Technical Information Report

Jabooda Homes

3038 61st Ave SE; Mercer Island, WA 98040

The Concept Group

4701 SW Admiral Way, Ste 353 • Seattle, WA 98116 • (206) 581-0853

Technical Information Report

JABOODA HOME

3038 61ST AVE SE
MERCER ISLAND, WA 98040

I certify that this technical information report and all attachments were prepared either by me or my technical staff working directly under my supervision.

Date	Description
January 24, 2022	Original Submission

TABLE OF CONTENTS

MR 1 - STORMWATER SITE PLAN 1

PROJECT OVERVIEW 1
DESIGN STANDARDS 4
OFFSITE ANALYSIS AND MITIGATION 5

MR 2 - SWPPP NARRATIVE 7

CONSTRUCTION SEQUENCE AND PROCEDURE 7

MR 3 - WATER POLLUTION SOURCE CONTROL 8

MR 4 - PRESERVATION OF NATURAL DRAINAGE SYSTEMS AND OUTFALLS, AND PROVISIONS OF OFF-SITE MITIGATION 8

MR 5 - ON-SITE STORMWATER MANAGEMENT 8

Appendix A: Soil Data
Appendix B: Civil Plan Sheets

MR 1 - STORMWATER SITE PLAN

Project Overview

The property is located at 3038 61st Ave SE in the City of Mercer Island, Washington. The property is currently developed with a single-family residence. The project proposes to demolish the existing SFR to construct a new SFR with an attached garage, along with associated utilities and access driveway.

Site Information

Address: 3038 61st Ave SE; City of Mercer Island, WA

Size: 9,000 sq ft (approximately 0.21 acre)

City, County, State: Mercer Island, King County, Washington

Governing Agency: City of Mercer Island

Design Criteria: 2014 Washington State Department of Ecology Stormwater Manual

Figure 1 – Vicinity Map / Site Location (Not-to-Scale)

Drainage Basin

The property is located within the Mercer Island drainage basin. The entire property drains to one basin with a contributing area of approximately 0.21 acres. The general topography of the site slopes from northeast to southwest. Elevations on the site vary from a high point of 54 feet at the northeastern property line to 52 feet near the southwestern property line.

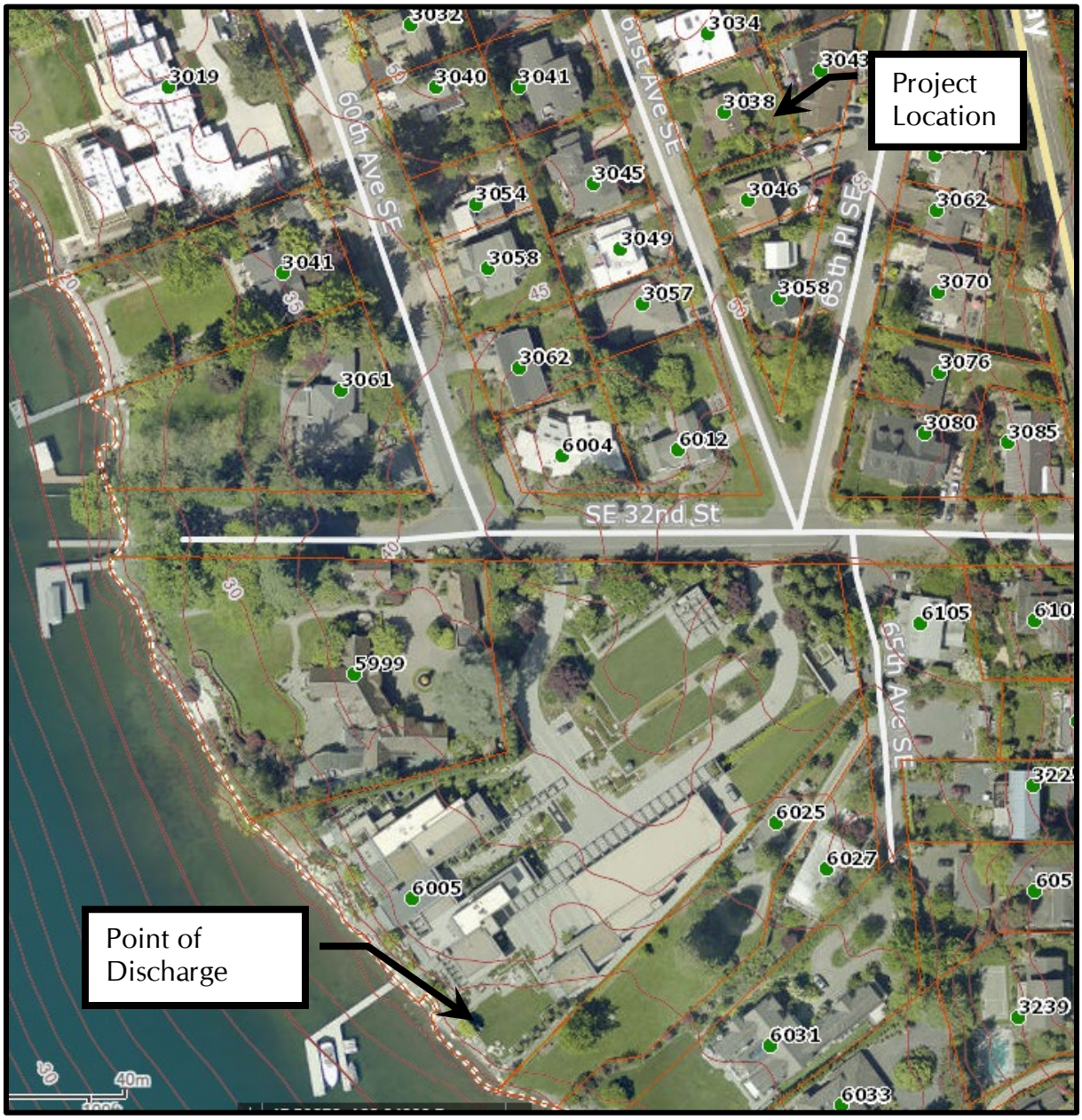


Figure 2 – Drainage Basin Map (Not-to-Scale)

Soils Information

The Soils Conservation Service (SCS) mapped the soils information in the project as predominately KpB, Kitsap silt loam. This type of soil is moderately well drained. The SCS Hydrologic Soil Group is "C". Refer to Appendix A for additional soil information.

Figure 3 – Soils Map (Not-to-Scale)

Existing Conditions Summary

The site is currently developed with one single-family residence, associated garage, driveway, and landscaping. Vegetation consists of lawn and landscaping with evergreen and deciduous trees. The majority of the Site's runoff drains southwesterly and discharges t 61st Ave SE, creating one Natural Discharge Area (NDA). Existing impervious surface coverage is detailed in Table 1.

Table 1: Existing Condition Surfaces (SF)	
SFR	969
Walkway	465
Total Impervious	1,434
Total Site Area	9,000
% Impervious	16%

Less than 35% of the existing site is covered with impervious surface and therefore the threshold determination for this project is a "New Development."

Proposed Conditions Summary

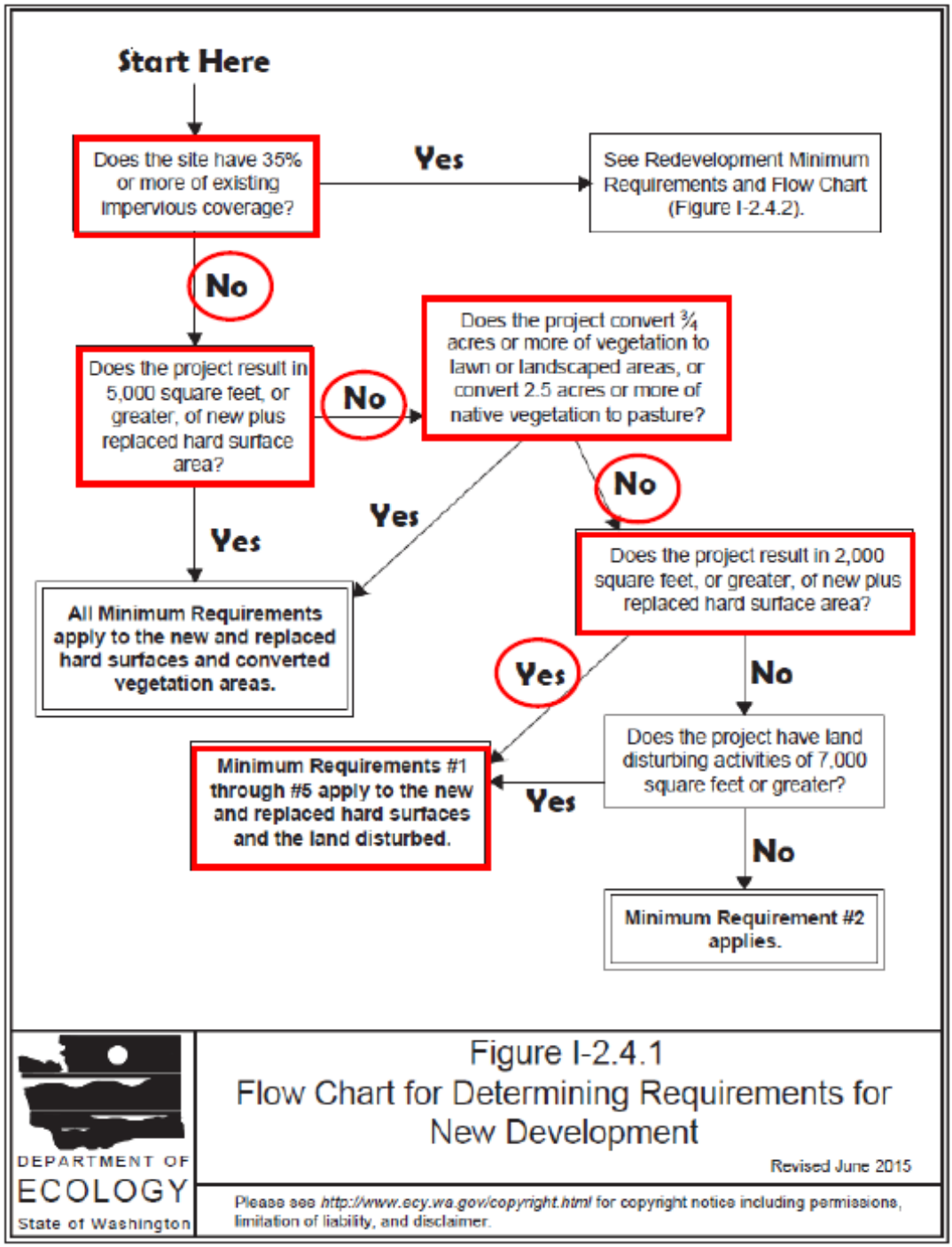
The project proposes to demolish the existing SFR to construct a new SFR with an attached garage, along with associated utilities and access driveway. Table 2 below outlines the projected build-out new impervious surface.

Table 2: Proposed Build-out Impervious Surfaces (SF)	
SFR	2,668
Walkway, Landing, Driveway	807
Total New Impervious Surface	3,475

Design Standards

The 2014 Stormwater Management Manual for Western Washington sets forth the drainage requirements for this project. Less than 35% of the existing site is covered with impervious surface; therefore, the threshold for New Development project applies to this property.

Based on the flowchart of Figure 1-2.4.1 "Flow Chart for Determining Requirements for New Development," Minimum Requirements #1 - #5 apply to new impervious surface and converted pervious surface.



Offsite Analysis and Mitigation

Surface water runoff from impervious surfaces will be collected and conveyed to the city storm drain system located on 61st Ave SE.

Upstream Analysis

The upstream properties are developed with single-family residences. The majority of the runoff from the upstream properties is collected by a curb and gutter system along 62nd Ave SE, therefore bypassing the Project site. Only a small portion (approximate 4,500 SF) of the upstream properties contribute stormwater flow to the Project site.

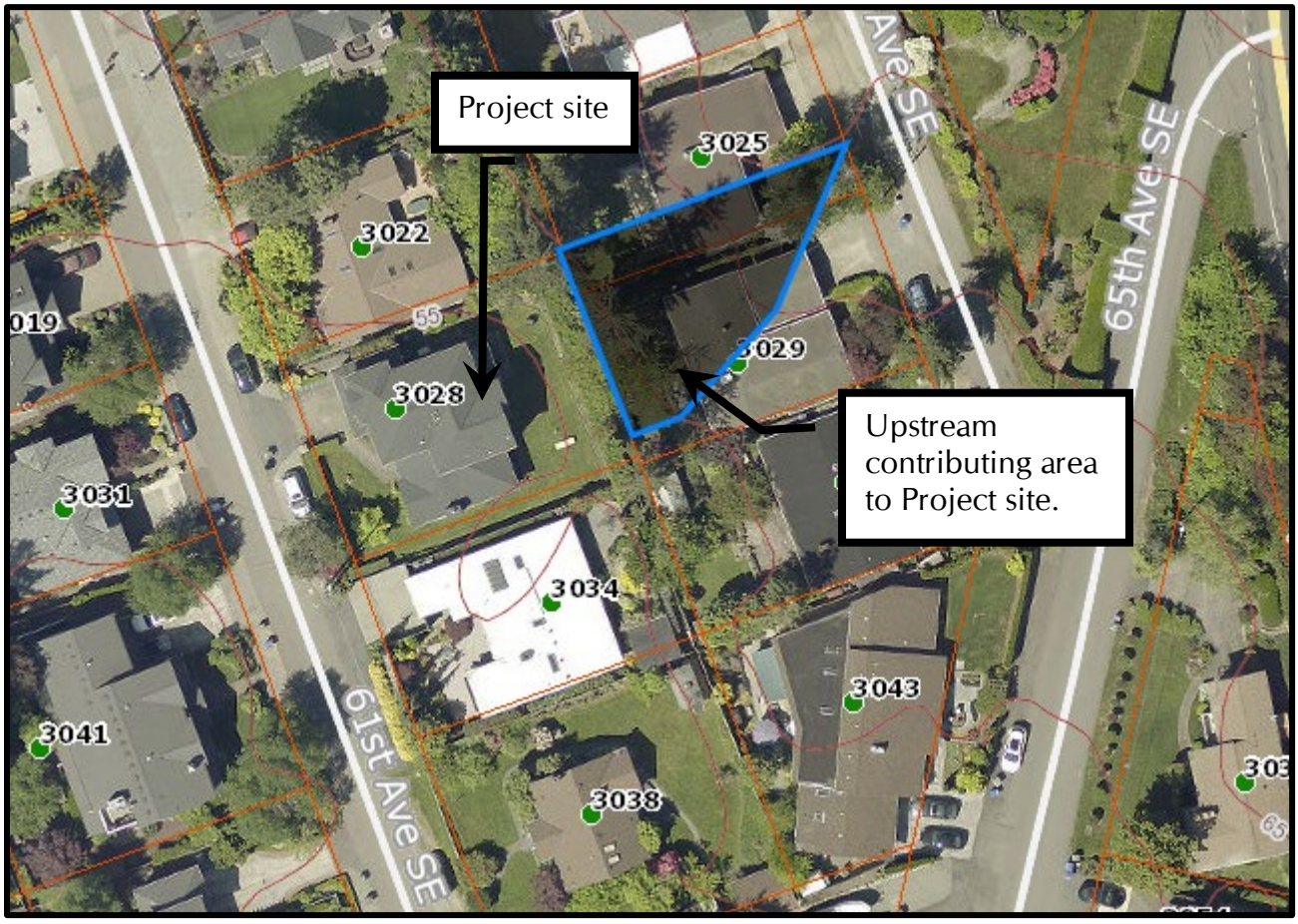


Figure 4 – Upstream Area Map (Not-to-Scale)

Downstream analysis

A Level 1 downstream analysis was performed on January 12, 2022. The weather was overcast with some light misty rain, temperatures in the mid-50° F. Stormwater currently sheet flows southwest towards 61st Ave SE where it enters a catch basin. Stormwater continues to flow south, in12″ concrete pipes for approximate 375 feet towards the intersection of SE 32nd Street, in the closed-pipe system along 61st Ave SE. It then travels east in a 12″ CMP pipe for approximately 50 feet, along SE 32nd Street before turning south for approximately 150 feet in an 18″ HDPE pipe. The stormwater continues to travel southwest for another 375 feet in the 15″ HDPE pipe before discharging directly to Lake Washington. Refer to Figure 6 for the Downstream Study Area Map.

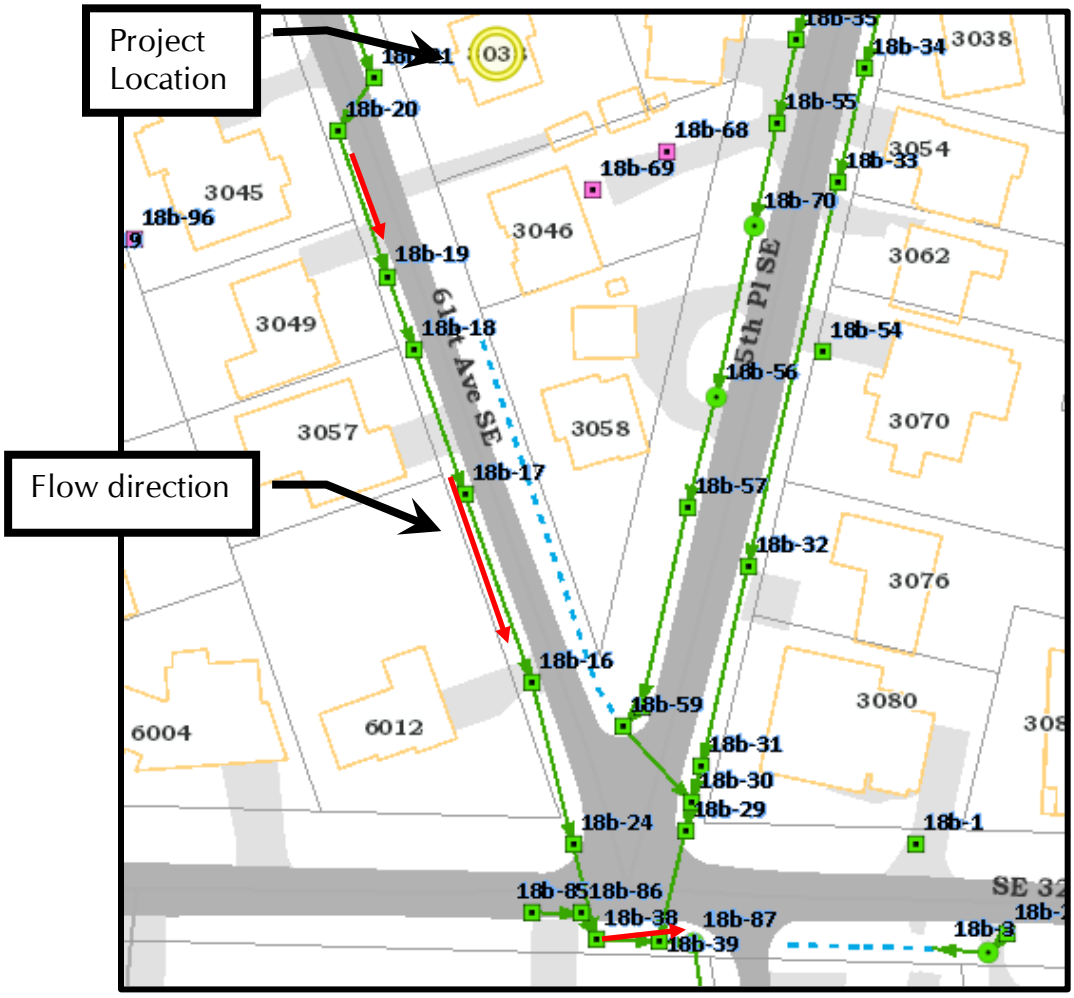


Figure 5A – Downstream Study Area (Not-to-Scale)

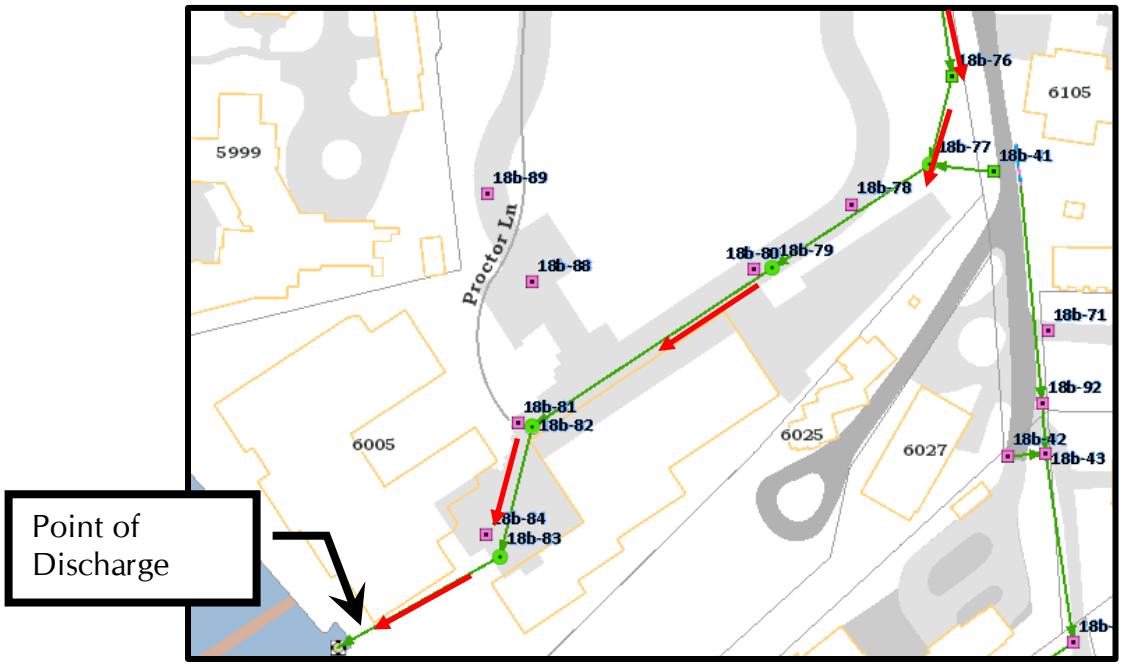


Figure 5B – Downstream Study Area, continued (Not-to-Scale)

No existing or potential flooding, capacity, or erosion problems were observed during the site visit requiring mitigation. Based on this field inspection there are no apparent erosion or capacity problems within the downstream of this project to the point of discharge into Lake Washington.

MR 2 - SWPPP NARRATIVE

The Project will comply with the thirteen SWPPP elements during construction. An erosion control plan has been included in Appendix B.

Construction Sequence and Procedure

Prior to the start of any grading activity upon the site, all erosion control measures, including installation of a stabilized construction entrance, shall be installed in accordance with the construction documents.

The best construction practice will be employed to properly clear and grade the site and to schedule construction activities. The planned construction sequence for the construction of the site is as follows:

1. Flag or fence clearing limits.
2. Install catch basin protection if required.
3. Grade and install construction entrance(s).
4. Install perimeter protection (silt fence, brush barrier, etc.).
5. Construct sediment ponds and traps.
6. Grade and stabilize construction roads.
7. Construct surface water controls (interceptor dikes, pipe slope drains, etc.) simultaneously with clearing and grading for project development.
8. Maintain erosion control measures in accordance with City of Bellevue standards and manufacturer's recommendations.
9. Relocate erosion control measures or install new measures so that as site conditions change the erosion and sediment control is always in accordance with the City of Bellevue Erosion and Sediment Control Standards.
10. Cover all areas that will be unworked for more than seven days during the dry season or two days during the wet season with straw, wood fiber mulch, compost, plastic sheeting or equivalent.
11. Stabilize all areas that reach final grade within seven days.
12. Seed or sod any areas to remain unworked for more than 30 days.
13. Upon completion of the project, all disturbed areas must be stabilized and BMPs removed if appropriate.

Trapping Sediment

Structural control measures will be used to reduce erosion and retain sediment on the site. The control measures will be selected to fit site and seasonal conditions.

The following items will be used to control erosion and sedimentation processes:

- Temporary gravel construction entrance
- Filter fabric fences (silt fences)
- Ground cover measures such as straw cover and/or hydroseeding
- Inlet protection

Vehicle tracking of mud off-site shall be avoided. Installation of a gravel construction entrance will be installed at a location to enter the site. The entrances are a minimum requirement and may be supplemented if tracking of mud onto public streets becomes excessive.

MR 3 - Water Pollution Source Control

This project is a residential development. All known, available, and reasonable source control BMPs will be applied to this Project.

MR 4 - Preservation of Natural Drainage Systems and Outfalls, and Provisions of Off-site Mitigation

The natural drainage patterns will be maintained for this Project. Surface runoff will discharge within the same NDA, discharging directly into Lake Washington.

MR 5 - On-site Stormwater Management

The project is required to provide on-site stormwater management.

Roof Surface

1. Full Dispersion / Infiltration:
    a. Full dispersion of runoff from impervious surfaces is not feasible due to insufficient area on the site for dispersion flow paths.
    b. Infiltration is not feasible. Per the City of Mercer Island GIS maps, the site is mapped as infeasible for infiltration. Refer to Figure 6.

Lawn and Landscape Area Soil Management Plan

Within the limits of site disturbance, duff and topsoil will be retained in an undisturbed state and stockpiled for later use to stabilize and amend soils throughout the Site. Postconstruction soil amendment will meet the requirements of BMP T5.13 Post-Construction Soil Quality and Depth.

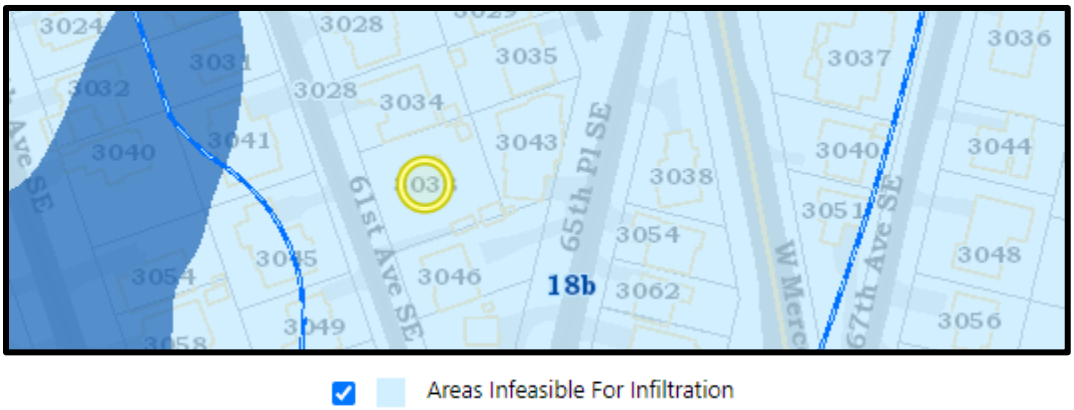


Figure 6 – LID Infeasibility Map (Not-to-Scale)

Appendix A
Soil Data


122° 15' 1" W
122° 14' 58" W
47° 34' 59" N
47° 34' 57" N
556359
556366
556373
556380
556387
556394
556401
556408
556415
556422
556429
5270234
5270227
5270220
5270213
5270206
5270199
5270192
KpB
Soil Map may not be valid at this scale.
Map Scale: 1:327 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 4 9 18 27
Feet
0 15 30 60 90
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: King County Area, Washington
Survey Area Data: Version 17, Aug 23, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

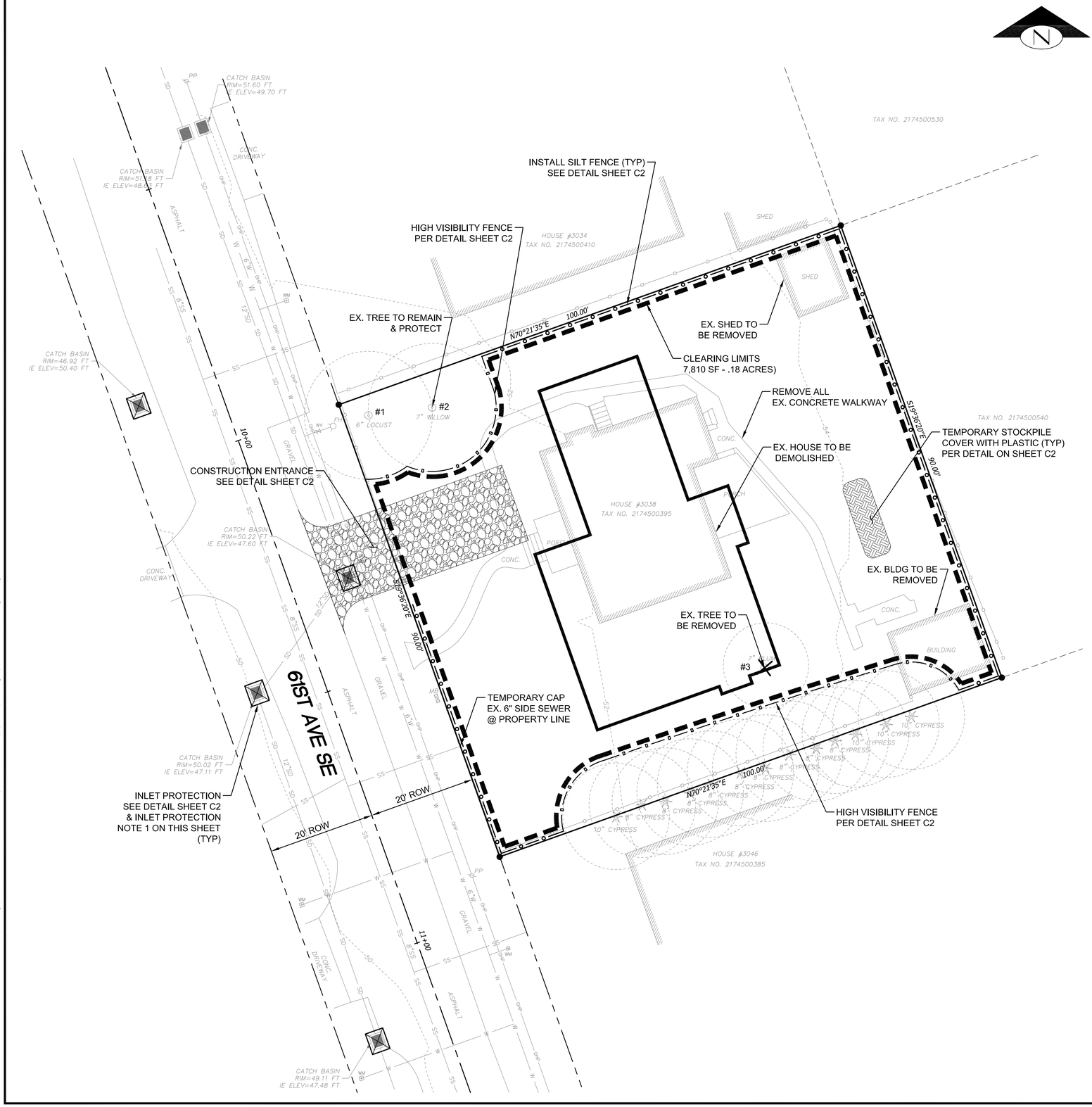
Date(s) aerial images were photographed: Jul 6, 2020—Jul 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KpB	Kitsap silt loam, 2 to 8 percent slopes	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**

Appendix B
Civil Plans



TREE INVENTORY:

#1 - 6"	HONEY LOCUST (GLEDITSIA TRIACANTHOS)	REGULATED-YES
#2 - 7"	CORKSCREW WILLOW (SALIX MATSUDANA)	REGULATED-YES
#3 - 7"	PLUM (PRUNUS AMERICANA MARSH.)	REGULATED-NO

STABILIZE SOILS:

TEMPORARY COVER MEASURES SHALL BE PROVIDED WHEN NECESSARY TO PROTECT DISTURBED AREAS. THE INTENT OF THESE MEASURES IS TO PREVENT EROSION BY HAVING AS MUCH AREA AS POSSIBLE COVERED DURING ANY PERIOD OF PRECIPITATION. TOPSOIL LAYERS SHALL BE RETAINED AND PROTECTED TO THE MAXIMUM EXTENT FEASIBLE. ANY TOPSOIL THAT IS STOCKPILED ONSITE SHALL BE COVERED TO PREVENT EROSION AND SATURATION, AND SHALL BE REUSED IN LANDSCAPED AREAS UPON COMPLETION OF THE GROUND DISTURBING ACTIVITIES. TEMPORARY COVER SHALL BE INSTALLED IF AN AREA IS TO REMAIN UNWORKED FOR MORE THAN 7 DAYS DURING THE DRY SEASON (MAY 1 TO SEPTEMBER 30) OR FOR MORE THAN TWO CONSECUTIVE WORKING DAYS DURING THE WET SEASON (OCTOBER 1 TO APRIL 30). COVER METHODS INCLUDE THE USE OF SURFACE ROUGHENING, MULCH, EROSION CONTROL NETS AND BLANKETS, PLASTIC COVERING, SEEDING, AND SODDING. MULCH AND PLASTIC SHEETING ARE PRIMARILY INTENDED TO PROTECT DISTURBED AREAS FOR A SHORT PERIOD OF TIME, TYPICALLY DAYS TO A FEW MONTHS. SEEDING AND SODDING ARE MEASURES FOR AREAS THAT ARE TO REMAIN UNWORKED FOR MONTHS. EROSION NETS AND BLANKETS ARE TO BE USED IN CONJUNCTION WITH SEEDING STEEP SLOPES

GENERAL NOTE:

1. LAND CLEARING, GRADING, FILLING, AND FOUNDATION WORK ARE NOT PERMITTED BETWEEN OCTOBER 1ST AND APRIL 1ST. ANY WORK THAT IS PROPOSED DURING THE WET SEASON MUST SUBMIT A SEASONAL DEVELOPMENT LIMITATION WAIVER FOR APPROVAL BY THE BUILDING OFFICIAL

PROJECT ENGINEER'S CERTIFICATION:

I HEREBY STATE THAT THIS CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN FOR JABOODA HOMES RESIDENCE HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND MEETS THE STANDARD OF CARE AND EXPERTISE WHICH IS USUAL AND CUSTOMARY IN THIS COMMUNITY OF PROFESSIONAL ENGINEERS. I UNDERSTAND THAT THE CITY OF MERCER ISLAND DOES NOT AND WILL NOT ASSUME LIABILITY FOR THE SUFFICIENCY, SUITABILILTY, OR PERFORMANCE OF CONSTRUCTION SWPPP BMPS PREPARED BY ME.

INLET PROTECTION NOTE:

1. CONTRACTOR TO INSTALL INLET PROTECTION ON ALL CATCH BASINS DOWNSTREAM WITHIN 50'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT OF WAY LINE
- RIGHT OF WAY CENTERLINE
- PROPOSED STRUCTURE

Know what's **below.** **Call** before you dig.

HORIZONTAL GRAPHIC SCALE
10 5 0 5 10
1 inch = 10 ft.

REFERENCE SHEET NO. C1

SHEET 1 OF 3 SHEETS

JABOODA HOMES RESIDENCE
3038 61ST AVE SE
MERCER ISLAND, WA 98040

TREE PROTECTION PLAN
TESC PLAN

HAN H. PHAN
STATE OF WASHINGTON
42815
REGISTERED
PROFESSIONAL ENGINEER

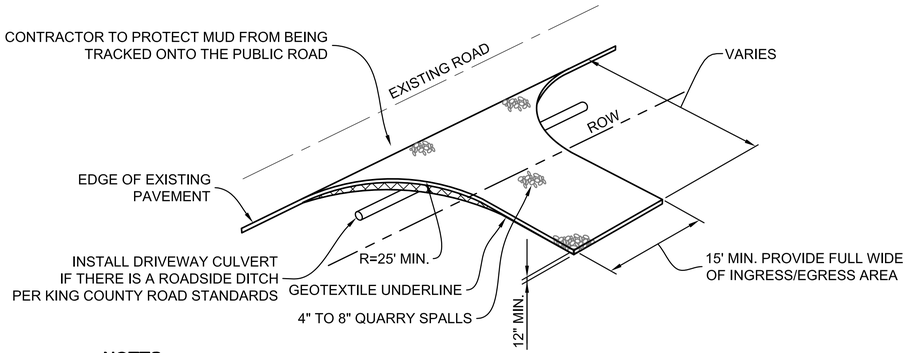
PBG
Land Development and Civil Engineering Consultants
5130 South 166th Lane
SeaTac, WA 98188
T (206) 229-6422

JOB NO.	ISSUE DATE
R21635	12-30-2021

DESIGNED BY:	L. PHAN
DRAWN BY:	L. PHAN
CHECKED BY:	H.H. PHAN
PROJ. MNGR:	H.H. PHAN

NO.	DATE	BY	REVISION DESCRIPTION

Dec 30, 2021 – 10:38am Hon Phan L:\Working\R21635 – 3038 61st Ave SE (Jaboodo Homes)\CADD\Drawings\R21635-PS-C1.dwg Layout Name: C1



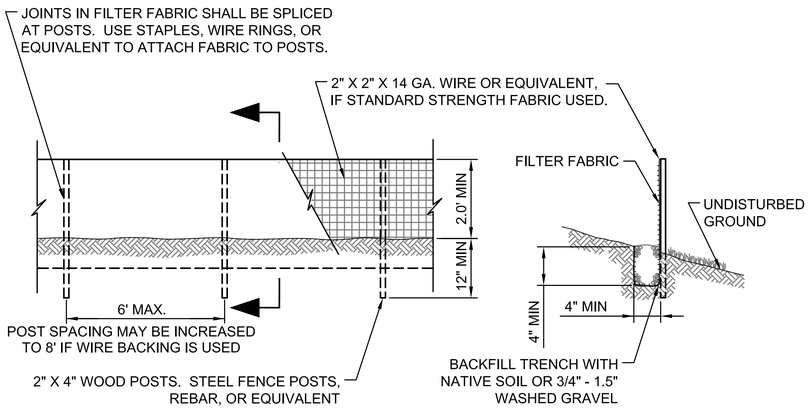
NOTES:

AS PER KING COUNTY ROAD STANDARDS, DRIVEWAYS SHALL BE PAVED TO THE EDGE OF RIGHT-OF-WAY PRIOR TO INSTALLATION OF THE CONSTRUCTION ENTRANCE TO AVOID DAMAGING OF THE ROADWAY.

IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED SO THAT RUNOFF DRAINS OFF THE ROAD.

CONSTRUCTION ENTRANCE DETAIL

PER 2016 KCSWDM FIGURE C.3.1.A
SCALE: NONE

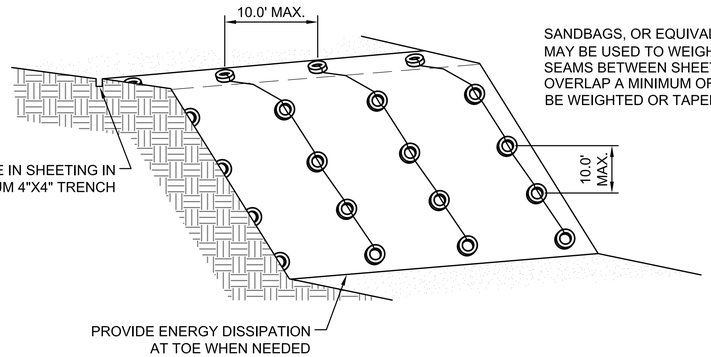


NOTES:

FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.

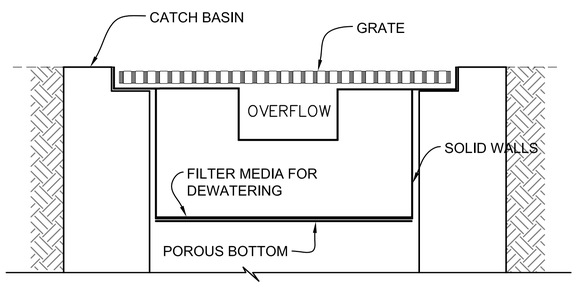
SILT FENCE DETAIL

PER 2016 KCSWDM FIGURE C.3.6.A
SCALE: NONE



PLASTIC COVERING DETAIL

PER 2016 KCSWDM FIGURE C.3.4.A
SCALE: NONE

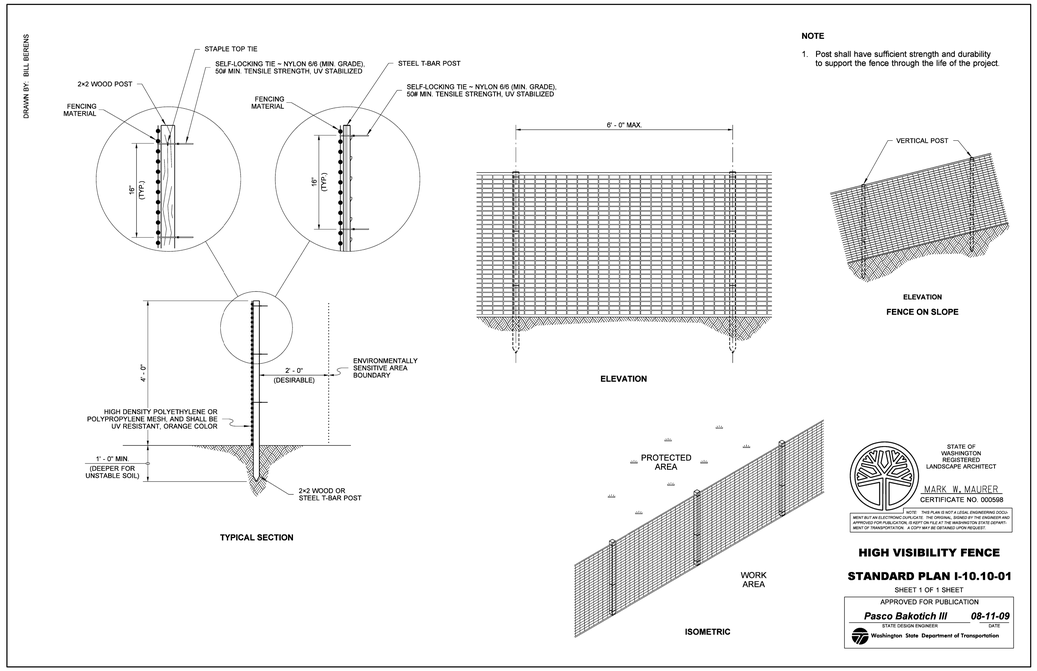


NOTES:

THIS DETAIL IS ONLY SCHEMATIC. ANY INSERT IS ALLOWED THAT HAS A MIN. 0.5 CUBIC FEET OF STORAGE WITH THE MEANS TO DEWATER THE STORED SEDIMENT, PROVIDE AN OVERFLOW, AND CAN BE EASILY MAINTAINED.

INLET PROTECTION DETAIL

PER 2016 KCSWDM FIGURE C.3.9.B
SCALE: NONE



811 Know what's below. Call before you dig.

REFERENCE SHEET NO.	SHEET
C2	2 OF 3 SHEETS

JABOODA HOMES RESIDENCE
3038 61ST AVE SE
MERCER ISLAND, WA 98040

TESC DETAILS

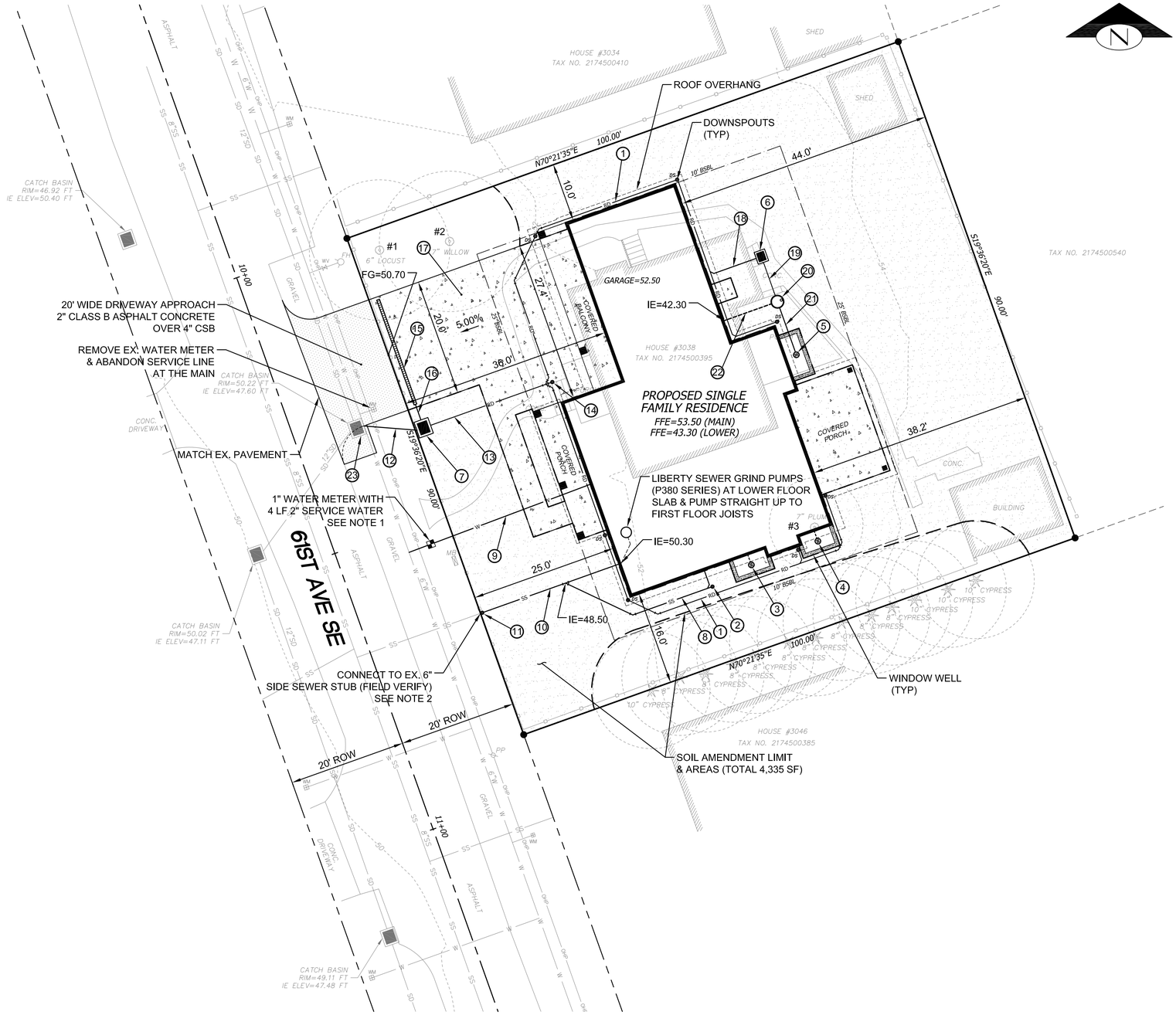
HAN H. PHAN — STATE OF WASHINGTON — 42815 — REGISTERED PROFESSIONAL ENGINEER

PBG
Land Development and Civil Engineering Consultants
5130 South 166th Lane
SeaTac, WA 98188
T (206) 229-6422

JOB NO.	ISSUE DATE
R21635	12-30-2022

DESIGNED BY:	L. PHAN
DRAWN BY:	L. PHAN
CHECKED BY:	H.H. PHAN
PROJ. MNGR:	H.H. PHAN

NO.	DATE	BY	REVISION DESCRIPTION



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT OF WAY LINE
- RIGHT OF WAY CENTERLINE
- OVERHANG / EAVE
- PROPOSED STRUCTURE
- SOIL AMENDMENT AREA
- CEMENT CONCRETE PAVEMENT

CONSTRUCTION NOTES:

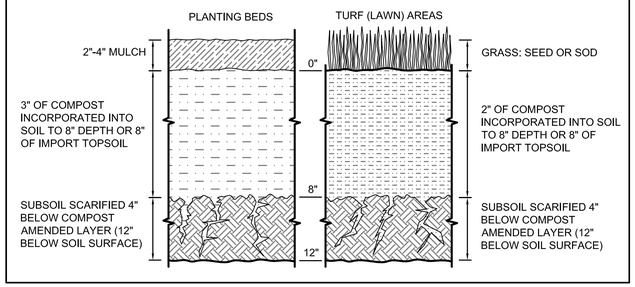
1. 83 LF 4" SDR 35 PVC ROOF DRAIN @ 2.00%
2. 4" SSCO #2 IE=50.00
3. AREA DRAIN #1 12" ROUND BASIN (HANDOR NYLOPLAST) WITH DOME GRATE RIM=50.50 IE (N)=48.50 WITH 4" SDR 35 PVC SD CONNECT TO FOOTING DRAIN
4. AREA DRAIN #2 12" ROUND BASIN (HANDOR NYLOPLAST) WITH DOME GRATE RIM=50.50 IE (N)=48.50 WITH 4" SDR 35 PVC SD CONNECT TO FOOTING DRAIN
5. AREA DRAIN #3 12" ROUND BASIN (HANDOR NYLOPLAST) WITH DOME GRATE RIM=46.50 IE (N)=44.50
6. CB #2-TYPE 40 WITH SOLID LID RIM=52.40 IE (S)=51.50 IE (W)=51.00
7. CB #1-TYPE 1 WITH SOLID LID & OIL SEPARATOR (RISER TEE) RIM=50.40 IE (NW)=47.90 IE (N)=48.00 IE (E)=48.10
8. 30 LF 4" SDR 35 PVC GRAVITY SIDE SEWER @ 5.00%
9. 28 LF 1½" WATER SERVICE LINE (POLYETHYLENE PIPE SDR 7)
10. 24 LF 4" SDR 35 PVC GRAVITY SIDE SEWER @ 20.00%
11. 6" SSCO #1 IE=45.50 (FIELD VERIFY)
12. 9 LF 6" DI SD @ 2.00%
13. 22 LF 4" SDR 35 PVC ROOF DRAIN COLLECTOR @ 2.00%
14. 4" SDCO #1 RIM=51.93 IE=48.54
15. 19' LONG x 5" WIDE SLOTTED DRAIN (DURA) H20 RATED TRAFFIC LID RIM=50.25
16. 3 LF 4" DI SD @ 58.00%
17. 4" CEMENT CONC. PAVEMENT
18. 8 LF 4" SDR 35 PVC SD @ 2.00% CONNECT TO 4" ROOF DRAIN
19. 6 LF 2" SDFM SCHEDULE 80
20. PVC PUMP BASIN WITH 0.5 HP SUBMERSIBLE MODEL PE51 PUMP (GOULDS WATER TECHNOLOGY) WITH CHECK VALVE IN PUMP BASIN RIM=52.40 IE (W)=42.13 IE (S)=42.23 IE (N)=43.23
21. 8 LF 4" SDR 35 PVC @ 28.40%
22. 9 LF 4" SOLID SDR 35 PVC FOOTING DRAIN COLLECTOR @ 2.00%
23. EX. CB EX. RIM=50.22 EX. IE (N, SW)=47.60 NEW IE (SE)=47.72

ESTIMATED COMPOST REQUIRED FOR SOIL AMENDMENT

3,475	(SQUARE FEET) X 0.0062 *** =	22	(CUBIC YARDS)
DISTURBED AREA REQUIRING AMENDMENT		REQUIRED COMPOST	

SOIL AMENDMENT

*** 2 INCH LAYER OF COMPOST (FT/12 INCH) X (CY/27 CF) = 0.0062



NOTES:

1. NEW WATER METER LOCATE 25' SOUTH OF EXISTING WATER METER AND 4' WEST OF PROPERTY LINE. CONTRACTOR TO FIELD VERIFY THE EXISTING STORM DRAIN LINE AND COORDINATE WITH CITY WATER DEPARTMENT DURING CONSTRUCTION.
2. EXISTING SIDE SEWER STUB MUST BE VIDEO TAPED TO VERIFY IF REPLACE OR REPAIR AS NEEDED.

A BACKUP GENERATOR IS REQUIRED FOR THE PUMP SYSTEM

PRIVATE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURIES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM

811 Know what's below. Call before you dig.

HORIZONTAL GRAPHIC SCALE
10 5 0 5 10
1 inch = 10 ft.

REFERENCE SHEET NO.	SHEET
C3	3 OF 3 SHEETS

JABOODA HOMES RESIDENCE
3038 61ST AVE SE
MERCER ISLAND, WA 98040

STORMWATER / UTILITY PLAN AND DETAILS

HAN H. PHAN
STATE OF WASHINGTON
42815
REGISTERED
PROFESSIONAL ENGINEER

PBG
Land Development and Civil Engineering Consultants
5130 South 166th Lane
SeaTac, WA 98188
T (206) 229-6422

NO.	DATE	BY	REVISION DESCRIPTION

JOB NO.	ISSUE DATE
R21635	12-30-2021

DESIGNED BY:	L. PHAN
DRAWN BY:	L. PHAN
CHECKED BY:	H.H. PHAN
PROJ. MNGR:	H.H. PHAN

Dec 30, 2021 — 10:46am Hon Phan L:\Working\R21635 – 3038 61st Ave SE (Jaboodа Homes)\CADD\Drawings\R21635-PS-C3.dwg Layout Name: C3