## BASEMENT F.A.R. AREA EXCEPTION. SEE SHEET 1B

segment	length	beginning	end	begin cov	end cover	avg cover	%cover	wtd
		elev.	elev.					
1	46	78	79.25	0.00	1.25	0.625	6.9%	3.19
2	2	79.25	77	1.25	-1.00	0.125	1.4%	0.03
3	15.04	77	75	-1.00	-3.00	-2	0.0%	0.00
4	8	75	79.2	-3.00	1.20	-0.9	0.0%	0.00
5	21.4	79.2	75.5	1.20	-2.50	-0.65	0.0%	0.00
6	28	75.5	83	-2.50	5.00	1.25	13.9%	3.89
7	21.88	83	83.8	5.00	5.80	5.4	60.0%	13.13
8	4	83.8	82	5.80	4.00	4.9	54.4%	2.18
9	24.58	82	88.2	4.00	10.20	7.1	78.9%	19.39
10	5	88.2	87.8	10.20	9.80	10	100.0%	5.00
11	28	87.8	88.5	9.80	10.50	10.15	100.0%	28.00
12	11.28	88.5	88.5	10.50	10.50	10.5	100.0%	11.28
13	19	88.5	86	10.50	8.00	9.25	100.0%	19.00
				178K		A	E.Z.	0.00
						XX	3	0.00
								0.00
perim=	234.18				SSMH		South 1	105.09
				BIM	= 134 40	avg.	44.9%	

2206.4

basement slab elev = full cover =

990.1173 excepted area = BOLD elevations are lower than existing grade

## Parcel Number/Legal

7776700010

Parcel #

Legal Description (mother lot) :

SHORERIDGE ADD & UND 1/4 INT IN LOT 13

ZONING = R-15

## Owner

G

IM

IN

Millad V LLC 7683 SE 27th St #187 Mercer Island WA 98040

contact = Farzad Ghazvinian 206.972.4140

## ABE CALCULATION

SEE SUB18-005 FOR RELATED SHORT PLAT. SUB18-005 has not yet been approved and any modification to that land use application, or any conditions of the application's approval, may affect this building permit application.

EL @ MIDPOINT segment wtd sgmnt 2418.00 78 31 78 234.00 1200.00 80 15 234.00 78 15.05 1143.80 76 77 616.00 76.3 21.41 1633.58 80 28 2240.00 21.87 82.3 1799.90 83 332.00 24.59 2090.15 85 440.00 88 88 28 2464.00 11.31 995.28 88

1615.00

19

238.23 19455.71

CONTINUOUS GEOTECHNICAL INSPECTION IS REQUIRED DURING EXCAVATION.

## LOT DATA (AFTER SHORT PLAT)

SF = 16230 sf MAX FAR @ 40% = 6492 sf MAX IMPERV. @ 35% (28% SLOPE)= 5680.5 sf house to eaves = 3616 sf driveway = 990 sf walks/patios = 181 sf

81.66777 AVG. EL = Bold indicates new elevation lower than existing

85

**GRADING** OUTSIDE BUILDING ENVELOPE CUT = 120YRDS FILL = 100YRDS



# B. "BUILDING PAD" DIAGRAM

7'-6" S.B.

Ø

1" = 10'-0"

 $\Theta$ 

----- = EXTENT OF BUILDING PAD







### NOTES

SD = SMOKE DETECTOR, HARDWIRE, INTERCONNECTED w/ BATTERY BACK-UP CO CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated

🚫 = FAN, 50 CFM UNLESS OTHERWISE INDICATED

FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

(E) =EGRESS WINDOWS

Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.

ALL WALLS FULL HIEGHT UNLESS OTHERWISE INDICATED

(T) =TEMPER/SAFETY GLAZE WINDOWS ALL GAS F.P. TO BE APPROVED DIRECT VENT

Energy Code Info

WA STATE PRESCRIPTIVE PATH FOR ALL CLIMATE ZONES ENERGY CREDIT OPTIONS = 2a(.5),3b(1),4(1),5a(.5),5c(1.5) = 4.5 CREDITS Vertical fenestration U = 0.30Floor R-30

SEE SHEET 09 FOR ENERGY CREDIT DESCRIPTION

PRIMARY RESIDENCE HVAC NOTES

MODE ONLY.

DUCTED HEAT PUMP (HSPF>9.0) INT. AIR HANDLER INTEGRATED VETILATION 6005.4 SF, 5 BEDROOMS = CONTINUOUS <u>90</u> CFM SET TO OPERATE AT <u>180</u> CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%) PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX .35 WATTS/CFM) CONTOLLED TO OPERATE AT LOW SPEED IN VENTILATION

design professional or builder shall complete and post an "Insulation Certificate for Residential Construction" within 3' of the electrical panel prior to final inspection.

Maximum flow rates for shower heads and kitchen sink - 1.75 GPM or less. All other lavatory faucets - 1.0 GPM or less.

A minimum of 75 percent of permanently installed lamps in lighting fixtures shall be high-efficacy lamps.

Air leakage shall not exceed 3 air changes/ hour and shall be tested as such. A written report of the test results, shall be signed by the testing party and provided to the building inspector, prior to call for final inspection.

Per WSEC R402.4, The building thermal Envelope shall be constructed to limit air leakage to 3.0 air changes per hour maximum. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2). Per WSEC R403.1.1, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule. Per WSEC R403.2.2, Ducts, air handlers, and filter boxes shall be sealed. Per WSEC R404.1, A minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

All Climate Zones				
	R-Value <sup>a</sup>	U-Factor <sup>a</sup>		
Fenestration U-Factor <sup>b</sup>	n/a	0.30		
Skylight U-Factor	n/a	0.50		
Glazed Fenestration SHGC <sup>b,e</sup>	n/a	n/a		
Ceiling <sup>k</sup>	49 <sup>j</sup>	0.026		
Wood Frame Wall <sup>g,m,n</sup>	21 int	0.056		
Mass Wall R-Value <sup>i</sup>	21/21 <sup>h</sup>	0.056		
Floor	30 <sup>g</sup>	0.029		
Below Grade Wall <sup>c,m</sup>	10/15/21 int + TB	0.042		
Slab <sup>d</sup> R-Value & Depth	10, 2 ft	n/a		

CLO. #1 Ō SD 95 0 BEDROOM #1 (E) 17'-0"

8'-0"

The Washington State Industries requires the are required. For more (360) 902-6130 or visit their web site at











SHEAR WALL SCHEDULE
(Lumber for shear walls is HF#2 or better, unless otherwise noted.)

		Edge		A.B.			A35	Shear
Type	Material	Nailing	Field Nailing	Size/Spacing	Plate Nailing	Plates	Spacing	Capacity
Unblocked Wall	15/32" WSP one side, unblocked	8d @ 6"	8d @ 12"	1/2"Ø @ 72"	(2) 16d @ 12"	2x_	24"	100 plf
SW1	15/32" WSP one side	8d @ 6"	8d @ 12"	1/2"Ø @ 48"	(2) 16d @ 9"	2x_	24"	230 plf
SW2	15/32" WSP one side	8d @ 4"	8d @ 12"	1/2"Ø @ 32"	(2) 16d @ 6"	2x_	16"	350 plf
SW3	15/32" WSP one side	10d @ 3"	10d @ 12"	5/8"Ø @ 24"	(2) 16d @ 4"	3x_	12"	550 plf
SW3X	15/32" WSP one side	10d @ 2"	10d @ 12"	5/8"Ø @ 24"	5/8"Ø x 8" Lag @ 24"	3x_	9"	710 plf
SW5	15/32" WSP two sides	8d @ 3"	8d @ 12"	5/8"Ø @ 16"	5/8"Ø x 8" Lag @ 16"	3x_	8"	910 plf

## **For shear wall callouts on the Structural Framing Plans:** SW x (y') denotes a shear wall type "x" with a minimum length of "y" feet.

• For SW3 and greater: studs, plates, and blocking where two WSP panels abut shall have a minimum 3" nominal thickness. Double 2x\_members may be used for studs if the members are connected by plate nailing. Note 10d nails at WSP panel edges.

For shear walls with 2 layers of sheathing: Both layers of the sheathing may be installed on the same side of the shear wall, provided the joints between sheathing panels for the two layers are offset. End studs, studs at panel joints, and top and bottom plates must be 3x\_ or thicker lumber. Nails should be staggered evenly in rows so that no two nails are closer than 1-1/2" apart. Top and bottom plates may be 2x\_ lumber if the sheathing extends up or down past the plates to a continuous rim joist, and is nailed there.
"WSP" refers to "Wood Structural Panel", either plywood or other wood materials.

### • Provide double stud minimum at both ends of all shear walls.

• At the roof or top level of any shear wall, "A35 spacing", and all other relevant connector specifications, apply to assemblies at both the top and bottom of the shear wall. At lower levels, apply to the bottom of the wall only.

• Provide floor diaphragm edge nailing per diaphragm schedule through floor plywood into blocking, parallel joist framing, or top plates (whichever applies) of all shear walls.

• Provide 3x\_ plates, and 4x\_ rim joists, minimum, where lag screws are specified for plate nailing.

• Where shear wall edge nails are spaced closer than 3" o.c., or spaced 3" o.c. with 10d nails, foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3x\_ member.

• Where panels are applied on the same face of a wall and nail spacing is less than 6 inches o.c. on either side, panel joints shall be offset horizontally and vertically to fall on different framing members, or all framing supporting panel edges shall consist of 3 inch nominal or thicker members and the position of nails on each side shall be staggered vertically.

• Provide 4x or double 2x framing where A35 angles are used on both sides of one piece of wood.

Where a shear wall terminates above the foundation level (no shear wall below), provide minimum 4x\_blocking or double joist framing (as applicable) below the shear wall."&" Plate nailing per this schedule shall be nailed into this blocking at the bottom of the shear wall.
Shear wall nails shall be placed no closer than 3/8" from a panel edge or perpendicular face of stud.

• Maximum spacing between nails shall not exceed 12".

Shear wall nailing shall be common or galvanized box nails, unless lag screws are noted. Galvanized nails shall be hot dipped or tumbled.
Lag screw plate connectors shall penetrate 3.5" minimum, and plates or beams receiving lag screws shall have a minimum width of 3.5".
Where hold downs are specified, the shear wall bolt shall be located within 6 inches of the end of the shear wall, unless otherwise approved by the engineer of record. Minimum end studs shall be as specified in the most recent Simpson catalog.

• Shear wall edge nailing through shear wall sheathing shall be provided into all studs attached to a hold down.

• Cast in place anchor bolts shall have a minimum embedment of 7" into the concrete foundation.

• Plate nails shall be nailed into a solid wood rim joist.

•  $2x_{plates}$  may be substitued for  $3x_{plates}$  if panels are nailed with edge nailing directly to the rim joist.

Where 3x\_plates are used, (2) 20d common nails must be used instead of (2) 16d common nails to connect studs to the bottom plate.
Where Roof ventilation is required over a shear wall, see roof ventilation detail.

#### Diaphragm Schedule (Lumber for diaphragm construction is HF#2 or better, unless otherwise noted.)

	(Lumber for	ulaphragin constr	uction is fif#2 of D	etter, unless otherwise no	teu.)		
Туре	Material	Edge Nailing	Field Nailing	Edge Blocking	Remarks		
Roof	15/32" CDX 24/0	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard		
Floor	23/32" CDX 48/24	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard		
• "WSP" refer	"WSP" refers to "Wood Structural Panel", either plywood or other wood materials.						
<ul> <li>Rim joists at</li> </ul>	exterior walls shall be continu	ious for tension. At	t rim joist splice loca	tions, provide (2) CS16 hor	rizontal straps, minimum 24"		

long, centered on the splice.
Where roof or floor framing is cantilevered over an exterior wall below, provide solid blocking with Diaphragm edge nailing between joists.
This is the minimum required diaphragm construction. Where otherwise noted on the plans, additional blocking or nailing may be required.







![](_page_8_Figure_0.jpeg)

![](_page_9_Figure_0.jpeg)

## **Energy Credit Descriptions**

2a - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum	
All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code shall be met with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilation systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the qualifying ventilation system.	
3b - HIGH EFFICIENCY HVAC EQUIPMENT Air-source heat pump with minimum HSPF of 9.0 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	
<ul> <li>4 - HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM:</li> <li>All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All combustion equipment shall be direct vent or sealed combustion.</li> <li>For forced air ducts: A maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices. Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located outside the conditioned space must be insulated to a minimum of R-8. Locating system components in conditioned crawl spaces is not permitted under this</li> </ul>	
Electric resistance heat and ductless heat pumps are not permitted under this	
Option. Direct combustion heating equipment with AFUE less than 80% is not permitted	1010
To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.	
5a - EFFICIENT WATER HEATING All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be rated at 1.0 GPM or less.c To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow rates for all showerheads, kitchen sink faucets, and other lavatory faucets.	
5c - EFFICIENT WATER HEATING Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEEA's Northern Climate Specifications for Heat Pump Water Heaters To qualify to claim this credit, the building permit drawings shall specify the option	

being selected and shall specify the water heater equipment type and the minimum

equipment efficiency.

8'-0" PT 4x\_LEDGER, (2) 5/8" DIA. BOLTS @ 16" o/c EPOXY GROUT INTO CONCRETE WALL W/ 5" EMBEDMENT WITH SIMPSON SET EPOXY HHUS7.25/10 HANGER SKEW 45 DEG. MAX. 5.1/2 x 10.5 GLB HEADER 3 DROPPED 5.1/2 x 10.5 GLB 3.1/2 x 16 x 31' PSL RIM JOIST - FULL LENGTH HU¢616 ----2'-8<sup>3</sup>⁄4" 12'-0"

SHEATH AND NAIL PER THE SHEAR WALL SCHEDULE WEATHER RESISITEVE BARRIER FIBER CEMENT PANELS

PLATE AND EDGE NAILING PER THE SHEAR WALL SCHEDULE

![](_page_10_Figure_8.jpeg)

![](_page_11_Figure_0.jpeg)

![](_page_12_Figure_0.jpeg)

![](_page_13_Figure_0.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_14_Figure_1.jpeg)

![](_page_15_Figure_0.jpeg)

![](_page_15_Figure_1.jpeg)

![](_page_15_Figure_2.jpeg)

![](_page_15_Figure_3.jpeg)

![](_page_15_Figure_4.jpeg)

![](_page_16_Figure_0.jpeg)

![](_page_16_Figure_1.jpeg)

![](_page_16_Figure_2.jpeg)

![](_page_17_Figure_0.jpeg)

#### **Structural Notes:**

#### **Applicable Codes and Standards:**

2015 International Building Code (IBC) and other applicable local building codes. ASCE/SEI 7-10 - "Minimum Design Loads for Buildings and Other Structures" 2015 NDS for wood structures.

American Wood Preservers Bureau - AWPB Standards for Pressure Treated Material. American Concrete Institute - ACI 315, ACI 318, ACI 301, ACI 307.

Structural design shall be in accordance with the latest edition of above codes and standards. Contractor shall comply with the latest edition of all applicable codes and standards.

#### **Design Loads:**

Live load:	roof	25 psf (snow)
	solar panels	4 psf dead load
	floors	40 psf floor live load
	decks	60 psf floor live load
Wind load:	<b>Basic wind speed</b>	110 mph, exposure C, KzT=1.0
	Building Category: En	closed, Wind Important Factor Iw = 1.0
	Refer to calculation pa	ge L1 for design wind forces.
	Internal pressure 5 psf	, Components and cladding design per 1609.6.4.4.1

Seismic loading per IBC Sections 1603 and 1613, Site Class D. The basic structural type is a bearing wall system with light framed walls with shear panels. Rw = 6.5 (wood structural panels), soil type D.

Seismic importance factor 1.0, Seismic Use Group I

Design and Analysis by Simplified Design Procedure

Peak Ground Accelerations (PGA) based on USGS Hazards Program, by lat/long.

PGA 1 sec = .538 PGA .2 sec = 1.401 Seismic base shear = 0.144 \* Dead Load

#### Foundations:

Soil parameters per Geotech reports provided by GEO Group Northwest, Inc. dated July 13th, 2018, Dec. 27th, 2018, August 16th, 2019, Oct. 18th, 2019, Nov. 4<sup>th</sup> 2019, and June 9<sup>th</sup> 2020. Updated Pile calculations were provided on September 24, 2020. Steel pin pile specifications were provided on Nov. 13<sup>th</sup>, 2020.

All soil conditions are to be field verified during construction. Structural fill shall be placed in 10-inch maximum horizontal lifts (loose thickness) and compacted to 95 percent of maximum dry density in accordance with ASTM D-1557. Imported structural fill shall be granular material containing no more than 5 percent fines, passing no. 200 sieve. Structural fill in place shall be tested by a licensed soil engineer or approved by the building inspector.

Augured concrete piles shall be 14" diameter and embeded 14ft deep into competent soils providing a capacity of 38.6 tons. Piles shall be 30ft deep from the bottom of escavation. The factor of safety used for pile capacity is 3.0. Pile installation equipment & procedure to be reviewed by GEO Group Northwest Inc. prior to installation.

Drainage behind the concrete walls shall be provided conforming to the construction details.

#### **Steel Pipe Piles:**

<u>Bolts:</u>

Steel pipe piles shall be installed per the geotechnical report, by GEO Group Northwest.

The design strength for 2" piles is 6.000 lbs.

The Structural Steel pipe shall conform to ASTM A53, Fy = 35 ksi. Galvanized 2" diameter schedule 80 pipe may be used. The pipes shall be driven to refusal, defined as less than 1" of movement in 60 seconds of driving with a 90 lbs jackhammer plus operator weight. The steel pipe pile refusal shall be witnessed by the geotechnical engineer of record or the structural engineer of record.

#### **Cast in Place Concrete:**

Concrete shall attain a minimum compressive strength of 3,000 psi at 28 days (5-1/2 sack mix). An alternate mix provided by the concrete supplier and pre-approved by the building department is acceptable. Reinforcing steel shall conform to ASTM A-615, Grade 60 (Fy=60,000 psi) for all bars. Provide all wall and footing horizontal bars with 2'-0" x 2'-0" corner bars of the same size at all corners and wall intersections. Minimum lap splice 48 bar diameters.

**Concrete protection for reinforcement shall be:** Concrete exposed to earth or weather **Concrete cast against earth** Slabs

1.5" (#5 & smaller) 2" (#6 & larger)

Anchor bolts shall conform to F1554. All other bolts shall conform to ASTM A307.

Minimum anchor bolt size and spacing shall be 1/2" diameter bolts @ 6' o.c. Shear wall anchor bolts per the shear wall schedule. For cast-in-place anchors, provide 7" minimum embedment into the new concrete foundation. Provide 3"x3" square x 0.229" thick bolt washers where anchor bolts connect the sill plate to the concrete foundation.

0.75"

**Wood Framing Specifications:** 

All sill plates and other wood framing which is in contact with concrete or masonry must be preservative-treated in accordance with AWPA U1 and M4 standards. For anchor bolts connecting wood sill plates to concrete or masonry, provide galvanized steel washers and nuts on top of the sill, minimum washer size 3" x 3" x 1/4" thick.

Where toenails are used for stud wall construction, a minimum of (2) toenails at top and bottom of each stud shall be provided. Toenails shall be 16d nails driven at approximately a 45 degree angle, with a minimum of 1-1/2" of the nail shank shall be embedded in both the stud and the plate. End nails driven through the plate and into the stud end grain are not permitted. Simpson A34 clips at top and bottom of each stud are permitted where correct toenailing is not provided.

Wherever joists bear on a wall or beam, either a continuous rim joist or solid wood blocking must be provided. Blocking shall be connected to the joists with A35 angles at each end. Individual blocks may be omitted to allow for ducting or other openings. Consult with the engineer of record if more than 25% of the blocking is omitted.

Where LVLs are specified with a thickness greater than 1-3/4", the beam may be built up out of multiple 1-3/4" LVL beams connected per trussjoist TJ-9000 specifier's guide. Unless noted otherwise, the following grades and species shall be used for structural lumber:

All framing connections shall be per Table 2304.9.1 of the IBC, unless otherwise noted.

All fasteners installed in preservative-treated wood shall be hotdipped zinc-coated galvanized with a minimum coating weight complying with ASTM A 153.

Fasteners other than nails and timber rivets are permitted to be mechanically deposited zinc-coated with coating weights complying with ASTM B 695, Class 55 minimum. Plain carbon steel fasteners in wood preservated-treated with SBX/DOT or zinc borate are not required to be galvanized. **Plywood Thickness, Grade, and Nailing:** 

The truss live loading shall be per IRC Section 301.5 and Table 301.5, especially noting footnotes b and g.

The truss design shall be per IRC Sections 502.11.1 and 802.10.2, especially indicating the truss design and manufacturing shall be per ANSI/TPI 1.

**Component Safety Information.** 

**Manufactured Joists:** "TJI" Joists specified on the plans are prefabricated products manufactured by the Weverhaeuser Corporation. The contractor shall submit shop drawings and stamped structural design calculations for review. Joist design and shop drawings shall include location and weight of all equipment being supported by these joists. The manufacturer's installation instructions shall be available on the job site at the time of inspection. Other suppliers may be used, upon approval by the engineer of record.

Studs Studs Studs Studs up to 20' tall

**Metal Framing Connectors:** Unless otherwise noted: Metal framing connectors shall be manufactured by the Simpson company, or approved equal. Unless noted otherwise, use U-series joist hangers to match joist size (e.g., U210 for 2x10 joist). Provide H1 or H2.5 hurricane ties, or other connectors with similar capacity, at every roof joist or truss, and H6 or H7 at ends of roof beams and girder trusses. Where supported by wood posts, wood beams shall be connected to the tops of the posts using Simpson AC, PCZ or EPCZ post caps, and to the bottoms of the posts bearing on wood framing using Simpson AC connectors. Where supported by perpendicular beams, wood beams shall be connected by HU-series face mount beam hangers. Provide Simpson AB or PB post bases to connect posts to concrete foundations. Unless otherwise specified, the maximum number of nails or screws should always be installed on any connector.

**Bearing Walls:** All walls supported by continuous concrete footings shall be connected to the foundation per 2015 SRC section 403.1.6. 1/2" diameter anchor bolts shall be provided at 4' o.c., or two per wall segment, minimum. Anchor bolts shall penetrate 7" into the concrete foundation.

Note "TSW" (Truss Connection to Shear Wall) One typical roof truss shall be located directly over the indicated shear wall, and that the bottom chord of that roof truss shall be connected to the top plate of the shear wall below with Simpson A35 connectors per the shear wall schedule.

2x joists	Hem-Fir #2
2x, 3x, and 4x studs	DF/L standard for plywood or WSP shear walls
	Hem-Fir standard for other walls
4x and 6x beams	DF-L #2
Microllam LVL lumber	LVL 1.9E, Fb = 2600 psi, Fv = 285 psi (minimums)
Parallam lumber	2.0 WS, Fb = 2900 psi, Fv = 290 psi (minimums)
Glu-lam lumber	24F-V4 for simple span beams, 24F-V8 for cantilever beams

#### **<u>Preservative-Treated Wood and Fasteners:</u>**

All wood in contact with concrete or masonry shall be preservative-treated, in accordance with AWPA U1 and M4 standards.

Install plywood sheets with face grain perpendicular to framing. Stagger joints in adjacent sheets. If not otherwise noted, use nailing schedule, Table 2304.9.1 of the IBC.

#### **Manufactured Trusses:**

Manufactured trusses specified on the plans are prefabricated products manufactured by a truss manufacturer. The contractor shall submit shop drawings and stamped structural design calculations for review. The manufacturer's installation instructions shall be available on the job site at the time of inspection. Truss design and shop drawings shall include location and weight of all equipment being supported by these trusses.

The truss temporary and permanent bracing shall be per IRC Sections 502.11.2 and 802.10.3 as well as the Truss Plate Institute's Building

Truss alterations shall not occur unless the approval of a designprofessional as indicated in IRC Sections 502.11.3 and 802.10.4.

#### Wall Stud Schedule:

(For double or triple studs, spike studs together with 16d nails at 18" o.c.)

up to 9' tall	(1) 2x4 @ 16" o.c.
up to 11' tall	(2) 2x4 @ 16" o.c.
up to 14' tall	(1) 2x6 @ 16" o.c.
up to 17' tall	(2) 2x6 @ 16" o.c.
up to 20' tall	(3) 2x6 @ 16" o.c.

Additionally, the truss top chord shall receive roof diaphragm edge nailing from the roof sheathing. Both ends of the indicated trusses shall be connected to a double stud in the shear wall below, using a Simpson H6 or H7 connector. Provide two rows of shear wall edge nailing through the shear wall plywood sheathing into the double studs.

Truss spacing may need to be adjusted, or additional trusses provided, to assure that a truss is located over each indicated shear wall.

#### Drag Strut Note "DS"

A horizontal Simpson CMSTC16 strap shall be provided to create this connection. The strap shall extend minimum 3' onto any beam or wall being connected, and shall be continuous over any blocking between joists for the extent of the drag strut. The strap must be nailed using 16d sinkers, with a nailing pattern per Simpson specifications.

The strap may be installed either on top of the plywood floor diaphragm, or connecting a beam or joist, as applicable and feasible.

Beams or joists may be connected to a wall top plate by (8) A35s.

Where no joists occur below the strap, provide 3-1/2" wide by 3-1/2" deep (minimum) solid wood blocking in the floor or roof framing, below the strap, for nailing. The blocking should be attached to the perpendicular joists with Simpson A34 framing anchors at both ends of each block

Refer to the latest edition of the Simpson Catalog for required nailing and other requirements.

### **Hold Down Notes**

Convention for showing shear walls and hold downs: Shear walls are shown on the framing plan for the floor above. (For example, first floor shear walls will be shown on the second floor framing plan, and the shear walls for the topmost floor will be shown on the roof framing plan.) Hold downs are located at the bottom of that shear wall, and connect the end of the shear wall to wall framing or a structural beam located in the floor below the shear wall. Contact the engineer of record for clarification if needed.

where so indicated), until they are finally connected to the concrete foundation. Hold downs shall be installed so as to be as far apart as is reasonable. Hold downs may be located on either the near side or the far side of the post or double stud to which they are attached. In no case shall a hold down bolt be located farther than 6" from the end of the shear wall, except with prior written approval of the engineer. Refer to the latest edition of the Simpson Catalog for details.

#### Strap Hold Downs:

applicable. Straps shall be installed so that the minimum end length is provided to both connected posts or studs.

Vhere	a strap is	connec	ted to	a below	below,	t
CS16	de	notes a	Simps	on CS1	6 strap,	١

MSTC16	denotes a	Simpson	CMSTC16	st
--------	-----------	---------	---------	----

MST14 denotes a Simpson CMST12 str	MST14	denotes	a Simpson	CMST12	str
------------------------------------	-------	---------	-----------	--------	-----

#### **Rod Hold Downs:**

HDUx	denotes a Simpson HDU(2,4,				
	For hold downs a	t new concrete			
	<u>For HDU2,4,5:</u>	Simpson S			

For HDU8:

Simpson SB1x30 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. For HDU11: Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 1" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

Simpson PAB8 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. For HDU14: The PAB threaded rod may be extended using an ASTM A194-2H coupler connecting to a 1" diameter ASTM A449 threaded rod.

The PAB anchor shall be continuous through the foundation stem wall, into the footing. Footings containing an anchor bolt shall be a minimum of 16" wide by 12" deep. The embedment depth shall be as shown in the Hold Down Bolt Embedment Table.

Provide a continuous horizontal connection between the indicated beams, walls, and blocking, using the following method.

Refer to the Drag Strut Typical Detail provided with these plans.

Hold downs for each floor must be continuously connected to hold downs on the floor below (or to other intermediate wood framing

Where multiple studs are called out at a hold down, nail studs together with (2) 16d nails at 8" o.c. or 1/4" x 3" Simpson SDS Screws at 12" o.c.

Provide a vertically oriented strap hold down consisting of one or two of the Simpson vertical strap ties listed below, connecting the end stud or post of the shear wall indicated to new or existing studs in the wall framing below, or to a wood beam supporting the shear wall, where

the strap shall be wrapped around the beam until the minimum end length is reached.

with a minim end length of 14", and (13) 8d nails each end.

strap, with a minim end length of 25", and (29) 16d sinker nails each end.

ap, with a minim end length of 44", and (38) 10d nails each end.

CMST12 denotes a Simpson CMST12 strap, with a minim end length of 44", and (49) 10d nails each end.

or 11)-SDS2.5 hold down.

foundations, provide the following bolts.

B5/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 5/8" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

Simpson SB7/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 7/8" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

![](_page_18_Picture_105.jpeg)

![](_page_19_Figure_0.jpeg)

 $\bowtie$ 

Ø

![](_page_19_Figure_1.jpeg)

DATABASE. POINT ID NO. CASC57 MONUMENT IN CASE AT THE END OF THE CUL-DE-SAC OF 42ND PLACE SE, MERCER ISLAND. ELEVATION: 52.72 FEET (NAVD 88).

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.

![](_page_19_Figure_4.jpeg)

![](_page_20_Figure_0.jpeg)

![](_page_21_Figure_0.jpeg)

### **RECOMMENDED CONSTRUCTION SEQUENCE**

A DETAILED CONSTRUCTION SEQUENCE IS NEEDED TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE APPLIED AT THE APPROPRIATE TIMES. A RECOMMENDED CONSTRUCTION SEQUENCE IS PROVIDED BELOW:

1. HOLD AN ONSITE PRE-CONSTRUCTION MEETING.

- 2. POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).
- 3. FLAG OR FENCE CLEARING LIMITS.
- 4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED.
- 5. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
- 6. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
- 7. CONSTRUCT SEDIMENT PONDS AND TRAPS.
- 8. GRADE AND STABILIZE CONSTRUCTION ROADS.
- 9. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
- 10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER
- ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. 11. RELOCATE SURFACE SURFACE WATER CONTROLS OR TESC MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH CITY OF MERCER ISLAND TESC REQUIREMENTS.
- 12. COVER ALL AREAS THAT WILL BE UN-WORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) OR TWO DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.
- 13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
- 14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
- 15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.

					·	~					
DBH	QMD	Category	>24" DBH	Viable Tree	Species	Dripline	Health	Structure	Comments on Condition	Tree Type	LOD Radius
12, 24"	26″	Large	Yes		Lawson cypress	16'	1	2	Asymmetric	E	13'
25″	25″	Large	Yes		Lawson cypress	15'	1	2	Asymmetric	E	13'
5, <mark>6</mark> "	7"	Small			Vine maple	8'	1	2	Growth obstruction, asymmetric	D	<mark>6'</mark>
5, 4.5, 5"	8"	Exceptional			Vine maple	8'	1	2	Growth obstruction, asymmetric	D	6'
7, 7, 7″	13″	Significant			Japanese maple	14'	1	2	Growth obstruction	D	7'
12"	12″	Significant			Colorado blue spruce	11'	1	1		E	6'
17"	17"	Significant			Colorado blue spruce	12'	1	2	Asymmetric	E	8'
10"	10"	Significant			Scots pine	12'	1	1		С	6'
9, 10"	13″	Significant			Portugal laurel	11'	1	2	Double leader	BE	6'
8, 8, 8″	13"	Significant			Thread cypress	12'	1	2	Multiple leader	С	6'
20"	20"	Dead		NO	Douglas-fir	0'	3	3	Dead, topped at 40 feet	E	10'
21"	21″	Significant			Western red-cedar	16'	1	2	Asymmetric, perched on shoulder	C	10'
26"	26″	Large	Yes	NO	Bigleaf maple	20'	3	3	Ivy, Kretzschmaria, decay	D	13'
42"	42"	Exceptional	Yes		Douglas-fir	20'	1	1		E	20'
15"	15″	Exceptional			Pacific madrone	12'	2	2	Lean, diseased, asymmetric	BE	8'
9"	9"	Hazardous		NO	Pacific madrone	8'	3	3	Lean, diseased, minuscule canopy, ivy	BE	6'
, <mark>8, 9, 10"</mark>	18"	Significant			Bigleaf maple	20'	1	2	Stumpsprout	D	9'
34"	34"	Exceptional	Yes		Douglas-fir	20'	1	2	Previously topped, hazard	E	17'

### TREE INVENTORY TABLE FROM ARBORIST

DBH	OMD	Category	>24" DBH	Viable Tree	Species	Dripline	Health	Structure	Comments on Condition	Tree Type	LOD Radius
	4	00008017			opecies				beam over street		
3, 14"	19"	Significant			Bigleaf maple	18'	2	2	Suppressed, asymmetric, double leader	D	9'
29″	29"	Large	Yes		Douglas-fir	20'	1	2	Sweep in trunk	E	14'
11, 16"	21″	Significant			Bigleaf maple	20'	1	2	Multiple leader	D	10'
12"	12"	Significant			European birch	16'	1	2	Lean west toward street, slender	D	6'
12"	12″	Significant			Bigleaf maple	16'	1	2	Asymmetric	D	6'
13″	13"	Significant			Bigleaf maple	16'	1	2	Slender	D	6'
10, 13"	19"	Significant		NO	Bigleaf maple	16'	2	3	Suppressed, stumpsprout	D	9'
6, 17"	23"	Significant		NO	Bigleaf maple	20'	3	3	Decline, chlorotic, slender, stumpsprout	D	11'
0, 10 "	14"	Significant		NO	Bigleaf maple	20'	2	3	Suppressed, asymmetric, stumpsprout	D	6'
<mark>14, 15"</mark>	22"	Significant		NO	Bigleaf maple	6'	3	3	Decline, suppressed, stumpsprout, decay	D	11'
19"	19"	Significant		NO	Bigleaf maple	20'	1	3	Suppressed, asymmetric, over-extended branches	D	9 <b>'</b>
19, 35"	41"	Hazardous		NO	Bigleaf maple	25'	1	3	Crack, decay	D	20'
60"	60"	Hazardous		NO	Bigleaf maple	20'	3	3	Topped at 8 feet, multiple water sprout, Kretzschmaria	D	16'
38"	38"	Exceptional	Yes		Giant redwood	18'			Topped at 40 feet	E	16'
38"	38"	Exceptional	Yes		Giant redwood	18'		ar d	Topped at 40 feet	E	16'
9, 13″	15″	Significant			Lawson cypress					Ε	8'
18, 20"	29"	Large	Yes		Western red-cedar	16'			Multiple leader	С	14'

DBH	QMD	Category	>24" DBH	Viable Tree	Species	Dripline	Health	Structure	Comments on Condition	Tree Type	LOD Radius
15″	15"	Significant			Western red-cedar	16'				С	8'
54"	54"	Exceptional	Yes		Bigleaf maple	40'			Double leader, chlorotic, declining foliage, ivy	D	22'
26"	26″	Large	Yes		Western red-cedar	18'				С	13'
11, 11"	15″	Significant			Bigleaf maple	20'	1	2	Double leader	D	8'

![](_page_21_Picture_22.jpeg)

#### DATE: Nov 03, 2020 JOB# 1785 DRAFTED: SS DESIGN: DE DIGITAL SIGNATURE

### **EROSION CONTROL NOTES**

D.8.2 STANDARD ESC PLAN NOTES THE STANDARD ESC PLAN NOTES MUST BE INCLUDED ON ALL ESC PLANS. APPLICANT'S DISCRETION, NOTES THAT IN NO WAY APPLY TO THE PROJECT OMITTED; HOWEVER, THE REMAINING NOTES MUST NOT BE RENUMBERED IF ESC NOTE #3 WERE OMITTED, THE REMAINING NOTES SHOULD BE NUME 6, ETC.

1. APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLA CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACIL ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPL

SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHAL FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRU APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE N THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION

4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE B CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PA REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRA RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.

5. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIC CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AN PROPERTIES IS MINIMIZED.

6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIRE ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, TH FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVI MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITION MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SIL PERIMETER PROTECTION ETC.) AS DIRECTED BY CITY OF MERCER ISLAND.

7. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITT SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.

8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON OF DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE A METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).

9. ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.

10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAIN MINIMUM OF ONCE A MONTH DURING THE DRY SEASON, BI-MONTHLY DU SEASON, OR WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVE

11. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWI ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYAN BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLU SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPOR BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEA SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUI ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MU GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABO GRADE OF THE PERMANENT FACILITY.

13. COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX SURFACE WATER DESIGN MANUAL

14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBE BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK C BEGINNING OF THE WET SEASON.

![](_page_21_Picture_42.jpeg)

![](_page_21_Picture_43.jpeg)

102 NW CANAL STREET PHONE: 206.930.0342

DUFFY

	<u>CIT</u>	Y NOTES	
	1.	ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUG REVISION.	HA
D. FOR EXAMPLE, BERED 1, 2, 4, 5,	2.	APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIE CAUSED FROM THIS CONSTRUCTION.	S
N DOES NOT (E.G., SIZE AND ITIES, UTILITIES,	3.	CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION A CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR US CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVE IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.	REA. SE AT NTS.
MAINTENANCE,	4.	CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITES.	
LICANT/ESC	5.	AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.42	4.5555
LL BE CLEARLY	6.	DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED	
YOND THE MAINTAINED BY	7.	EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROV OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SP ITEMS TO BE FOLLOWED AT YOUR SITE:	ISIONS ECIFIC
BEGINNING OF ADDITIONAL NDS, MAY BE NCK OUT TO ROAD	8.	PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE O APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FE VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.	F BUT INCES,
OR TO OR IN T THE ID ADJACENT	9.	CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.	
EMENTS FOR ESE ESC	10.	PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR O TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.	THER
AL COVER _T FENCES,	11.	ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DUR ANY RAIN EVENT.	(7) ING
SUPERVISOR EN RECORDS , THAT WILL NOT R SEVEN DAYS	12.	INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AI ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.	N R
APPROVED ESC E ATTENTION NTAINED A	13.	OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINI DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NO IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE	MUM T
ENT. ED TO NCE LINES SHALL USH	14.	POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STO SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUB MAINS.	RM A LIC
RARY SETTLING ASURES AND	15.	REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.	
NCTION JST BE ROUGH	16. INSP	ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND ECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF P	PE.
X D OF THE	17.	SILENT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FE THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUG THE TERM OF THE PROJECT.	NCE. GHOUT
	18.	WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.	
I FOR THE DF THE	19.	REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER MAND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.	1ETER
	16.	THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN I REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, TH REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.	S
	20.	NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' HYDROSTATIC HEAD TEST.	OF
	21.	POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STO SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUB	RM A LIC
	22.	THE LIMITS AND EXTENDS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY S BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZE THE PROJECT.	HALL
	DE APR ALL REA OCT ALL PRC CON	ENUDED AREAS REQUIREMENTS RIL 1 TO SEPT 30 DENUDED AREAS MUST BE STABILIZED WITHIN 7 DAYS OF CONSTRUCTION. PL D ALL CITY TESC NOTES ON SHEET C1.2. T TO MARCH 31 DENUDED AREAS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING. IF AN ER DBLEM ALREADY EXISTS ON THE SITE, OTHER COVER PROTECTION AND EROSION NTROL WILL BE REQUIRED.	EASE OSION N
			PERMIT 2001-188
ERING		TESC & CITY NOTES TESC DETAILS	drawing no:
SEATTLE, WA 98107 @CESOLUTIONS.US			APN 777670-0010
	42xx I	EAST MERCER WAY, MERCER ISLAND, WA 98040	

SANITARY SEWER IMPROVEMENTS	STORM BMP's
	COMPOSTED AMENDED SOIL IS REQUIRED FOR DISTURBED
<ul><li>6" SDR 35 PVC SANITARY SEWER(SS) @ MIN 1.0 %.</li></ul>	STORM BMP'S ARE NOT PROPOSED FOR PROJECT. SEE
3 -	STORM REPORT.
<u>(</u> 4) -	DETENTION IS PROPOSED PER THIS BUILDING PERMIT.
⑦ ·	
	SURVEYOR
	SITE SURVEYING, INC. 21923 NE 11th STREET
	SAMMAMISH, WA 98074 PHONE 425.298.4412
-NEW SF RESIDENTIAL WATER SERVICE & METER PIT. CONFIRM REQUIRED SIZE WITH BUILDING PERMIT REVIEW. INSTALL PER MERCER ISLAND DETAIL W-13, W-14, OR W-14A DEPENDING ON SIZE REQUIREMENT.	VERTICAL DATUM
MIN 1.5" 250 PSI PRIVATE HDPE WATER (ASTM D2239) FROM	NAVD 88 PER SURVEY
HOUSE ENTRY WITH BUILDER/OWNER.	
(12) -	LEGAL DESCRIPTION
14 -	PENDING
STORM DRAIN	SOILS
20 4" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE	SITE IS IN AN AREA MAPPED "INFILTRATING LID FACILITIES ARE NOT PERMITTED" ON THE "LOW IMPACT
4" FOUNDATION DRAIN (3034 PVC) @ MIN 1 % GRADE	DEVELOPMENT INFILTRATION FEASIBILITY ON MERCER ISLAND" MAP.
22 6" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE	INFILTRATION IS NOT PROPOSED.
-8" STORM DRAIN. (SDR 35 PVC OR EQUAL). SEE PROFILE FOR GRADE	
-12" STORM DRAIN (HDPE N12 OR EQUAL). SEE PROFILE SHEET.	
<u>6</u> 6 -	
23 -	
29 -	
STORM DRAIN STRUCTURES	SOIL AMENDMENT REQUIRED
O -TYPE 1 CB WITH STANDARD GRATE. SEE PLANS WHERE BEEHIVE GRATE ARE CALLED OUT. MAX 5' RIM TO FL DEPTH.	COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE
31 -TYPE 1 CB WITH VANED LID. MAX 5' RIM TO FL DEPTH.	DETAIL ON C3.5.
32 -TYPE 1 CB WITH ROUND SOLID LID	SOIL INSPECTION REQUIRED
<u>3</u>	A POST CONSTRUCTION INSPECTION &
$\mathbf{O}$	BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED
(34) -	
<u>35</u> -	
36 -NDS DURASLOPE CHANNEL DRAIN OR EQUAL. MINIMUM 6" CHANNEL.	SEE C4 0
CLASS & VEHICLE RATED GRATE.	
<u>40</u> -	TREE REMOVALS
41 -54" ID TYPE 2 MH CONTROL STRUCTURE WITH SOLID LID. SEE ALL	SEE C1.0
DETAILS AND PROFILE C4.0.	
(46) -	
DETENTION PIPE: ALUMINIZED CMP @ 0.5 % GRADE. SEE PLAN FOR	
C4.0.	
(48) -	
NO. DATE BY REVISIONS	
	APPLICANT: MILLAD HOMES, LLC

![](_page_22_Figure_1.jpeg)

NO.	DATE	BY	REVISIONS	

![](_page_23_Figure_1.jpeg)

![](_page_23_Figure_2.jpeg)

## TREE REMOVALS

![](_page_23_Picture_5.jpeg)

DATE: Nov 03, 2020 JOB# 1785 DRAFTED: DE DESIGN: DE DIGITAL SIGNATURE

![](_page_23_Picture_7.jpeg)

![](_page_23_Picture_8.jpeg)

102 NW CANAL STREET PHONE: 206.930.0342

## PUBLIC STORM PROFILE

PERMIT 2001-188 DRAWING NO: C2.1 STORM PROFILE

![](_page_23_Picture_13.jpeg)

EAST RESIDENCE 42xx EAST MERCER WAY, MERCER ISLAND, WA 98040 APN 777670-0010

NO.	DATE	BY	REVISIONS	APPLICANT:
				MILLAD HOMES, LLC

### STORM DRAIN INSTALLATION SPECIAL REQUIREMENTS REF: OCTOBER 18, 2019 MEMORANDUM FROM GEO Group NW

### **Conclusions and Recommendations – New Stormwater Piping**

Significant portions of the existing and proposed stormwater piping are located at steep slope areas. We recommend that where piping is removed that temporary shoring is installed as necessary for safety and to mitigate trench collapse risks. From our point of view it is not necessary to remove the existing underground piping at all steep slope areas provided that the upstream end of the existing piping is disconnected from the working drainage system and capped. The downstream section of piping may then be abandoned in place. Of course, where existing piping intercepts the new development then the pipe must be removed.

For the installation of new stormwater piping through the steep slope areas we recommend that the pipe consist of heat-welded HDPE pipe and that the pipe is anchored at the top of each section which traverses steep slopes. There are various methods for anchoring piping such as anchoring to catchbasin structures and/or constructing concrete anchor blocks which surround the pipe and derive resistance to movement by pouring neat against the existing firm soils or compacted structural fills. The designer may assume passive earth pressure of 350 pcf (equivalent fluid weight) and a coefficient of friction = 0.35 for compacted structural fill and undisturbed native site soils ("neat" pour) in contact with the pipe anchor system. We recommend that individual anchors are installed to restrain sloping pipe sections having a fall of not greater than 30-feet. Fills placed at the stormwater piping trenches located at slope areas which are steeper than 25 percent shall consist of clean crushed rock. At less steep trench areas we recommend that fills are compacted in accordance with the recommendations for structural fill noted in the geotechnical report. It is recommended that all piping is properly bedded for the selected pipe type and diameter based upon WSDOT or Mercer Island standard specifications.

![](_page_24_Picture_5.jpeg)

DATE: Nov 03, 2020 JOB# 1785

DRAFTED: SS DESIGN: SS DIGITAL SIGNATURE

![](_page_24_Picture_8.jpeg)

![](_page_24_Picture_9.jpeg)

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### SOIL AMENDMENT REQUIRED

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

### SOIL INSPECTION REQUIRED BY ENGINEER

A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

![](_page_24_Figure_17.jpeg)

![](_page_24_Figure_18.jpeg)

![](_page_24_Picture_19.jpeg)

EAST RESIDENCE 42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

STORMWATER BMP DETAILS

APN 777670-0010

	MERCE	R ISLA		DE	TEN	ITIC	<u>)</u> N "TA	<b>\BLE</b>	E 1"	
	ON-SITE DETENTIO	N DESIGN FOR PRO	OJECTS BET	WEEN 500	SF AND 9,500	O SF NEW P	PLUS REPLACED I	MPERVIOUS	SURFACE AF	REA
			Detent	ion Pipe	Lowest	Orifice	Distance from (	Outlet Invert	Second	Orifice
	New and Replaced Impervious Surface Are	Detention Pipe	B souls	cn (rt) C soils	Diamete B soils	er (in) <sup>67</sup> C soils	to Second O Bassils	C soils	Diame	c soils
	(sf) 500 to 1,000 sf	Diameter (in) 36" 48"	30 18	22 11	0.5	0.5	2.2 3.3	2.0	0.5	0.8
	1,001 to 2,000 sf	36" 48" 60"	11 66 34 22	7 43 23 14	0.5 0.5 0.5	0.5 0.5 0.5 0.5	4.2 2.2 3.2 4.3	3.4 2.3 3.3 3.6	0.5 0.9 0.9 0.9	0.6 1.4 1.2 0.9
	2,001 to 3,000 sf	36" 48" 60"	90 48 30	66 36 20	0.5	0.5	4.3 2.2 3.1 4.2	2.4 2.8 3.7	0.9	0.9 1.9 1.5 1.1
	3,001 to 4,000 sf	36" 48" 60"	30 120 62 42	78 42 26	0.5	0.5	2.4 2.8 3.8	2.2 2.9 3.9	0.9 1.4 0.8	1.1 1.6 1.3
4,00	01 to 5,000 sf	36" 48" 50"	134 73	20 91 49	0.5	0.5	2.8 3.6	2.2	1.7 1.6	1.5 1.5 1.5
5,00:	1 to 6,000 sf	36" 48"	46 162 90	109 59	0.5	0.5	2.7 3.5	2.2 2.9	1.6 1.8 1.7	1.3 1.6 1.5
6,00	)1 to 7,000 sf	36" 48"	192 102	128 68	0.5	0.5	4.0 2.7 3.7	2.2 2.9	1.0 1.9 1.9	1.4 1.8 1.6
	7,001 to 8,000 sf	60" 36" 48"	64 216 119	43 146 79	0.5 0.5 0.5	0.5 0.5 0.5	4.6 2.8 3.8	3.6 2.2 2.9	1.8 2.0 2.2	1.5 1.9 1.7
8	,001 to 8,500 sf <sup>(1)</sup>	60" 36" 48"	73 228 124	49 155 84	0.5 0.5 0.5	0.5 0.5 0.5	4.5 2.8 3.7	3.6 2.2 2.9	2.0 2.1 1.9	1.6 1.9 1.8
	3,501 to 9,000 sf	60" 36" 48"	77 NA <sup>(1)</sup> NA <sup>(1)</sup>	53 164 89	0.5 0.5 0.5	0.5 0.5 0.5	4.6 NA <sup>(1)</sup> NA <sup>(1)</sup>	3.6 2.2 2.9	2.0 NA <sup>(1)</sup> NA <sup>(1)</sup>	1.6 1.9 1.9
	0.001 to 0.000 (2)	60" 36"	NA <sup>(1)</sup> NA <sup>(1)</sup>	55 174	0.5	0.5 0.5	NA <sup>(1)</sup> NA <sup>(1)</sup>	3.6 2.2	NA <sup>(1)</sup> NA <sup>(1)</sup>	1.7 2.1
No	א,טטז נס א,500 sf**' ites:	48" 60"	NA <sup>(1)</sup>	58	0.5	0.5	NA <sup>(1)</sup>	3.7	NA (1)	2.0
	<ul> <li>frequency will need in WWHI</li> <li>frequency will need to be</li> <li>Soil type to be determin</li> <li>Sizing includes a Volume</li> <li>Upper bound contributi</li> <li><sup>(1)</sup> On Type B soils, new pl exceeding 8,500 sf trig</li> <li><sup>(2)</sup> On Type C soils, new pl exceeding 9,500 sf trig</li> <li><sup>(3)</sup> Minimum orifice diame in = inch ft = feet</li> <li>sf = square feet</li> </ul>	evaluated on a site ed by geotechnical Correction Factor g area used for siz is replaced imperv ger Minimum Requ is replaced imperv ger Minimum Requ is replaced imperv	e-specific ba l analysis or of 120%. ting. tious surface lirement #7 tious surface lirement #7	e areas (Flow Cont (Flow Cont (Flow Cont	trol)	Basis of Sized per M Puget Soun SBUH, Typ 2-year, 24- storm = 3 i Predevelop soils, CN = Developed 0.5 foot of Overland s	Second a flat solution of the second a flat solution of the second a flat solution of the second solution of the second and solution of the second and solution of the second and solution of the second and solution of the second and solut	(0-5%) slope (0-5%) (5%) slopes. (5%) slopes. (5%) slopes. (7%) slopes	nagement M nal) 4-hour 4 in CN = 72 for <sup>-1</sup>	anual fo
	<u>IMPERV</u>	IOUS	TAE	BLE						
		Imp	pervio	ous A	rea S	prea	dsheet			
E	ast Reside	ice - 42xx Ea	ast Mer	rcer Wa	ay, Merc	cer Isla	ind, WA 98	3040 - CI	ES #176	6-E
Gro	ss Site area						16,230 0.373	sf acres		
Existir	ig Imper	ious Area t	o be de	molish	ned					
Ex roo Ex Dr	of, on-si iveway	e on-site, exp	osed			2	2,019	) sf		
		total e	xisting,	, to be	demolis	shed =	4,708	sf		
P	roposed Impe	rvious Area	(on-sit	e <mark>) (</mark> nev	w + repla	aced)	3 612	cf		
	Exposed drive	way, expos	ed, on-	site			1,014	sf		
	Exposed entr Exposed back	y steps porch				_	173 22	sf sf		
-	tota	l on-site (n	ew + re	placed	d) propo	osed =	4,822	sf		
		t	otal rep	olaced	impervi	ious =	4,708	sf sf		
		total ne total p	ew + rep	olaced d lawn	impervi /landsc	ious = ape =	4,822	sf sf		
	÷	Jordi h	- pose		1					
	Proposed Impe	rvious Area	into de	etentio	on pipe		3 613	sf		
Pro R( E)	posed Impe oof (posed drive	rvious Area eway, expos	into de sed, on-	etentio •site	on pipe		3,613	sf sf		

![](_page_25_Figure_12.jpeg)

![](_page_25_Figure_14.jpeg)

![](_page_25_Picture_15.jpeg)

SS \_\_\_\_\_

![](_page_25_Picture_18.jpeg)

(IP)

![](_page_25_Figure_19.jpeg)

# SOLUTIONS

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![](_page_26_Figure_0.jpeg)