Lam S. Nguyen, G.I.T.
Staff Geologist

Kurt D. Merriman, P.E.
Senior Principal Engineer

Attachments:
Figure 1: Vicinity Map
Figure 2: Site and Exploration Plan
Figure 3: Figure 3.4 from the *2005* Ecology *Stormwater Management Manual for Western Washington*
Exploration Logs
Grain-Size Analyses



REFERENCE: USGS

NOTE: BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

Document Path: H:\GIS_Projects\a Templates\Project\Vicinity.mxd

associated earth sciences incorporated

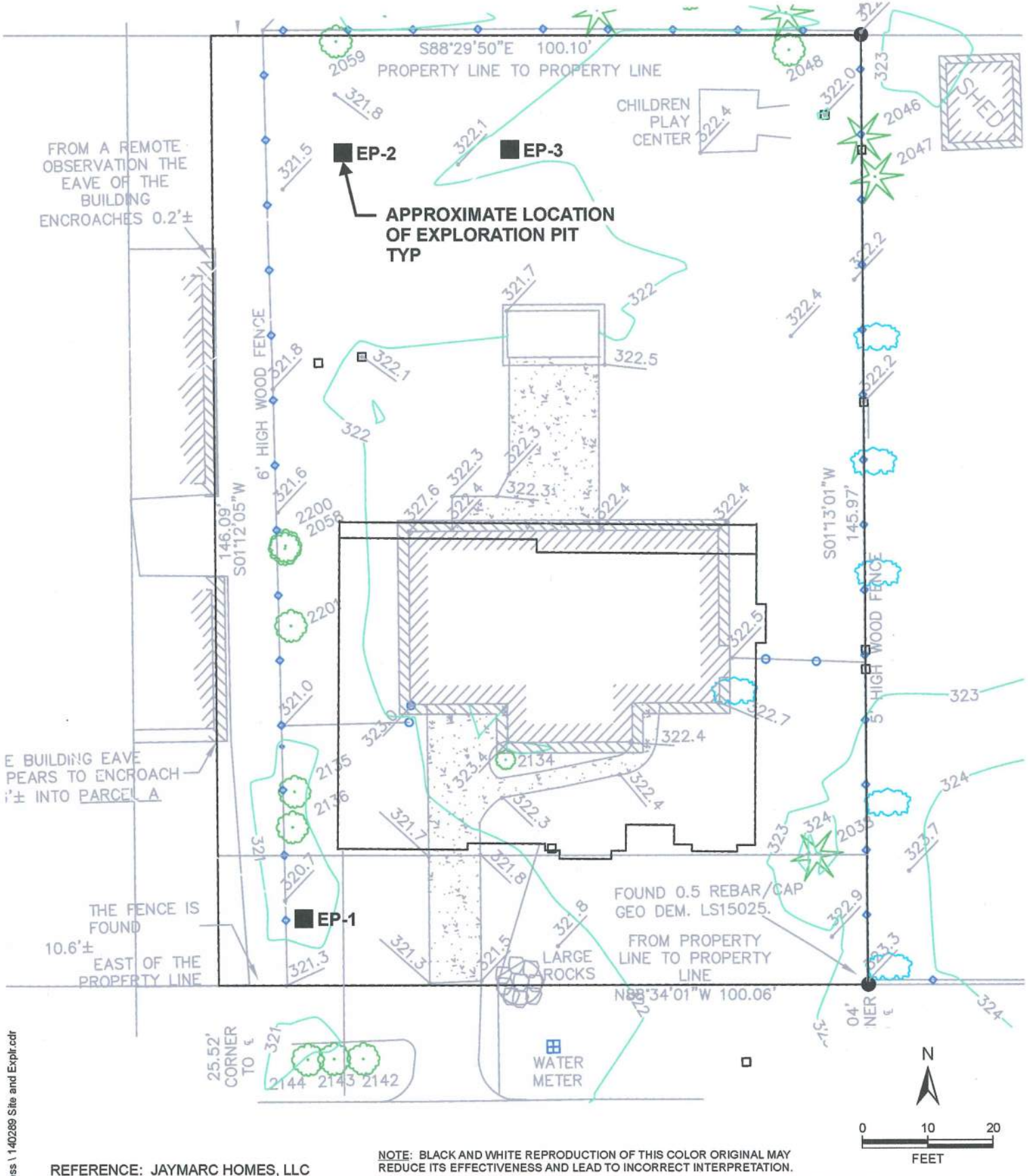
VICINTY MAP

INFILTRATION ASSESSMENT
MERCER ISLAND, WASHINGTON

FIGURE 1

DATE 5/14

PROJ. NO. kE140289A



REFERENCE: JAYMARC HOMES, LLC

NOTE: BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

associated earth sciences incorporated

SITE AND EXPLORATION PLAN

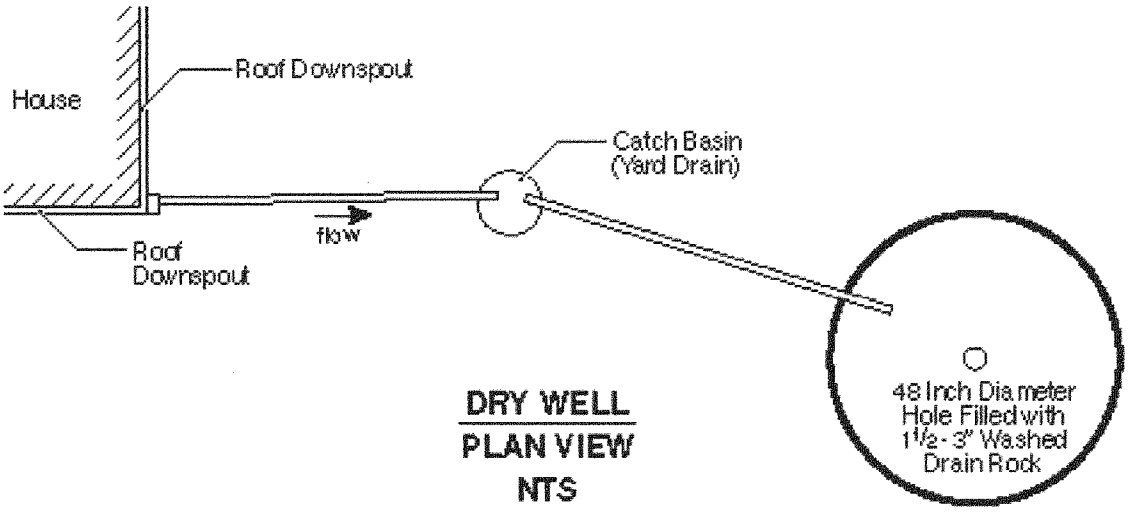
INFILTRATION ASSESSMENT
MERCER ISLAND, WASHINGTON

FIGURE 2

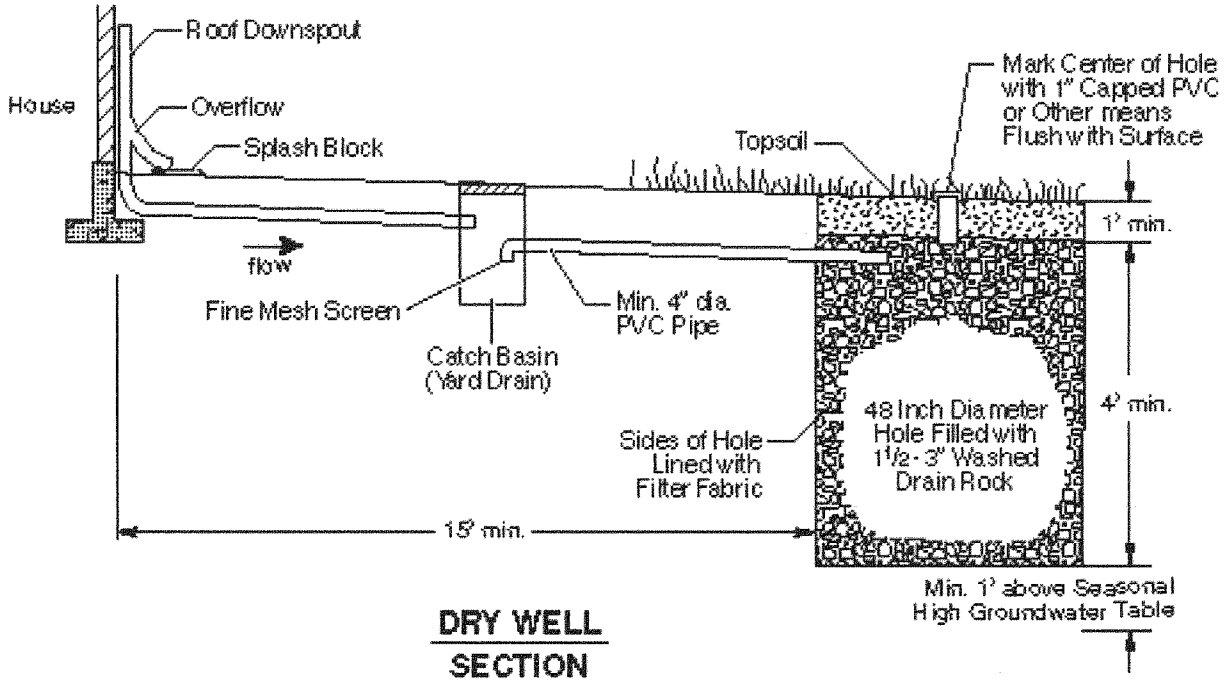
DATE 5/14

PROJ. NO. KE140289A

140289 Infiltration Assess \ 140289 Site and Expl.cdr



DRY WELL
PLAN VIEW
NTS



DRY WELL
SECTION
NTS

REFERENCE: ECOLOGY SWMM, WESTERN WA 2005

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines[5]	GW	Well-graded gravel and gravel with sand, little to no fines
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≥15% Fines[5]	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines[5]	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≥15% Fines[5]	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and clayey sand with gravel
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

Coarse-Grained Soils	Density	SPT[2] blows/foot
	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50

Fine-Grained Soils	Consistency	SPT[2] blows/foot
	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Chemical
DD = Dry Density
K = Permeability

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	Smaller than No. 200 (0.075 mm)

[3] Estimated Percentage

Component	Percentage by Weight
Trace	<5
Few	5 to 10
Little	15 to 25
With	- Non-primary coarse constituents: ≥ 15% - Fines content between 5% and 15%

Moisture Content

Dry - Absence of moisture, dusty, dry to the touch

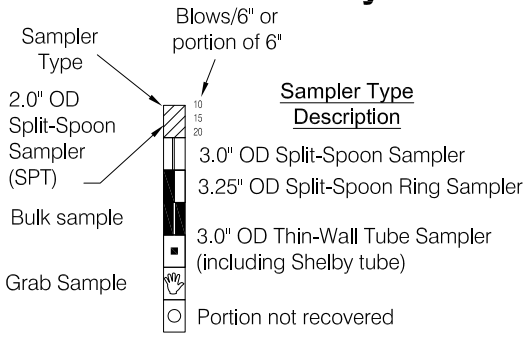
Slightly Moist - Perceptible moisture

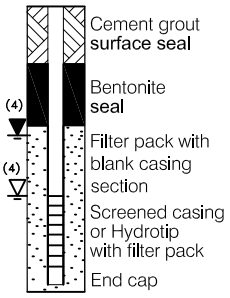
Moist - Damp but no visible water

Very Moist - Water visible but not free draining

Wet - Visible free water, usually from below water table

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of ground water
▼ ATD = At time of drilling
▽ Static water level (date)
(5) Combined USCS symbols used for fines between 5% and 15%

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.

Associated Earth Sciences, Inc.

EXPLORATION LOG KEY

FIGURE A1

LOG OF EXPLORATION PIT NO. EP-1

Depth (ft)	DESCRIPTION
	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.
1	**Topsoil**
2	**Fill (?)** Loose to medium dense, moist, oxidized (?) brownish orange, silty fine to medium SAND, trace gravel, occasional silt clasts in spoils pile, occasional fine roots; massive (SP-SM).
3	**Vashon Advance Outwash** Medium dense to dense, moist, brownish gray, medium to coarse SAND, with gravel, few fine sand, trace cobbles, trace silt; slightly crossbedded (SP).
4	
5	
6	
7	
8	
9	Medium dense to dense, moist, brownish gray, silty fine to medium SAND, few gravel, trace cobbles; slightly crossbedded (SP-SM).
10	
11	Bottom of exploration pit at depth 10 feet No seepage. Minor caving between 1.5 to 8.5 feet.
12	
13	
14	
15	
16	
17	
18	
19	
20	

KCTP3 140289.GPJ May 23, 2014

Infiltration Assessment
Mercer Island, WA

Logged by: LSN

Approved by:

Associated Earth Sciences, Inc.

Project No. KE140289A

5/15/14

LOG OF EXPLORATION PIT NO. EP-2

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

Depth (ft)	DESCRIPTION
1	**Topsoil**
2	**Fill (?)** Loose to medium dense, moist, oxidized (?) brownish orange, silty fine to medium SAND, trace gravel, occasional silt clasts in spoils pile, occasional fine to coarse roots; massive (SP-SM).
3	**Vashon Advance Outwash** Medium dense to dense, moist, brownish gray, silty fine to medium SAND, trace gravel, trace cobbles; slightly crossbedded (SP-SM).
4	
5	
6	Medium dense to dense, moist, brownish gray, fine to medium SAND, with gravel, trace cobbles, trace silt; slightly crossbedded (SP).
7	
8	
9	
10	Bottom of exploration pit at depth 9.5 feet No seepage. Minor caving between 6 to 9.5 feet.
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

KCTP3 140289.GPJ May 23, 2014

Infiltration Assessment
Mercer Island, WA

Associated Earth Sciences, Inc.

Logged by: LSN

Approved by:

Project No. KE140289A

5/15/14

LOG OF EXPLORATION PIT NO. EP-3

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

DESCRIPTION

Topsoil

Fill (?)

Loose to medium dense, moist, oxidized (?) brownish orange, silty fine to medium SAND, trace gravel, occasional silt clasts in spoils pile, occasional fine roots; massive (SP-SM).

Vashon Advance Outwash

Medium dense to dense, moist, brownish gray, fine to medium SAND, few to little gravel, trace cobbles, trace silt; slightly crossbedded (SP).

Very hard, moist, gray, SILT, few fine to coarse sand; diamict (ML).

Dense, moist, brownish gray, sandy GRAVEL, trace to few silt, trace cobbles; slightly crossbedded (GW).

Bottom of exploration pit at depth 9.5 feet
No seepage. Minor caving between 3.5 to 9.5 feet.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

KCTP3 140289.GPJ May 23, 2014

Infiltration Assessment
Mercer Island, WA

Associated Earth Sciences, Inc.

Logged by: LSN

Approved by:

Project No. KE140289A

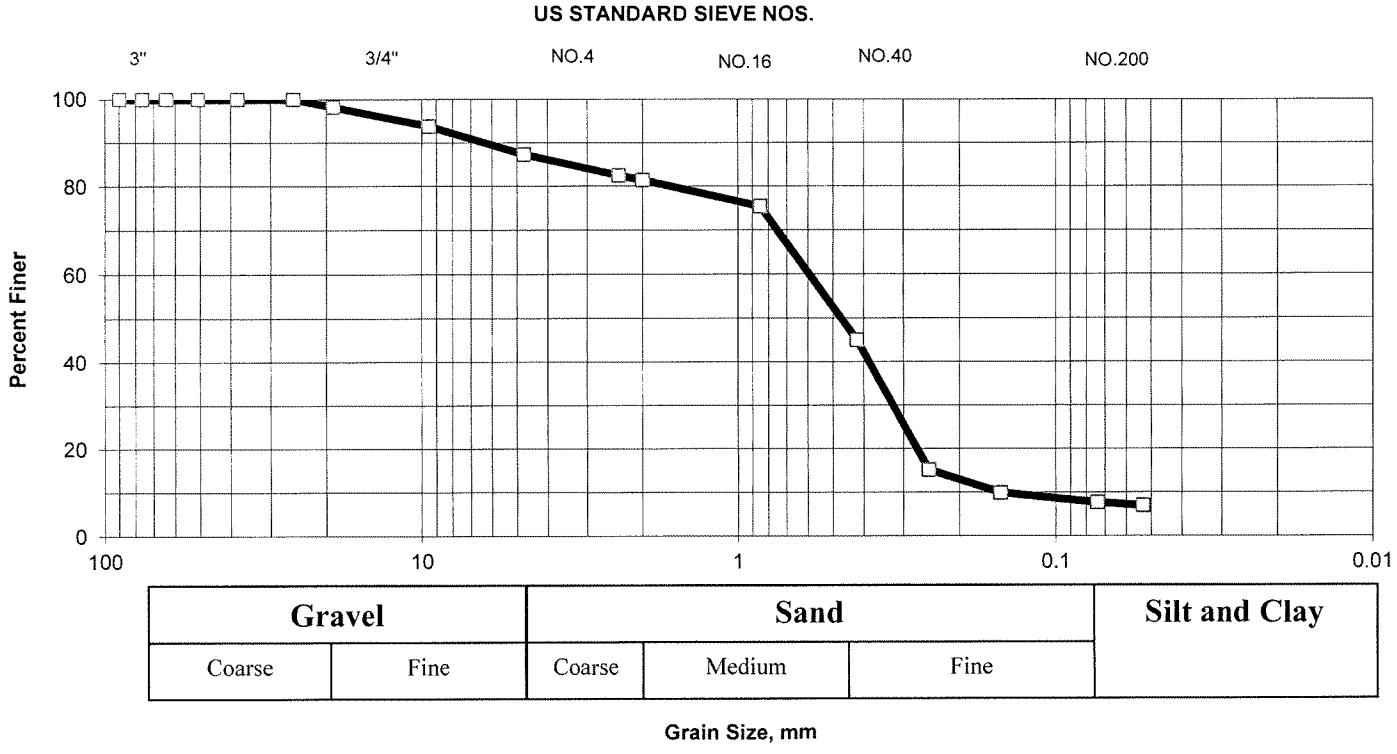
5/15/14

GRAIN SIZE ANALYSIS - MECHANICAL

Date Sampled	Project	Project No.		Soil Description
5/15/2014	**Jay Marc Homes, LLC**	**KE140289A**		**Silty SAND with little gravel**
Tested By	Location	EB/EP No	Depth	Intended Use / Specification
GM	**Onsite**	**EP-1**	**10'**	Infiltration Assessment

Wt. of moisture wet sample + Tare	415.46	Total Sample Tare	309.74
Wt. of moisture dry Sample + Tare	380.61	Total Sample wt + tare	1372.06
Wt. of Tare	101.11	Total Sample Wt	1062.3
Wt. of moisture Dry Sample	279.5	Total Sample Dry Wt	944.5
Moisture %	12%		

					Specification Requirements	
Sieve No.	Diam. (mm)	Wt. Retained (g)	% Retained	% Passing	Minimum	Maximum
3.5	90	0	-	100.00	-	-
3	76.1	0	-	100.00	-	-
2.5	64	0	-	100.00	-	-
2	50.8	0	-	100.00	-	-
1.5	38.1	0	-	100.00	-	-
1	25.4	0	-	100.00		
3/4	19	17.21	1.82	98.18		
3/8	9.51	59.02	6.25	93.75		
#4	4.76	120.1	12.72	87.28		
#8	2.38	165.93	17.57	82.43		
#10	2	175.88	18.62	81.38		
#20	0.85	232.83	24.65	75.35		
#40	0.42	519.84	55.04	44.96		
#60	0.25	801.38	84.84	15.16		
#100	0.149	851.42	90.14	9.86		
#200	0.074	872.31	92.35	7.65		
#270	0.053	878.89	93.05	6.95		

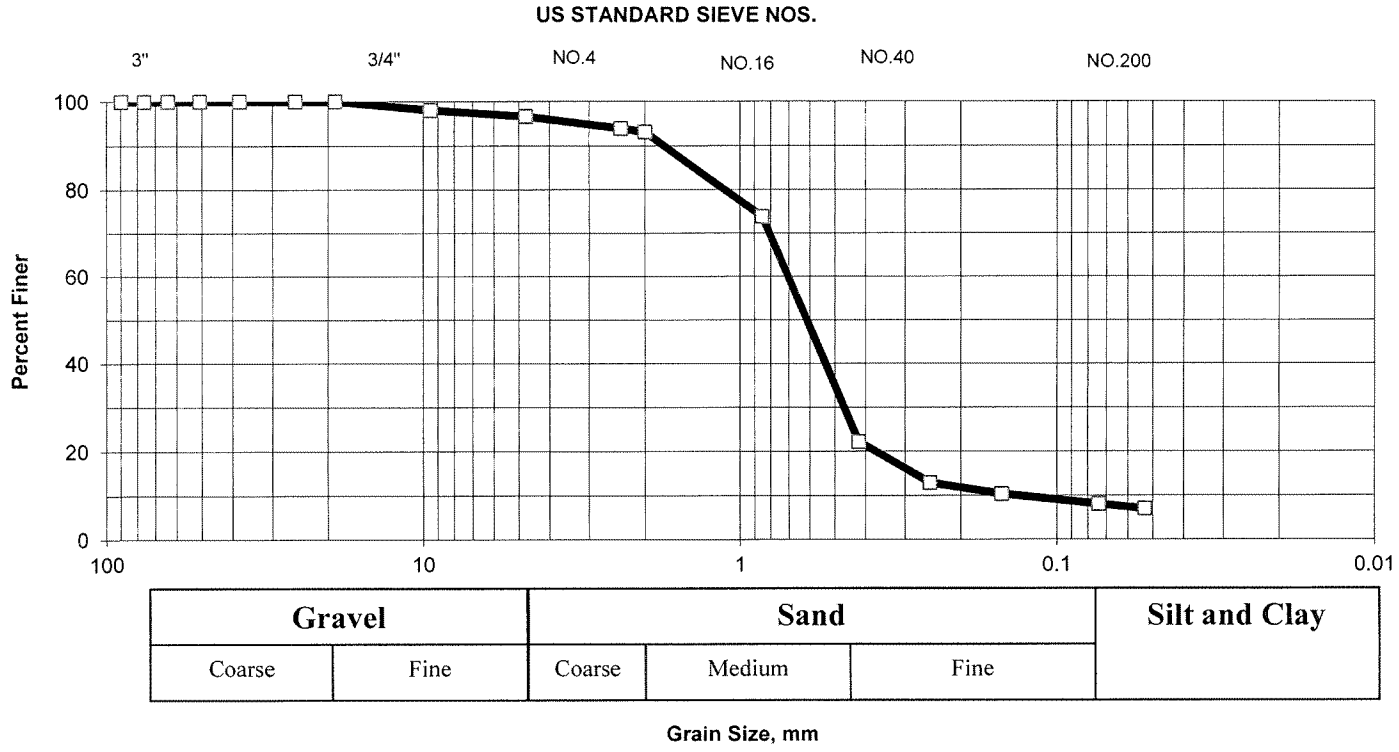


GRAIN SIZE ANALYSIS - MECHANICAL

Date Sampled	Project	Project No.		Soil Description
5/15/2014	**Jay Marc Homes, LLC**	**KE140289A**		**Silty SAND with little gravel**
Tested By	Location	EB/EP No	Depth	Intended Use / Specification
GM	**Onsite**	**EP-2**	**5'**	Infiltration Assessment

Wt. of moisture wet sample + Tare	407.58	Total Sample Tare	343.23
Wt. of moisture dry Sample + Tare	380.51	Total Sample wt + tare	1064.98
Wt. of Tare	97.63	Total Sample Wt	721.8
Wt. of moisture Dry Sample	282.88	Total Sample Dry Wt	658.7
Moisture %	10%		

					Specification Requirements	
Sieve No.	Diam. (mm)	Wt. Retained (g)	% Retained	% Passing	Minimum	Maximum
3.5	90	0	-	100.00	-	-
3	76.1	0	-	100.00	-	-
2.5	64	0	-	100.00	-	-
2	50.8	0	-	100.00	-	-
1.5	38.1	0	-	100.00	-	-
1	25.4	0	-	100.00		
3/4	19	0	-	100.00		
3/8	9.51	13.08	1.99	98.01		
#4	4.76	22.21	3.37	96.63		
#8	2.38	40.13	6.09	93.91		
#10	2	45.34	6.88	93.12		
#20	0.85	172.55	26.19	73.81		
#40	0.42	512.81	77.85	22.15		
#60	0.25	573.86	87.12	12.88		
#100	0.149	590.58	89.66	10.34		
#200	0.074	605.72	91.95	8.05		
#270	0.053	612.72	93.02	6.98		



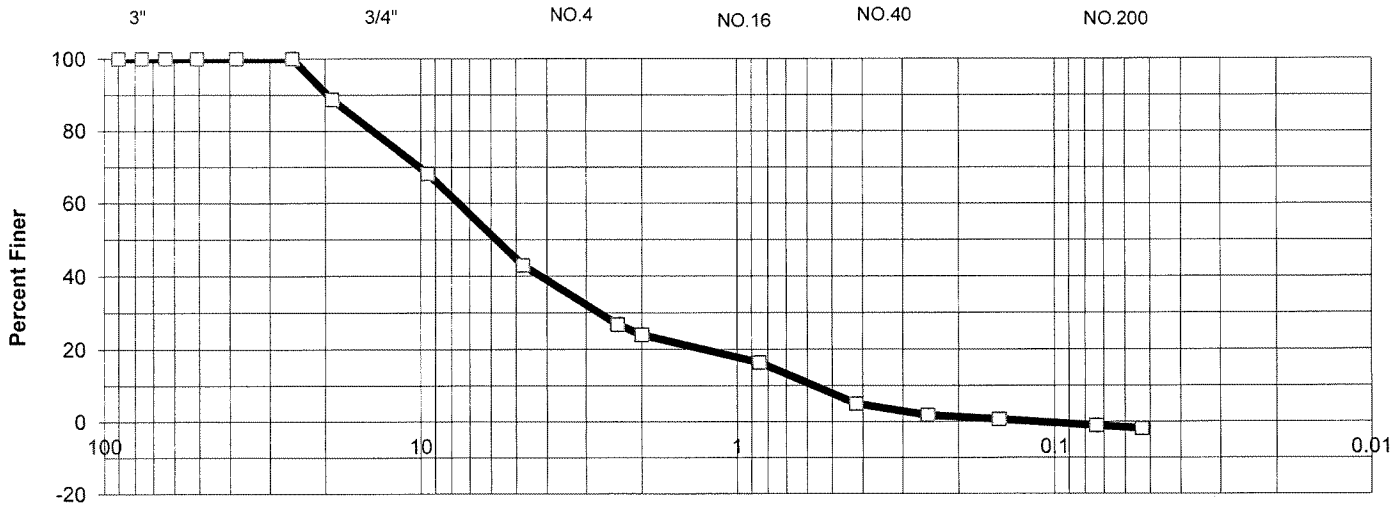
GRAIN SIZE ANALYSIS - MECHANICAL

Date Sampled	Project	Project No.		Soil Description
5/15/2014	**Jay Marc Homes, LLC**	**KE140289A**		**SAND with gravel and little silt**
Tested By	Location	EB/EP No	Depth	Intended Use / Specification
GM	**Onsite**	**EP-3**	**6'**	Infiltration Assessment

Wt. of moisture wet sample + Tare	415.46	Total Sample Tare	518.81
Wt. of moisture dry Sample + Tare	380.61	Total Sample wt + tare	2598.77
Wt. of Tare	101.11	Total Sample Wt	2080.0
Wt. of moisture Dry Sample	279.5	Total Sample Dry Wt	1849.4
Moisture %	12%		

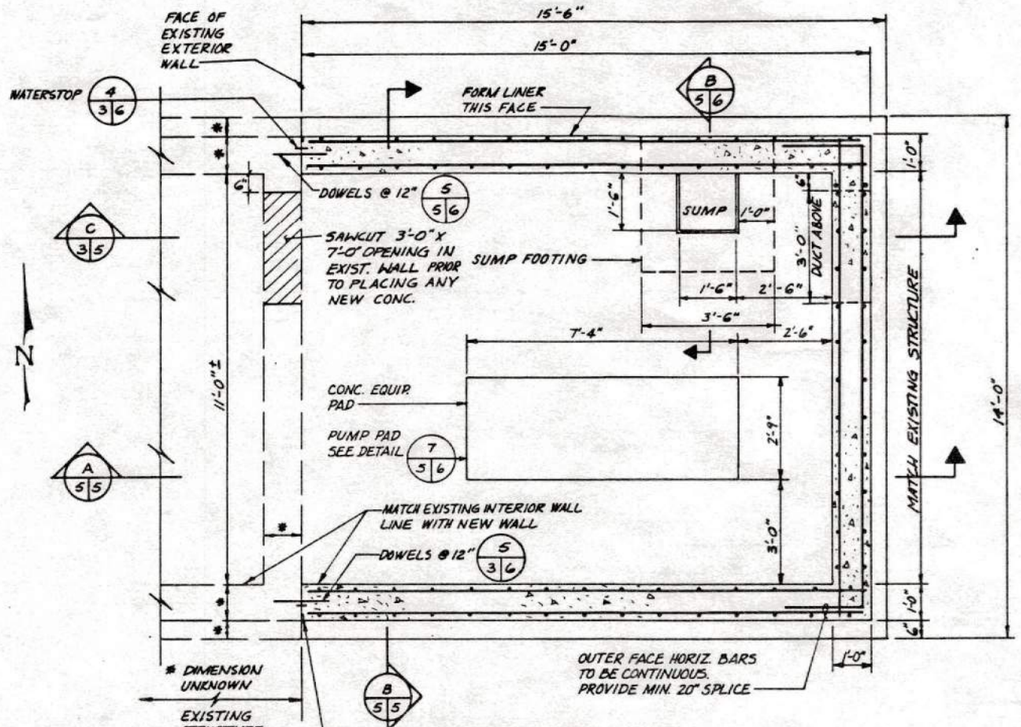
					Specification Requirements	
Sieve No.	Diam. (mm)	Wt. Retained (g)	% Retained	% Passing	Minimum	Maximum
3.5	90	0	-	100.00	-	-
3	76.1	0	-	100.00	-	-
2.5	64	0	-	100.00	-	-
2	50.8	0	-	100.00	-	-
1.5	38.1	0	-	100.00	-	-
1	25.4	0	-	100.00		
3/4	19	209.04	11.30	88.70		
3/8	9.51	588.05	31.80	68.20		
#4	4.76	1055.66	57.08	42.92		
#8	2.38	1354.71	73.25	26.75		
#10	2	1406.32	76.04	23.96		
#20	0.85	1546.92	83.65	16.35		
#40	0.42	1757.77	95.05	4.95		
#60	0.25	1816.64	98.23	1.77		
#100	0.149	1837.27	99.35	0.65		
#200	0.074	1869.8	101.10	(1.10)		
#270	0.053	1884.85	101.92	(1.92)		

US STANDARD SIEVE NOS.

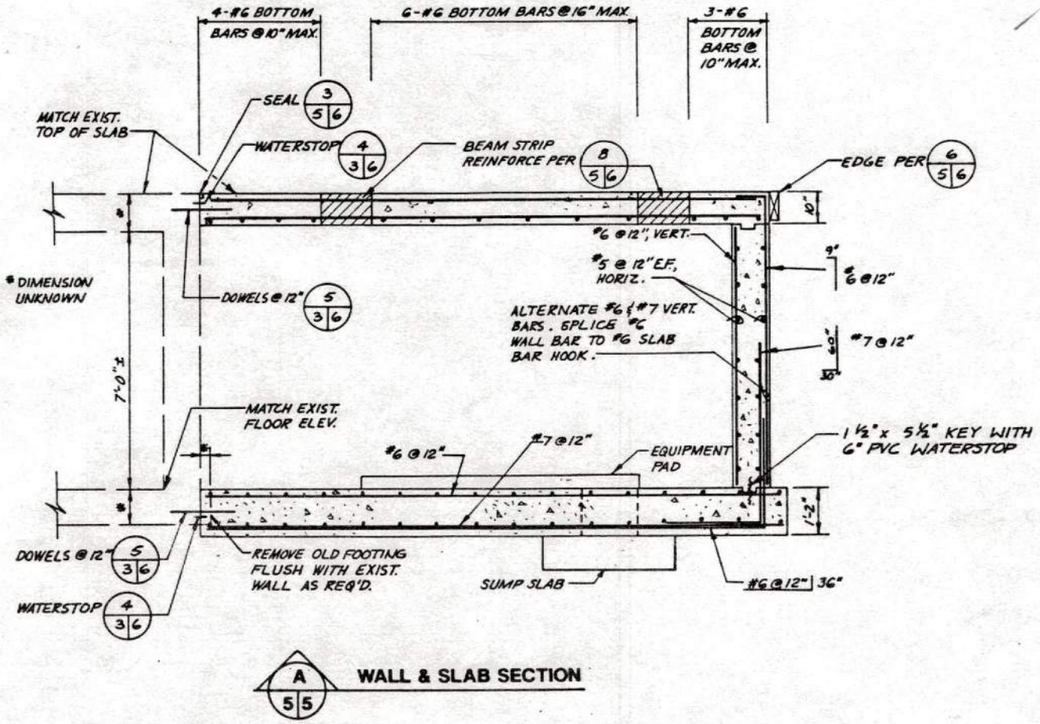


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

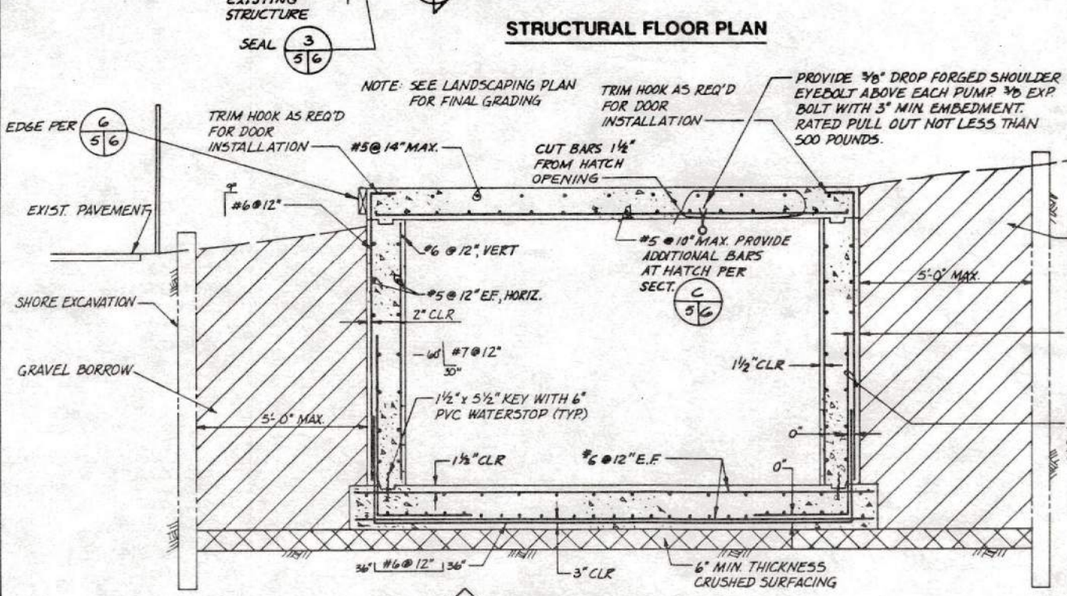
Grain Size, mm



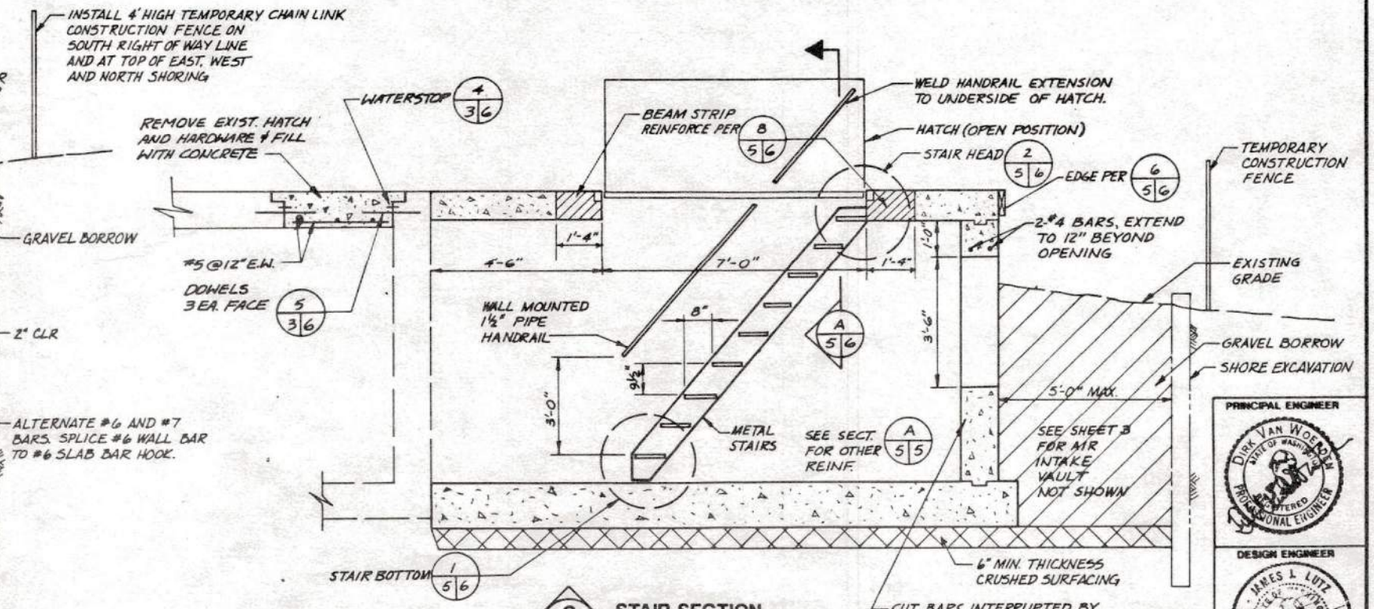
STRUCTURAL FLOOR PLAN



WALL & SLAB SECTION



WALL & SLAB SECTION



STAIR SECTION

PRINCIPAL ENGINEER
DIRK VAN WOERDEN
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

DESIGN ENGINEER
JAMES J. LUTZ
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

No.	Description	By
	REVISION	

Designed JJL | Approved
Drawn MN | Scale 1/2"=1'-0" | Date APRIL 1990
Checked GRN/JMH | Project No. M160502

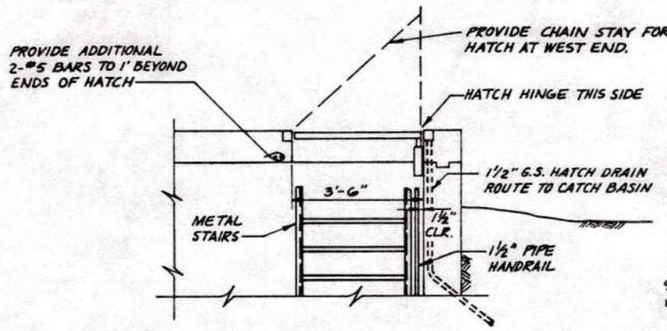
PEI Consulting Engineers and Surveyors
PEI Consultants, Inc.

CITY OF MERCER ISLAND
FIRST HILL PUMP STATION MODIFICATIONS

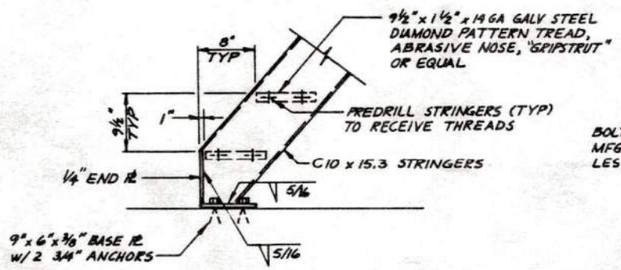
STRUCTURAL PLAN AND SECTIONS

5/12

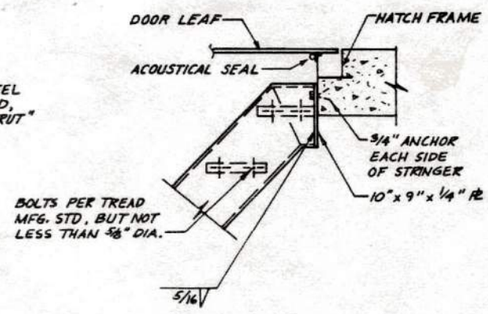
KUHLER-RANKER INC./107679



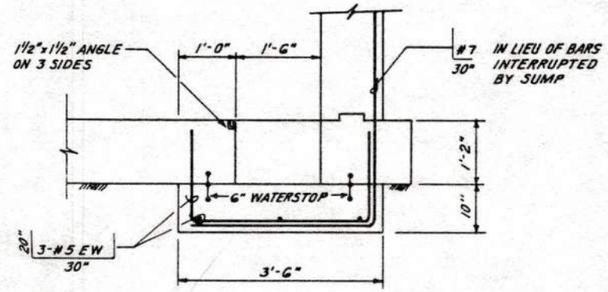
A/5/6 **STAIR SECTION**
1/2" = 1'-0"



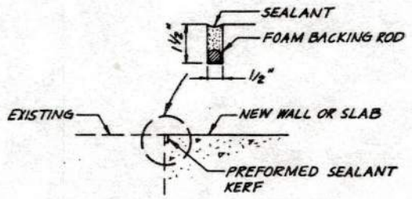
1/5/6 **STAIR BOTTOM DETAIL**
1" = 1'-0"



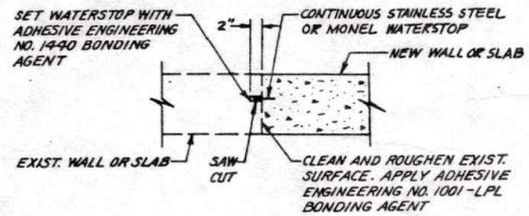
2/5/6 **STAIR HEAD DETAIL**
1" = 1'-0"



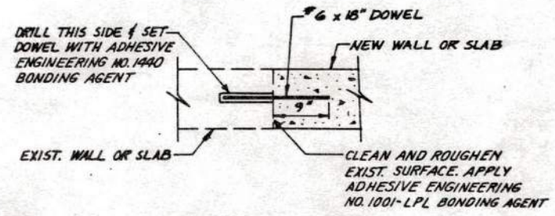
B/5/6 **SUMP FOOTING SECTION**
3/4"=1'-0"



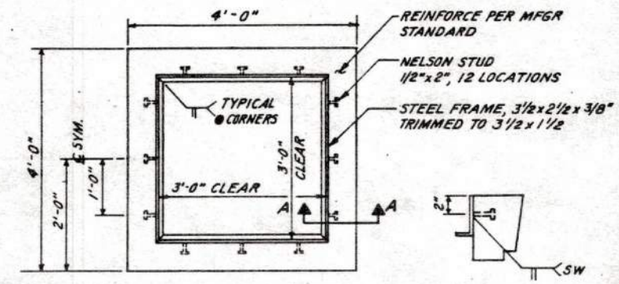
3/5/6 **JOINT SEAL DETAIL**
N.T.S.



4/3/6 **WATERSTOP AT EXIST. STRUCTURE**
N.T.S.

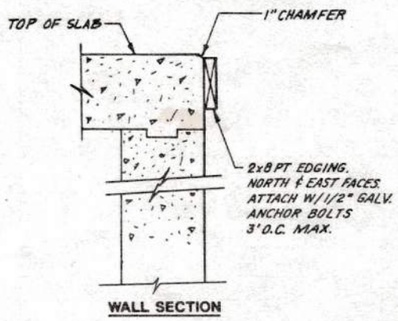


5/3/6 **DOWEL DETAIL**
N.T.S.



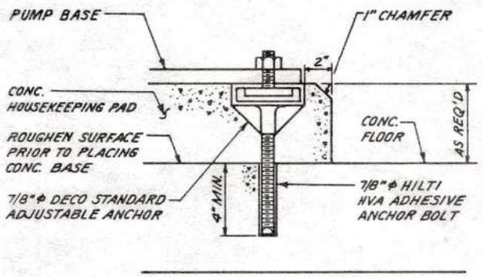
TOP SLAB PLAN

SECTION A-A

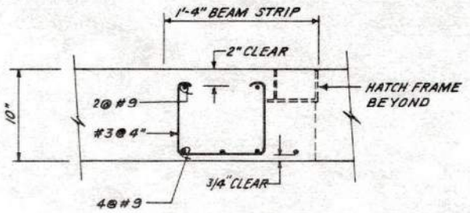


WALL SECTION

6/5/6 **TOP SLAB EDGE DETAIL**
N.T.S.



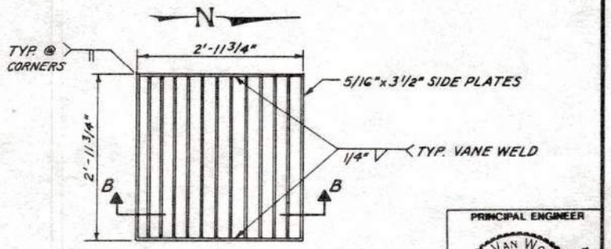
7/5/6 **PUMP PAD DETAIL**
N.T.S.



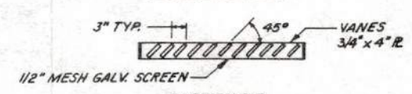
8/5/6 **BEAM STRIP REINFORCEMENT**
1 1/2"=1'-0"

STRUCTURAL NOTES

1. ROOF LIVE LOAD 425 PSF OR 3ᵏ CONCENTRATED FOR NEW ADDITION. EXISTING STRUCTURE LOAD RATING UNKNOWN.
2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS, 4000 PSI.
3. REINFORCING STEEL, GRADE 60.
4. MISCELLANEOUS STEEL, ROLLED SHAPES ASTM A36.
5. WARP WALL REINFORCEMENT TO CLEAR INLET/OUTLET WATER PIPELINES.
6. MINIMUM ANCHOR EMBEDMENT PER 1988 UBC UNLESS OTHERWISE NOTED.



GRATE PLAN



SECTION B-B

9/3/6 **VAULT COVER**
3/4"=1'-0"

PRINCIPAL ENGINEER
DIRK VAN WOERKOM
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

DESIGN ENGINEER
JAMES L. LUTZ
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

Date	No.	Description	By
		REVISION	

Designed JJL | Approved
Drawn MN | Scale AS SHOWN | Date APRIL 90
Checked JJL/JMH | Project No. MI60502

PEI
Consulting Engineers and Surveyors
PEI Consultants, Inc.

CITY OF MERCER ISLAND
FIRST HILL PUMP STATION MODIFICATIONS

STRUCTURAL SECTION AND DETAILS

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