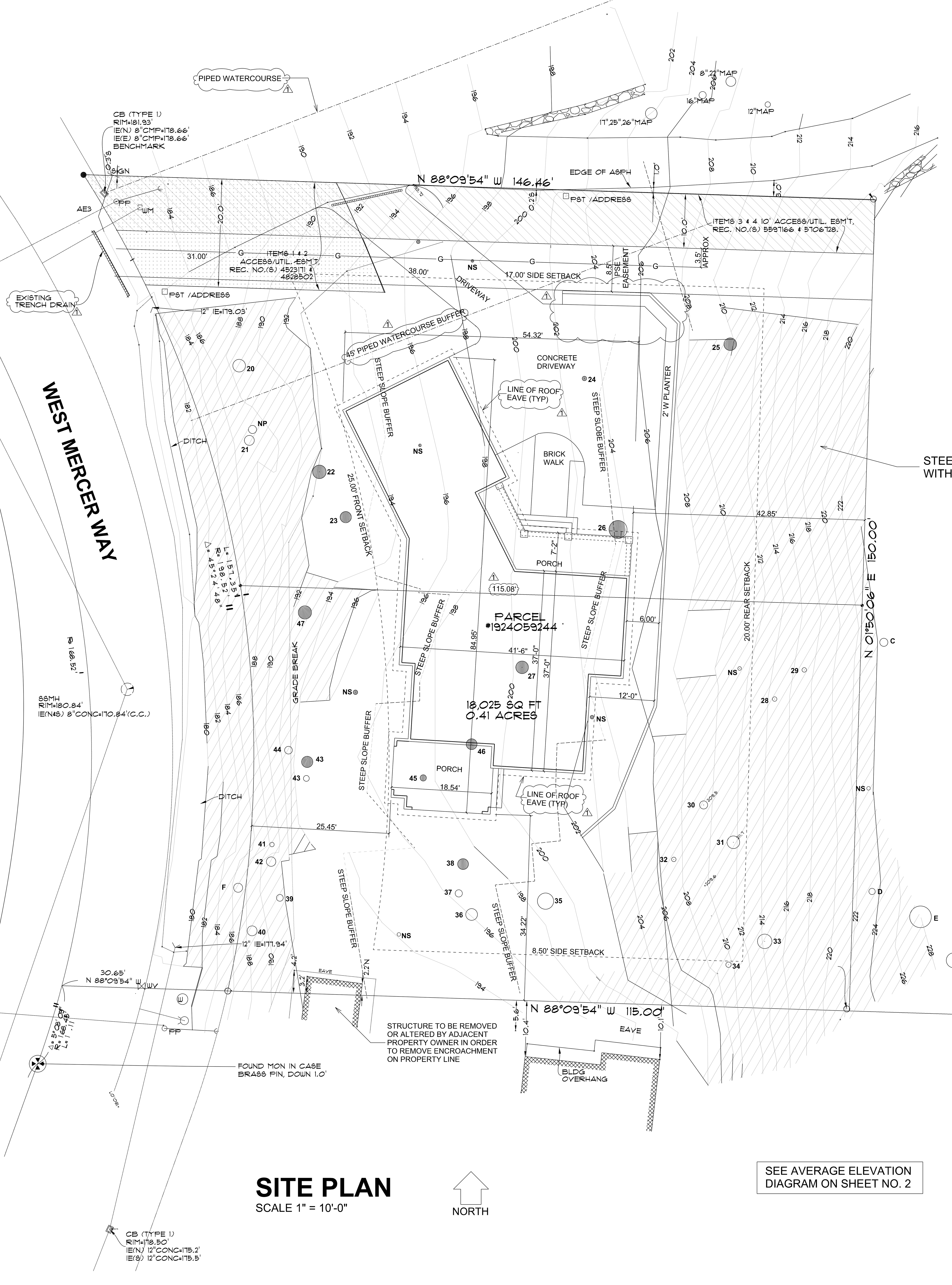
PROJECT INFORMATION

OWNER:	EDWARD & CATHERINE MORAN 4882 FOREST AVENIE SE MERCER ISLAND, WA 98040 PHONE: (206) 288-9650 edmoran82@gmail.com
DESIGNER:	PLAN ONE 1501 DAYTON COURT NE RENTON, WA. 98056-2766 PHONE: (206) 612-8511 CONTACT: WILLIAM M. GOTTLIEB wmgottliebMoran MIone.biz
STRUCTURAL ENGINEER	KIA CO CONSULTING STRUCTURAL ENGINEERS P.O BOX 7255 BELLEVUE, WA 98008 PHONE: (425) 351-5999 CONTACT: ALI GASSIMIKIA kiaeng.ali@gmail.com
CONTRACTOR:	RAINIER CUSTOM HOMES, LLC. 306 WELLS AVENUE SE RENTON, WA 98057 PHONE: (206) 513-4242 CONTACT: NEVIN MIDDLETON PreCon@rainiercustomhomes.com RAINICH852K1
GEOTECHNICAL ENGINEER	NELSON GEOTECHNICAL ASSOCIATES 17311 135TH AVENUE NE SUITE A-500 WOODINVILLE, WA 98072 (425) 486-1669 CONTACT: KHAL SHAWISH khals@nelsongeotech.com
CIVIL ENGINEER	JMJ TEAM-JUSTIN JONES, PE P.O. BOZ 2066 SUMNER, WA 98390 (206) 596-2020 CONTACT: JUSTIN JONES justin@jmjteam.com
ARBORIST	TREE SOLUTIONS 2940 WESTLAKE AVENUE N SEATTLE, WA 98109 (206) 528-4670 CONTACT: JOSH PETTER josh@treesolutions.net
PLAN REVIEW:	CITY OF MERCER ISLAND
INSPECTION:	CITY OF MERCER ISLAND

DESIGN CRITERIA

JURISDICTION:	CITY OF MERCER ISLAND, WA
LEGAL DESCRIPTION:	THAT PORTION OF THE SOUTH HALF OG THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M. DESCRIBED AS FOLLOWS: BEGINNING ON THE EAST LINE OF SAID SUBDIVISION, DISTANT NORTH 00^ 02' 27" WEST MERCER WAY AND THE POINT OF BEGINNING, THENCE SOUTH 89^ 24' 27" EAST 115 FEET; THENCE NORTH 00^ 35' 33" EAST 150 FEET; THENCE NORTH 89^ 24' 27" WEST 107.05 FEET, MORE OR LESS, TO SAID EAST LINE OF WEST MERCER WAY; THENCE SOUTHERLY ALONG SAID LINE 150 FEET, MORE OR LESS TO THE TRUE POINT OF BEGINNING; SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.
PROPERTY ADDRESS:	2058 WEST MERCER WAY MERCER ISLAND, WA 98040
TAX PARCEL NO:	192405-9244
EXISTING ZONING:	R-15
GROSS LOT AREA:	18,295 SQ. FT. (0.42 ACRE)
NET LOT AREA:	16,865 SQ. FT. (0.39 ACRE)
BUILDING CODES:	2018 IRC 2018 WSEC
CONSTRUCTION TYPE:	VB
OCCUPANCY TYPE:	R-3 ONE FAMILY DWELING
LOT WIDTH:	115.08' PER MICC 19.16



	ASPHALT SURFACE
	BUILDING
	CENTERLINE ROW
	CULVERT PIPE
	DITCH (FLOWLINE)
	FIRE HYDRANT
	GUY ANCHOR
	CATCH BASIN (TYPE 1)
	MONUMENT IN CASE (FOUND)
PST	POST
	POWER (OVERHEAD)
PP	POWER POLE
	IRON PIPE (FOUND)
	REBAR & CAP (SET)
	ROCKERY
	SEWER LINE
	SEWER MANHOLE
	STORM DRAIN LINE
SIZE TYPE	TREE (AS NOTED)
	WATER MH
	WATER LINE
WM	WATER METER
WV	WATER VALVE
	STEEP SLOPE AREA
	ITEMS 1 & 2 ACCESS/UTIL. ESM'T, REC. NO.(S) 4523171 & 4828502
	ITEMS 3 & 4 10' ACCESS/UTIL. ESM'T, REC. NO.(S) 5597166 & 5706728.

STEEP SLOPES DENOTED WITH CROSS-HATCHING

GREENSCAPE CALCULATIONS

TOTAL AREA OF FRONT SETBACK = 1300.0 SQ. FT.

HARDSCAPE = 452.0 SQ. FT.

GREENSCAPE = 848.0 SQ. FT.

% OFGREENSCAPE IN FRONT SETBACK = 65.2 %

SHEET INDEX

SHEET 1	SITE PLAN, PROJECT INFORMATION & DESIGN CRITERIA
SHEET 2	AVERAGE GRADE DIAGRAM
SHEET 3	MAIN LEVEL FLOOR PLAN
SHEET 4	UPPER LEVEL FLOOR PLAN
SHEET 5	NORTH & SOUTH EXTERIOR ELEVATIONS
SHEET 6	EAST & WEST EXTERIOR ELEVATIONS
SHEET 7	BUILDING SECTION A & B
SHEET 8	BUILDING SECTION C
SHEET 9	BUILDING SECTION D
SHEET 10	BUILDING SECTION E
SHEET 11	BUILDING SECTION F
SHEET 12	ROOF PLAN AND ATTIC VENTILATION
SHEET 13	MAIN LEVEL REFLECTED CEILING PLAN
SHEET 14	MAIN LEVEL REFLECTED CEILING PLAN
SHEET 15	TREE REMOVAL AND RETENTION PLAN
SHEET 16	TREE PROTECTION PLAN
SHEET S-1	GENERAL STRUCTURAL NOTES
SHEET S-2	FOUNDATION PLAN
SHEET S-3	FOUNDATION DETAILS
SHEET S-4	MAIN LEVEL FLOOR FRAMING PLAN & DETAILS
SHEET S-5	UPPER LEVEL FLOOR FRAMING PLAN & DETAILS
SHEET S-6	ROOF FRAMING PLAN & DETAILS
SHEET S-7	MAIN LEVEL SHEAR WALL PLAN
SHEET S-8	UPPER LEVEL SHEAR WALL PLAN AND SCHEDULE
SHEET SH-1	SHORING WALL PLAN
SHEET SH-2	SHORING WALL ELEVATION & NOTES
SHEET SH-3	SHORING WALL DETAILS & NOTES

SITE PLAN

SCALE 1" = 10'-0"

NORTH

SEE AVERAGE ELEVATION DIAGRAM ON SHEET NO. 2

SEE ARBORIST REPORT AND TREE SURVEY PLAN DATED SEPTEMBER 24, 2021 BY TREE SOLUTIONS, INC.FOR INFORMATIOM ON TREES TO BE RETAINED AND REMOVED

REVISIONS

DATE	BY	REVISION
12/08/2022		REVISION 1

PROPOSED NEW RESIDENCE FOR:

EDWARD & CATHERINE MORAN

5028 WEST MERCER WAY MERCER ISLAND, WA 98040

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY: WMG

DATE: APRIL 25, 2022

PLAN NO.

SHEET NO. **1**

MARK	ELEVATIION	WALL LENGTH	ELEV X LENGTH
A	195.27	22.00'	4295.94
B	198.00	25.00'	4950.00
C	199.70	10.00'	1997.00
D	202.21	19.00'	3841.99
E	205.00	26.00'	5330.00
F	204.57	6.00'	1227.42
G	203.10	18.00'	3655.80
H	201.27	17.00'	3421.59
I	199.80	8.50'	1698.30
J	196.71	16.00'	3147.36
K	196.67	2.00'	393.34
L	196.67	2.50'	491.68
M	196.89	11.00'	2165.79
N	197.04	2.50'	492.60
O	195.47	13.50'	2638.85
P	196.89	2.50'	492.23
Q	195.47	23.25'	4544.68
R	193.72	26.58'	5149.08
TOTALS		251.33	49933.43

AVERAGE ELEVATION FORMULA = 49933.43 / 251.33

AVERAGE ELEVATION = 198.68

AVERAGE ELEVATION DIAGRAM

SCALE 1" = 10'-0"

NORTH

REVISIONS

DATE	BY

PROPOSED NEW RESIDENCE FOR:

EDWARD & CATHERINE MORAN

WEST MERCER WAY MERCER ISLAND, WA 98040

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.
2

FIRE BLOCKING NOTES

PROVIDE FIRE BLOCKING PER 2018 IRC AND/OR AS FOLLOWS:

a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES , AT THE CEILING AND FLOOR LEVELS AND AT 10' I NTERVALS BOTH VERTICAL AND HORIZONTAL.

b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.

c) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF STAIRS

d) IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS THAT AFFORD A PASSAGE FOR FIRE AT FLOOR AND CEILING LEVELS, WITH NON-COMUSTIBLE MATERIALS.

e) AT OPENINGS BETWEEN ATTIC SPACES AND CHIMNEY CHASES FOR FACTORY BUILT CHIMNEYS.

INDOOR AIR QUALITY

1. VENTILATION PER IRC M1507
2. ALL EXHAUST DUCTS TO MEET REQUIREMENTS
3. SOURCE SPECIFIC VENTILATION CONTROLLED BY MANUAL SWITCHES AND/OR TIMERS
4. PROVIDE VENTILATION CONTROLS PER IRC M1507.3.2
5. VENTILATION REQUIREMENTS PER IRC M1507.3.3.
   FLOOR AREA = 2585 SF, 3 BEDROOMS = 60 CFM
   AIRFLOW REQUIRED
   (4) PANASONIC FV-0KF32S1 FRESH AIR INLETS @ 18 CFM= 72 CFM PROVIDED
6. WHOLE HOUSE VENTILATION TO BE PROVIDED BY LOCAL EXHAUST FAN PER IRC M1507.3.4. WHOLE HOUSE FAN TO BE ENERGY EFFICIENT AT .35 WATTS PER CFM.

FLOOR PLAN NOTES

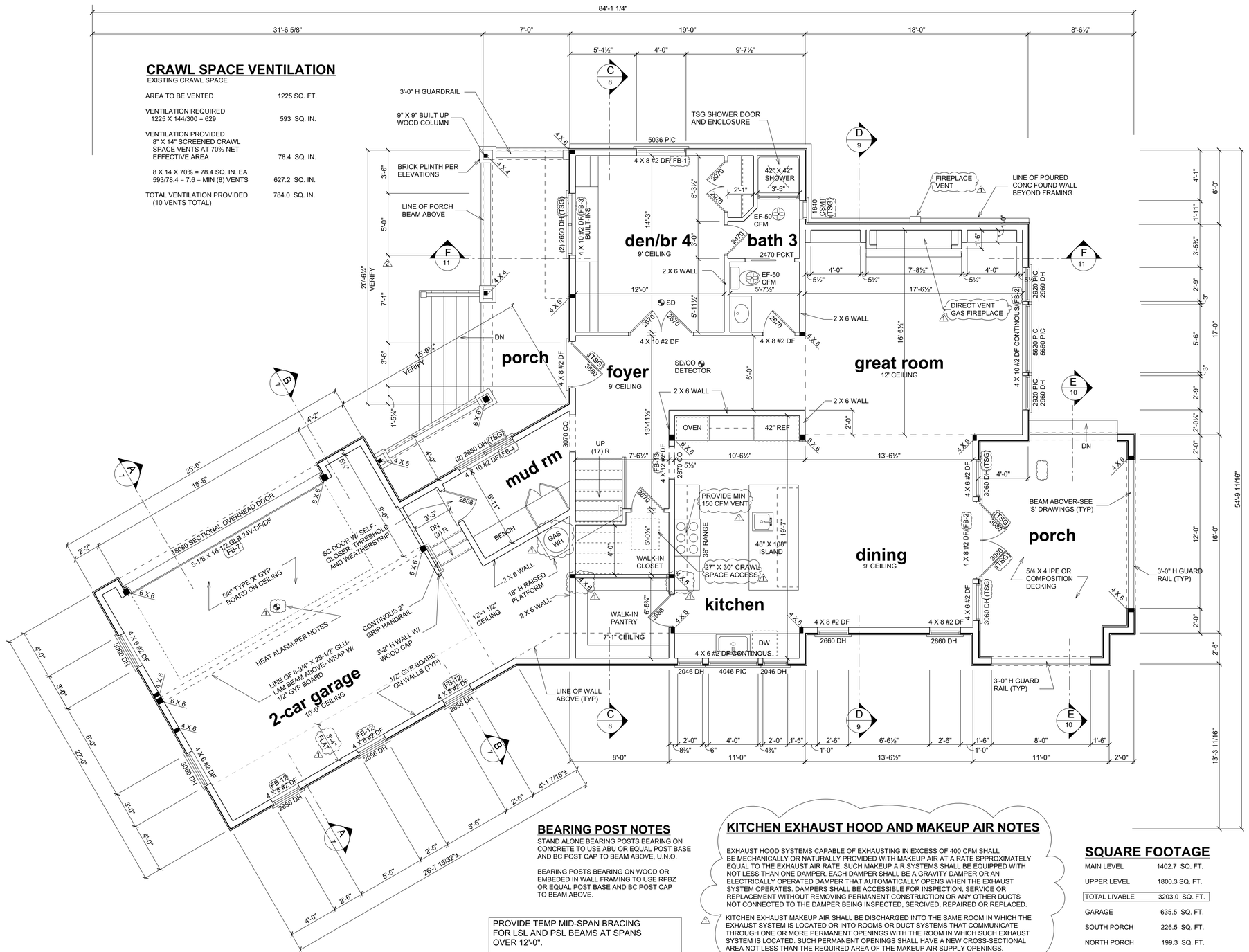
WHEN AND WHERE APPLICABLE

1. EXTERIOR WALL FRAMING TO BE 2 X 6 NO.2 HF STUDS AT 16" OC U.N.O.
2. INTERIOR WALL FRAMING TO BE 2 X 4 NO. 2 HF STUDS AT 16" OC U.N.O.
3. INTERIOR WALL FINISH TO BE 1/2" GYPSUM BOARD U.N.O.
4. ALL FRAMING HARDWARE TO BE "SIMPSON" OR EQUAL.
5. EXTERIOR WALL SHEATHING TO BE 7/16" OSB APA RATED PANELS. PROVIDE BLOCKING AND 8d NAILS AT 6" OC AT ALL PANEL EDGES U.N.O. NAILING TO TOP PLATE OR TOENAILING TO JOISTS SHALL BE 8d NAILS AT 6" OC OR TO CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS AT 4'-0" OC U.N.O.
6. CRAWL SPACE OR ATTIC ACCESS HATCH TO BE INSULATED TO TO THE SAME VALUE AS THAT OF THE SURFACE IN WHICH IT IS LOCATED AND WEATHERSTRIPPED.
7. INSULATE PER PLAN AND SECTIONS.
8. ALL HEADERS AND BEAMS TO BE (2) 2 X 8 U.N.O.
9. ALL POSTS AND COLUMNS SHALL BE DOUBLE STUD MINIMUM U.N.O. WITH THE BEAM OR HEADER BEARING FULLY ON THE POST OR COLUMN.
10. FLOOR SHEATHING SHALL BE 23/32" 'STURD-I-FLOOR' WITH A PANEL INDEX OF 40/20. NAIL TO FRAMING WITH 8d COMMON NAILS AT 4" OC AT PANEL EDGES AND 12" OC IN THE FIELD U.N.O.
11. ALL ANCHOR BOLTS AT FOUNDATION SILL SHALL HAVE MIN 3" X 3" X 1/4" PLATE WASHERS.
13. INSULATE ABOVE GRADE EXTERIOR 2 X 6 WALLS TO MIN R-21
14. INSULATE ABOVE GRADE EXTERIOR 2 X 4 WALLS TO MIN R-13
15. INSULATE BELOW GRADE EXTERIOR WALLS TO MIN R-21 ON THE EXTERIOR OR R-21 ON THE INTERIOR.
16. INSULATE CEILINGS WITH ATTIC SPACE ABOVE TO MIN R-49
17. INSULATE CEILINGS AT SLOPED AREAS TO MIN R-3
18. INSULATE CEILINGS AT UNHEATED SLOPED AREAS TO MIN R-30
19. INSULATE FLOORS ABOVE UNHEATED AREAS TO MIN R-30
20. EXTERIOR DOORS TO BE MIN 'U' VALUE OF 0.20
21. VERTICAL GLAZING TO BE MIN 'U' VALUE OF 0.28
22. HORIZONTAL GLAZING TO BE MIN 'U' VALUE OF 0.50
23. WALL FINISH AT TUB AND/OR SHOWER SURROUNDS TO EXTEND A MIN OF 6'-0" ABOVE FIN FLR.
24. ALL OVERHEAD GLAZING TO BE OF TEMPERED SAFETY GLASS (TSG)
25. SMOKE DETECTORS TO BE HARD WIRED WITH BATTERY BACK-UP
26. WHERE OPERABLE WINDOWS ARE MORE THAN 6'-0" ABOVE OUTSIDE GRADE THE OPENABLE PORTION OF THE WINDOW TO BE MINIMUM OF 2'-0" ABOVE THE INTERIOR WALKING SURFACE PER R613.2
27. WATERPROOF DECKS TO BE SLOPED AT 1/4" PER FT AS INDICATED.
28. PROVIDE HIGH EFFICIENCY LIGHTING CONTROLS FOR ALL EXTERIOR LIGHTING PER WSEC 505.3, CH 2.
29. A MINIMUM OF 75% OF LUMINAIRES MUST BE HIGH EFFICACY LUMINAIRES.
30. PROVIDE APPROVED CARBON MONOXIDE DETECTOR OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH LEVEL OF THE DWELLING.
31. FASTENERS, INCLUDING NUTS AND WASHERS, IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
32. GUARDRAIL TO SUPPORT 200 LB CONCENTRATED LOAD ON TOP AND 50 PSF ON INFILL COMPONENTS (TYP)

CRAWL SPACE VENTILATION

EXISTING CRAWL SPACE

AREA TO BE VENTED	1225 SQ. FT.
VENTILATION REQUIRED 1225 X 144/300 = 629	593 SQ. IN.
VENTILATION PROVIDED 8" X 14" SCREENED CRAWL SPACE VENTS AT 70% NET EFFECTIVE AREA	78.4 SQ. IN.
8 X 14 X 70% = 78.4 SQ. IN. EA 593/78.4 = 7.6 = MIN (8) VENTS	627.2 SQ. IN.
TOTAL VENTILATION PROVIDED (10 VENTS TOTAL)	784.0 SQ. IN.



MAIN LEVEL FLOOR PLAN

SCALE 1/4" = 1'-0"

NORTH

BEARING POST NOTES

STAND ALONE BEARING POSTS BEARING ON CONCRETE TO USE ABU OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE, U.N.O.

BEARING POSTS BEARING ON WOOD OR EMBEDDED IN WALL FRAMING TO USE RPBZ OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE.

PROVIDE TEMP MID-SPAN BRACING FOR LSL AND PSL BEAMS AT SPANS OVER 12'-0".

ALL BEARING POSTS TO CONTINUE DOWN TO FOUNDATION EITHER DIRECTLY OR INDIRECTLY THROUGH BEAMS OR HEADERS BELOW

KITCHEN EXHAUST HOOD AND MAKEUP AIR NOTES

EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE MECHANICALLY OR NATURALLY PROVIDED WITH MAKEUP AIR AT A RATE SPPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH NOT LESS THAN ONE DAMPER. EACH DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE OR REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER DUCTS NOT CONNECTED TO THE DAMPER BEING INSPECTED, SERCIVED, REPAIRED OR REPLACED.

⚠1 KITCHEN EXHAUST MAKEUP AIR SHALL BE DISCHARGED INTO THE SAME ROOM IN WHICH THE EXHAUST SYSTEM IS LOCATED OR INTO ROOMS OR DUCT SYSTEMS THAT COMMUNICATE THROUGH ONE OR MORE PERMANENT OPENINGS WITH THE ROOM IN WHICH SUCH EXHAUST SYSTEM IS LOCATED. SUCH PERMANENT OPENINGS SHALL HAVE A NEW CROSS-SECTIONAL AREA NOT LESS THAN THE REQUIRED AREA OF THE MAKEUP AIR SUPPLY OPENINGS.

⚠1 TSG= TEMPERED SAFETY GLASS

SQUARE FOOTAGE

MAIN LEVEL	1402.7 SQ. FT.
UPPER LEVEL	1800.3 SQ. FT.
TOTAL LIVABLE	3203.0 SQ. FT.
GARAGE	635.5 SQ. FT.
SOUTH PORCH	226.5 SQ. FT.
NORTH PORCH	199.3 SQ. FT.

SEE SHEETS NOS. S-1, S-7 & S-8 FOR SHEAR WALL SCHEDULE, PLANS, AND GENERAL NOTES

REVISIONS		
DATE	BY	REVISION ⚠
12/08/2022	WMG	

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY: WMG

DATE: APRIL 25, 2022

PLAN NO.:

SHEET NO.: 3

ENERGY CODE NOTES

1. EACH DWELLING UNIT IS TO BE PROVIDED WITH AT LEAST ONE PROGRAMMABLE THERMOSTAT FOR THE REGULATION OF TEMPERATURE.
2. BUILDING AIR LEAKEAGE TESTING, DEMONSTRATING THE SPECIFIC LEAKAGE AREA IS LESS THAN OR EQUAL TO 0.3 CFM, IS REQUIRED PRIOR TO FINAL INSPECTION. THE TEST RESULTS SHALL BE POSTED ON THE 'RESIDENTIAL ENERGY COMPLIANCE CERTIFICATE.'
3. DUCT LEAKAGE TEST RESULTS SHALL BE PROVIDED TO THE BUILDING INSPECTOR AND HOMEOWNER PRIOR TO AN APPROVED FINAL INSPECTION.
4. A 'RESIDENTIAL ENERGY COMPLIANCE CERTIFICATE' COMPLYING WITH SEC 105.4 IS REQUIRED TO BE COMPLETED BY THE DESIGN PROFESSIONAL OR BUILDER AND PERMANENTLY POSTED WITHIN 3 FEET OF THE ELECTRICAL PANEL PRIOR TO FINAL INSPECTION.
5. 1.0 ENERGY CREDIT FUEL NORMALIZATION DESCRIPTION:

   (OPTION 1- 1.0 CREDIT) HEAT PUMP

   6.0 ENERGY CREDIT OPTION DESCRIPTIONS:

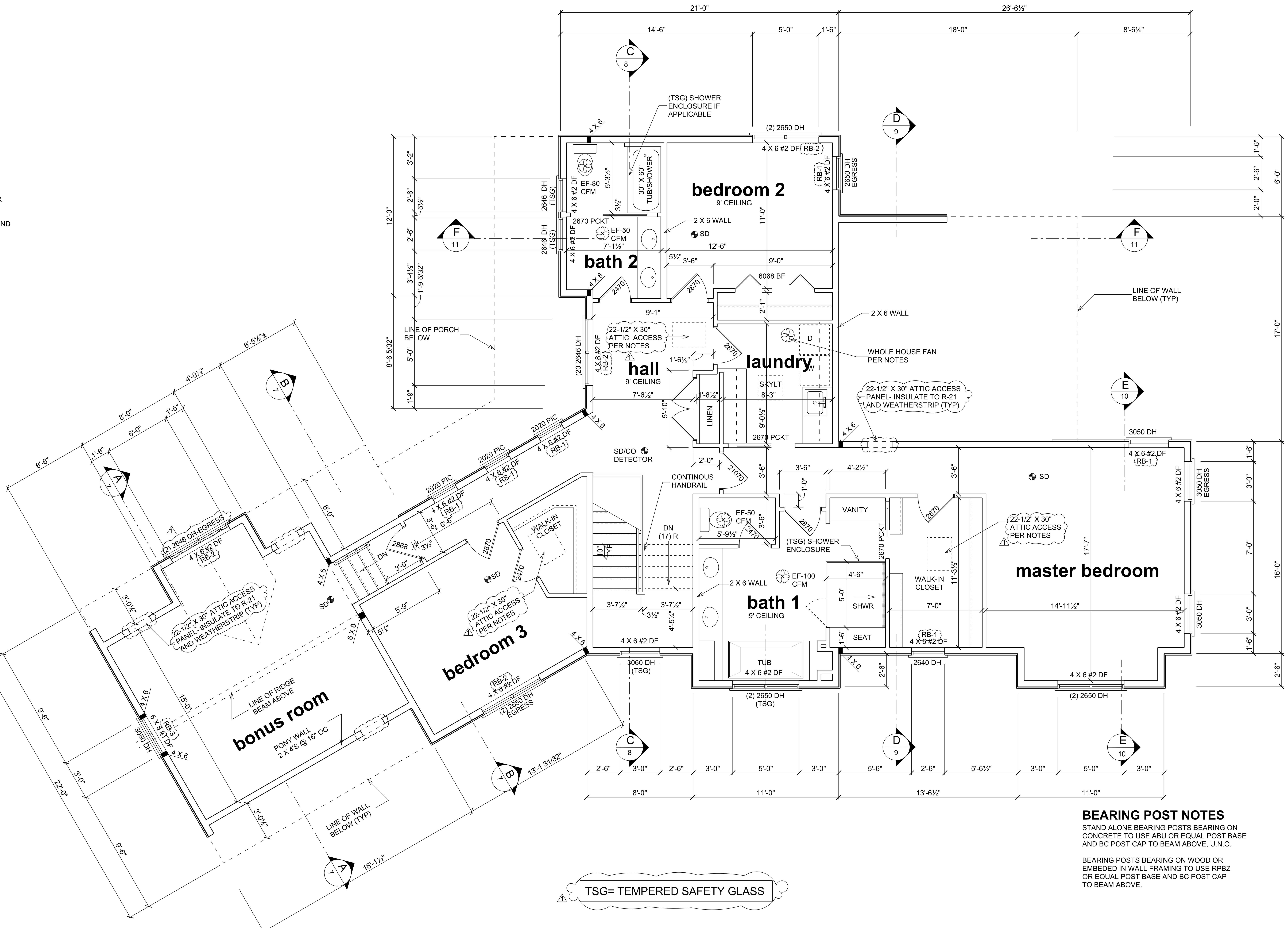
   (OPTION 1.4 - 1.0 CREDIT) EFFICIENT BUILDING ENVELOPE: VERTICAL FENESTRATION U= 0.25, WALL INSULATION R-21 PLUS R-4, FLOOR R-38, SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB, BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB.

   (OPTION 2.2 - 1.0 CREDIT) COMPLIANCE BASED ON SECTION R402.1.2: REDUCE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAXIMUM OR 50 PASCALS.

   (OPTION 3.6 - 2.0 CREDITS) DUCTLESS SPLIT SYSTEM HEAT PUMPS WITH NO ELECTRIC RESISTANCE HEATING IN PRIMARY LIVING AREAS. A DUCTLESS HEAT PUMP SYSTEM WITH A MINIMUM HSPF OF 10 SHALL BE SIZED AND INSTALLED TO PROVIDE HEAT TO THE ENTIRE DWELLING UNIT AT THE DESIGN OUTDOOR AIR TEMPERATURE.

   (OPTION 5.2- 0.5 CREDITS) EFFICIENT WATER HEATING: ENERGY STAR RATED GAS, OR PROPANE WATER HEATER WITH A MINIMUM UEF OF 0.80

   (OPTION 7.1- 0.5 CREDITS) APPLIANCE PACKAGE: ALL OF THE FOLLOWING APPLIANCES SHALL BE NEW AND INSTALLED IN THE DWELLING UNIT AND SHALL MEET THE FOLLOWING STANDARDS:
   DISHWASHER - ENERGY STAR RATED
   REFRIGERATOR - ENERGY STAR RATED
   WASHING MACHINE - ENERGY STAR RATED
   DRYER - ENERGY STAR RATED, VETLESS DRYER WITH MINIMUM CFE RATING OF 5.2
6. PER WSEC R403.3, DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED AND LEAK TESTED
7. BLOWER DOOR TESTING- AR LEAKAGE SHALL NOT EXCEED 3.0 AIR CHANGES PER HOUR, AND SHALL BE TESTED PER SEC R402.1.2. PROVIDE A WRITTEN REPORT OF THE TEST RESULTS, SIGNED BY THE TESTING PARTY, TO THE BUILDING INSPECTOR, PRIOR TO APPROVED FINAL INSPECTION.
8. THE DESIGN PROFESSIONAL OR BUILDER SHALL COMPLETE AND POST A "INSULATION CERTIFICATE FOR RESIDENTIAL CONSTRUCTION" WITHIN 3 FEET OF THE ELECTRICAL PANEL PRIOR TO FINAL INSPECTION.
9. THE DESIGN PROFESSIONAL OR BUILDER SHALL COMPLETE AND POST A "INSULATION CERTIFICATE FOR RESIDENTIAL CONSTRUCTION" WITHIN 3 FEET OF THE ELECTRICAL PANEL PRIOR TO FINAL INSPECTION.
10. RECESSED CAN LIGHTS ARE TO BE TYPE 1C RATED AND SEALED.
11. PER WEC 402.4, THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SEC R402.1.1 THROUGHT R402.4.4.
12. PER 4403.2.2, DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE IMC OR IRC AS APPLICABLE.



UPPER LEVEL FLOOR PLAN

SCALE 1/4" = 1'-0"

NORTH

WHOLE HOUSE FAN NOTES

VENTILATION REQUIREMENTS PER IRC M1507.3.3
FLOOR AREA = 3203 SF, 4 BEDROOMS = 90 CFM

1. PROVIDE A CENTRALLY LOCATED WHOLE HOUSE EXHAUST FAN WITH A MINIMUM SONE RATING OF 1.5 AND MINIMUM CAPACITY OF 100CFM AND CONNECTED TO AN AUTOMATIC CONTROL TIMER.
2. AN AUTOMATIC CONTROL CLOCK TIMER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION. THE TIMER SHALL BE CAPABLE OF CONTINOUS OPERATION AND HAVE AN AUTOMATIC AND MANUAL CONTROL. THE TIMER SHALL BE SET TO OPERATE THE WHOLE HOUSE FAN FOR A MINIMUM OF 8 HOURS.
3. INTERIOR DOORS SHALL BE UNDERCUT A MINIMUM OF 1/2" ABOVE THE FINISHED FLOOR.
4. FRESH AIR INTAKE DUCT TO BE MINIMUM 7" DIAMETER SMOOTH PIPE FOR A MAXIMUM LENGTHE OF 20' AND A MAXUMUM OF 3 ELBOWS.
5. FRESH AIR INLET TO BE INSULATED TO A MINIMUM OF R-4 WITHIN HEATED AREAS.
6. FRESH AIR INLET TO BE PROTECTED FROM THE ENTRY OF INSECTS, LEAVES AND OTHER MATERIAL
7. FRESH AIR INLET NOT TO BE LOCATED AS FOLLOWS:
   A. WITHIN 10' OF AN APPLIANCE OUTLET UNLESS THE VENT OUTLET IS A MINIMUM OF 3' ABOVE THE FRESH AIR INLET.
   B. WHERE IT WILL PICK UP OBJECTIONABLE ODORS, FUMES OR FLAMABLE VAPORS.
   C. A HAZARDOUS OR UNSANITARY LOCATION.
   D. A ROOM OR SPACE HAVING FUEL BURNING APPLIANCES WITHIN.
   E. CLOSER THAN 10' FROM A VENT OPENING OF A PLUMBING DRAINAGE SYSTEM UNLESS THE VENT OPENING IS AT LEAST 3' ABOVE THE FRESH AIR INLET.
   F. IN AN ATTIC, CRAWL SPACE OR GARAGE.

4. THE EXHAUST DUCT SHALL TERMINATE OUTSIDE THE BUILDING AND BE EQUIPPED WITH A BACK-DRAFT DAMPER. THE EEXHAUST DUCT IN UNCONDITIONED SPACES SHALL BE INSULATED TO A MINIMUM OF R-4.

BEARING POST NOTES

STAND ALONE BEARING POSTS BEARING ON CONCRETE TO USE ABU OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE, U.N.O.

BEARING POSTS BEARING ON WOOD OR EMBEDED IN WALL FRAMING TO USE RPBZ OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE.

PROVIDE TEMP MID-SPAN BRACING FOR LSL AND PSL BEAMS AT SPANS OVER 12'-0".

ALL BEARING POSTS TO CONTINUE DOWN TO FOUNDATION EITHER DIRECTLY OR INDIRECTLY THROUGH BEAMS OR HEADERS BELOW

SEE SHEETS NOS. S-1, S-7 & S-8 FOR SHEAR WALL SCHEDULE, PLANS, AND GENERAL NOTES

REVISIONS

DATE	BY	REVISION
12/08/2022	WMG	REVISION 1

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

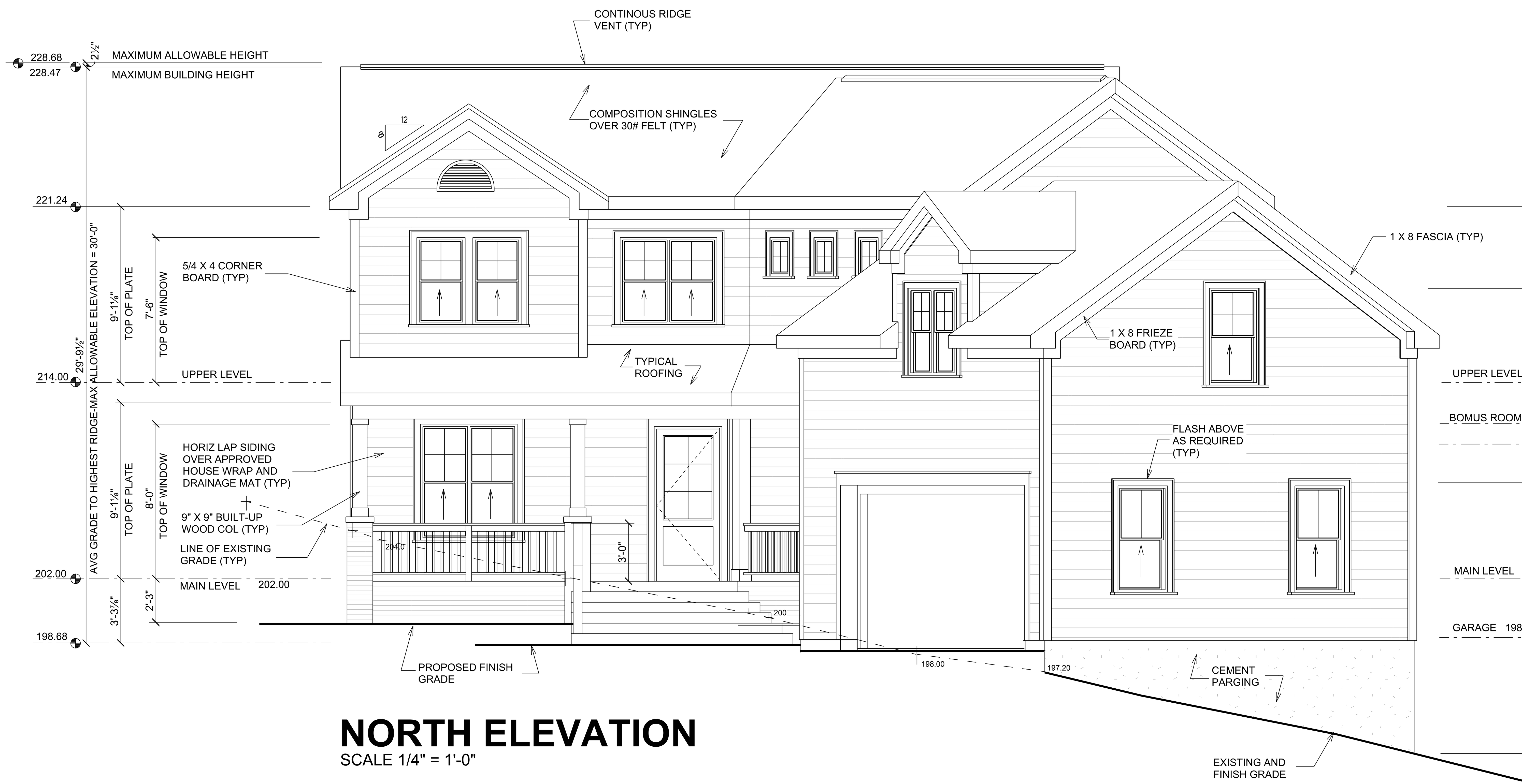
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY WMG

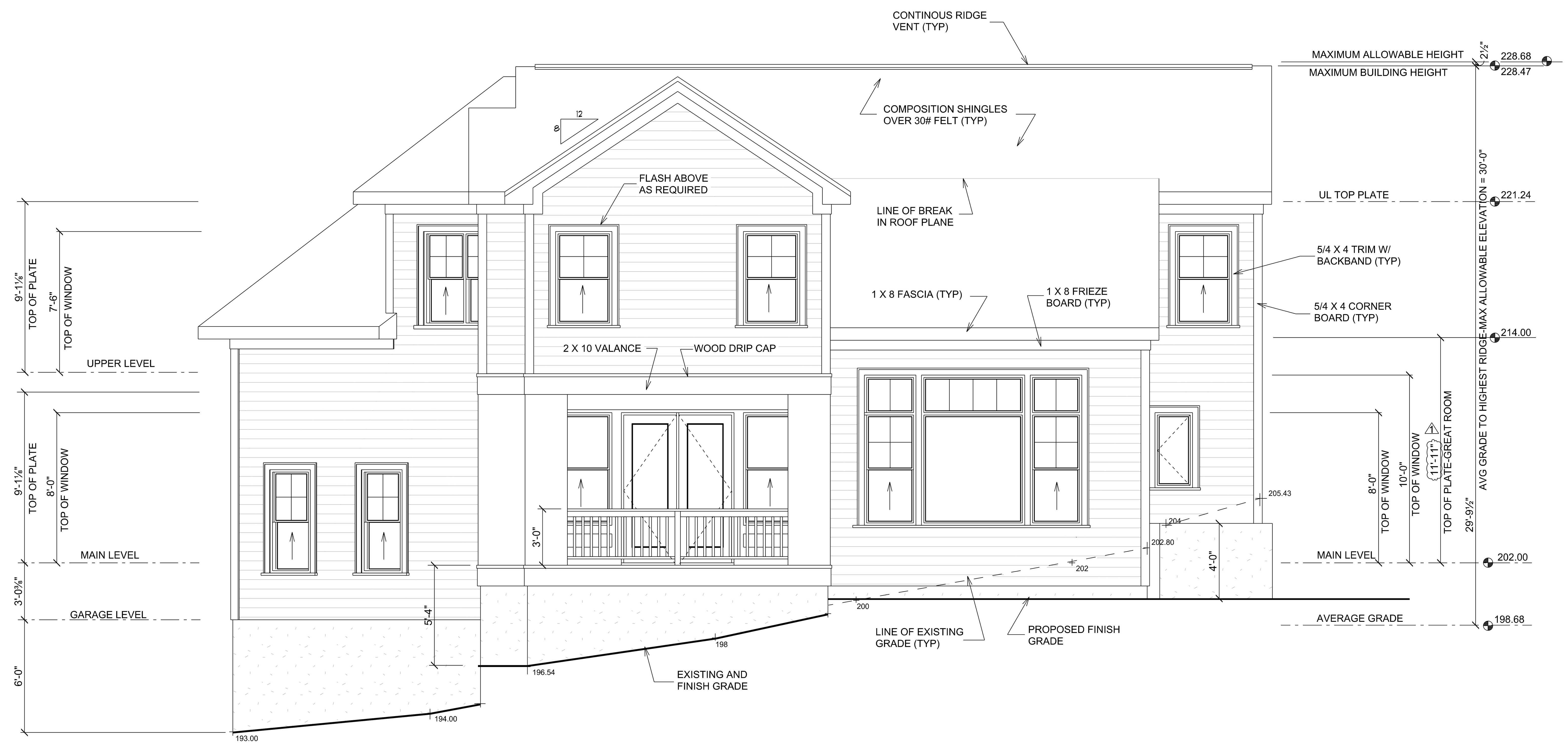
DATE APRIL 25, 2022

PLAN NO.

SHEET NO. 4



NORTH ELEVATION
SCALE 1/4" = 1'-0"



SOUTH ELEVATION
SCALE 1/4" = 1'-0"

DATE	BY	REVISIONS
12/08/2022		REVISION 1

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

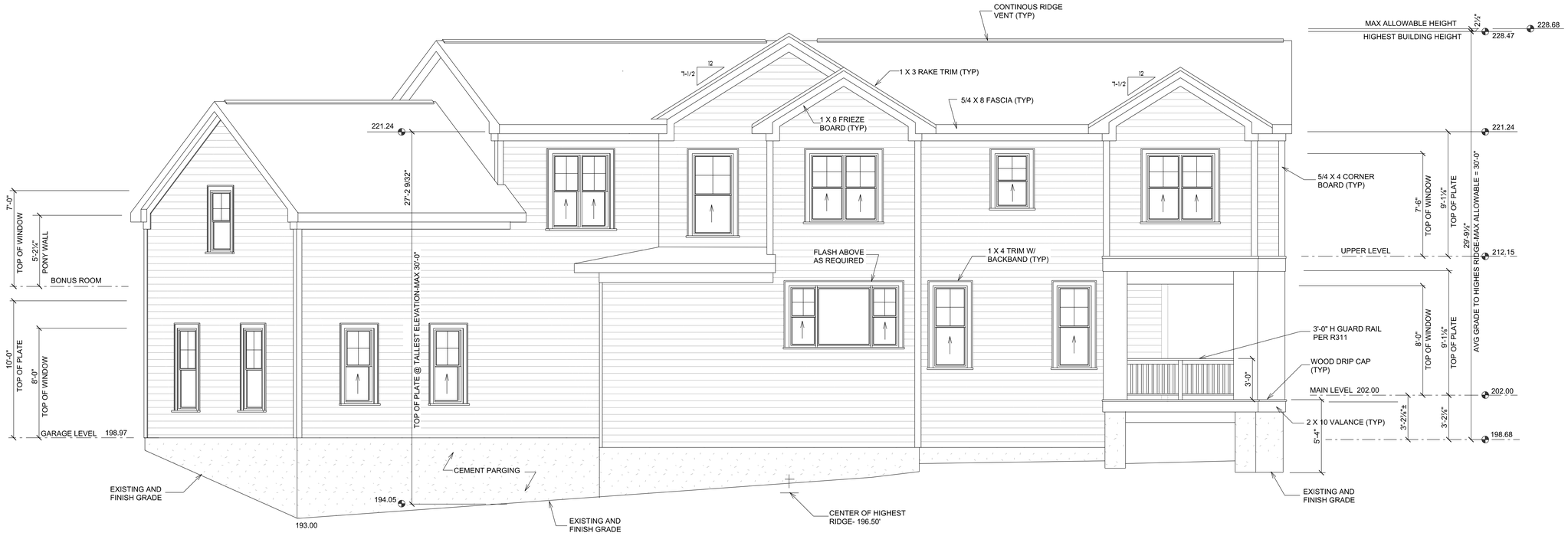
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

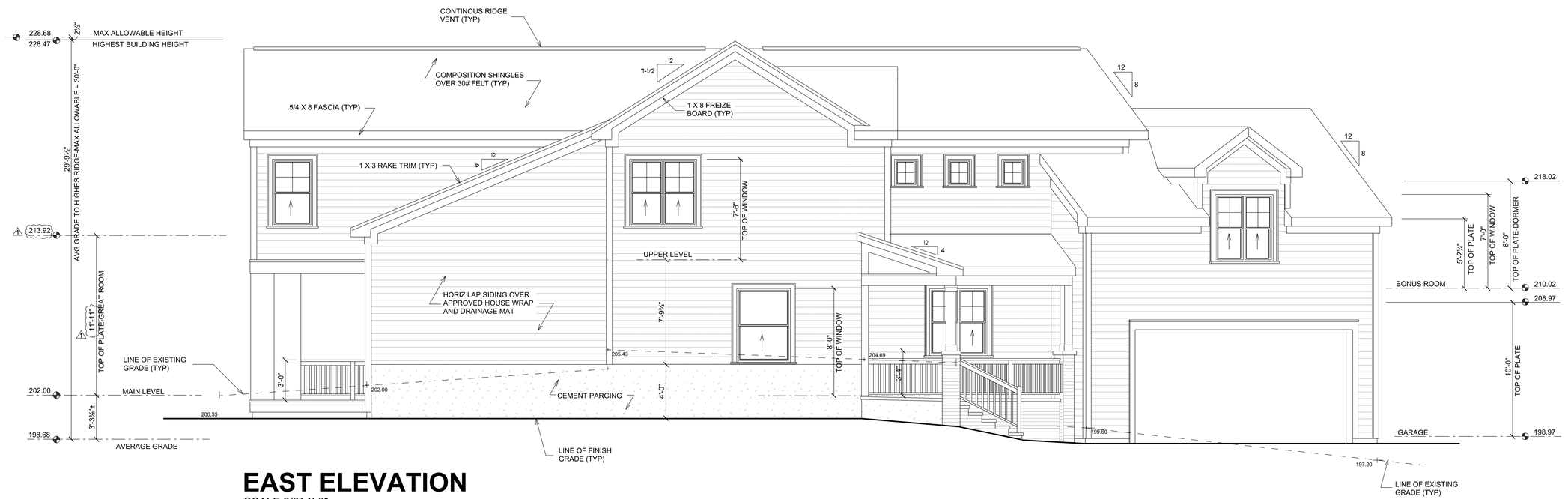
PLAN NO.

SHEET NO.
5



WEST ELEVATION

SCALE 3/8" 1'-0"



EAST ELEVATION

SCALE 3/8" 1'-0"

REVISIONS

DATE	BY	REVISION
12/08/2022		

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

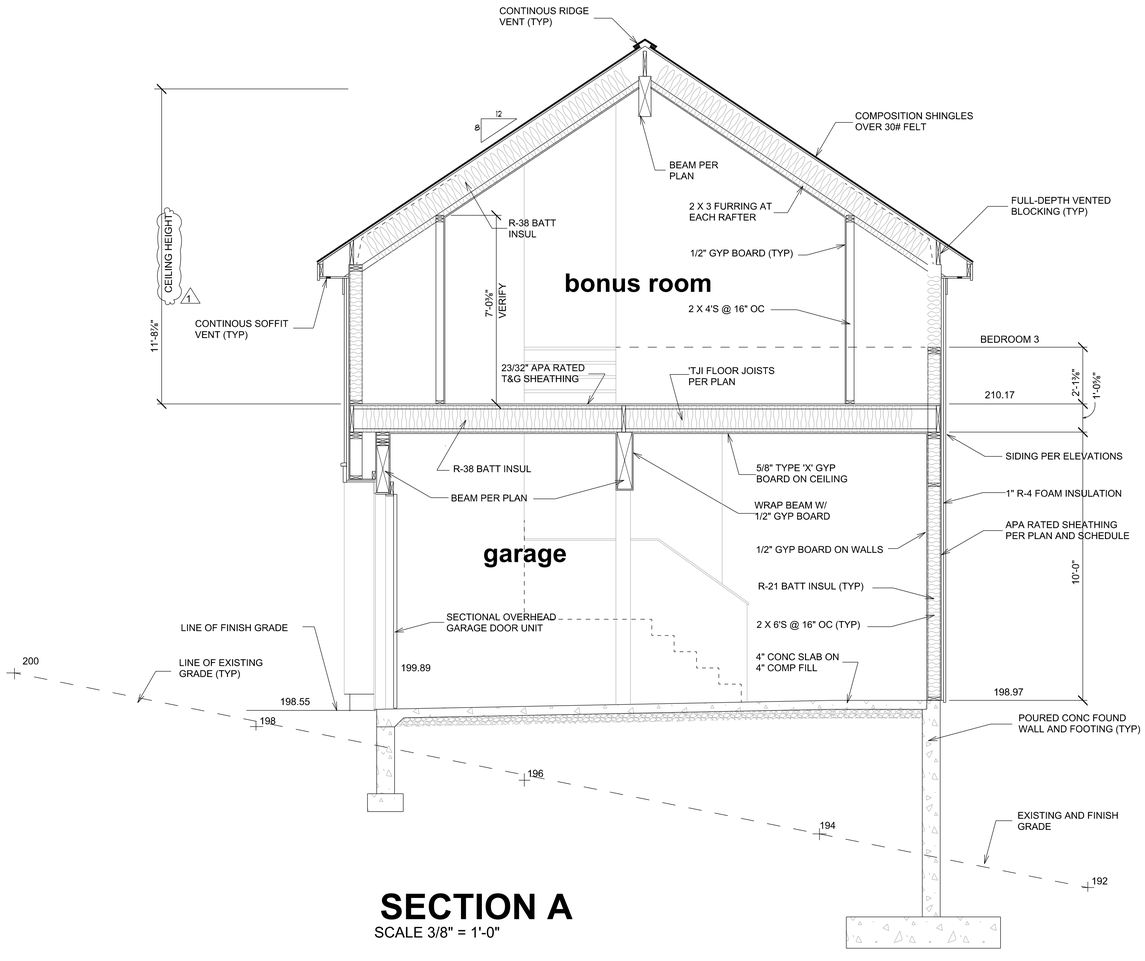
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

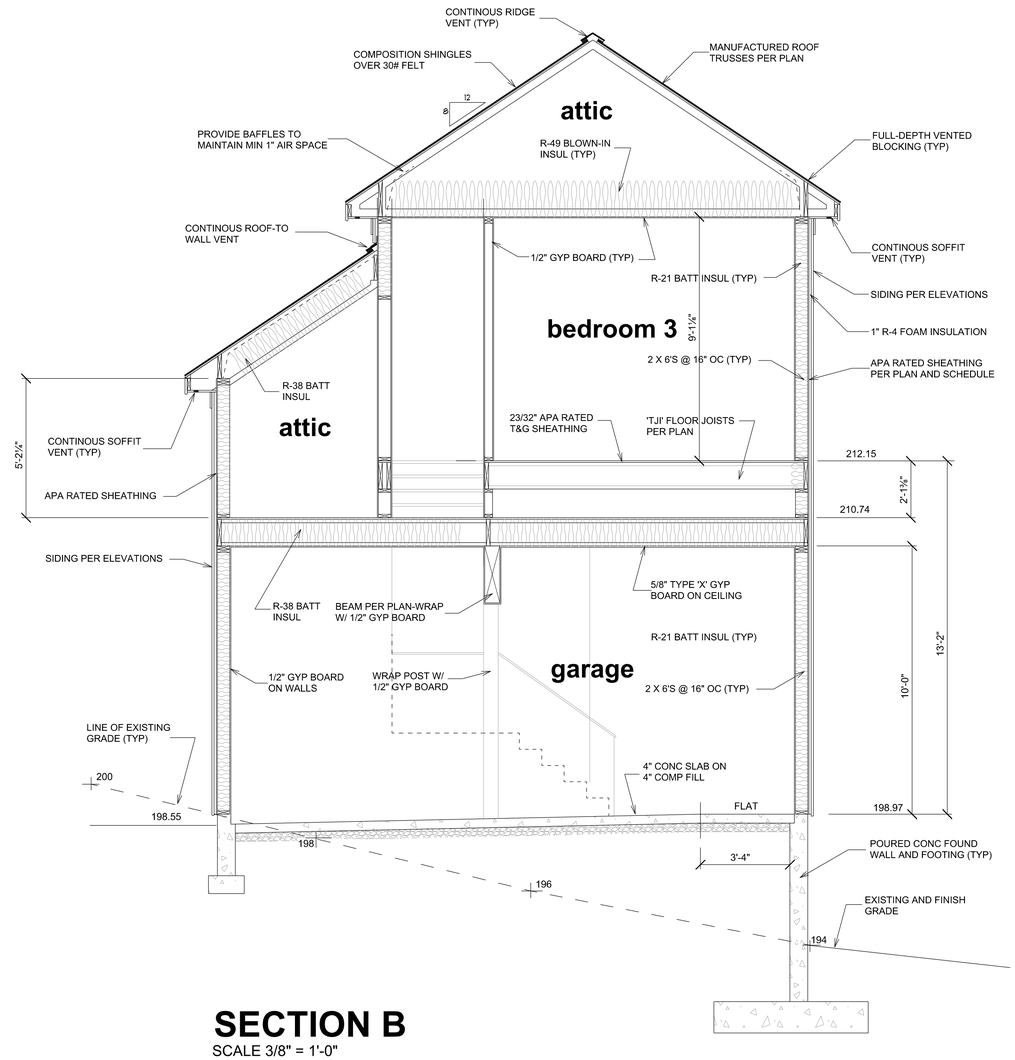
PLAN NO.

SHEET NO.
6



SECTION A

SCALE 3/8" = 1'-0"



SECTION B

SCALE 3/8" = 1'-0"

REVISIONS

DATE	BY	REVISION
12/08/2022		1

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

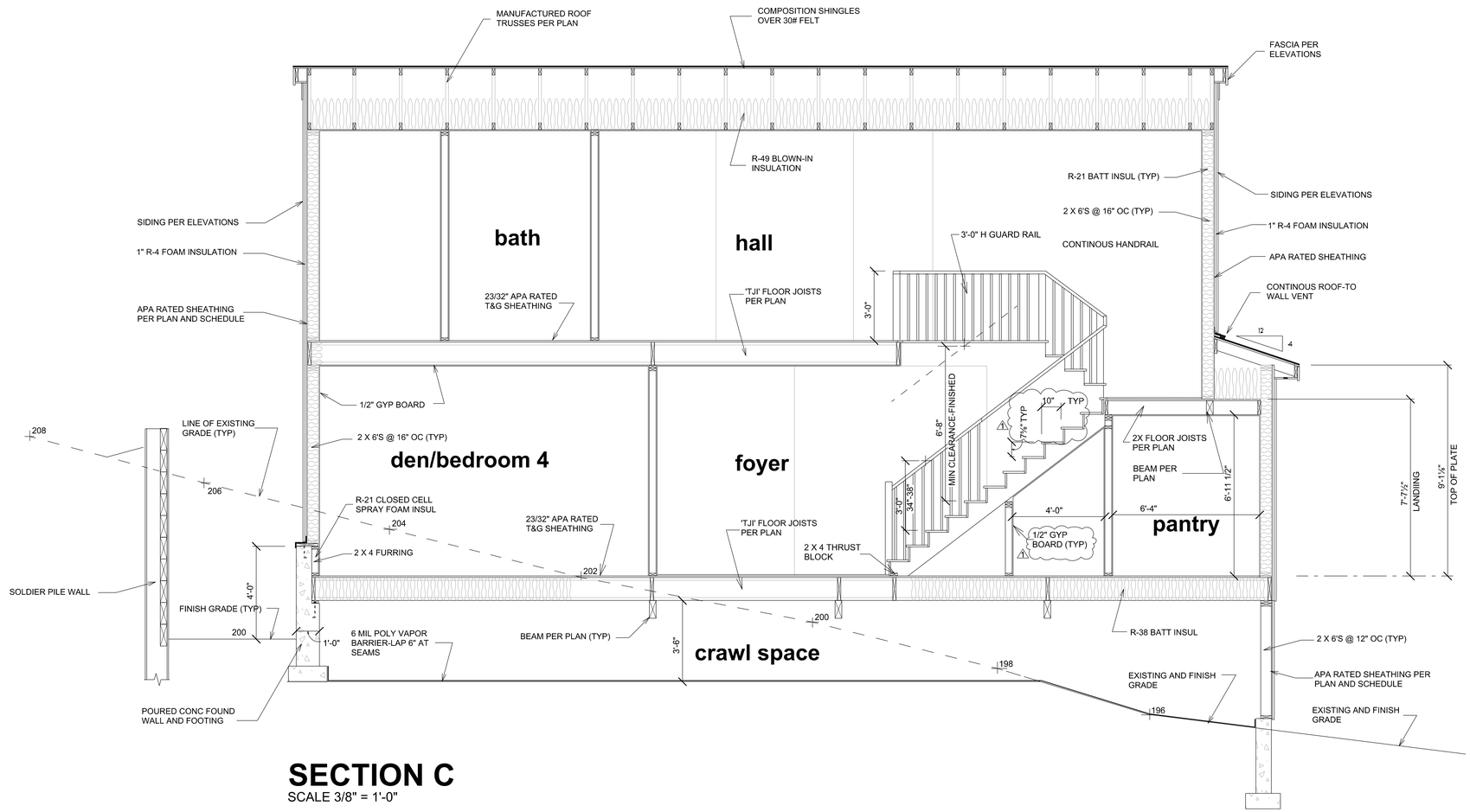
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.
7



SECTION C

SCALE 3/8" = 1'-0"

REVISIONS

DATE	BY	REVISION ⚠
12/08/2022	WMG	

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

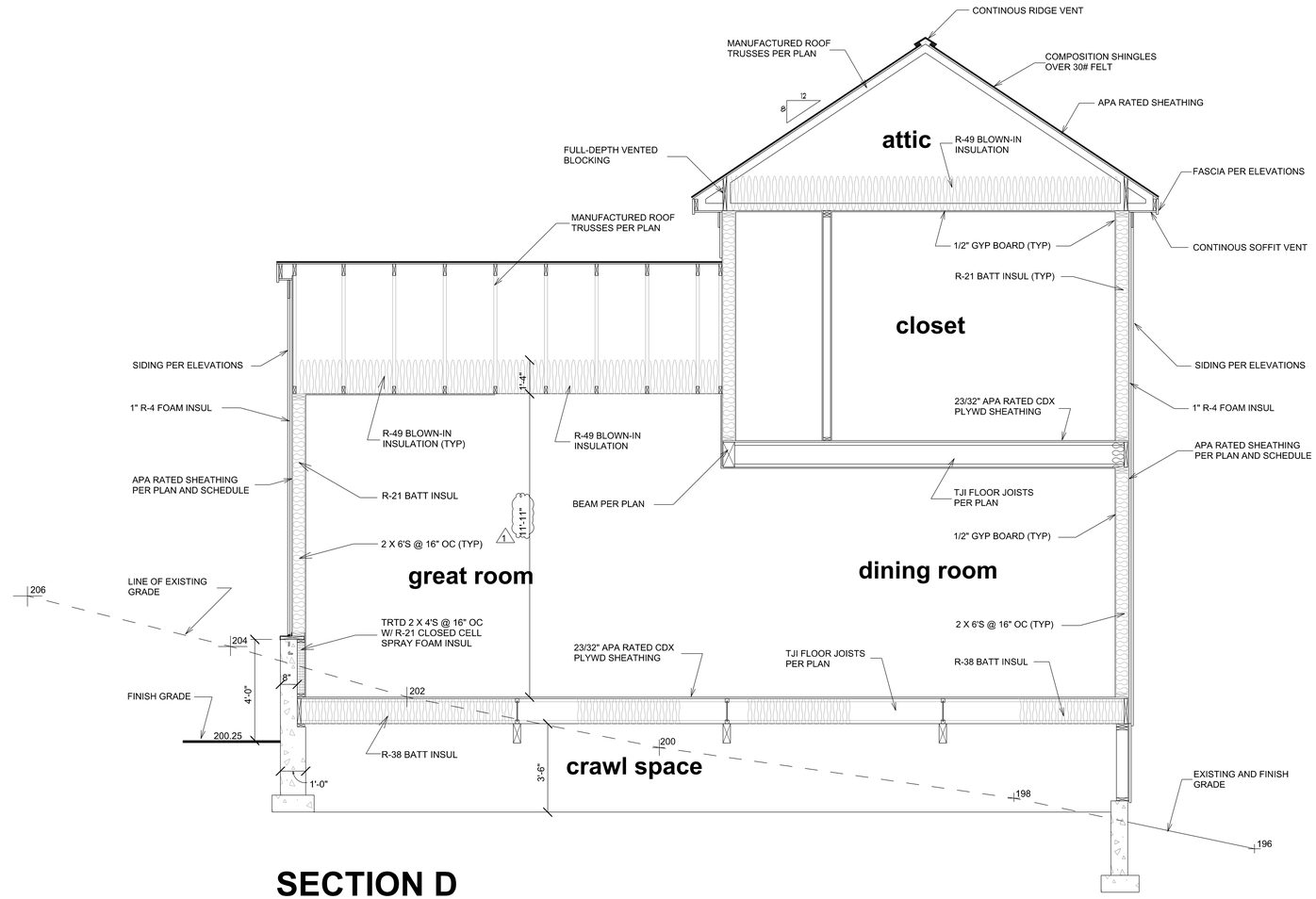
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.
8



SECTION D

SCALE 3/8" = 1'-0"

REVISIONS

DATE	BY	REVISION
12/08/2022		1

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.
9

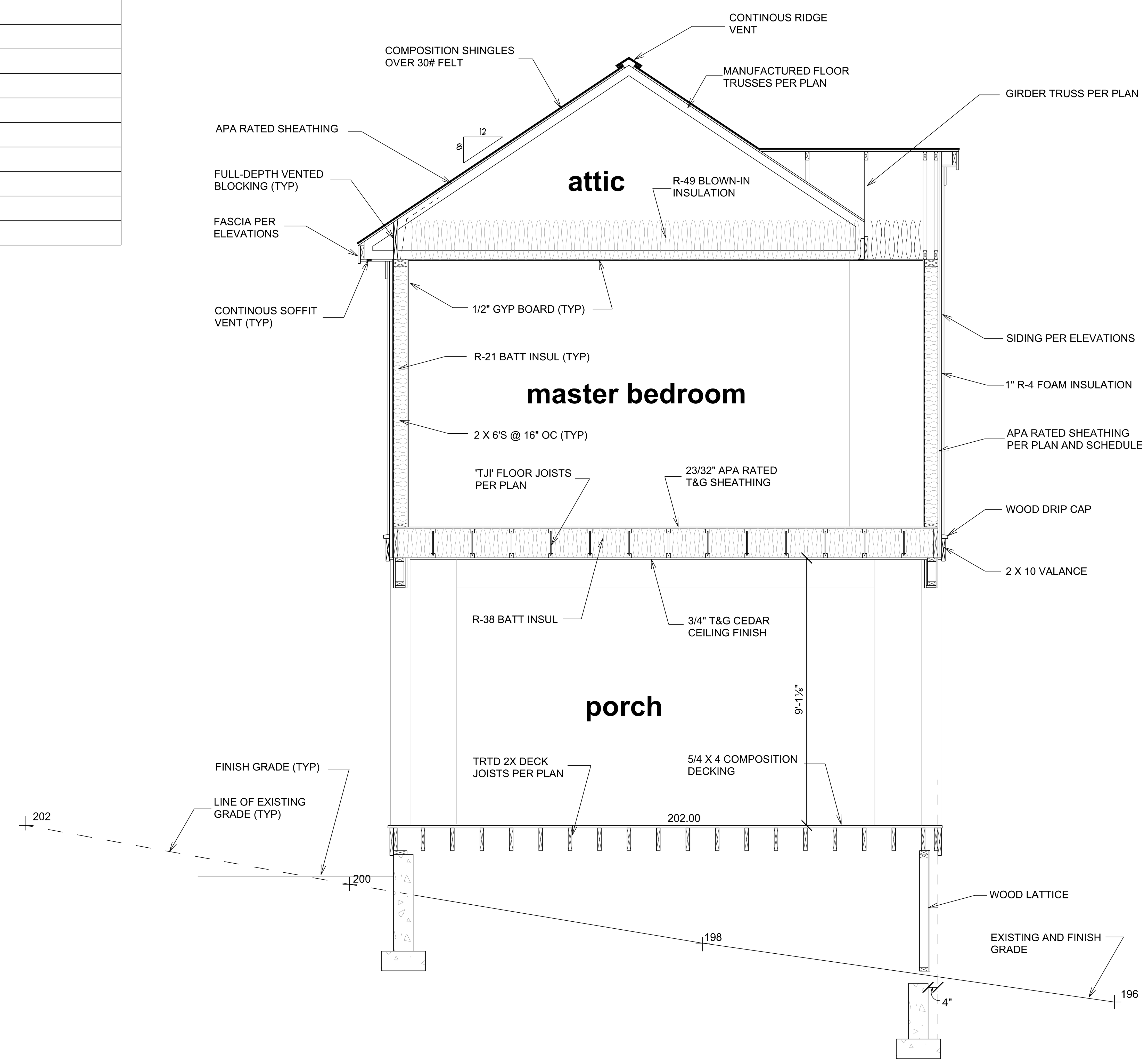
GLAZING SCHEDULE:

ALL GLAZING TO BE NEW, INSULATED, LOW E-366 GLASS. 'U' VALUES SHOWN ARE NFRC CERTIFIED VALUES.
ALL DOOR GLAZING AND GLAZING WITHIN 2'-0" OF AN EXTERIOR DOOR SHALL BE TEMPERED SAFETY GLASS.

TOTAL CONDITIONED FLOOR AREA = 3203.0 SQ. FT.
TOTAL GLAZING AREA = 817.3 SQ. FT. = 19.2 %
AREA WEIGHTED AVERAGE 'U' VALUE = 0.280

ROOM	DESCRIPTION	UNIT SIZE	SQUARE FT.	QUANTITY	TOTAL SQ. FT.	'U'	TOTAL 'U'	COMMENTS
FOYER	SIMPSON 5001 INSUL GL 1 LITE FRENCH DOOR	3'-6" X 8'-0"	28.0	1	28.0	0.25	7.0	TEMPERED SG
DEN/BEDROOM 4	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 5'-0"	12.5	2	25.0	0.25	6.3	LOW E-366 GLASS-TEMPERED SAFETY GLASS
	JELD-WEN PREMIUM INSULATED VINYL FIXED WINDOW	5'-0" X 3'-6"	17.5	1	17.5	0.25	4.4	LOW E-366 GLASS
BATHROOM 3	JELD-WEN PREMIUM INSULATED VINYL CASEMENT WINDOW	1'-6" X 4'-0"	6.0	1	6.0	0.25	1.5	LOW E-366 GLASS-TEMPERED SAFETY GLASS
LIVING ROOM	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-9" X 6'-0"	16.5	2	33.0	0.25	8.3	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL FIXED WINDOW	5'-6" X 6'-0"	33.0	1	33.0	0.25	8.3	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL FIXED WINDOW	2'-9" X 2'-0"	5.5	2	11.0	0.25	2.8	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL FIXED WINDOW	5'-6" X 2'-0"	11.0	1	11.0	0.25	2.8	LOW E-366 GLASS
DINING ROOM	SIMPSON 5001 INSUL GL 1 LITE FRENCH DOOR	6'-0" X 8'-0"	48.0	1	48.0	0.25	12.0	LOW E-366 GLASS-DOUBLE HUNG-TEMPERED SAFETY GLASS
	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	3'-0" X 6'-0"	18.0	2	36.0	0.25	9.0	LOW E-366 GLASS-TEMPERED SAFETY GLASS
	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 6'-0"	15.0	2	30.0	0.25	7.5	LOW E-366 GLASS
KITCHEN	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-0" X 4'-6"	9.0	2	9.0	0.25	2.3	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL FIXED WINDOW	4'-0" X 4'-6"	18.0	1	18.0	0.25	4.5	LOW E-366 GLASS
MUD ROOM	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 5-0"	12.5	2	25.0	0.25	6.3	LOW E-366 GLASS-TEMPERED SAFETY GLASS
STAIRWELL	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	3'-0" X 6'-0"	18.0	1	18.0	0.25	4.5	LOW E-366 GLASS-TEMPERED SAFETY GLASS
HALLWAY	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 4'-6"	11.3	2	22.6	0.25	5.7	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL FIXED WINDOW	2'-0" X 2'-0"	4.0	3	12.0	0.25	2.7	LOW E-366 GLASS
MASTER BEDROOM	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	3'-0" X 5'-0"	15.0	3	45.0	0.25	11.3	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 5'-0"	12.5	2	25.0	0.25	6.3	LOW E-366 GLASS
MASTER CLOSET	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 4'-0"	10.0	1	10.0	0.25	2.5	LOW E-366 GLASS
MASTER BATH	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 5'-0"	12.5	2	25.0	0.25	6.3	LOW E-366 GLASS-TEMPERED SAFETY GLASS
BEDROOM 2	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 5'-0"	12.5	3	37.5	0.25	9.4	LOW E-366 GLASS
BATHROOM 2	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 4'-6"	11.3	2	22.6	0.25	5.7	LOW E-366 GLASS-TEMPERED SAFETY GLASS
BEDROOM 3	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 5'-0"	12.5	2	25.0	0.25	6.3	LOW E-366 GLASS
BONUS ROOM	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	3'-0" X 5'-0"	15.0	1	15.0	0.25	3.8	LOW E-366 GLASS
	JELD-WEN PREMIUM INSULATED VINYL DOUBLE HUNG WINDOW	2'-6" X 4'-6"	11.3	2	22.6	0.25	5.7	LOW E-366 GLASS
LAUNDRY	VELUX INSULATED ROOF WINDOW	2'-0" X 2'-0"	4.0	1	4.0	0.50	2.0	
					614.7		144.4	

NOTE: 4" OPENING LIMIT CONTROL CONFORMING WITH ASTM-F2090



SECTION E

SCALE 3/8" 1'-0"

DATE	BY	REVISIONS

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

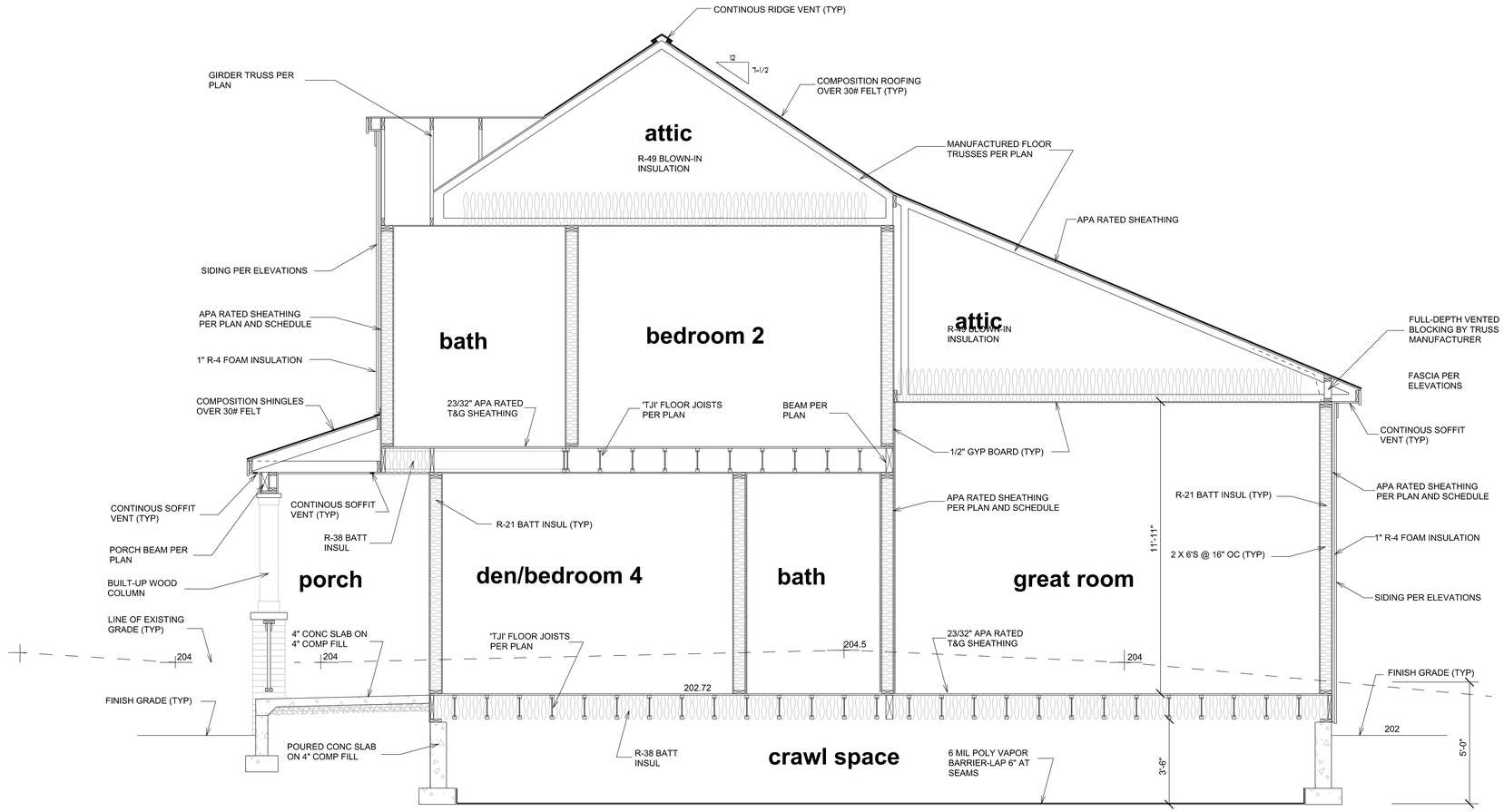
DRAWN BY WMG

DATE APRIL 25, 2022

PLAN NO.

SHEET NO.

10



SECTION F

SCALE 3/8" 1'-0"

REVISIONS

DATE	BY

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

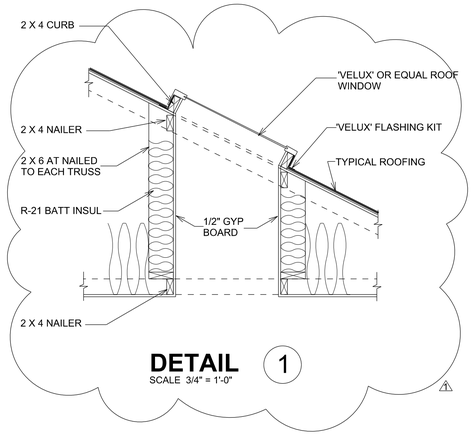
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-3511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

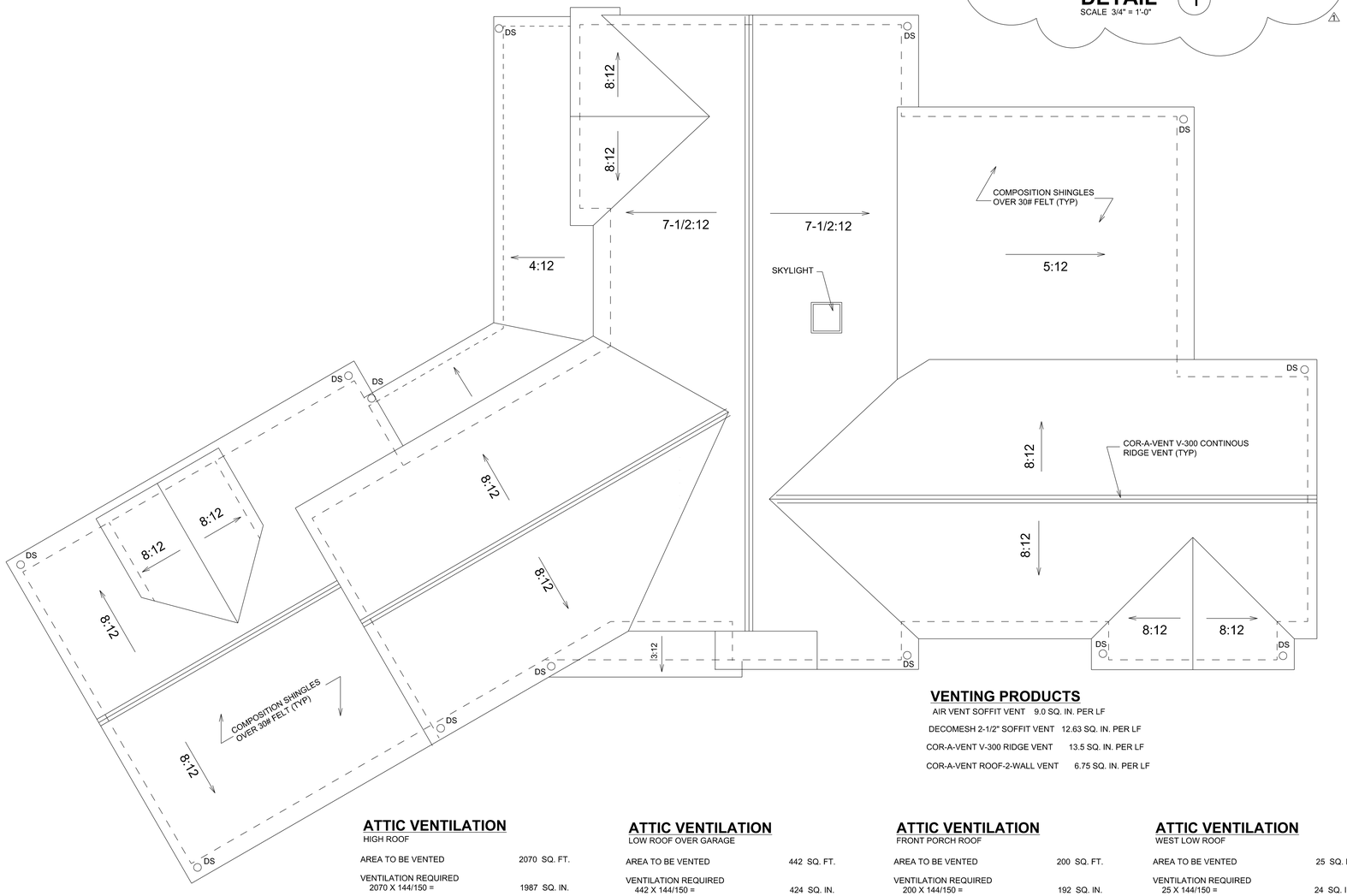
PLAN NO.

SHEET NO.
11



DETAIL 1

SCALE 3/4" = 1'-0"



ROOF PLAN

SCALE 1/4" = 1'-0"

VENTING PRODUCTS

AIR VENT SOFFIT VENT	9.0 SQ. IN. PER LF
DECOMESH 2-1/2" SOFFIT VENT	12.63 SQ. IN. PER LF
COR-A-VENT V-300 RIDGE VENT	13.5 SQ. IN. PER LF
COR-A-VENT ROOF-2-WALL VENT	6.75 SQ. IN. PER LF

ATTIC VENTILATION
HIGH ROOF

AREA TO BE VENTED	2070 SQ. FT.
VENTILATION REQUIRED 2070 X 144/150 =	1987 SQ. IN.
VENTILATION PROVIDED (102) LF CONTINOUS SOFFIT VENT AT 12.63 SQ. IN. PER FT	1288 SQ. IN.
80 LF CONTINOUS RIDGE VENT AT 13.5 SQ. IN. PER L/F	1377 SQ. IN.
TOTAL VENTILATION PROVIDED	2665 SQ. IN.

ATTIC VENTILATION
LOW ROOF OVER GARAGE

AREA TO BE VENTED	442 SQ. FT.
VENTILATION REQUIRED 442 X 144/150 =	424 SQ. IN.
VENTILATION PROVIDED (46) LF CONTINOUS SOFFIT VENT AT 9 SQ. IN. PER LF	414 SQ. IN.
(18) LF CONTINOUS RIDGE VENT AT 13.5 SQ. IN. PER LF	243 SQ. IN.
(7) LF CONTINOUS ROOF-TO-WALL VENT AT 6.75 SQ. IN. PER LF	47 SQ. IN.
TOTAL VENTILATION PROVIDED	704 SQ. IN.

ATTIC VENTILATION
FRONT PORCH ROOF

AREA TO BE VENTED	200 SQ. FT.
VENTILATION REQUIRED 200 X 144/150 =	192 SQ. IN.
VENTILATION PROVIDED (36) LF CONTINOUS SOFFIT VENT AT 9 SQ. IN. PER LF	324 SQ. IN.
(36) LF CONTINOUS ROOF TO WALL VENT AT 6.75 SQ. IN. PER LF	243 SQ. IN
TOTAL VENTILATION PROVIDED	567 SQ. IN.

ATTIC VENTILATION
WEST LOW ROOF

AREA TO BE VENTED	25 SQ. FT.
VENTILATION REQUIRED 25 X 144/150 =	24 SQ. IN.
VENTILATION PROVIDED (12) LF CONTINOUS SOFFIT VENT AT 9 SQ. IN. PER LF	108 SQ. IN.
(6) LF CONTINOUS ROOF TO WALL VENT AT 6.75 SQ. IN. PER LF	41 SQ. IN
TOTAL VENTILATION PROVIDED	149 SQ. IN.

REVISIONS

DATE	BY	REVISION
12/08/2022		1

PROPOSED NEW RESIDENCE FOR:

EDWARD & CATHERINE MORAN

WEST MERCER WAY MERCER ISLAND, WA 98040

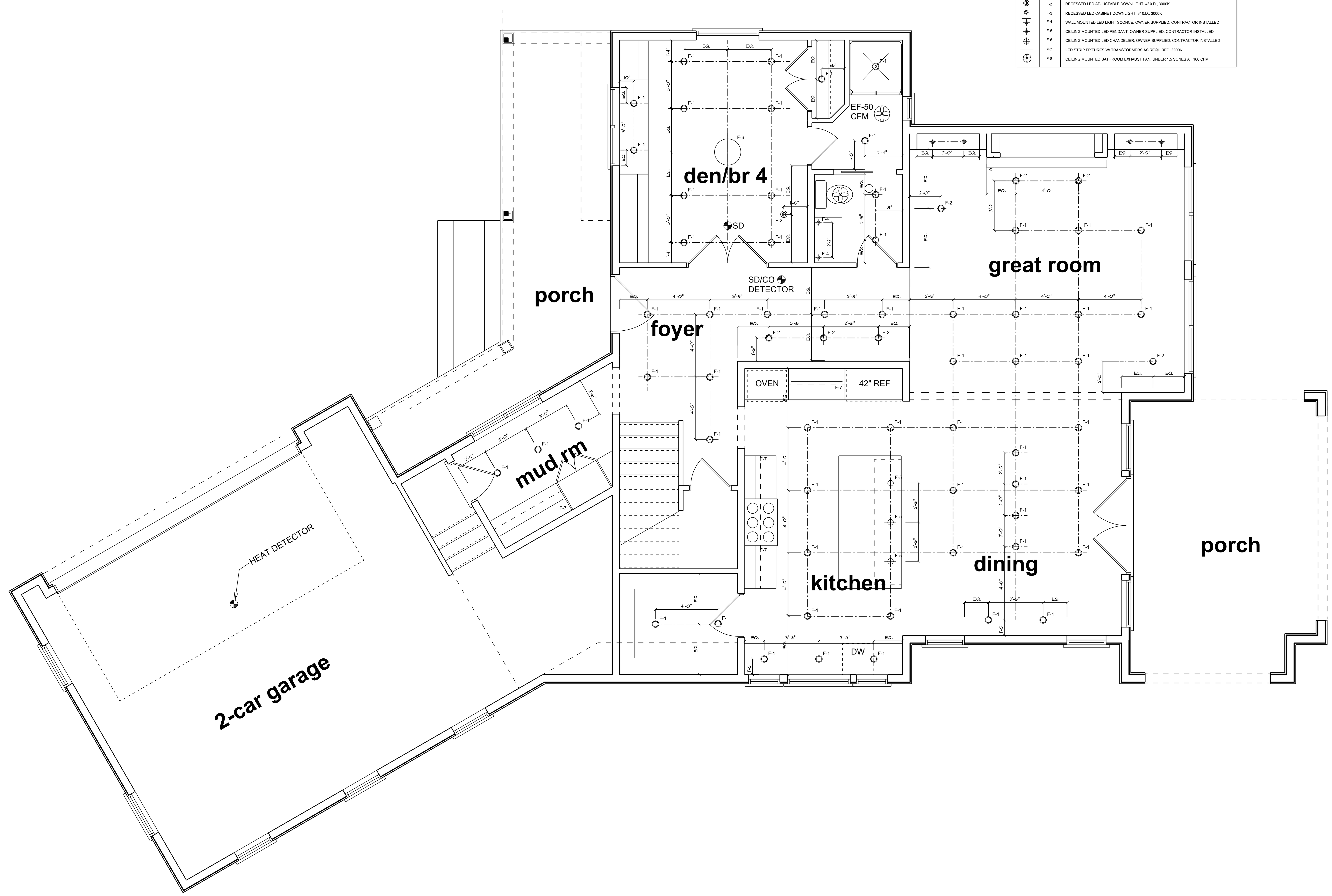
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY: WMG

DATE: APRIL 25, 2022

PLAN NO.:

SHEET NO.: **12**



FIXTURE LEGEND		
SYMBOL	CODE	DESCRIPTION
	F-1	RECESSED LED DOWNLIGHT, 4" 0.D., 3000K
	F-2	RECESSED LED ADJUSTABLE DOWNLIGHT, 4" 0.D., 3000K
	F-3	RECESSED LED CABINET DOWNLIGHT, 3" 0.D., 3000K
	F-4	WALL MOUNTED LED LIGHT SCONCE, OWNER SUPPLIED, CONTRACTOR INSTALLED
	F-5	CEILING MOUNTED LED PENDANT, OWNER SUPPLIED, CONTRACTOR INSTALLED
	F-6	CEILING MOUNTED LED CHANDELIER, OWNER SUPPLIED, CONTRACTOR INSTALLED
	F-7	LED STRIP FIXTURES W/ TRANSFORMERS AS REQUIRED, 3000K
	F-8	CEILING MOUNTED BATHROOM EXHAUST FAN, UNDER 1.5 SONES AT 100 CFM

MAIN LEVEL REFLECTED CEILING PLAN

SCALE 1/4" = 1'-0"

DATE	BY	REVISIONS

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

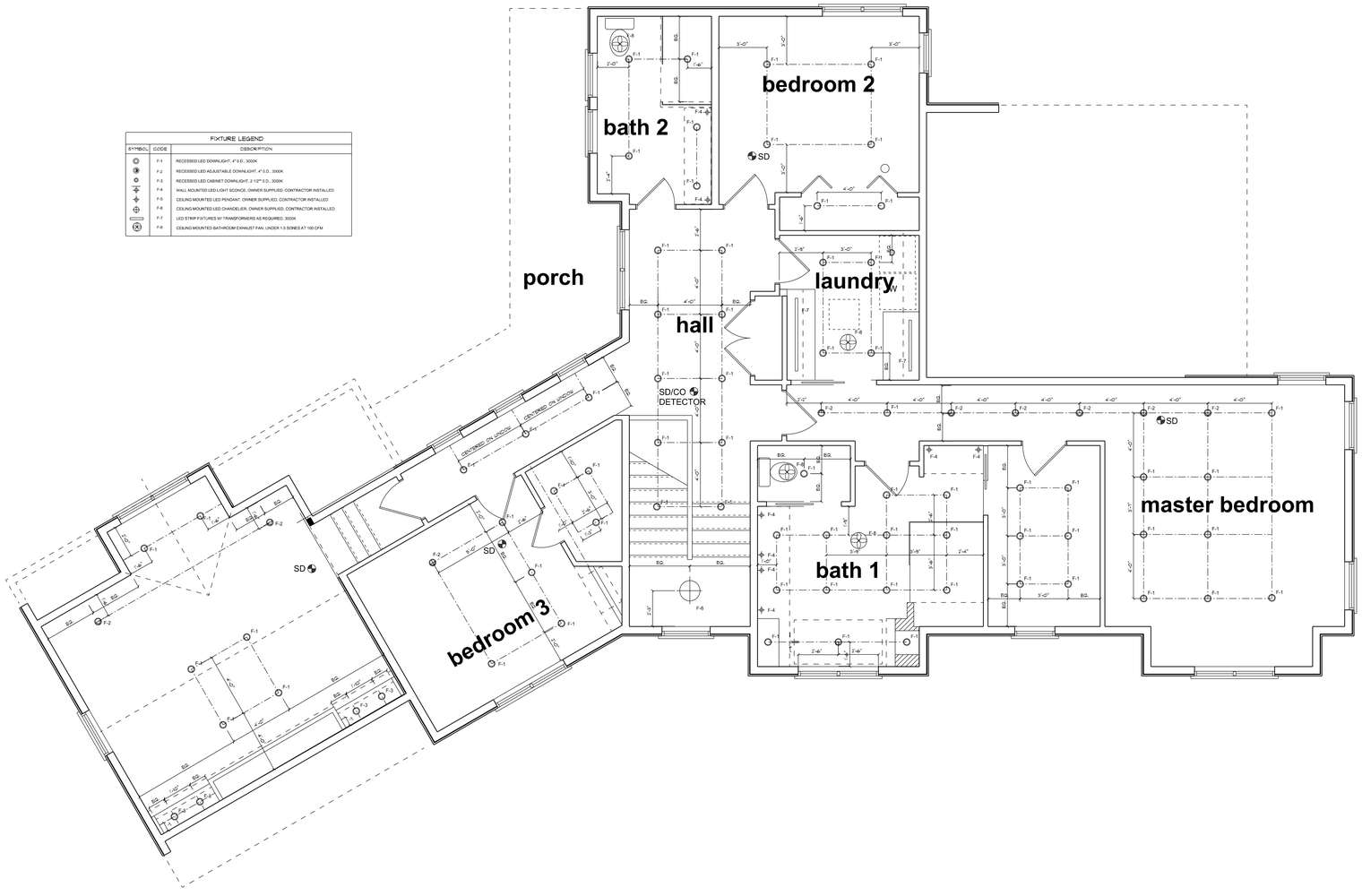
DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.

FIXTURE LEGEND		
SYMBOL	CODE	DESCRIPTION
	F-1	RECESSED LED DOWNLIGHT, 4" O.D., 3000K
	F-2	RECESSED LED ADJUSTABLE DOWNLIGHT, 4" O.D., 3000K
	F-3	RECESSED LED CABINET DOWNLIGHT, 2 1/2" O.D., 3000K
	F-4	WALL MOUNTED LED LIGHT SCONCE, OWNER SUPPLIED; CONTRACTOR INSTALLED
	F-5	CEILING MOUNTED LED PENDANT, OWNER SUPPLIED; CONTRACTOR INSTALLED
	F-6	CEILING MOUNTED LED CHANDELIER, OWNER SUPPLIED; CONTRACTOR INSTALLED
	F-7	LED STRIP FIXTURES W/ TRANSFORMERS AS REQUIRED, 3000K
	F-8	CEILING MOUNTED BATHROOM EXHAUST FAN, UNDER 1.5 SONES AT 100 CFM



UPPER LEVEL REFLECTED CEILING PLAN

SCALE 1/4" = 1'-0"

NORTH

REVISIONS		
DATE	BY	

PROPOSED SINGLE FAMILY RESIDENCE FOR:

EDWARD & CATHERINE MORAN

4882 FOREST AVENUE SE MERCER, ISLAND, WA

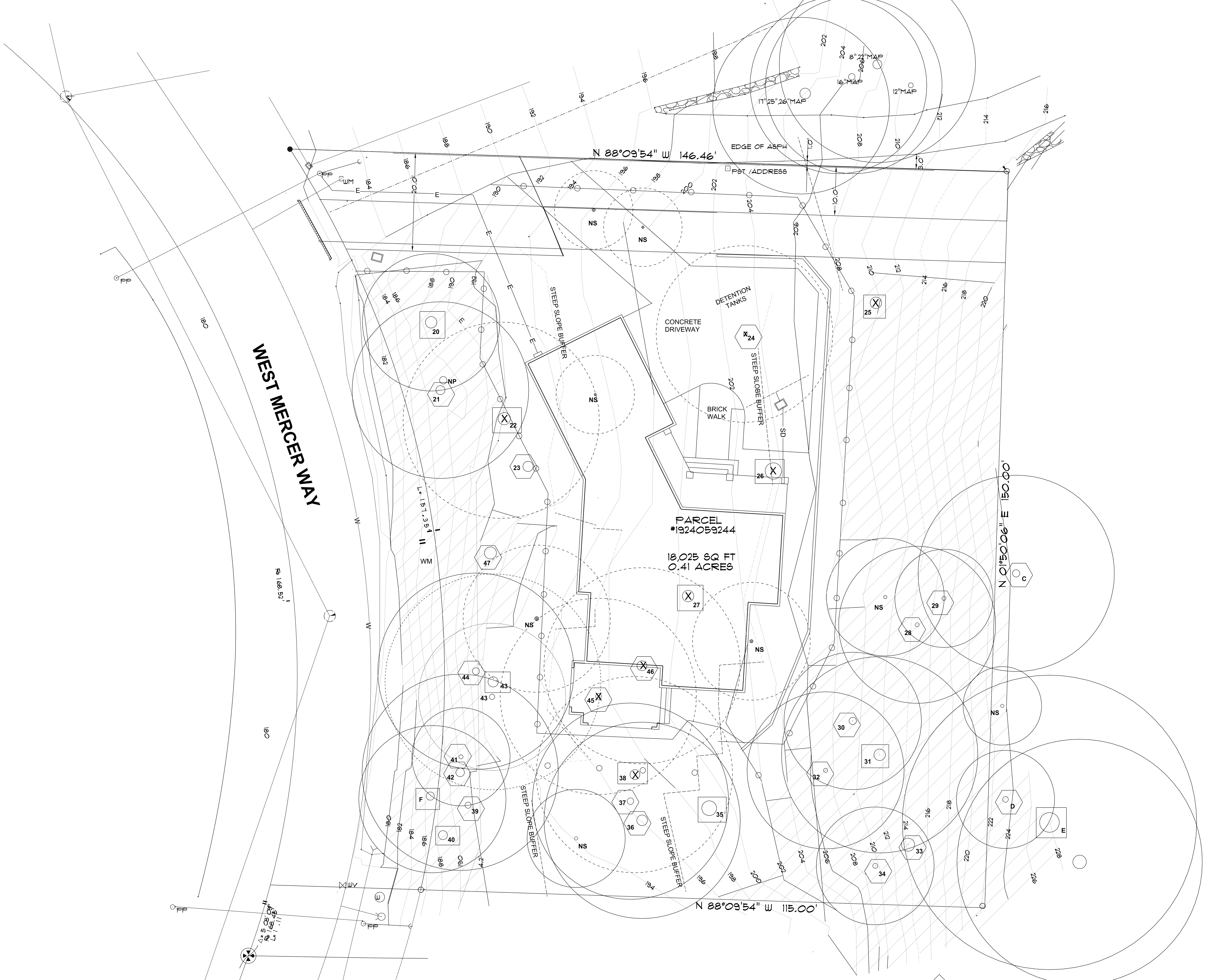
PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.
14



TREE REMOVAL AND RETENTION PLAN

SCALE 1" = 10'-0"

ASPHALT SURFACE
BUILDING
CENTERLINE ROW
CULVERT PIPE
DITCH (FLOWLINE)
FIRE HYDRANT
GUY ANCHOR
CATCH BASIN (TYPE 1)
MONUMENT IN CASE (FOUND)
POST
POWER (OVERHEAD)
POWER POLE
IRON PIPE (FOUND)
REBAR & CAP (SET)
ROCKERY
SEWER LINE
SEWER MANHOLE
STORM DRAIN LINE
SIZE TYPE TREE (AS NOTED)
WATER MH
WATER LINE
WATER METER
WATER VALVE
STEEP SLOPE AREA

CROSS-HATCHED AREAS DESIGNATE STEEP SLOPE AREAS

LIMITS OF CLEARING, GRADING AND EXCAVATION

DRIP LINES OF TREES TO BE REMOVED

LINE OF STEEP SLOPE BUFFERS

W — W WATER SERVICE

SD — SD STORMWATER DRAIN SYSTEM

SS — SS SANITARY SEWER

E — E UNDERGROUND ELECTRICAL SERVICE

WATER METER

EXCEPTIONAL TREES WITH DIAMETER OF 24" OR MORE

EXCEPTIONAL TREES WITH DIAMETER OF LESS THAN 24"

REVISIONS		
DATE	BY	

EDWARD & CATHERINE MORAN

WEST MERCER WAY MERCER ISLAND, WA 98040

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www,planone.biz

DRAWN BY
WMG

DATE
APRIL 25, 2022

PLAN NO.

SHEET NO.
15

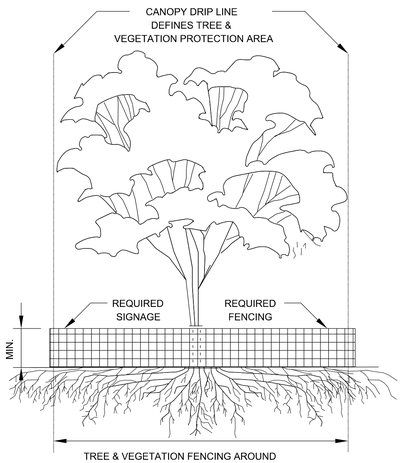
TREE & VEGETATION PROTECTION

TREE PROTECTION FENCING AND SIGN

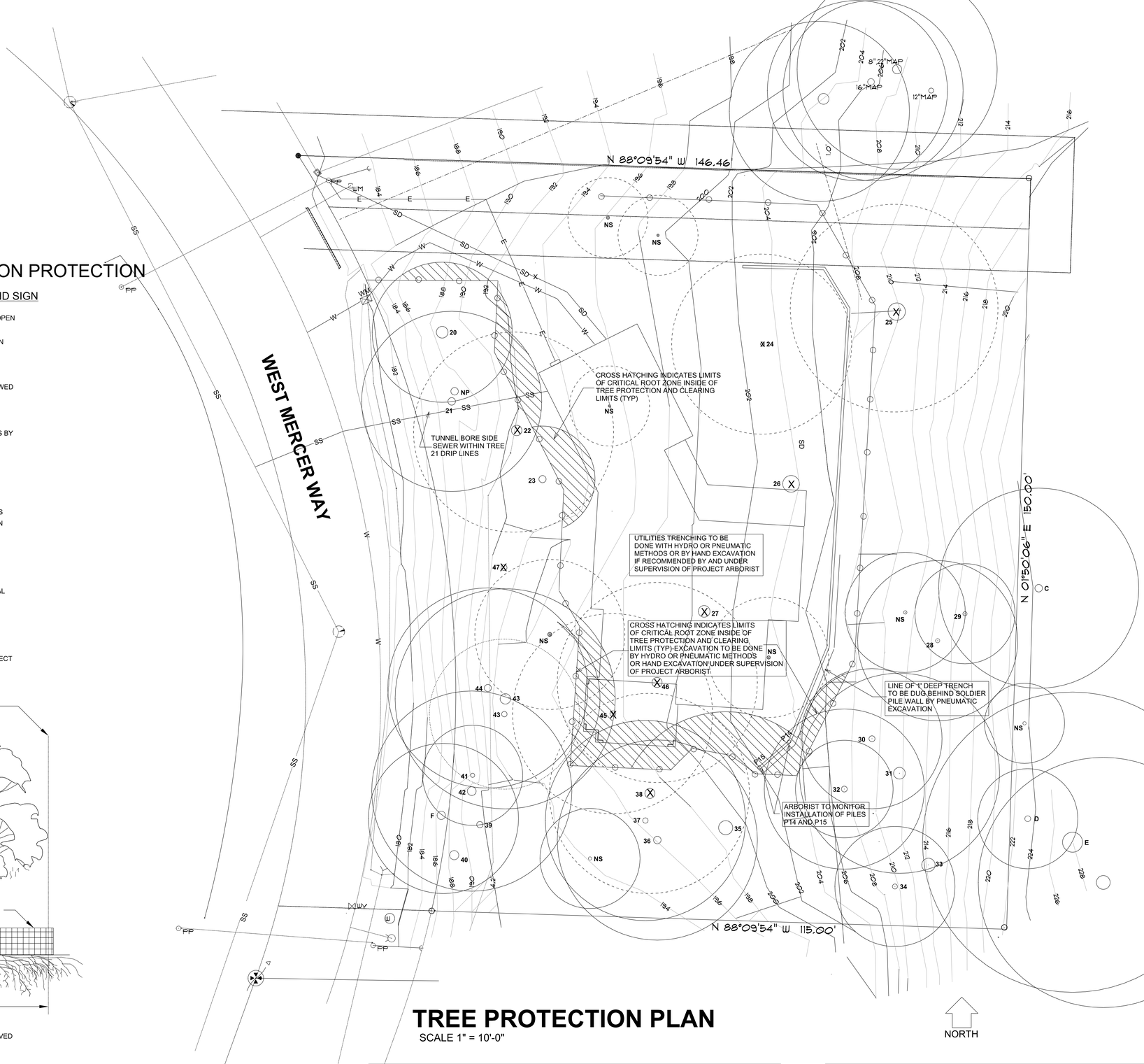
1. 6' H CHAIN LINK, WIRE MESH, OR SIMILAR OPEN RIGID MATERIAL (NO PLYWOOD)
2. MUST BE INSTALLED PRIOR TO DEMOLITION OR GROUND DISTURBANCE
3. KEPT IN PLACE FOR THE DURATION OF CONSTRUCTION
4. NO SOIL DISTURBANCE OR ACTIVITY ALLOWED WITHIN FENCED AREA: MATERIAL STORAGE/STOCKPILING, PARKING, EXCAVATION, DUMPING, OR WASHING
5. MODIFICATIONS OF THESE REQUIREMENTS BY APPROVAL OF SDCI PLANNER ONLY
6. IF ROOTS GREATER THAN 2 INCH FOUND OUTSIDE OF FENCING, PROTECT BY HAND EXCAVATION AND, IF NECESSARY, CUT CLEANLY AND KEEP MOIST
7. USE 3 INCHES OR DEEPER WOOD CHIP MULCH WITHING TREE PROTECTION ZONES AS WELL FOR ALL TREES IMPACTED WITHIN THEIR LIMITS OF DISTURBANCE

VEGETATION PROTECTION

1. ORANGE MESH OR SIMILAR OPEN MATERIAL
2. MINIMIZE CONSTRUCTION ZONE
3. PROTECT VEGETATION OUTSIDE CONSTRUCTION ZONE WITH FENCING AS SHOWN
4. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS



TREE & VEGETATION FENCING AROUND
ENTIRE DRIP LINE ON PERMIT SITE.
ALTERNATIVE TREE PROTECTION, IF APPROVED
BY SDCI, AS SHOWN ON SITE PLAN



TREE PROTECTION PLAN

SCALE 1" = 10'-0"

CROSS-HATCHED AREASINDICATE LIMITS OF CRITICALROOT ZONE OUTSIDE OF TREEPROTECTION FENCING- ALL EXCAVATION IN THOSE AREAS TO BE DONE WITH HYDRO OR PNUEMATIC EXCAVATION METHODS OR BY HAND DIGGING UNDER SUPERVISION OF THE ARBORIST.

- TREE PROTECTION FENCING AND LIMITS OF CLEARING, GRADING AND EXCAVATION
- DRIP LINES OF TREES TO BE REMOVED
- W — W — WATER SERVICE
- SD — SD — STORMWATER DRAIN SYSTEM
- SS — SS — SANITARY SEWER
- E — E — UNDERGROUND ELECTRICAL SERVICE
- WATER METER

PNEUMATIC AIR OR HYDRO EXCAVATION TO BE UTILIZED AT FOUNDATION LOCATIONS IN CONFLICT WITH CRITICAL ROOT ZONES AND UNDER THE SUPERVISION OF PROJECT ARBORIST.

ALL GRADING AND EXCAVATION WORK WITHIN THE LIMITS OF DISTURBANCE SHALL BE MONITORED BY PROJECT ARBORIST

REVISIONS

DATE	BY	
12/08/2022		REVISED

EDWARD & CATHERINE MORAN
WEST MERCER WAY MERCER ISLAND, WA 98040

PLAN ONE
FINE HOME DESIGN
5125 47th Avenue S
Seattle, Washington 98118
(206) 612-8511 www.planone.biz

DRAWN BY WMG

DATE APRIL 25, 2022

PLAN NO.

SHEET NO. 16

STRUCTURAL NOTES

1. CODE: IRC, 2018 EDITION.

2. LOADS:

   ROOFL.L.25 PSF (SNOW)

   SEISMIC: SITE CLASS = D
   S_s = 1.274g
   S = 0.425g
   S_{DS} = 0.849g
   S_{D1} = 0.445g
   R = 6.5 (WOOD SHEAR WALL)

   WIND: 110 M.P.H. (EXPOSURE "B"): I_w=1.0

   SOIL BEARING: 1500 PSF (ASSUMED). BOTTOM OF ALL FOUNDATION SHALL BE MINIMUM OF 18" BELOW GRADE.

3. CONCRETE:

   F'c = 2,500 PSI

   MIXING AND PLACING OF ALL CONCRETE AND SELECTION OF MATERIALS SHALL BE IN ACCORDANCE WITH THE ACI CODE 318. PROPORTIONING OF AGGREGATE TO CEMENT SHALL BE SUCH AS TO PRODUCE A DENSE WORKABLE MIX WITH 4" MAXIMUM SLUMP, WHICH CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. 3/4" CHAMFER ALL EXPOSED EDGES, UNLESS INDICATED OTHERWISE ON ARCHITECTURAL DRAWINGS. AIR ENTRAIN ALL CONCRETE EXPOSED TO WEATHER WITH 3% TO 6% AIR BY VOLUME.

4. REINFORCING:DEFORMED BARS GRADE 40 (fy=40,000 PSI) UNLESS OTHERWISE NOTED ON THE DRAWINGS. LAP ALL CONTINUOUS REINFORCING BARS 48 BAR DIAMETERS 2'-0" MINIMUM, UNLESS NOTED OTHERWISE. PROVIDE CORNER BARS (2'-0" BEND) FOR ALL HORIZONTAL REINFORCEMENT. DETAIL REINFORCING BARS IN ACCORDANCE WITH THE "ACI DETAILING MANUAL".

   CONCRETE COVER TO MAIN REINFORCEMENT SHALL BE:
   FORMED SURFACES -
   WEATHER FACE = 1 1/2"
   EARTH FACE = 2"
   INTERIOR FACE = 3/4"
   FOOTINGS CAST AGAINST EARTH = 3"

5. METALS: ALL MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A-36 (fy=36,000 PSI) UNLESS NOTED OTHERWISE. MACHINE BOLTS TO BE A-307. ANCHOR BOLTS INTO CONCRETE SHALL BE PLACED ACCURATELY ACCORDING TO SIZE AND LOCATIONS SHOWN AND PROVIDED FOR BY OTHERS. ALL EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ OR APPROVED EQUAL. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION.

6. CARPENTRY:
   ALL NAILS TO BE COMMON NAILS. LUMBER GRADES:
   4X BEAMS D.F. #1
   6X BEAMS D.F. #1
   BLOCKING D.F. #2
   2X STUDS = D.F. #2
   LEDGERS D.F. #2

   ALL LUMBER NOT NOTED ABOVE TO BE D.F. #2 OR BETTER. ALL LUMBER SHALL CONFORM TO "WWPA GRADING RULES FOR WESTERN LUMBER-LATEST EDITION" AND EACH PIECE SHALL BEAR A VALID GRADE STAMP THAT IS NOT TO BE REMOVED FROM THE STRUCTURAL MEMBER. BOLT HEADS AND NUTS BEARINGS AGAINST WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.

7. PLYWOOD:
   ROOF SHEATHING = 1/2" CDX PLYWOOD WITH EXTERIOR GLUE, INDEX 32/16 OR 24/0.
   FLOOR SHEATHING = 3/4" T.&G. PLYWOOD, INDEX 48/24.
   ALL SHEATHING SHALL CONFORM TO U.S. PRODUCT STANDARD. NAILING SHALL BE AS INDICATED ON PLAN.

8. GLU-LAMINATED BEAMS:
   GLU-LAMINATED WOOD BEAMS, SHALL BE KILN DRIED, INDUSTRIAL APPEARANCE, STRESS GRADE COMBINATION 24F-V4 (fb=2400 PSI, fv=165 PSI) AT SIMPLE SPAN BEAM AND STRESS GRADE COMBINATION 24F-V8 (fb=2400 psi, fv=165 psi) AT CANTILEVERED BEAMS. PROVIDE TOP TENSION LAMS AT CANTILEVERS.

9. TRUSSES:
   TRUSSES ARE AS NOTED ON THE PLANS AND FABRICATED IN ACCORDANCE WITH 2018 IRC. EACH TRUSS SHALL BEAR THE QUALITY CONTROL STAMP, MANUFACTURER PLANTS NAME/ADDRESS, DESIGN LOAD AND MAXIMUM SPACING. TRUSS FABRICATOR TO PROVIDE ALL REQUIRED BRIDGING BLOCKING, BOTH PERMANENT AND ERECTION. DESIGN CRITERIA SHALL MEET OR EXCEED THE FOLLOWING:

   ROOF TRUSS LOADING:
   LIVE LOAD = 25 PSF (SNOW)
   DEAD LOAD = 15 PSF
   TOTAL LOAD DEFLECTION = L/240
   LIVE LOAD DEFLECTION = L/360 FLOOR TRUSS LOADING:
   LIVE LOAD = 40 PSF
   DEAD LOAD = 15 PSF TOTAL LOAD DEFLECTION = L/240
   LIVE LOAD DEFLECTION = L/480

10. SHOP DRAWINGS:SUBMIT 3-SETS OF SHOP DRAWINGS TO ENGINEER FOR REVIEW FOR DESIGN INTENT ONLY PRIOR TO FABRICATION AND AFTER CONTRACTOR REVIEW FOR ROOF AND FLOOR TRUSSES. ALL DIMENSIONS AND QUANTITIES MUST BE VERIFIED AND APPROVED BY THE CONTRACTOR AND IS NOT RESPONSIBILITY OF THE ENGINEER OF RECORD.

11. SPECIAL INSPECTION: PROVIDE SPECIAL INSPECTION PER 2015 IBC. ALL INSPECTION REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT, ARCHITECT, ENGINEER AND OWNER FOR REVIEW.

    FOLLOWING STRUCTURAL OBSERVATIONS ARE REQUIRED FOR:
    A. SHEAR WALL AND DIAPHRAGM NAILING, STRAPS AND HOLDOWNS; AND
    B. EXPANSION AND EPOXY GROUT ANCHORS.

12. SPECIAL CONDITIONS:DURING CONSTRUCTION THE CONTRACTOR SHALL COORDINATE ALL TRADES AND VERIFY DIMENSIONS IN FIELD. OBTAIN ARCHITECT'S APPROVAL PRIOR TO ALL FIELD CHANGES. SEE ARCHITECTURAL DRAWINGS FOR ALL FLOOR OPENING DIMENSIONS AND LOCATIONS, FLOOR FINISHES, ETC. CONTRACTOR SHALL PROVIDE PERMANENT AND TEMPORARY SHORING AS REQUIRED.

NAILING SCHEDULE TABLE 2304.9.1

(UNLESS NOTED OTHERWISE ON DRAWINGS)

	CONNECTION	NAILS	
1	JOIST TO SILL OR GIRDER: TOENAIL	3 - 8d COMMON (2-1/2" X 0.131"),	3 - 3" X 0.131" NAILS
2	BRIDGING TO JOIST: TOENAIL EACH END	2 - 8d COMMON (2-1/2" X 0.131"),	2 - 3" X 0.131" NAILS
3	1" X 6" (25mm X 152mm) SUBFLOOR OR LESS TO EACH JOIST: FACE NAIL		2 - 8d COMMON (2-1/2" X 0.131")
4	WIDER THAN 1" X 6" (25mm X 152mm) SUBFLOOR TO EACH JOIST: FACE NAIL		3 - 8d COMMON (2-1/2" X 0.131")
5	2" (51mm) SUBFLOOR TO JOIST OR GIRDER: BLIND AND FACE NAIL		2 - 16d COMMON (3-1/2" X 0.162")
6	SOLE PLATE TO JOIST OR BLOCKING: TYPICAL FACE NAIL	16d (3-1/2" X 0.131") AT 16" O.C.,	3" X 0.131" NAILS AT 8" O.C.
	SOLE PLATE TO JOIST OR BLOCKING: AT BRACED WALL PANELS	3 - 16d (3-1/2" X 0.131") AT 16" O.C.,	4 - 3" X 0.131" NAILS AT 16" O.C.
7	TOP PLATE TO STUD: END NAIL	2 - 16d COMMON (3-1/2" X 0.162"),	3 - 3" X 0.131" NAILS
8	STUD TO SOLE PLATE: TOENAIL	4 - 8d COMMON (2-1/2" X 0.131"),	3 - 3" X 0.131" NAILS
	STUD TO SOLE PLATE: END NAIL	2 - 20d COMMON (3-1/2" X 0.162"),	3 - 3" X 0.131" NAILS
9	DOUBLE STUDS: FACE NAIL	16d (3-1/2" X 0.131") AT 16" O.C.,	3" X 0.131" NAILS AT 8" O.C.
10	DOUBLE TOP PLATES: TYPICAL FACE NAIL	16d (3-1/2" X 0.135") AT 16" O.C.,	3" X 0.131" NAILS AT 12" O.C.
	DOUBLE TOP PLATES: LAP SPLICE	8 - 16d COMMON (3-1/2" X 0.135"),	12 - 3" X 0.131" NAILS
11	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE: TOENAIL	3 - 8d COMMON (2-1/2" X 0.131"),	3 - 3" X 0.131" NAILS
12	RIM JOIST TO TOP PLATE: TOENAIL	8d (2-1/2" X 0.131") AT 6" O.C.,	3" X 0.131" NAILS AT 6" O.C.
13	TOP PLATES, LAPS AND INTERSECTIONS: FACE NAIL	2 - 16d COMMON (3-1/2" X 0.162"),	3 - 3" X 0.131" NAILS
14	CONTINUOUS HEADER, TWO PIECES	16d COMMON (3-1/2" X 0.162") AT 16" O.C. ALONG EDGE	
15	CEILING JOISTS TO PLATE: TOENAIL	3 - 8d COMMON (2-1/2" X 0.131),	5 - 3" X 0.131 NAILS
16	CONTINUOUS HEADER TO STUD: TOENAIL	4 - 8d COMMON (2-1/2" X 0.131")	
17	CEILING JOISTS, LAPS OVER PARTITIONS: FACE NAIL	3 - 16d (3-1/2" X 0.162") MIN., TABLE 2308.10.4.1	
	(SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	4 - 3" X 0.131" NAILS, 4 - 3" 14 GAGE STAPLES	
18	CEILING JOISTS TO PARALLEL RAFTER: FACE NAIL	3 - 16d (3-1/2" X 0.162") MIN., TABLE 2308.10.4.1	
	(SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	4 - 3" X 0.131" NAILS	
19	RAFTER TO PLATE: TOENAIL	3 - 8d COMMON (2-1/2" X 0.131"),	3 - 3" X 0.131" NAILS
	(SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)		
20	1" BRACE TO EACH STUD AND PLATE: FACE NAIL	2 - 8d COMMON (2-1/2" X 0.131"),	2 - 3" X 0.131" NAILS
21	1" X 8" SHEATHING OR LESS TO EACH BEARING: FACE NAIL	2 - 8d COMMON (2-1/2" X 0.131")	
22	WIDER THAN 1" X 8" SHEATHING TO EACH BEARING: FACE NAIL	3 - 8d COMMON (2-1/2" X 0.131")	
23	BUILT-UP CORNER STUDS	16d (3-1/2" X 0.162") AT 24" O.C.,	3" X 0.131" NAILS AT 16" O.C.
24	BUILT-UP GIRDER AND BEAMS	20d COMMON (4" X 0.192") AT 32" O.C.,	3" X 0.131" NAILS AT 24" O.C.
0		2 - 20d COMMON (4" X 0.192"),	3 - 3" X 0.131" NAILS
0		FACE NAIL AT ENDS AND AT EACH END	
25	2" PLANKS	2 -16d COMMON (3-1/2" X 0.162") AT EACH BEARING	
26	COLLAR TIE TO RAFTER: FACE NAIL	3 - 10d COMMON (3" X 0.148"),	4 - 3" X 0.131" NAILS
27	JACK RAFTER TO HIP: TOENAIL	3 - 10d COMMON (3" X 0.148"),	4 - 3" X 0.131" NAILS
	JACK RAFTER TO HIP: FACE NAIL	2 - 16d COMMON (3-1/2" X 0.162"),	3 - 3" X 0.131" NAILS
28	ROOF RAFTER TO 2-BY RIDGE BEAM: TOENAIL	3 - 16d COMMON (3" X 0.162"),	3 - 3" X 0.131" NAILS
	ROOF RAFTER TO 2-BY RIDGE BEAM: FACE NAIL	2 - 16d COMMON (3-1/2" X 0.162"),	3 - 3" X 0.131" NAILS
29	JOIST TO BAND JOIST: FACE NAIL	3 - 16d COMMON (3-1/2" X 0.162"),	4 - 3" X 0.131" NAILS
30	LEDGER STRIP: FACE NAIL	3 - 16d COMMON (3-1/2" X 0.162"),	4 - 3" X 0.131" NAILS

a. COMMON OR BOX NAILS MAY BE USED EXCEPT WHERE OTHERWISE STATED.

b. NIALS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AS SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEARWALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.

c. COMMON OR DEFORMED SHANK (6d - 2" X 0.113; 8d - 2-1/2" X 0.131; 10d - 3" X 0.148")

d. COMMON (6d - 2" X 0.113; 8d - 2-1/2" X 0.131; 10d - 3" X 0.148")

e. DEFORMED SHANK (6d - 2" X 0.113; 8d - 2-1/2" X 0.131; 10d - 3" X 0.148")

f. CORROSION-RESISTANT SIDING (6d - 1 7/8" X 0.106"; 8d - 2-3/8" X 0.128") OR CASING 9 - 6d - 2" X 0.099"; 8d - 2-1/2" X 0.113" NAILS

g. FASTENERS SPACED 3 INCHES ON CENTER AT EXTERIOR EDGES AND 6" ON CENTER AT INTERMEDIATE SUPPORTS, WHEN USED AS STRUCTURAL SHEATHING. SPACING SHALL BE 6 INCHES ON CENTER RON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NONSTRUCTURAL APPLICATIONS.

h. CORROSION-RESISTANT ROOFING NAILS WITH 7/16 INCH DIAMETER HEAD AND 1-1/2 INCH LENGTH FOR 1/2 INCH SHEATHING AND 1-3/4 INCH LENGTH FOR 25/32 INCH SHEATHING

i. CASING (1-1/2" X 0.08") OR FINISH (1-1/2" X 0.072") NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS

j. PANEL-SUPPORTS AT 24 INCHES CASING OR FINISH NAILS SPACED 8 INCHES ON PANEL, 12 INCHES AT INTERMEDIATE SUPPORTS.

k. FOR ROOF SHEATHING APPLICATIONS, 8d NAILS (2-1/2" X 0.113") ARE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.

l. FOR ROOF SHEATHING, FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.

m. FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS FOR SUBFLOOR AND WALL SHEATHING AND 3 INCHES ON CENTER AT EDGES, 6 INCHES AT INTERMEDIATE SUPPORTS FOR ROOF SHEATHING

n. FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORT.

o. NAILING INTO P.T. LUMBER SHALL BE WITH HOT DIPPED GALVANIZED OR OTHER APPROVED CORROSION RESISTANT MATERIAL

REVISION EDITION	
1	
2	
3	
4	

DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008

K.I.A. C.O.
CONSULTING STRUCTURAL ENGINEERS

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5000 WEST MERCER WAY
MERCER ISLAND, WA 98040

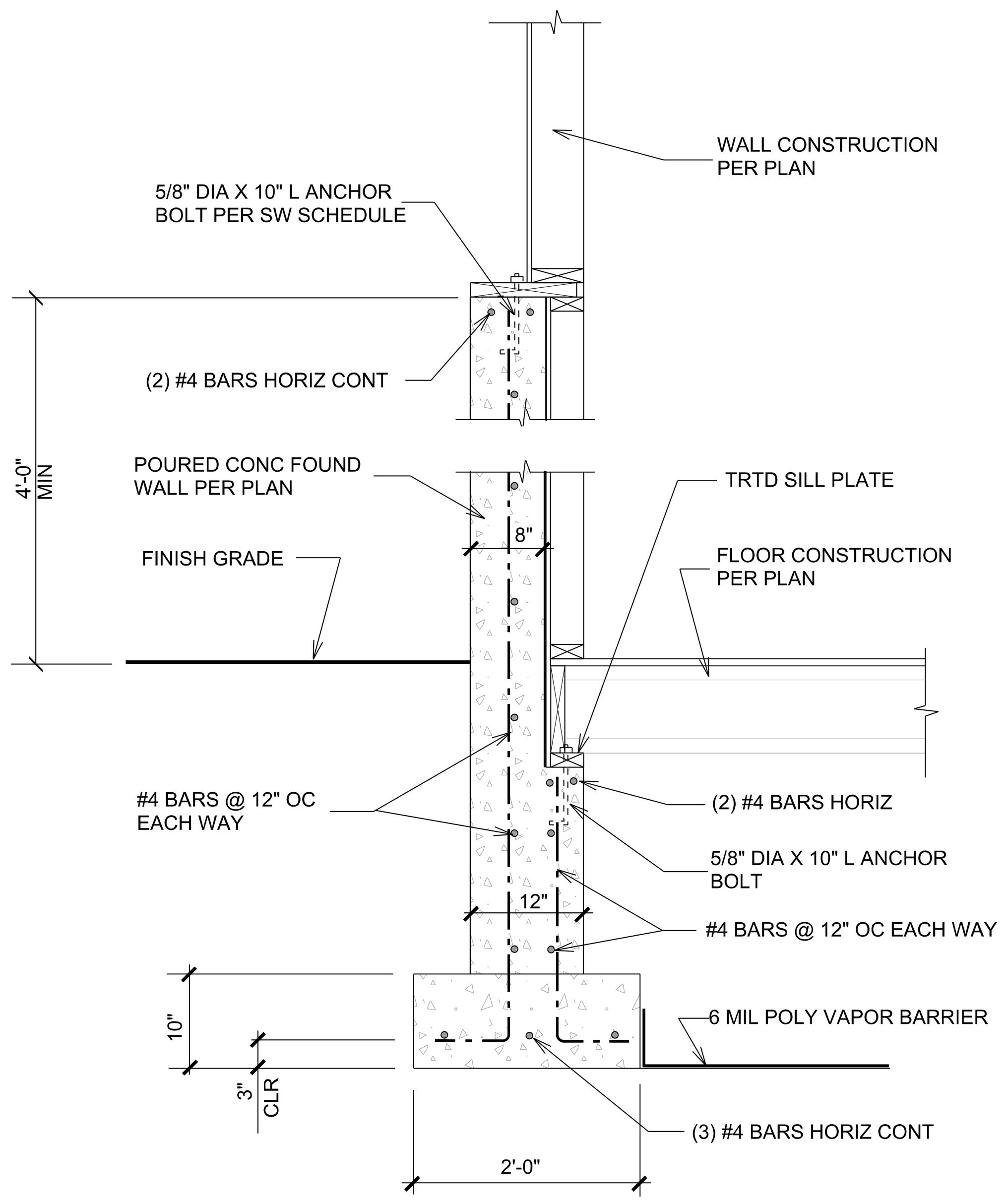
STRUCTURAL NOTES

SHEET
S-1
OF
-

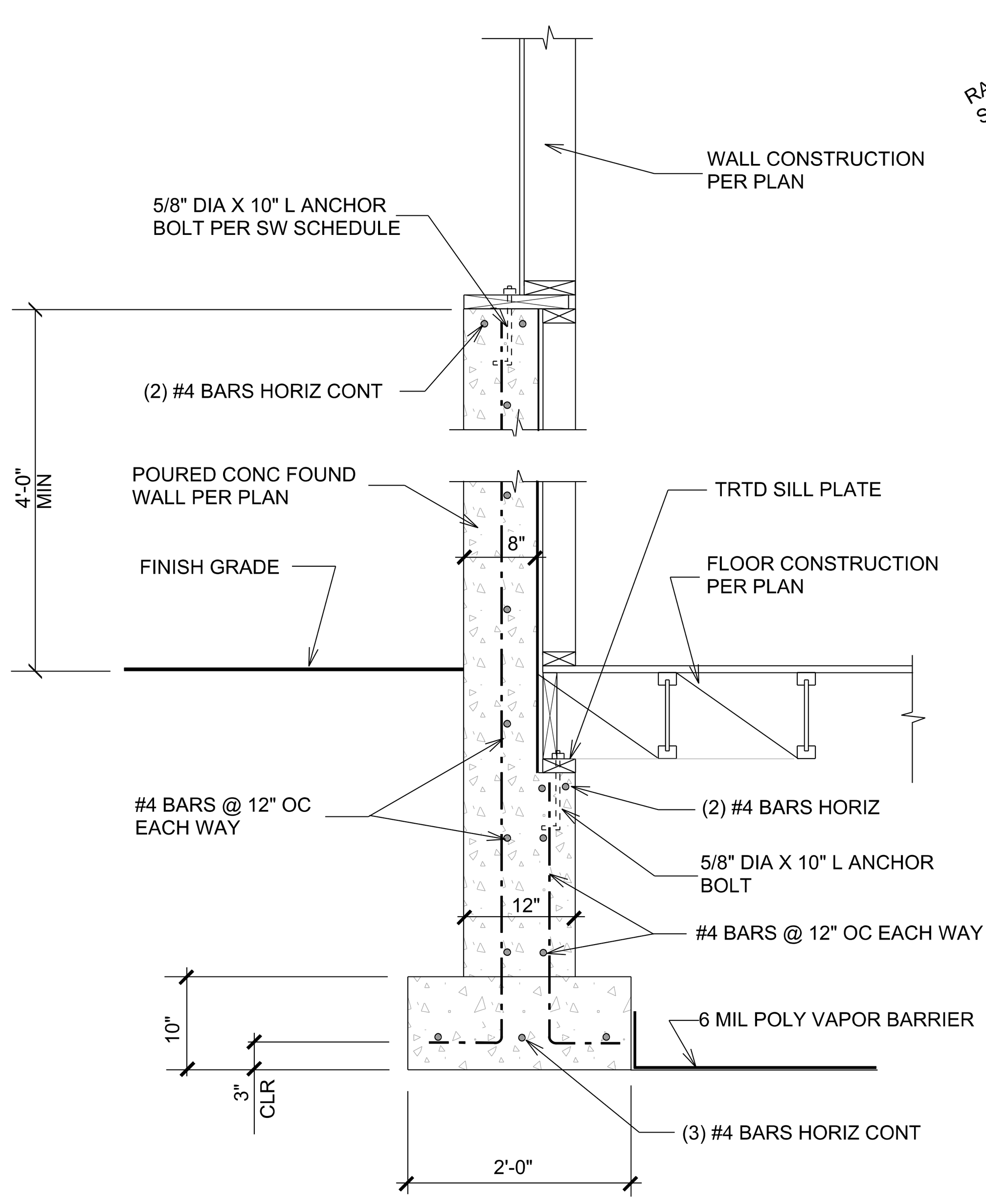
JOB #

FOUNDATION NOTES

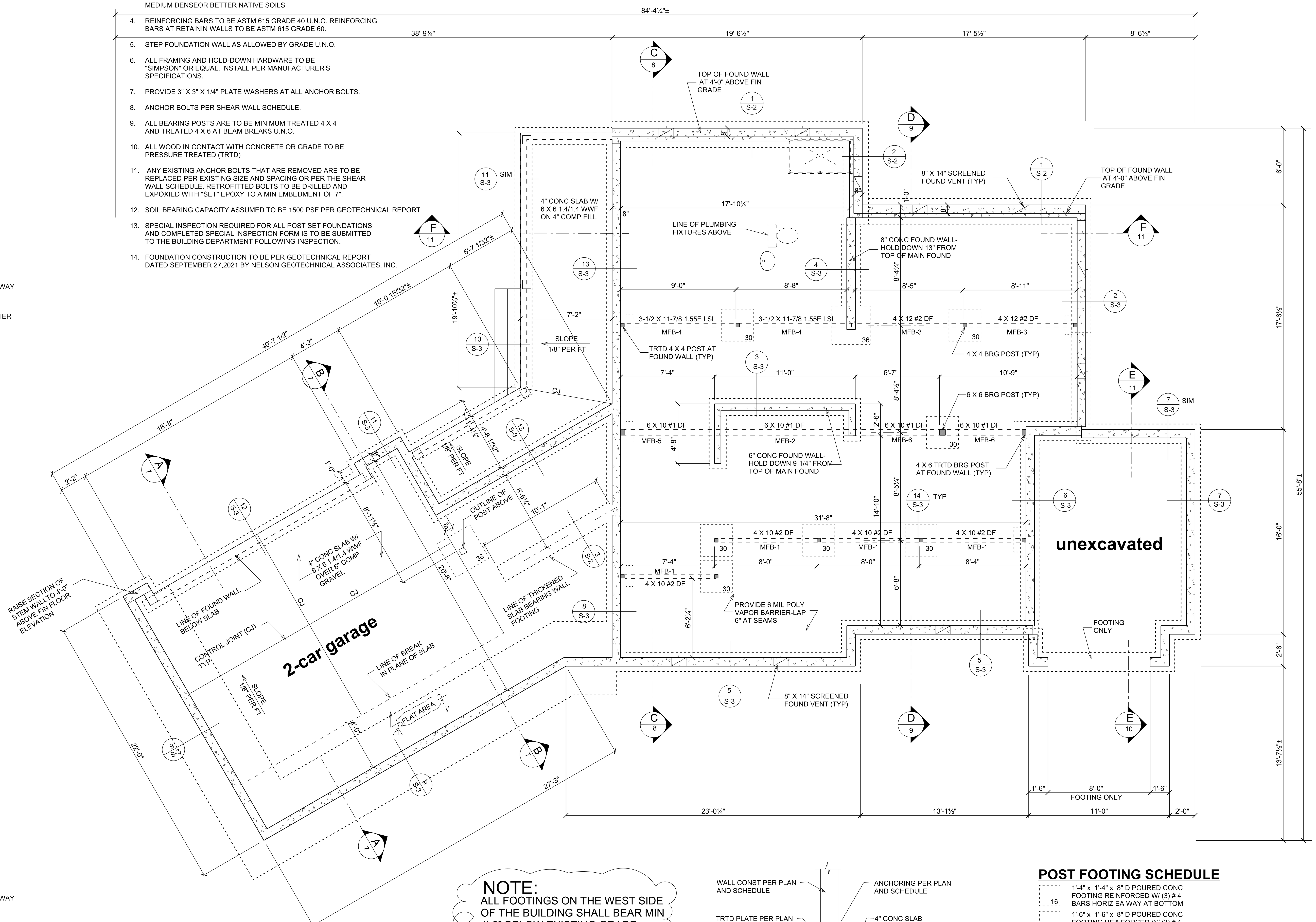
1. VERIFY ALL EXISTING CONDITIONS BEFORE PROCEEDING WITH THE WORK.
2. CONCRETE STRENGTH TO BE 2500 PSI AT 28 DAYS. CONCRETE STRENGTH AT RETAINING WALLS TO BE 3000 PSI AT 28 DAYS.
3. FOOTINGS TO BEAR MIN 18" BELOW FINISH GRADE ON MEDIUM DENSEOR BETTER NATIVE SOILS
4. REINFORCING BARS TO BE ASTM 615 GRADE 40 U.N.O. REINFORCING BARS AT RETAININ WALLS TO BE ASTM 615 GRADE 60.
5. STEP FOUNDATION WALL AS ALLOWED BY GRADE U.N.O.
6. ALL FRAMING AND HOLD-DOWN HARDWARE TO BE "SIMPSON" OR EQUAL. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
7. PROVIDE 3" X 3" X 1/4" PLATE WASHERS AT ALL ANCHOR BOLTS.
8. ANCHOR BOLTS PER SHEAR WALL SCHEDULE.
9. ALL BEARING POSTS ARE TO BE MINIMUM TREATED 4 X 4 AND TREATED 4 X 6 AT BEAM BREAKS U.N.O.
10. ALL WOOD IN CONTACT WITH CONCRETE OR GRADE TO BE PRESSURE TREATED (TRTD)
11. ANY EXISTING ANCHOR BOLTS THAT ARE REMOVED ARE TO BE REPLACED PER EXISTING SIZE AND SPACING OR PER THE SHEAR WALL SCHEDULE. RETROFITTED BOLTS TO BE DRILLED AND EXPOXIED WITH "SET" EPOXY TO A MIN EMBEDMENT OF 7".
12. SOIL BEARING CAPACITY ASSUMED TO BE 1500 PSF PER GEOTECHNICAL REPORT
13. SPECIAL INSPECTION REQUIRED FOR ALL POST SET FOUNDATIONS AND COMPLETED SPECIAL INSPECTION FORM IS TO BE SUBMITTED TO THE BUILDING DEPARTMENT FOLLOWING INSPECTION.
14. FOUNDATION CONSTRUCTION TO BE PER GEOTECHNICAL REPORT DATED SEPTEMBER 27,2021 BY NELSON GEOTECHNICAL ASSOCIATES, INC.



DETAIL 1
SCALE 3/4" = 1'-0"

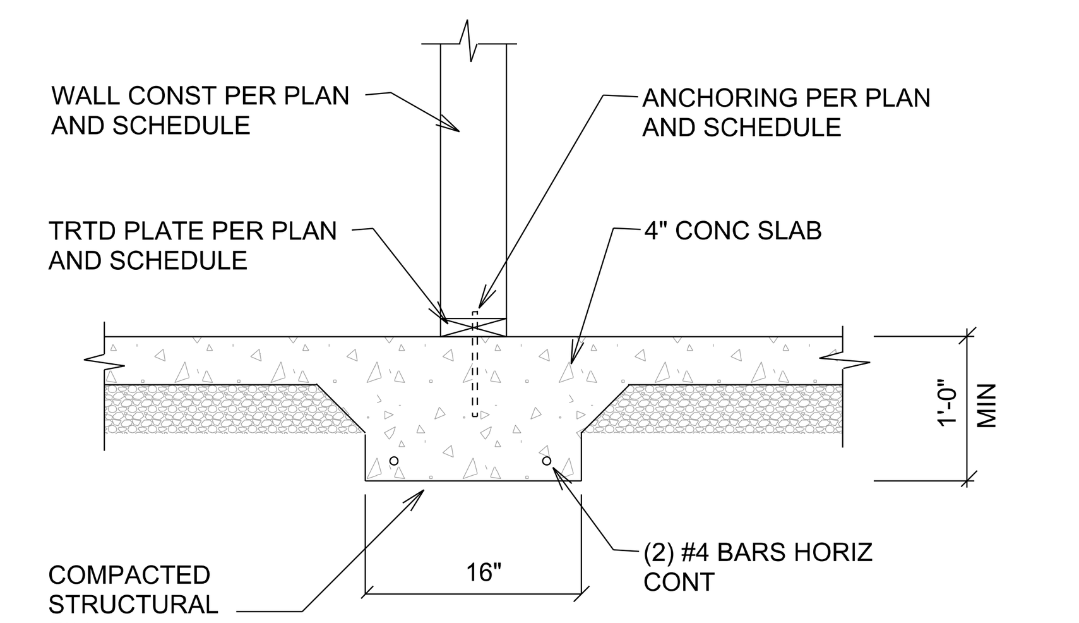


DETAIL 2
SCALE 3/4" = 1'-0"



NOTE:
ALL FOOTINGS ON THE WEST SIDE OF THE BUILDING SHALL BEAR MIN 4'-0" BELOW EXISTING GRADE

FOUNDATION PLAN
SCALE 1/4" = 1'-0"



DETAIL 3
SCALE 3/4" = 1'-0"

POST FOOTING SCHEDULE

16	1'-4" x 1'-4" x 8" D POURED CONC FOOTING REINFORCED W/ (3) # 4 BARS HORIZ EA WAY AT BOTTOM
18	1'-6" x 1'-6" x 8" D POURED CONC FOOTING REINFORCED W/ (3) # 4 BARS HORIZ EA WAY AT BOTTOM
24	2'-0" x 2'-0" x 8" D POURED CONC FOOTING REINFORCED W/ (3) # 4 BARS HORIZ EA WAY AT BOTTOM
30	2'-6" x 2'-6" x 10" D POURED CONC FOOTING REINFORCED W/ (4) # 4 BARS HORIZ EA WAY AT BOTTOM
36	3'-0" x 3'-0" x 1'-0" D POURED CONC FOOTING REINFORCED W/ (4) # 4 BARS HORIZ EA WAY AT BOTTOM
48	4'-0" x 4'-0" x 1'-0" D POURED CONC FOOTING REINFORCED W/ (5) # 4 BARS HORIZ EA WAY AT BOTTOM
54	4'-6" x 4'-6" x 1'-0" D POURED CONC FOOTING REINFORCED W/ (6) # 4 BARS HORIZ EA WAY AT BOTTOM

REVISION EDITION
1 12/08/2022
2
3
4

DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

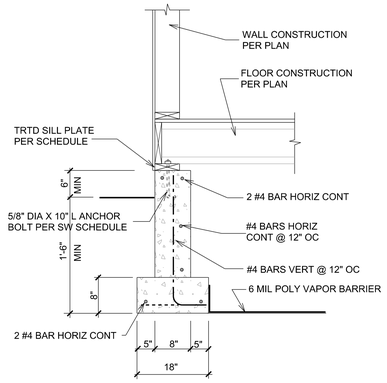
KIA CO
CONSULTING STRUCTURAL ENGINEERS

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5028 WEST MERCER WAY
MERCER ISLAND, WA 98040

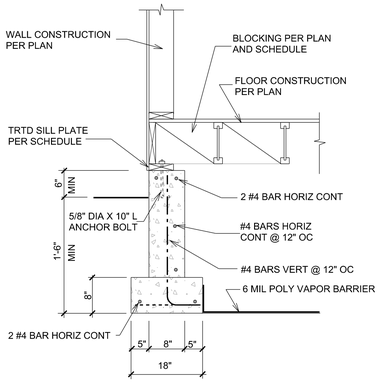
FOUNDATION PLAN

SHEET
S-2
OF
-
JOB #

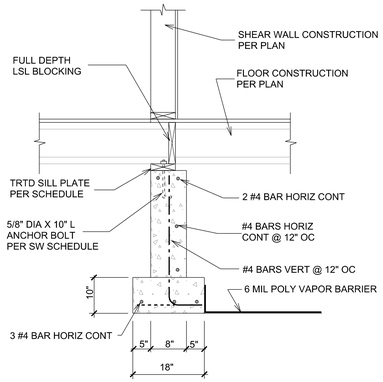
ALIREZA GHASSEMI
STATE OF WASHINGTON
21455
REGISTERED
PROFESSIONAL ENGINEER



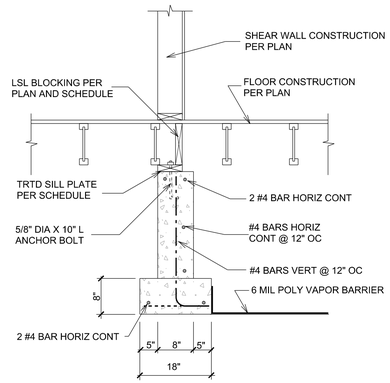
DETAIL 1
SCALE 3/4" = 1'-0"



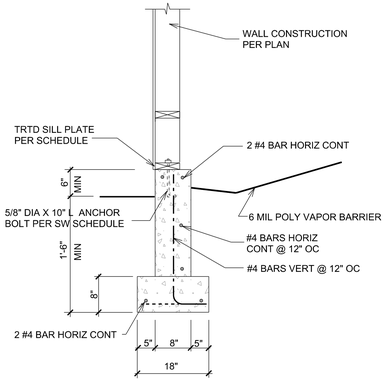
DETAIL 2
SCALE 3/4" = 1'-0"



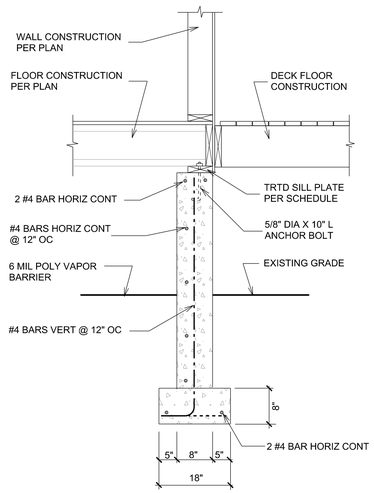
DETAIL 3
SCALE 3/4" = 1'-0"



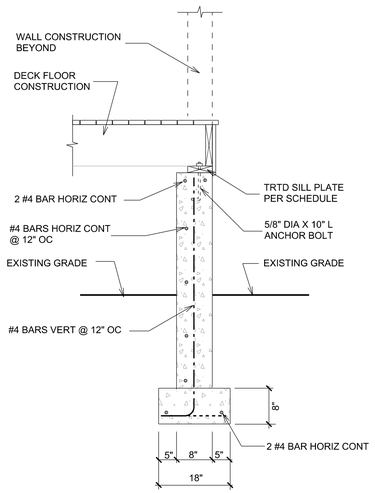
DETAIL 4
SCALE 3/4" = 1'-0"



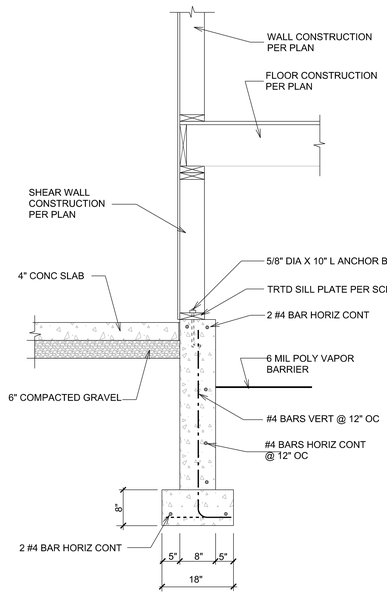
DETAIL 5
SCALE 3/4" = 1'-0"



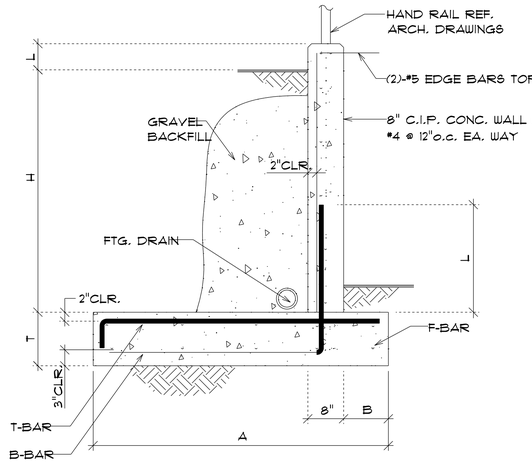
6 **DETAIL**
SCALE 3/4" = 1'-0"



7 **DETAIL**
SCALE 3/4" = 1'-0"

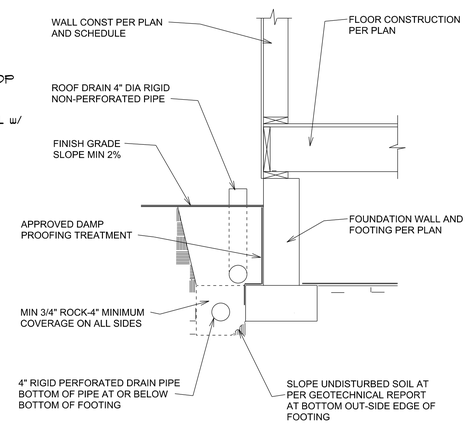


DETAIL 8
SCALE 3/4" = 1'-0"



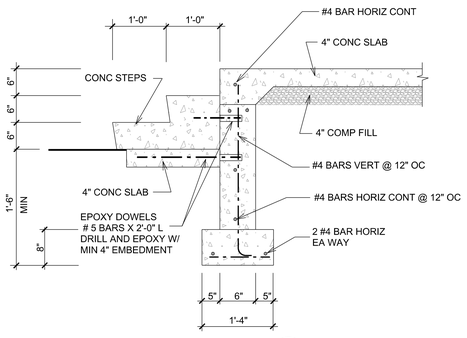
DETAIL 9
SCALE 3/4" = 1'-0"

F'c = 3000 PSI
Fy = 60 KSI #4 BAR
= 60 KSI # 5 BAR

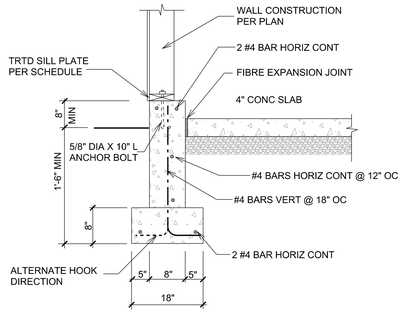


TYPICAL DRAINAGE DETAIL
SCALE 3/4" = 1'-0"

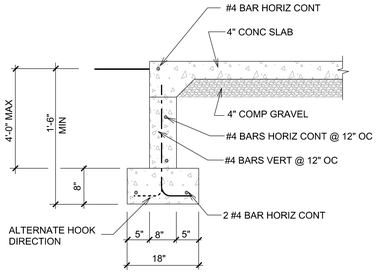
RETAINING WALL SCHEDULE							
H	A	B	L	T	B-BAR	T-BAR	F-BAR
2'-0"	2'-0"	6"	2'-0"	12"	#4 @ 12"o.c.	#4 @ 16"o.c.	(3)-#4 T. & B.
4'-0"	3'-0"	6"	2'-0"	12"	#4 @ 12"o.c.	#4 @ 12"o.c.	(4)-#4 T. & B.
6'-0"	4'-6"	9"	3'-0"	12"	#5 @ 12"o.c.	#5 @ 16"o.c.	(5)-#4 T. & B.
8'-0"	6'-0"	12"	4'-0"	15"	#7 @ 12"o.c.	#5 @ 12"o.c.	(6)-#4 T. & B.



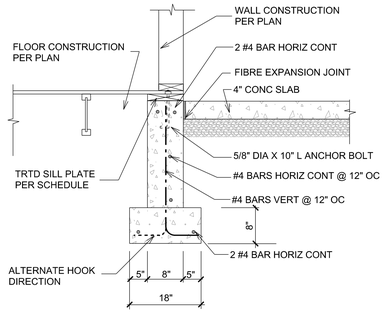
10 **DETAIL**
SCALE 3/4" = 1'-0"



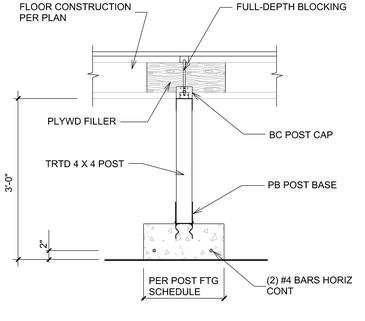
11 **DETAIL**
SCALE 3/4" = 1'-0"



12 **DETAIL**
SCALE 3/4" = 1'-0"



13 **DETAIL**
SCALE 3/4" = 1'-0"



14 **DETAIL**
SCALE 3/4" = 1'-0"

REVISION EDITION
1 2 3 4
DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

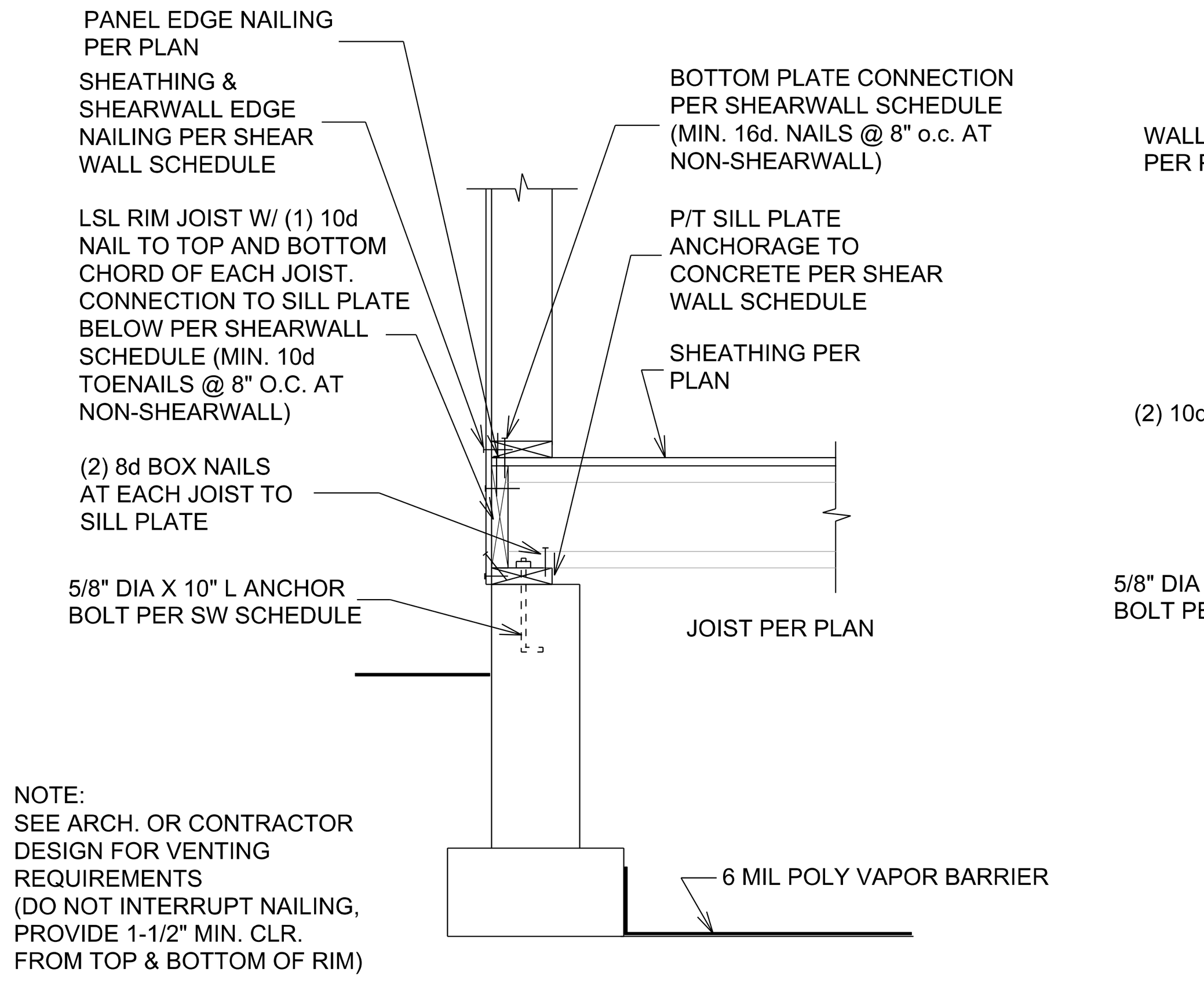
K.I.A. C.O
CONSULTING STRUCTURAL ENGINEERS
PHONE 425-351-5999
P.O. BOX 7203
BELLEVUE, WA 98008

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5028 WEST MERCER WAY
MERCER ISLAND, WA 98040

FOUNDATION DETAILS

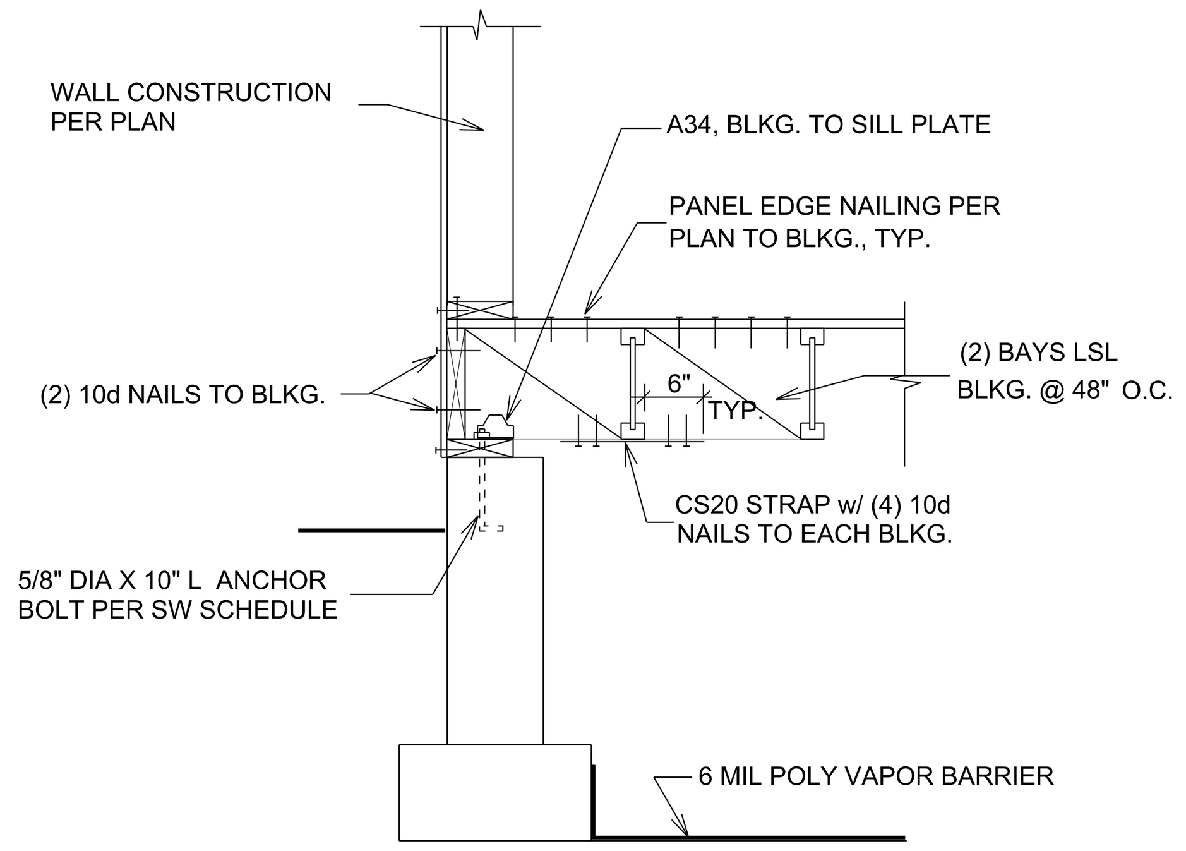
SHEET
S-3
OF
-

JOB #



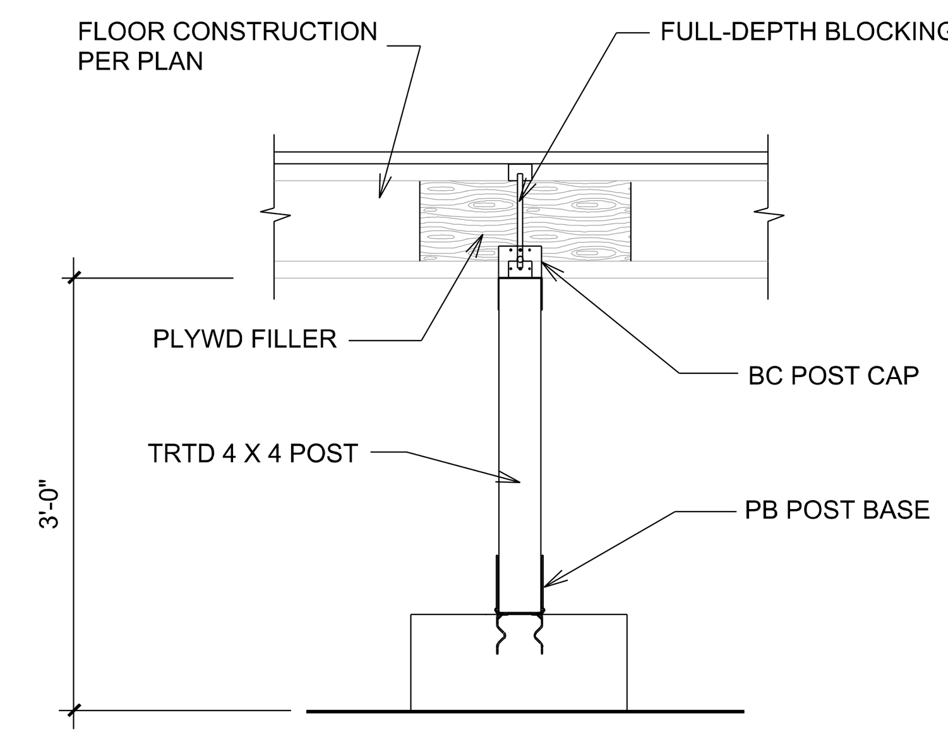
NOTE: SEE ARCHITECTURAL DRAWINGS FOR FOUNDATION DESIGN ON SHT. S-2

DETAIL 1
SCALE 3/4" = 1'-0"

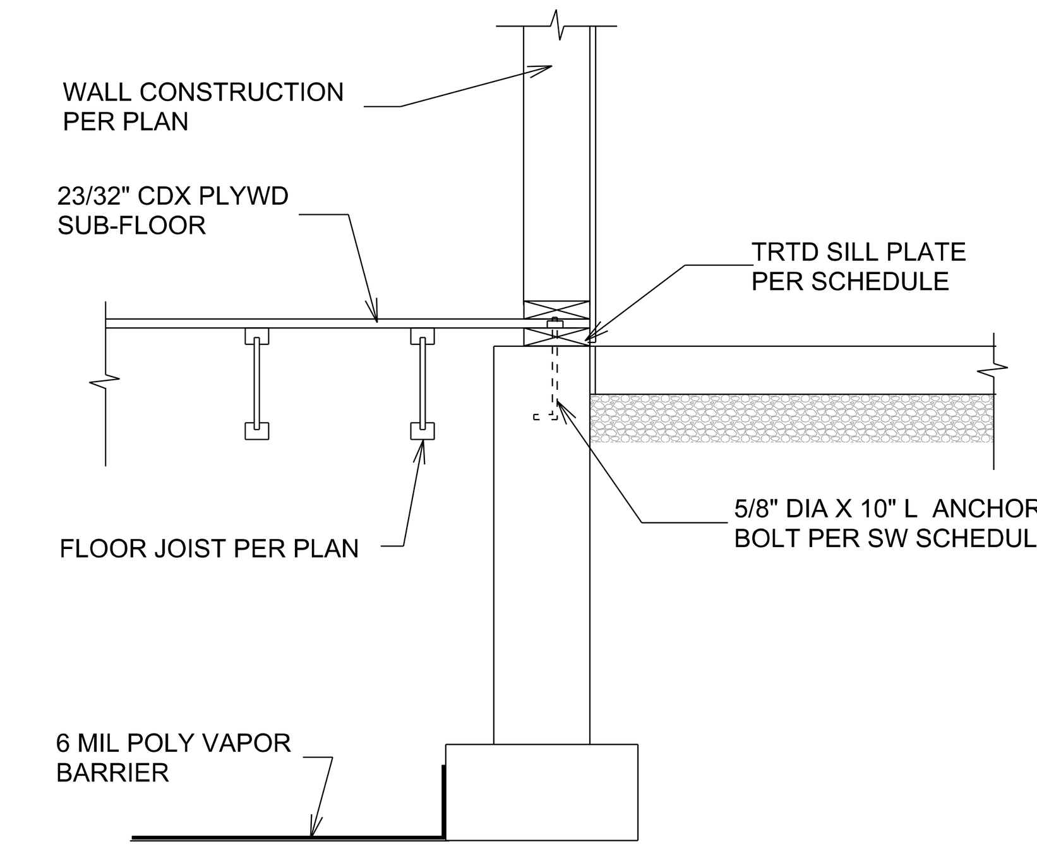


DETAIL 2
SCALE 3/4" = 1'-0"

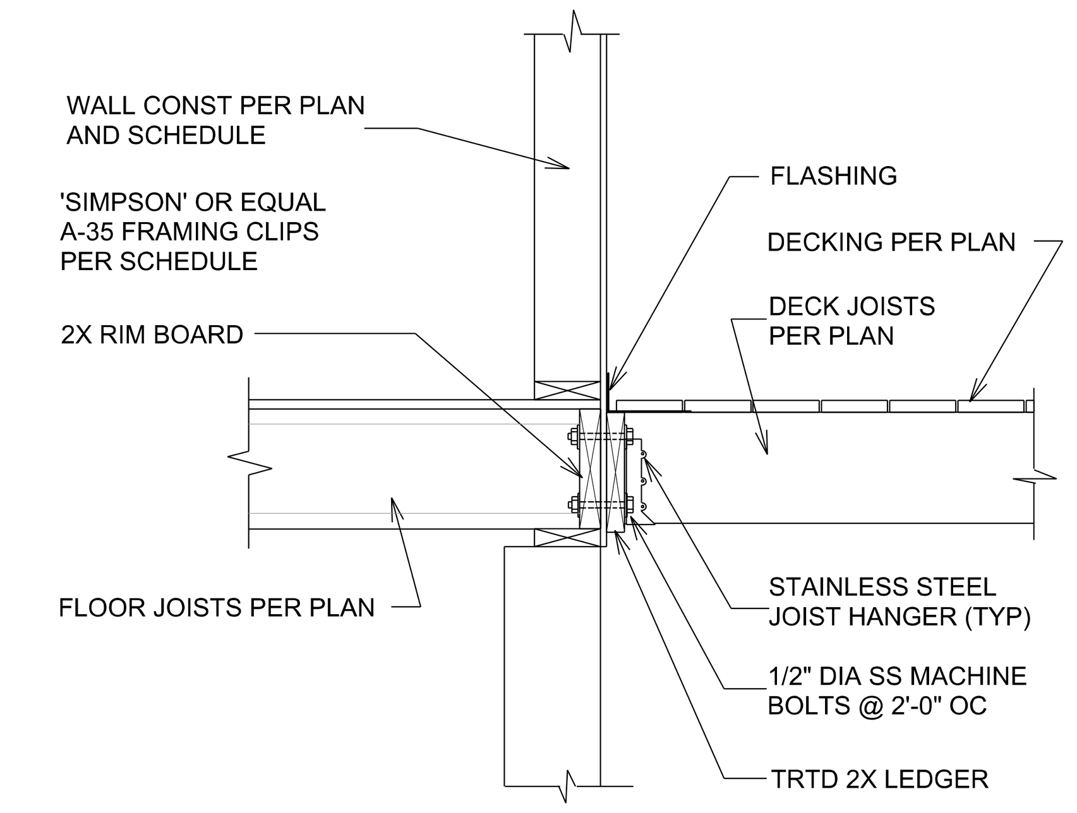
NOTE: SEE ARCHITECTURAL DRAWINGS FOR FOUNDATION DESIGN ON SHT S-2



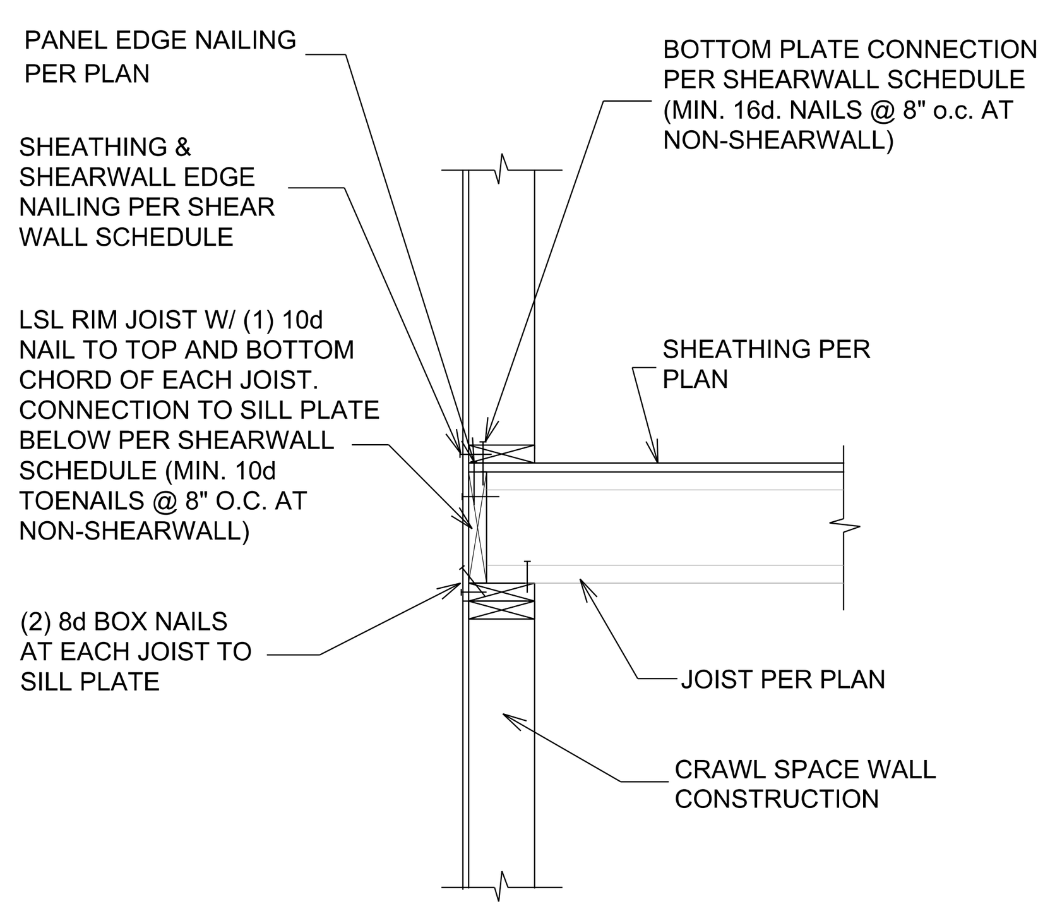
DETAIL 3
SCALE 3/4" = 1'-0"



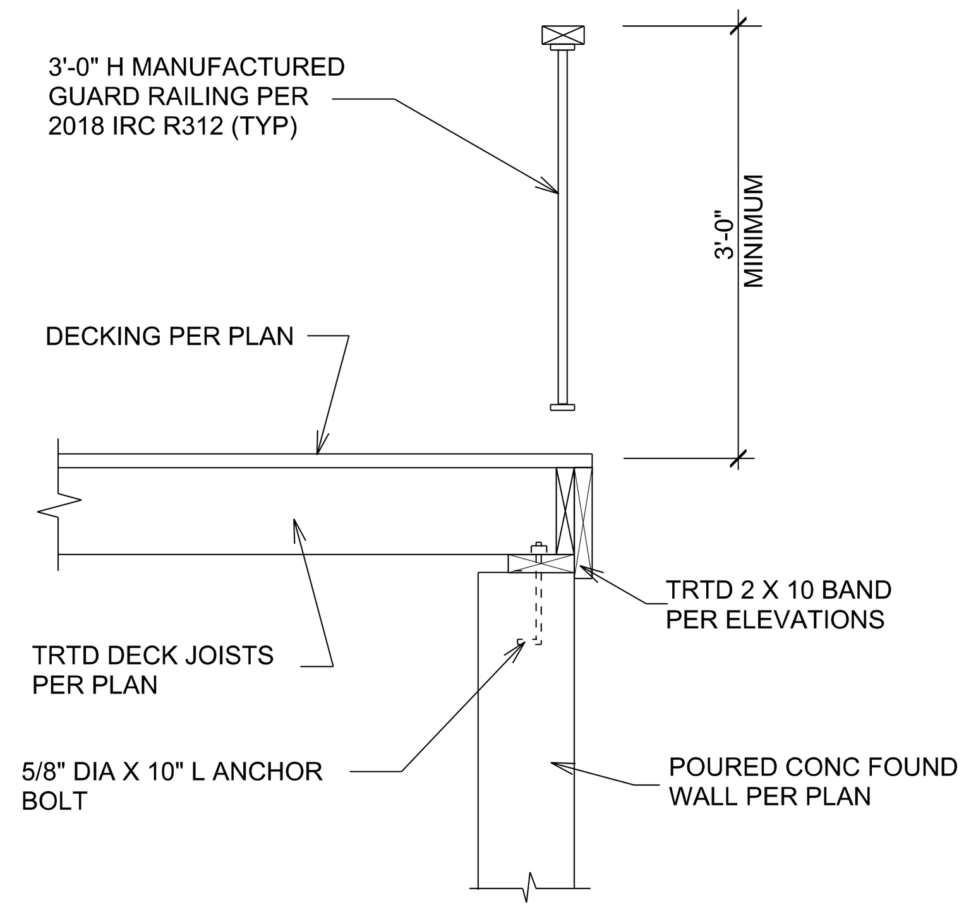
DETAIL 4
SCALE 3/4" = 1'-0"



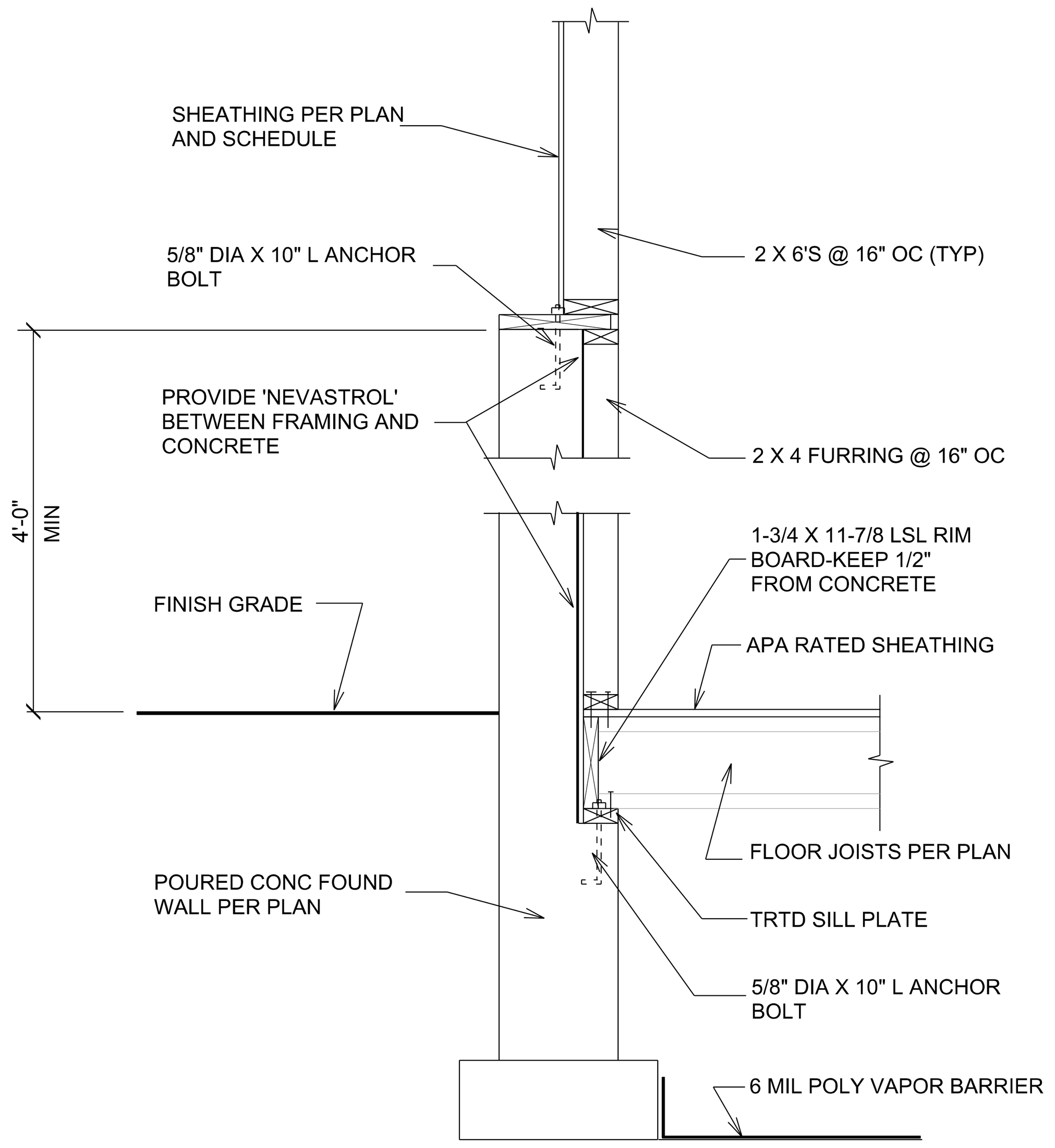
DETAIL 5
SCALE 3/4" = 1'-0"



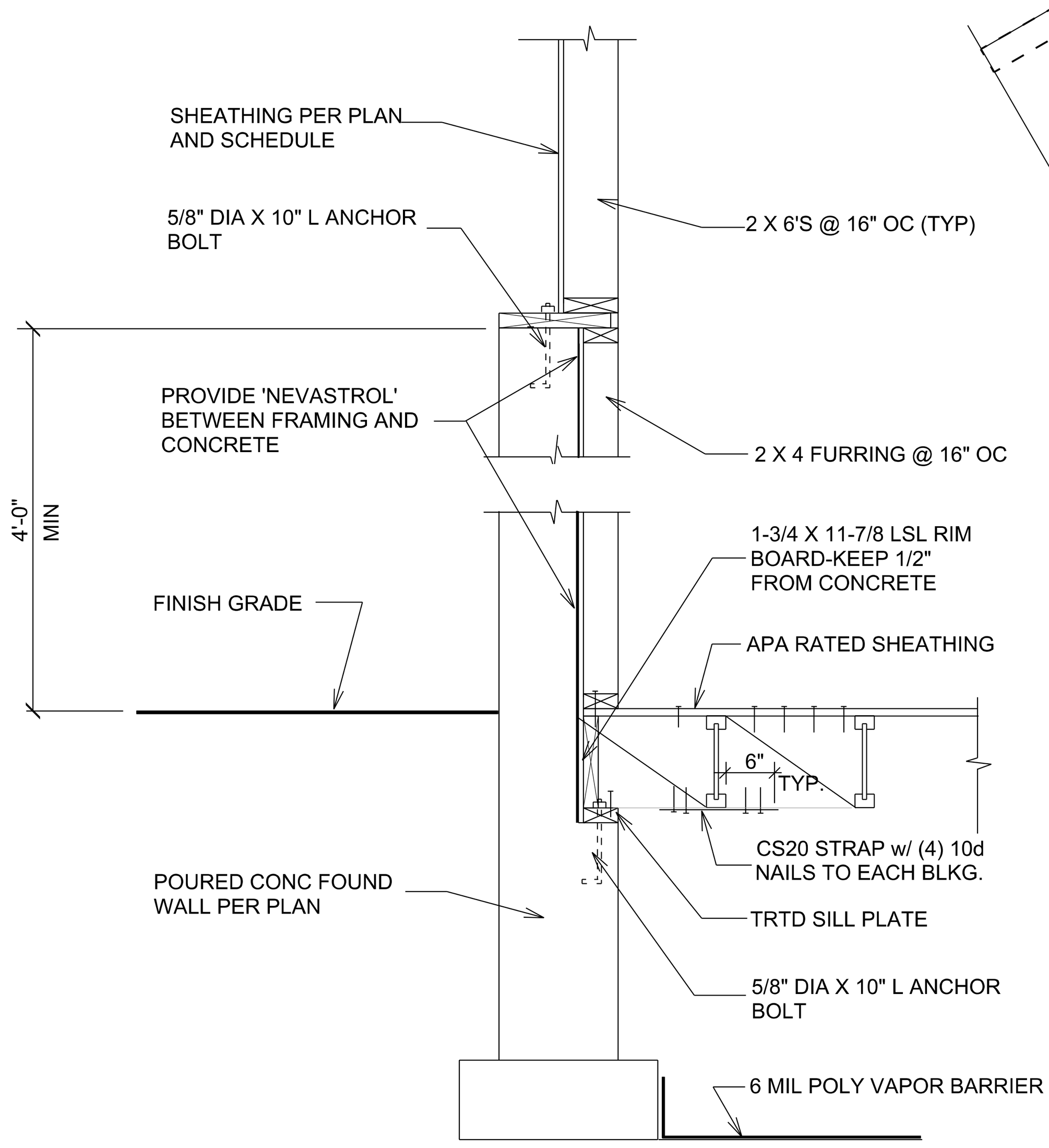
DETAIL 6
SCALE 3/4" = 1'-0"



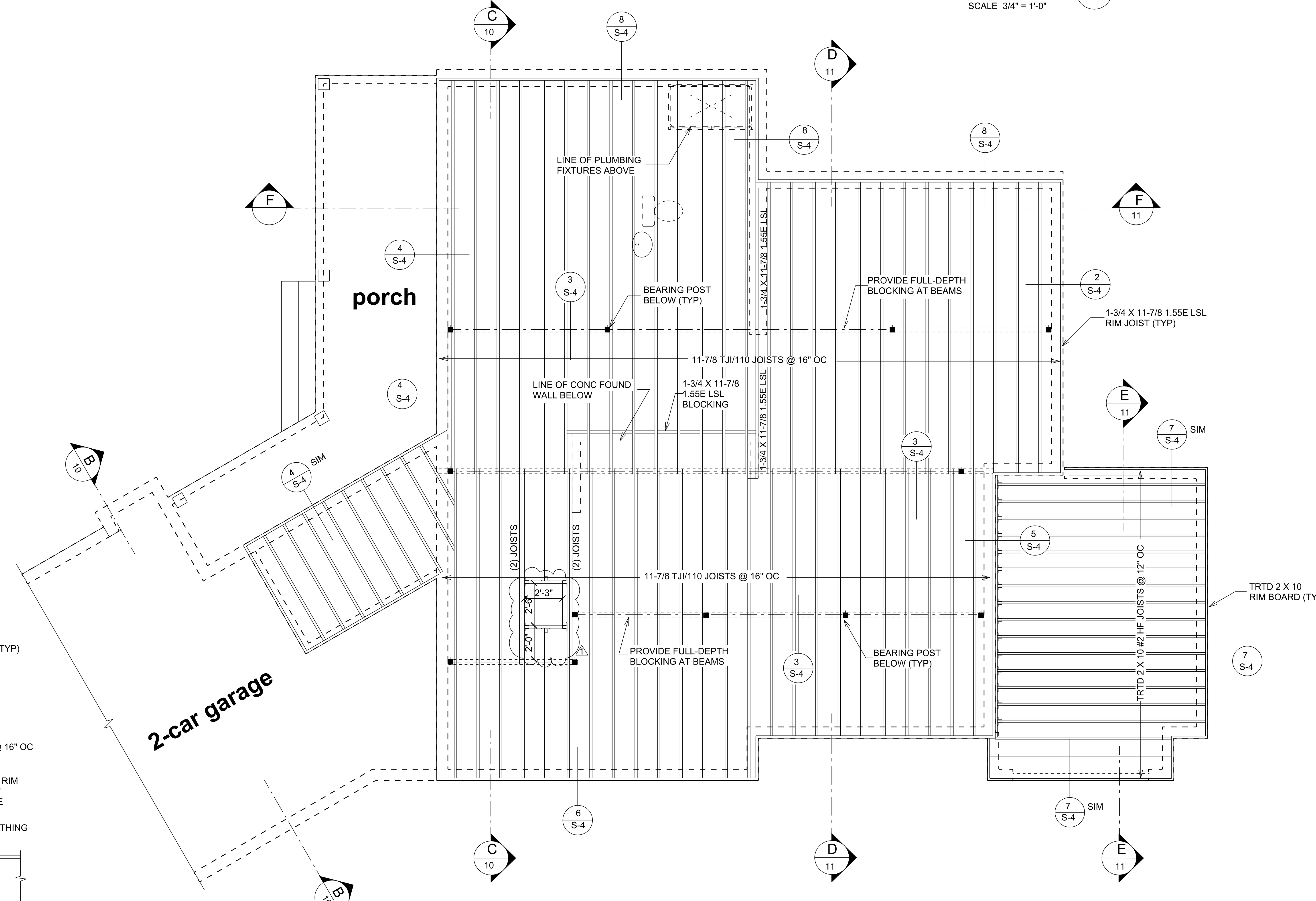
DETAIL 7
SCALE 3/4" = 1'-0"



DETAIL 8
SCALE 3/4" = 1'-0"



DETAIL 9
SCALE 3/4" = 1'-0"



PROVIDE TEMP MID-SPAN BRACING FOR LSL AND PSL BEAMS AT SPANS OVER 12'-0".

ALL BEARING POSTS TO CONTINUE DOWN TO FOUNDATION EITHER DIRECTLY OR INDIRECTLY THROUGH BEAMS OR HEADERS BELOW

BEARING POST NOTES

STAND ALONE BEARING POSTS BEARING ON CONCRETE TO USE ABU OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE, U.N.O.

BEARING POSTS BEARING ON WOOD OR EMBEDDED IN WALL FRAMING TO USE RPBZ OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE.

SEE SHEET NOS. S-7 & S-8 FOR SHEAR WALL PLANS, SCHEDULE AND NOTES

MAIN LEVEL FLOOR FRAMING PLAN

SCALE 1/4" = 1'-0"

NORTH

REVISION	EDITION
1	12/08/2022
2	
3	
4	

DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

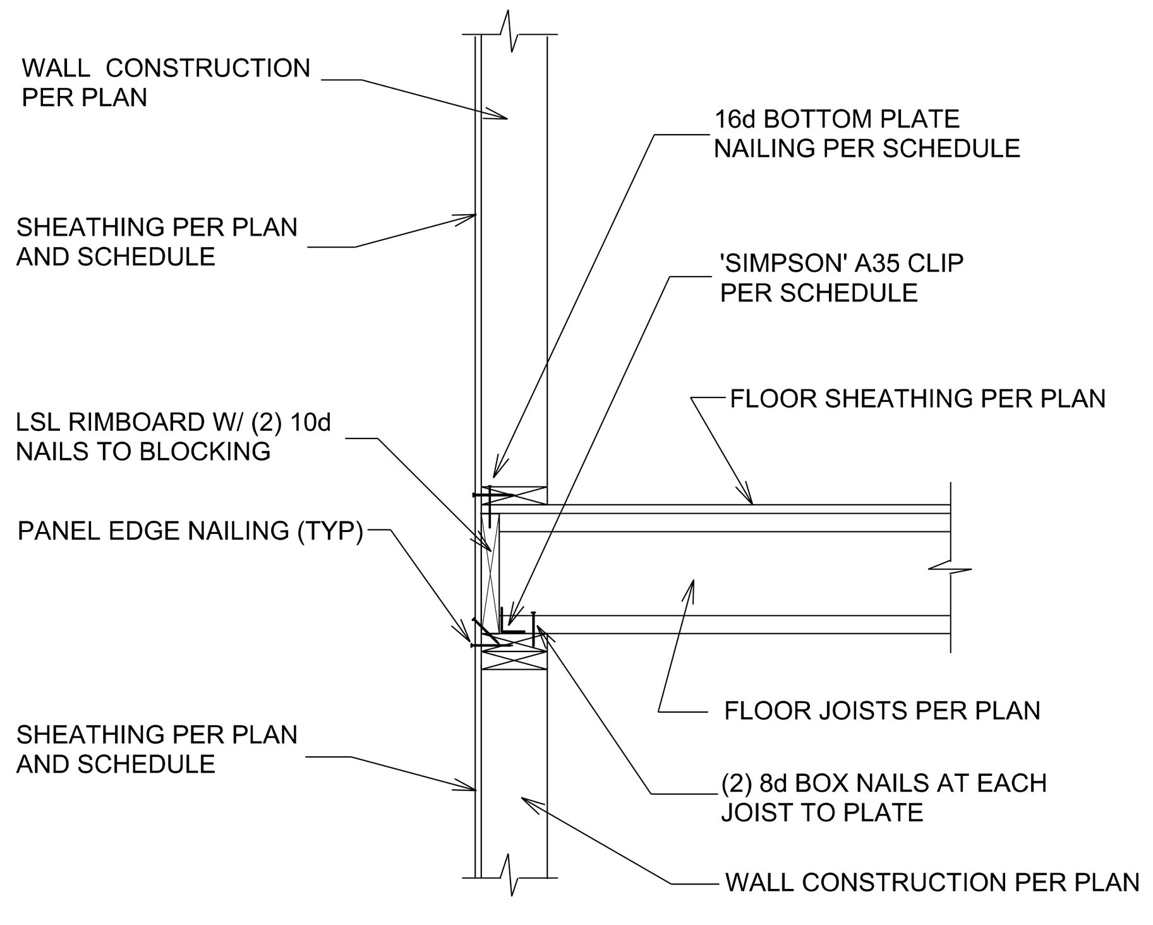
K.I.A. C.O
CONSULTING STRUCTURAL ENGINEERS
PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5028 WEST MERCER WAY
MERCER ISLAND, WA 98040

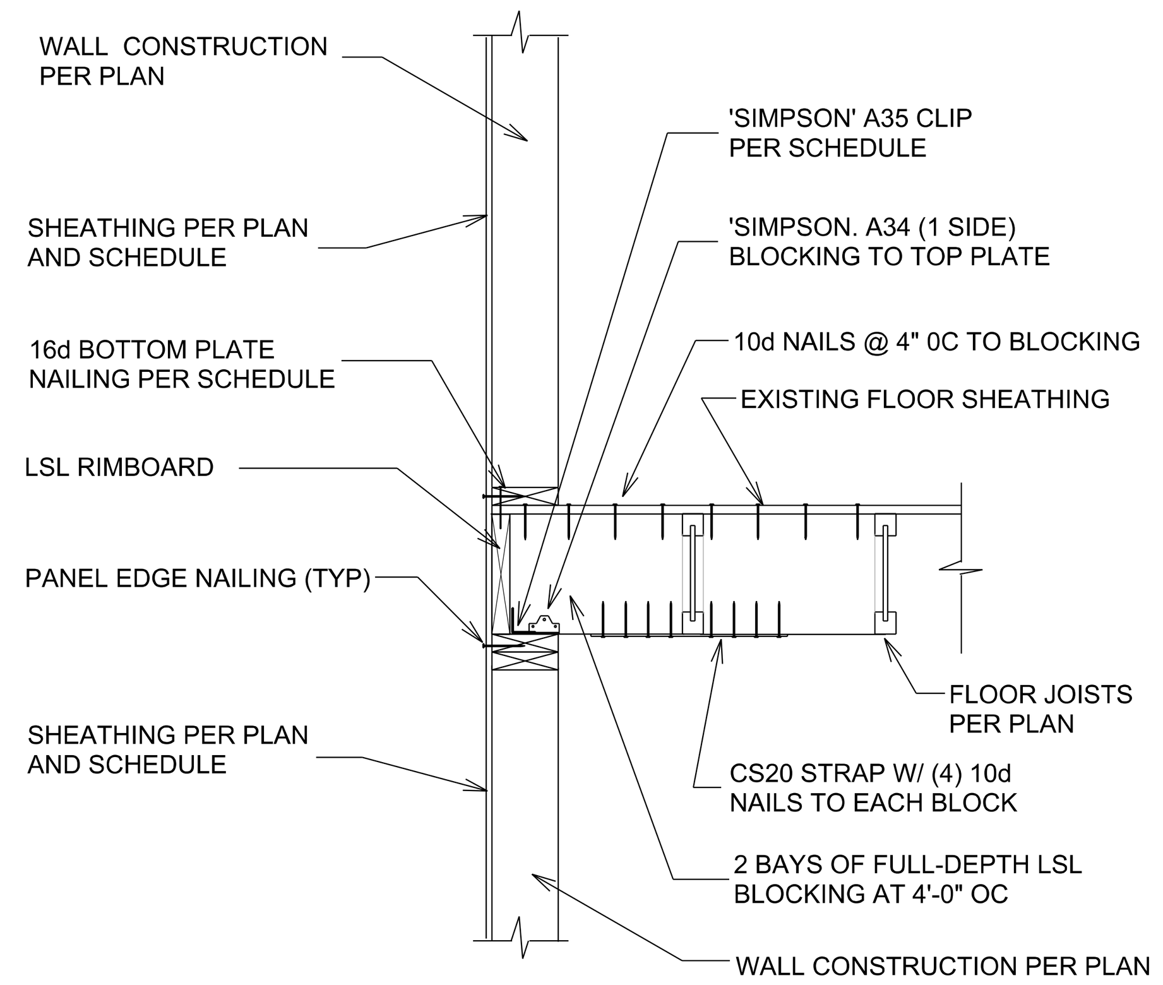
MAIN LEVEL FLOOR FRAMING

SHEET S-4 OF -

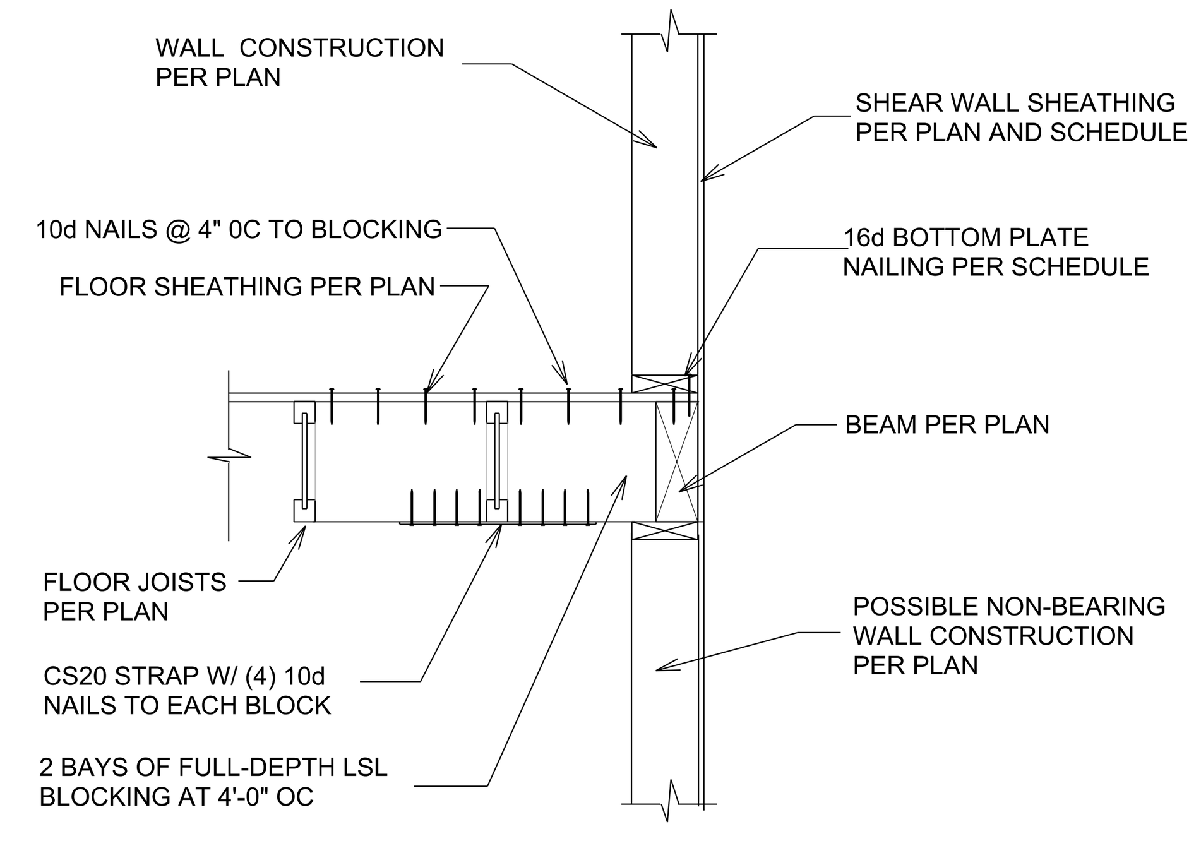
JOB #



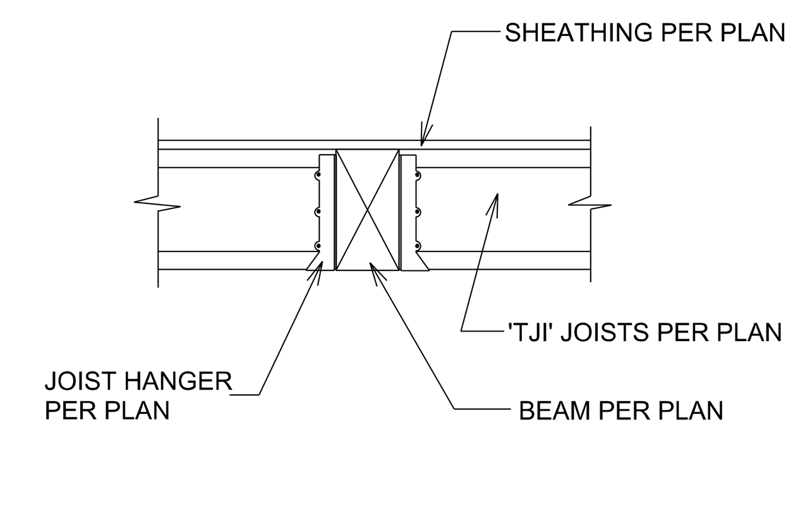
DETAIL 1
SCALE 3/4" = 1'-0"



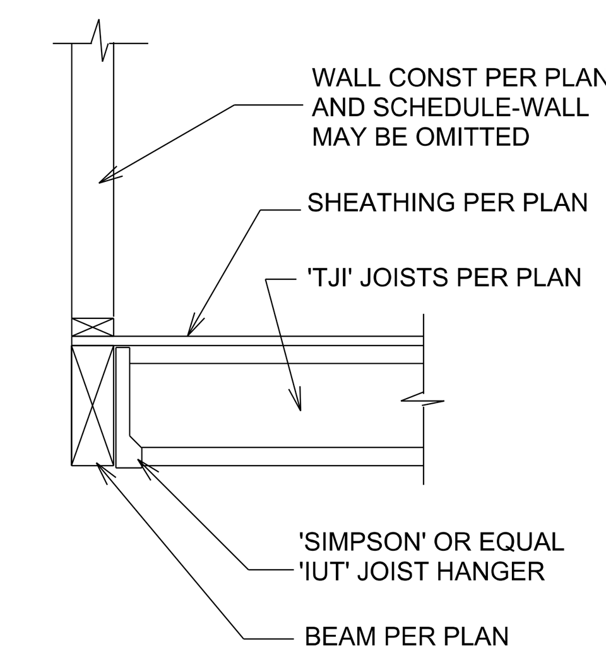
DETAIL 2
SCALE 3/4" = 1'-0"



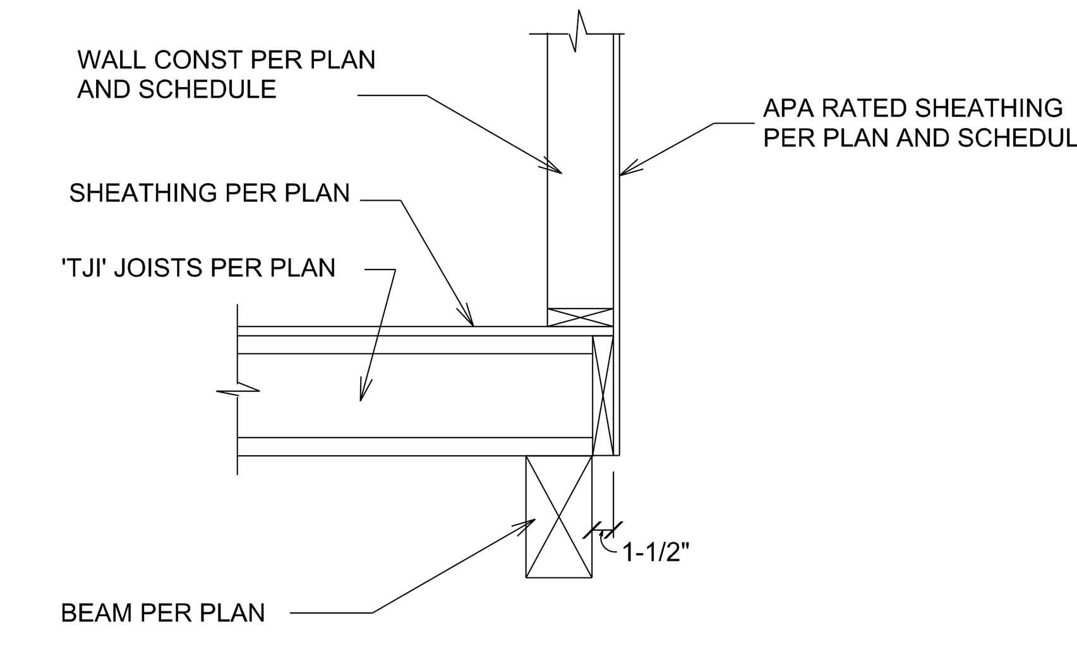
DETAIL 3
SCALE 3/4" = 1'-0"



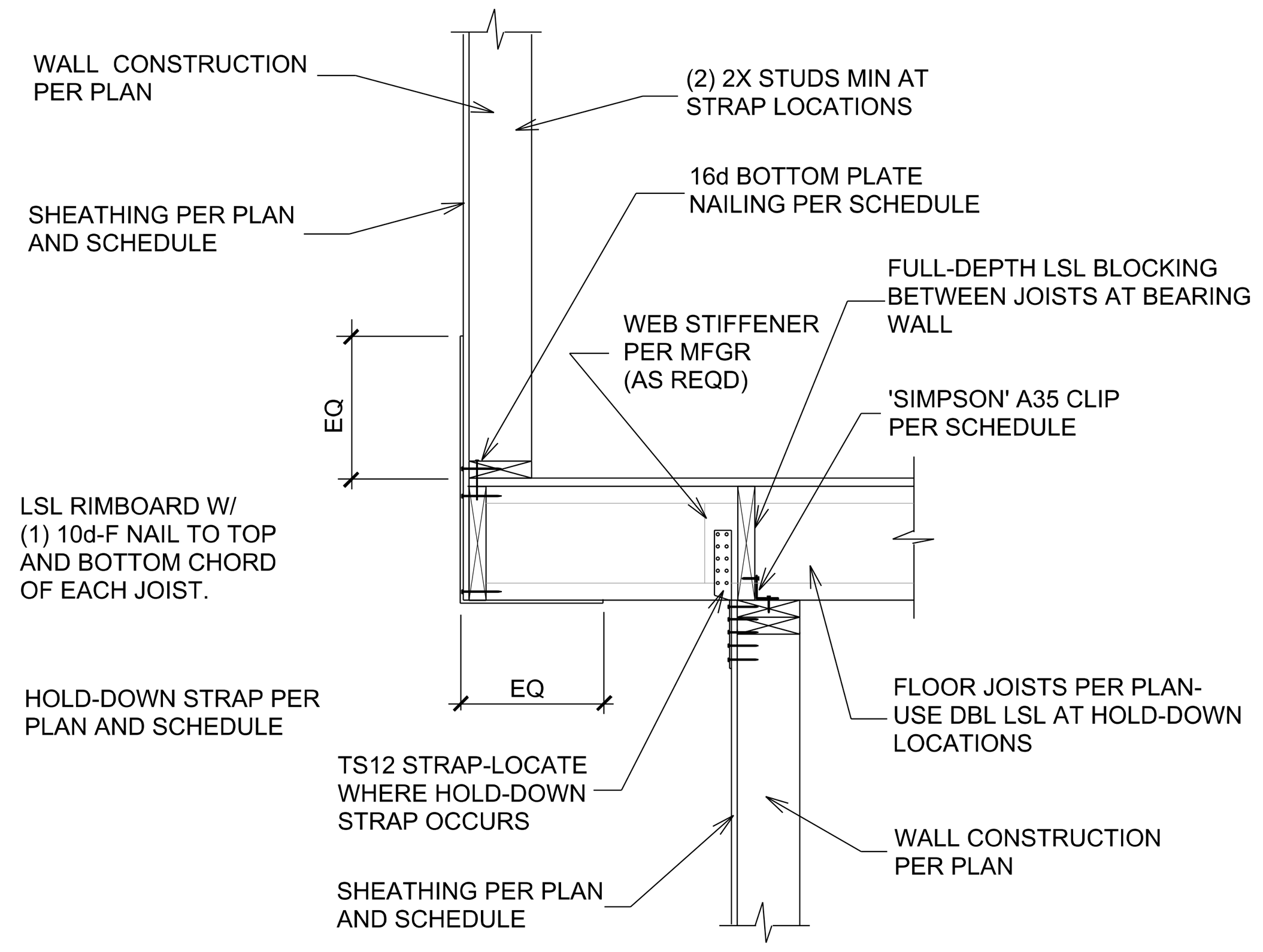
DETAIL 4
SCALE 3/4" = 1'-0"



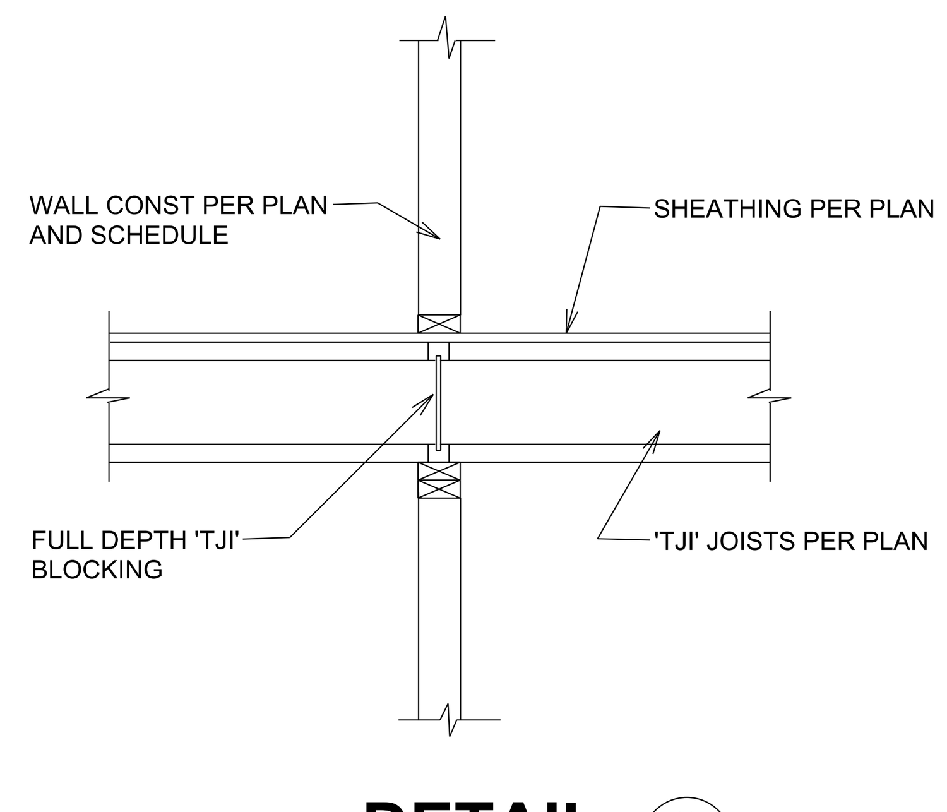
DETAIL 5
SCALE 3/4" = 1'-0"



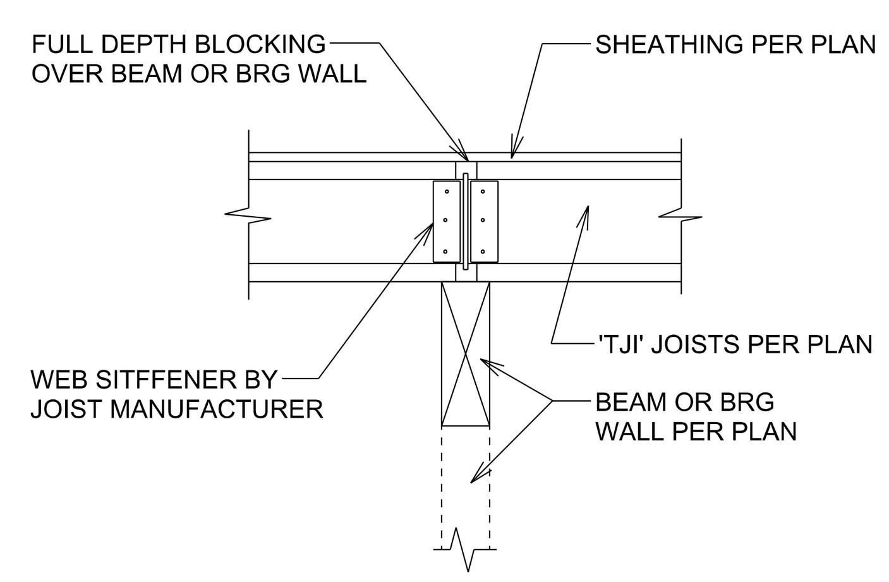
DETAIL 6
SCALE 3/4" = 1'-0"



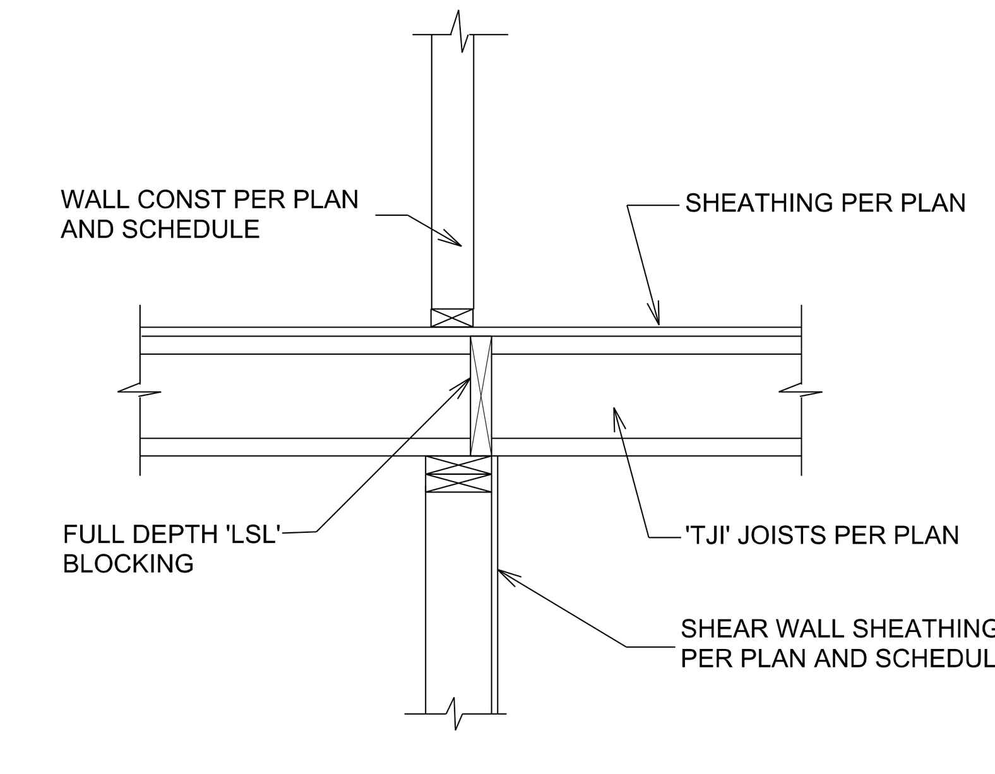
DETAIL 7
SCALE 3/4" = 1'-0"



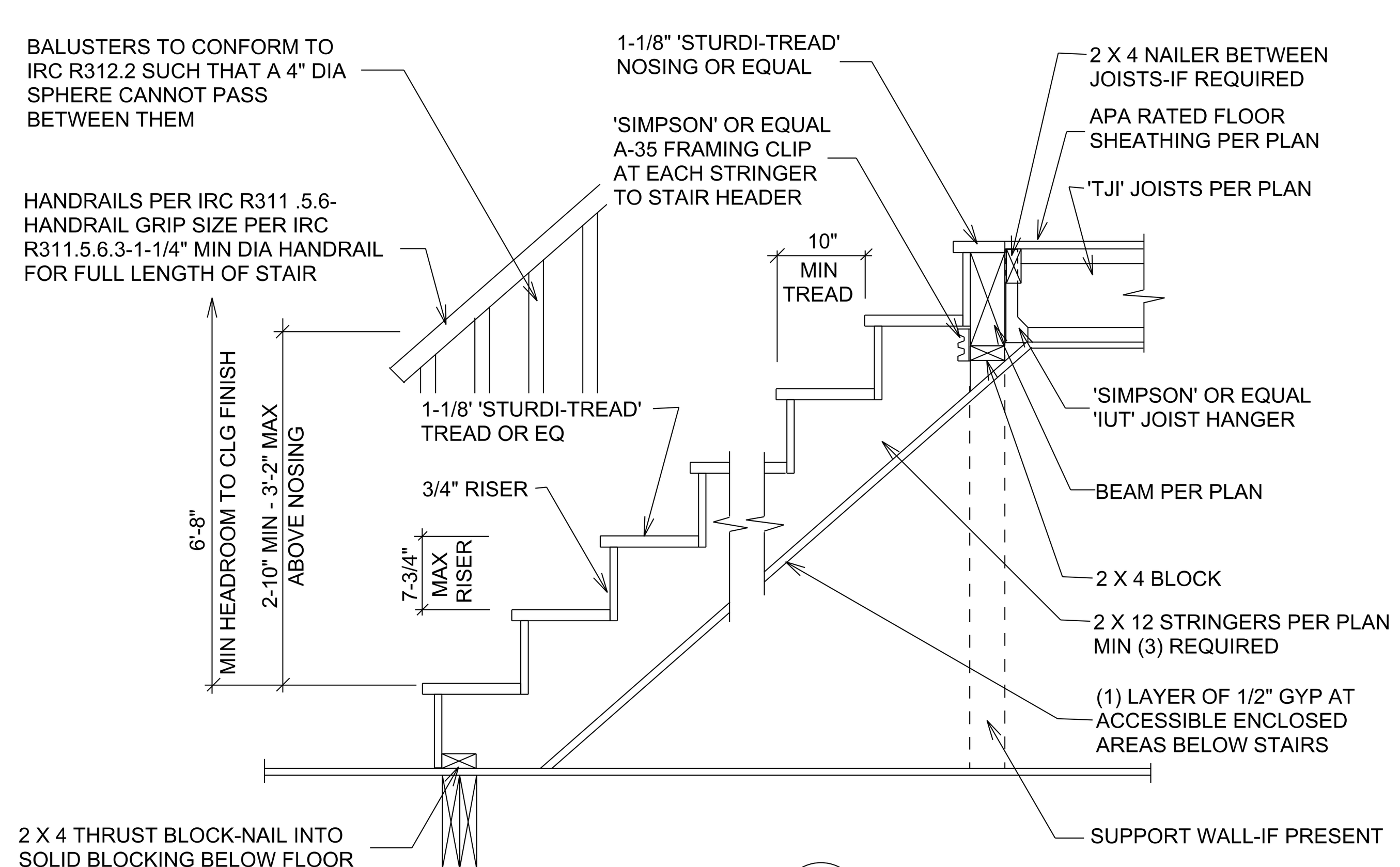
DETAIL 8
SCALE 3/4" = 1'-0"



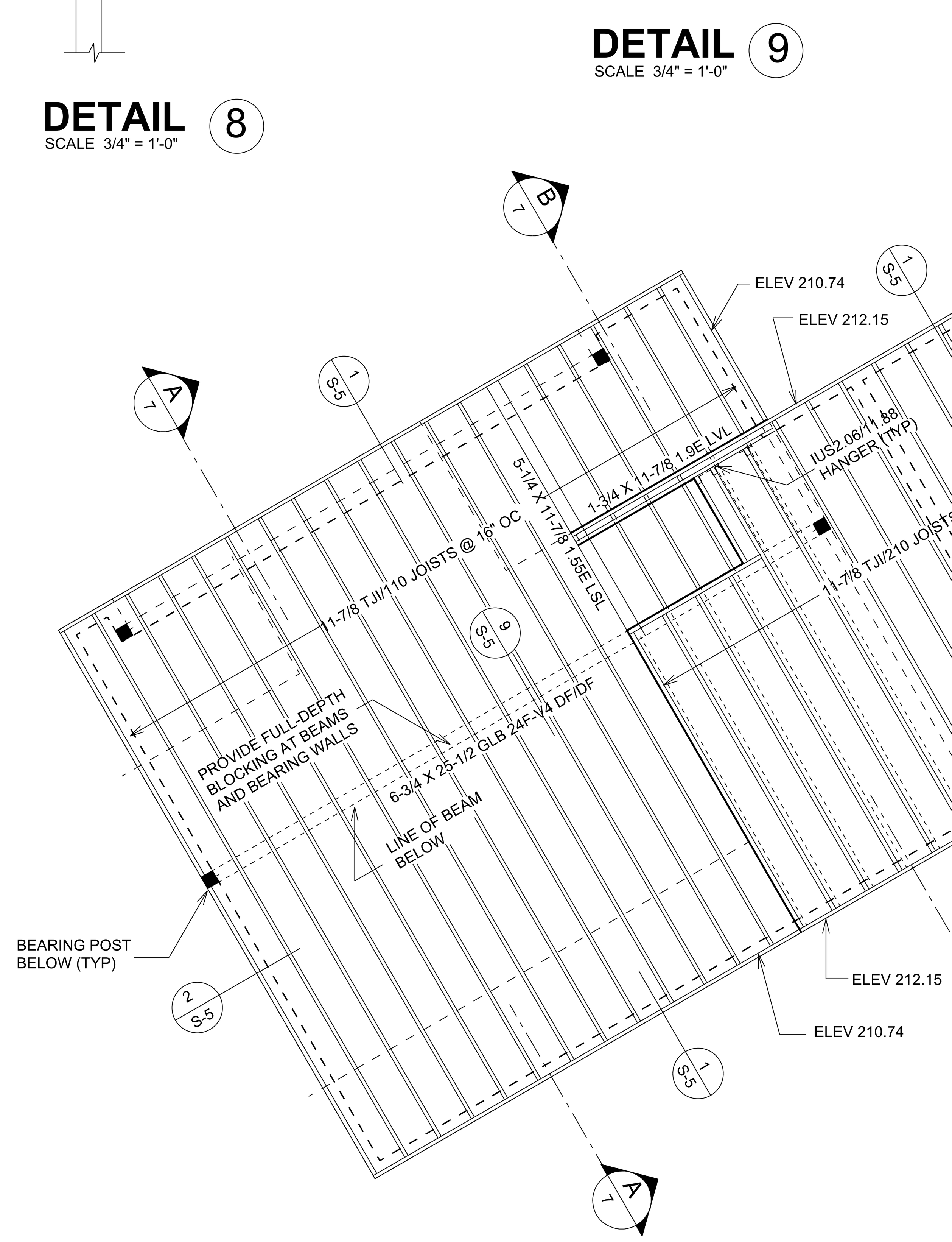
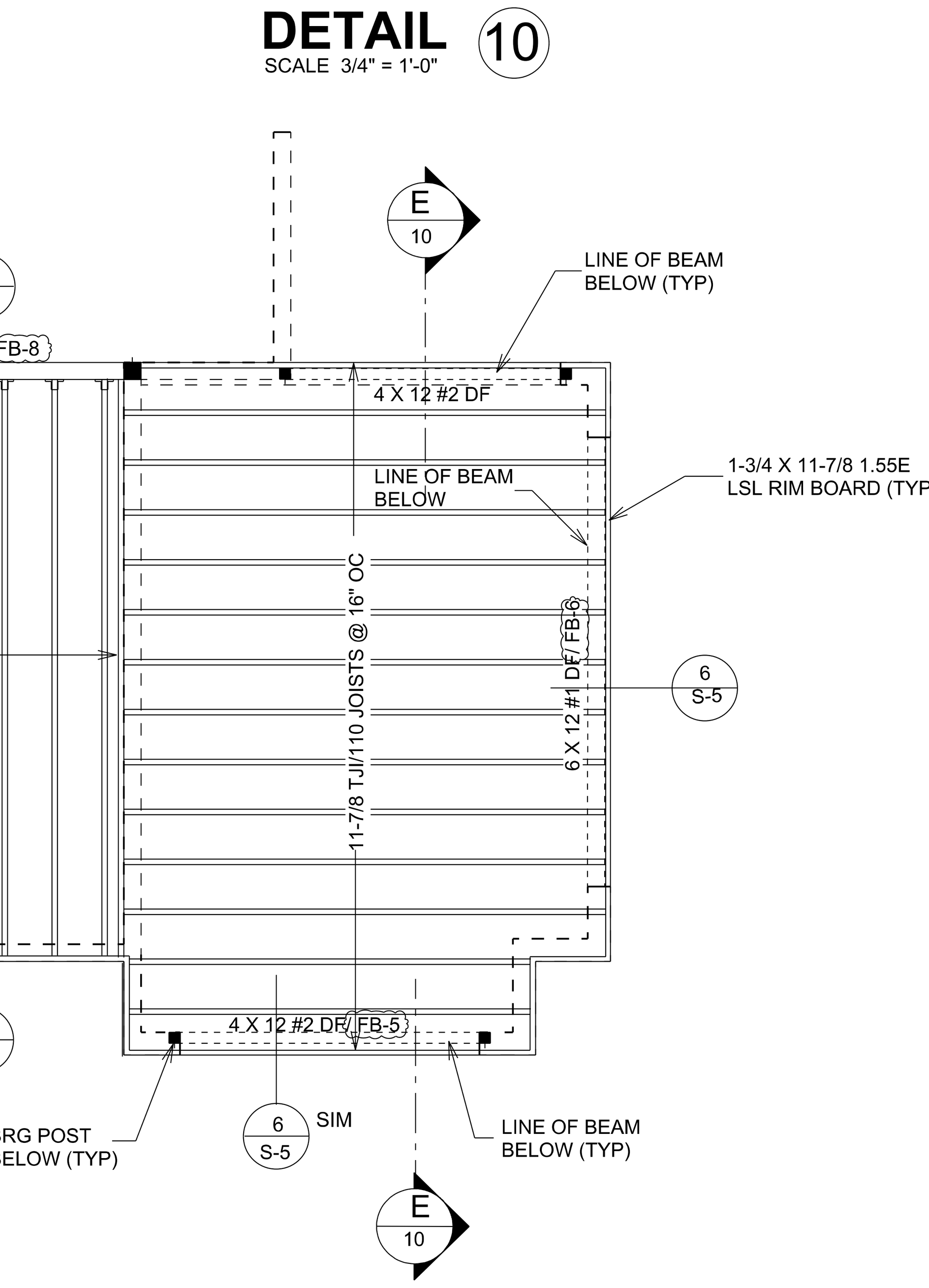
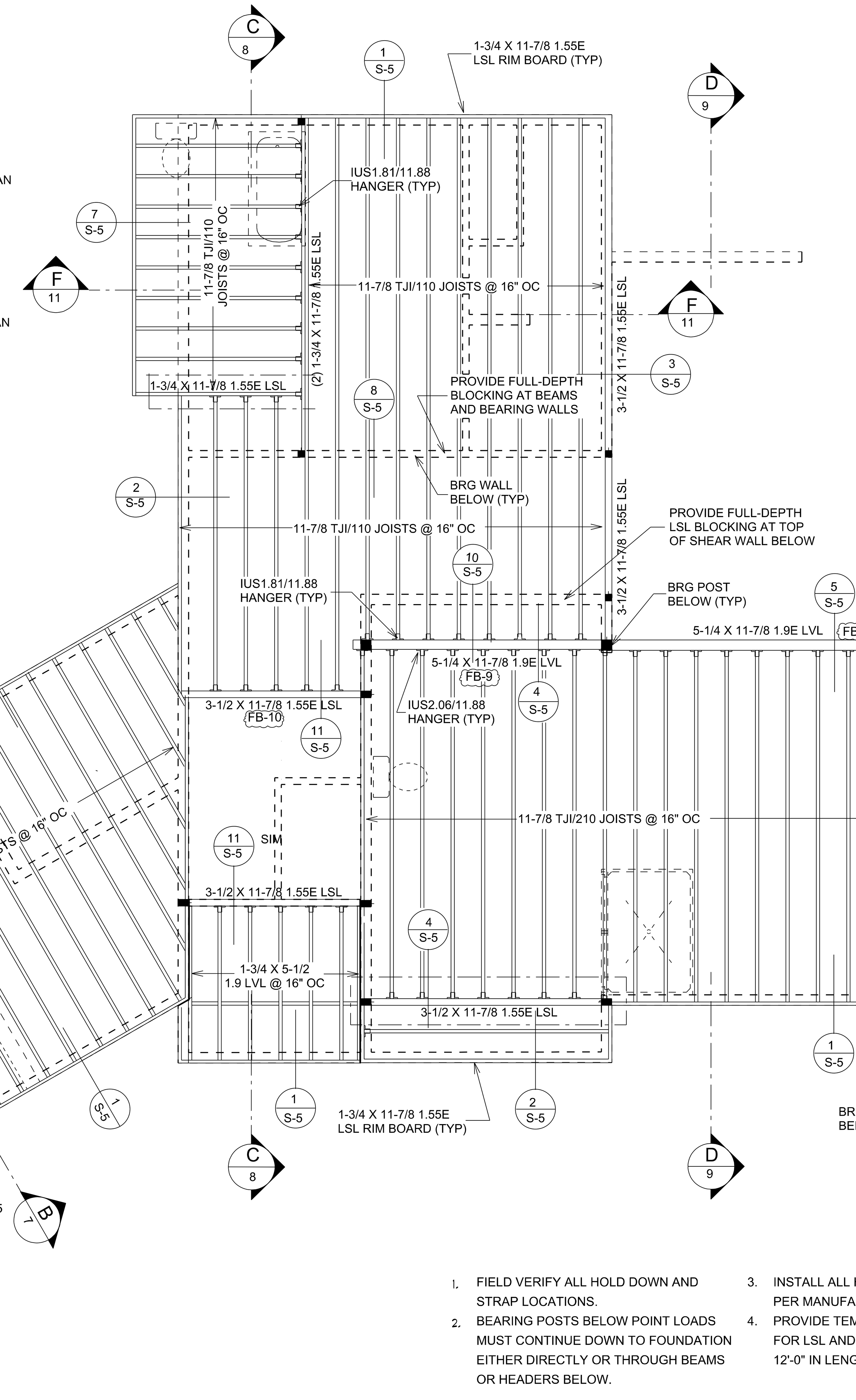
DETAIL 9
SCALE 3/4" = 1'-0"



DETAIL 10
SCALE 3/4" = 1'-0"



DETAIL 11
SCALE 3/4" = 1'-0"

UPPER LEVEL FLOOR FRAMING PLAN
SCALE 1/4" = 1'-0"

1. FIELD VERIFY ALL HOLD DOWN AND STRAP LOCATIONS.
2. BEARING POSTS BELOW POINT LOADS MUST CONTINUE DOWN TO FOUNDATION EITHER DIRECTLY OR THROUGH BEAMS OR HEADERS BELOW.
3. INSTALL ALL HOLD-DOWN AND STRAPS PER MANUFACTURER'S SPECIFICATIONS.
4. PROVIDE TEMPORARY MID-SPAN BRACING FOR LSL AND PSL BEAMS AT SPANS OVER 12'-0" IN LENGTH.

SEE SHEETS NOS. S-1, S-7 & S-8 FOR SHEAR WALL SCHEDULE PLANS, NOTES AND DETAILS

BEARING POST NOTES

STAND ALONE BEARING POSTS BEARING ON CONCRETE TO USE ABU OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE, U.N.O.

BEARING POSTS BEARING ON WOOD OR EMBEDDED IN WALL FRAMING TO USE RPBZ OR EQUAL POST BASE AND BC POST CAP TO BEAM ABOVE, U.N.O.

REVISION	EDITION
1	12/08/2022
2	
3	
4	

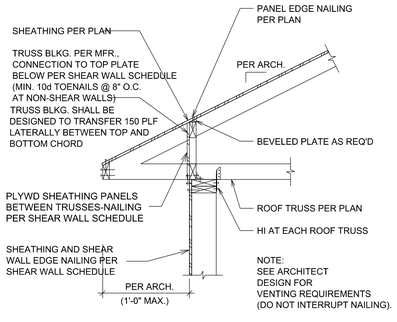
DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008
K.I.A. CO
CONSULTING STRUCTURAL ENGINEERS

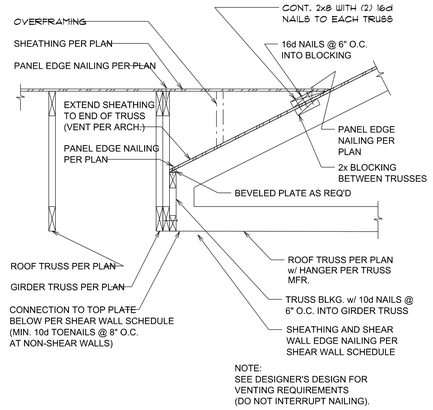
PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5000 WEST MERCER WAY
MERCER ISLAND, WA 98040

UPPER LEVEL FLOOR FRAMING

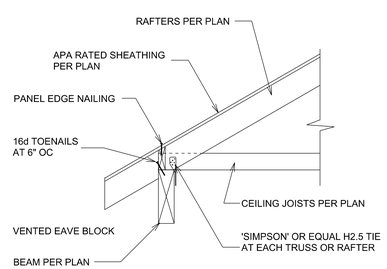
SHEET
S-5
OF
-
JOB #



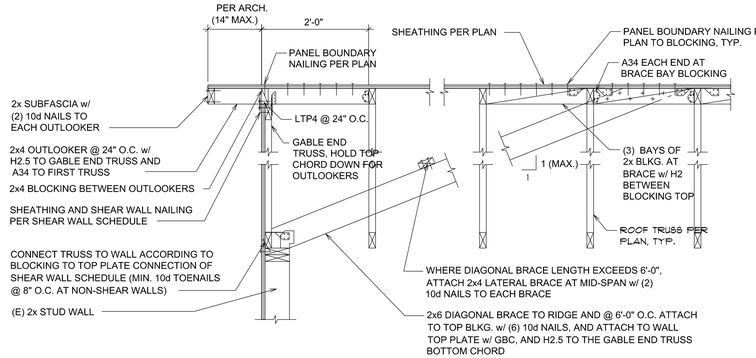
DETAIL 1
SCALE 3/4" = 1'-0"



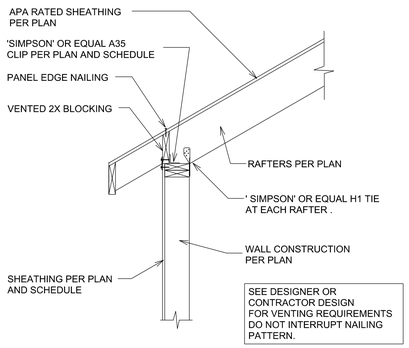
DETAIL 2
SCALE 3/4" = 1'-0"



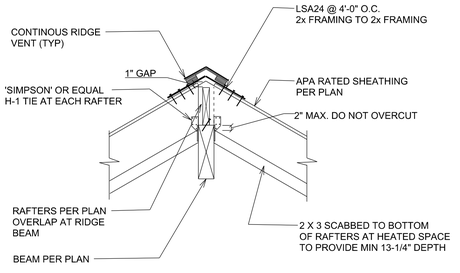
DETAIL 3
SCALE 3/4" = 1'-0"



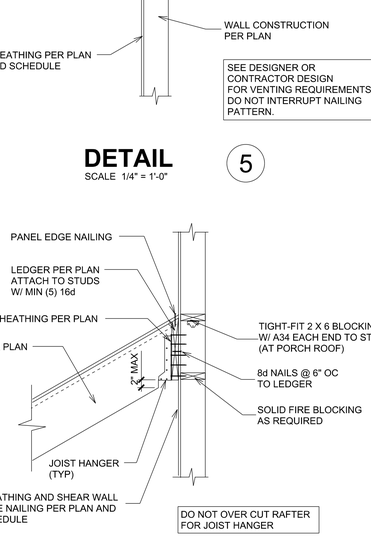
TYPICAL ROOF TRUSS TO EXTERIOR WALL - TRUSS PARALLEL 4



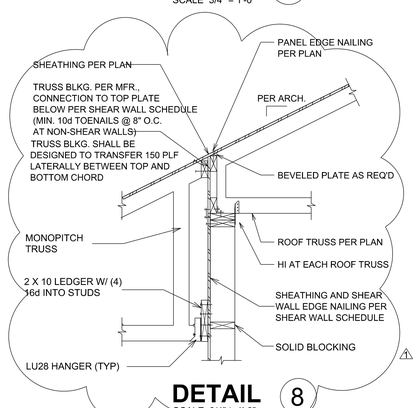
DETAIL 5
SCALE 1/4" = 1'-0"



DETAIL 6
SCALE 3/4" = 1'-0"



DETAIL 7
SCALE 3/4" = 1'-0"



DETAIL 8
SCALE 3/4" = 1'-0"

ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"

NORTH

ROOF FRAMING NOTES

1. ATTIC ACCESS HATCH TO BE WEATHER STRIPPED AND INSULATED TO THE SAME VALUE AS THE SURFACE IN WHICH IT IS LOCATED.
2. ALL FRAMING HARDWARE TO BE "SIMPSON" OR EQUAL. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. PRE-ENGINEERED WOOD TRUSSES: INSTALL PER MANUFACTURER'S SPECIFICATIONS. TRUSSES TO BE DESIGNED AND STAMPED BY AN ENGINEER LICENSED IN THE STATE OF WASHINGTON. PROVIDE SHOP DRAWINGS FOR DESIGNER'S REVIEW AND APPROVAL.
4. CROSS HATCHING (IF PRESENT) INDICATES OVERFRAMING. OVER-FRAMING TO BE 2 X 6 NO. 2 HF RAFTERS AT 24" OC U.N.O. ROOF PITCH PER PLAN.
5. ALL POST DOWNS TO BE POSITIVELY CONNECTED WITH "SIMPSON" OR EQUAL FRAMING ANCHORS.
6. PROVIDE "SIMPSON" OR EQUAL H1 TIE AT EACH END OF RAFTER OR TRUSS .
7. ROOF SHEATHING SHALL BE MINIMUM 7/16" APA RATED SHEATHING WITH A PANEL INDEX OF 24/0. NAIL TO FRAMING WITH 8d COMMON NAILS AT 4' OC AT PANEL EDGES AND 12' OC IN THE FIELD.

REVISION EDITION				
	1	2	3	4
	⚠ 12/08/2022			

DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008

K I A. C.O.
CONSULTING STRUCTURAL ENGINEERS

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5028 WEST MERCER WAY
MERCER ISLAND, WA 98040

ROOF FRAMING PLAN

SHEET
S-6
OF
-

JOB #

SHEAR WALL SCHEDULE (DOUG FIR STUDS, TOP & BOTTOM PLATES

MARK	SHEATHING	BLOCKING	NOMINAL THICKNESS OF SINGLE BLOCKING, SILL PLATE	NAIL SIZE	NAIL SPACING		CONNECTION OF JOISTS TO BLOCKING TO TOP PLATES	NOMINAL THICKNESS OF SINGLE BLOCKING, RIM JOIST	BOTTOM PLATE CONNECTION		SHEAR CAPACITY (LB/FT)
					EDGE	FIELD			WOOD	CONCRETE	
P-1	7/16" APA RATED SHEATHING (ONE SIDE)	YES	2"	8d COMMON	6"	12"	A-35 @ 18" oc	2"	16d @ 6" oc	5/8" AB @ 32" oc	280
P-2	7/16" APA RATED SHEATHING (ONE SIDE)	YES	2"	8d COMMON	4"	12"	A-35 @ 12" oc	2"	16d @ 4" oc	5/8" AB @ 24" oc	430
P-3	7/16" APA RATED SHEATHING (ONE SIDE)	YES	3"	8d COMMON	3"	12"	A-35 @ 9" oc	2"	16d @ 3" oc	5/8" AB @ 18" oc	550
P-4	7/16" APA RATED SHEATHING (ONE SIDE)	YES	3"	8d COMMON	2"	12"	A-35 @ 6" oc	3"	(2) ROWS OF 16d @ 5" oc	5/8" AB @ 12" oc	730

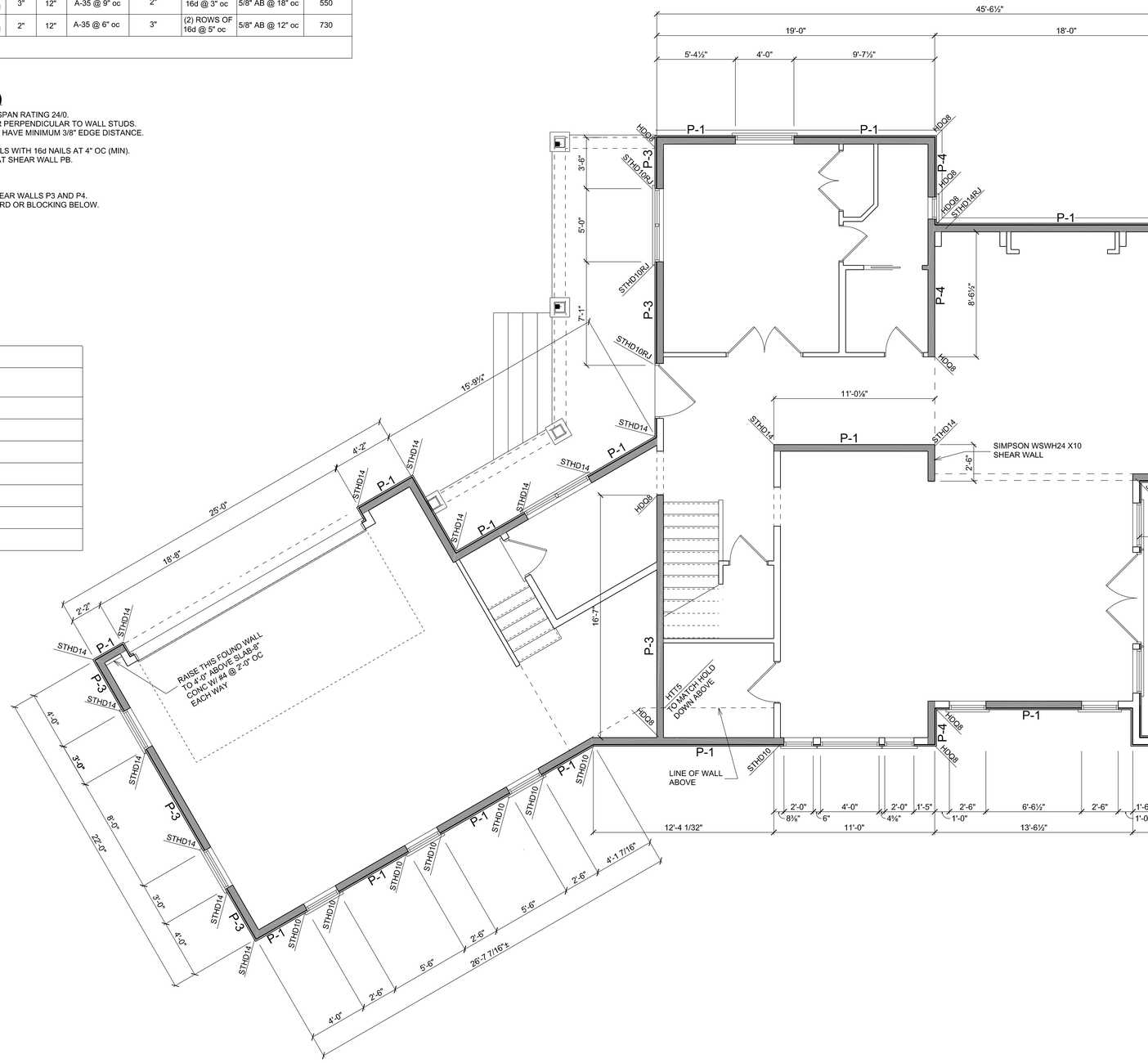
SHEAR WALL & HOLD-DOWN NOTES (U.N.O.)

1. APA RATED SHEATHING SHALL BE EXP1/EXP2/EXT OR C-C/C-D/STRUCT II, SPAN RATING 24/0.
2. PLYWOOD AT SHEAR WALLS MAY BE LAID WITH FACE GRAIN PARALLEL OR PERPENDICULAR TO WALL STUDS.
3. FASTENERS SHALL BE DRIVEN FLUSH WITH SURFACE OF SHEATHING AND HAVE MINIMUM 3/8" EDGE DISTANCE.
4. PROVIDE PLYWOOD EDGE NAILING TO ALL POSTS INSIDE SHEAR WALLS.
5. NAIL END STUDS ALL OF ALL SHEAR WALLS TO TRANVERSE BEARING WALLS WITH 16d NAILS AT 4" OC (MIN).
6. OFFSET PANEL JOINTS ON EACH SIDE OF WALL MINIMUM ONE STUD BAY AT SHEAR WALL PB.
7. USE 1/4" X 3" X 3" PLATE WASHERS ON ALL ANCHOR BOLTS.
8. SOLID BLOCKING SHALL BE INSTALLED AT ALL PLYWOOD JOINTS.
9. BOTTOM PLATE SHALL BE 3X NOMINAL AT SHEAR WALLS P3 AND P4.
10. STUDS AND BLOCKING AT PLYWOOD JOINTS SHALL BE 3X NOMINAL AT SHEAR WALLS P3 AND P4.
11. FOR DOUBLE ROWS OF BOTTOM PLATE NAILS, PROVIDE DOUBLE RIM BOARD OR BLOCKING BELOW.

NAIL DESCRIPTION	NAIL SIZE
8d COMMON	0.131" DIA X 2-1/2" LONG
10d COMMON	0.148" DIA X 3" LONG
16d COMMON	0.162" DIA X 3-1/2" LONG

HOLD-DOWN SCHEDULE

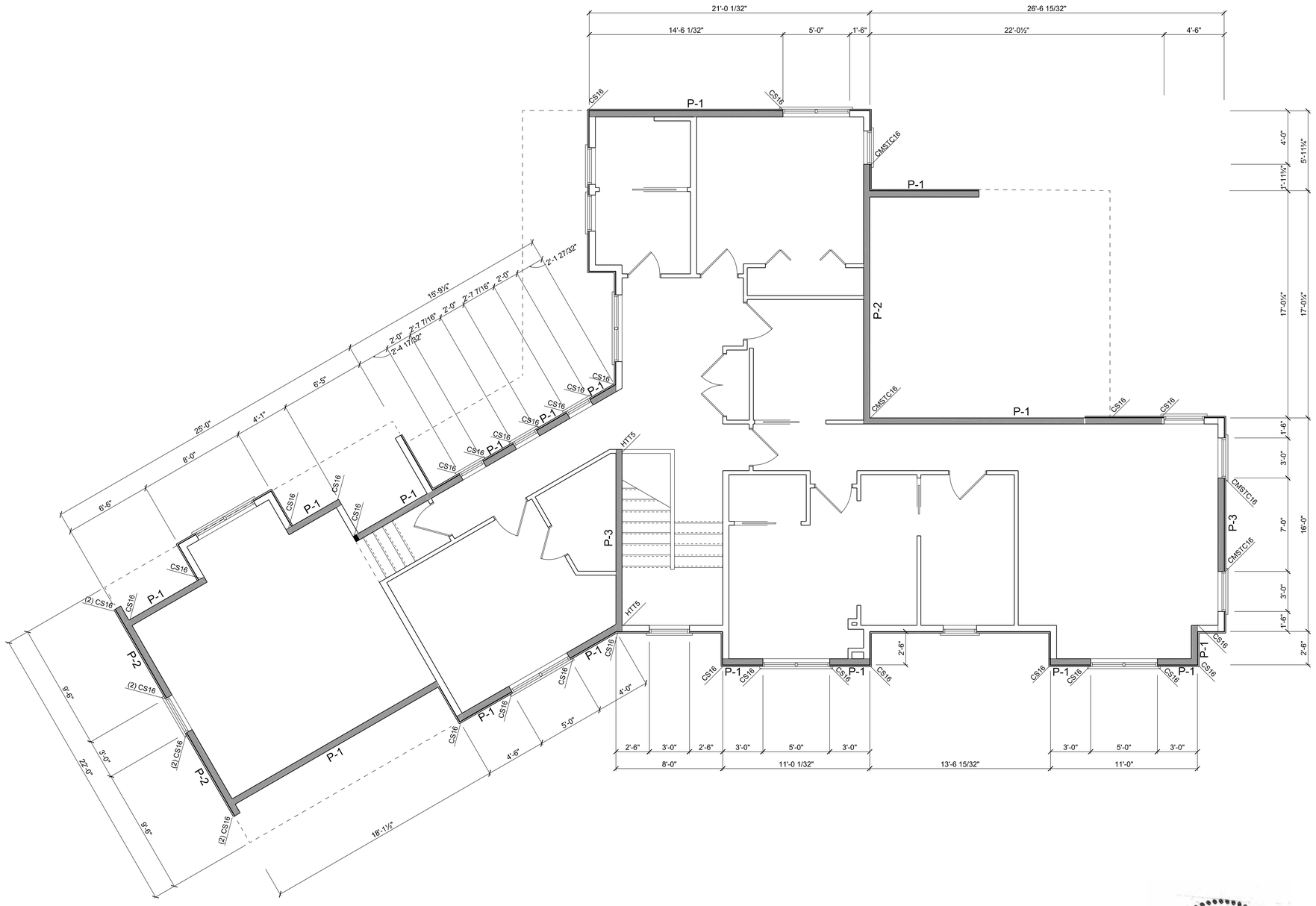
HOLD-DOWN OR STRAP	POST/END STUD (MIN)	NAILS/BOLTS
CS16	2X	(22) 10d X 2-1/2"
(2) CS16	(2) 2X	(44) 10d X 2-1/2"
CMSTC16	(2) 2X	(50) 10d X 3-1/4"
HTT5	(2) 2 X 6 OR 4 X 6	(26) 16d X 1-1/2" SIMPSON SB 5/8" X 24 BOLT
HDQ8	4 X 6	(20) 1/4" X 3" SDS SCREWS SIMPSON SB 1" X 30" BOLT
STHD10/10RJ	(2) 2X	(28) 10d X 3-1/4"
STHD14/14RJ	(2) 2X	(30) 10d X 3-1/4"



MAIN LEVEL SHEAR WALL PLAN

SCALE 1/4" = 1'-0"

NORTH



UPPER LEVEL SHEAR WALL PLAN

SCALE 1/4" = 1'-0"

NORTH

ALIREZA GHASSEMI
STATE OF WASHINGTON
21455
REGISTERED
PROFESSIONAL ENGINEER

DRAWN BY:	REVISION EDITION
CHECKED BY: A.G.	1
DATE: 11-30-2021	2
	3
	4

PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008

K I A C O
CONSULTING STRUCTURAL ENGINEERS

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5028 WEST MERCER WAY
MERCER ISLAND, WA 98040

UPPER LEVEL SHEAR WALLS

SHEET
S-8
OF
-

JOB #

CROSS HATCHING INDICATES STEEP SLOPE AREAS

DASHED LINES INDICATE STEEP SLOPE BUFFER

PILE SCHEDULE

"H" (FT) MAX. HT	"D" (FT) MIN. EMBED	PILE SECTION Fy=50 KSI	AUGER DIAMETER (INCHES)	SPACING ON CENTER	PILE NUMBER
6'-6" OR LESS	13'-0"	W16X26	30"	8'-0"	P0, P15
8'-6"	16'-0"	W16X31	30"	8'-0"	P1, P2
10'-6"	20'-0"	W16X50	30"	8'-0"	P3, P4, P5, P6, P7, P8
12'-0"	27'-0"	W16X100	30"	8'-0"	P9, P10, P11, P12, P13, P14,

SHORING PLAN

SCALE: 1"=10'-0"

1. SEE SOIL'S REPORT FOR RECOMMENDATIONS DURING EXCAVATION AND TEMPORARY SHORING.
2. MAXIMUM TEMPORARY CUT SLOPE IS: 1.5H:1V
3. CONTRACTOR MAY REVISE THE NUMBER OF PILES ACCORDING TO SITE CONDITION WITH SOIL'S ENGINEER AND STRUCTURAL ENGINEER APPROVAL.
4. SOIL'S ENGINEER SHALL INSPECT AND APPROVE ALL EXCAVATION AND PILE PLACEMENT. PROVIDE SPECIAL INSPECTION BY GEOTECH PER 2018 IBC.

PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008

K I A , C O
CONSULTING STRUCTURAL ENGINEERS

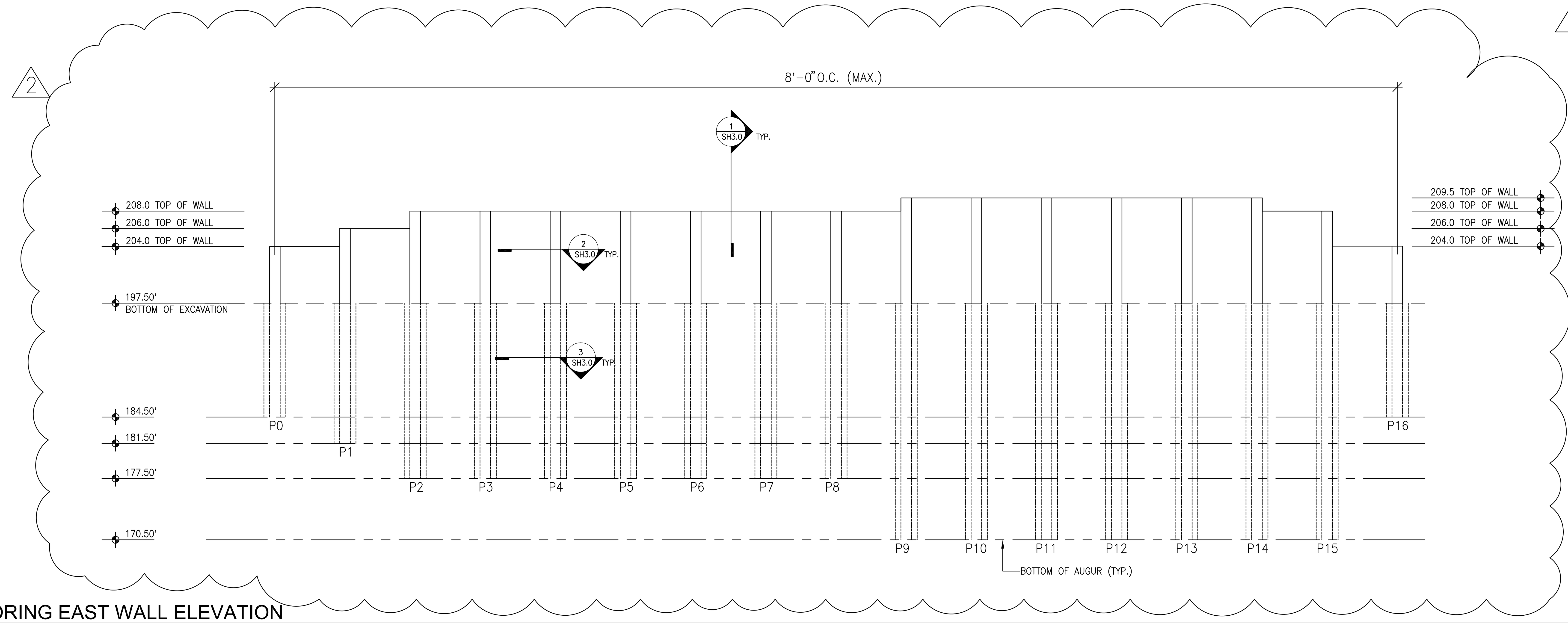
DRAWN BY:	REVISION EDITION
CHECKED BY: A. G.	1 ⚠ 12/08/2022
DATE: 11-30-2021	2
	3
	4

PROPOSED NEW RESIDENCE
EDWARD & CATHERINE MORAN
5028 WEST MERCER WAY
MERCER ISLAND, WA 98040

SHORING WALL PLAN

SHEET
SH-1
OF
-

JOB #
117-2101

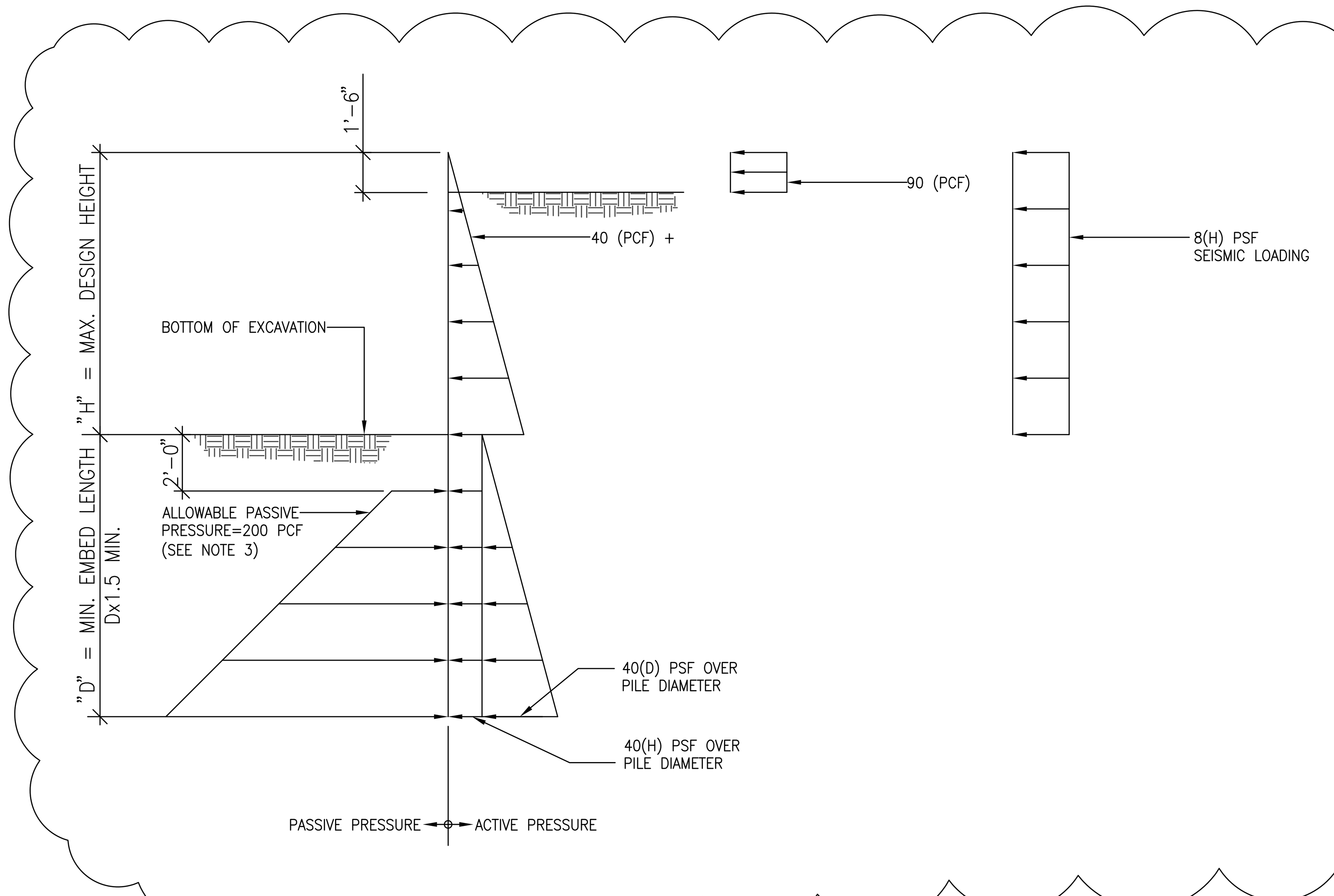


1 SHORING EAST WALL ELEVATION

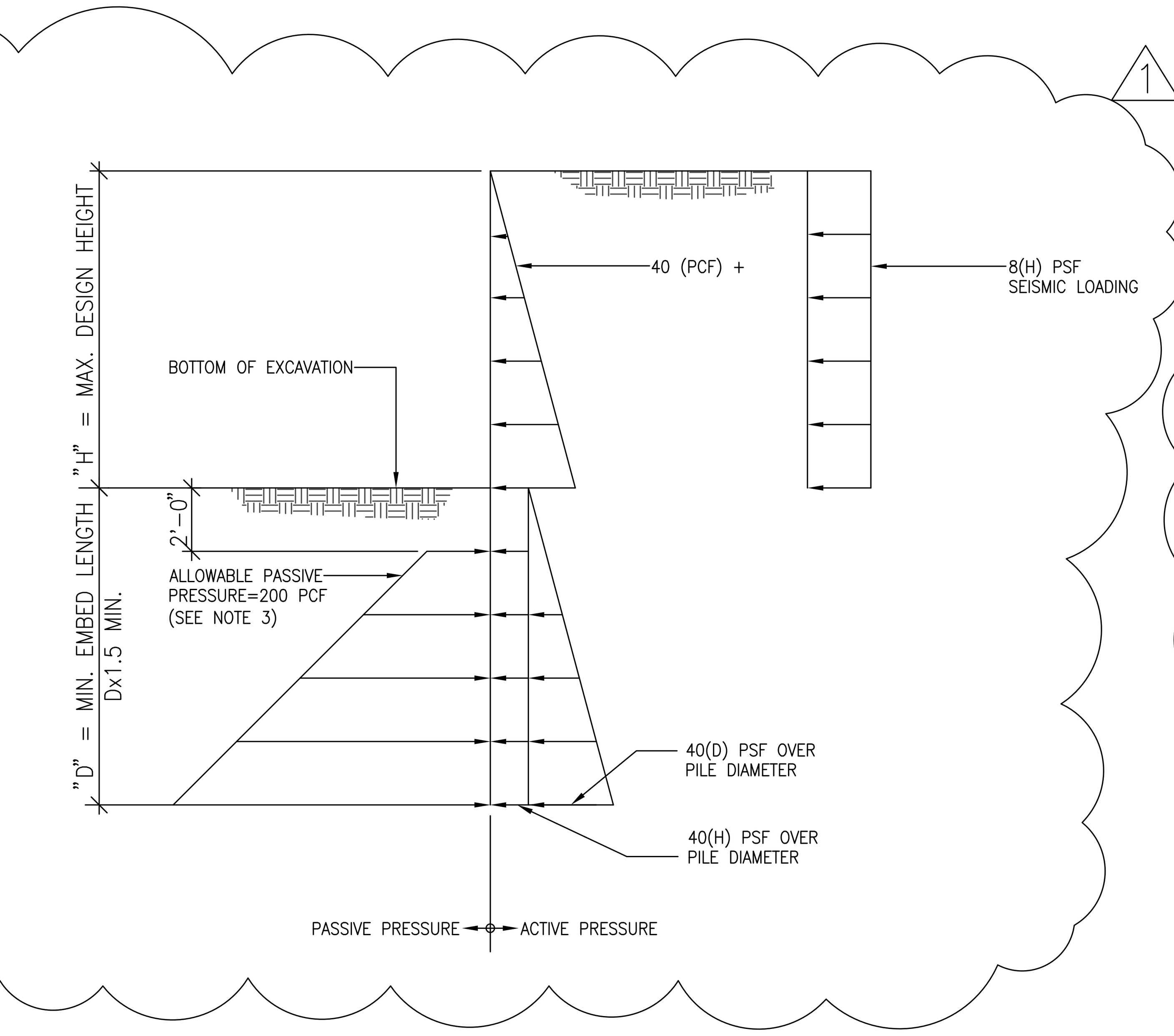
SCALE: 1/8"=1'-0"

NOTES:

1. SAFETY FACTOR = 1.5 (PER SOIL'S REPORT)
2. MINIMUM EMBEDMENT SOLDIER PILE BELOW THE BASE OF EXCAVATONS PER PILE SCHEDULE ON SHEET SH-1.
3. PASSIVE EARTH PRESSURE IS TAKEN OVER 2-PILE DIAMETERS.
4. EARTH PRESSURE ON LAGGING BETWEEN SOLDIER PILES IS REDUCED BY 50% PER SOIL'S REPORT.
5. MAXIMUM PILE SPACING IS 8'-0".
6. CONTRACTOR TO VERIFY EXISTING GRADES.
7. SEE SOIL'S REPORT FOR RECOMMENDATION DURING EXCAVATION AND TEMPORARY SHORING.
8. SOIL'S ENGINEER SHALL PORVIDE SPECIAL INSPECTION PER 2018 IBC.
9. PROVIDE SURVEY MONITORING PROGRAM AS REQUIRED BY THE SOIL'S ENGINEER.
10. REFER SOIL'S REPORT FOR MAINTANANCE SCHEDULE AND DEBRIES CLEAN UP.



2 SOIL PRESSURE DIAGRAM (P9 THRU P15)



3 SOIL PRESSURE DIAGRAM (P1 THRU P8 & P16)

PILE SCHEDULE

'H' (FT) MAX. HT	'D' (FT) MIN. EMBED	PILE SECTION Fy=50 KSI	AUGER DIAMETER (INCHES)	SPACING ON CENTER	PILE NUMBER
6'-6" OR LESS	13'-0"	W16X26	30"	8'-0"	P0, P16
8'-6"	16'-0"	W16X31	30"	8'-0"	P1, P2
10'-6"	20'-0"	W16X50	30"	8'-0"	P3, P4, P5, P6, P7, P8,
12'-0"	27'-0"	W16X100	30"	8'-0"	P9, P10, P11, P12, P13, P14, P15,

DRAWN BY:	REVISION EDITION
CHECKED BY: A.G.	1 BLDG DEPT. 9-9-22
DATE: 11-30-2021	2 PILE LAYOUT 12-8-22
	3
	4

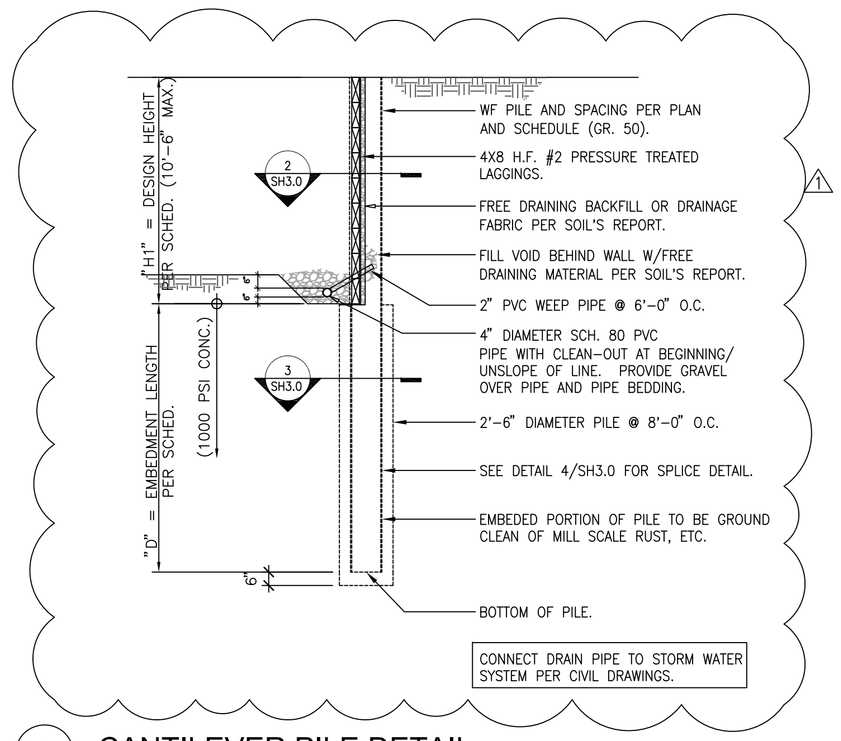
PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008
K I A C O
CONSULTING STRUCTURAL ENGINEERS

PROPOSED SINGLE FAMILY RESIDENCE
EDWARD & CATHERINE MORAN
5000 WEST MERCER WAY
MERCER ISLAND, WA 98040

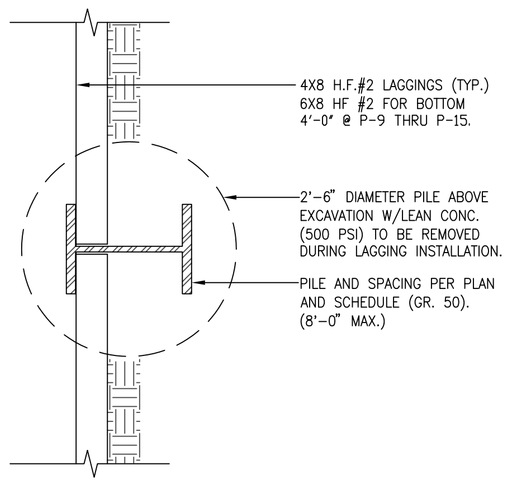
ELEVATIONS & NOTES

SHEET **SH-2** OF 3

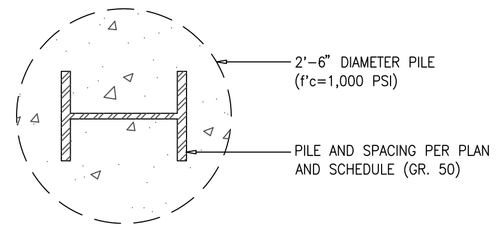
JOB # 171-2101



1 CANTILEVER PILE DETAIL
SCALE: 1/4"=1'-0"



2 PILE SECTION DETAIL
SCALE: 1"=1'-0"



3 PILE SECTION DETAIL
SCALE: 1"=1'-0"

4 SOLDIER PILE SPLICE DETAIL
SCALE: 1 1/2"=1'-0"

5 CORNER DETAIL
SCALE: 1 1/2"=1'-0"

2

PILE SCHEDULE

"H" (FT) MAX. HT	"D" (FT) MIN. EMBED	PILE SECTION Fy=50 KSI	AUGER DIAMETER (INCHES)	SPACING ON CENTER	PILE NUMBER
6'-6" OR LESS	13'-0"	W16X26	30"	8'-0"	P0, P16
8'-6"	16'-0"	W16X31	30"	8'-0"	P1, P2
10'-6"	20'-0"	W16X50	30"	8'-0"	P3, P4, P5, P6, P7, P8,
12'-0"	27'-0"	W16X100	30"	8'-0"	P9, P10, P11, P12, P13, P14, P15,

GENERAL SHORING NOTES

1. CODE REQUIREMENTS: ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
2. REFERENCE DOCUMENTS: GEOTECHNICAL PROJECT NO. JN16346 BY GEOTECH CONSULTANTS, INC. DATED SEPTEMBER 19, 2016 AND SUPPLEMENTAL LETTER. TOPOGRAPHY AND BOUNDARY SURVEY AS PROVIDED BY THE OWNER.
3. DESIGN LOADS: IN ADDITION TO THE DEAD LOADS, THE SOIL PRESSURES SHOWN ON SHEET SH2.0 WERE USED FOR THE DESIGN.
4. SUBMITTALS: SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION FOR CONC. MIX. DESIGN, STRUCTURAL STEEL, AND MISCELLANEOUS METAL. PROPOSED DEMOLITION AND SHORING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
5. INSPECTION: INSPECTION BY A QUALIFIED SOILS ENGINEER AND APPROVED TESTING LAB WILL BE PROVIDED BY OWNER FOR PILE PLACEMENT. SOIL'S ENGINEER SHALL INSPECT PILE PLACEMENT AND PREPARED SOIL BEARING SURFACES PRIOR TO INSTALLATION OF PILES. SUBMIT DAILY REPORTS TO THE CITY OF BELLEVUE, SOIL'S ENGINEER, AND STRUCTURAL ENGINEER.
6. SPECIAL CONDITION: CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITION IN THE FIELD AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF ALL FIELD CHANGES PRIOR TO FABRICATION AND INSTALLATION.
7. UTILITY LOCATION: THE CONTRACTOR SHALL UTILIZE THE SERVICES OF THE "UTILITY LOCATOR SERVICE" (1-800-424-5555) TO VERIFY THE EXTENT AND LOCATIONS OF SITE UTILITIES. SOLDIER PILES WHICH INTERFERE WITH UTILITIES SHALL BE RELOCATED. NEW PILE LOCATIONS SHALL BE APPROVED BY STRUCTURAL ENGINEER.
8. CONCRETE: CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE.

fc' (PSI)	MIN. CEMENT PER CUBIC YARD	USE
1000	1 1/2 SACKS	PILE STRUCTURAL GROUT

AS AN ALTERNATE TO THE ABOVE, THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS TO THE STRUCTURAL ENGINEER FOR REVIEW TWO WEEKS PRIOR TO PLACING CONCRETE.

9. STEEL: DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   A. SPECIFICATIONS: AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   B. WELDING: AWS D1.1, LATEST EDITION. AWS PREQUALIFIED JOINT DETAILS.
   C. WELDER CERTIFICATION: WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO)
   D. WIDE FLANGE: ASTM A 992 (Fy=50,000 PSI)
   E. WELDING ELECTRODES: E70XX
10. TIMBER LAGGGING: LAGGING SHALL CONFORM TO "GRADING RULES," WEST COAST LUMBER INSPECTION BUREAU (WCLIB), LATEST EDITION. LAGGING SHALL BE DOUGLAS FIR-LARCH NO.1 ROUGH CUT ; Fb = 1000 PSI. LAGGING SHALL BE PRESSURE-TREATED WITH WATERBORNE PRESERVATIVES. FIELD CUTS WHICH EXPOSE UNTREATED WOOD ARE TO BE FIELD TREATED IN ACCORDANCE WITH AWPA STANDARDS.
11. SOILS: SEE REPORT OF GEOTECHNICAL INVESTIGATION FOR MORE COMPLETE INFORMATION, INCLUDING RECOMMENDATIONS FOR SHORING IN GENERAL, SHORING, MONITORING, EXCAVATION, DRAINAGE AND SITE PROTECTION.
12. FINAL TOP OF PILE: TOP OF PILES SHALL BE CUT OFF A MINIMUM OF ONE FOOT BELOW TOP OF GRADE.
13. REFER GEOTECHNICAL REPORT DATED9-27-21, MEMORANDUM DATED 8-6-21 AND LETTER DATED 12-17-21 FOR ADDITIONAL INFORMATION.

SHORING PROCEDURE

1. HOLE DIGGING: PILE HOLES SHALL BE DRILLED WITHOUT LOSS OF GROUND AND WITHOUT ENDANGERING PREVIOUSLY INSTALLED PILES. THIS MAY INVOLVE CASING THE HOLES OR OTHER METHODS OF PROTECTION FROM CAVING. SEE GEOTECHNICAL REPORT AND SURVEY FOR POSSIBLE OBSTRUCTIONS AND RECOMMENDATIONS.
2. LAGGING: TIMBER LAGGING SHALL BE INSTALLED AT ALL SHORING WALLS. VOIDS BETWEEN LAGGING AND SOIL SHALL BE BACK FILLED PER SOIL'S REPORT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE OF EXPOSED SOIL TO 4 FT. OR LESS, ALSO SEE SOIL'S REPORT RECOMMENDATIONS.
3. **DRAINAGE:** INSTALL DRAINAGE TO THE FACE OF THE TIMBER LAGGING FOR TEMPORARY AND PERMANENT SOLDIER PILE WALLS ACCORDING TO RECOMMENDATIONS OF THE 2015 I.B.C. AND AS SPECIFIED IN THE SOIL'S REPORT.
4. **MONITORING:** MONITORING OF THE SHORING SYSTEM, CONDUCTED BY THE GENERAL CONTRACTOR, MUST INCLUDE MEASUREMENTS OF VERTICAL AND HORIZONTAL MOVEMENTS AT THE TOP AND BOTTOM OF EACH SOLDIER PILE ON DAILY BASIS DURING THE EXCAVATION AND WEEKLY BASIS UNTIL WALL CONSTRUCTION IS COMPLETE. ADDITIONAL MONITORING POINTS MAY BE AT THE DIRECTION OF THE SOIL'S ENGINEER AND THE BUILDING DEPARTMENT. ALL READINGS SHOULD BE PROVIDED TO KIA CO., A.D. SHAPIRO ARCHITECTS, P.S., AGES ENGINEERING, LLC. AND BUILDING DEPARTMENT. ALSO, SEE SOIL'S REPORT FOR MONITORING INSTRUCTIONS AND RECOMMENDATIONS.

REVISION EDITION
1 BLDG DEPT. 9-9-21
2 PILE LAYOUT 12-8-22
3
4

DRAWN BY:
CHECKED BY: A.G.
DATE: 11-30-2021

PHONE 425-351-5999
P.O. BOX 7255
BELLEVUE, WA 98008
K I A CONSULTING STRUCTURAL ENGINEERS

PROPOSED SINGLE FAMILY RESIDENCE
EDWARD & CATHERINE MORAN
5000 WEST MERCER WAY
MERCER ISLAND, WA 98040

PLANS

SHEET
SH-3
OF
3

JOB #
171-2101

CITY OF MERCER ISLAND

DEVELOPMENT SERVICES GROUP
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.MyBuildingPermits.com VM: 206.275.7730

ON-SITE DETENTION DESIGN REQUIREMENTS

General Requirements

This guidance applies only to projects that meet the thresholds specified below in "Is On-site Detention Required for My Project?" if all of the on-site stormwater BMPs included on List #1 and List #2 are determined to be infeasible for roofs and/or other hard surfaces.

Is On-site Detention Required For My Project?

YES, if my project:

1) Results in 2,000 square feet, or greater, of new plus replaced hard surface area, or
2) Has a land disturbing activity or 7,000 square feet or greater, or
3) Results in a ***net increase*** of impervious surface of 500 square feet or greater.

AND

1) All of the on-site stormwater BMPs included on List #1 and List #2 are determined to be infeasible for roofs and/or other hard surfaces, and
2) Drainage from the site will be discharged to a storm and surface water system that includes a watercourse or there is a capacity constraint in the system.

NO, if my project:

1) Results in less than 2,000 square feet of new plus replaced hard surface area, and
2) Has a land disturbing activity less than 7,000 square feet, and
3) Results in a **net increase of less than 500 square feet** of impervious surface area.
4) The project discharges ***directly*** to Lake Washington, or findings from a ¼-mile downstream analysis confirm that the downstream system is free of capacity constraints.

Designing Your On-Site Detention System

All on-site detention system designs must be prepared by a professional engineer registered in the State of Washington. The Standard On-site Detention System worksheet (Attachment 1) must be submitted on 18" x 24" (minimum) size sheets.

Construction that results in 500 to 9,500 square feet of new plus replaced impervious surfaces: Size system according to Table 1. The configuration of the on-site detention system shall be as shown on Attachment 1 (Standard On-Site Detention Systems Worksheet) or as specifically designed by the engineer for the site.

Note:

- The applicant may pay a fee-in-lieu-of constructing an on-site detention system when allowed by the City Engineer. The fee will not be an option when in the opinion of the City Engineer, undetained runoff from the development may adversely exacerbate an existing problem (MICC 15.11) or if flow control is required by Minimum Requirement #7.
- **Construction that results in more than 9,500 square feet of new plus replaced impervious surfaces and/or exceeds a 100-year flow frequency of 0.15 cubic feet per second (for moderate and steep sloped sites greater than a 5% slope):** Size system according to Minimum Requirement #7 (Flow Control) in the Stormwater Management Manual for Western Washington (Ecology 2014).

Table 1

ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in)[3]		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.6	1.3
5,001 to 6,000 sf	36"	162	109	0.5	0.5	2.7	2.2	1.8	1.6
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf[1]	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,501 to 9,000 sf	36"	NA [1]	164	0.5	0.5	NA [1]	2.2	NA [1]	1.9
	48"	NA [1]	89	0.5	0.5	NA [1]	2.9	NA [1]	1.9
	60"	NA [1]	55	0.5	0.5	NA [1]	3.6	NA [1]	1.7
9,001 to 9,500 sf[2]	36"	NA [1]	174	0.5	0.5	NA [1]	2.2	NA [1]	2.1
	48"	NA [1]	94	0.5	0.5	NA [1]	2.9	NA [1]	2.0
	60"	NA [1]	58	0.5	0.5	NA [1]	3.7	NA [1]	1.7

Notes:

▪ Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (> 15%) slopes.

▪ Soil type to be determined by geotechnical analysis or soil map.

▪ Sizing includes a Volume Correction Factor of 120%.

▪ Upper bound contributing area used for sizing.

[1] On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)

[2] On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)

[3] Minimum orifice diameter = 0.5 inches

in = inch

ft = feet

sf = square feet

Basis of Sizing Assumptions:

Sized per MR#5 in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual)

SBUH, Type 1A, 24-hour hydrograph

2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in

Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)

Developed = impervious (CN = 98)

0.5 foot of sediment storage in detention pipe

Overland slope = 5%

ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

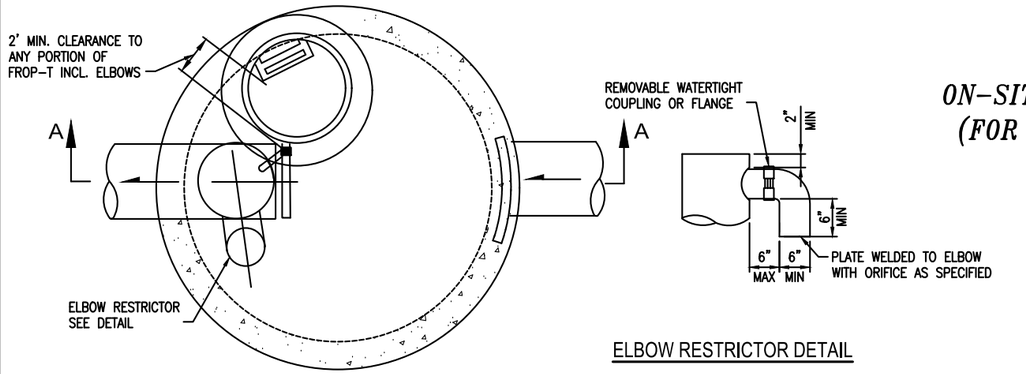
OWNER: Edward & Cathrine Moran
ADDRESS: 5000 West Mercer Way
Mercer Island, WA
PREPARED BY: Justin Jones
PHONE: 206-596-2020
DATE: 04/20/2022
PERMIT #:

NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 3,976 SF
SOIL TYPE: Type B

DETENTION PIPE DIA (INCH): 48"
PIPE MATERIAL: HDPE

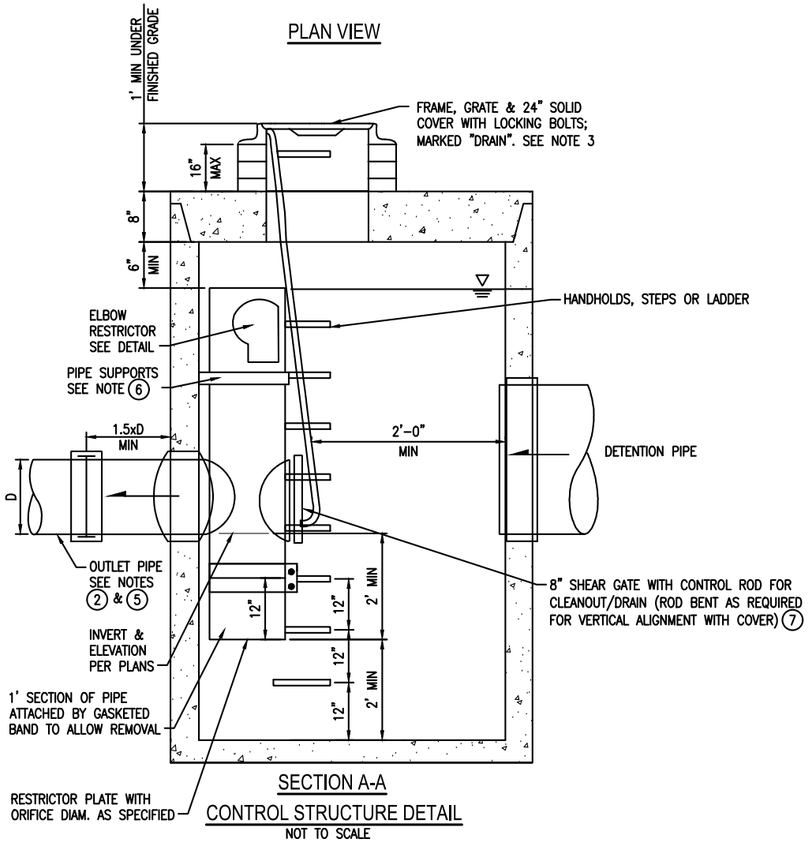
DETENTION PIPE LENGTH (FT): 62

ORIFICE #1 DIA 0.5 INCH, ELEV 185.19'
ORIFICE #2 DIA 0.8 INCH, ELEV 190.79'

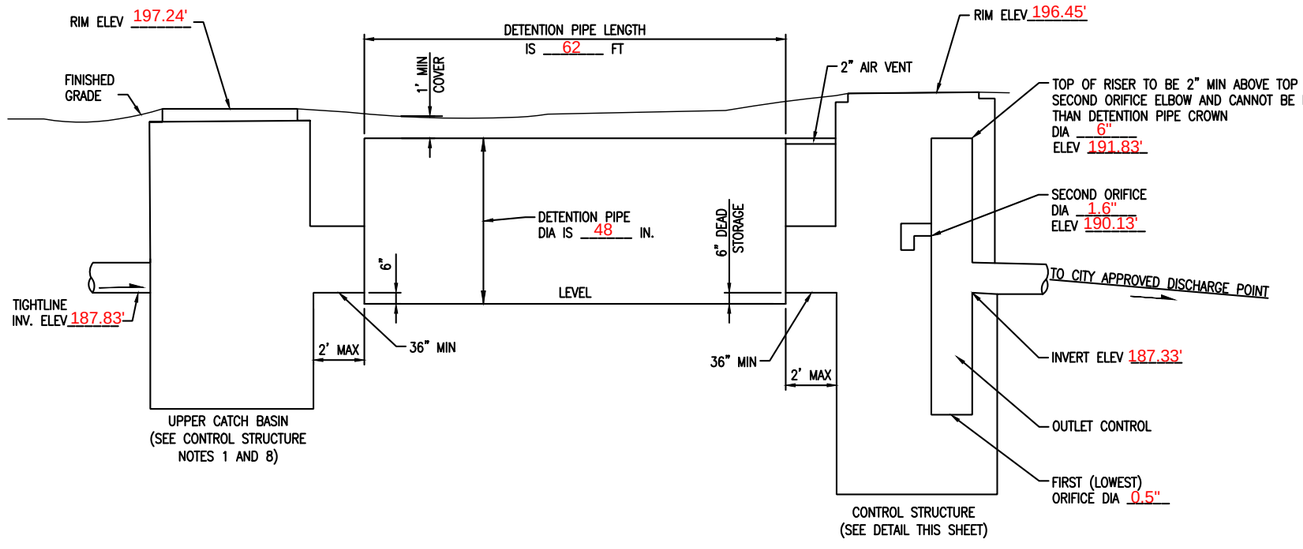


PLAN VIEW

ELBOW RESTRICTOR DETAIL



SECTION A-A
CONTROL STRUCTURE DETAIL
NOT TO SCALE



ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STANLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.
   INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.
   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTANANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

December 20, 2022

City of Mercer Island Planning & Development
9611 SE 36th ST
Mercer Island, WA 98040

RE: Moran Development

This letter includes our responses to comments received from City of Mercer Island regarding the Moran Development project on July 08, 2022. We have reviewed and revised the plan set and associated reports/documents to reflect the changes requested.

Plan Sheets

1. The lawn and landscape areas are required to provide Post-Construction Soil Quality and Depth in accordance with BMP T5.13. The project civil engineer must provide a letter of certification to ensure that the lawn and landscape areas are meeting the Post-Construction Soil Quality and Depth Requirements specified on the approved plan set prior to final inspection of the project.

Response: Acknowledged, a letter of certification to ensure that the lawn and landscape areas are meeting the Post-Construction Soil quality and Depth Requirements will be provided prior to final inspection of the project.

2. Identify stockpile/staging area on-site.

Response: Noted, plans have been updated to show stockpile/staging area on-site.

3. Please note Provide the specific design information for the Post-Construction Soil Quality and Depth per Minimum Requirement 5 on the plan.

Response: Specific design information for the Post-Construction Soil Quality and Depth provided on sheet.

4. Clearly show the areas with square footages for the proposed turf areas and planting bed areas that will require the Post Construction Soil per BMPT5.13.

Response: Proposed planting bed areas that will require BMPT5.13 are shown with square footages.

5. City maps show both private/public sewer lines, water lines, and other utilities running through the private access - please show all on the plan.

   Work with title company and surveyor to show all private/public easements, recording numbers,

beneficiaries, and provide documentation highlighting relevant information.

Response: Noted, existing utilities onsite, private/public easements, recording numbers and beneficiaries are provided.

6. Specify width at the end of the driveway.

Response: Driveway width specified

7. Based on existing driveway contours, it seems like there is a big step/bump between existing road and proposed driveway. Will a match work as called out?

Response: An incorrect point in surface caused big step/bump between existing road and proposed driveway. Surface has been revised to show correct conditions.

8. Architectural site plan shows a different driveway layout where the concrete does not extend all the way to the eastern Retaining wall. Please coordinate and update for consistency between site plans. Update impervious area calculation as required.

Response: Noted, coordinated with architect to show similar driveway layout. Impervious area calculations updated.

9. Franchise utilities are not part of the City review/approval process. Please remove all information related to franchise utilities from the plan set or provide note to clarify that franchise utilities shown on this plan are not reviewed or approved by the City of Mercer Island.

Response: All information related to franchise utilities removed from plant set.

10. Driveway runoff must be collected and route through the detention system.

Response: Noted, driveway runoff is captured in a proposed trench drain and subsequently pumped to the detention tank.

11. Specify rim and IE for trench drain.

Response: Rim and IE for trench drain specified.

12. The callout "Proposed 6" PVC to Connect to Existing Storm System" appears to be part of an old design where stormwater from the trench drain was being directed to the existing CB - please remove this callout if it is no longer current.

Response: Note is longer applicable and has been removed.

13. Please show On-Site Detention System Worksheet (Attachment1) as part of the plan set.

Response: On-Site Detention system Worksheet added to plan set.

14. As currently designed, provide oil/water separator for proposed catch basin.

    See comment related to routing driveway runoff to detention system. Detention system acts as an oil/water separator.

Response: Runoff from driveway now being routed to the detention tank with oil/water separator.

15. Show the layout and design info for the building footing drain connection from the building. Show IE at the connection to the building. Footing drain shall not be connected to detention system.

Response: Layout and design info, IE, for the building footing drain connection from the building is shown. Footing drain ties into line running from detention tank to existing catch basin.

16. The existing ditch is not in a good condition to daylight/drain to. Provide alternative design tightlining directly to a piped system.

Response: Runoff will be conveyed to existing Type 1 Catch Basin.

17. The incoming 4" IE does not match the worksheet (vice versa).

Response: Noted, updated incoming IE to match worksheet.

18. The drainage from the shoring wall will also need to be directed to the stormwater detention system. Show location and details on plan.

Response: Drainage from the shoring wall ties into line conveying runoff from the detention tank to the existing Type 1 Catch Basin. IE's provided.

19. Clarification on comment from geotechnical reviewer above:

    Footing drain for the building and wall shall not connect detention system.

    Show shoring wall footing drain design tightlining to the storm system. Provide IE's.

Response: Drainage from the shoring wall ties into line conveying runoff from the detention tank to the existing Type 1 Catch Basin. IE's provided.

20. Water Comments:

    1) A 1.5" water meter and 2" service line is required - standard detail W-14.

    2) A 2" water supply line is required from the meter to the building.

    3) Sheet C-07 does not exist.

    4) Show the new meter located on the SE corner of the intersection of W Mercer Way & the private drive - 2' off edge of pavement from both roads.

Response: A 1.5" water meter and 2" service line are provided. Meter located on the SE corner of the intersection of W Mercery Way & the private drive – 2' off edge of pavement from both roads. Updated Sheet Number to C-06 for detail callout.

21. Water line/meter and SS cut through tree protection zones. Either move all utilities outside tree protection zones. Or call out tunnel/bore within trees driplines. And move water meter or install with air excavation and arborist supervision.

Response: Utilities moved out of south tree protection zones. Water line/meter and SS cut through north side of site.

22. Update Tree Protection Plan with civil information, tree numbers, driplines, critical roots zones, tree protection fence (call out chain link), Show silt fence outside tree protection to avoid digging inside the tree protection zone. All grading and retaining wall should be shown and kept outside of exceptional trees driplines. HYPERLINK "https://www.mercerisland.gov/sites/default/files/fileattachments/community_planning_amp_development/page/21988/treessubmittalchecklist.pdf" treessubmittalchecklist.pdf (mercerisland.gov)

Response: Silt fence outside tree protection areas. Grading and retaining wall now shown outside of exceptional tree driplines. Pneumatic Air Hydro Excavation will be used where where areas exceed exceptional tree driplines.

23. No new side sewer connections to the main - there is an existing stub out. Locate the existing side sewer stub out and show side sewer connecting to the existing stub out.

    Add the note:

    The TV inspection of the existing side sewer to the City sewer main on W Mercer Way is required prior to any work related to the side sewer. If the result of the TV inspection is not in satisfactory condition, as determined by the City of Mercer Island Inspector, the replacement of the existing side sewer is required.

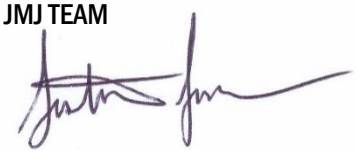
Response: Noted, side sewer now connecting to the existing stub out. Added not provided.

24. Show rim elevation information for each of the IE's called out. Provide 18" of cover for landscaped areas and 24" of cover for vehicle bearing surfaces. 2% slope minimum required for roof drain pipes (or 1% for 6" pipes, typ.).

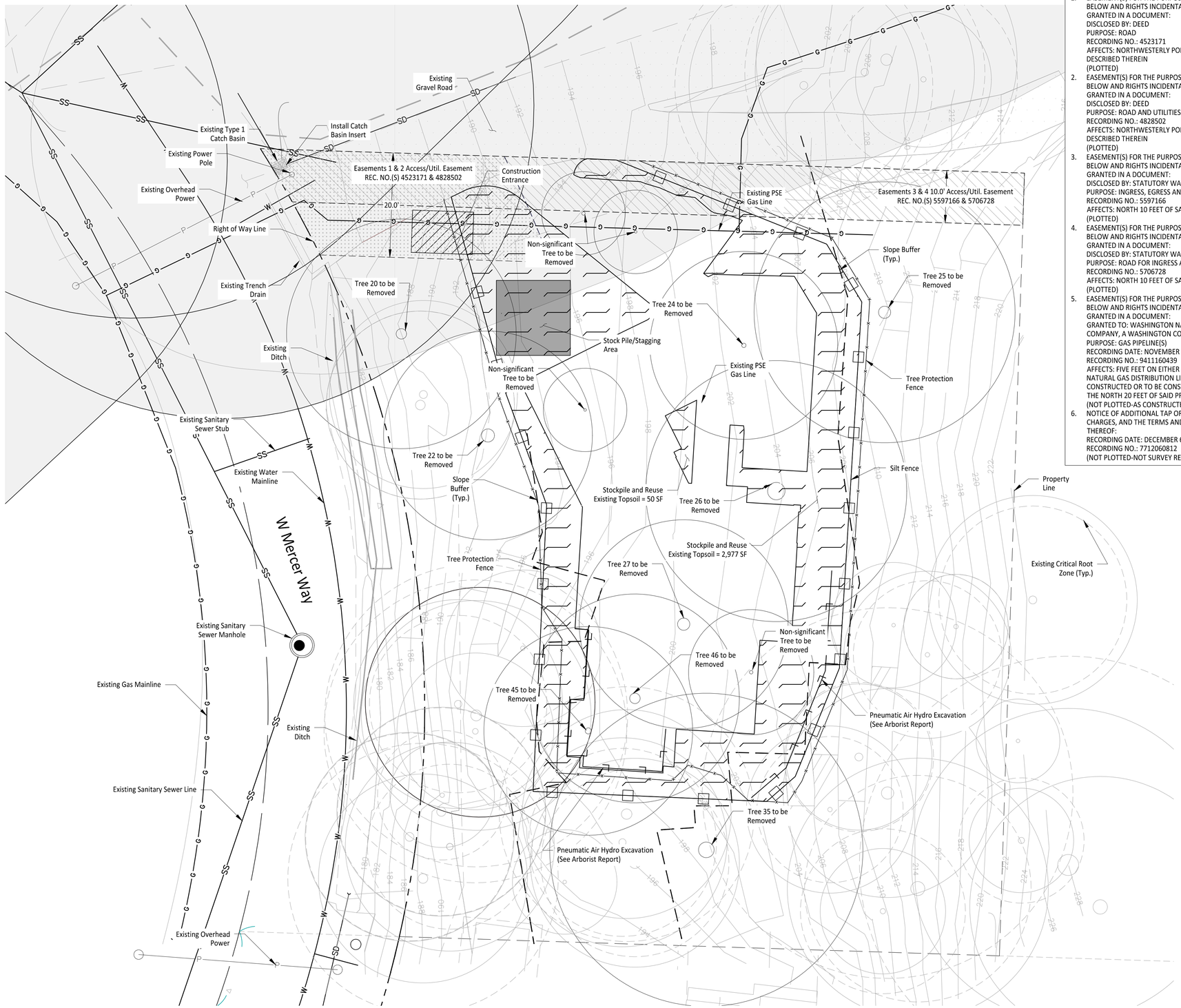
Response: Rim elevations provided for each IE called out. A minimum of 18” of cover for landscaped aeras and 24” of cover for vehicles bearing surfaces are provided. Roof conveyance lines are now 6” pipes at 1%.

Please feel free to contact us with any questions.

Sincerely,
JMJ TEAM



Justin Jones



EASEMENTS

1. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: DEED
   PURPOSE: ROAD
   RECORDING NO.: 4523171
   AFFECTS: NORTHWESTERLY PORTION AS DESCRIBED THEREIN
   (PLOTTED)
2. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: DEED
   PURPOSE: ROAD AND UTILITIES
   RECORDING NO.: 4828502
   AFFECTS: NORTHWESTERLY PORTION AS DESCRIBED THEREIN
   (PLOTTED)
3. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: STATUTORY WARRANTY DEED
   PURPOSE: INGRESS, EGRESS AND UTILITIES
   RECORDING NO.: 5597166
   AFFECTS: NORTH 10 FEET OF SAID PREMISES
   (PLOTTED)
4. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: STATUTORY WARRANTY DEED
   PURPOSE: ROAD FOR INGRESS AND EGRESS
   RECORDING NO.: 5706728
   AFFECTS: NORTH 10 FEET OF SAID PREMISES
   (PLOTTED)
5. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   GRANTED TO: WASHINGTON NATURAL GAS COMPANY, A WASHINGTON CORPORATION
   PURPOSE: GAS PIPELINE(S)
   RECORDING DATE: NOVEMBER 16, 1994
   RECORDING NO.: 9411160439
   AFFECTS: FIVE FEET ON EITHER SIDE OF THE NATURAL GAS DISTRIBUTION LINE AS CONSTRUCTED OR TO BE CONSTRUCTED WITHIN THE NORTH 20 FEET OF SAID PREMISES
   (NOT PLOTTED-AS CONSTRUCTED)
6. NOTICE OF ADDITIONAL TAP OR CONNECTION CHARGES, AND THE TERMS AND CONDITIONS THEREOF:
   RECORDING DATE: DECEMBER 6, 1977
   RECORDING NO.: 7712060812
   (NOT PLOTTED-NOT SURVEY RELATED)

TESC NOTES

- Contractor to install temporary erosion and sediment control measures as necessary to ensure stormwater leaving the site is free of settleable solids.
- Roads shall be cleaned thoroughly as needed to protect stormwater infrastructure and downstream water resources. Sediment shall be removed from roads by shoveling or pickup sweeping and be transported to a controlled sediment disposal area.
- Install strom drain inlet protection in all existing catch basins within the project vicinity per City of Mercer Island Detail 4.2.8.
- Install Stabilized Construction Entrance per City of Mercer Island Detail 4.1.1.
- Install Silt Fence as necessary. See City of Mercer Island Detail 4.2.12.
- Install straw bale barriers, wattles and other TESC measures as necessary.
- Exposed soils shall be watered as necessary to prevent dust from leaving the site.
- Contractor to mark clearing limits with lath and flagging.
- Concrete handling and equipment washing shall in accordance with DOE BMP C151.

GENERAL NOTES

- See Tree Inventory Tables in Arborist Report included in this submittal.

CONSTRUCTION NOTES

- The lawn and landscape areas are required to provide Post-Construction Soil Quality and Depth in accordance with BMP T5.13. The project civil engineer must provide a letter of certification to ensure that lawn and landscape areas are Depth Requirements specified on the approved plan set prior to final inspection of the project.
- POST-CONSTRUCTION SOIL MANAGEMENT

1. Retain & Protect Native Vegetation and Soil
   1.1. Identify Areas of the site that will not be disturbed construction. Fence areas to prevent impacts during construction.

2. loosen Compacted Subsoil
   2.1. In Areas Compacted by Construction Traffic Scarify the top 4-inches of subsoil. Use a Cat-mouted Ripper,tractor-mounted disc, or tiller to mix the first lift of topsoil into the subsoil. USe the equipment listed to scarify soils to a depth of 12-inches before tilling in at least 8-inches of compost.

3. Restore Soils that are Disturbed During Construction
   3.1. Stockpile and reuse existing topsoil (amend if needed to meet 5% organic matter content for turf areas; 10% organic matter content for planting beds).

4. Add Mulch to Planting Beds
   4.1. Spread mulch (coarse bark or wood chips) in the spring or fall (after planting) to control weeds, reduce the need for irrigation and prevent erosion). Apply 1 to 2 inches of mulch on planting beds and around shallow-rooted annuals. Apply 2 to 4 inches of mulch around trees and woody perennials, but make sure to keep mulch 2-3 inches away from tree trunks.

5. Protect Restored Soils from Erosion anad Re-Compaction
   5.1. Prevent runoff from roads or open slopes onto amended soil areas. Compost blankets are an approved erosion control Best Management Practice (BMP) that can be used during construction and then tilled into existing soil at the end of the construction process prior to planting. Once soils have been amended, vehicle traffic should be prohibited to prevent recompilation from occurring.

LEGEND

- Tree Protection Fence
- Trees to be Removed
- Protect and Maintain Existing Trees

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

Owner/Developer:
Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:
Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:
JMJTEAM
Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:
Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

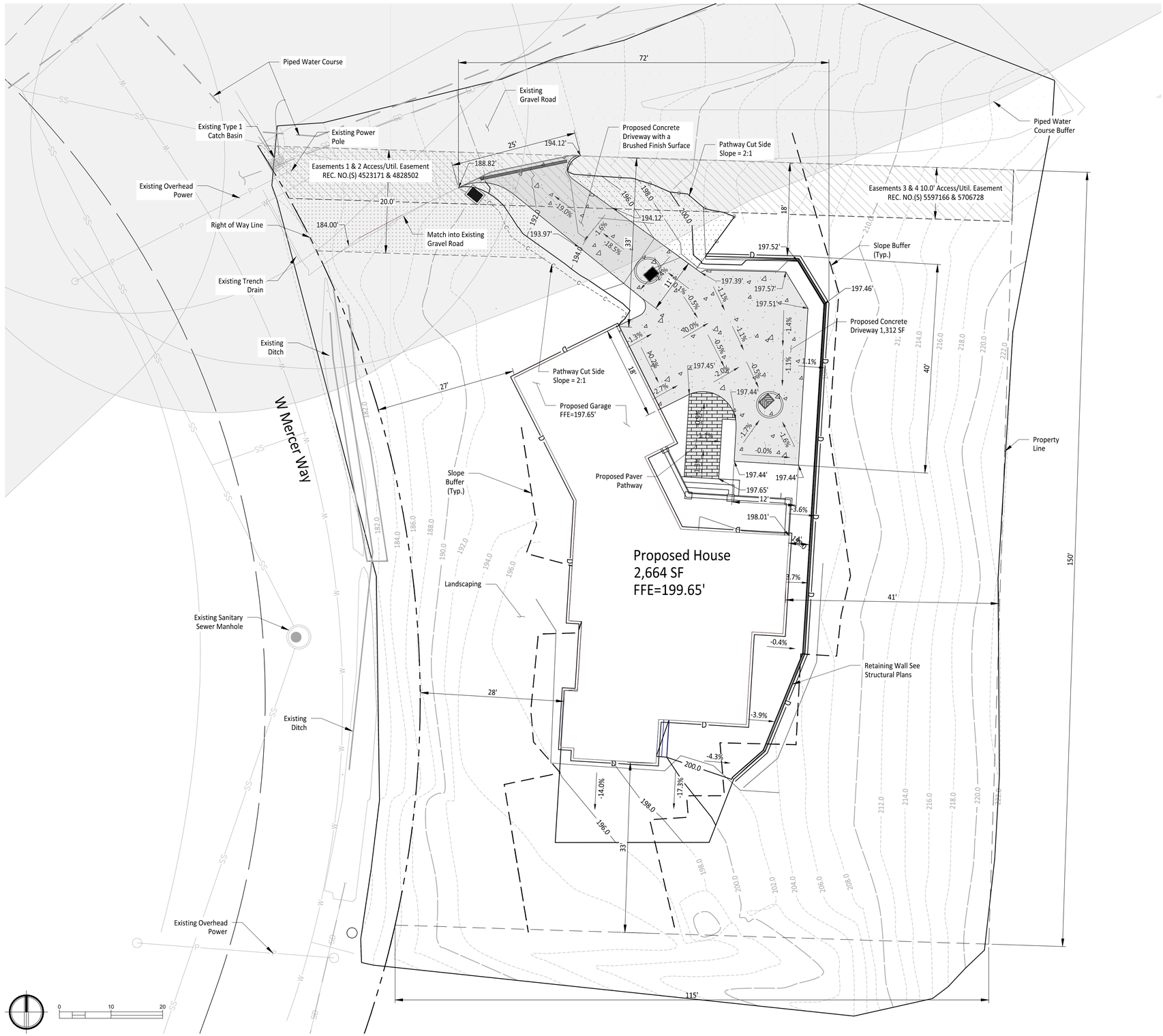
JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER
12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:
Existing Site & TESC Plan

PROJ. NO: 1576001
DATE: December 16, 2022
DRAWN BY:
DESIGN BY:
SHEET NUMBER: C-01
DWG.

File: 1576001C-EX.dwg Path: J:\1576 - Moran\001 - W Mercer Way\CAD\ Plotted by: JMJ Date: 20-Dec-22 2:19:34pm



LEGEND

- Proposed Concrete
- Proposed Concrete with Brushed Surface
- Proposed Permeable Pavers
- Landscaping/Native Vegetation

GENERAL NOTES

- See Detail on Sheet C-05 for Standard Concrete Section.
- See Detail on Sheet C-05 for Permeable Paver Section.
- Driveway Slopes over 20.0% add a Brush Surface Finish to increase Traction.

LOT COVERAGE

Proposed Lot Coverage		
	Impervious Areas (SF)	Pervious Areas (SF)
Proposed House	2,664	
Proposed Driveway	1,312	
Proposed Retaining Walls	63	
Permeable Pavers		116
Landscaping/Vegetaion		13,722
Totals	**4,039**	**13,838**
Lot Size	18,295	
Max Allowed Impervious Coverage	**35% (6,403 SF)**	
Impervious Lot Coverage	**22%**	

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

JJ TEAM
Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

STATE OF WASHINGTON
JUSTIN M. JONES
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV.	DATE	DESCRIPTION

SHEET TITLE:

Site & Grading Plan

PROJ. NO: 1576001

DATE: December 16, 2022

DRAWN BY:

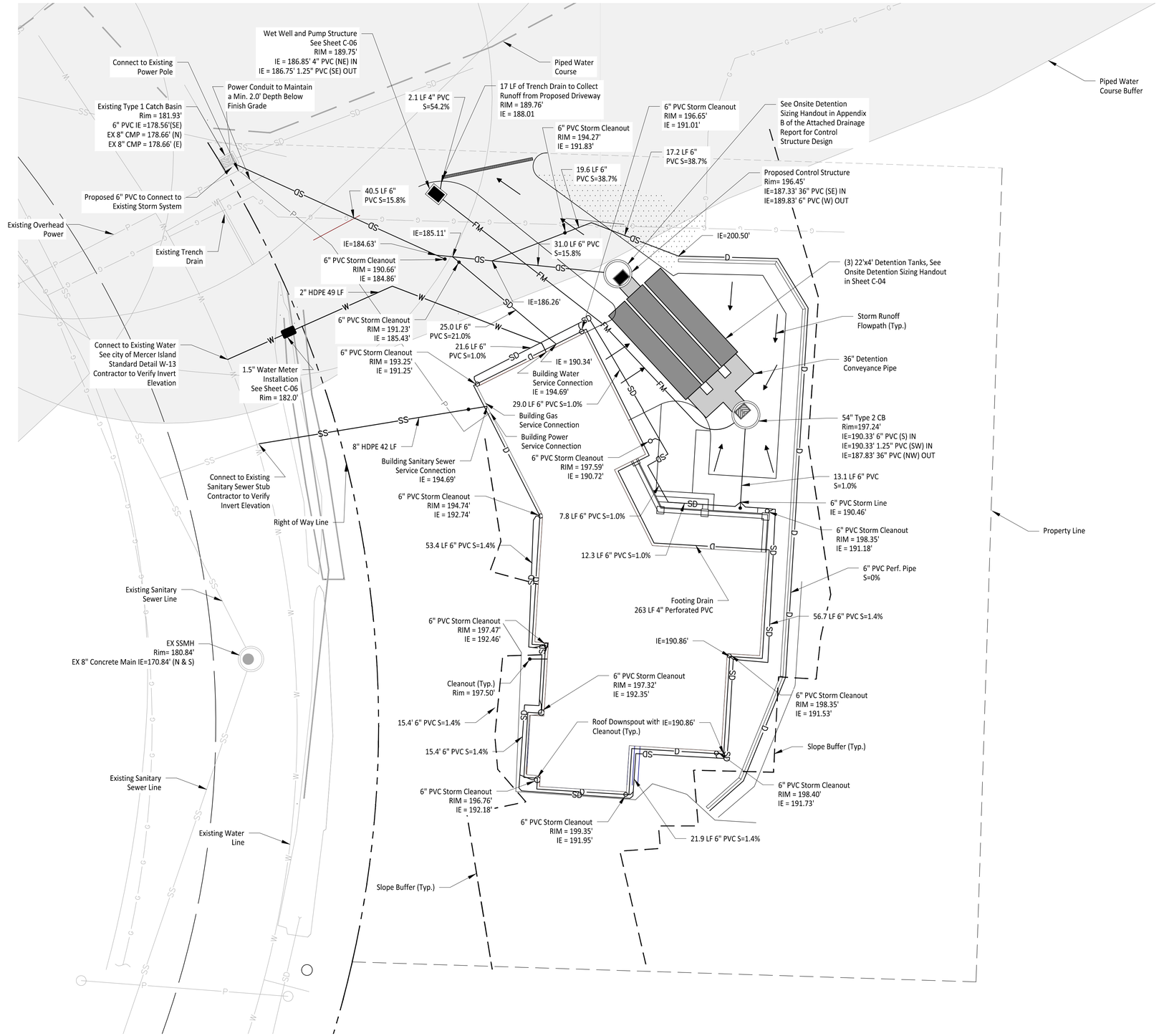
DESIGN BY:

SHEET NUMBER:

C-02

DWG.

File: I:\1576001C-SP.dwg Paths: J:\1576 - Moran\001 - W Mercer Way\CAD\ Plotted by: JMJ Date: 20-Dec-22 2:23:39pm



LEGEND

- SS — Sanitary Sewer Line
- W — Water Line
- P — Power Conduit
- SD — Stormwater Line

CONSTRUCTION NOTES

- ASTM 3034 SDR 35 PVC pipe, fused solid wall HDPE, schedule 40 ABS, DIP or CIP (up to 8 ft. depth). Over 8 ft. depth and slopes more than 20%, DIP, CIP, or fused solid wall HDPE are required.
- Bedding material for open cut construction must be pea gravel, sand, control density fill (CDF), or 5/8" minus C.R.
- Select backfill material shall be 5/8" minus C.R. or control density fill (CDF).
- Imported backfill material shall be bank run gravel or pit run gravel from an approved supplier meeting APWA/WSDOT gradation specifications. Not allowed in right-of-way.
- Rubber gaskets must be used when appropriate.
- Rigid couplings must be used forconnections to existing stubs in right-of-way.
- A stainless steel strap and saddle (Romac) must be used for coring.
- 1" Water Meter Installation see City of Mercer Island Detail on sheet C-06.
- Tapping Tee Installation see City of Mercer Island Detail on sheet C-06.
- The lawn and landscape areas are required to provide Post-Construction Soil Quality and Depth in accordance with BMP T5.13. The project civil engineer must provide a letter of certification to ensure that the lawn and landscape areas are meeting the Post-Construction Soil Quality and Depth Requirements specified on the approved plan set prior to final inspection of the project.

GENERAL NOTES

- Water Service laterals shall have a minimum cover of 12 inches.
- Roof leader locations to be verified by contractor prior to construction.
- Storm pipes to maintain a minimum cover of 1.5' from finish grade.
- Storm pipes to be SDR 35 PVC piping.
- Sanitary Sewer laterals to be soild wall HDPE piping.
- Saniatry Sewer Laterals to mantain a minimum cover of 3.0' from finish grade.
- Pipes entering and exiting catch basins a tee section or bent elbow must be installed for spill control.
- Power conduit shall maintain a minimum cover of 2.0' from finish grade.
- Franchise utilities shown on this plan are into reviewed or approved by the City of Mercer Island.
- The TV inspection of the existing side sewer. If the result of the TV inspection is not in satisfactory condition, as determined by the City of Mercer Island Inspector, the replacement of the existing side sewer is required.

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

Owner/Developer:
Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:
Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:
JUTEAM
Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:
Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

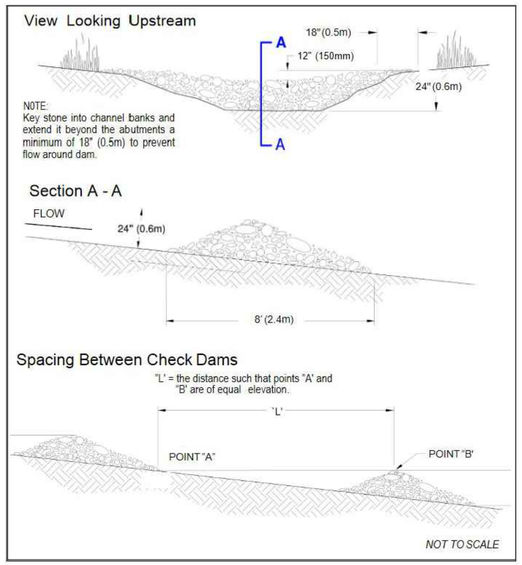
JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER
12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:
Utility Plan

PROJ. NO: 1576001
DATE: December 16, 2022
DRAWN BY:
DESIGN BY:
SHEET NUMBER:
C-03
DWG.

File: 1576001C-STRM.dwg Path: J:\1576 - Moran\001 - W Mercer Way\CAD\ Plotted by: JMJ Date: 20-Dec-22 2:26:24pm



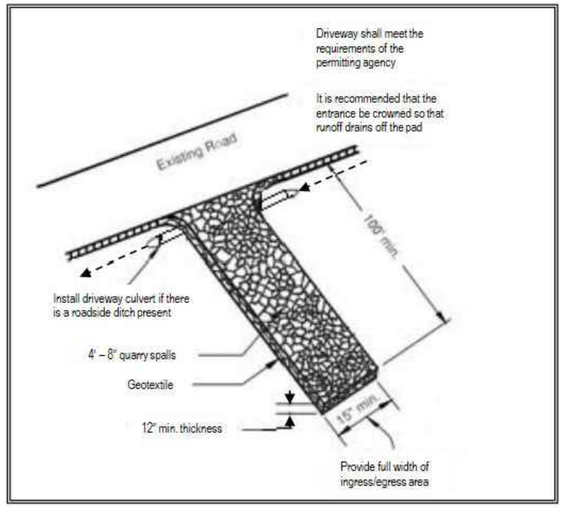


Figure 4.1.1 – Stabilized Construction Entrance

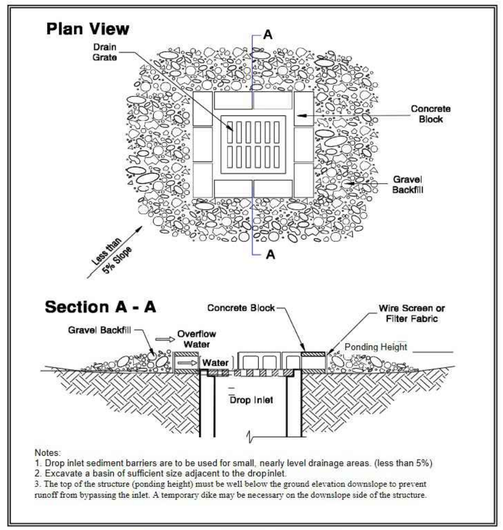
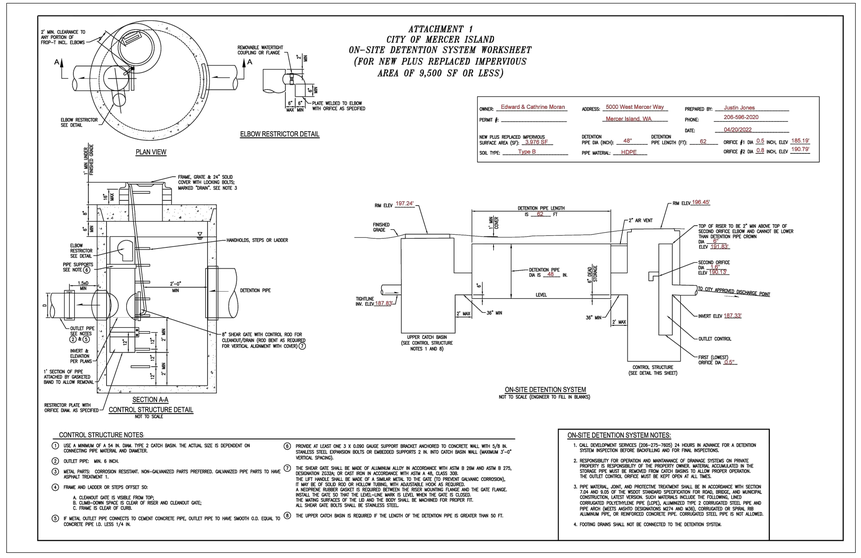


Figure 4.2.8 – Block and Gravel Filter



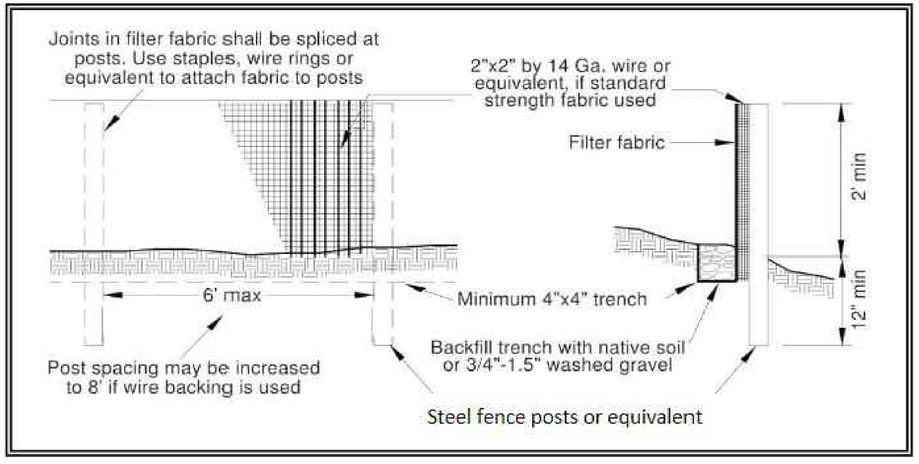


Figure 4.2.12 – Silt Fence

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:

Details

PROJ. NO: 1576001

DATE: December 16, 2022

DRAWN BY:

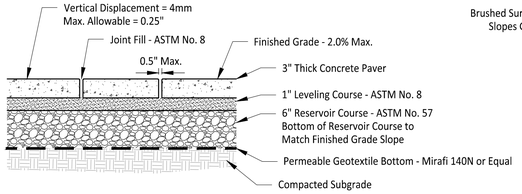
DESIGN BY:

SHEET NUMBER:

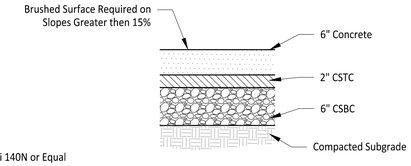
C-04

DWG.

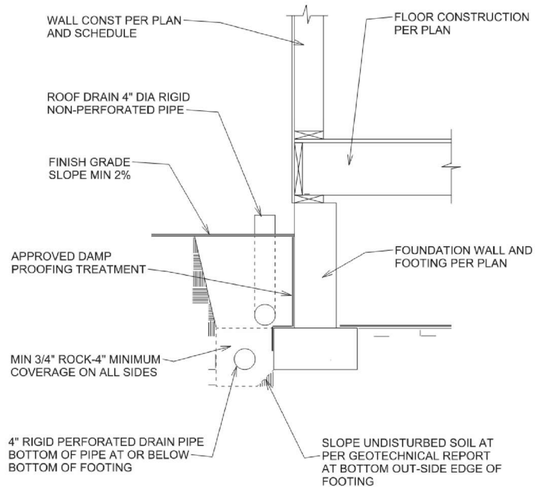
CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER



PERMEABLE PAVERS
SECTION A
1" = 1' C-06



CONCRETE DRIVEWAY
SECTION B
1" = 1' C-06



FOOTING DRAIN DETAIL
SECTION B
3/4" = 1' C-06

TREE PROTECTION AREA (TPZ)

KEEP OUT!

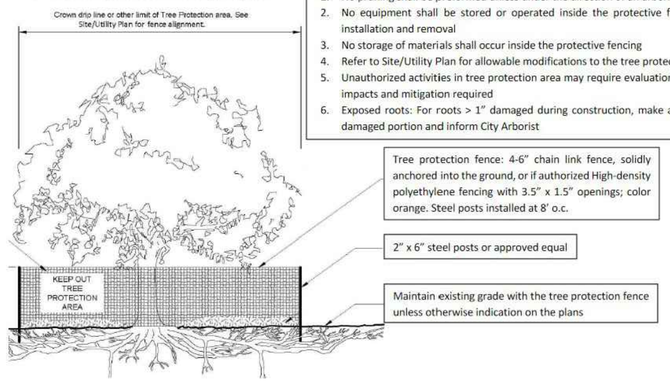
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

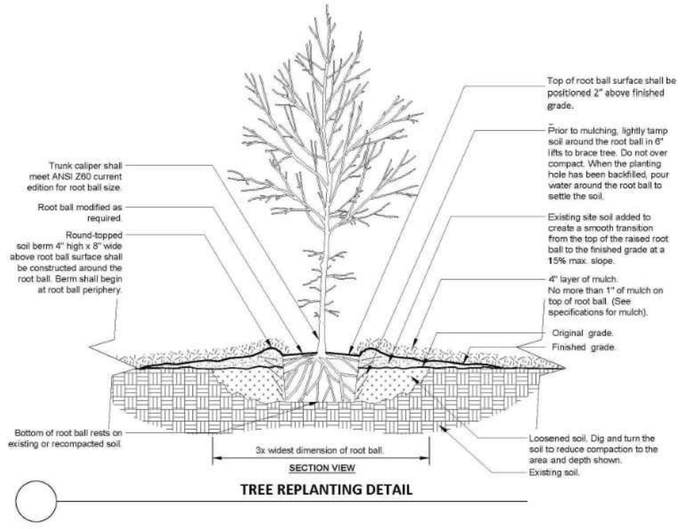
Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be preformed unless under the direction of an arborist
2. No equipment shall be stored or operated inside the protective fencing including during fence installation and removal
3. No storage of materials shall occur inside the protective fencing
4. Refer to Site/Utility Plan for allowable modifications to the tree protection area.
5. Unauthorized activities in tree protection area may require evaluation by private arborist to identify impacts and mitigation required
6. Exposed roots: For roots > 1" damaged during construction, make a clean straight cut to remove damaged portion and inform City Arborist





TREE REPLANTING DETAIL

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:

Details

PROJ. NO: 1576001

DATE: December 16, 2022

DRAWN BY: | DESIGN BY:

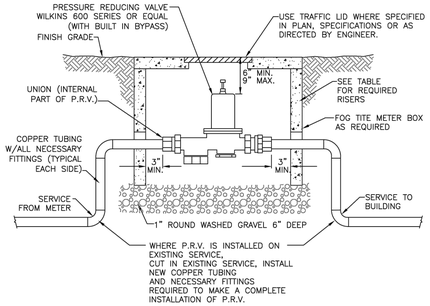
SHEET NUMBER:

C-05

DWG.

CALL TWO BUSINESS DAYS
BEFORE YOU DIG
811 1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

File: 1576001C-01.dwg Path: o:\1576 - Moran\001 - W Mercer Way\Cad\ Plotted by: JMJ Date: 14-Dec-22 3:02:26pm



P.R.V. SIZE	FOG TITE METER BOX NO.	RISER REQUIRED
2"	2	12"
1-1/2"	2	12"
1-1/4"	1	6"
1"	1	6"
3/4"	1	4"
1/2"	1	4"

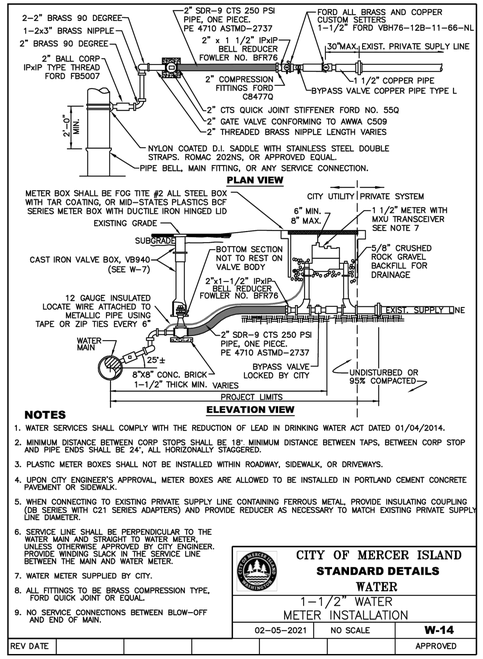
NOTES

1. P.R.V. SHALL HAVE AN INTEGRAL BYPASS.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
RESIDENTIAL
PRESSURE REDUCING VALVE

12-24-2013	NO SCALE	**W-28**

REV DATE | | | | | | APPROVED



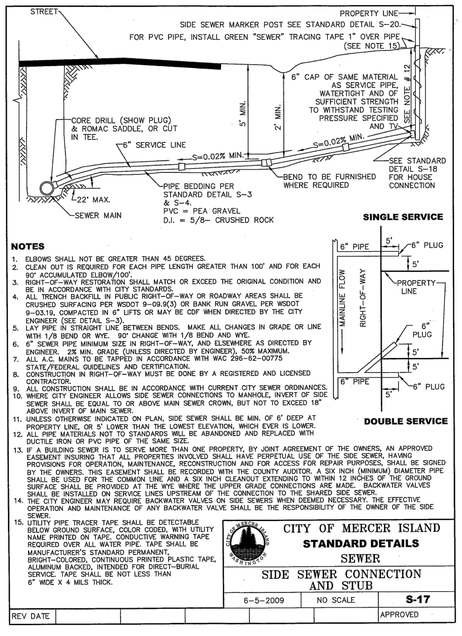
NOTES

1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18" MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24", ALL HORIZONALLY STAGGERED.
3. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
4. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
5. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
6. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
7. WATER METER SUPPLIED BY CITY.
8. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
9. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
1-1/2" WATER
METER INSTALLATION

02-05-2021	NO SCALE	**W-14**

REV DATE | | | | | | APPROVED



NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-62-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE, CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER CONNECTION
AND STUB

6-5-2009	NO SCALE	**S-17**

REV DATE | | | | | | APPROVED

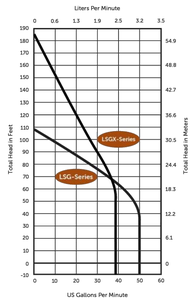
2400-Series

Features

- 2 hp Grinder Pump
- Choose from LSG or LSGX-Series pumps
- Available in a wide range of voltages
- 1-1/4" Discharge
- 25' Power cable length

(See LSG or LSGX-Series literature for complete pump specifications.)

Performance Curve

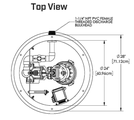


Factory Set Control Levels

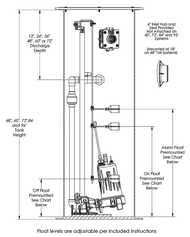
MODEL	OFF LEVEL	ON LEVEL	ALARM LEVEL	VOLUME PER PUMP CYCLE	TOTAL BASIN CAPACITY
2448	9.5" (24 cm)	16.5" (42 cm)	21" (53 cm)	13.5 gal (51 liters)	94 gal (356 liters)
2460	13" (33 cm)	27" (69 cm)	33" (84 cm)	27 gal (102 liters)	118 gal (447 liters)
2472	13" (33 cm)	31" (79 cm)	37" (94 cm)	35 gal (132 liters)	141 gal (534 liters)
2484	13" (33 cm)	33" (84 cm)	39" (99 cm)	39 gal (148 liters)	165 gal (625 liters)
2496	13" (33 cm)	37" (94 cm)	43" (109 cm)	47 gal (178 liters)	188 gal (712 liters)

Dimensional Data

Top View



Side View



Float levels are adjustable per included instructions

Galvanized guide rails standard.

For stainless-steel rails add "S" to model number.
Example: 2472LSG24-S

For steel cover option add "-SC" suffix to model number.
Example: 2472LSG24-SC

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

JUSTEAM

Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:

Details

PROJ. NO:	1576001
DATE:	December 16, 2022
DRAWN BY:	DESIGN BY:

SHEET NUMBER:

C-06

DWG:

CALL TWO BUSINESS DAYS
BEFORE YOU DIG
811
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

File: 1576001C-01.dwg Path: J:\1576 - Moran\001 - W Mercer Way\Cad\ Plotted by: JMJ Date: 20-Dec-22 10:20:42am

Construction Stormwater General Permit (CSWGP)

Stormwater Pollution Prevention Plan (SWPPP)

for

Moran Residence Project

Prepared for:

Pierce County Planning and Public works

Permittee / Owner	Developer	Operator / Contractor
Edward & Catherine Moran		TBD

5000 West Mercer Way, Mercer Island, WA 98040

Certified Erosion and Sediment Control Lead (CESCL)

Name	Organization	Contact Phone Number

SWPPP Prepared By

Name	Organization	Contact Phone Number
Justin Jones	JMJ Team	(206) 596-2020

SWPPP Preparation Date

04/20/22

Project Construction Dates

Activity / Phase	Start Date	End Date
Begin Construction		

GENERAL INSTRUCTIONS AND CAVEATS

This template presents the recommended structure and content for preparation of a Construction Stormwater General Permit (CSWGP) Stormwater Pollution Prevention Plan (SWPPP).

The Department of Ecology's (Ecology) CSWGP requirements inform the structure and content of this SWPPP template; however, **you must customize this template to reflect the conditions of your site.**

A Construction Stormwater Site Inspection Form can be found on Ecology's website. https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

Using the SWPPP Template

Each section will include instructions and space for information specific to your project. Please read the instructions for each section and provide the necessary information when prompted. This Word template can be modified electronically. You may add/delete text, copy and paste, edit tables, etc. Some sections may be completed with brief answers while others may require several pages of explanation.

Follow this link to a copy of the Construction Stormwater General Permit: https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

Table of Contents

List of Tables

List of Appendices

List of Acronyms and Abbreviations

Acronym / Abbreviation	Explanation
303(d)	Section of the Clean Water Act pertaining to Impaired Waterbodies
BFO	Bellingham Field Office of the Department of Ecology
BMP(s)	Best Management Practice(s)
CESCL	Certified Erosion and Sediment Control Lead
CO_2	Carbon Dioxide
CRO	Central Regional Office of the Department of Ecology
CSWGP	Construction Stormwater General Permit
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ERO	Eastern Regional Office of the Department of Ecology
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
GULD	General Use Level Designation
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
NWRO	Northwest Regional Office of the Department of Ecology
pH	Power of Hydrogen
RCW	Revised Code of Washington
SPCC	Spill Prevention, Control, and Countermeasure
su	Standard Units
SWMMEW	Stormwater Management Manual for Eastern Washington
SWMMWW	Stormwater Management Manual for Western Washington
SWPPP	Stormwater Pollution Prevention Plan
TESC	Temporary Erosion and Sediment Control
SWRO	Southwest Regional Office of the Department of Ecology
TMDL	Total Maximum Daily Load
VFO	Vancouver Field Office of the Department of Ecology
WAC	Washington Administrative Code
WSDOT	Washington Department of Transportation
WWHM	Western Washington Hydrology Model

Project Information (1.0)

Project/Site Name: Moran Residence
Street/Location: 5000 West Mercer Way
City: Mercer Island State: WA Zip code: 98040
Subdivision:
Receiving waterbody:

Existing Conditions (1.1)

Total acreage (including support activities such as off-site equipment staging yards, material storage areas, borrow areas).

Total acreage: 0.42 Acres

Disturbed acreage: 0.30 Acres

Existing structures: N/A

Landscape topography: Steep slopes that slope from east to west

Drainage patterns: Overland flow to west side of Property, and flows into an existing ditch along West Mercer Way

Existing Vegetation: Landscaping and Native Vegetation

Critical Areas (wetlands, streams, high erosion risk, steep or difficult to stabilize slopes): steep slopes

List of known impairments for 303(d) listed or Total Maximum Daily Load (TMDL) for the receiving waterbody: [Insert text here]

Table 1 includes a list of suspected and/or known contaminants associated with the construction activity.

Table 1 – Summary of Site Pollutant Constituents

Constituent (Pollutant)	Location	Depth	Concentration
None	N/A	N/A	N/A

Proposed Construction Activities (1.2)

Description of site development (example: subdivision):

The project includes the construction of a 2,664 SF house, concrete driveway totaling 1,793 SF, 70 SF retaining walls, and 119 SF of pearmeable Pavers.

Site improvements include the installation of new roof leaders and three new 24’ x 4’ Detention Tanks located on the Northeast portion of the site. A control structure will be installed with this project. New utilities will be installed with this project (i.e. storm detention, sewer, water, power, and communications).

Description of construction activities (example: site preparation, demolition, excavation):

Construction activities include: Clearing and Grubbing, Sawcutting, Building, Excavation, Building construction, Utility Installation, Concrete Installation, Installation of Landscaping, Installation of a Control Structure, and Installation of Detention Tanks.

Description of site drainage including flow from and onto adjacent properties. Must be consistent with Site Map in Appendix A:

The project proposes the construction of new stormwater infrastructure for the conveyance of building roof runoff and driveway runoff. The onsite flows were modeled using WWHM to insure that they did not exceed .15 CFS. Detention Tanks will be installed to receive the roof and driveway runoff, an overflow will be installed in the case of large storm event. The overflow will discharge to an existing ditch along West Mercer Way. A control structure will be installed to ensure flows do no exceed 0.15 CFS.

Description of final stabilization (example: extent of revegetation, paving, landscaping):

Final stabilization of the site includes the following: Revegetation of cleared areas, installation of landscaping, and on-site permeable pavement installation.

Contaminated Site Information:
Proposed activities regarding contaminated soils or groundwater (example: on-site treatment system, authorized sanitary sewer discharge):

Construction activities are not anticipated to disturb contaminated soils or groundwater on-site, as none are known to exist in the vicinity of the project.

Construction Stormwater Best Management Practices (BMPs) (2.0)

The SWPPP is a living document reflecting current conditions and changes throughout the life of the project. These changes may be informal (i.e. hand-written notes and deletions). Update the SWPPP when the CESCL has noted a deficiency in BMPs or deviation from original design.

The 12 Elements (2.1)

Element 1: Preserve Vegetation / Mark Clearing Limits (2.1.1)

List and describe BMPs:

BMP C101 – Preserving Natural Vegetation: Prior to beginning land disturbing activites, including clearing and grading, all clearing limits and tress that are to be preserved within construction area shall be clearly marked to prevent damage and off site impacts.
BMP C103 – High Visibility Plastic or Metal Fence
Lath & Flagging
C233 - Silt Fence: Barrier fences shall be constructed as shown on the TESC Plans and in accordance with BMP'S.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 2: Establish Construction Access (2.1.2)

List and describe BMPs: BMP C105 – Stabilized Construction Entrance: The existing driveway shall be utilized as a construction entrance. Equipment tracks and wheels shall be washed to remove dirt from tires/tracks before entering adjacent roadways. If required, sediment shall be removed from adjacent roads by shoveling or pickup sweeping and transported to a controlled sediment disposal area.
BMP C107 – Construction Road/Parking Area Stabilization: Equipment staging and parking areas shall be stabilized to prevent the erosion of existing soils on site.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 3: Control Flow Rates (2.1.3)

Will you construct stormwater retention and/or detention facilities?
Yes (No)

Will you use permanent infiltration ponds or other low impact development (example: rain gardens, bio-retention, porous pavement) to control flow during construction?
Yes (No)

List and describe BMPs: Flows shall be controlled through directing flows through existing adjacent vegetation and the installation of straw bwattles as necessary.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 4: Install Sediment Controls (2.1.4)

List and describe BMPs:

BMP C233 – Silt Fence: A silt fence will be installed along the southern and northern edges of the construction site along existing vegetation to prevent stormwater runoff from leaving the site.
BMP C235 – Straw Wattles: Straw bale barriers shall be installed as necessary to prevent sediment in construction stormwater from entering existing storm systems.

Silt fenecing will be installed around th perimeter of the construction site as necessary to keep sediment contained within the project limits. Straw wattles shall be placed around disured areas as necessary.

Installation Schedules: [Insert text here]

Inspection and Maintenance plan: [Insert text here]

Responsible Staff: [Insert text here]

Element 5: Stabilize Soils (2.1.5)

West of the Cascade Mountains Crest

Season	Dates	Number of Days Soils Can be Left Exposed
During the Dry Season	May 1 – September 30	7 days
During the Wet Season	October 1 – April 30	2 days

Soils must be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

Anticipated project dates: Start date: End date:

Will you construct during the wet season?
Yes No

List and describe BMPs:

BMP C123 – Plastic Covering: Plasitc Covering shall be installed to stabilize exposed soils/piles/slopes on site.
BMP C140 – Dust Control:

Exposed soils shall be worked during the week until they have been stabilized. Soil stockpiles will be located within the disturbed area shown on the site development drawings. Soil excavated for the foundation will be backfilled against the foundation and graded to drain away from the building. No soils shall remain exposed and unworked for more than 2 days from October 1 to April 30. Once the disturbed landscape areas are graded, the grass areas will be seeded or sodded. All stockpiles will be covered with plastic or burlapif left unworked.

All disturbed pervious areas shall be stabilized, soil amended, and hydroseeded, strawed, or covered for stability. Exposed soils shall be watered as necessary to prevent dust from leaving site. Areas not immediately improved will be covered in plastic covering.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 6: Protect Slopes (2.1.6)

Will steep slopes be present at the site during construction?

(Yes) No

List and describe BMPs: The potential for erosion exists on the existing site due to the steep slope. Plastic covering, temporary seeding, blankets, or surface roughening can be used to protect the slope as it is cleared.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 7: Protect Drain Inlets (2.1.7)

List and describe BMPs:

BMP C220 - Inlet protection will be installed in existing Type 1 catch basin located near the site.

BMP C207 - Check damns shall be installed in ditches located in the right of way to reduce the velocity of concentrated flow and dissipates energy at the check damns.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 8: Stabilize Channels and Outlets (2.1.8)

Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches, will be installed at the outlets of all conveyance systems.

List and describe BMPs: Construction will occur during dry weather. No storm drainage channels or ditches shall be constructed either temporary or permanent. A small swale shall be graded to convey yard drainage around structure using shallow slope; it shall be seeded after grading and stabilized.

No existing drainage channels exist on-site. Stormwater runoff currently sheet flows through existing landscaping. Existing Landscaping on-site shall be preserved during construction.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 9: Control Pollutants (2.1.9)

The following pollutants are anticipated to be present on-site:

Table 2 – Pollutants

Pollutant (and source, if applicable)
N/A

List and describe BMPs: BMP C151 – Concrete Handling

BMP C153 – Material Delivery, Storage Containment

Any and all pollutants, chemicals, liquid products and other materials that have the potential to pose a threat to human health or the environment will be covered, contained and protected from vandalism. All such products shall be kept under cover in a secure location on-site. Concrete handling shall follow

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Will maintenance, fueling, and/or repair of heavy equipment and vehicles occur on-site?
(Yes) No

List and describe BMPs: BMP C151 – Concrete Handling

BMP C153 – Material Delivery, Storage Containment

Soil prevention measures will be in place, such as drip pans for heavy equipment repair. Waste materials and demolition debris that occur on site during construction shall be handled and disposed of in a matter that does not cause contamination of

stormwater. Contaminated surfaces will be cleaned immediately following and discharge or spill incident.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Will wheel wash or tire bath system BMPs be used during construction?
Yes (No)

List and describe BMPs:

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Will pH-modifying sources be present on-site?
(Yes) No If yes, check the source(s).

Table 3 – pH-Modifying Sources

	None
	Bulk cement
	Cement kiln dust
	Fly ash
	Other cementitious materials
X	New concrete washing or curing waters
	Waste streams generated from concrete grinding and sawing
	Exposed aggregate processes
	Dewatering concrete vaults
X	Concrete pumping and mixer washout waters
	Recycled concrete
	Other (i.e. calcium lignosulfate) [please describe]

List and describe BMPs:

BMP C151 – Concrete Handling

BMP C153 – Material Delivery, Storage Containment

Any and all pollutants, chemicals, liquid products and other materials that have the potential to pose a threat to human health or the environment will be covered, contained and protected from vandalism. All such products shall be kept under cover in a secure location on-site. Concrete handling shall follow

Soil prevention measures will be in place, such as drip pans for heavy equipment repair. Waste materials and demolition debris that occur on site during construction shall be handled and disposed of in a matter that does not cause contamination of stormwater. Contaminated surfaces will be cleaned immediately following and discharge or spill incident.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Concrete trucks must not be washed out onto the ground, or into storm drains, open ditches, streets, or streams. Excess concrete must not be dumped on-site, except in designated concrete washout areas with appropriate BMPs installed.

Element 10: Control Dewatering (2.1.10)

Sediment traps and/or baker tanks on site will be used during this project. Dewatering water will be sent to either the baker tanks or sediment traps. Clean water will discharge to an existing catch basin in College St NE.

Table 4 – Dewatering BMPs

	Infiltration
	Transport off-site in a vehicle (vacuum truck for legal disposal)
	Ecology-approved on-site chemical treatment or other suitable treatment technologies
	Sanitary or combined sewer discharge with local sewer district approval (last resort)
	Use of sedimentation bag with discharge to ditch or swale (small volumes of localized dewatering)

List and describe BMPs: No dewatering of the project site is anticipated.

Installation Schedules:

Inspection and Maintenance plan:

Responsible Staff:

Element 11: Maintain BMPs (2.1.11)

All temporary and permanent Erosion and Sediment Control (ESC) BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function.

Maintenance and repair shall be conducted in accordance with each particular BMP specification (see *Volume II of the SWMMWW or Chapter 7 of the SWMMEW*).

Visual monitoring of all BMPs installed at the site will be conducted at least once every calendar week and within 24 hours of any stormwater or non-stormwater discharge from the site. If the site becomes inactive and is temporarily stabilized, the inspection frequency may be reduced to once every calendar month.

All temporary ESC BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Trapped sediment shall be stabilized on-site or removed. Disturbed soil resulting from removal of either BMPs or vegetation shall be permanently stabilized.

Additionally, protection must be provided for all BMPs installed for the permanent control of stormwater from sediment and compaction. BMPs that are to remain in place following completion of construction shall be examined and restored to full operating condition. If sediment enters these BMPs during construction, the sediment shall be removed and the facility shall be returned to conditions specified in the construction documents.

Element 12: Manage the Project (2.1.12)

The project will be managed based on the following principles:

- Projects will be phased to the maximum extent practicable and seasonal work limitations will be taken into account.
- Inspection and monitoring:
    - Inspection, maintenance and repair of all BMPs will occur as needed to ensure performance of their intended function.
    - Site inspections and monitoring will be conducted in accordance with Special Condition S4 of the CSWGP. Sampling locations are indicated on the Site Map. Sampling station(s) are located in accordance with applicable requirements of the CSWGP.
- Maintain an updated SWPPP.
    - The SWPPP will be updated, maintained, and implemented in accordance with Special Conditions S3, S4, and S9 of the CSWGP.

As site work progresses the SWPPP will be modified routinely to reflect changing site conditions. The SWPPP will be reviewed monthly to ensure the content is current.

Table 5 – Management

X	Design the project to fit the existing topography, soils, and drainage patterns
X	Emphasize erosion control rather than sediment control
X	Minimize the extent and duration of the area exposed
X	Keep runoff velocities low
X	Retain sediment on-site
X	Thoroughly monitor site and maintain all ESC measures
X	Schedule major earthwork during the dry season
	Other (please describe)

Table 6 – BMP Implementation Schedule

Phase of Construction Project	Stormwater BMPs	Date	Wet/Dry Season
[Insert construction activity]	[Insert BMP]	[MM/DD/YYYY]	[Insert Season]
Phase of Construction Project	**Stormwater BMPs**	**Date**	**Wet/Dry Season**

[Insert construction activity]	[Insert BMP]	[MM/DD/YYYY]	[Insert Season]

Element 13: Protect Low Impact Development (LID) BMPs (2.1.13)

Existing and new LID facilities will be protected from sedimentation, heavy equipment will be kept off existing soils in the vicinity of the facilities. LID facilities will be marked with high visibility fencing, and inlets protected with straw wattles. If sediment accumulation occurs during construction, the facilities will be restored to their fully functioning condition.

The proposed site will collect roof runoff from the use of roof leaders and be conveyed to a proposed Type 2 catch basin. The proposed driveway will be collected using the Type 2 catch basin, runoff will then be routed through the proposed 6" PVC storm line and be routed to an outfall located off site across the the private gravel road. Driveway areas not collected will run off and disperse over native vegetation and will have the opportunity to infiltrate into native soils. Inlet protection will be installed to prevent sediment from entering the storm system, a silt fence will be installed per the site development plans to prevent any sediment from leaving the site.

Pollution Prevention Team (3.0)

Table 7 – Team Information

Title	Name(s)	Phone Number
Certified Erosion and Sediment Control Lead (CESCL)		
Resident Engineer		
Emergency Ecology Contact		
Emergency Permittee/ Owner Contact		
Non-Emergency Owner Contact		
Monitoring Personnel		
Ecology Regional Office	[Insert Regional Office]	[Insert General Number]

Monitoring and Sampling Requirements (4.0)

Monitoring includes visual inspection, sampling for water quality parameters of concern, and documentation of the inspection and sampling findings in a site log book. A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Stormwater sampling data

File a blank form under Appendix D.

The site log book must be maintained on-site within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

Numeric effluent limits may be required for certain discharges to 303(d) listed waterbodies. See CSWGP Special Condition S8 and Section 5 of this template.

Complete the following paragraph for sites that discharge to impaired waterbodies for fine sediment, turbidity, phosphorus, or pH:

The receiving waterbody, insert waterbody name, is impaired for: insert impairment. All stormwater and dewatering discharges from the site are subject to an **effluent limit** of 8.5 su for pH and/or 25 NTU for turbidity.

Site Inspection (4.1)

Site inspections will be conducted at least once every calendar week and within 24 hours following any discharge from the site. For sites that are temporarily stabilized and inactive, the required frequency is reduced to once per calendar month.

The discharge point(s) are indicated on the Site Map (see Appendix A) and in accordance with the applicable requirements of the CSWGP.

Stormwater Quality Sampling (4.2)

Turbidity Sampling (4.2.1)

Requirements include calibrated turbidity meter or transparency tube to sample site discharges for compliance with the CSWGP. Sampling will be conducted at all discharge points at least once per calendar week.

Method for sampling turbidity:

Table 8 – Turbidity Sampling Method

	Turbidity Meter/Turbidimeter (required for disturbances 5 acres or greater in size)
X	Transparency Tube (option for disturbances less than 1 acre and up to 5 acres in size)

The benchmark for turbidity value is 25 nephelometric turbidity units (NTU) and a transparency less than 33 centimeters.

If the discharge's turbidity is 26 to 249 NTU **or** the transparency is less than 33 cm but equal to or greater than 6 cm, the following steps will be conducted:

1. Review the SWPPP for compliance with Special Condition S9. Make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.
2. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.
3. Document BMP implementation and maintenance in the site log book.

If the turbidity exceeds 250 NTU **or** the transparency is 6 cm or less at any time, the following steps will be conducted:

1. Telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) within 24 hours. https://www.ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue
    - Central Region (Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima): (509) 575-2490
    - Eastern Region (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400
    - Northwest Region (King, Kitsap, Island, San Juan, Skagit, Snohomish, Whatcom): (425) 649-7000
    - Southwest Region (Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum,): (360) 407-6300
2. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period
3. Document BMP implementation and maintenance in the site log book.
4. Continue to sample discharges daily until one of the following is true:
    - Turbidity is 25 NTU (or lower).
    - Transparency is 33 cm (or greater).
    - Compliance with the water quality limit for turbidity is achieved.
        - 1 - 5 NTU over background turbidity, if background is less than 50 NTU
        - 1% - 10% over background turbidity, if background is 50 NTU or greater
    - The discharge stops or is eliminated.

pH Sampling (4.2.2)

pH monitoring is required for “Significant concrete work” (i.e. greater than 1000 cubic yards poured concrete or recycled concrete over the life of the project).The use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD] or fly ash) also requires pH monitoring.

For significant concrete work, pH sampling will start the first day concrete is poured and continue until it is cured, typically three (3) weeks after the last pour.

For engineered soils and recycled concrete, pH sampling begins when engineered soils or recycled concrete are first exposed to precipitation and continues until the area is fully stabilized.

If the measured pH is 8.5 or greater, the following measures will be taken:

1. Prevent high pH water from entering storm sewer systems or surface water.
2. Adjust or neutralize the high pH water to the range of 6.5 to 8.5 su using appropriate technology such as carbon dioxide (CO_2) sparging (liquid or dry ice).
3. Written approval will be obtained from Ecology prior to the use of chemical treatment other than CO_2 sparging or dry ice.

Method for sampling pH:

Table 8 – pH Sampling Method

	pH meter
	pH test kit
	Wide range pH indicator paper

Discharges to 303(d) or Total Maximum Daily Load (TMDL) Waterbodies (5.0)

303(d) Listed Waterbodies (5.1)

The 303(d) status is listed on the Water Quality Atlas: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d

Circle the applicable answer, if necessary:

Is the receiving water 303(d) (Category 5) listed for turbidity, fine sediment, phosphorus, or pH?

Yes No

List the impairment(s):

[Insert text here]

The receiving waterbody, insert waterbody name, is impaired for: insert impairment. All stormwater and dewatering discharges from the site are subject to an **effluent limit** of 8.5 su for pH and/or 25 NTU for turbidity.

If yes, discharges must comply with applicable effluent limitations in S8.C and S8.D of the CSWGP.

Describe the method(s) for 303(d) compliance:

List and describe BMPs:

[Insert text here]

TMDL Waterbodies (5.2)

Waste Load Allocation for CWSGP discharges:

[Insert text here]

Describe the method(s) for TMDL compliance:

List and describe BMPs:

[Insert text here]

Discharges to TMDL receiving waterbodies will meet in-stream water quality criteria at the point of discharge.

The Construction Stormwater General Permit Proposed New Discharge to an Impaired Water Body form is included in Appendix F.

Reporting and Record Keeping (6.0)

Record Keeping (6.1)

This section does not need to be filled out. It is a list of reminders for the permittee.

Site Log Book (6.1.1)

A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Sample logs

Records Retention (6.1.2)

Records will be retained during the life of the project and for a minimum of three (3) years following the termination of permit coverage in accordance with Special Condition S5.C of the CSWGP.

Permit documentation to be retained on-site:

- CSWGP
- Permit Coverage Letter
- SWPPP
- Site Log Book

Permit documentation will be provided within 14 days of receipt of a written request from Ecology. A copy of the SWPPP or access to the SWPPP will be provided to the public when requested in writing in accordance with Special Condition S5.G.2.b of the CSWGP.

Updating the SWPPP (6.1.3)

The SWPPP will be modified if:

- Found ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site.
- There is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

The SWPPP will be modified within seven (7) days if inspection(s) or investigation(s) determine additional or modified BMPs are necessary for compliance. An updated timeline for BMP implementation will be prepared.

Reporting (6.2)

Discharge Monitoring Reports (6.2.1)

Cumulative soil disturbance is one (1) acre or larger; therefore, Discharge Monitoring Reports (DMRs) will be submitted to Ecology monthly. If there was no discharge during a given monitoring period the DMR will be submitted as required, reporting "No Discharge". The DMR due date is fifteen (15) days following the end of each calendar month.

DMRs will be reported online through Ecology's WQWebDMR System.

To sign up for WQWebDMR go to:
https://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance

Notification of Noncompliance (6.2.2)

If any of the terms and conditions of the permit is not met, and the resulting noncompliance may cause a threat to human health or the environment, the following actions will be taken:

1. Ecology will be notified within 24-hours of the failure to comply by calling the applicable Regional office ERTS phone number (Regional office numbers listed below).
2. Immediate action will be taken to prevent the discharge/pollution or otherwise stop or correct the noncompliance. If applicable, sampling and analysis of any noncompliance will be repeated immediately and the results submitted to Ecology within five (5) days of becoming aware of the violation.
3. A detailed written report describing the noncompliance will be submitted to Ecology within five (5) days, unless requested earlier by Ecology.

Specific information to be included in the noncompliance report is found in Special Condition S5.F.3 of the CSWGP.

Anytime turbidity sampling indicates turbidity is 250 NTUs or greater, or water transparency is 6 cm or less, the Ecology Regional office will be notified by phone within 24 hours of analysis as required by Special Condition S5.A of the CSWGP.

- Central Region at (509) 575-2490 for Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, or Yakima County

- Eastern Region at (509) 329-3400 for Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, or Whitman County
- Northwest Region at (425) 649-7000 for Island, King, Kitsap, San Juan, Skagit, Snohomish, or Whatcom County
- Southwest Region at (360) 407-6300 for Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, or Wahkiakum

Include the following information:

1. Your name and / Phone number
2. Permit number
3. City / County of project
4. Sample results
5. Date / Time of call
6. Date / Time of sample
7. Project name

In accordance with Special Condition S4.D.5.b of the CSWGP, the Ecology Regional office will be notified if chemical treatment other than CO_2 sparging is planned for adjustment of high pH water.

Appendix/Glossary

A. Site Map

The site map must meet the requirements of Special Condition S9.E of the CSWGP

B. BMP Detail

Insert BMPs specification sheets here.
Download BMPs from the Ecology Construction Stormwater website at:
https://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals

C. Correspondence

Ecology
EPA
Local Government

D. Site Inspection Form

Create your own or download Ecology's template:
https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

E. Construction Stormwater General Permit (CSWGP)

Download CSWGP: https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

F. 303(d) List Waterbodies / TMDL Waterbodies Information

Proposed New Discharge to an Impaired Water Body form
SWPPP Addendum addressing impairment

G. Contaminated Site Information

Administrative Order
Sanitary Discharge Permit
Soil Management Plan
Soil and Groundwater Reports
Maps and Figures Depicting Contamination

H. Engineering Calculations

Drainage Report

5000 West Mercer Way – Moran Residence

Mercer Island, WA

Prepared for

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

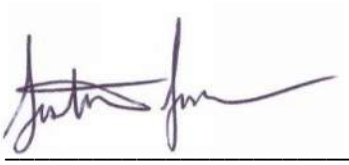
Prepared by

JMJ TEAM
PO Box 2066
Sumner, WA 98390
206.596.2020
Justin Jones, PE

December 20, 2022

PROJECT ENGINEER'S CERTIFICATION

"I hereby state that this Drainage Control Plan for the Moran Residence has been prepared by me or under my supervision and meets minimum standard of care and expertise which is usual and customary in this community for professional engineers. I understand that Pierce County does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me."



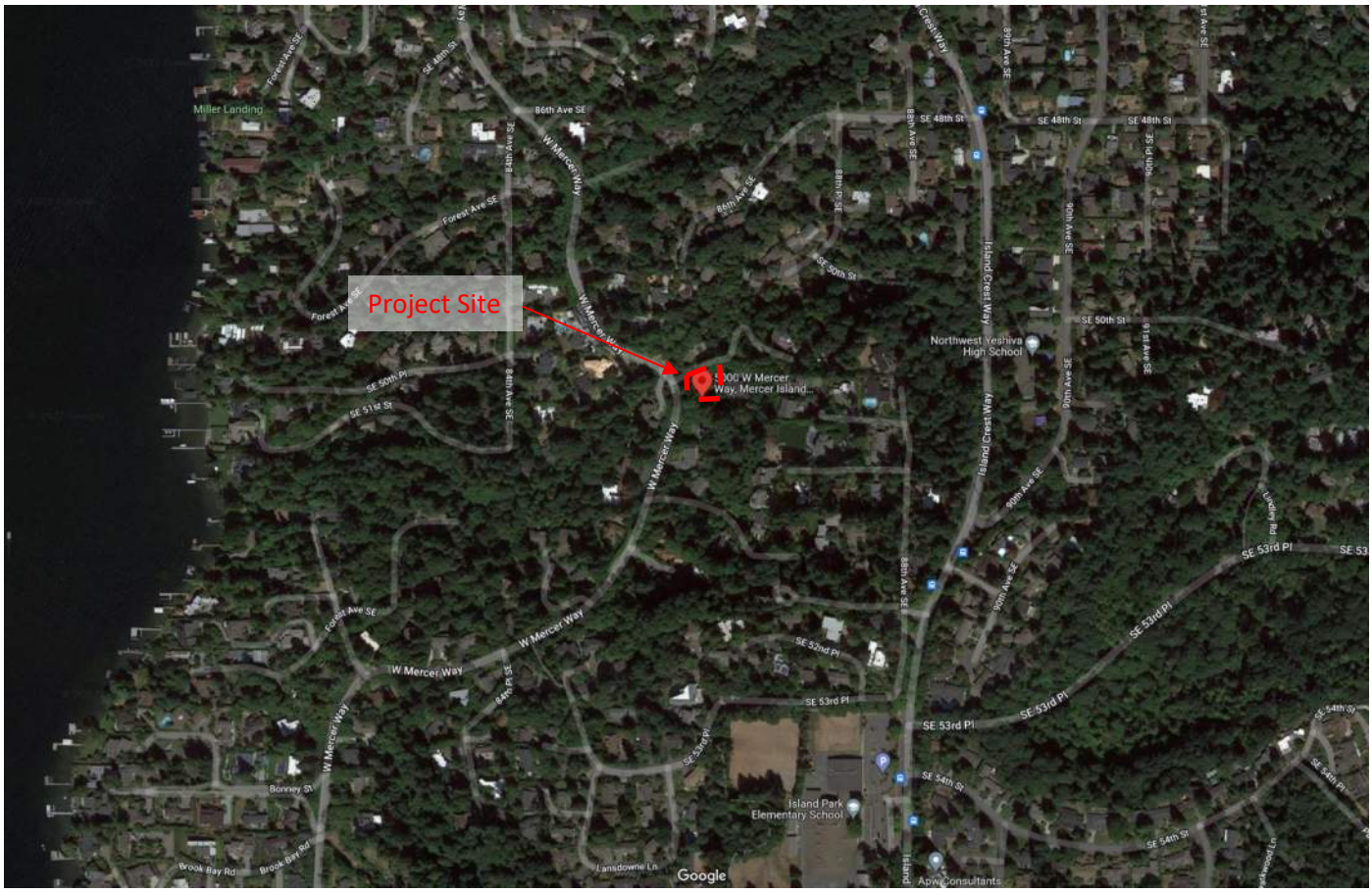
Justin Jones, PE

12-20-2022

TABLE OF CONTENTS

PROJECT OVERVIEW AND MAPS

The Moran Residence is located along West Mercer Way on Mercer Island. The project includes the construction of a new single-family residential building, driveway, and site retaining walls. The projects stormwater approach is to implement detention as the Best Management Practice (BMP).



EXISTING CONDITIONS SUMMARY

The Moran Residence is an undeveloped 0.42 Acre site with grass and tree vegetation covering most the property. The site has steep slopes that slope from east to west.

The existing project site is pervious. The total impervious coverage allowed for this project is 35% or 6,403 SF.

PROPOSED CONDITIONS SUMMARY

The Moran Residence project proposes a house, permeable paver walkaway, concrete driveway, and site retaining walls. Site improvements include the construction of the improvements, clearing and grading, and utility service connections for storm detention, sewer, water, power and communication.

Stormwater management was evaluated for both the building roof areas, and the concrete driveway. Detention has been selected to manage stormwater runoff from the site. Roof leaders will route stormwater along the building and connect to a Type 2 catch basin. Runoff from the driveway will be collected through the Type 2 catch basin located north of the house. Stormwater will be collected in the Type 2 catch basin prior to entering the detention tanks. A control structure will be installed to ensure stormwater flows do not exceed 0.15 CFS, flows from the control structure will be routed to an existing Type 1 catch basin located at the corner of W Mercer Way and the private gravel road to the north of the site. Flows from the driveway will be collected using a trench drain located at the bottom of driveway and will be routed to a Grinder Pump System which will be pump the driveway runoff back to the proposed detention tanks. Footing drains will be installed along the footings of the wall and proposed house, the drains will be routed to the 6" PVC pipe located in the proposed driveway and be conveyed to the existing type 1 catch basin. Stormwater collected from the shoring wall and foundation footings will not be routed through the detention tanks.

The impervious areas will be 25 percent of the entire site. Below is a summary of the proposed lot coverage.

LOT COVERAGE

Proposed Lot Coverage		
	Impervious Areas (SF)	**Pervious Areas (SF)**
Proposed House	2,664	
Proposed Driveway	1,312	
Proposed Retaining Walls	63	
Permeable Pavers		116
Landscaping/Vegetaion		13,722
Totals	**4,039**	**13,838**
Lot Size	18,295	
Max Allowed Impervious Coverage	**35% (6,403 SF)**	
Impervious Lot Coverage	**25%**	

SUMMARY OF MINIMUM REQUIREMENTS

The 2014 Stormwater Management Manual for Western Washington describes the minimum requirements for a new development project. Using the flowchart below, Minimum Requirements 1-5 apply to the project site.

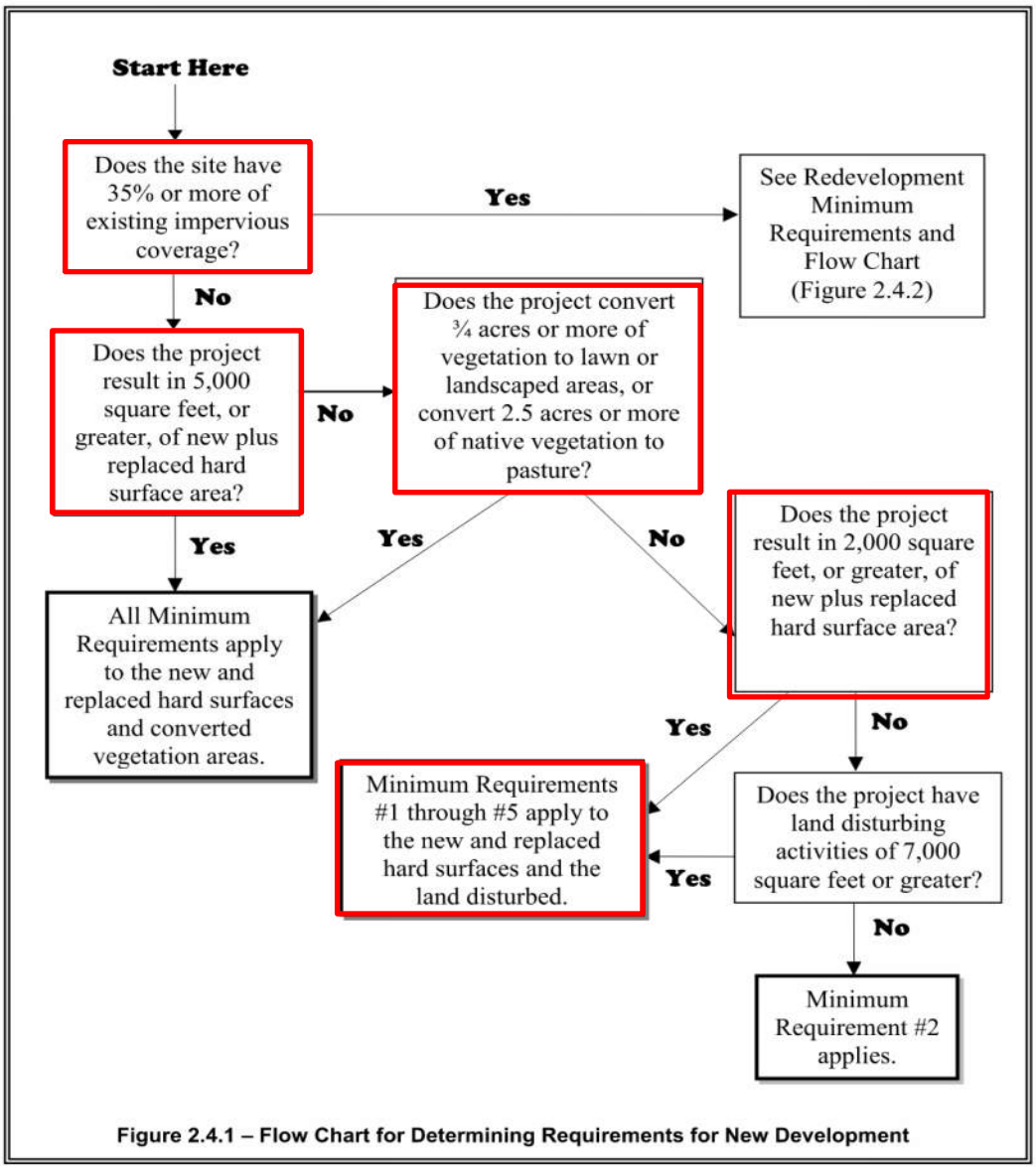


Figure 2.4.1 – Flow Chart for Determining Requirements for New Development

MINIMUM REQUIREMENT 1: PREPARATION OF STORMWATER SITE PLANS

Stormwater Site Plan drawings are submitted with this Permit.

MINIMUM REQUIREMENT 2: CONSTRUCTION STORMWATER POLLUTION PREVENTION

A Temporary Erosion and Sediment Control Plan is included with this Civil Permit. Construction Stormwater Pollution Prevention measures may include: storm drain inlet protection; construction entrance; silt fence and vegetative filtration. See "Temporary Erosion & Sediment Control Plan" in Appendix A for details.

MINIMUM REQUIREMENT 3: SOURCE CONTROL OF POLLUTION

Source control BMPs will be implemented to minimize stormwater contamination and help comply with the 2014 Stormwater Management Manual for Western Washington Manual. BMP's for the project may include:

- *Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine necessary O & M Improvements.*

MINIMUM REQUIREMENT 4: PRESERVATION OF NATURAL DRAINAGE SYSTEMS AND OUTFALLS

Natural drainage for the site is overland flow from east to west flowing into and existing ditch located along West Mercer Way. Stormwater will be conveyed to detention tanks located in northern portion of the site, stormwater will then outfall to an existing ditch located to the west along West Mercer Way.

MINIMUM REQUIREMENT 5: ONSITE STORMWATER MANAGEMENT

The Moran project site is 18,295 SF and will be 25% impervious after construction. Several stormwater management techniques were studied for the roof and driveway areas.

- Roofs:
    - Bioretention/Rain Gardens were deemed infeasible based on the geo-tech report, due to steep slopes of the site and impermeable soils at shallow depths infiltration was deemed infeasible.
    - Downspout Dispersion Systems were evaluated and deemed infeasible due to the steepness of the site and site constraints to achieve minimum flow paths.
    - Perforated stub connections were considered infeasible based on the geo-tech report, due to steep slopes of the site and shallow impermeable soils making infiltration infeasible.
    - 65/10 dispersion was deemed to be infeasible as the existing property does not maintain 65% of the site area in a native condition.
    - A Dispersion Trench was considered infeasible due to site constraints and not having adequate space for the placement of a dispersion trench.
    - Infiltration trenches were evaluated and were determined infeasible due to the impermeable soils located on site, based on findings found in the geo-tech report.
    - Detention was evaluated and deemed feasible as the BMP for project site, roof runoff will be collected and routed to on site detention system.

- Other Hard surfaces:
    - Bioretention/Rain Gardens were deemed infeasible based on the geo-tech report, due to steep slopes of the site and impermeable soils at shallow depths infiltration was deemed infeasible.

    - 65/10 dispersion was deemed to be infeasible as the existing property does not maintain 65% of the site area in a native condition.

    - Infiltration trenches were evaluated and were determined infeasible due to the impermeable soils located on site, based on findings found in the geo-tech report.

    - Permeable Pavement was deemed infeasible due to impermeable soils located on site. Making infiltration infeasible.

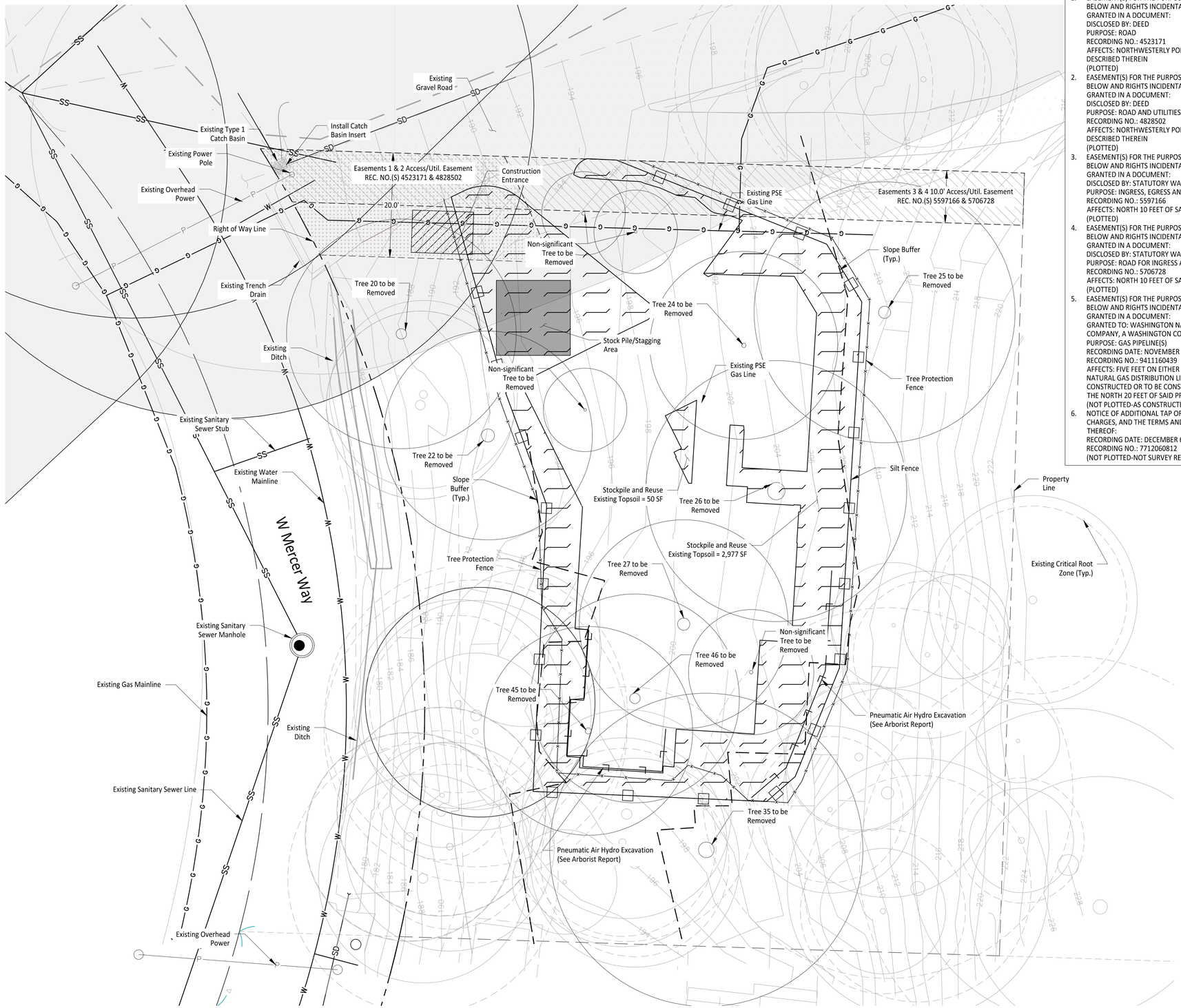
    - Sheet flow dispersion was deemed infeasible due to site constraints, the site slope is greater than 15%.

    - Concentrated flow dispersion was evaluated and deemed infeasible due to the steep site slopes and site constraints that minimum flow paths can't be met.

    - Detention was reviewed and deemed feasible to manage runoff from the proposed driveway. Runoff will be collected through a Type 2 catch basin and routed to the onsite detention tank systems.

LID standards were evaluated, and the Moran residence does not meet the minimum LID thresholds. The projects proposes more than 2,000 SF of impervious area and has more than a net 500 SF impervious area increase to the project site. Therefore, the project is required to use onsite detention. Detention was sized using the City of Mercer Island Detention Sizing Handout (See Appendix B). Using the control structure, flows leaving the site will not exceed 0.15 CFS of the predeveloped flows of the site. Site flows will be routed to a Type 1 catch basin located on the west corner of the site and outfall to an existing ditch located along West Mercer Way. A Grinder pump system will be used to convey the part of the driveway runoff to the detention tank, see Appendix C for pump sizing.

APPENDIX A



EASEMENTS

1. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: DEED
   PURPOSE: ROAD
   RECORDING NO.: 4523171
   AFFECTS: NORTHWESTERLY PORTION AS DESCRIBED THEREIN
   (PLOTTED)
2. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: DEED
   PURPOSE: ROAD AND UTILITIES
   RECORDING NO.: 4828502
   AFFECTS: NORTHWESTERLY PORTION AS DESCRIBED THEREIN
   (PLOTTED)
3. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: STATUTORY WARRANTY DEED
   PURPOSE: INGRESS, EGRESS AND UTILITIES
   RECORDING NO.: 5597166
   AFFECTS: NORTH 10 FEET OF SAID PREMISES
   (PLOTTED)
4. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   DISCLOSED BY: STATUTORY WARRANTY DEED
   PURPOSE: ROAD FOR INGRESS AND EGRESS
   RECORDING NO.: 5706728
   AFFECTS: NORTH 10 FEET OF SAID PREMISES
   (PLOTTED)
5. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
   GRANTED TO: WASHINGTON NATURAL GAS COMPANY, A WASHINGTON CORPORATION
   PURPOSE: GAS PIPELINE(S)
   RECORDING DATE: NOVEMBER 16, 1994
   RECORDING NO.: 9411160439
   AFFECTS: FIVE FEET ON EITHER SIDE OF THE NATURAL GAS DISTRIBUTION LINE AS CONSTRUCTED OR TO BE CONSTRUCTED WITHIN THE NORTH 20 FEET OF SAID PREMISES
   (NOT PLOTTED-AS CONSTRUCTED)
6. NOTICE OF ADDITIONAL TAP OR CONNECTION CHARGES, AND THE TERMS AND CONDITIONS THEREOF:
   RECORDING DATE: DECEMBER 6, 1977
   RECORDING NO.: 7712060812
   (NOT PLOTTED-NOT SURVEY RELATED)

TESC NOTES

- Contractor to install temporary erosion and sediment control measures as necessary to ensure stormwater leaving the site is free of settleable solids.
- Roads shall be cleaned thoroughly as needed to protect stormwater infrastructure and downstream water resources. Sediment shall be removed from roads by shoveling or pickup sweeping and be transported to a controlled sediment disposal area.
- Install strom drain inlet protection in all existing catch basins within the project vicinity per City of Mercer Island Detail 4.2.8.
- Install Stabilized Construction Entrance per City of Mercer Island Detail 4.1.1.
- Install Silt Fence as necessary. See City of Mercer Island Detail 4.2.12.
- Install straw bale barriers, wattles and other TESC measures as necessary.
- Exposed soils shall be watered as necessary to prevent dust from leaving the site.
- Contractor to mark clearing limits with lath and flagging.
- Concrete handling and equipment washing shall in accordance with DOE BMP C151.

GENERAL NOTES

- See Tree Inventory Tables in Arborist Report included in this submittal.

CONSTRUCTION NOTES

- The lawn and landscape areas are required to provide Post-Construction Soil Quality and Depth in accordance with BMP T5.13. The project civil engineer must provide a letter of certification to ensure that lawn and landscape areas are Depth Requirements specified on the approved plan set prior to final inspection of the project.
- POST-CONSTRUCTION SOIL MANAGEMENT

1. Retain & Protect Native Vegetation and Soil
   1.1. Identify Areas of the site that will not be disturbed construction. Fence areas to prevent impacts during construction.

2. loosen Compacted Subsoil
   2.1. In Areas Compacted by Construction Traffic Scarify the top 4-inches of subsoil. Use a Cat-mouted Ripper,tractor-mounted disc, or tiller to mix the first lift of topsoil into the subsoil. USe the equipment listed to scarify soils to a depth of 12-inches before tilling in at least 8-inches of compost.

3. Restore Soils that are Disturbed During Construction
   3.1. Stockpile and reuse existing topsoil (amend if needed to meet 5% organic matter content for turf areas; 10% organic matter content for planting beds).

4. Add Mulch to Planting Beds
   4.1. Spread mulch (coarse bark or wood chips) in the spring or fall (after planting) to control weeds, reduce the need for irrigation and prevent erosion). Apply 1 to 2 inches of mulch on planting beds and around shallow-rooted annuals. Apply 2 to 4 inches of mulch around trees and woody perennials, but make sure to keep mulch 2-3 inches away from tree trunks.

5. Protect Restored Soils from Erosion anad Re-Compaction
   5.1. Prevent runoff from roads or open slopes onto amended soil areas. Compost blankets are an approved erosion control Best Management Practice (BMP) that can be used during construction and then tilled into existing soil at the end of the construction process prior to planting. Once soils have been amended, vehicle traffic should be prohibited to prevent recompilation from occurring.

LEGEND

- Tree Protection Fence
- Trees to be Removed
- Protect and Maintain Existing Trees

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

Owner/Developer:
Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:
Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:
JMJTEAM
Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:
Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

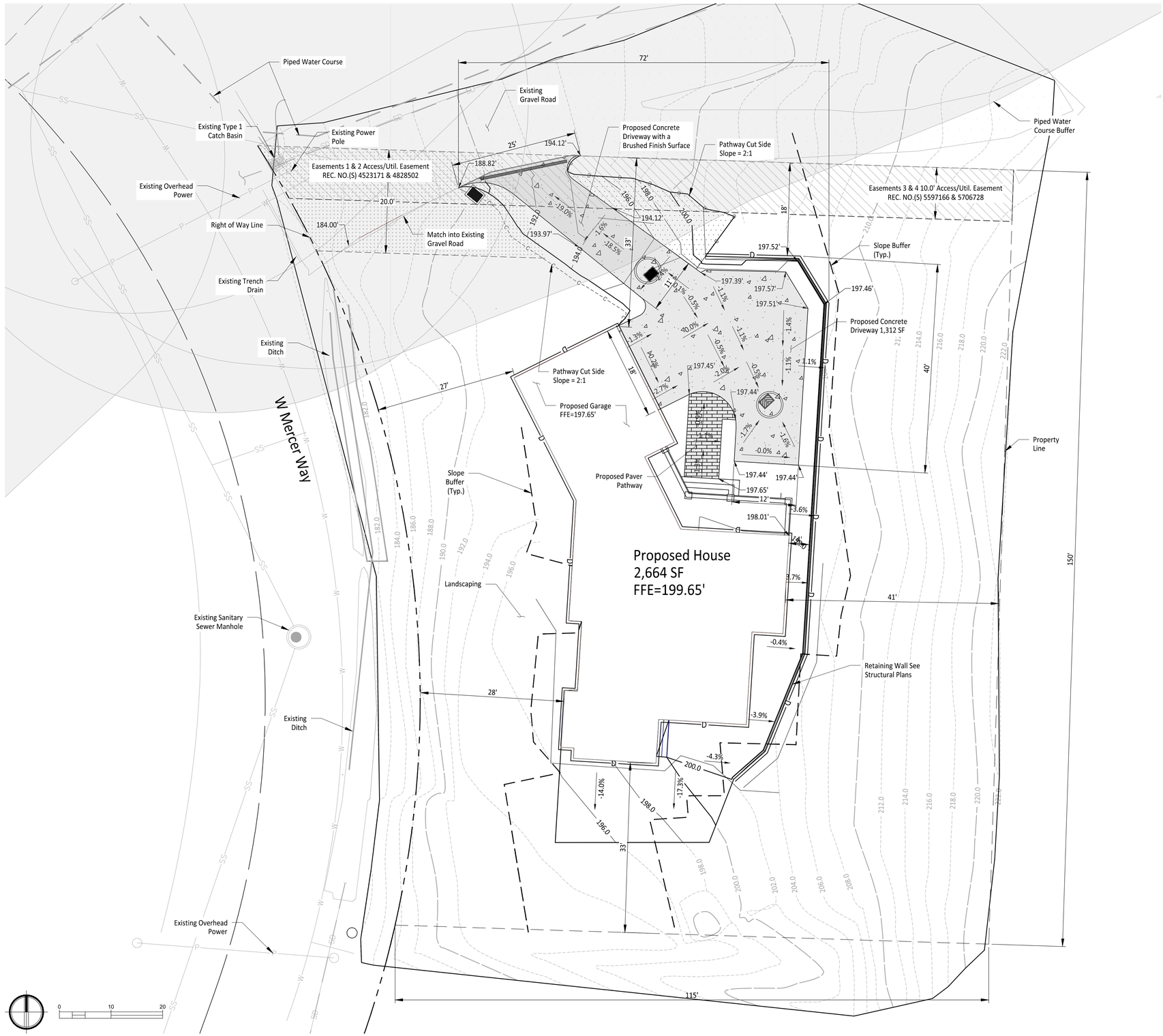
JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER
12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:
Existing Site & TESC Plan

PROJ. NO: 1576001
DATE: December 16, 2022
DRAWN BY:
DESIGN BY:
SHEET NUMBER: C-01
DWG.

File: 1576001C-EX.dwg Path: J:\1576 - Moran\001 - W Mercer Way\CAD\ Plotted by: JMJ Date: 20-Dec-22 2:19:34pm



LEGEND

- Proposed Concrete
- Proposed Concrete with Brushed Surface
- Proposed Permeable Pavers
- Landscaping/Native Vegetation

GENERAL NOTES

- See Detail on Sheet C-05 for Standard Concrete Section.
- See Detail on Sheet C-05 for Permeable Paver Section.
- Driveway Slopes over 20.0% add a Brush Surface Finish to increase Traction.

LOT COVERAGE

Proposed Lot Coverage		
	Impervious Areas (SF)	Pervious Areas (SF)
Proposed House	2,664	
Proposed Driveway	1,312	
Proposed Retaining Walls	63	
Permeable Pavers		116
Landscaping/Vegetaion		13,722
Totals	**4,039**	**13,838**
Lot Size	18,295	
Max Allowed Impervious Coverage	**35% (6,403 SF)**	
Impervious Lot Coverage	**22%**	

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

JJ TEAM
Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

STATE OF WASHINGTON
JUSTIN M. JONES
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV.	DATE	DESCRIPTION

SHEET TITLE:

Site & Grading Plan

PROJ. NO: 1576001

DATE: December 16, 2022

DRAWN BY:

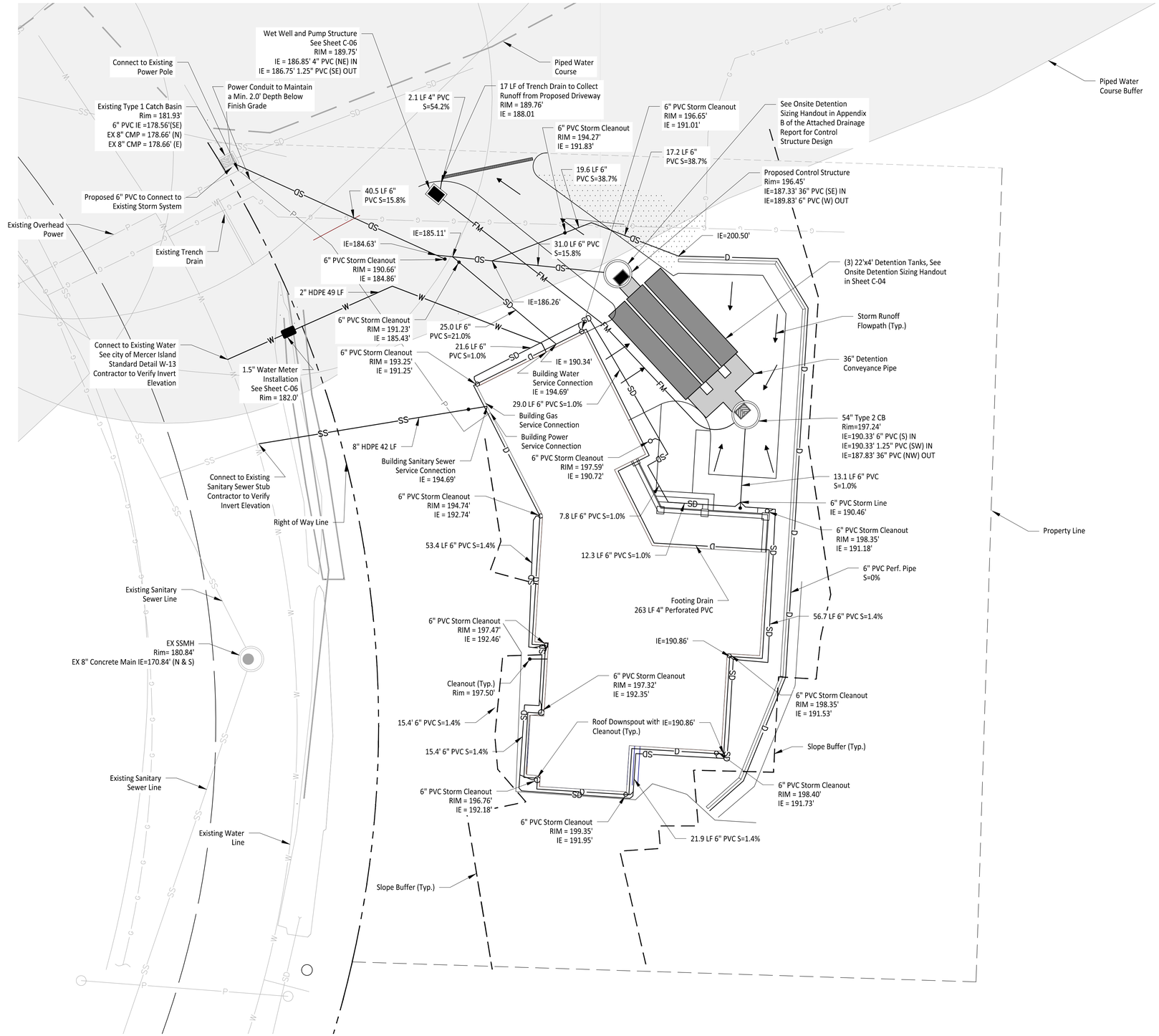
DESIGN BY:

SHEET NUMBER:

C-02

DWG.

File: I:\1576001C-SP.dwg Paths: J:\1576 - Moran\001 - W Mercer Way\CAD\ Plotted by: JMJ Date: 20-Dec-22 2:23:39pm



LEGEND

- SS — Sanitary Sewer Line
- W — Water Line
- P — Power Conduit
- SD — Stormwater Line

CONSTRUCTION NOTES

- ASTM 3034 SDR 35 PVC pipe, fused solid wall HDPE, schedule 40 ABS, DIP or CIP (up to 8 ft. depth). Over 8 ft. depth and slopes more than 20%, DIP, CIP, or fused solid wall HDPE are required.
- Bedding material for open cut construction must be pea gravel, sand, control density fill (CDF), or 5/8" minus C.R.
- Select backfill material shall be 5/8" minus C.R. or control density fill (CDF).
- Imported backfill material shall be bank run gravel or pit run gravel from an approved supplier meeting APWA/WSDOT gradation specifications. Not allowed in right-of-way.
- Rubber gaskets must be used when appropriate.
- Rigid couplings must be used forconnections to existing stubs in right-of-way.
- A stainless steel strap and saddle (Romac) must be used for coring.
- 1" Water Meter Installation see City of Mercer Island Detail on sheet C-06.
- Tapping Tee Installation see City of Mercer Island Detail on sheet C-06.
- The lawn and landscape areas are required to provide Post-Construction Soil Quality and Depth in accordance with BMP T5.13. The project civil engineer must provide a letter of certification to ensure that the lawn and landscape areas are meeting the Post-Construction Soil Quality and Depth Requirements specified on the approved plan set prior to final inspection of the project.

GENERAL NOTES

- Water Service laterals shall have a minimum cover of 12 inches.
- Roof leader locations to be verified by contractor prior to construction.
- Storm pipes to maintain a minimum cover of 1.5' from finish grade.
- Storm pipes to be SDR 35 PVC piping.
- Sanitary Sewer laterals to be soild wall HDPE piping.
- Saniatry Sewer Laterals to mantain a minimum cover of 3.0' from finish grade.
- Pipes entering and exiting catch basins a tee section or bent elbow must be installed for spill control.
- Power conduit shall maintain a minimum cover of 2.0' from finish grade.
- Franchise utilities shown on this plan are into reviewed or approved by the City of Mercer Island.
- The TV inspection of the existing side sewer. If the result of the TV inspection is not in satisfactory condition, as determined by the City of Mercer Island Inspector, the replacement of the existing side sewer is required.

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

Owner/Developer:
Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:
Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:
JUTEAM
Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:
Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

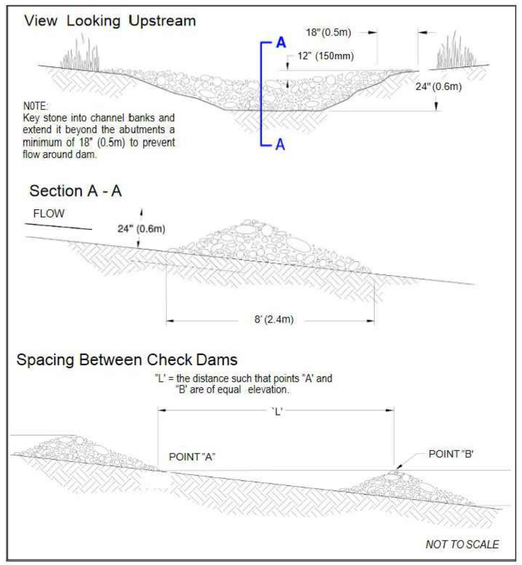
JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER
12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:
Utility Plan

PROJ. NO: 1576001
DATE: December 16, 2022
DRAWN BY:
DESIGN BY:
SHEET NUMBER:
C-03
DWG.

File: 1576001C-STRM.dwg Path: J:\1576 - Moran\001 - W Mercer Way\CAD\ Plotted by: JMJ Date: 20-Dec-22 2:26:24pm



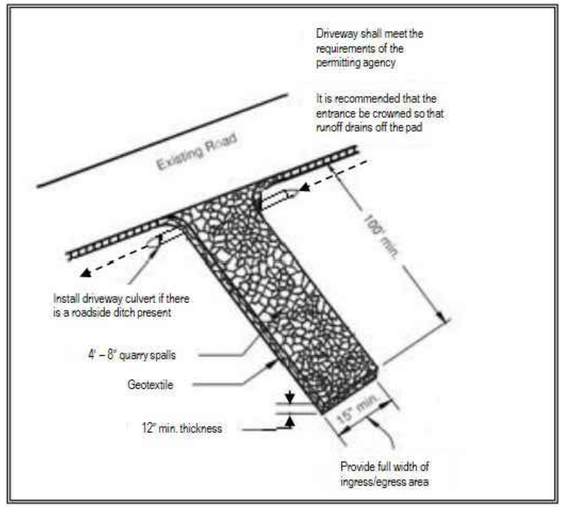


Figure 4.1.1 – Stabilized Construction Entrance

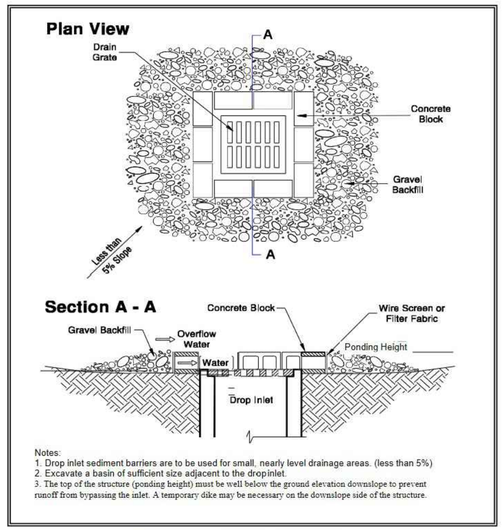
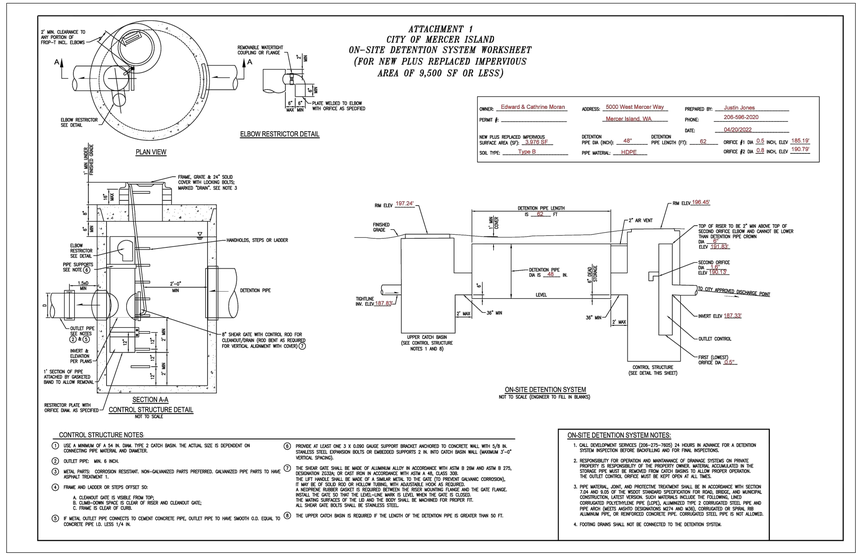


Figure 4.2.8 – Block and Gravel Filter



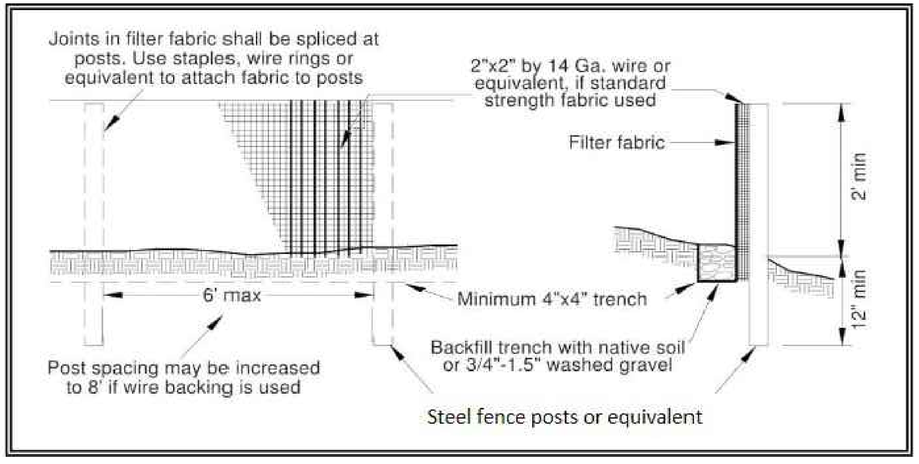


Figure 4.2.12 – Silt Fence

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:

Details

PROJ. NO: 1576001

DATE: December 16, 2022

DRAWN BY:

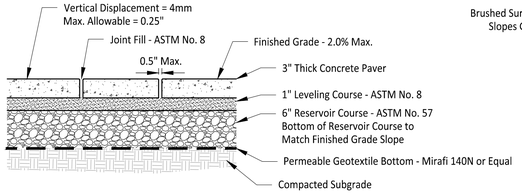
DESIGN BY:

SHEET NUMBER:

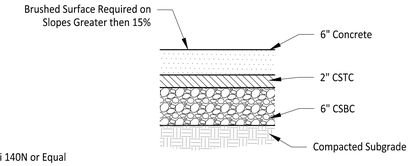
C-04

DWG.

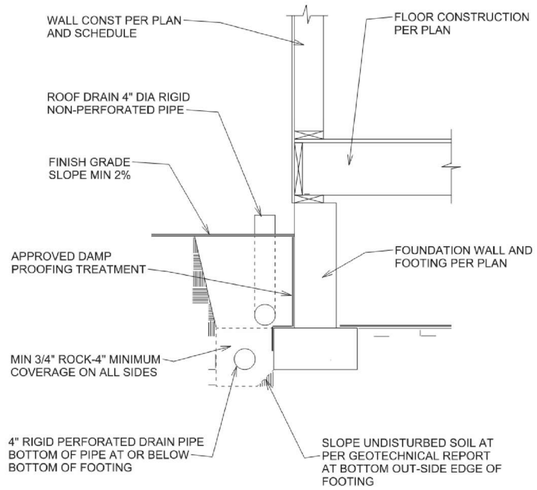
CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER



PERMEABLE PAVERS
SECTION A
1" = 1' C-06



CONCRETE DRIVEWAY
SECTION B
1" = 1' C-06



FOOTING DRAIN DETAIL
SECTION B
3/4" = 1' C-06

TREE PROTECTION AREA (TPZ)

KEEP OUT!

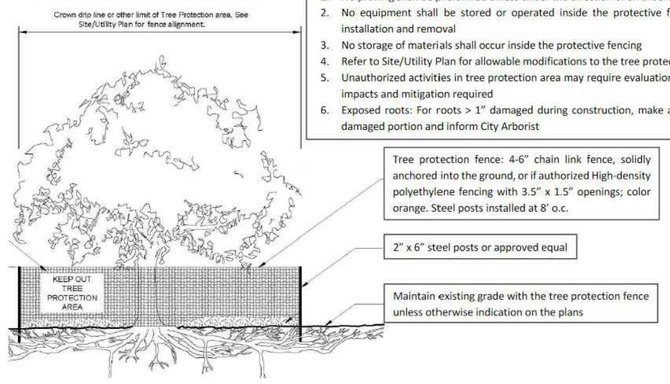
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

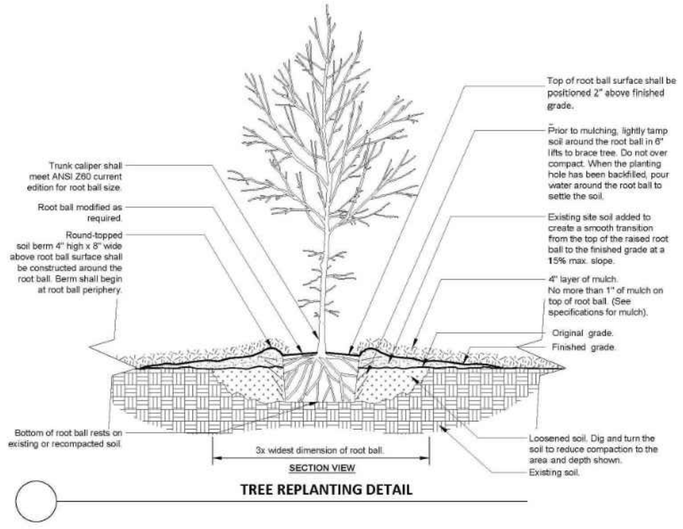
Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be preformed unless under the direction of an arborist
2. No equipment shall be stored or operated inside the protective fencing including during fence installation and removal
3. No storage of materials shall occur inside the protective fencing
4. Refer to Site/Utility Plan for allowable modifications to the tree protection area.
5. Unauthorized activities in tree protection area may require evaluation by private arborist to identify impacts and mitigation required
6. Exposed roots: For roots > 1" damaged during construction, make a clean straight cut to remove damaged portion and inform City Arborist





TREE REPLANTING DETAIL

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:

Details

PROJ. NO: 1576001

DATE: December 16, 2022

DRAWN BY: | DESIGN BY:

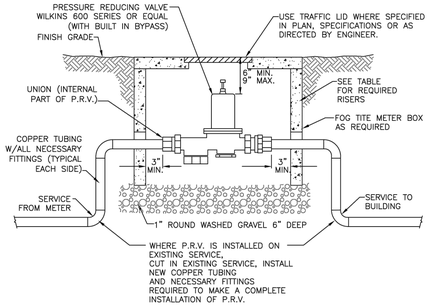
SHEET NUMBER:

C-05

DWG.

CALL TWO BUSINESS DAYS
BEFORE YOU DIG
811 1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

File: 1576001C-01.dwg Path: o:\1576 - Moran\001 - W Mercer Way\Cad\ Plotted by: JMJ Date: 14-Dec-22 3:02:26pm



P.R.V. SIZE	FOG TITE METER BOX NO.	RISER REQUIRED
2"	2	12"
1-1/2"	2	12"
1-1/4"	1	6"
1"	1	6"
3/4"	1	4"
1/2"	1	4"

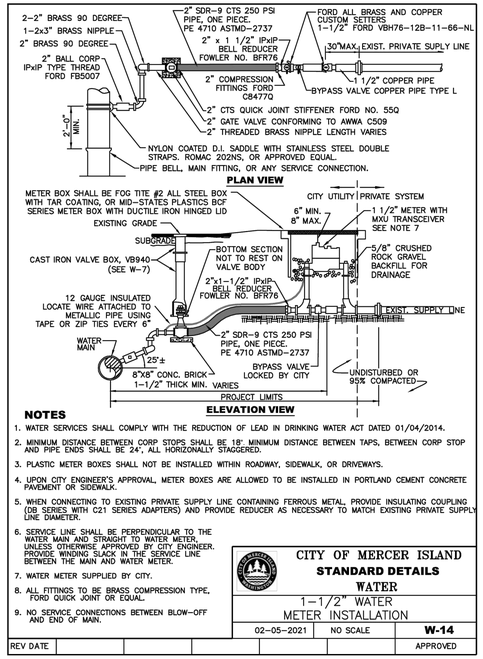
NOTES

1. P.R.V. SHALL HAVE AN INTEGRAL BYPASS.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
RESIDENTIAL
PRESSURE REDUCING VALVE

12-24-2013	NO SCALE	**W-28**

REV DATE | | | | | | APPROVED



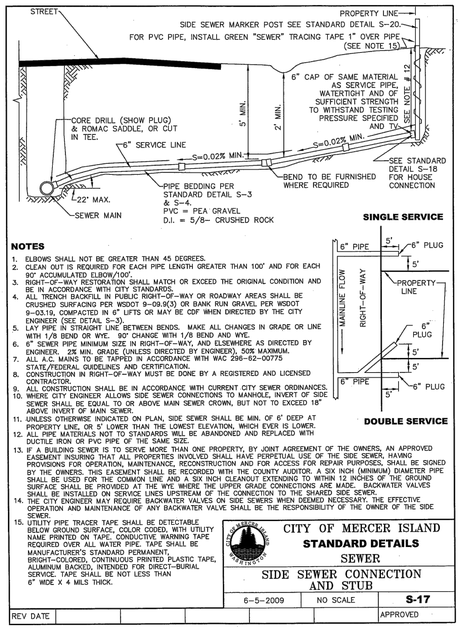
NOTES

1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18" MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24", ALL HORIZONALLY STAGGERED.
3. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
4. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
5. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
6. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
7. WATER METER SUPPLIED BY CITY.
8. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
9. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
1-1/2" WATER
METER INSTALLATION

02-05-2021	NO SCALE	**W-14**

REV DATE | | | | | | APPROVED



NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-62-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE, CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER CONNECTION
AND STUB

6-5-2009	NO SCALE	**S-17**

REV DATE | | | | | | APPROVED

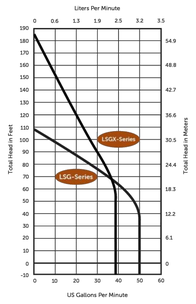
2400-Series

Features

- 2 hp Grinder Pump
- Choose from LSG or LSGX-Series pumps
- Available in a wide range of voltages
- 1-1/4" Discharge
- 25' Power cable length

(See LSG or LSGX-Series literature for complete pump specifications.)

Performance Curve

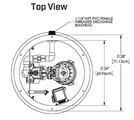


Factory Set Control Levels

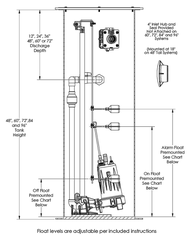
MODEL	OFF LEVEL	ON LEVEL	ALARM LEVEL	VOLUME PER PUMP CYCLE	TOTAL BASIN CAPACITY
2448	9.5" (24 cm)	16.5" (42 cm)	21" (53 cm)	13.5 gal (51 liters)	94 gal (356 liters)
2460	13" (33 cm)	27" (69 cm)	33" (84 cm)	27 gal (102 liters)	118 gal (447 liters)
2472	13" (33 cm)	31" (79 cm)	37" (94 cm)	35 gal (132 liters)	141 gal (534 liters)
2484	13" (33 cm)	33" (84 cm)	39" (99 cm)	39 gal (148 liters)	165 gal (625 liters)
2496	13" (33 cm)	37" (94 cm)	43" (109 cm)	47 gal (178 liters)	188 gal (712 liters)

Dimensional Data

Top View



Side View



Float levels are adjustable per included instructions

Galvanized guide rails standard.

For stainless-steel rails add "S" to model number.
Example: 2472LSG24-S

For steel cover option add "-SC" suffix to model number.
Example: 2472LSG24-SC

Owner/Developer:

Edward & Catherine Moran
5000 West Mercer Way
Mercer Island, WA 98040

Architect:

Plan One Fine Home Design
5125 47th Ave S
Seattle, WA 98118
206-612-8511

Engineer:

JUSTEAM

Justin Jones, PE
PO Box 2066
Sumner, WA 98390
(206) 596-2020

Project:

Moran Residence

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

JUSTIN M. JONES
STATE OF WASHINGTON
41829
REGISTERED
PROFESSIONAL ENGINEER

12-16-2022

REV	DATE	DESCRIPTION

SHEET TITLE:

Details

PROJ. NO:	1576001
DATE:	December 16, 2022
DRAWN BY:	DESIGN BY:

SHEET NUMBER:

C-06

DWG:

CALL TWO BUSINESS DAYS
BEFORE YOU DIG
811
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

File: 1576001C-01.dwg Path: J:\1576 - Moran\001 - W Mercer Way\Cad\ Plotted by: JMJ Date: 20-Dec-22 10:20:42am

APPENDIX B

ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

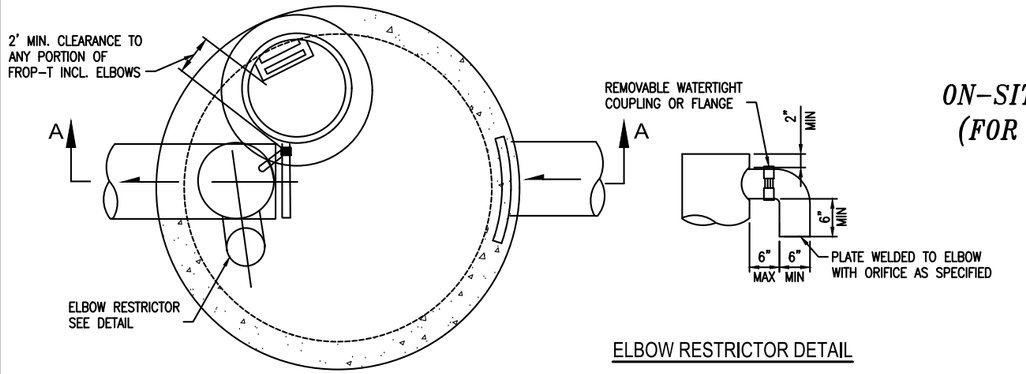
OWNER: Edward & Cathrine Moran
ADDRESS: 5000 West Mercer Way
Mercer Island, WA
PREPARED BY: Justin Jones
PHONE: 206-596-2020
DATE: 04/20/2022
PERMIT #:

NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 3,976 SF
SOIL TYPE: Type B

DETENTION PIPE DIA (INCH): 48"
PIPE MATERIAL: HDPE

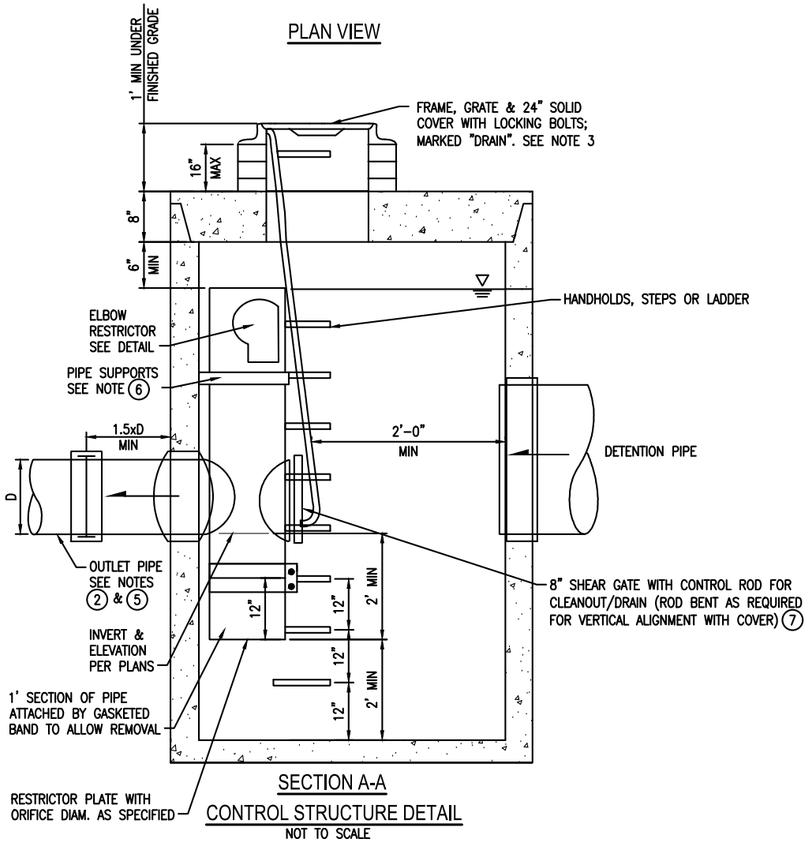
DETENTION PIPE LENGTH (FT): 62

ORIFICE #1 DIA 0.5 INCH, ELEV 185.19'
ORIFICE #2 DIA 0.8 INCH, ELEV 190.79'

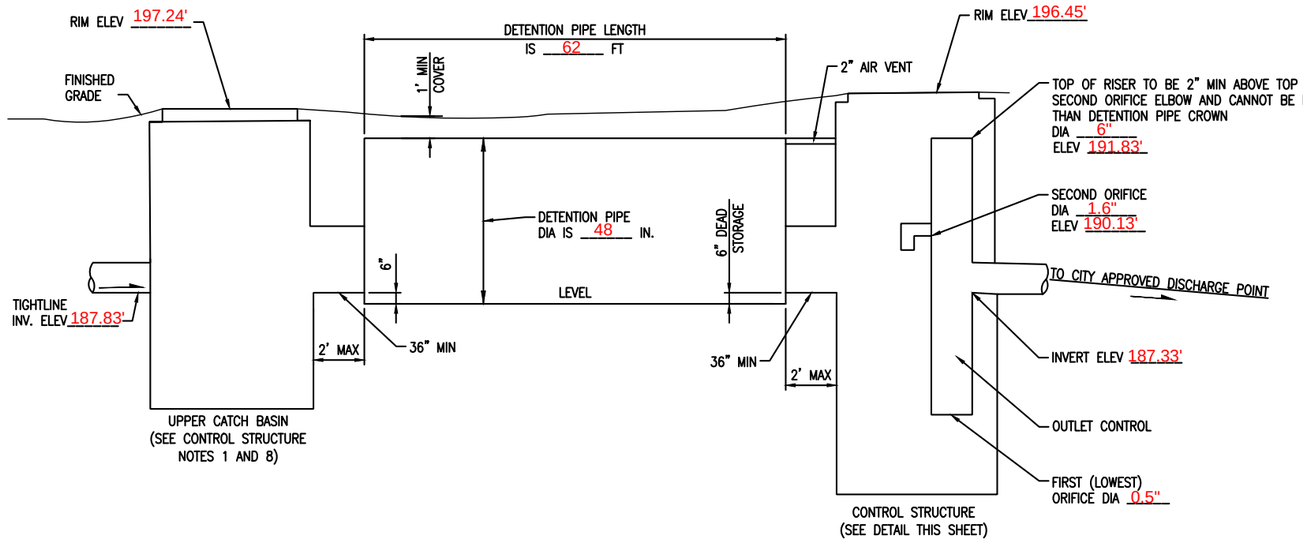


PLAN VIEW

ELBOW RESTRICTOR DETAIL



SECTION A-A
CONTROL STRUCTURE DETAIL
NOT TO SCALE



ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STANLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.
   INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.
   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTANANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

APPENDIX C

Technical Memorandum

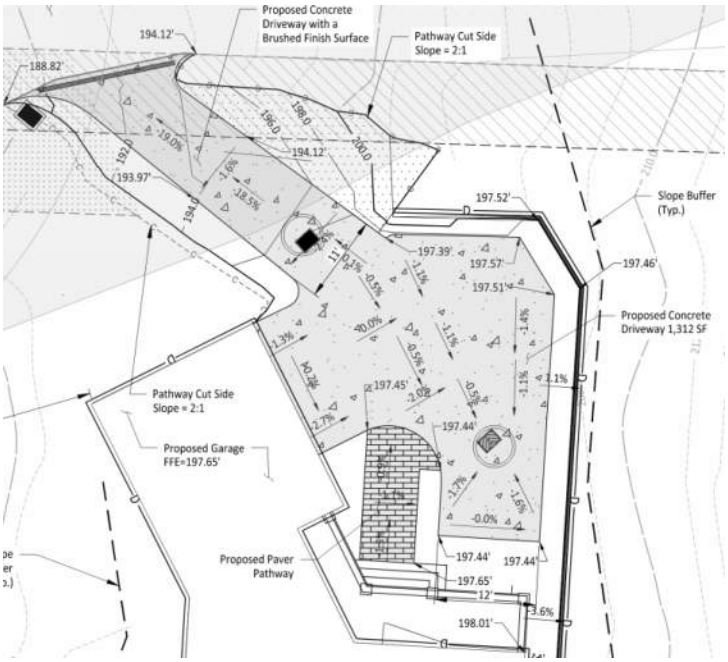
Project:	5000 West Mercer Way, WA 98040 Mordan Residence	From:	Justin Jones, PE
RE:	Storm Drainage Report - Driveway Pump System	Date:	December 20, 2022

12/20/2022

Introduction

This memo presents the criteria and methodology used for sizing the storm pump and force main conveying the driveway runoff to the detention pond. The proposed project site is a single-family project with a proposed 2,664 SF house, 1,312 SF driveway, 63 SF of retaining walls, and 119 SF of permeable paver path. The project adds more than 2,000 SF, but less than 5,000 SF of new plus replaced hard surfaces, therefore the runoff from the pollution generating surfaces does not have to be treated. An underground detention tank with a flow control structure will be used to manage stormwater runoff flows. The detention tank and control structure were sized per the City of Mercer Island on-site detention design requirements.

Runoff from part of the driveway will be conveyed to the detention tank using gravity flow through catch basins and storm lines. The remaining driveway runoff will be collected using a trench drain and pumped to the detention tank using a Grinder Pump Package System. The pump system was sized based on the developed 100-year peak storm discharge rate, 0.009 cfs, for the portion of the driveway runoff that needs to be pumped to the detention tank, see driveway drainage plan below.

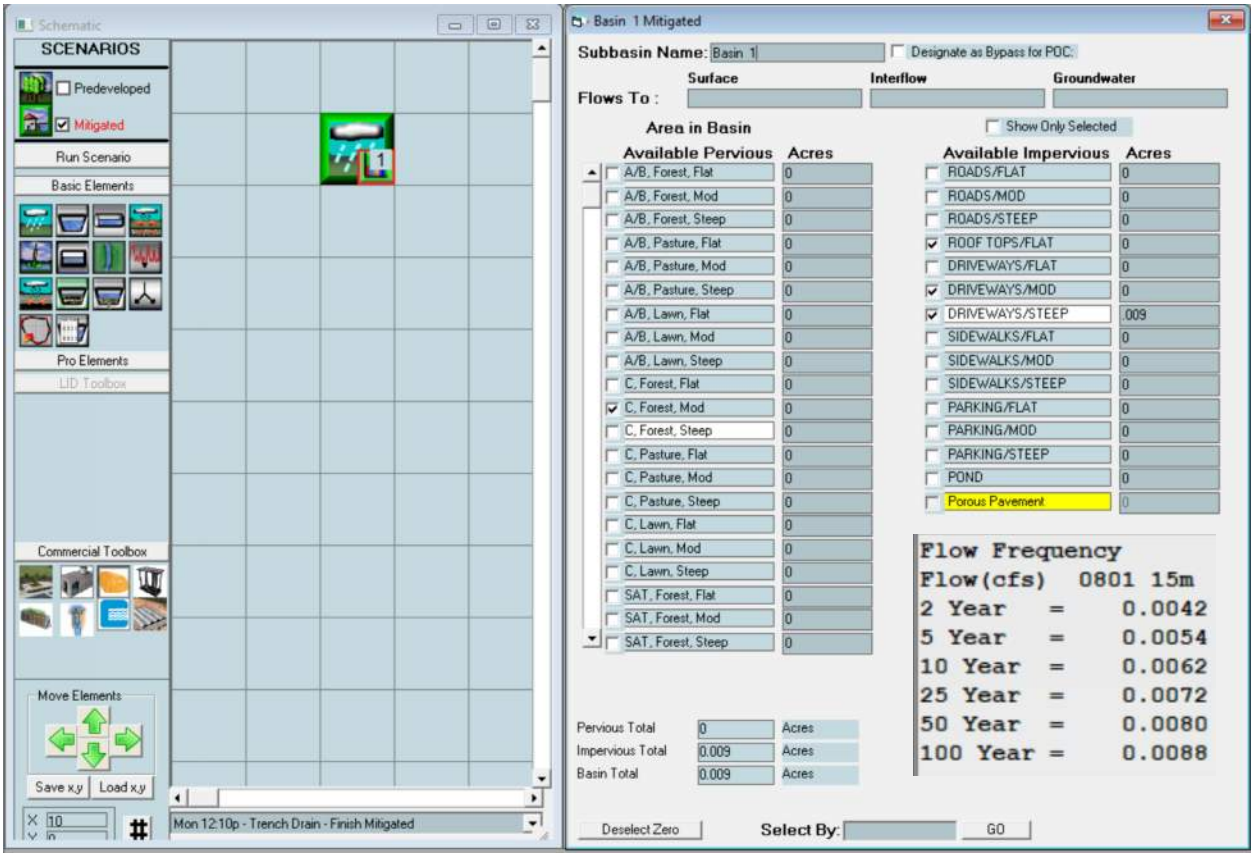


Existing Site

The existing site has moderate slopes that span the site from east to west. Runoff from the existing landscaping currently flows to the west of the site. The driveway will slope up to the proposed house location. A detention tank will be placed below the driveway portion to the east of the proposed house.

Proposed Storm Pump System

To maintain the existing stormwater flows, the runoff from the sloped driveway portion will be pumped to the detention tank where a control structure will limit the flows. The 100-year peak release rate of the trench drain is 0.009cfs/4.04 GPM, see WWHM modeling below.



A Grinder Pump Package system includes a 2 HP Grinder Pump and 24” x 60” fiberglass basin. The top of the fiberglass basin is at an elevation of 189.75’. The inlet of the pump in the fiberglass basin is at an invert elevation of 176.97’ and will eventually discharge at an invert elevation of 190.33’ in the Type 2 Catch Basin connected to the detention tank. Below is a summary of the proposed pump cycle and discharge velocity.

- Total Dynamic Head ≈ 13.36’
- Discharge Rate = 50 GPM
- Pump Cycle Minimum Storage Volume = 33 Gallons
- Time to Fill Minimum Storage Volume = 8.17 minutes
- Time to Discharge Minimum Storage Volume = 0.72 minutes
- Pump Cycle Time = 8.89 minutes
- Pump Cycles per Hour = 6.75

- Outlet Pipe: 2” Schedule 80 PVC
- Discharge Velocity = 6.13 ft/s

The proposed Grinder Pump Package system has a storage volume of 33 Gallons per pump cycle. Therefore, the pump will start after 8.17 minutes. Once the pump is turned on, the pump will run for 0.72 minutes before the “OFF” water level is peached. Subsequently, the cycle time is 8.89 minutes and there will be 6.75 cycles per an hour. See abbreviated pump specifications below.

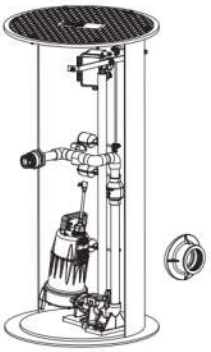
Liberty Pumps

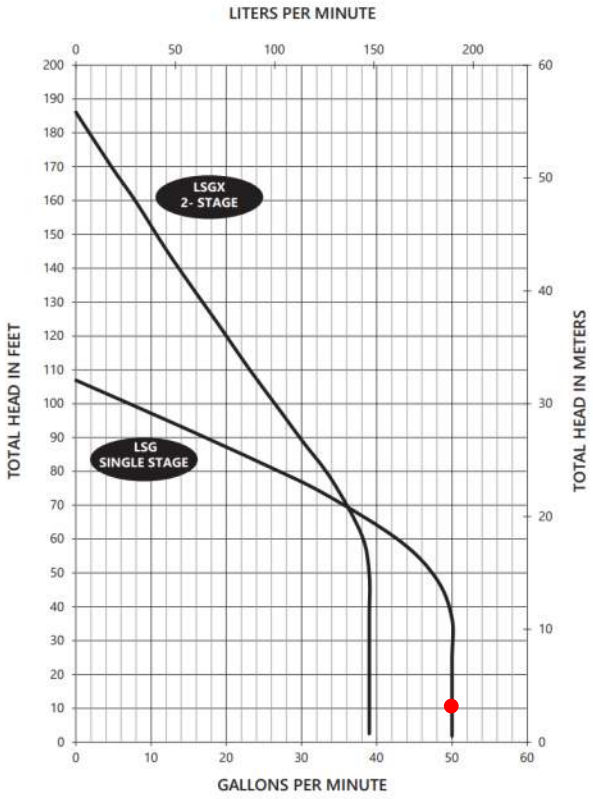
A Family and Employee Owned Company

Pump **Specification**

2460LSG/LSGX-Series

Omnivore® 2 HP Simplex Grinder Packages





ATTENTION

For pressure sewer applications, verify a ***Redundant Check Valve Assembly*** (curb stop and check valve) is installed between the pump discharge and the street main, as close to the public right-of-way as possible, on all installations to protect from system pressures.

2460LSG/LSGX_P1 R6/10/2022

7000 Apple Tree Avenue Bergen NY 14416 ■ ***Phone*** *1-800-543-2550* ■ ***Fax*** *1-585-494-1839* ■ ***Email*** *Liberty@LibertyPumps.com* ■ ***Web*** *www.LibertyPumps.com*

2460LSG/LSGX-Series Electrical Data

MODEL[1]	HP	VOLTAGE	PHASE	SF	FULL LOAD AMPS	LOCKED ROTOR AMPS	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	CORD LENGTH [FT]	DISCHARGE	STANDARD CONTROL PANEL
2460LSG202	2	208/230	1	1.0	15	53	105°C	B	25	1-1/4" NPT	SXH24=3
2460LSG202-A	2	208/230	1	1.0	15	53	105°C	B	25	1-1/4" NPT	AUTOMATIC
2460LSG202-C	2	208/230	1	1.0	15	53	135°C	B	35	1-1/4" NPT	SXHC24=3-3
2460LSG203	2	208/230	3	1.0	10.6	61	N/A	B	25	1-1/4" NPT	SX34=3-511
2460LSG204	2	440–480	3	1.0	5.3	31	N/A	B	25	1-1/4" NPT	SX34=3-171
2460LSG205	2	575	3	1.0	4.9	31	N/A	B	25	1-1/4" NPT	SX54=3-161
2460LSGX202	2	208–230	1	1.0	15	53	135°C	B	25	1-1/4" NPT	SXH24=3
2460LSGX202-C	2	208–230	1	1.0	15	53	135°C	B	35	1-1/4" NPT	SXHC24=3-3
2460LSGX203	2	208/230	3	1.0	10.6	61	N/A	B	25	1-1/4" NPT	SX34=3-511
2460LSGX204	2	440–480	3	1.0	5.3	31	N/A	B	25	1-1/4" NPT	SX34=3-171
2460LSGX205	2	575	3	1.0	4.9	31	N/A	B	25	1-1/4" NPT	SX54=3-161

1 Add **–IP** to the model number **for IP-Series™** panel upgrade.

2460LSG/LSGX-Series Technical Data

SYSTEM	TANK	WOUND FIBERGLASS WITH ANTI-FLOTATION FLANGE STANDARD – FIBERGLASS COVER OPTIONAL – STEEL COVER
	CAPACITY	TOTAL BASIN VOLUME – **118** GALLONS / 447 LITERS PUMP CYCLE – **33** GALLONS / 125 LITERS
	GUIDE RAIL	STANDARD – SCHEDULE 40 GALVANIZED OPTIONAL – SCHEDULE 40 STAINLESS STEEL
	GUIDE RAIL BASE/DISCONNECT (GR20)	CAST IRON
	INLET HUB	4" WITH FLANGE GASKET AND PIPE SEAL
	DISCHARGE PIPING	SCHEDULE 80 PVC
	CONTROL PANEL	SX-SERIES NEMA 4X SIMPLEX PANEL WITH AUDIBLE (80 dBi) AND VISUAL HIGH WATER ALARM (2460LSG202-A USES AUTOMATIC PUMP AND ALM-2W HIGH WATER ALARM)
	WEIGHT	236 LBS / 107 KG

*7000 Apple Tree Avenue Bergen NY 14416 ■ **Phone** 1-800-543-2550 ■ **Fax** 1-585-494-1839 ■ **Email** Liberty@LibertyPumps.com ■ **Web** www.LibertyPumps.com*