Architect:
Hughes Studio Architects
3439 NW 64th St
Seattle, WA 98107
T 206.264.1301

Contact: Cheryl
cheryl@hughes-studio.com

Structural Engineer:
Bykonen Carter Quinn
2033 Sixth Avenue, Suite 995
Seattle, WA 98121
T 206.264.7784
Contact: Natosha Norlin

General Contractor:
Dyna Contracting
1537 NW Ballard Way
Seattle, WA 98107
T 206-297-6369

Project Information:

Owner: Derek Loeser & Katie Van Kessel
7426 SE 71st Street
Mercer Island WA. 98040

Site location:
7426 SE 71st Street
Mercer Island WA. 98040

Tax parcel #:
536800-0290

Legal description:
MC LEAN ADDITION, PLAT LOT: 29 NW-25-24-4

Project Description:

Replace exist. garage with new, reconfigure driveway, reducing concrete area

Zoning:
R-15

Construction Type:
V-B

Occupancy Group:
U

Code information:
- 2018 InternationalResidentialCode (IRC)
- 2018 International Building Code (IBC), as applicable
- Washington State Energy Code
- Minimum Design Loads for Buildings and Other Structures, ASCE 7-05 (ASCE)
- 2008 Special Design Provisions for Wind and Seismic (SDPWS)
- Mercer Island City Code (MICC)

Comply with all applicable codes and laws

Energy Information
N/A.

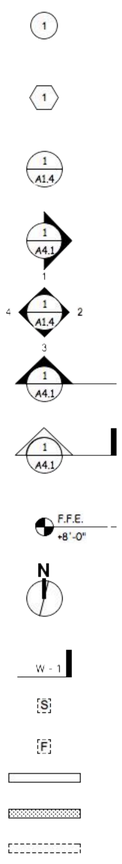
Mechanical System:
NA

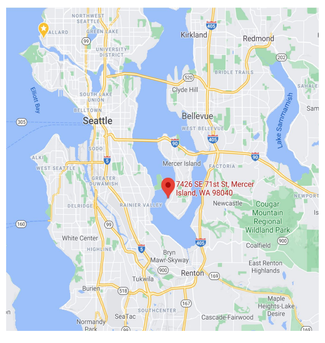
IRC Ventilation:
N/A

A.F.F.	Above Finish Floor
B.O.	Bottom of
C.L.	Center Line
Clr.	Clear
CMU	Concrete Masonry Unit
Col.	Column
Conc.	Concrete
Cont.	Continuous
Dia.	Diameter
D.S.	Downspout
Ea.	Each
El.	Elevation
Eq.	Equivalent
F.F.E.	Finish Floor Elevation
Ftg.	Footing
Flr.	Floor
F.O.C.	Face of Concrete
F.O.S.	Face of Stud
GWB	Gypsum Wall Board
Ht.	Height
Jst.	Joist
Mtl.	Metal
O.C.	On Center
O/	Over
PCC	Pre-cast Concrete
P.T.	Pressure Treated
Req.	Required
R.O.	Rough Opening
S.W.	Shear Wall
Sim.	Similar
S.O.G.	Slab on Grade
Sst.	Stainless Steel
Struct.	Structural
T&G	Tongue and Groove
T.O.	Top of
T.O.Pl.	Top of Plate
T.O.S.	Top of Slab
T.O.W.	Top of Wall
Typ.	Typical
U.O.N.	Unless Otherwise Noted
V.B.	Vapor Barrier
V.I.F.	Verify in Field
W/I	Within
Wdw.	Window

Drawing List

Symbol Legend





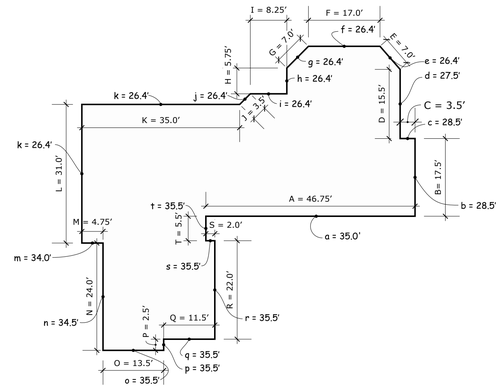
3 Vicinity Plan
nts

ABE Calculation:

46.75(35.3)+17.5(28.5)+3.5(28.5)+15.5(27.5)+7(26.4)+
17(26.4)+7(26.4)+5.75(26.4)+8.75(26.4)+3.5(26.4)+
35(26.4)+31(31)+4.75(34)+24(34.5)+13.5(35.5)+
2.5(35.5)+11.5(35.5)+22(35.5)+2(35.5)+5.5(35.5)

46.75+17.5+3.5+15.5+7+17+7+5.75+8.75+3.5+35+
31+4.75+24+13.5+2.5+11.5+22+2+5.5

$$= \frac{8658.63}{284} =$$ **30'.49 Average Building Elevation**



Average Building Elevation Data		05.06.2021
Mark	Wall Segment Length - X (ft)	Midpoint Elevation - x (ft)
A/a	46.75	35.3
B/b	17.50	28.5
C/c	3.50	28.5
D/d	15.50	27.5
E/e	7.00	26.4
F/f	17.00	26.4
G/g	7.00	26.4
H/h	5.75	26.4
I/i	8.75	26.4
J/j	3.50	26.4
K/k	35.00	26.4
L/l	31.00	31
M/m	4.75	34
N/n	24.00	34.5
O/o	13.50	35.5
P/p	2.50	35.5
Q/q	11.50	35.5
R/r	22.00	35.5
S/s	2.00	35.5
T/t	5.50	35.5

2 Average Building Elevation
1/16" = 1'-0"

Site Area Calculations

Maximum Allowable Site Areas

Lot Area:	13,482 s.f.
40% of lot area = lot coverage:	5,393 s.f.
60% of lot area = landscaping:	8,089 s.f.
9% of lot area = hardscape:	1,213 s.f.

Exist. Lot Coverage

House (inc. roof overhangs):	2891 + 661 = 3,552 s.f.
Driveway:	1,653 s.f.
Total:	5,206 s.f.

5,206/13,482 = 38.6% of lot area

Proposed Lot Coverage

House (inc. roof overhangs):	2891 + 846 = 3,737 s.f.
Driveway:	585 s.f.
Total:	4,322 s.f.

4,322/13,482 = 32.0% of lot area
1071 s.f. under allowable maximum area
Proposed addition reduces lot coverage by 884 s.f.

Existing Hardscape
Unused lot coverage may be used as hardscape per MICC 19.02.020.F.3.b.ii: 40% - 38.6% = 1.4%

Total allowable hardscape:
(9% + 1.4% = 10.4% of 13,482 s.f. = 1402 s.f.

Patio, deck, stairs, retaining walls, rockeries, walkways:
440 + 519 + 40 + 360 + 18 = 1,377 s.f.
1,377/13,482 = 10.2% < 10.4%

Proposed Hardscape
Unused lot coverage may be used as hardscape per MICC 19.02.020.F.3.b.ii: 40% - 32% = 8%

Total allowable hardscape:
(9% + 8% = 17% of 13,482 s.f. = 2292 s.f.

Existing hardscape:	1,377 s.f.
New walkways:	423 s.f.
Total proposed hardscape:	1,800 s.f.

1,800/13,482 = 13.3% < 17%

Landscape area:
13,482 - 4322 - 1800 = 7360 s.f. = 54.6%
8089 - 7360 = 729 s.f.
729 s.f. of the landscape area is being used for hardscape (walkways, rockeries etc.)
Per MICC19.02.020.F.3.c up to 1,213 s.f. of the landscape area may be used for hardscape.

Lot Slope Calculations:
Highest Pt. Elev. = 37.5 ft.
Lowest Pt. Elev. = 14.5 ft.
Elev. difference = 14.5 ft.
Horizontal distance - 128 ft.
Lot Slope = 14.5 / 128 x 100 = **11.3%**

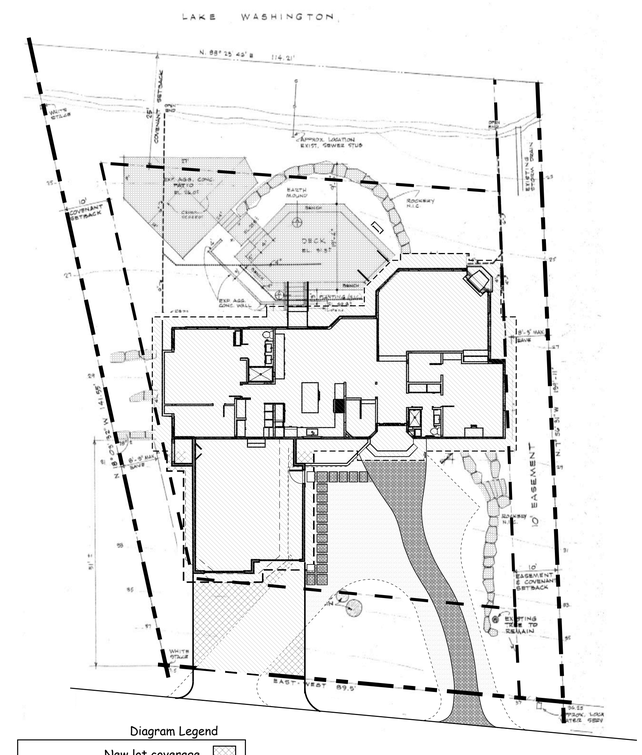


Diagram Legend

New lot coverage	
New hardscape	
Remove existing lot coverage	
Existing lot coverage to remain	
Existing hardscape to remain	

1 Lot Coverage/Hardscape Diagram
1/16" = 1'-0"

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7058 REGISTERED ARCHITECT
CHERYL D. HUGHES
STATE OF WASHINGTON

Building Permit Set
19 May 2021

Loeser Van Kessel
Residence

7426 S.E . 71st Street
Mercer Island WA.98040

Site Information

A 1.0

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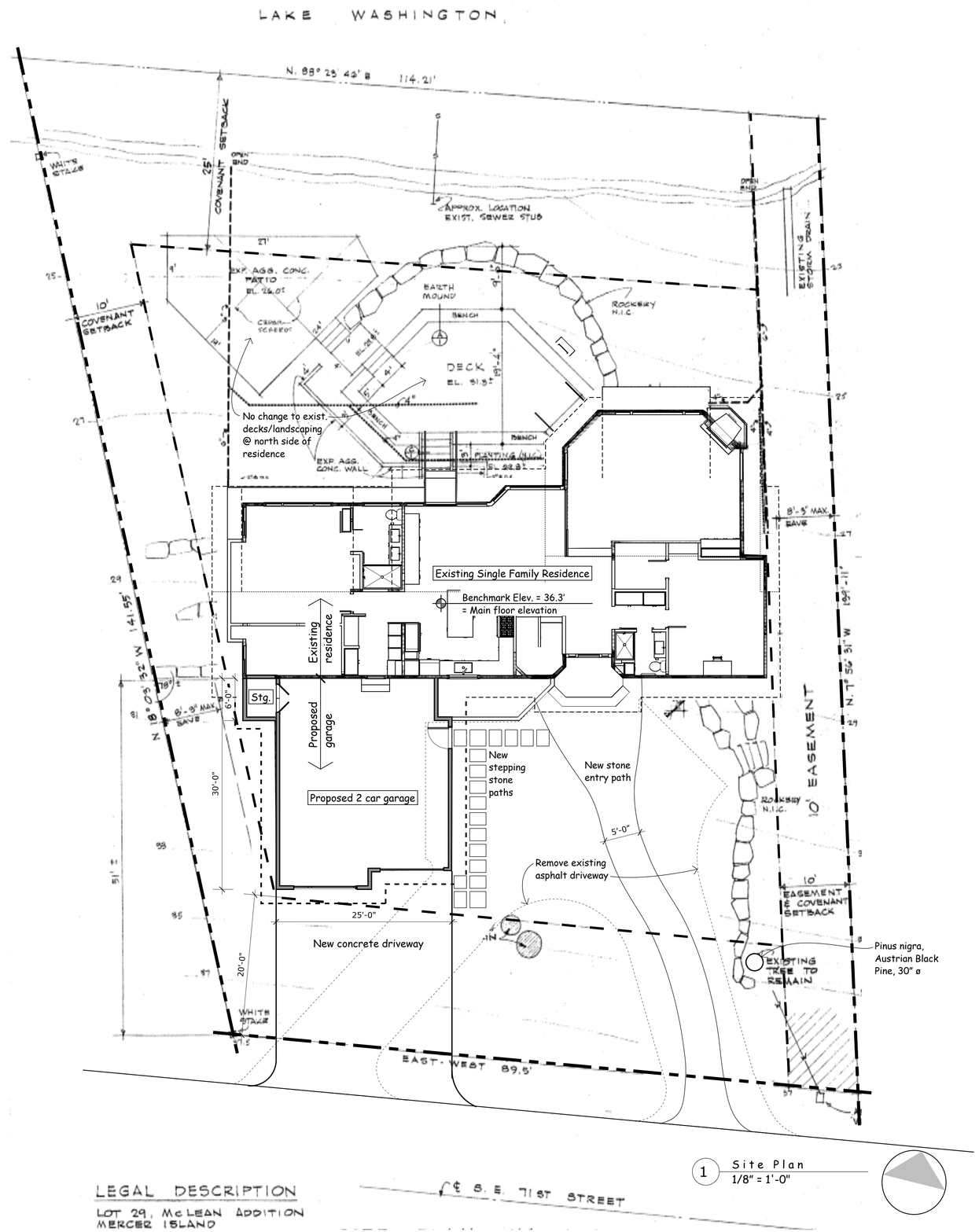

1 Site Plan
1/8" = 1'-0"

LEGAL DESCRIPTION
LOT 29, McLEAN ADDITION
MERCER ISLAND

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19 May 2021

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Site Plan

A 1.1

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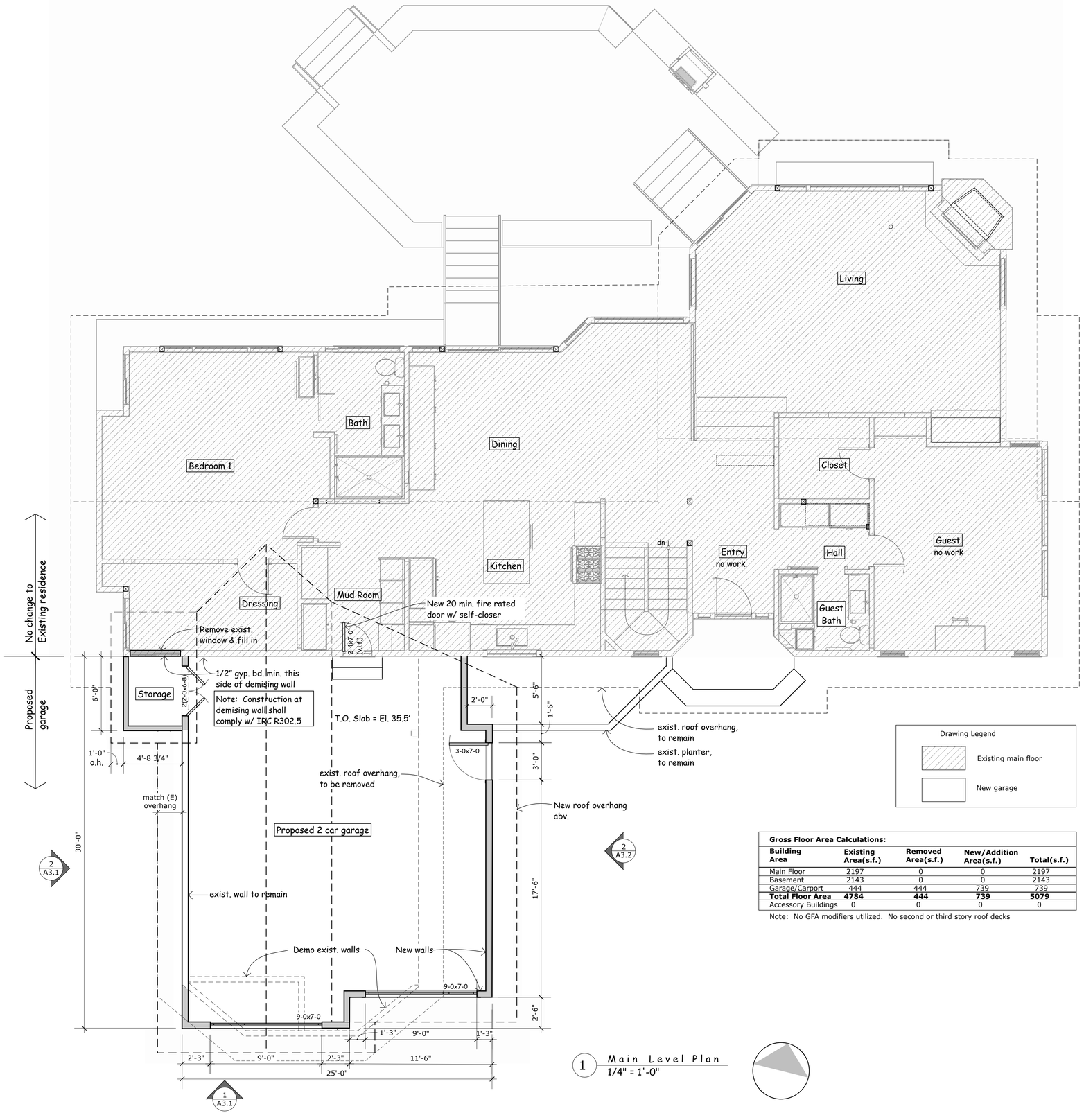

1 Main Level Plan
1/4" = 1'-0"

Drawing Legend

Existing main floor

New garage

Gross Floor Area Calculations:

Building Area	Existing Area(s.f.)	Removed Area(s.f.)	New/Addition Area(s.f.)	Total(s.f.)
Main Floor	2197	0	0	2197
Basement	2143	0	0	2143
Garage/Carport	444	444	739	739
Total Floor Area	**4784**	**444**	**739**	**5079**
Accessory Buildings	0	0	0	0

Note: No GFA modifiers utilized. No second or third story roof decks

7058 REGISTERED ARCHITECT
CHERYL D. HUGHES
STATE OF WASHINGTON

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Main Level Plan

A 2.1

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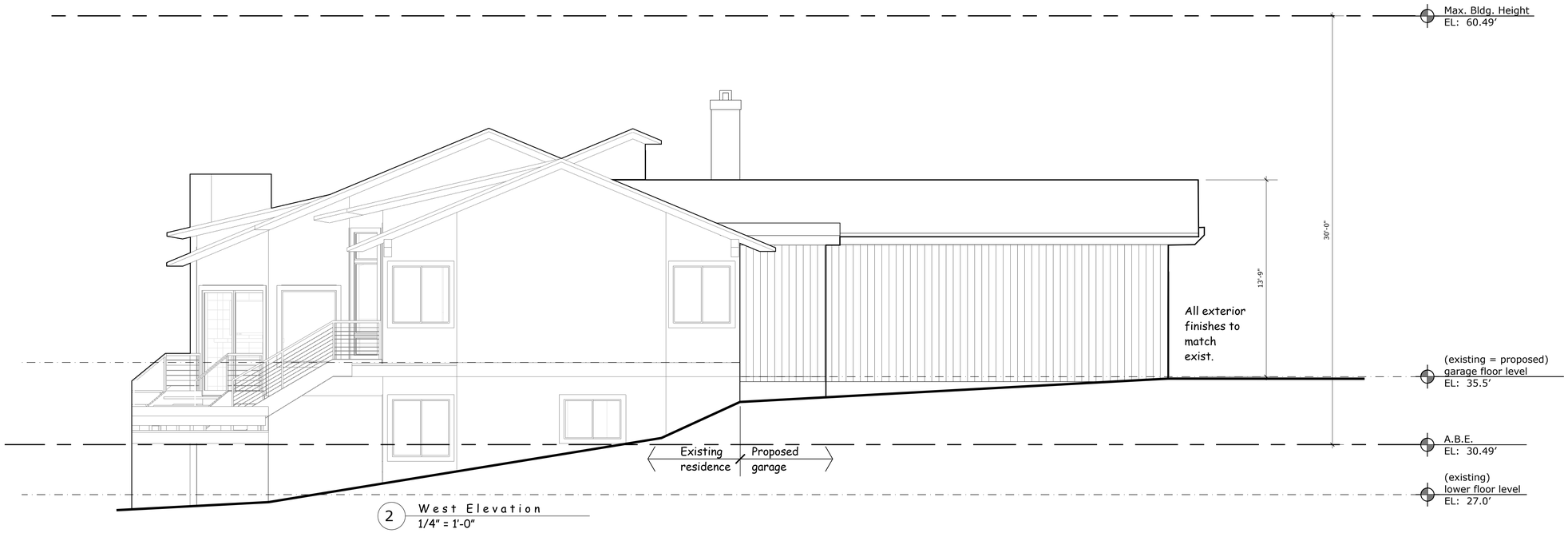
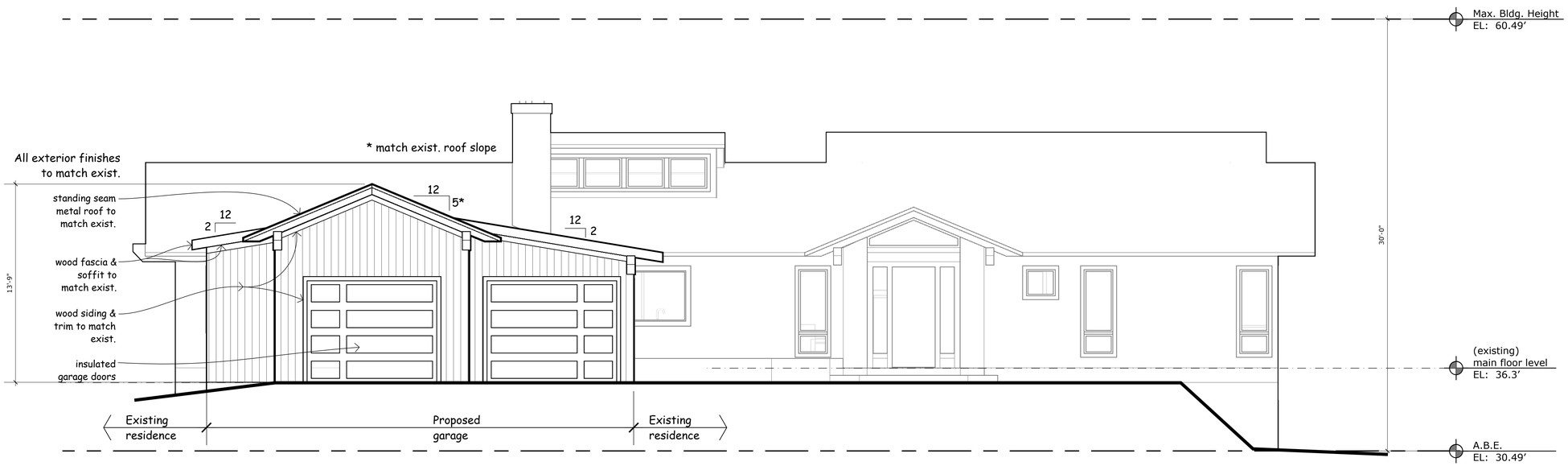
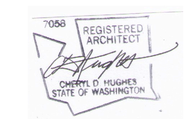


2 West Elevation
1/4" = 1'-0"



Notes this elevation typical u.n.o.

1 South Elevation
1/4" = 1'-0"



Building Permit Set
19 May 2021

Loeser Van Kessel
Residence

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Elevations

A 3.1

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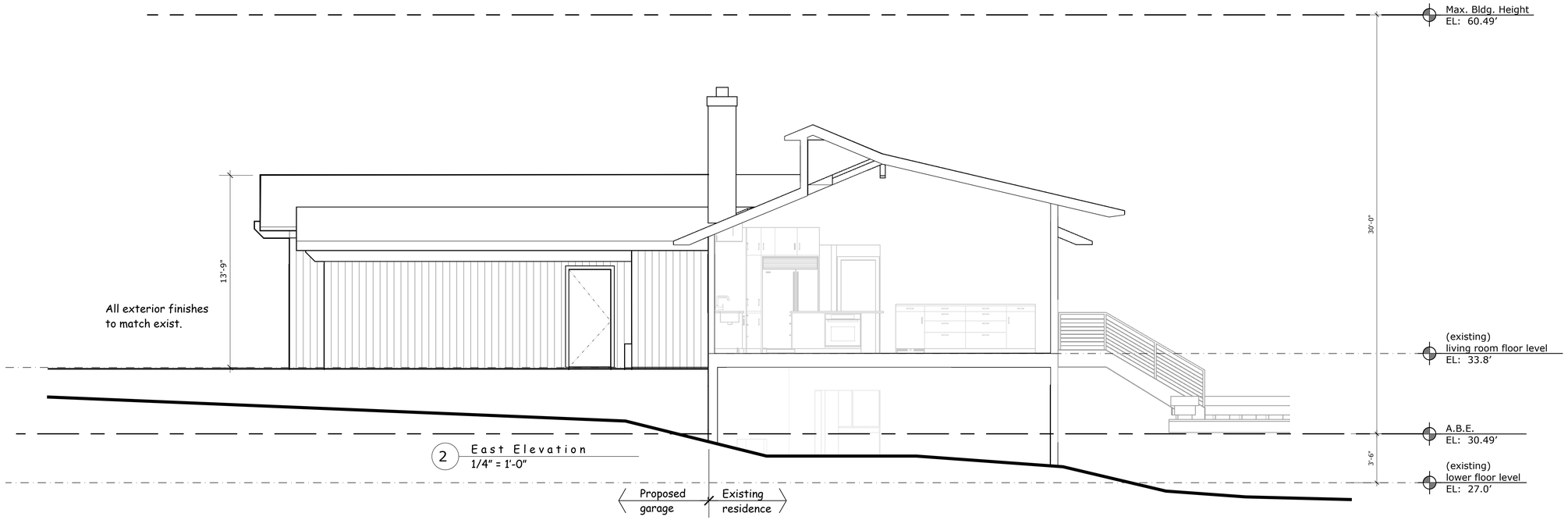
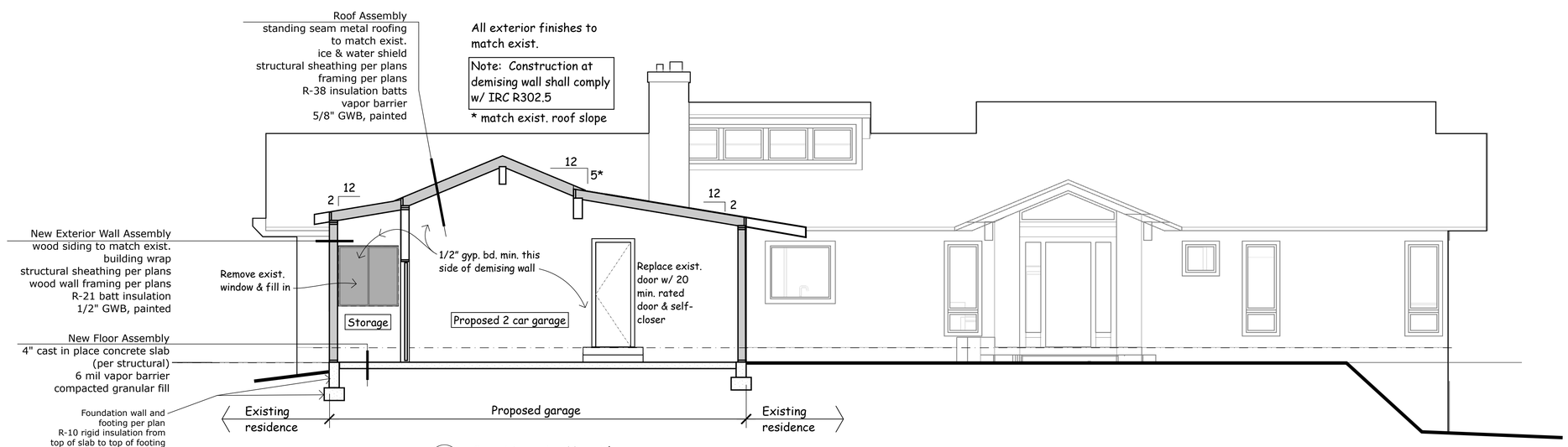
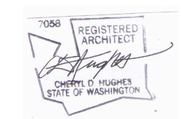


2 East Elevation
1/4" = 1'-0"



1 Section to North
1/4" = 1'-0"



Building Permit Set
19 May 2021

Loeser Van Kessel
Residence

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Mercer Island WA.98040

Section
Details

A 3.2

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GENERAL RESIDENTIAL STRUCTURAL NOTES

(The following apply unless shown otherwise on the plans)

CRITERIA

1. ALL MATERIALS WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2015 INTERNATIONAL BUILDING CODE (IBC).

2. DESIGN LOADING CRITERIA

SNOW LOAD	25 PSF
FLOOR LIVE LOAD (RESIDENTIAL)	40 PSF
WIND (MAIN WIND FORCE RESISTING SYSTEM)	Vult = 110 MPH
	Vasd = 85 MPH
	RISK CATEGORY = II
	Kzt = 1.0
	EXPOSURE C, GCpi = 0.18
EARTHQUAKE (EQUIVALENT LATERAL FORCE PROCEDURE)	Ss=1.468, Sds =0.979
(BASED ON 2008 USGS "HAZARD DATA)	S1=0.562, Sd1 =0.562
	Ie=1.0, SITE CLASS = D
	SEISMIC DESIGN CATEGORY= D
	RISK CATEGORY = II
	R = 6.5 *FOR WOOD FRAMED SHEARWALL LATERAL SYSTEM*
	OVER STRENGTH FACTOR, Ω_0 =3.0
	REDUNDANCY FACTOR =1.0
	Cs = 0.151, GARAGE BASE SHEAR = 2.1 KIPS

SEE PLANS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.

5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM HIS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES OF THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED, BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

9. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

GEOTECHNICAL

10. FOUNDATION NOTES: FOUNDATION NOTES: ALLOWABLE SOIL PRESSURE AND LATERAL EARTH PRESSURE ARE ASSUMED AND, THEREFORE, MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER. IF SOILS ARE FOUND TO BE OTHER THAN ASSUMED, NOTIFY THE STRUCTURAL ENGINEER FOR POSSIBLE FOUNDATION REDESIGN.

FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED EARTH AT LEAST 18" BELOW ADJACENT FINISHED GRADE, UNLESS OTHERWISE NOTED, FOOTINGS SHALL BE CENTERED BELOW COLUMNS OR WALLS ABOVE.

BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE.

ALLOWABLE SOIL PRESSURE	2,000 PSF
LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED)	60 PCF/95 PCF
LATERAL EARTH PRESSURE (SEISMIC)	7H (ULTIMATE LOAD)
PASSIVE EARTH PRESSURE (INCLUDES FACTOR OF SAFETY = 1.5)	350 PCF
COEFFICIENT OF FRICTION (INCLUDES FACTOR OF SAFETY = 1.5)	0.35

CONCRETE

11. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED, AND PLACED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE SECTION 1905 AND ACI 301-11. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3,000 PSI, SHALL CONTAIN NO LESS THAN 5½ SACKS OF CEMENT, HAVE A MAXIMUM WATER / CEMENT RATIO OF 0.45, AND A SLUMP OF 5" OR LESS. CONCRETE HAS BEEN DESIGNED USING 2,500 PSI PER INTERNATIONAL BUILDING CODE SECTION 1705.3 EXCEPTION 2.3 TO AVOID SPECIAL INSPECTIONS.

MIX DESIGNS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD, AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH CHAPTER 5 OF ACI 318-11. THE USE OF A PERFORMANCE MIX REQUIRES BATCH PLANT INSPECTION, THE COST OF WHICH SHALL BE PAID BY THE GENERAL CONTRACTOR. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS TO THE CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494M, AND C618. UNLESS OTHERWISE NOTED THE TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE 5% IN ACCORDANCE EXPOSURE CLASS F1 PER ACI 318-11 TABLE 4.3.1 AND TABLE 4.4.1.

12. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENTS S1), GRADE 60, fy = 60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy = 40,000 PSI.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185

13. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI SP-66-04 AND 318-11. LAP ALL CONTINUOUS REINFORCEMENT #5 AND SMALLER 48 BAR DIAMETERS OR 2'-0" MINIMUM. A MAXIMUM OF ONE HALF OF THE TOTAL REINFORCEMENT SHALL BE LAPPED WITH THE REQUIRED LAP LENGTH. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. FIELD BENDING OF GRADE 60 REINFORCEMENT SHALL NOT BE ALLOWED.

14. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
ALL OTHER SURFACES	1-1/2"

15. SLABS-ON-GRADE: UNLESS NOTED OTHERWISE SHALL BE 4" CONCRETE, REINFORCED WITH 6X6 W1.4XW1.4 WELDED WIRE FABRIC CENTERED IN SLAB. UNLESS OTHERWISE DIRECTED BY SOILS ENGINEER PROVIDE MINIMUM 6 MIL VAPOR BARRIER OVER 4" OF COMPACTED SAND OR GRAVEL.

16. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES.

17. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3,000 PSI MINIMUM).

POST INSTALLED ANCHORS

18. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER–OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCEMENT. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND ICC-ES REPORT. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD FOR APPROVAL.

A. CONCRETE ANCHORS
   1. ADHESIVE ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC308. PRE-APPROVED ADHESIVE ANCHORS INCLUDE:
      a. SIMPSON STRONG-TIE "SET-XP" (ICC-ES ESR-2508)
      b. SIMPSON STRONG-TIE "AT-XP" (IAPMO UES ER-263)
      c. HILTI "HIT-RE 500-SD" (ICC-ES ESR-2322)

WOOD

19. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17, LATEST EDITION. FURNISH TO THE FOLLOWING MINIMUM STANDARDS.

JOISTS: (2X, 3X, AND 4X MEMBERS)	HEM-FIR NO. 2 MINIMUM BASE VALUE, F_b = 850 PSI
BEAM AND STRINGERS: (6 X AND LARGER MEMBERS)	DOUGLAS FIR NO. 1 MINIMUM BASIC DESIGN STRESS, F_b = 1,350 PSI
POSTS AND TIMBERS: (6 X AND LARGER MEMBERS)	DOUGLAS FIR NO. 1 MINIMUM BASIC DESIGN STRESS, F_b = 1,200 PSI, F_C = 1,000 PSI
STUDS PLATES & MISCELLANEOUS LIGHT FRAMING (FINGER JOINTED STUDS MAY NOT BE USED WITH APPROVAL FROM STRUCTURAL ENGINEER)	DOUGLAS FIR/ HEM-FIR NO. 2, F_b = 850 PSI, F_C = 1,300 PSI
2X AND 3X TONGUE AND GROOVE DECKING	HEM-FIR COMMERCIAL DEX, F_b = 1,350 PSI

20. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1-09 OR PS 2-10 AND AMERICAN PLYWOOD ASSOCIATION PERFORMANCE STANDARD PRP-108. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD. SEE PLANS FOR THICKNESS, PANEL IDENTIFICATION INDEX AND NAILING REQUIREMENTS. EACH PANEL SHALL BE IDENTIFIED FOR GRADE AND GLUE TYPE BY THE TRADEMARKS OF AN APPROVED TESTING AND GRADING AGENCY.

21. ALL WOOD PLATES IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE, PROVIDE 2 LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER BETWEEN UNTREATED LEDGERS, BLOCKING, ETC. AND CONCRETE OR MASONRY.

PRESSURE TREATED LUMBER SHALL COMPLY WITH THE AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, COMMODITY SPECIFICATION A AS INDICATED BELOW OR HAVE EQUIVALENT ICC-ES APPROVAL.

PROPOSED USE		AWPA USE CATEGORY
SILL PLATES	IN CONTACT WITH CONCRETE OR MASONRY	2

ALL TREATED LUMBER SHALL BEAR THE QUALITY MARK OF AN ACCREDITED INSPECTION AGENCY. THE QUALITY MARK SHALL INCLUDE:

A. IDENTIFICATION OF TREATING MANUFACTURER
B. TYPE OF PRESERVATIVE USED
C. MINIMUM PRESERVATIVE RETENTION (PCF)
D. END USE FOR WHICH THE PRODUCT IS TREATED
E. IDENTITY OF THE ACCREDITED INSPECTION AGENCY
F. STANDARD TO WHICH THE PRODUCT IS TREATED

22. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-2013. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE, ALL NAILS SHALL BE COMMON AND MAXIMUM NUMBER OF NAILS AS SPECIFIED BY THE MANUFACTURER SHALL BE PROVIDED. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED. ALL SAWN LUMBER JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS AND ALL PREFABRICATED PLYWOOD WEB JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "IUS" SERIES JOIST HANGERS UNLESS NOTED OTHERWISE.

ALL CONNECTIONS IN CONTACT WITH PRESERVATIVE-TREATED OR FIRE-RETARDANT-TREATED WOOD, SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. HOT DIPPED GALVANIZED FASTENERS SHOULD CONFORM TO ASTM STANDARD 153, AND HOT DIPPED GALVANIZED CONNECTORS SHOULD CONFORM TO ASTM STANDARD A653 (CLASS G-185). STAINLESS STEEL FASTENERS AND CONNECTORS SHOULD BE TYPE 304 OR 316. NOTE: ELECTROPLATED GALVANIZED FASTENERS AND CONNECTORS ARE NOT TO BE USED WITH PRESSURE TREATED WOOD. SIMPSON PRODUCT FINISHES CORRESPONDING TO THE ABOVE REQUIREMENTS ARE ZMAX (HOT DIPPED GALVANIZED) AND SST300 (STAINLESS STEEL). STAINLESS STEEL HARDWARE AND FASTENERS SHALL NOT BE COMBINED WITH UNTREATED OR GALVANIZED MATERIAL.

23. WOOD FASTENERS:

A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
6d	2"	0.113"
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"
16d	3-1/2"	0.162"

DESIGN IS BASED ON COMMON STEEL WIRE NAILS MEETING THE REQUIREMENTS OF ASTM F1667. USE OF ALTERNATE FASTENERS MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO THE START OF CONSTRUCTION.

B. NAILS – PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.

24. WOOD FRAMING NOTES – THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE. MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE. UNLESS NOTED OTHERWISE, ALL NAILS SHALL BE AS SPECIFIED ABOVE. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. INSTALLATION OF BOLTS AND LAG SCREWS SHALL CONFORM TO SECTIONS 11.1.2 AND 11.1.3 OF THE 2015 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. NATURALLY DURABLE OR PRESSURE TREATED WOOD SHALL BE PROVIDED WHERE REQUIRED BY SECTION 2304.11 OF THE INTERNATIONAL BUILDING CODE.

B. WALL FRAMING: ALL STUD WALLS SHOWN AND NOT OTHERWISE NOTED SHALL BE 2X6 AT 16" O.C. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS. TWO 2 x 8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED AND SHALL BEAR FULLY ON A MINIMUM OF TWO STUDS. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE SOLID BLOCKING BETWEEN STUDS AT MID-HEIGHT OF ALL STUD WALLS OVER 10' IN HEIGHT.

STUDS MAY BE NOTCHED, CUT, OR PENETRATED WITH ROUND BORED HOLES AS FOLLOWS:

STUD SIZE	MAXIMUM NOTCH / CUT	MAXIMUM BORED HOLE
2X4	7/8"	1-3/8"
2X6	1-3/8"	2-1/8"

BORED HOLES SHALL NOT BE LOCATED WITH 5/8" FROM THE EDGE OF THE STUD OR AT THE SAME LOCATION AS A NOTCH OR CUT.

WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE TO EACH STUD WITH TWO 16d NAILS, AND TOENAIL OR END NAIL EACH STUD TO BOTTOM PLATE WITH TWO 16d NAILS. FACE NAIL DOUBLE TOP PLATE WITH 16d AT 12" O.C. AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE EIGHT 16d NAILS AT 4" O.C. EACH SIDE OF JOINT.

ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS AT 12" O.C. STAGGERED OR BOLTED TO CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS (WITH 7" MINIMUM EMBEDMENT) @ 4'-0" O.C. UNLESS INDICATED OTHERWISE. PROVIDE 3"x3" x1/4" HOT-DIPPED GALVANIZED PLATE WASHERS AT ALL ANCHOR BOLTS. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH 16d NAILS @ 12" O.C. STAGGERED. REFER TO THE PLANS AND SHEAR WALL SCHEDULE FOR REQUIRED SHEATHING AND NAILING. WHEN NOT OTHERWISE NOTED, PROVIDE GYPSUM WALLBOARD ON INTERIOR SURFACES NAILED TO ALL STUDS, TOP AND BOTTOM PLATES AND BLOCKING WITH NAILS AT 7" O.C. USE 5d COOLER NAILS FOR 1/2" GWB AND 6d COOLER NAILS FOR 5/8" GWB. PROVIDE 15/32" APA RATED SHEATHING (SPAN RATING 24/0) ON EXTERIOR SURFACES NAILED AT ALL PANEL EDGES (BLOCK UNSUPPORTED EDGES), TOP AND BOTTOM PLATES WITH 8d NAILS @ 6" O.C. AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH NAILS @ 12" O.C. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS.

C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS.

NOTCHES AT THE END OF JOISTS AND RAFTERS SHALL NOT EXCEED 1/4 THE DEPTH OF THE MEMBER. NOTCHES IN THE TOP OR BOTTOM SHALL NOT EXCEED 1/6 THE DEPTH OF THE MEMBER AND SHALL NOT BE LOCATED WITHIN THE MIDDLE 1/3 OF THE SPAN. THE DIAMETER OF ROUND HOLES BORED IN JOISTS AND RAFTERS SHALL NOT EXCEED 1/3 OF THE DEPTH OF THE MEMBER AND SHALL NOT BE LOCATED WITHIN 2" FROM THE TOP OR BOTTOM EDGE.

TOENAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH TWO ROWS OF 16d @ 12" O.C. ATTACH RAFTERS AT BEARING LINES WITH H2.5 @ 24" O.C. UNLESS OTHER METAL CONNECTIONS ARE PROVIDED.

UNLESS OTHERWISE NOTED ON THE PLANS, APA RATED ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND NAILED WITH NAILS @ 6" O.C. TO FRAMED PANEL EDGES AND OVER STUD WALLS AS SHOWN ON PLANS AND @ 12" O.C. TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ALL ROOF AND FLOOR SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12" O.C. UNLESS OTHERWISE NOTED. AT BLOCKED FLOOR AND ROOF DIAPHRAGMS PROVIDE FLAT 2X BLOCKING AT ALL UNFRAMED PLYWOOD PANEL EDGES AND NAIL WITH EDGE NAILING SPECIFIED.

TONGUE AND GROOVE STRUCTURAL ROOF AND FLOOR DECKING SHALL BE INSTALLED AS FOLLOWS:

2X DECKING SHALL BE TOENAILED THROUGH THE TONGUE AND FACE NAILED WITH ONE 16d NAIL PER PIECE PER SUPPORT.

3X AND 4X DECKING SHALL BE TOENAILED WITH ONE 40d NAIL AND FACE NAILED WITH ONE 60d NAIL PER SUPPORT. COURSES SHALL BE SPIKED TOGETHER WITH 8" SPIKES AT 30" O.C. (MAXIMUM) AND AT 10" (MAXIMUM) FROM EACH END OF EACH PIECE. SPIKES SHALL BE INSTALLED IN PREDRILLED EDGE HOLES.

Building Permit Set
19 May 2021

Loeser Van Kessel
Residence

7426 S.E . 71st Street
Mercer Island WA.98040

Structural
Notes

S 1.1

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Architects
820 John Street
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ROOF FRAMING PLAN NOTES

1. ROOF SHEATHING SHALL BE 15/32" APA RATED SHEATHING WITH A PANEL INDEX OF 24/0. NAIL TO FRAMING WITH 8D COMMON NAILS AT 6" OC AT PANEL EDGES AND 12" OC IN FIELD UNLESS NOTED OTHERWISE ON PLANS. WHERE NOTED ON THE PLANS ALL PANEL EDGES SHALL BE BLOCK WITH MINIMUM 2X MATERIAL.
2. ALL HEADERS AND BEAMS SHALL BE (2) 2X8 MINIMUM, U.N.O. REFER TO NOTE 3 FOR SUPPORT REQUIREMENTS.
3. ALL COLUMNS SHALL BE DOUBLE STUD MINIMUM, U.N.O., WITH THE BEAM OR HEADER BEARING FULLY ON THE COLUMN. INDIVIDUAL STUDS SHALL BE NAILED TOGETHER PER THE GENERAL STRUCTURAL NOTES.
4. EXTERIOR WALL SHEATHING SHALL BE 15/32" APA RATED SHEATHING WITH A PANEL INDEX OF 24/0 (ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING, AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD AT CONTRACTORS OPTION).

FOUNDATION PLAN NOTES

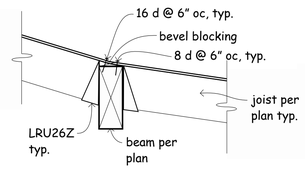
1. ALL SLABS-ON-ON-GRADE SHALL BE 4" REINFORCED WITH WWF6X6 W1.4XW1.4 U.N.O. PROVIDE MINIMUM 6-MIL VISQUEEN VAPOR BARRIER UNDER ALL SLABS. SLABS SHALL BE SUPPORTED ON A MINIMUM 4 INCHES OF FREE DRAINING MATERIAL.
2. AT HOLDOWNS PROVIDE THE FOLLOWING ANCHOR BOLTS:

HOLDOWN	ANCHOR
HDU2	SSTB16 (OR ¾"Ø BOLT, SET EPOXY EMBED 10")

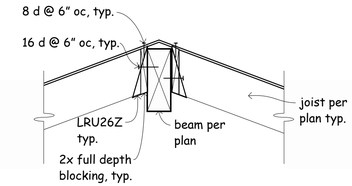
3. ALL ANCHORS TO BE INSTALLED AS REQUIRED BY MANUFACTURER. MINIMUM (2) 2X STUDS UNLESS OTHERWISE NOTED ON PLANS.

Mark	Sheathing	Blck'g	Panel Nailing [1]	Attachment to top plate [3]	Bottom Plate Attachment: Rim Joist Req'd	Bottom Plate Attachment: Nailing to [4] wood below	Bottom Plate Attachment: A. Bolts to[5] concrete below	Capacity (plf) (Seismic)
SW 1	15/32" APA Sheathing	Yes	8d @ 6"oc	CLIP @ 24"oc	2x	16d @ 6"oc	5/8" @ 48"oc	240

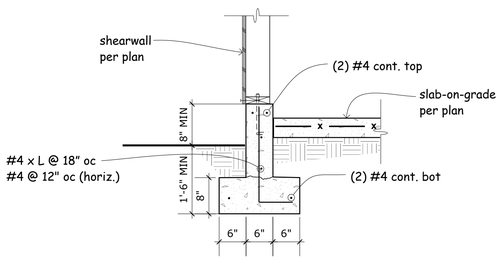
[1] Nails shall be 8d box. Nailing applies to all panel edges (block all unsupported panel edges), top & bottom plates and blocking. Nail to intermediate framing members w/ 8d @ 12"oc. (Note: where stud spacing is 24"oc, nail to intermediate framing members with 8d@6"oc.)
[2] Not used.
[3] Clip shall be either A35, LTP4.
[4] Nails shall be 16d box (0.135Øx3½") or 10d common (0.148Øx3½")
Screws shall be Simpson SDS25412 (1/4"Øx4½"min).
[5] Provide 3"x3"x0.229" plate washer at all anchor bolts. Anchor bolts shall be positioned such that plate edge of plate washer is with 1/2" of the edge of the bottom plate. (Plate washers may be diagonally slotted with a width of up to 13/16" and a length not to exceed 1¾")



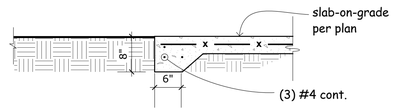
8 Edge Beam Detail
3/4" = 1'-0"



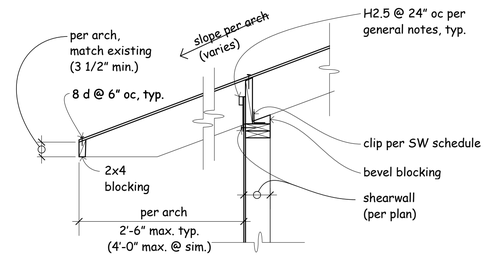
7 Ridge Beam Detail
3/4" = 1'-0"



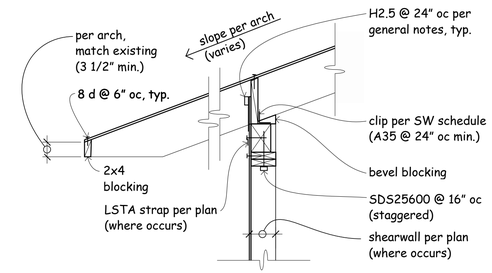
3 Foundation Detail
3/4" = 1'-0"



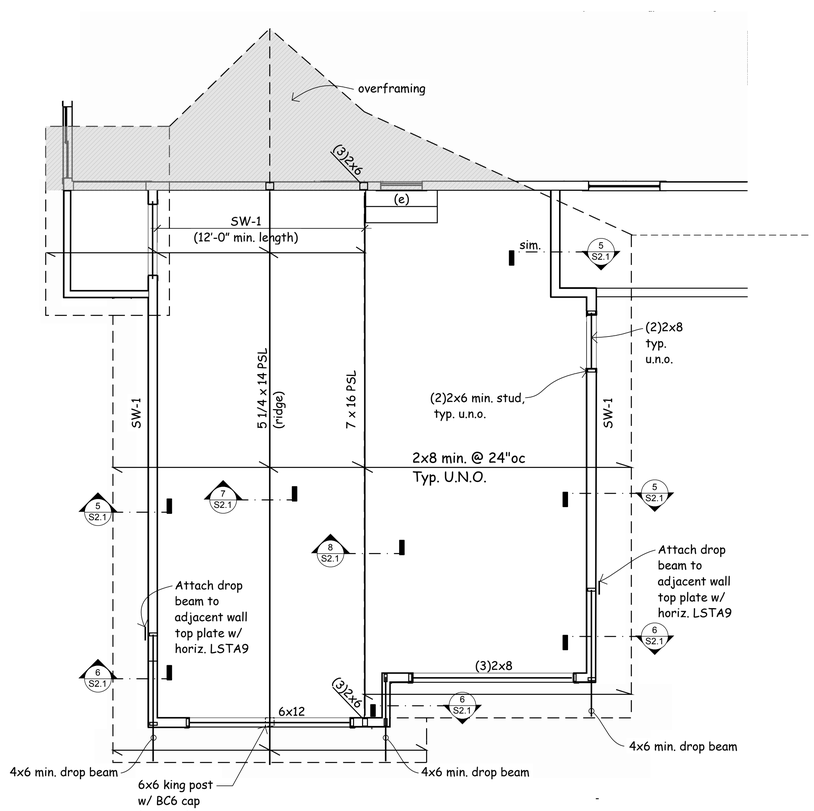
4 Slab Edge Detail
3/4" = 1'-0"



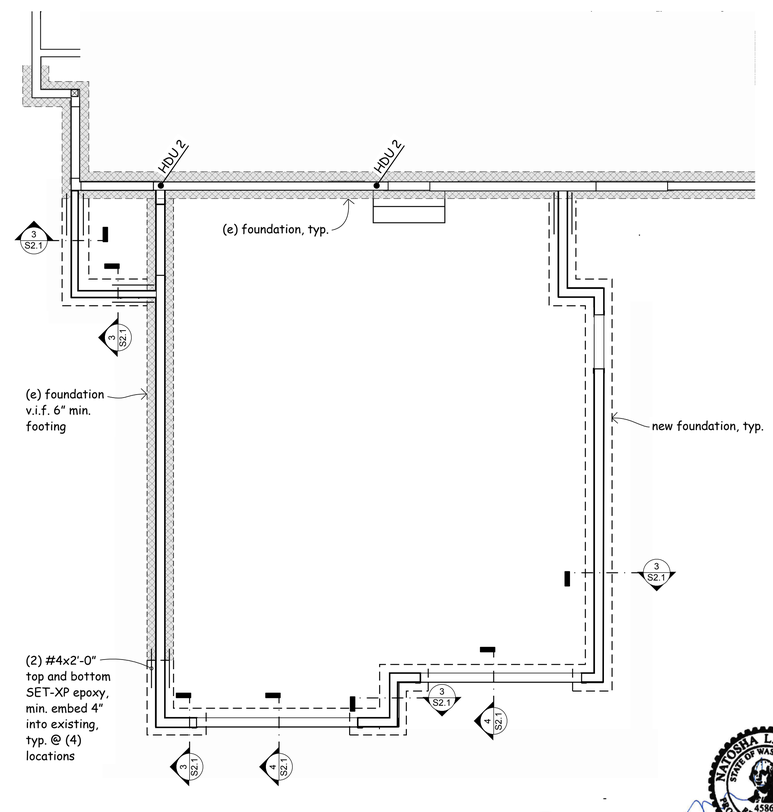
5 Roof Framing Detail
3/4" = 1'-0"



6 Roof Framing Detail
3/4" = 1'-0"



2 Roof Framing Plan
1/4" = 1'-0"



1 Foundation Plan
1/4" = 1'-0"

Building Permit Set
19 May 2021

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7426 S.E. 71st Street
Mercer Island WA.98040

Framing Plans & Details

S 2.1