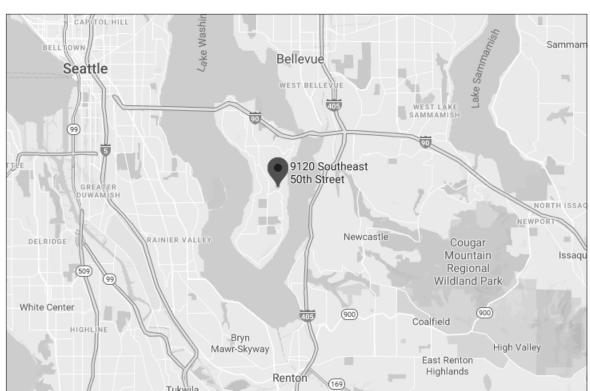
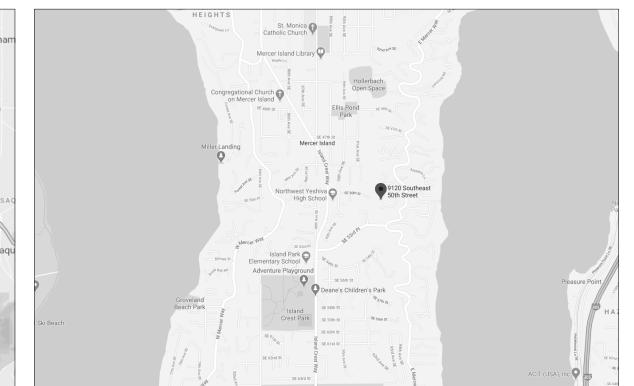
VICINITY PLAN



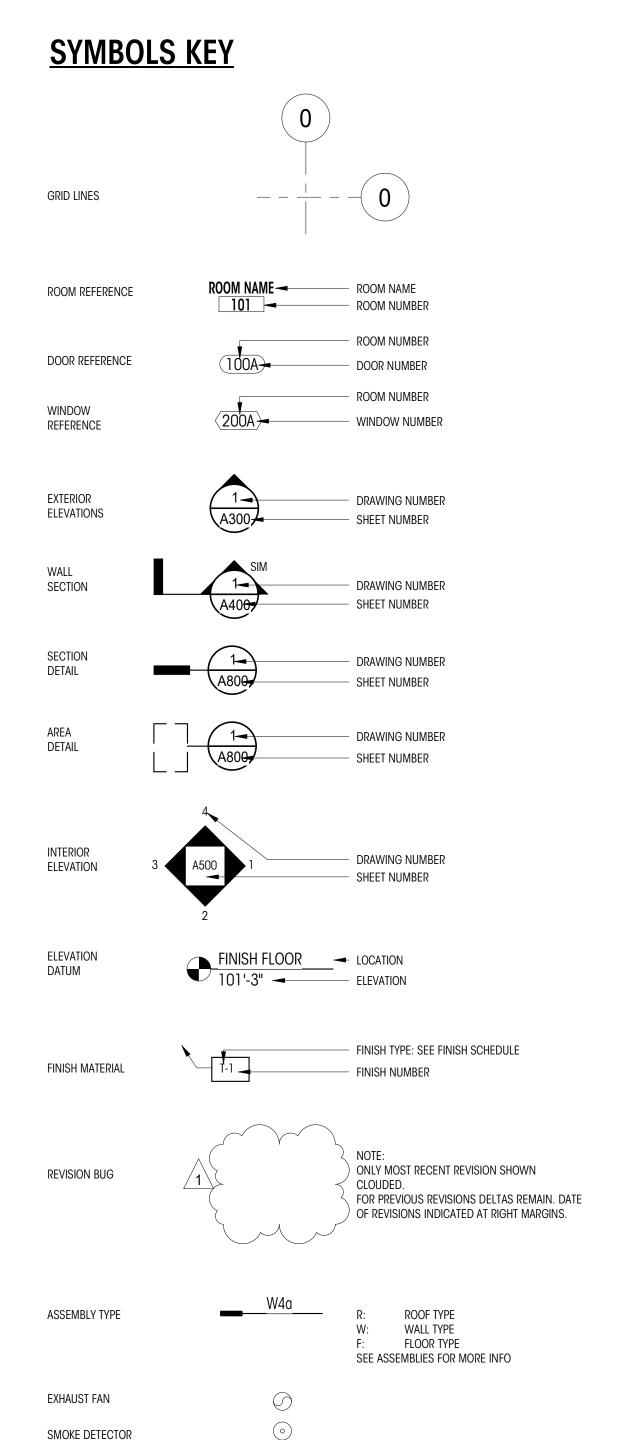
LOCATION PLAN



ABBREVIATIONS

ABV AFF	ABOVE ABOVE FINISH FLOOR
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ALT	ALTERNATE
ARCH	ARCHITECT, ARCHITECTURAL
BLW	BELOW
BSMT BTW	BASEMENT BETWEEN
BLD	BUILDING
CAB	CABINET
CALC	CALCULATION
CLG	CEILING
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
DEMO	DEMOLISH
DIA	DIAMETER
DIM DW	DIMENSION DISHWASHER
DBL	DOUBLE
EA	EACH
ELEC	ELECTRIC, ELECTRICIAN
ELEV	ELEVATION
ENGR	ENGINEER
EQUIV	EQUIVALENT EXISTING
EXIST OR (E) EXT	EXTERIOR
FF	FINISH FLOOR
GALV	GALVANIZED
GWB	GYPSUM WALL BOARD
HDR	HEADER
HT Horiz	HEIGHT HORIZONTAL
INSUL	INSULATION
INT	INTERIOR
LOC	LOCATE, LOCATION
MAX	MAXIMUM
MFR	MANUFACTURER
MECH MTL	MECHANICAL METAL
MIN	MINIMUM
NTS	NOT TO SCALE
0.C.	ON CENTER
PLY	PLYWOOD
PRELIM PT	PRELIMINARY PRESSURE-TREATED
PL PL	PROPERTY LINE
REFR	REFRIGERATOR
REINF	REINFORCE, REINFORCING
REQD	REQUIRED
SCHED	SCHEDULE
SW	SHEARWALL
SIM SF	SIMILAR SQUARE FOOT
SPECS	SPECIFICATIONS
SSTL	STAINLESS STEEL
STL	STEEL
STRUCT	STRUCTURE, STRUCTURAL
TEMP	TEMPORARY
TOW TYP	TOP OF WALL TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
VERT	VERTICAL
WP	WATERPROOF, WEATHERPROOF
WNDW	WINDOW
W/ W/O	WITH WITHOUT
, 0	

WOOD



SMOKE/CARBON MONOXIDE DETECTOR

CENTERLINE

GENERAL NOTES

WORK SHALL BE IN COMPLIANCE WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE AS ADOPTED AND MODIFIED BY THE LOCAL JURISDICTIONAL LAND USE CODE, AND ALL OTHER LAWS, CODES, ORDINANCES AND REGULATIONS OF THE COUNTY, STATE, AND FEDERAL JURISDICTIONS, (LATEST EDITION AND AMENDMENTS)

ALL UNDERGROUND UTILITIES MUST BE VERIFIED AS TO EXACT LOCATIONS SO AS NO INTERFERENCE BY DISRUPTION WILL BE CAUSED. GENERAL CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES BY THE METHODS RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND DPD REPRESENTATIVE AT THE PRE-CONSTRUCTION SITE MEETING. DAMAGE THAT MAY BE CAUSED BY GENERAL CONTRACTOR OR SUBCONTRACTOR TO ANY OF THE ABOVE MENTIONED SHALL BE REPAIRED BY HIM AND LEFT IN AS GOOD A CONDITION AS EXISTED PRIOR TO DAMAGING.

CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL **DIMENSIONS AND JOB CONDITIONS** RELATED TO THIS WORK, ALL DIMENSIONS SHALL BE CONSIDERED "NOMINAL" UNLESS NOTED OTHERWISE, DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS ONLY. DIMENSIONS ON LARGE SCALE DRAWINGS OR DETAILS WILL PREVAIL OVER SMALLER SCALED DRAWINGS. WRITTEN DIMENSIONS ARE DRAWN TO THE FACE OF STUD, U.N.O. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT, PROVIDE ALL BUCKOUTS, BLOCKING, AND JACKS AS REQUIRED BY THE DRAWINGS AND OTHER TRADES. ANY DISCREPANCY IN DIMENSIONS SHALL BE REPORTED IN WRITING TO THE PROJECT MANAGER/ DESIGNER FOR CLARIFICATION, OR APPROVAL OF MODIFICATION BEFORE COMMENCING WORK. THE RESPONSIBILITY TO THE PROJECT MANAGER/DESIGNER, SHALL REST WITH THE CONTRACTOR OR ANY OTHER PERSON APPROVING SUCH A CHANGE.

ALL **WORKMANSHIP AND MATERIALS** SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF CERTIFICATE OF OCCUPANCY UNLESS SPECIFIED FOR A LONGER PERIOD OF TIME ON SPECIFIED ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING HIS OWN DEFECTIVE WORK AS WELL AS PAY ALL COSTS INCIDENTAL THERETO INCLUDING DAMAGE TO OTHER WORK, FURNISHINGS OR EQUIPMENT.

ALL **WARRANTIES OR GUARANTEES** AS TO MATERIALS OR WORKMANSHIP ON OR WITH RESPECT TO THE OWNER'S WORK SHALL BE CONTAINED IN THE CONTRACT OR SUBCONTRACT WHICH SHALL BE SO WRITTEN THAT SUCH GUARANTEE OR WARRANTIES SHALL INSURE TO THE BENEFIT OF OWNER.

INSURANCE: PRIOR TO THE COMMENCEMENT OF WORK THE GENERAL CONTRACTOR SHALL DELIVER TO THE OWNER CERTIFICATES OF INSURANCE FOR BOTH COMPREHENSIVE GENERAL LIABILITY AND WORKMAN'S COMPENSATION INCLUDING THE TOTAL AMOUNT OF COVERAGE AND CONDITIONS STIPULATED AND AGREED BY BOTH PARTIES.

THE OWNER SHALL BE RESPONSIBLE FOR PAYING FOR THE BUILDING PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL OTHER PERMITS REQUIRED OR NECESSARY FOR THE COMPLETION OF THE WORK FROM THE RESPECTIVE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE GOVERNING AGENCIES AS REQUIRED FOR SITE

ALL TRADES SHALL REFER TO THE **ARCHITECTURAL DRAWINGS** REGARDING LOCATIONS OF WORK TO BE INSTALLED.

UNLESS OTHERWISE NOTED, PROVIDE ALL MISCELLANEOUS FASTENERS, HARDWARE AND ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION. EVEN THOUGH SUCH ITEMS MAY NOT HAVE BEEN SPECIFICALLY MENTIONED IN THE DRAWINGS AND SPECIFICATIONS, NOTIFY THE ARCHITECT OF ANY REVISIONS OR ADDITIONAL INFORMATION OBTAINED FROM THE MANUFACTURER OF SPECIFIED MATERIALS OR EQUIPMENT WHICH MAY AFFECT THE CONTRACT TIME, COST OR QUALITY OF WORK.

GENERAL CONDITIONS

THE GENERAL CONTRACTOR, ALL SUB-CONTRACTORS AND ALL MAJOR SUPPLIERS SHALL SUBMIT TO THE OWNER WITHIN 30 DAYS AFTER COMPLETION ALL "RELEASE OF LIENS" FOR ALL WORK PERFORMED PRIOR TO FINAL PAYMENT.

PARTIAL LIEN WAIVERS TO BE SUBMITTED WITH MONTHLY REQUISITION.

ALL MANUFACTURERS AND/OR SUPPLIERS SHALL SUBMIT SHOP DRAWINGS AND/OR MATERIAL SAMPLES TO THE DESIGNER/OWNER FOR APPROVAL PRIOR TO FABRICATION.

ALL OF THE GENERAL CONTRACTOR'S EQUIPMENT, SCAFFOLDING HOISTS, ETC., SHALL BE AVAILABLE TO THE OWNER/ DESIGNER AND THEIR STAFF FOR INSPECTION OF ANY AND ALL WORK DURING NORMAL WORKING HOURS.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DELIVERY POINTS, HOISTS LOCATIONS, ACCESS TO AND FROM THE SITE OF THE BUILDING AND UTILITY SERVICES.

BID TO INCLUDE ALL NECESSARY AND REQUIRED PERMITS, LICENSES, FEES, BONDS AND INSURANCE - EVIDENCE OF WHICH MUST BE SUBMITTED TO OWNER/ DESIGNER PRIOR TO ANY CONSTRUCTION.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBCONTRACTORS WORKING AT JOB SITE AND FOR ALL

THE MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE ALL EQUIPMENT WITH THE OTHER TRADES. THESE CONTRACTORS SHALL BE RESPONSIBLE FOR FINAL HOOK-UP OF ALL EQUIPMENT NOT FURNISHED BY THEM BUT REQUIRING THE SAME FOR FINAL COMPLETION.

GENERAL CONTRACTOR TO BE RESPONSIBLE FOR SECURITY OF ALL MATERIALS AT JOB SITE UNTIL FINAL ACCEPTANCE OF WORK BY OWNER.

ANY SUBCONTRACTOR CUTTING INTO WORK ALREADY COMPLETED, CUTTING CHASES AND TRENCHES FOR THE INTRODUCTION OF HIS WORK AND EQUIPMENT IN THE BUILDING SHALL DO OR PAY FOR ALL BACK FILLING, REPARATION

COORDINATION OF WORK.

NO SUBSTITUTIONS ARE ALLOWED FOR MATERIALS WHERE SPECIFIC MANUFACTURERS ARE INDICATED, UNLESS APPROVED BY THE OWNER/ARCHITECT. REQUESTS FOR SUBSTITUTIONS SHALL BE MADE IN WRITING PRIOR TO ORDERING MATERIALS OR COMMENCING WORK. SUCH REQUESTS SHALL INCLUDE THE DATE, SCOPE OF WORK, ANY ADDITIONAL COSTS TO THE OWNER, AND ANY ANTICIPATED DELAYS CAUSED BY SUCH CHANGES.

NO EXTRA WORK OR CHANGE SHALL BE MADE UNLESS A WRITTEN CHANGE ORDER IS SUBMITTED AND SIGNED BY THE OWNER AND ARCHITECT. THE ORDER SHALL STATE THAT THE OWNER HAS AUTHORIZED THE EXTRA WORK OR CHANGE, AND NO CLAIM FOR AN ADDITIONAL SUM SHALL BE VALID UNLESS SO OFFERED AS DESCRIBED ABOVE.

ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.

WOOD SPECIFICATIONS TO CONFORM TO OUTLINE SPECIFICATIONS, STRUCTURAL PLANS, NOTES, AND GENERAL CONDITIONS.

CAULKING AND SEALANTS: INSTALLED SHALL BE GUARANTEED WATERTIGHT. EXTERIOR METAL WORK, INCLUDING WINDOWS AND DOOR FRAMES AND ALL JUNCTIONS BETWEEN MASONRY, CONCRETE AND METAL SHALL BE SEALED WITH NEOPRENE OR POLYURETHANE FILLER AND APPROVED SEALANT COMPOUNDS.

PROVIDE GALVANIC INSULATION BETWEEN ALL DISSIMILAR METALS.

PROVIDE WATERPROOFING MEMBRANE OVER PROTECTIVE BOARD AT ALL WALLS EXPOSED TO EARTH.

ALL PIPING AND CONDUIT UNDER SLAB SHALL BE A MINIMUM OF 2"-0' CLEAR OF UNDERSIDE OF FOOTING.

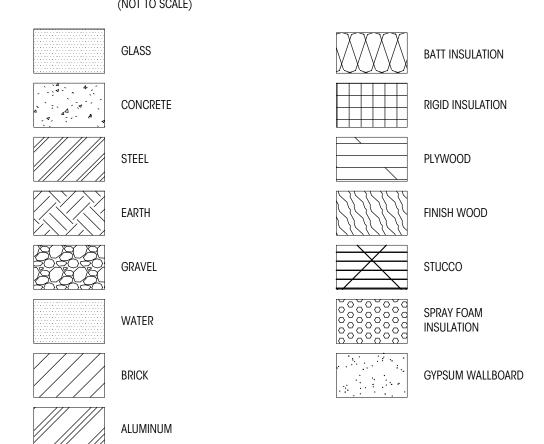
ALL FINAL SURFACE GRADING SHALL BE COMPLETED TO FACILITATE POSITIVE DRAINAGE AWAY FROM THE BUILDING UNLESS NOTED OTHERWISE.

PROVIDE AND INSTALL INSULATION AT EXTERIOR WALLS, ROOF, FLOOR LOCATIONS AS SHOWN, SPECIFIED AND IN ACCORDANCE WITH ENERGY CODE.

WATER PIPES TO BE INSULATED IN ALL UNHEATED AREAS.

INSULATE ALL ROUGH-IN PLUMBING IN WALLS, FLOORS, AND CEILINGS FOR SOUND TRANSMISSION.

GRAPHIC KEY



GENERAL INFORMATION

PROJECT NUMBER

ASSESSOR'S PARCEL #

LEGAL DESCRIPTION

PROJECT DATA	$\frac{1}{2}$
EXISTING LOT AREA SUMMARY	
GROSS LOT AREA	33,106 SF
ACCESS EASEMENTS	316 SF
NET LOT AREA	32,790 SF
OT SLOPE	300-347=47
	47'/165' = 28.4%
<u>SETBACKS</u>	_
FRONT YARD	20'
rear yard	25'
SIDE YARD	LOT WIDTH CIRCLE DIA.= 149'
	COMBINED SETBACK = 17% OF DIA. = 25.33'
	MINIMUM SETBACK = 33% OF COMBINED = 8.36'
<u>ZONING</u>	R-15
LOT COVERAGE	
ALLOWABLE LOT COVERAGE	35% =11,477 SF
EXISTING	
(E) DRIVING SURFACES (LESS EASEMENT)	2,164 SF
(E) RESIDENCE/ GARAGÈ INCL OVERHANGS	4,226 SF
, ,	32,790 SF = 19.5%
Y <u>DEMO</u> Y Y	Y
(E) RESIDENCE/CARPORT AND OVERHANGS TO BE REMOVED	0 SF
(E) DRIVING SURFACES TO BE REMOVED	0 <u>SF</u>
(E) LOT COVERAGE REMOVED	O SF
<u>PROPOSED</u>	<u> </u>
(E) DRIVING SURFACES (LESS 73 SF INCL IN BLDG OH)	2,164 SF
(E) BUILDING OVERHANG/COVERED DECK	4,226 SF
(n) Building/overhangs/covered decks	552 SF
DDODOCED TOTAL LOT COVEDAGE	(040 CF
PROPOSED TOTAL LOT COVERAGE	6,942 SF
0,920 5F7	32,790 SF = 21.2%
<u>ARDSCAPE</u>	
EXISTING	\prec
ATIOS/ WALKWAY/STAIRS (NOT UNDER OVERHANG)	1,214 SF
ECKS (NOT UNDER OVERHANG)	224 SF
•	438 SF / 32,790 SF
=	4.38% OF LOT AREA
DEMOUGUED	\prec
DEMOLISHED ATIOCANANI MANCISTAIDS (CONNIEDTED TO LOT CONFEDACE)	4E7.0F
ATIOS/WAKLWAYS/STAIRS (CONVERTED TO LOT COVERAGE)	457 SF
IECKS Fotal Demolished	0 SF
OTAL DEMOLISHED	457 SF
NEW	
144 44	ζ

TOTAL ADDED 0 SF TOTAL PROPOSED HARDSCAPE 757 SF (E) + (N) - (D) PATIOS/ WALKWAY/STAIRS (E) + (N) DECKS224 SF TOTAL TO REMAIN 981 SF TOTAL PROPOSED HARDSCAPE 981 SF / 32,790 SF = 3.0% OF LOT AREA

35% ALLOWABLE LOT COVERAGE + 9% ALLOWABLE HARDSCAPE COVERAGE = 41%; 59% LANDSCAPE

EXISTING LANDSCAPE / IMPERVIOUS SURFACES

	-(E) LOT COVERAGE	6,390 SF (19.5%)
	-(E) HARDSCAPE	1,438 SF (4.38%)
_	TOTAL EXISTING	7,828SF NON LANDSCAPE
		24,962 SF / 32,790 SF= 76.1% LANDSCA
	DDODOSED I ANDSCADE / IMDEDVIOUS SUDEACES	

32,790 SF

894 SF

1,917 SF

1,295 SF

4,071 SF

482 SF

24,867 SF / 32,790 SF= 76.0% LANDSCAPE

PROPOSED LANDSCAPE / IMPERVIOUS SURFACES LOT AREA 6,942 SF (21.1%) -(P) LOT COVERAGE P) HARDSCAPE 981 SF (3.0%) 7,923 SF NON LANDSCAPE TOTAL PROPOSED

NET IMPERVIOUS SURFACE INCREASE / DECREASE

OTAL IMPERVIOUS SURFACE INCREASE	95 SF
NET HARDSCAPE DECREASE	-457 SF
(P) HARDSCAPE	981 SF
NET LOT COVERAGE INCREASE	552 SF
(P) LOT COVERAGE	6,920 SF

TREE REMOVAL (E) TREES TO BE REMOVED GROSS FLOOR AREA (GFA)S REPLACEMENT LESSER OF 12,000 SQUARE FEET OR 40 PERCENT OF THE LOT AREA

LOT AREA

40% OF LOT AREA: 33,106 SF X 0.40 = 13,242 SF ALLOWABLE GFA 12,000 SF **EXISTING BUILDING AREA SUMMARY (GFA)**

(E) BASEMENT MODIFIER (E) MAIN LEVEL

EXISTING FLOOR AREA RATIO:	3,477/33,106 = 10.5% OF LOT AREA
TOTAL EXISTING BUILDING AREA (GSF)	3,477 SF
(E) DETACHED CARPORT	804 SF
(E) COVERED DECK	344 SF

PROPOSED BUILDING AREA SUMMARY (GFA) PROPOSED BASEMENT BASEMENT MODIFIER

704 SF PROPOSED MAIN LEVEL 2,043 SF PROPOSED COVERED DECK 633 SF 804 SF

PROPOSED DETACHED GARAGE (NO CHANGE TOTAL PROPOSED BUILDING AREA (GSF) 4,071/33,106 = 12.3% OF LOT AREA PROPOSED FLOOR AREA RATIO:

ENERGY/M.E.P

OCCUPANT LOAD -	SINGLE FAMILY	
ENERGY CODE SUMMARY CLIMATE ZONE 1 (TABLE 6-	CIENT ENVELOPE OPTION 1A) .): .30	
WALL BELOW GRADE (INT.) SLAB ON GRADE @ BASEME	R-21 (INT.) OR F R-10	₹-10 (EXT.)

INSTALLED PER INTERNATIONAL MECHANICAL CODE, WORK TO BE COMPLETED UNDER A SEPARATE PERMIT.

FANS ON TIMERS, PER PLANS. VOLUME OF REQUIRED OUTDOOR VENTILATION AIR TO BE PROVIDED BASED ON TABLE 403.8.5.1 OF THE INTERNATIONAL MECHANICAL CODE. * PLUMBING, MECHANICAL, ELECTRICAL WORK TO BE PERMITTED SEPARATELY. SEE SHEET A002 FOR VENTILATION & ENERGY CALCULATIONS.

EXISTING CEILING, WALL OR FLOOR CAVITIES EXPOSED DURING THE CONSTRUCTION PROVIDED THAT THESE CAVITIES ARE FILLED WITH INSULATION. 2x4 FRAMED WALLS SHALL BE INSULATED TO A MINIMUM OF R-15 AND 2x6 FRAMED WALLS SHALL BE INSULATED TO A MINIMUM OF R-21.

CONTRACTOR TO VERIFY CARBON MONOXIDE ALARMS ARE OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 315.3. CONTRACTOR TO VERIFY SMOKE ALARMS ARE OUTSIDE OF EACH BEDROOM IN THE IMMEDIATE VICINITY ON EACH FLOOR LEVEL PER IRC SECTION 314.2.2

9120 SE 50TH ST. **PROJECT ADDRESS** MERCER ISLAND, WA 98040

192405-9207

BEG AT PT 755.94 FT S OF NW COR OF GL 1 TH S 20 FT TH S 88-39-01 E 120 FT TH S 12-26-57 E 151.81 FT TH N 71-20-59 E 240 FT TH N 37-28-01 W 74.48 FT TH N 43-54-01 W 72 FT TH S 83-13-53 W 165.57

FT TH N 88-39-01 W 120 FT TO BEG

REMODEL AND ADDITION OF THE BASEMENT AND **PROJECT DESCRIPTION** MAIN LEVEL.

R-15

BUILDING TYPE SINGLE FAMILY RESIDENCE

PROJECT DIRECTORY

AMELIA & AARON McLEAR 9120 SE 50TH ST. MERCER ISLAND, WA 98040

COLIN BRANDT **ARCHITECT BRANDT DESIGN GROUP** 66 BELL ST., UNIT 1 SEATTLE, WA 98121

206.239.0850 colin@brandtdesigninc.com OWNER'S AGENT/CONTACT **BREE MEDLEY**

SEATTLE, WA 98121 206.239.0850 bree@brandtdesigninc.com STEVE MOELLER/PATRICK KERR,

GENERAL CONTRACTOR SCHULTZ MILLER 1015 NE 113TH ST. SEATTLE, WA 98125 (206) 281.1234 smoeller@schultzmiller.com

BRETT MOZDEN STRUCTURAL ENGINEER SWENSON SAY FAGET 2124 THIRD AVENUE, SUITE 100 SEATTLE, WA 98121

GEOTECHNICAL ENGINEER MARC MCGINNIS GEOTECH CONSULTANTS, INC. 2401 – 10TH AVENUE E SEATTLE, WA 98102

425.747.5618 marcm@geotechnw.com REPORT JN20322

206.443.6212

BRANDT DESIGN GROUP

pkerr@schultzmiller.com

bmozden@ssfengineers.com

66 BELL ST., UNIT 1

SHEET NUMBER SHEET NAME

A401

S4.3

ARCHITECTURAL A000 COVERSHEET A001 WA STATE ENERGY CODE / VENTILATION CALC A002 DUCT TESTING AIR LEAKAGE TESTING TOPOGRAPHIC SURVEY ´ A100 Ƴ Y SITE PLAN Y A101 CRITICAL AREA & PLANTING PLAN AD201 \DEMOJOWER FLOORPLAN / DEMO MAIN FLOOR PLAN AD202

AD203 DEMO ROOF PLAN A210 LOWER FLOOR PLAN A211 MAIN FLOOR PLAN A212 ROOF PLAN A300 EXTERIOR ELEVATIONS (N & W) A301 EXTERIOR ELEVATIONS (S & E) A400 **BUILDING SECTIONS**

BUILDING SECTIONS

A402 WALL SECTIONS A600 WINDOW / DOOR SCHEDULES A700 ASSEMBLY DETAILS STRUCTURAL S1.1 GENERAL STRUCTURAL NOTES S1.2 GENERAL STRUCTURAL NOTES S2.1 FOUNDATION PLAN

S2.2 MAIN FLOOR FRAMING PLAN S2.3 LOWER ROOF FRAMING PLAN S2.4 UPPER ROOF FRAMING PLAN S3.1 TYPICAL CONCRETE DETAILS S3.2 FOUNDATION DETAILS S4.1 WOOD FRAMING DETAILS S4.2 FRAMING DETAILS

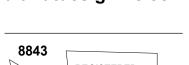
FRAMING DETAILS

Brand

Design Group

66Bell Street Unit 1 Seattle, WA 98121

206.239.0850 brandtdesigninc.com





T' O

(1)

PERMIT DRAWINGS

DATE: 06/30/21 SHEET SIZE: D (24X36)

PERMIT REVIEW 08/06/2021

DRAWN BY: KJ

COMMENTS

COVERSHEET

CHECKED BY: BM

As indicated

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



2015 WSEC & IRC Ventilation Worksheet (Effective July 1, 2016)

INFORMATION IN THESE WORKSHEETS MUST BE INCLUDED IN THE CONSTRUCTION DOCUMENTS This set of worksheets has been developed to assist permit applicants with documenting compliance with the 2015 Washington State Energy Code. The following worksheets provide much of the required documentation for plan review. The details, systems, and ratings noted here must also be shown on the drawings.

RESCRIPT	IVE ENE	RGY CODE	COMPL	IANCE FO	OR CLIMAT	TE ZONE M	IARINE 4		
Component	Fenes	stration 1	Ceiling	Vaulted	Wood Framed	Mass Wall (Above	Below-Grade Wall 2,3	Framed	Slab R-Value &
Component	Vertical	Overhead	w/ Attic	Ceiling	Wall (Int.) ²	grade)	Below-Grade Wall	Floor	Depth
Prescriptive	U. 0.30	U. 0.50	R-49	R-38 min.	R-21 min.	R-21 min.	R- 10/15/21 Int. + TB	R-30 min.	R-10 min.
Value	max.	max.	min.	K-30 IIIIII.	N-21 IIIII.	K-21 IIIII.	K- IWIGIZI IIIL + IB	K-30 IIIII.	2'
Eanastration is a	defined as sk	uliabte, roof wi	ndaws werti	nal usindause (f	ived or moveah	lel, onnaue don	rs alazed doors alazed ble	ack and combin	ortion

apaque/glazed doors. Fenestration includes products with glass and non-glass glazing materials.

Int. (intermediate framing) denotes standard framing 16" o.c. with headers insulated with a minimum R-10 insulation.

10/15/21 +TB* means R-10 continuous insulation on the exterior of the wall, or R-15 on the continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +78" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "TB" means thermal break between floor slab and basement wall.

Whole House Ventilation (Prescriptive) Please check the appropriate box to describe which of the four prescriptive Whole House Ventilation Systems you will be using AND fill in the required whole house ventilation rate in CFM's. (See "2015 Residential Whole House Ventilation Rate" Handout.) A complete system required by one of the sections noted below must be specified on the drawings. WHOLE HOUSE VENTILATION METHOD Intermittent Whole House Ventilation Using Exhaust Fans & Fresh Air Inlets. (IRC M1507.3.4) Intermittent Whole House Ventilation Integrated with a Forced Air System. (IRC M1507.3.5) Intermittent Whole House Ventilation using a Supply Fan. (IRC M1507.3.6) Intermittent Whole House Ventilation Using a Heat Recovery Ventilation System (IRC M1507.3.7

Source Specific Exhaust Ventilation & Fan Efficiency

Required in each kitchen, bathroom, water closet compartment, laundry room, indoor swimming pool, spa and other rooms where water vapor or cooking odor is produced. (IRC M 1507.4) Fan efficiency from WAC 51-11R - Table R403.6.1. Kitchen Hoods greater than 400 cfm require makeup air per IRC M1503.4

Minimum Source Specific Ventilation Capacity Requirements										
	Bathrooms -	Utility Rooms	Kitchens	In-line fan						
Intermittently operating	50 cfr	m min	100 cfm min							
Continuous operation	20 cfm min		25 cfm min							
Minimum Efficacy (cfm/watt)	1.4 cfm/watt if	2.8 cfm/watt if	2.8 cfm/watt	2.8 cfm/watt						
	<90cfm	>90cfm								

Energy Efficiency Credits

Each dwelling unit shall comply with sufficient options from WSEC Table R406.2 so as to achieve the following minimum number of credits as described on the reverse side of this page.

Small Dwelling Unit: 1.5 credits (Dwelling units less than 1500 SF in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building that are greater than 500 SF of heated floor area, but less than 1500 SF. TOTAL SQUARE FEET OF FENESTRATION:

| SEE MED | SEE MED | Global See Med Medium Dwelling Unit: 3.5 credits (All dwelling units not included in #1 or #3. Exception: Dwelling units serving R-2 occupancies shall require 2.5 credits.

Large Dwelling Unit: 4.5 credits (Dwelling Units exceeding 5000 SF of conditioned floor area.

itions less than 500 SF: 0.5 credits

S:\DSG\FORMS\2017\Building\2015_WSEC_IRC_Ventilation.pdf

Fenestration Schedule

Please check the applicable boxes and complete the information below

Weighted Average: Using the Prescriptive Method, all glazing must have an "area weighted average" U-Factor of 0.30. This means that some windows can have a higher U-factor than 0.30 and some can have a lower U-factor than 0.30, as long as the area weighted average is U-0.30 or lower you may need to complete this form to document glazing compliance when applying for your

Dwelling units less than 1500 SF in conditioned floor area: If using the option for new dwellings less than 1500 SF of conditioned floor area with no more than 300 SF fenestration

		Glazing		Wi	Width		Height		Glazing	
Exemptions	Ref	U-Factor	Qt.	Feet	Inch	Feet	Inch		Area	UA
Swing Door (24 SF Max)								[
Glazed Fenestration (15 SF Max)										

VERTICAL FENESTRATION (WINDOWS AND GLAZED DOORS)

Plan	Component	Ref	Glazing	Qt.	Wie	dth	Heig	ght	Gla	zing
ID	Description		U-Factor		Feet	Inch	Feet	Inch	Area	UA
102A	WINDOW		.3	1	4	1	7	6	31	9
1028	WINDOW		.3	1	3	5	7	6	26	8
102C	WINDOW		.3	- 1	3	8	7	9	28	9
102D	WINDOW		.3	1	4	0	7	9	31	9
103A	WINDOW		.3	1	8	1	4	2	34	10
104A	WINDOW		.3	1	8	1	4	2	34	10
206A	WINDOW		.3	1	8	1	- 4	2	34	10
206B	WINDOW		.3	1	9	5	1	4	13	4
1028	DOOR		.3	1	3	6	7	4	26	8
102C	DOOR		.3	- 1	3	9	7	- 4	26	
				Sum of	Vertical F	enestrat	ion Area a	and UA	282	85

Area Weighted U = UA/Area

OVERHEAD GLAZING (SKYLIGHT)

ID Description U-Factor Feet Inch Feet Inch	Area U
Sum of Overhead Glazing Area and UA Area Weighted U = UA/Area	

Total Sums of Area and UA for Vertical Fenestration and Overhead Glazing Area and UA:

Minimum airflow (Q_r) is set at not less than 30 cfm for each dwelling units.

2015 WSCE - Table R406.2 - circle the options that you will be using for this project

PTION	DESCRIPTION	CREDIT
	EFFICIENT BUILDING ENVELOPE 1a:	
	Vertical fenestration U = 0.28	l
1a	Floor R-38	0.5
\Box	Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab.	l
\Box	OR Compliance based on Section R402.1.4: Reduce the Total UA by 5%.	Ь—
	EFFICIENT BUILDING ENVELOPE 1b:	
	Vertical fenestration U = 0.25	l
1b	Wall R-21 plus R-4 Floor R-38 Basement wall R-21 int plus R-5 ci	1.0
	Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab.	l
\sqcup	OR Compliance based on Section R402.1.4: Reduce the Total UA by 15%.	l
\dashv	EFFICIENT BUILDING ENVELOPE 1c:	-
	Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.22	l
	Ceiling and single-rafter or joist-vaulted R-49 advanced Wood frame wall R-21 int plus R-12 ci	l
1c	Floor R-38	2.0
	Basement wall R-21 int plus R-12 ci	
	Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab	l
	OR Compliance based on Section R402.1.4: Reduce the Total UA by 30%.	
\neg	EFFICIENT BUILDING ENVELOPE 1d:	
1d	Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.24. Projects using this	0.5
	option may not use Option 1a, 1b or 1c.	
_	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:	_
ı	Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum	I
	AND All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code shall be met	I
2a	with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilation systems using a furnace including	0.5
חו	an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode.	l
	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum	l
_	tested building air leakage and shall show the qualifying ventilation system.	Ь—
- 1	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b:	l
	Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0air changes per hour maximum	
2b	AND All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.70.	1.0
\neg	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum	
—	tested building air leakage and shall show the heat recovery ventilation system.	l
\dashv	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c:	-
	Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 1.5air changes per hour maximum.	l
	AND All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code shall be met	
2c	with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.85.	1.5
- 11	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum	l
_	tested building air leakage and shall show the heat recovery ventilation system.	
	HIGH EFFICIENCY HVAC EQUIPMENT 3a:	
	Gas, propane or oil-fired furnace with minimum AFUE of 94%, or Gas, propane or oiled-fired boiler with minimum AFUE of 92%.	I
30	Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e.,	1.0
38	two furnaces) both must meet the standard to receive the credit.	1.0
	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating	I
	equipment type and the minimum equipment efficiency.	
	HIGH EFFICIENCY HVAC EQUIPMENT 3b:	
	Air-source heat pump with minimum HSPF of 9.0. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d.	I
3b	When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit.	1.0
	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating	I
_	equipment type and the minimum equipment efficiency.	Ь—
	HIGH EFFICIENCY HVAC EQUIPMENT 3c:	I
	Closed-loop ground source heat pump; with a minimum COP of 3.3	I
30	OR Open loop water source heat pump with a maximum pumping hydraulic head of 150 feet and minimum COP of 3.6. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two	4.5
3с	furnaces) both must meet the standard to receive the credit.	1.5
	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating	l
—	equipment type and the minimum equipment efficiency.	l
\neg	HIGH EFFICIENCY HVAC EQUIPMENT 3d:	\vdash
	Ductless Split System Heat Pumps, Zonal Control: In homes where the primary space heating system is zonal electric heating, a ductless	I
	heat pump system shall beinstalled and provide heating to the largest zone of the housing unit. Projects may only include credit from	I
	one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the	1.0
24	standard to receive the credit.	4.0
3d		
3d	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	l

Simple Heating System Size Electronic version available at: http://www.energy.wsu.edu/Documents/Heat_Sizing_code%20specs_final_2015.xls Please complete the following information regarding the heating system for this project. The electronic version automatically calculates the information based on the information selected. The paper form below may be used if a computer is not available but will need to be hand calculated

on the r	mormation selected. The paper to	IIII below II	nay be used if a com	poter is not a	valiable but will free	co de man	u carculateu.	
	Conditioned Floor Area (sq ft)		3338					
	Average Ceiling Height (ft)		, 8.4					
	Conditioned Volume (cu ft)		28187					
ing and Do	oors		U-Factor	×	Area	-	UA	
		U	.3 = L3		282 sf		85	
ghts			U-Factor	x I	Area	-	UA.	
		·	u=	l	sf		0	
lation								
iauon	Attic		U-Factor	x	Area		UA	
	71600		u=	,	0 sf		0	
				'				
	Single Rafter or		U-Factor	х	Area	=	UA	
	Joist Vaulted Ceilings	·	u= .026		2027 sf		52.7	
	Above Grade Walls		U-Factor	х	Area	-	UA	
		u	u= 0.048		672 sf		32.3	
	Floors		U-Factor	x	Area	=	UA	
		U	.033	l	255 sf		8.4	
	5.151.W.T.			.,				
	Below Grade Walls		U-Factor	ı ×	Area 84 sf		UA 4	
			.040	l	84 sf		4	
	Slab Below Grade		F-Factor	x	Length		UA	
	JIED DEIGH GIEGE	,	f= .1		23 f		2.3	
				1				
	Slab on Grade		F-Factor	х	Length	=	UA	
		1	f= .1		f		0	
					Su	m of UA	184.7	
		Envelope	Heat Load				8311.5	Btu / Hour
		Sum of	UA x 45					
		Air Leaka	ge Heat Load				13627	Btu / Hour
		Volume	e x 0.6 x 45 x .018					
			Design Heat Load				21938.5	Btu / Hour
			kage Heat Load + En	velope Heat I	.oəd		24420	
			and Duct Heat Load				24132	Btu / Hour
				-	Sesign Heat Load x 1.1	D		
			n conditioned space:		ign Heat Load x 1		33785	no /
			n Heat Equipment O				00100	Btu / Hour
			g and Duct Heat Loa g and Duct Heat Loa					
		ballaini	E and Duck Heat Coa	0 Y T'52 JOL H	eat rump			

403.4 GROUP R WHOLE HOUSE MECHANICAL VENTILATION SYSTEM.

EACH DWELLING UNIT OR SLEEPING UNIT SHALL BE EQUIPPED WITH A WHOLE HOUSE MECHANICAL VENTILATION SYSTEM THAT COMPLIES WITH SECTIONS 403.4.1 THROUGH 403.4.6. EACH DWELLING UNIT OR SLEEPING UNIT SHALL BE EQUIPPED WITH LOCAL EXHAUST COMPLYING WITH SECTION 403.4.7. ALL OCCUPIED SPACES, INCLUDING PUBLIC CORRIDORS, OTHER THAN THE GROUP R DWELLING UNITS AND/OR SLEEPING UNITS, THAT SUPPORT THESE GROUP R OCCUPANCIES SHALL MEET THE VENTILATION REQUIREMENT OF NATURAL VENTILATION REQUIREMENTS OF SECTION 402 OR THE MECHANICAL VENTILATION REQUIREMENTS OF SECTIONS 403.1 THROUGH 403.3.

403.4.1 SYSTEM DESIGN

THE WHOLE HOUSE VENTILATION SYSTEM SHALL CON SIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS; AND THE ASSOCIATED DUCTS AND CONTROLS. LOCAL EXHAUST FANS SHALL BE PERMITTED TO SERVE AS PART OF THE WHOLE HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS IN ACCORDANCE WITH SECTION 403.4.5. THE SYSTEMS SHALL BE DESIGNED AND IN STALLED TO SUPPLY AND EXHAUST THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION 403.4.2 AS ORRECTED BY THE BALANCED AND/OR DISTRIBUTED WHOLE HOUSE VENTILATION SYSTEM COEFFICIENTS IN ACCORDANCE WITH SECTION 403.4.3 WHERE APPLICABLE.

403.4.5 WHOLE HOUSE VENTILATION CONTROLS

1. THE WHOLE HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OP ERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE

2. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OC CUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL IN CLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMEN DED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOW CERTIFIED ON 3/10/2021 WAC 51-52-0403 PAGE 6ING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE PROVIDED WITH READY ACCESS FOR THE OCCUPANT.

EXCEPTION: CENTRAL WHOLE HOUSE MECHANICAL SYSTEMS WITH SUPPLY AIR AND/OR EXHAUST THAT SERVE MORE THAN ONE DWELLING OR SLEEP UNITS ARE NOT REQUIRED TO HAVE MANUAL OVERRIDE OFF CONTROLS ACCESSIBLE TO THE OCCUPANT.

3. WHOLE HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERAT ING CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS ARE PROVIDED IN ACCORDANCE WITH SECTION 403.4.6.5 AND ALLOWED BY SECTION 403.4.4.2.

403.4.2 WHOLE HOUSE MECHANICAL VENTILATION RATES

THE SLEEPING UNIT WHOLE HOUSE MECHANICAL VENTILATION MINIMUM OUTDOOR AIRFLOW RATE SHALL BE DETERMINED IN ACCORDANCE WITH THE BREATHING ZONE VENTILATION RATES MINIMUM OUTDOOR AIRFLOW RATE SHALL BE DETERMINED IN ACCORDANCE WITH THE BREATHING ZONE VENTILATION RATES REQUIREMENTS OF SECTION 403.3.1.1.1.2 USING EQUATION 4-2. THE DWELLING UNIT WHOLE HOUSE ME CHANICAL VENTILATION MINIMUM OUTDOOR AIRFLOW RATE SHALL BE DETERMINED IN ACCORDANCE WITH EQUATION 4-10 OR TABLE 403.4.2.

403.4.6.4 FURNACE INTEGRATED SUPPLY

SYSTEMS USING SPACE CONDITION HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY AIR DISTRIBUTION ARE NOT PERMITTED.

EXCEPTION: AIR HANDLER FANS SHALL BE PERMITTED THAT HAVE MULTI-SPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25 PERCENT OF THE RATED SUPPLY AIR FLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS 401.4 AND 401.5 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE HOUSE VENTILATION SYSTEM CONTROLLER. INTAKE AIR OPENINGS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE TO LIMITING THE INLET FREE AREA MAXIMUM VELOCITY TO 500 FT PER MIN. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10 PERCENT OF THE WHOLE HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE SUPPLY AIR HANDLER SHALL PROVIDE SUPPLY AIR TO EACH HABITABLE SPACE IN THE RESIDENTIAL UNIT. THE WHOLE HOUSE VENTILATION SYSTEM SHALL INCLUDE EXHAUST FANS IN ACCORDANCE WITH SECTION 403.4.6.1 TO MEET THE PRESSURE EQUALIZATION REQUIREMENTS OF SECTION 501.4. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION 403.4.6.7.

O

Design Group

66Bell Street

Unit 1

Seattle, WA

98121

206.239.0850

brandtdesigninc.com

REGISTERED

ARCHITECT

PERMIT DRAWINGS

DATE: 06/30/21

SHEET SIZE: D (24X36)

DRAWN BY: KJ CHECKED BY: BM WA STATE ENERGY CODE / VENTILATION

CALC 1/4" = 1'-0"

Table 403.4.2 WHOLE HOUSE MECHANICAL VENTILATION AIRFLOW RATE

Floor Area	Bedrooms ¹						
(ft ²)	1	2	3	4	>5		
<500	30	30	35	45	50		
500 - 1000	30	35	40	50	55		
1001 - 1500	30	40	45	55	60		
1501 - 2000	35	45	50	60	65		
2001 - 2500	40	50	55	65	70		
2501 - 3000	45	55	60	70	75		
3001 - 3500	50	60	65	75	80		
3501 - 4000	55	65	70	80	85		
4001 - 4500	60	70	75	85	90		
4501 - 5000	65	75	80	90	95		

Table 403.4.6.5

INTERMITTENT WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS a,b

Run-time Percentage in Each 4-hour Segment	50%	66%	75%	100%
Factor ^a	2	1.5	1.3	1.0

a For ventilation system run-time values between those given, the factors are permitted to be determined by interpolation.

b Extrapolation beyond the table is prohibited.

WHOLE HOUSE VENTILATION CALCS

WIIGEL IIG	OOL VEHILLA	11011 0/11	<u>-00</u>
PROPOSED CONDITIONE	ED SF =		3338 SF
NUMBER OF BEDROOMS	S =		4
AIRFLOW IN CFM REQUIF	RED FOR CONTINUOUS VENT	ILATION =	75 CFM
RUN TIME PERCENTAGE	IN EACH 4 HOUR SEGMENT =	=	50 %
FACTOR =			2

403.4.6.5 INTERMITTENT OFF OPERATION

CALCULATION

2015 WSCE - Table R406.2 - Continued

comply with the following requirement

A112.18.1/CSA B125.1.

Water Heating Systems

Heat Pump Water Heaters

ccordance CSA B55.1 and be so labeled

that the unit complies with the standard.

shall be allowed, up to 3 credits. Generation shall be calculated as follows:

combustion equipment shall be direct vent or sealed combustion

rates for all showerheads, kitchen sink faucets, and other lavatory faucets.

equipment type and the minimum equipment efficiency.

OR Water heater heated by ground source heat pump meeting the requirements of Option 3c.

DESCRIPTION

All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution

For forced air ducts: A maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the onditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed

with mastic. If flex ducts are used, they cannot contain splices. Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located outside the conditioned space must be insulated to a minimum of R-8.

Locating system components in conditioned crawl spaces is not permitted under this option. Electric resistance heat and ductless

heat pumps are not permitted under this option. Direct combustion heating equipment with AFUE less than 80% is not permitted

To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating

All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be Plumbing Fixtures Flow Ratings. Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall

. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME

I. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA

qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum

OR For R-2 occupancy, a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an EF greater than 2.0that would supply DHW to all the units through a central heat pump water heater with an experiment of the central heat pump water heater with a central heat pump water heater with a central heater with a

o qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heat

OR Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of

15 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar

OR Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEEA's Northern Climate Specifications

To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heat

A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all the showers, and has a minimum efficiency of 40% if installed for equalflow or a minimum efficiency of 52% if installed for unequal flow. Such units shall be rated in

To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specified the drain water heat ecovery units and the plumbing layout needed to install it and labels or other documentation shall be provided that demo

For each 1200 kWh of electrical generation per each housing unit provided annually by on-site wind or solar equipment a 0.5 credit

For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy

The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and

o qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovo

rind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annua

Laboratory calculator PVWATTs. Documentation noting solar access shall be included on the plans. For wind generation projects designs shall document annual power generation based on the following factors:

pipment type and the minimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energ

Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.74

Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.91

Residential kitchen faucets: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA

uipment type and shall show the location of the heating and cooling equipment and all the ductwork.

system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All

WHOLE HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH ADVANCED CONTROLS THAT ARE CONFIGURED TO OPERATE THE SYSTEM WITH INTERMITTENT OFF OPERATION AND SHALL OPERATE FOR A LEAST TWO HOURS IN EACH FOUR-HOUR SEGMENT. THE WHOLE HOUSE VENTILATION AIRFLOW RATE DETERMINED IN ACCORDANCE WITH SECTION 403.4.2 AS CORRECTED BY SECTION 403.4.3 SHALL BE MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE 403.4.6.5.

75 CFM X 2 = 150 CFM



WASHINGTON STATE UNIVERSITY EXTENSION ENERGY PROGRAM

Duct Testing Standard (RS-33) For New and Existing Construction

New Construction

Based on the protocol for "Total Leakage Testing," or "Leakage Testing to Outdoors" duct leakage in new construction shall not exceed 0.04 CFM25 x floor area (in square feet) served by the system for leakage to outdoors or for total leakage when tested post construction. When testing at rough-in, targets should not exceed 0.04 CFM25 x floor area (in square feet) for total leakage or 0.03 CFM₂₅ x floor area (in square feet) if the air handler is not installed.

Exception: The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope. Ducts located in crawl spaces do not qualify for this exception.

Existing Construction

When a space-conditioning system is altered by the installation or replacement of spaceconditioning equipment (including replacement of the air handler, outdoor condensing unit of a split system air conditioner or heat pump, cooling or heating coil, or the furnace heat exchanger), the duct system that is connected to the new or replacement space-conditioning equipment shall be tested. The test results shall be provided to the building official and the

Exception 1: Duct systems that are documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in RS-33.

Exception 2: Ducts with less than 40 linear feet in unconditioned spaces.

Exception 3: Existing duct systems constructed, insulated or sealed with asbestos.

Exception 4: Additions of less than 750 square feet of conditioned floor area.

In addition, the following requirements must be met:

- All testing must be done by a qualified technician. The minimum qualification requirement is documented attendance at a duct testing training course approved by the building official. The following existing training programs are recognized as equivalent to this requirement:
 - Northwest ENERGY STAR Homes Program, Performance Testing training for new
- b. Performance Tested Comfort Systems (PTCS) training for existing homes and new construction.
- Duct systems must be designed, sized, and installed using recognized industry standards and International Residential Code (IRC) requirements, so that calculated heating and/or cooling loads are delivered to each zone.

Energy Code Support

Washington State University EXTENSION ENERGY PROGRAM

Total Duct Leakage Test

Testing Procedure Application:

This test is appropriate in new construction when ducts are to be tested at the rough-in stage before the house envelope is intact and can also be done post construction. The test measu the total collected leaks in the system at an induced pressure of 25 Pascals (PA). Compare the leakage to exterior test, the total leakage test is simpler, but does not discriminate betwee leakage to inside and outside the heated space; as such, this test is not recommended for homes with complete house envelopes and HVAC systems. In such cases, the leakage to outside test is recommended.

Standard:

 For certification, the measured duct leakage must not exceed 0.04 CFM₂₅ x floor area (in square feet) served by the system at rough-in when the air handler is installed.

2) The measured duct leakage at rough-in must not exceed 0.03 CFM25 x floor area (in squ feet) served by the system when the air handler is not installed.

3) If testing post construction, the total leakage must not exceed 0.04 CFM25 x floor area (in square feet) served by the system.

Energy Code Support

WASHINGTON STATE UNIVERSITY
EXTENSION ENERGY PROGRAM

Duct Leakage Affidavit (New Construction)

Permit #:							
House address or lot number:			_				
City:	Zip:						
Cond. Floor Area (ft²):	Source (circle one):	Plans B	Estimated	Measured			
Duct tightness testing is not required. The to entirely within the building thermal envelope. Du							
Air Handler in conditioned space? yes no	Air Handler preser	nt during te	st? 🗌 yes 🗀	no			
Circle Test Method: Leakage to Ou	tside Total Le	eakage					
Maximum duct leakage: Post Construction, total duct leakage: (floor:	area x .04) =CFM	M@25 Pa					
Post Construction, leakage to outdoors: (flo	or area x .04) =	CFM@25 F	oa -				
Rough-In, total duct leakage with air handler	installed: (floor area x .0	04) =	CFM@25	Pa			
Rough-In, total duct leakage with air handler	not installed: (floor area	= (80. x i	CFM(25 Pa			
Test Result:CFM@25Pa							
Ring (circle one if applicable): Open	1]2	3				
Duct Tester Location: Pressure Tap Location:							
I certify that these duct leakage rates are accurate and determined using standard duct testing protocol.							
Company Name:	Technician:						
Technician Signature:							
Date:							
Phone Number:							

E	ne	ra	ıv	C	od	e
S	u	p	b	0	r	

provided to the building official and the homeowner.

Ducts with less than 40 linear feet in unconditioned spaces.

Existing duct systems constructed, insulated or sealed with asbestos.

procedures in RS-33.

WASHINGTON STATE UNIVERSITY
EXTENSION ENERGY PROGRAM

Duct Leakage Test Results (Existing Construction)

Permit #:			
House address or lot number:			
City:	Zip: _		
Cond. Floor Area (ft ²):			
Duct tightness testing is no	ot required for this res	idence per exceptions li	sted at the end of this docume
Test Result:	CFM@25Pa		
Ring (circle one):	Open 1	23	3
Duct Tester Location:		-	
Pressure Tap Location:		_	
I certify that these duct leakag	e rates are accurate a	nd determined using star	ndard duct testing protocol
Company Name:			
Duct Testing Technician:			_
Technician Signature:		Date:	
3			

Additions of less than 750 square feet.

replacement of the air handler, outdoor condensing unit of a split system air conditioner or heat pump, cooling or heating coil, or the furnace heat exchanger),

1. Duct systems that are documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with

the duct system that is connected to the new or replacement space-conditioning equipment shall be tested as specified in RS-33. The test results shall be

A permanent certificate shall be posted within three feet of the electrical distribution panel. The certificate shall be

completed by the builder or registered design professional and include all of the information as follows:

Certificate (Electronic version available at: http://www.energy.wsu.edu/Documents/WSEC-2012-Avery-6878 4 Per Sheet.pdf)

Property	Address:				
Conditio	ned Floor Area Dat	te: / /			
Builder (or registered design professional :				
Signatur	e:				
	R-Values				
Ceiling:	Vaulted RFloors: Over uncond	itioned space R-			
	Attic R- Slab o	on grade floor R-			
Walls: A	Above grade RDoors:	R			
I	Below, int. R	R-			
H	Below, ext. R-	R			
	U-Factors and SHGC				
NRFC rat		SHGC- N/A			
Default ra	ating (Appendix A WSEC 2012) Skylights U-	SHGC- N/A			
Table 40	6.2 Option(s) Total 406.2	? Credits			
	Heating, Cooling & Domestic Hot	Water			
System	Type	Efficiency			
Heating					
Cooling					
DHW					
	Duct & Building Air Leakage				
All ducts & HVAC in conditioned space (yes / no) Insulation R-					
	ler present (yes / no)				
	getCFM@25Pa Test Result_				
Building a	ir leakage target: ACH ₅₀ < 5.0 - Tested leakage:	ACH ₅₀ =			
	Onsite Renewable Energy Electric Pow	er System			
System ty	ype: Rated annual generati	ion Kwh			
	per	1011			

Brandt

Design Group

66Bell Street Unit 1 Seattle, WA 98121

brandtdesigninc.com

206.239.0850

8843 REGISTERED ARCHITECT

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D M

PERMIT DRAWINGS

06/30/21 DATE: SHEET SIZE: D (24X36) REVISIONS NO: DATE:

DRAWN BY: KJ CHECKED BY: BM

DUCT TESTING AIR LEAKAGE TESTING

LEGAL DESCRIPTION

PARTICULARLY DESCRIBED AS FOLLOWS:

(PER STATUTORY WARRANTY DEED RECORDING# 20080208000044) THAT PORTION OF GOVERNMENT LOT 1, SECTION 19, TOWNSHIP 24

NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, MORE

COMMENCING AT THE NORTHWEST CORNER OF SAID GOVERNMENT

THENCE SOUTH 1°20'59" WEST ALONG THE WEST LINE THEREOF 755.94 FEET TO THE TRUE POINT OF BEGINNING,

THENCE CONTINUING SOUTH 1°20'59" WEST ALONG SAID WEST LINE TEHNCE SOUTH 88°39'01" EAST 120.00 FEET, THENCE SOUTH 12°26'57" EAST 151.81 FEET, THENCE NORTH 71°20'59" EAST 240.00 FEET,

THENCE NORTH 37°28'01" WEST 74.48 FEET, THENCE NORTH 43°54'01" WEST 72.00 FEET, THENCE SOUTH 83°13'53" WEST 167.57 FEET TO A POINT FROM WHICH THE TRUE POINT OF BEGINNING BEARS NORTH 88°39'01"

THENCE NORTH 88°39'01" WEST 120.00 FEET TO THE TRUE POINT OF BEGINNING.

BASIS OF BEARINGS

N 88°20'18" W BETWEEN SURVEY MONUMENTS FOUND ON THE CENTERLINE OF S.E. 50TH ST., PER R1

REFERENCES

R1 RECORD OF SURVEY, RECORDED IN BOOK 55 OF SURVEYS, PAGE 164, RECORDS OF KING COUNTY, WASHINGTON.

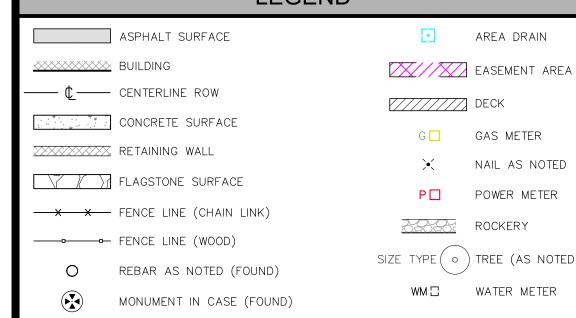
VERTICAL DATUM

NAVD(88) PER GPS OBSERVATIONS.

SURVEYOR'S NOTES

- 1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN APRIL OF 2020. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT
- 2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
- 3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
- 4. SUBJECT PROPERTY TAX PARCEL NO. 192405-9207.
- 5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 33,483± S.F. (0.77 ACRES)
- 6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
- 7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

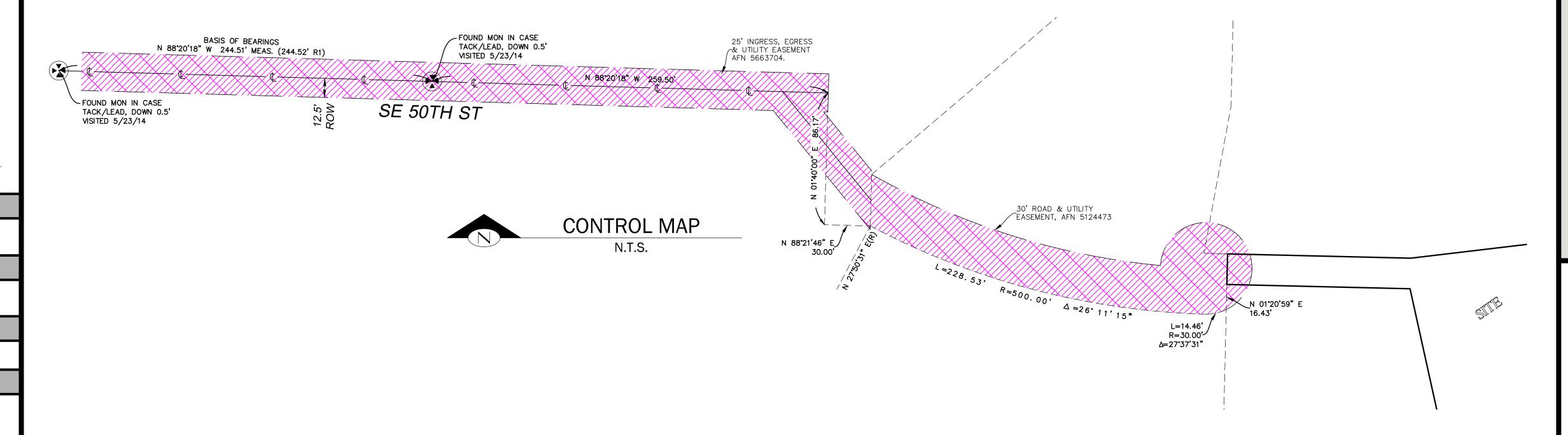
LEGEND

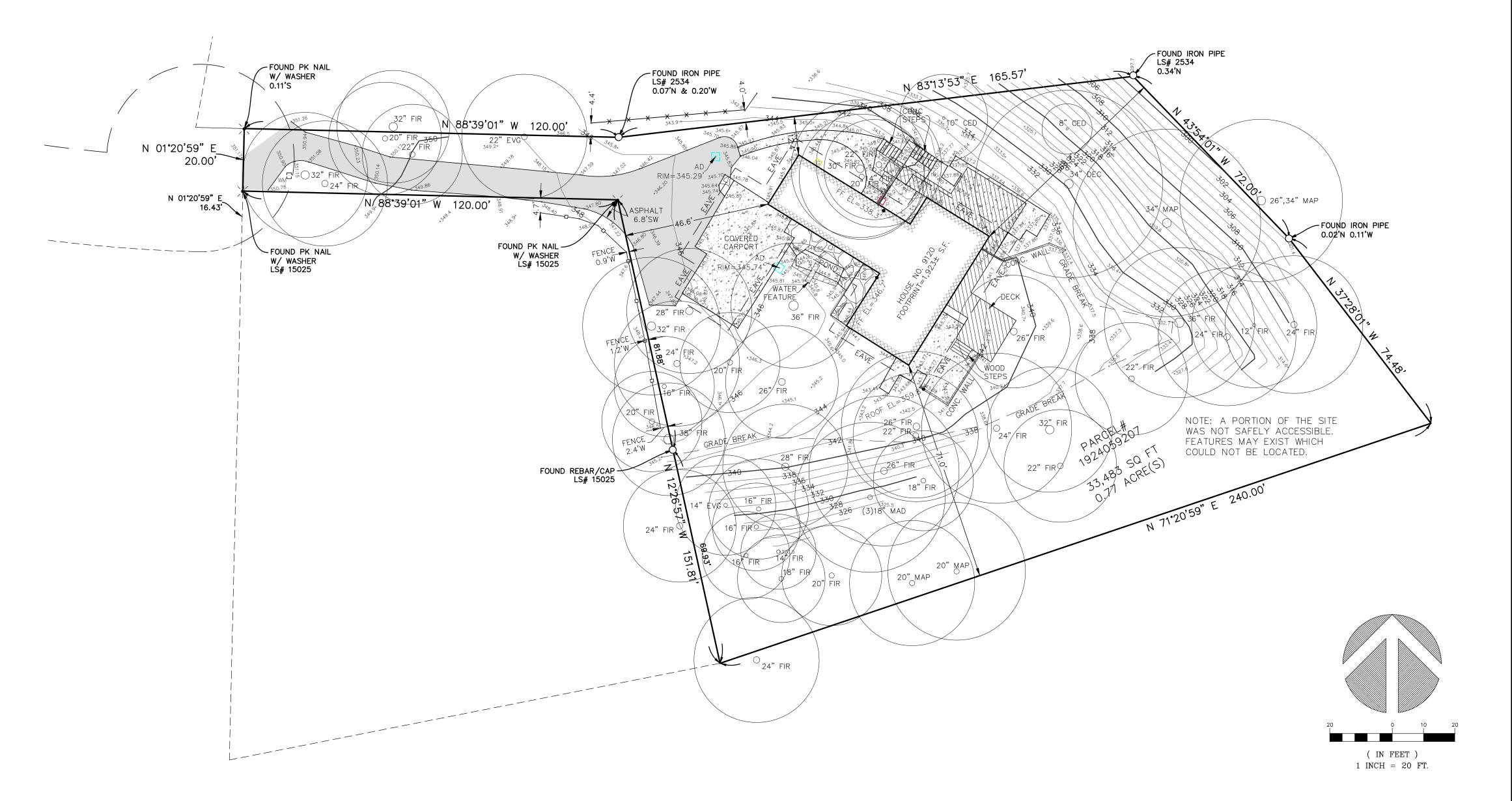


VICINITY MAP



TOPOGRAPHIC & BOUNDARY SURVEY

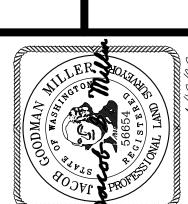




STEEP SLOPE/BUFFER DISCLAIMER: THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE PUBLIC DOCUMENTS; AS SUCH, TERRANE CANNOT BE LIABLE OR RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY STEEP SLOPE INFORMATION. ULTIMATEL THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OF OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.

RESIDENCE

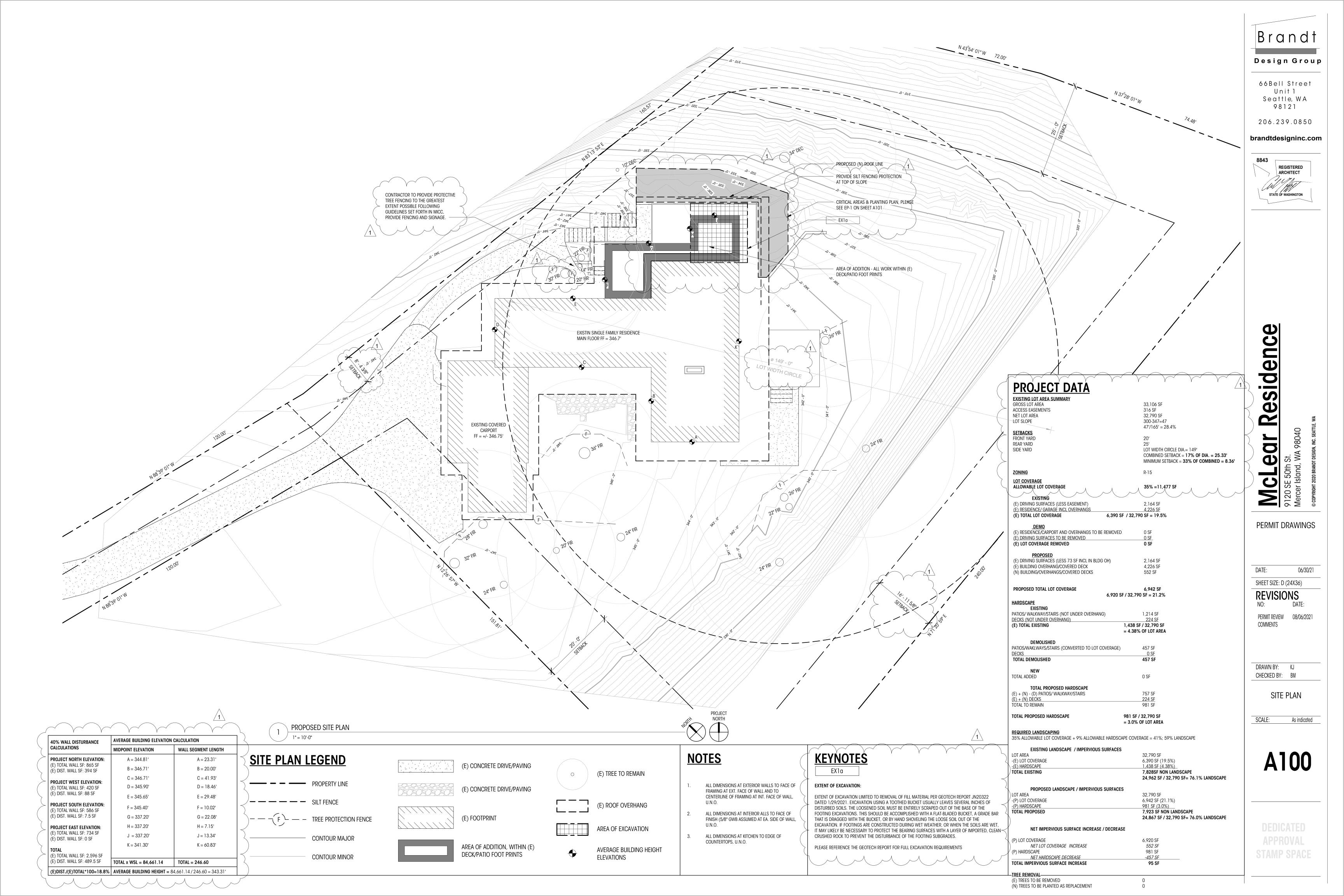
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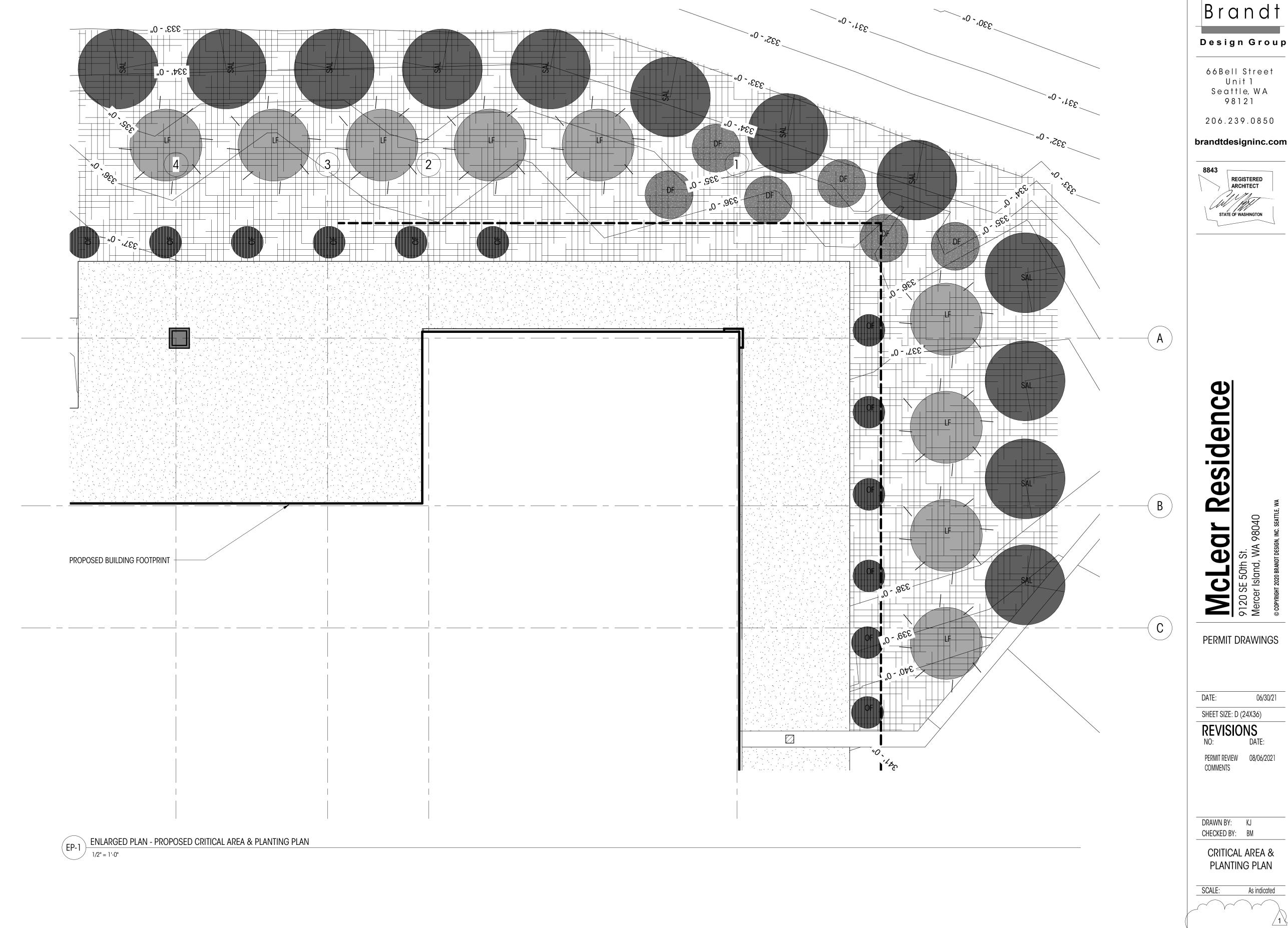


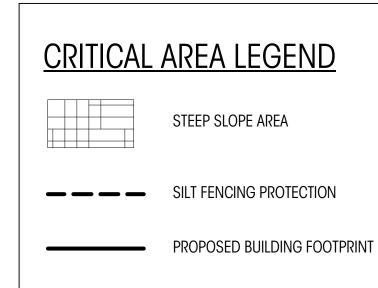
JOB NUMBER: 200232 04/10/2020 DRAFTED BY: JGM/RLS CHECKED BY:

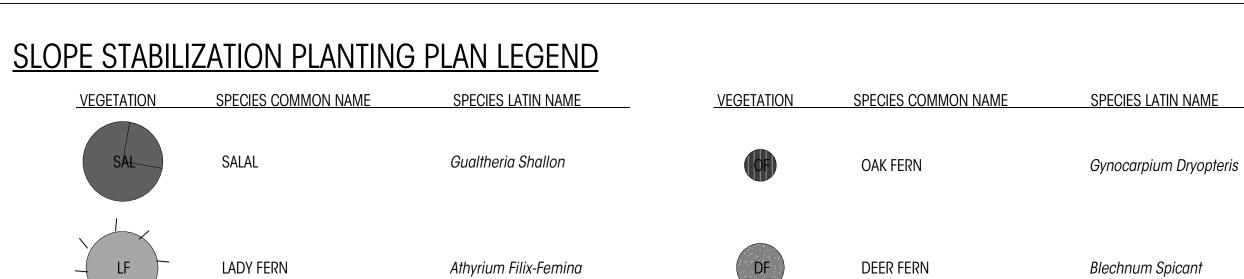
REVISION HISTORY SHEET NUMBER

1 OF 1









MICC 19.07.160(B)(2)(d)

PER MICC 19.07.160(B)(2)(D); ALTERATION OF LANDSLIDÉ HÁZARD AREAS AND SEISMIC HAZARD AREAS AND ASSOCIATED BUFFERS MAY OCCUR IF THE CRITICAL AREA STUDY DOCUMENTS FIND THAT THE PROPOSED ALTERATION INCLUDES THE LANDSCAPING OF ALL DISTURBED AREAS OUTSIDE OF BUILDING FOOTPRINTS AND INSTALLATION OF HARDSCAPE PRIOR TO FINAL INSPECTION.

As indicated

CRITICAL AREA & PLANTING PLAN

PERMIT REVIEW 08/06/2021

COMMENTS

66Bell Street

Unit 1 Seattle, WA 98121

REGISTERED ARCHITECT

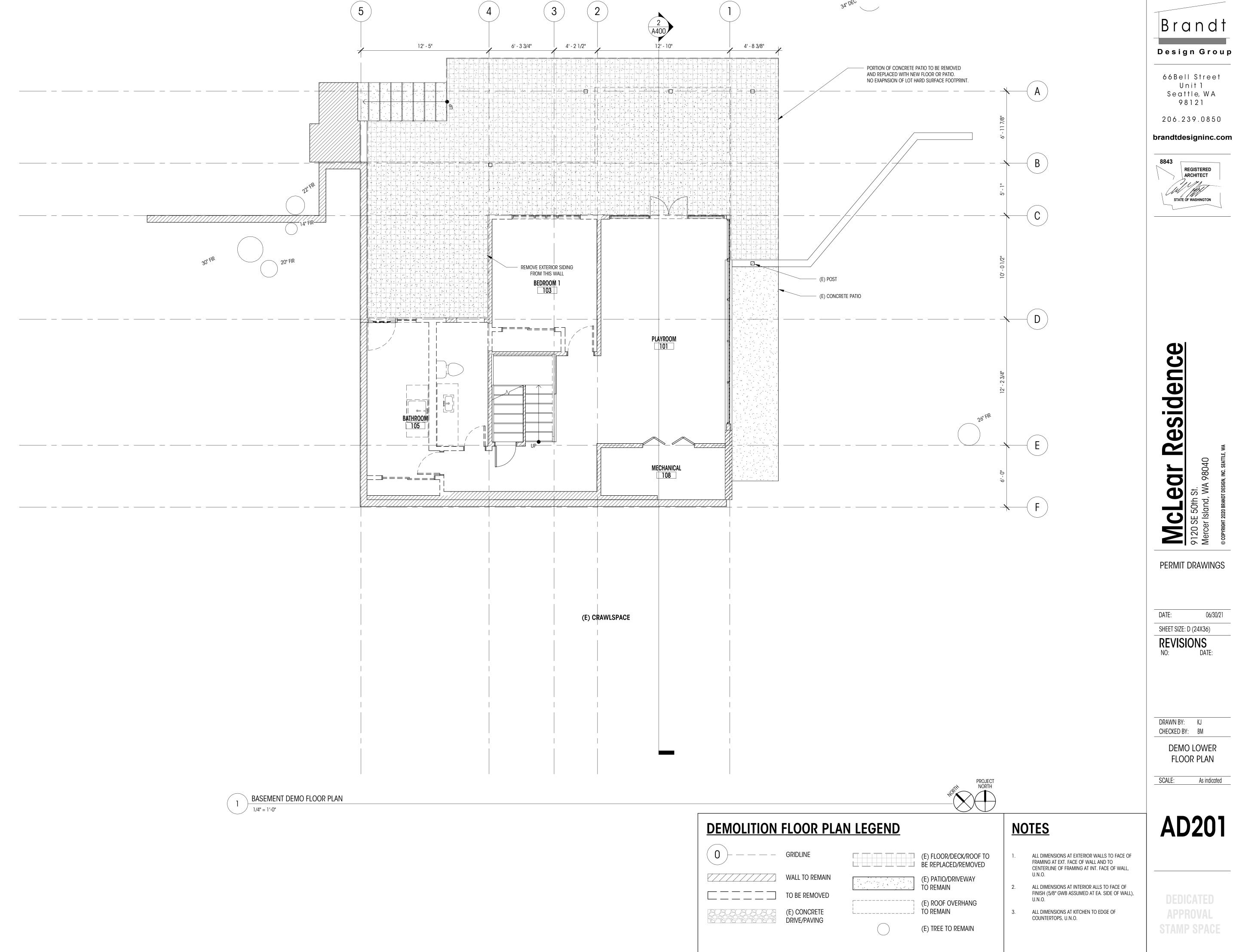
STATE OF WASHINGTON

Residence

edr h St. d, WA 98040

Mercer Island,

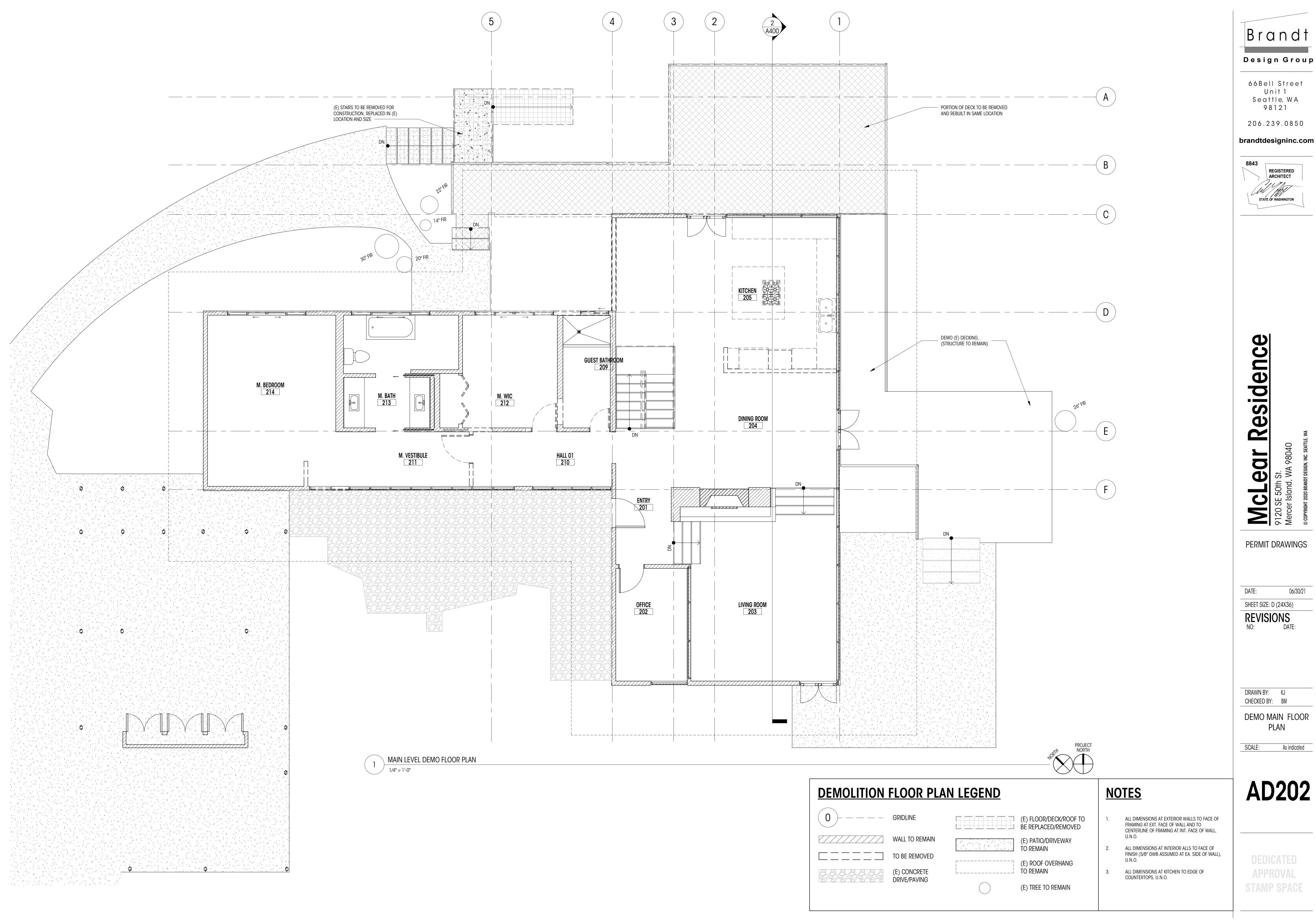
06/30/21

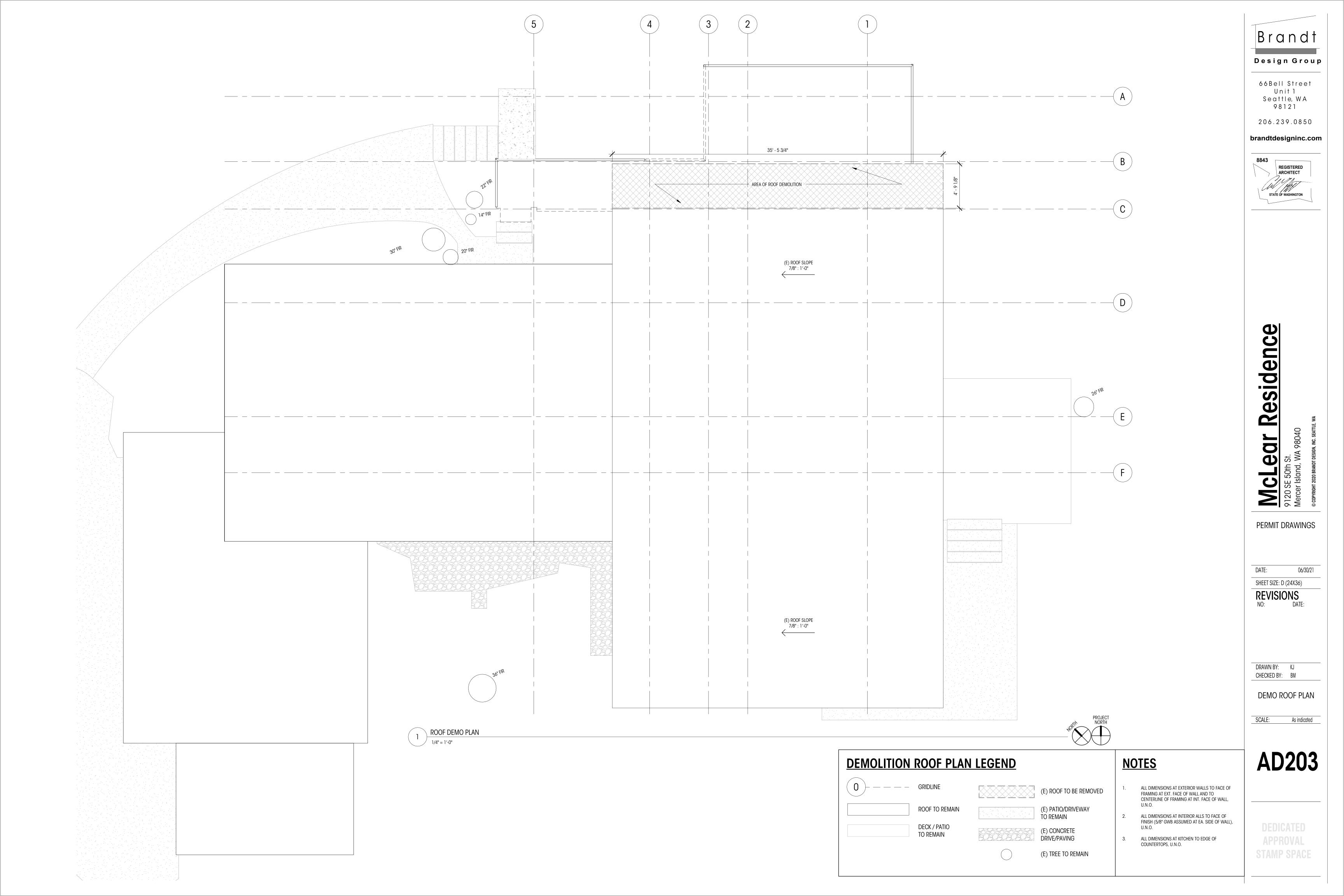


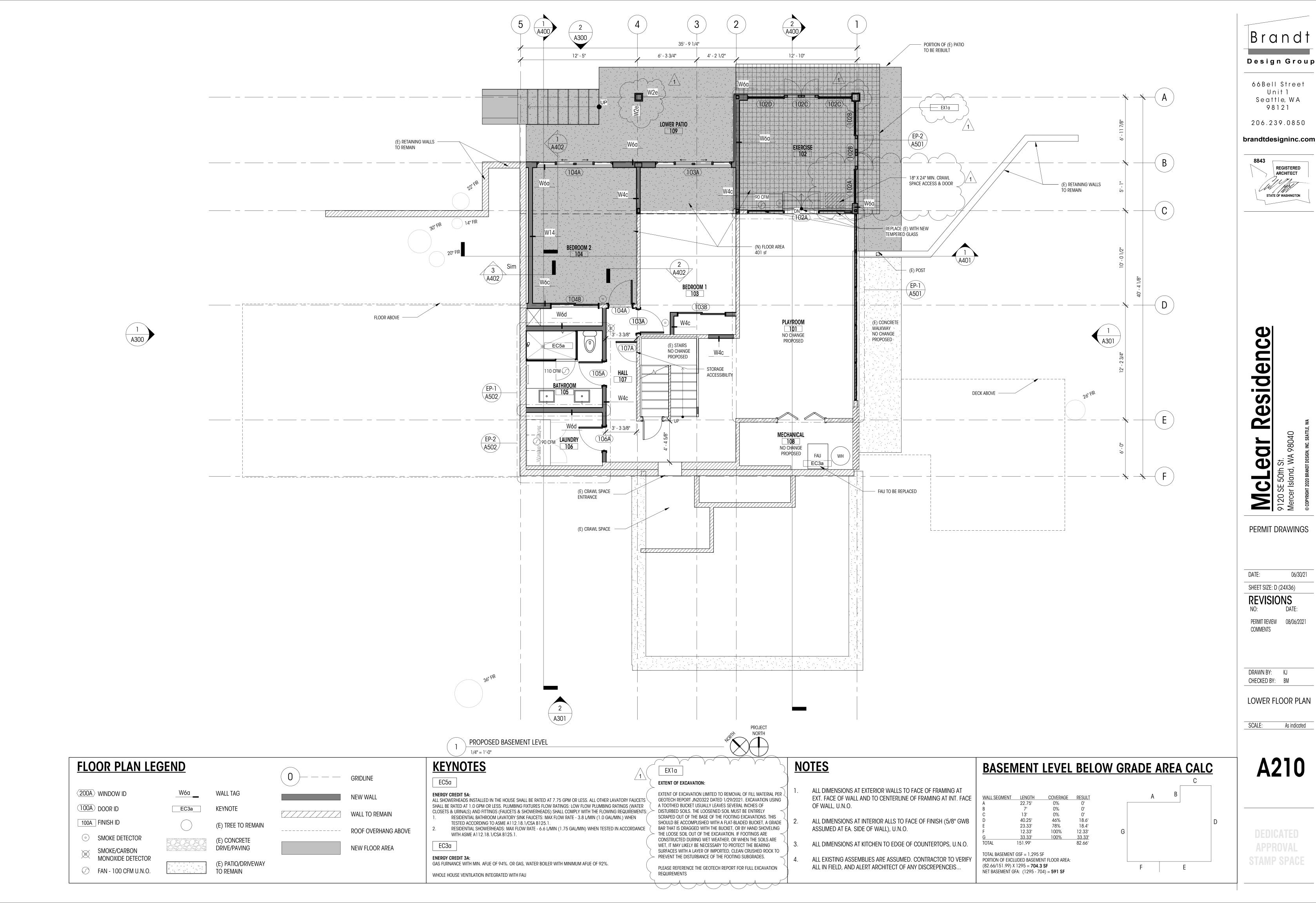
Brandt

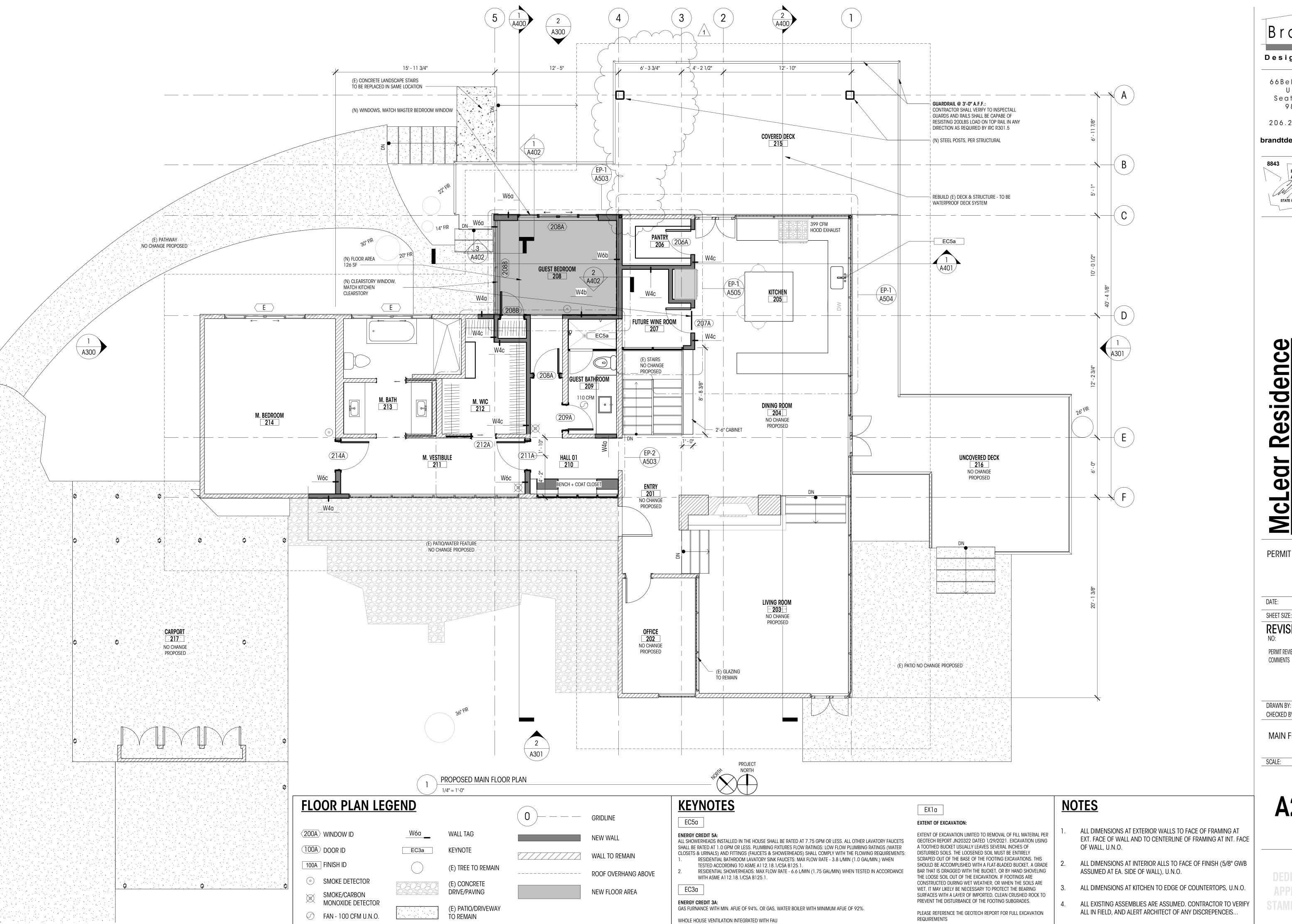
06/30/21

AD201









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PERMIT DRAWINGS

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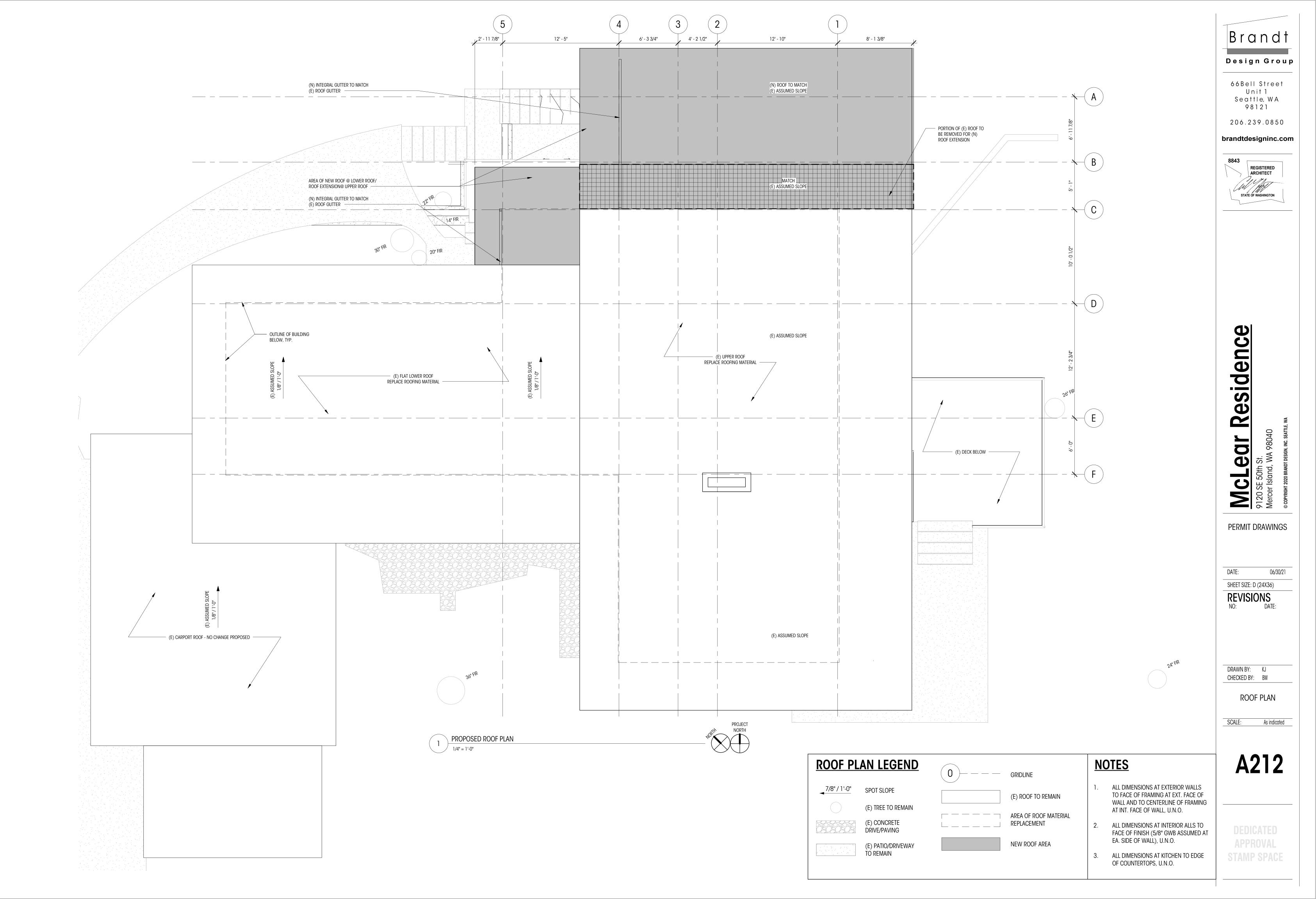
REVISIONS PERMIT REVIEW 08/06/2021

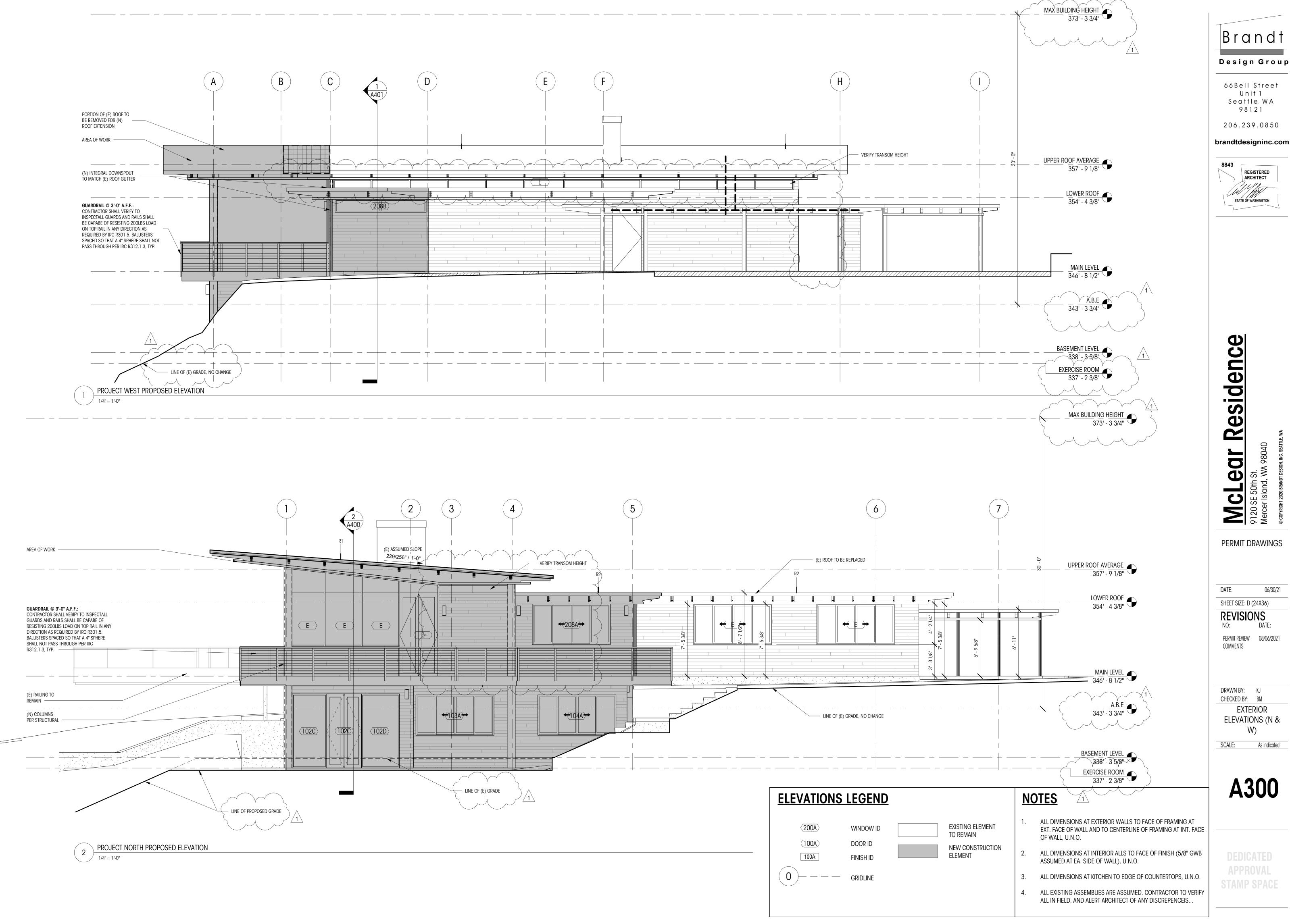
DRAWN BY: KJ CHECKED BY: BM

MAIN FLOOR PLAN

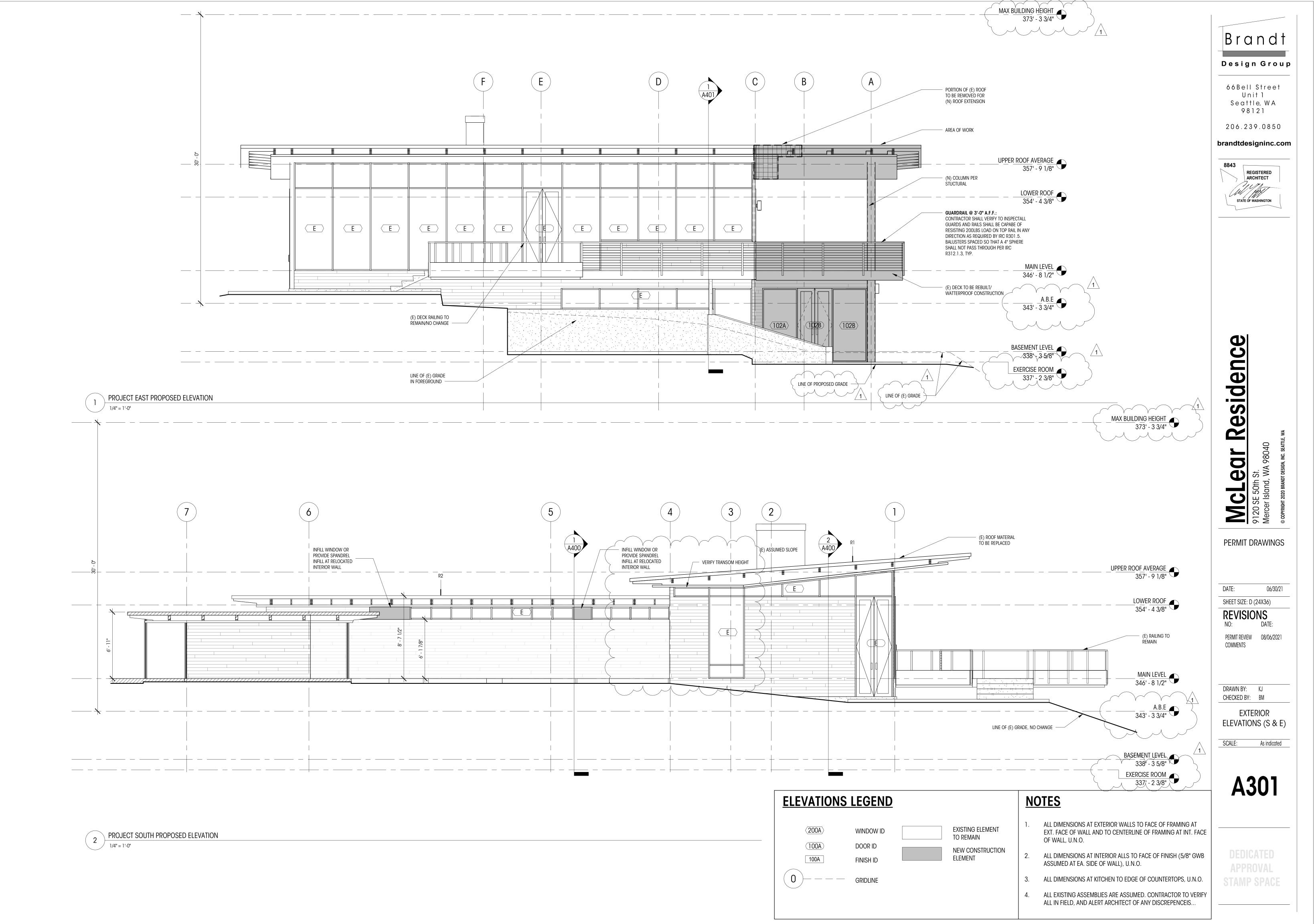
As indicated

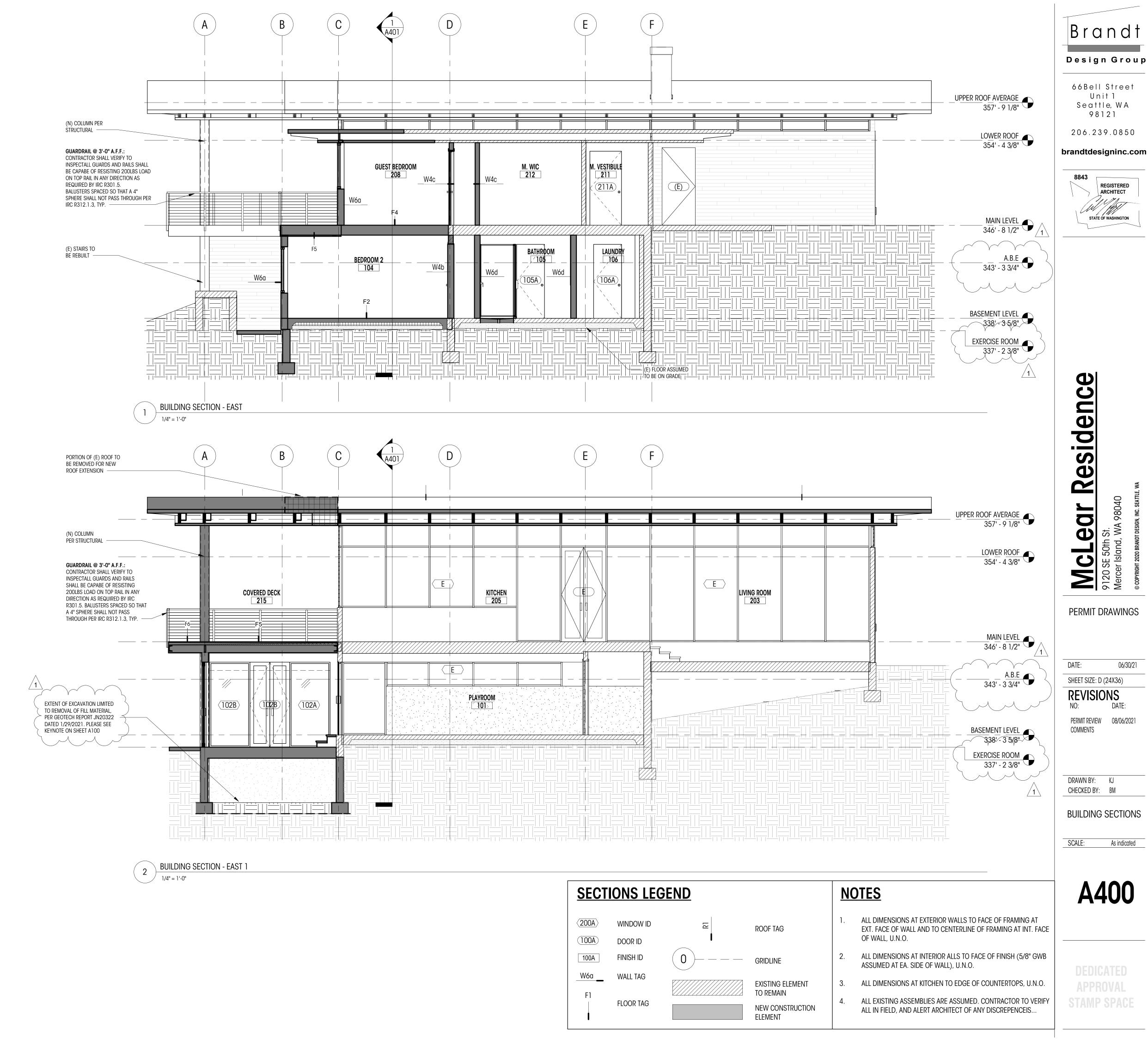
A211









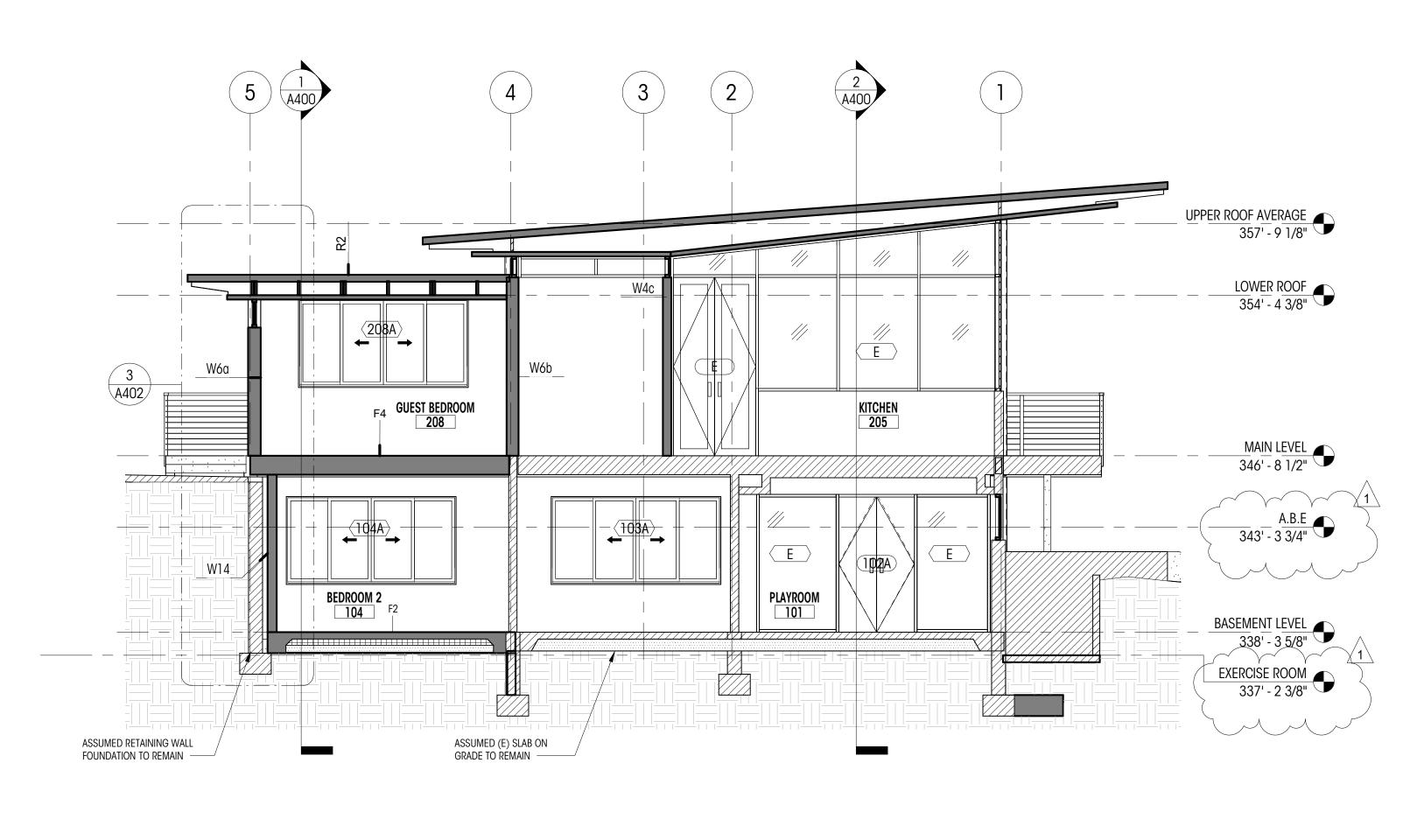


Brandt

06/30/21

As indicated

A400



BUILDING SECTION - NORTH 1/4" = 1'-0"

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Mercer Island, WA 98040

PERMIT DRAWINGS

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REVISIONS NO: DATE: PERMIT REVIEW 08/06/2021

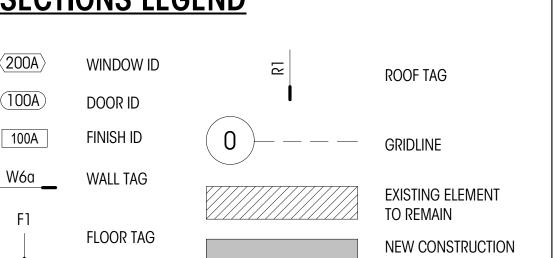
DRAWN BY: KJ CHECKED BY: BM

COMMENTS

BUILDING SECTIONS

As indicated

A401



ELEMENT

SECTIONS LEGEND $\langle 200A \rangle$ (100A) 100A W6a __

1. ALL DIMENSIONS AT EXTERIOR WALLS TO FACE OF FRAMING AT EXT. FACE OF WALL AND TO CENTERLINE OF FRAMING AT INT. FACE OF WALL, U.N.O.

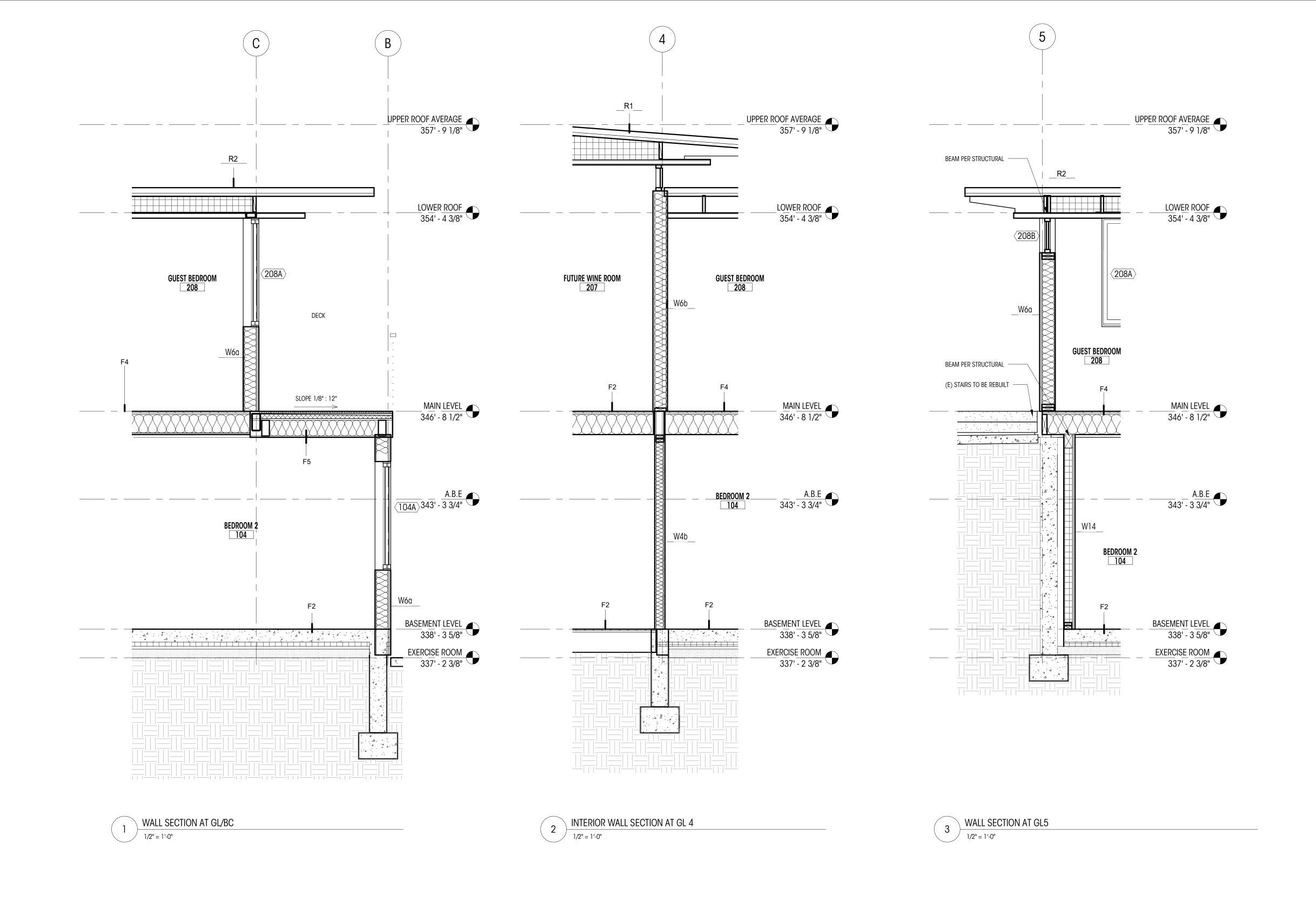
NOTES

ALL DIMENSIONS AT INTERIOR ALLS TO FACE OF FINISH (5/8" GWB ASSUMED AT EA. SIDE OF WALL), U.N.O.

ALL EXISTING ASSEMBLIES ARE ASSUMED. CONTRACTOR TO VERIFY

ALL IN FIELD, AND ALERT ARCHITECT OF ANY DISCREPENCEIS...

ALL DIMENSIONS AT KITCHEN TO EDGE OF COUNTERTOPS, U.N.O.



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8843

REGISTERED ARCHITECT

STATE OF WASHINGTON

Mercer Island, Mercer

EQILTh St.

Id, WA 98040

Residence

PERMIT DRAWINGS

DATE: 06/30/21 SHEET SIZE: D (24X36) REVISIONS NO: DATE:

DRAWN BY: KJ CHECKED BY: BM

WALL SECTIONS

1/2" = 1'-0"

A402

WINDOW SCHEDULE									
PLAN ID	TYPE	WIDTH (ff)	HEIGHT (ff)	HEAD HT	UNIT AREA	U VALUE	UA	Note	
PLANID	ITFE	WIDTH (II)	HEIGHT (II)	пеар пі	(sf)	U VALUE	UA	Note	
102A	С	3' - 7 3/4"	7' - 8"	7' - 8"	28 SF	0.3	8 SF	1	
102B	С	3' - 7 3/4"	7' - 8"	7' - 8"	28 SF	0.3	8 SF	1	
102C	С	3' - 6 3/4"	7' - 8"	7' - 8"	27 SF	0.3	8 SF	1	
102D	С	3' - 11"	7' - 8"	7' - 8"	30 SF	0.3	9 SF	1	
103A	Α	8' - 1"	4' - 2 1/4"	6' - 5 5/8"	34 SF	0.3	10 SF	2	
104A	Α	8' - 1"	4' - 2 1/4"	6' - 5 5/8"	34 SF	0.3	10 SF	2	
208A	Α	8' - 1"	4' - 2 1/4"	7' - 5 3/8"	34 SF	0.3	10 SF	2	
208B	В	9' - 5"	1' - 4"	7' - 5 3/8"	13 SF	0.3	4 SF		

GENERAL NOTES

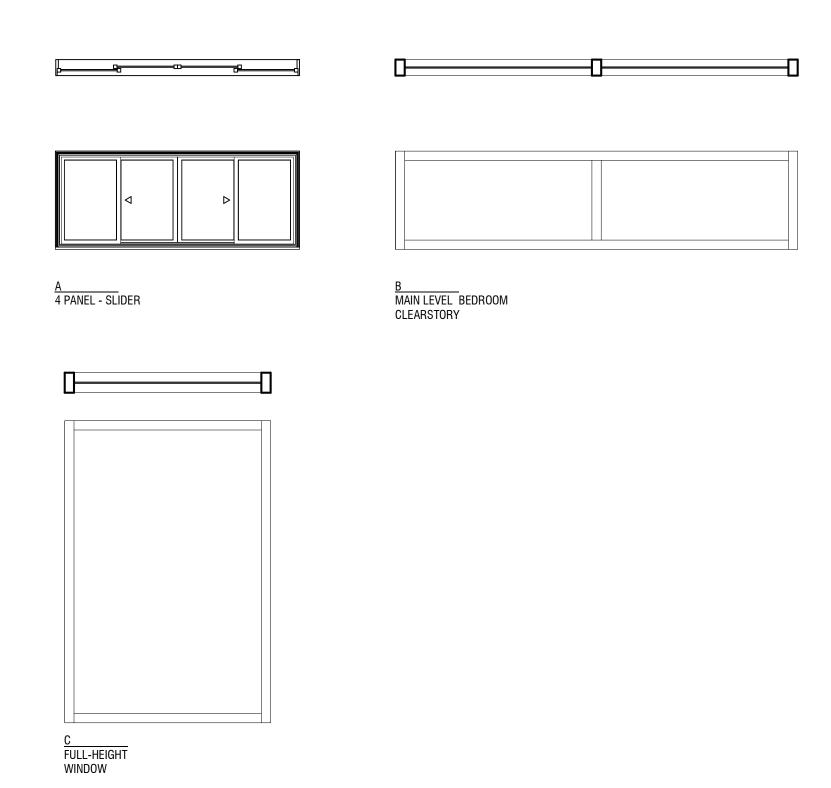
- ALL DIMENSIONS SHOWN ARE FINISHED DIMENSIONS, R.O. PER CONTRACTOR.
- CONTRACTOR TO VERIFY ALL SIZES AND DIMENSIONS IN FIELD WITH OWNER BEFORE ORDERING.
- ALL NEW WINDOWS TO BE NFRC CERTIFIED.
- ALL WINDOW WALL IS TEMPERED GLASS. REFER TO PLANS AND TAGS FOR LOCATION AND SWINGS.
- ALL ELEVATIONS ARE FROM THE EXTERIOR.
- ALL NEW VERTICAL FENESTRATION U-VALUE TO MEET ENERGY COMPLIANCE GUIDELINES
- PER IBC 8310.2 ALL **EGRESS** OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SF, NET CLEAR HEIGHT OPENING SHALL NOT BE LESS THAN 24" AND THE NET CLEAR WIDTH SHALL BE NOT LESS THAN 20".
- THE WINDOW SILL SHALL HAVE HEIGHT OF NOT MORE THAN 44" ABOVE THE FLOOR
- PER IRC R308.4.3, GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL NEEDS TO BE TEMPERED GLASS /
- SAFETY GLAZING IN THE FOLLOWING HAZARDOUS LOCATIONS:
- THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SF, THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR,
- THE TOP EDGE OF THE GLAZING IS MORE THAN 36 " AVOVE THE FLOOR, AND ONE OR MORE WALKING SURFACES ARE WITHING 36", MEASURE HORIZONTALLY IN A STRAIGHT LINE OF
- THE GLAZING.
- (N) WINDOWS ASSUMED TO BE IGU'S TO MATCH (E) WINDOWS

SPECIFIC NOTES

WINDOW TYPES

1/4" = 1'-0"

1. TEMPERED GLASS/SAFETY GLAZING 2. MATCH (E) BEDROOM WINDOW SIZE; CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO WINDOW ORDER 3. STOPPED ÍN GLASS WALL TO MATCH (E)



PLAN ID	TYPE	WIDTH (ff.)	HEIGHT (ff.)	AREA (sf.)	U VALUE	UA	NOTES
102A	D	3' - 7 1/4"	6' - 6 3/4"	24 SF			1
102B	С	3' - 7"	7' - 8"	27 SF	0.3	8 SF	2
102C	С	3' - 7 1/4"	7' - 8"	28 SF	0.3	8 SF	2
103A	Α	2' - 6"	6' - 8"	17 SF			
103B	F	5' - 0"	6' - 8"	33 SF			
104A	Α	2' - 6"	6' - 8"	17 SF			
104B	F	5' - 0"	6' - 8"	33 SF			
105A	Α	2' - 6"	6' - 8"	17 SF			
106A	Α	2' - 6"	6' - 8"	17 SF			
107A	Α	2' - 2"	3' - 0"	7 SF			
206A	Α	2' - 6"	7' - 0"	18 SF			
207A	Е	2' - 6"	7' - 0"	18 SF			
208A	Α	2' - 6"	6' - 8"	17 SF			
208B	Α	2' - 4"	6' - 8"	16 SF			
209A	Α	2' - 6"	6' - 8"	17 SF			
211A	Α	2' - 10"	6' - 8"	19 SF			
212A	G	2' - 6"	6' - 8"	17 SF			
214A	Α	2' - 10"	6' - 8"	19 SF			

GENERAL NOTES

 ALL NEW DOORS TO BE NFRC CERTIFIED • ALL NEW VERTICAL FENESTRATION U-VALUE TO MEET ENERGY COMPLIANCE GUIDELINES FOR **EFFICIENT BUILDING ENVELOPE**

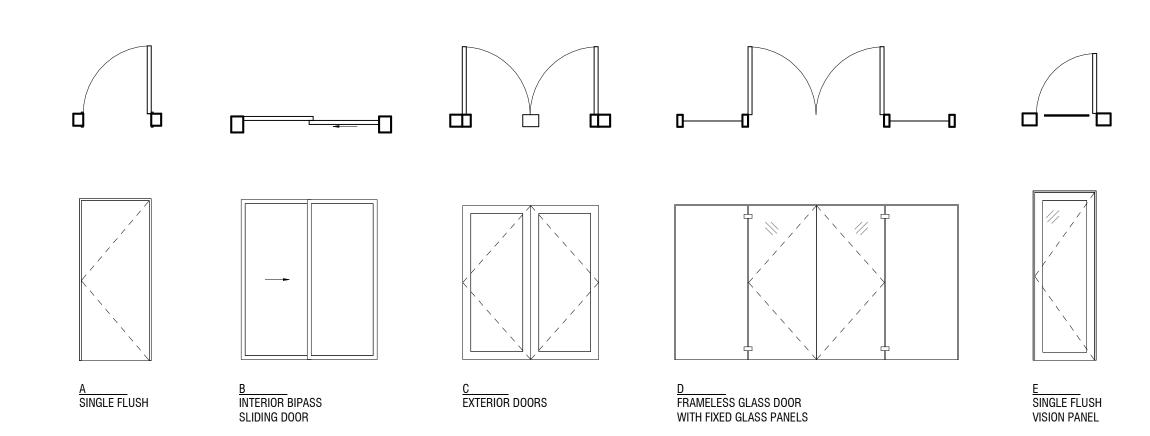
• ALL DOORS TO BE SOLID-CORE WOOD VENEER FLAT PANELS UNO

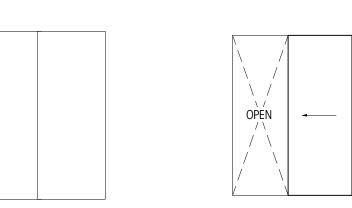
• ALL GLAZING IN DOORS TO BE TEMPERED / SAFETY GLAZING

SPECIFIC NOTES

1. (E) DOOR TO BE REMOVED DURING CONSTRUCTION AND REFINISHED / RE-HUNG ONCE NEW SPACE HAS BEEN CONSTRUCTED, CONTRACTOR TO ADJUST AS NEEDED.

2. MATCH (E) DOORS IN GLASS WALL 3. ACCESS DOOR TO UNDER STAIR





<u>G</u> POCKET DOOR

DOUBLE SLIDING

DOOR TYPES 1/4" = 1'-0"

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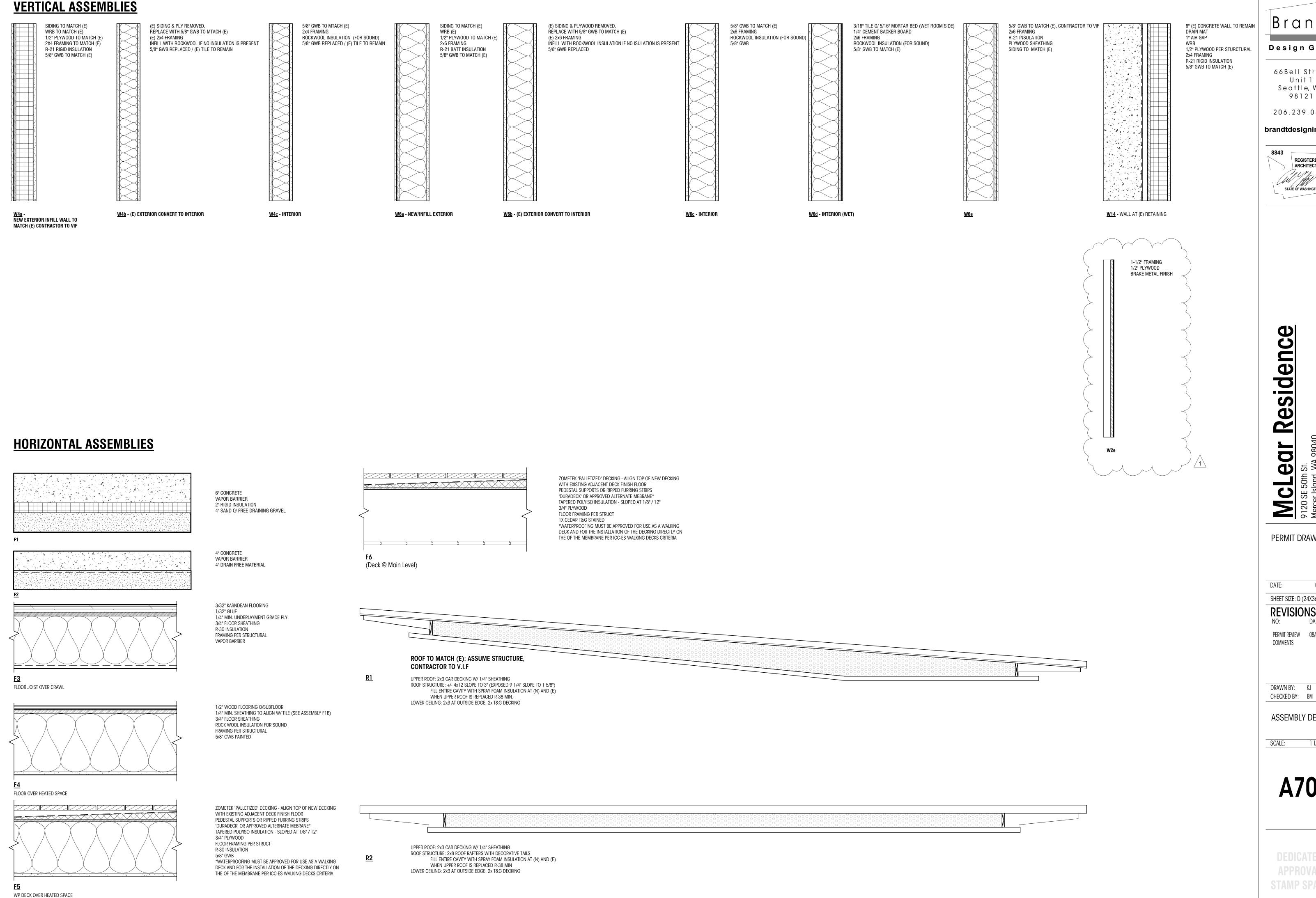
PERMIT DRAWINGS

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DRAWN BY: KJ CHECKED BY: BM

WINDOW / DOOR SCHEDULES

1/4" = 1'-0"



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PERMIT DRAWINGS

06/30/21 SHEET SIZE: D (24X36) **REVISIONS**

PERMIT REVIEW 08/06/2021 COMMENTS

DRAWN BY: KJ

ASSEMBLY DETAILS

1 1/2" = 1'-0"

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CRITERIA

- 1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2018) EDITION).
- 2. DESIGN LOADING CRITERIA: GUARDRAILS/BALCONY RAILS CONCENTRATED LOAD 200 LBS SNOW Ce=1.0, Is=1.0, Ct=1.1, Cs=1.0, Pg=25 PSF, Pf=20 PSF WIND GCpi=0.18, 98 MPH, RISK CATEGORY II, EXPOSURE "C" EARTHQUAKE . . . ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS,
- 3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATION, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.

SITE CLASS=D, Ss=144, Sds=100, S1=50, SD1=60, Cs=0.154

SDC D (DEFAULT), Ie=1.0, R=6.5

- 4. PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS AND DETAILS. VERTICAL DIMENSION CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTION, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS 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 TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
- 6. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".
- 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. ALL TYPICAL NOTES AND DETAILS SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED OR REQUEST ADDITIONAL INFORMATION. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.
- 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.
- 10. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

STRUCTURAL STEEL

11. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND ONE COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN TWO WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

12. SHOP DRAWINGS OF DESIGN BUILD COMPONENTS INCLUDING CANOPIES, BALCONIES, COLD FORM STEEL FRAMING, TEMPORARY SHORING, CURTAIN WALL SYSTEMS, SKYLIGHT FRAMES, PREFABRICATED STAIR SYSTEMS, EXTERIOR CLADDING, AND PRE-ENGINEERED SYSTEMS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON. SHOP DRAWINGS SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO REVIEW OF THE ARCHITECT OR ENGINEER OF RECORD FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

QUALITY ASSURANCE

13. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110 AND 1705 OF THE INTERNATIONAL BUILDING CODE BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION IS REQUIRED UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL FABRICATION AND ERECTION PER AISC 360 PER TABLE 1705. 6 SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY PER TABLE 1705. 7 DRIVEN DEEP FOUNDATION EXPANSION BOLTS AND THREADED EXPANSION INSERTS PER MANUFACTURER EPOXY GROUTED INSTALLATIONS PER MANUFACTURER

PERIODIC INSPECTION: INSPECTION SHALL BE PERFORMED AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS. CONTINUOUS INSPECTION: INSPECTOR SHALL BE ONSITE AND OBSERVE THE WORK REQUIRING INSPECTION AT ALL TIMES THAT WORK IS PERFORMED.

GEOTECHNICAL

14. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH OR COMPACTED STRUCTURAL FILL AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY: THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SOILS REPORT.

ALLOWABLE SOIL PRESSURE	3000	PSF
LATERAL EARTH PRESSURE (UNRESTRAINED)	. 35	PCF
ULTIMATE PASSIVE EARTH PRESSURE (FS NOT INCLUDED)	. 300	PCF
COEFFICIENT OF FRICTION (FS NOT INCLUDED)		0. 5
SEISMIC SURCHARGE PRESSURE (UNIFORM LOAD)		
PILE CAPACITY (COMPRESSION)		61

SOILS REPORT REFERENCE: PROPOSED ADDITIONS TO EXISTING MCLEAR RESIDENCE 9120 SOUTHEAST 50TH ST MERCER ISLAND, WA

PREPARED BY: GEOTECH CONSULTANTS, INC. ON JANUARY 29, 2021 JN 20322

^^^^ 15. PIN PILES SHOWN ON THE PLAN SHALL BE 3" DIAMETER SCHEDULE 40, GRADE A, 🕽 UNLESS OTHERWISE NOTED. THE MAXIMUM CAPACITY OF 3" PILES SHALL BE 6 TONS. ALL PILES SHALL BE DRIVEN TO REFUSAL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. THE MAXIMUM PILE ECCENTRICITY SHALL BE 2 INCHES. GEOTECHNICAL SPECIAL INSPECTION SHALL BE SUBJECT TO THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND THE BUILDING DEPARTMENT. SEE PLANS FOR OTHER SIZES AND CRITERIA. CONTINUOUS INSPECTION OF PIN PILE INSTALLATION SHALL BE PROVIDED BY THE GEOTECHNICAL ENGINEER OF RECORD.

RENOVATION

- 16. DEMOLITION: CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION. SHORING SHALL BE INSTALLED TO SUPPORT EXISTING CONSTRUCTION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCES. DEMOLITION DEBRIS SHALL NOT BE ALLOWED TO DAMAGE OR OVERLOAD THE EXISTING STRUCTURE. LIMIT CONSTRUCTION LOADING (INCLUDING DEMOLITION DEBRIS) ON EXISTING FLOOR SYSTEMS TO 40 PSF.
- 17. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER IF EXISTING CONDITIONS DETERMINED DURING WORK VARY FROM THE EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS.
- 18. EXISTING REINFORCING SHALL BE SAVED WHERE AND AS NOTED ON THE PLANS. SAW CUTTING, IF AND WHERE USED, SHALL NOT CUT EXISTING REINFORCING THAT IS TO BE SAVED.
- A. ALL NEW OPENINGS THROUGH EXISTING WALLS, SLABS AND BEAMS SHALL BE ACCOMPLISHED BY SAW CUTTING WHEREVER POSSIBLE. CORNERS SHALL NOT BE
- B. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND LOCATION OF MEMBERS PRIOR TO CUTTING ANY OPENINGS.
- C. SMALL ROUND OPENINGS SHALL BE ACCOMPLISHED BY CORE DRILLING. D. WHERE NEW REINFORCING TERMINATES AT EXISTING CONCRETE, DRILL AND EPOXY DOWELS MATCHING THE NEW REINFORCING INTO THE EXISTING CONCRETE WITH 6" EMBED, UNLESS OTHERWISE NOTED ON PLANS.
- 19. CONTRACTOR SHALL CHECK FOR DRY ROT AT ALL AREAS OF NEW WORK. ALL ROT SHALL BE REMOVED AND DAMAGED MEMBERS SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE STRUCTURAL ENGINEER OR ARCHITECT

CONCRETE

- 20. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3,000 PSI AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. REQUIRED CONCRETE STRENGTH IS BASED ON THE DURABILITY REQUIREMENTS OF SECTION 1904 OF THE IBC. DESIGN STRENGTH IS f'c = 2,500
- 21. ALL CONCRETE WITH SURFACES EXPOSED TO WEATHER OR STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, AND C618. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14, TABLE 19.3.2.1 MODERATE EXPOSURE, F1.
- 22. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT 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. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, FY = 60,000 PSI
- 23. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315R-18 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT #5 AND SMALLER 40 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 40 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-14. CLASS B. 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.
- 24. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER) 2" FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER). . 1-1/2" SLABS AND WALLS (INT. FACE). . . GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

25. CONCRETE WALL REINFORCING--PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE:

6" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
8" WALLS	#4 @ 12 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
10" WALLS	#4 @ 18 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS
12" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS

- 26. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST-IN-PLACE AND
- 27. 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 (3000 PSI MINIMUM).

ANCHORAGE

- 28. EXPANSION BOLTS INTO CONCRETE SHALL BE "STRONG-BOLT 2" WEDGE ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY AND INSTALLED IN STRICT CONFORMANCE TO ICC-ES REPORT NUMBER ESR-3037, INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. PERIODIC SPECIAL INSPECTION IS REQUIRED TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, ANCHOR LOCATION, TIGHTENING TORQUE HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS.
- 29. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-XP" HIGH STRENGTH EPOXY AS MANUFACTURED BY THE SIMPSON STRONG, TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2508. MINIMUM BASE MATERIAL TEMPERATURE IS 50 DEGREES, F. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED. PERIODIC SPECIAL INSPECTION OF INSTALLATION IS REQUIRED TO VERIFY ANCHOR OR EMBEDDED BAR TYPE AND DIMENSIONS, LOCATION, ADHESIVE IDENTIFICATION AND EXPIRATION, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR HORIZONTAL AND OVERHEAD INSTALLATIONS.
- 30. CONCRETE SCREW ANCHORS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "TITEN HD" HEAVY DUTY SCREW ANCHOR AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, INSTALLED IN STRICT ACCORDANCE WITH ICC-ES REPORT NO. ESR-2713 (CONCRETE), NO. ESR-1056 (CMU), INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. SCREW ANCHORS INTO CONCRETE MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION IS REQUIRED.

- 31. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON:
- A. AISC 360-16 AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE. B. JUNE 15. 2016 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AMENDED AS FOLLOWS: AS NOTED IN THE CONTRACT DOCUMENTS, BY THE DELETION OF PARAGRAPH 4.4.1, AND REVISE REFERENCE FROM "STRUCTURAL DESIGN DRAWINGS" TO "CONTRACT DOCUMENTS" IN PARAGRAPH 3.1.
- C. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

32. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	FY
A. WIDE FLANGE SHAPES	A992	50 KSI
B. OTHER SHAPES, PLATES, AND RODS	A36	36 KSI
C. OTHER SHAPES AND PLATES	A572 (GRADE 50)	50 KSI
(NOTED GRADE 50 ON PLANS)	,	
D. PIPE COLUMNS	A53 (E OR S, GR.B)	35 KSI
E. STRUCTURAL TUBING	A500 (GR. B)	
-SQUARE OR RECTANGULAR	,	46 KSI
-ROUND		42 KSI
-ANY SHAPE	ASTM A1085	50 KSI
F. CONNECTION BOLTS	A325-N	
(3/4" ROUND, UNLESS SHOWN OTHERW	ISE)	

- 33. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
- 34. ALL STEEL EXPOSED TO THE WEATHER OR IN CONTACT WITH GROUND SHALL BE CORROSION PROTECTED BY GALVANIZATION OR PROVIDED WITH EXTERIOR PAINT SYSTEM, UNLESS OTHERWISE NOTED.
- 35. SHOP PRIME ALL STEEL EXCEPT:

- A. STEEL ENCASED IN CONCRETE.
- B. SURFACES TO BE WELDED.
- C. CONTACT SURFACES AT HIGH-STRENGTH BOLTS.
- D. MEMBERS TO BE GALVANIZED.
- E. MEMBERS WHICH WILL BE CONCEALED BY INTERIOR FINISHES. F. SURFACES TO RECEIVE SPRAYED FIREPROOFING.
- G. SURFACES TO RECEIVE OTHER SPECIAL SHOP PRIMERS.
- CONDITION, DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. THIS MAY BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH.

36. ALL A-325N CONNECTION BOLTS NEED ONLY BE TIGHTENED TO A SNUG TIGHT

- 37. ALL ANCHORS EMBEDDED IN MASONRY OR CONCRETE SHALL BE A307 HEADED BOLTS OR A36 THREADED ROD WITH AN ASTM 563 HEAVY HEX NUT TACK WELDED ON THE EMBEDDED END.
- 38. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F AND 40 FT - LBS AT 70 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER



2124 Third Avenue - Suite 100 - Seattle, WA 98121 p: 206.443.6212 934 Broadway - Tacoma, WA 98402 p: 253.284.9470

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DRAWN: CHECKED: BDM APPROVED:

REVISIO	NS:	
1	Corrections Response	Aug. 06, 20

McLear Residence 9120 SE 50th St.

Mercer Island, WA 98040

Brandt Design Group

66 Bell Street, Unit 1 Seattle, WA 98121 PH 206.239.0850

PERMIT

General Structural Notes

DATE:

March 22, 2021 PROJECT NO: 01519-2020-13

General Structural Notes

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

WOOD

39. FRAMING LUMBER SHALL BE S-DRY, KD, OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD No. 17, GRADING RULES FOR WEST COAST LUMBER, 2018, OR WWPA STANDARD, WESTERN LUMBER GRADING RULES 2017. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS	(2X & 3X MEMBERS)	HEM-FIR NO. 2 MINIMUM BASE VALUE, Fb = 850 PSI
	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1000 PSI
BEAMS	(INCL. 6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fb = 1350 PSI
POSTS	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 2 MINIMUM BASE VALUE, Fc = 1350 PSI
	(6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1 MINIMUM BASE VALUE, Fc = 1000 PSI
STUDS, PLA	TES & MISC. FRAMING:	DOUGLAS FIR-LARCH NO. 2

40. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2,400 PSI, Fv =265 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI.

OR HEM-FIR NO. 2

41. MANUFACTURED LUMBER, PSL, LVL, AND LSL SHOWN ON PLAN ARE BASED PRODUCTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION IN ACCORDANCE WITH ICC-ES REPORT ESR-1387. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

```
PSL (2.0E WS)
                  Fb = 2900 PSI, E = 2000 KSI, Fv = 290 PSI
LVL (2.0E-2600FB WS) Fb = 2600 PSI, E = 2000 KSI, Fv = 285 PSI
LSL (1.55E)
                   Fb = 2325 PSI, E = 1550 KSI, Fv = 310 PSI
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ALTERNATE MANUFACTURED LUMBER MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.

- 42. PREFABRICATED PLYWOOD WEB JOIST DESIGN SHOWN ON PLANS IS BASED ON JOISTS MANUFACTURED BY THE WEYERHAEUSER CORPORATION, IN ACCORDANCE WITH ICC-ES REPORT ESR-1157. ALTERNATE PLYWOOD WEB JOIST MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.
- 43. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1 OR PS 2. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.
- ROOF SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 32/16.
- FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) WITH SPAN RATING 48/24.
- WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 24/0.

PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING.

- REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.
- 44. ALL WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2) LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.
- 45. PRESERVATIVE TREATED WOOD SHALL BE TREATED PER AWPA STANDARD U1 TO THE USE CATEGORY EQUAL TO OR HIGHER THAN THE INTENDED APPLICATION. TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO AWPA UC3B. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO AWPA UC4A. WOOD FOR USE IN PERMANENT FOUNDATIONS SHALL BE TREATED TO AWPA UC4B.

46. FASTENERS AND TIMBER CONNECTORS USED WITH TREATED WOOD SHALL HAVE CORROSION RESISTANCE AS INDICATED IN THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED.

WOOD TREATMENT	CONDITION	PROTECTION
HAS NO AMMONIA CARRIER	INTERIOR DRY	G90 GALVANIZED
CONTAINS AMMONIA CARRIER	INTERIOR DRY	G185 OR A185 HOT DIPPED OF
		CONTINUOUS HOT-GALVANIZED
		PER ASTM A653
CONTAINS AMMONIA CARRIER	INTERIOR WET	TYPE 304 OR 316 STAINLESS
CONTAINS AMMONIA CARRIER	EXTERIOR	TYPE 304 OR 316 STAINLESS
AZCA	ANY	TYPE 304 OR 316 STAINLESS

INTERIOR DRY CONDITIONS SHALL HAVE WOOD MOISTURE CONTENT LESS THAN 19%. WOOD MOISTURE CONTENT IN OTHER CONDITIONS (INTERIOR WET, EXTERIOR WET, AND EXTERIOR DRY) IS EXPECTED TO EXCEED 19%. CONNECTORS AND THEIR FASTENERS SHALL BE THE SAME MATERIAL. COMPLY WITH THE TREATMENT MANUFACTURERS RECOMMENDATIONS FOR PROTECTION OF METAL.

47. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2019. 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 FOR MAXIMUM LOAD CARRYING CAPACITY. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ALL 2X JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJI JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "ITS" SERIES JOIST HANGERS. ALL DOUBLE-JOIST BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIT" SERIES JOIST HANGERS.

WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM)AS MEMBERS CONNECTED.

48. 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 B0X	3-1/2"	0. 135"

IF CONTRACTOR PROPOSES THE USE OF ALTERNATE NAILS, THEY SHALL SUBMIT NAIL SPECIFICATIONS TO THE STRUCTURAL ENGINEER (PRIOR TO CONSTRUCTION) FOR REVIEW AND APPROVAL.

NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END.

B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS.

49. NOTCHES AND HOLES IN WOOD FRAMING:

- A. NOTCHES ON THE ENDS OF SOLID SAWN JOISTS AND RAFTERS SHALL NOT EXCEED ONE-FOURTH THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF SOLID SAWN JOISTS SHALL NOT EXCEED ONE-SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. HOLES BORED IN SOLID SAWN JOISTS AND RAFTERS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE JOIST.
- B. IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.
- C. NOTCHES AND HOLES IN MANUFACTURED LUMBER AND PREFABRICATED PLYWOOD WEB JOISTS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS UNLESS OTHERWISE

50. 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, THE AITC "TIMBER CONSTRUCTION MANUAL" AND THE AWC "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO IBC TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.
- B. WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" O.C. UNO. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. TWO 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

ALL 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 @ 12" O.C. AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE EIGHT 16d NAILS @ 4" O.C. EACH SIDE JOINT.

ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH TWO ROWS OF 16d NAILS @ 12" ON-CENTER, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0" ON-CENTER EMBEDDED 7" MINIMUM, UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH TWO ROWS OF 16d @12" ON-CENTER. UNLESS OTHERWISE NOTED, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH NO. 6 X 1-1/4" TYPE S OR W SCREWS @ 8" ON-CENTER. UNLESS INDICATED OTHERWISE, 1/2" (NOMINAL) APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS @ 6" ON-CENTER AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS @ 12" ON-CENTER ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL 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. TOE-NAIL 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 16d @ 12" ON-CENTER.

UNLESS OTHERWISE NOTED ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AT 6" ON-CENTER WITH 8d NAILS TO FRAMED PANEL EDGES, STRUTS AND OVER STUD WALLS AS SHOWN ON PLANS AND @ 12" ON-CENTER TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12" ON-CENTER UNLESS OTHERWISE



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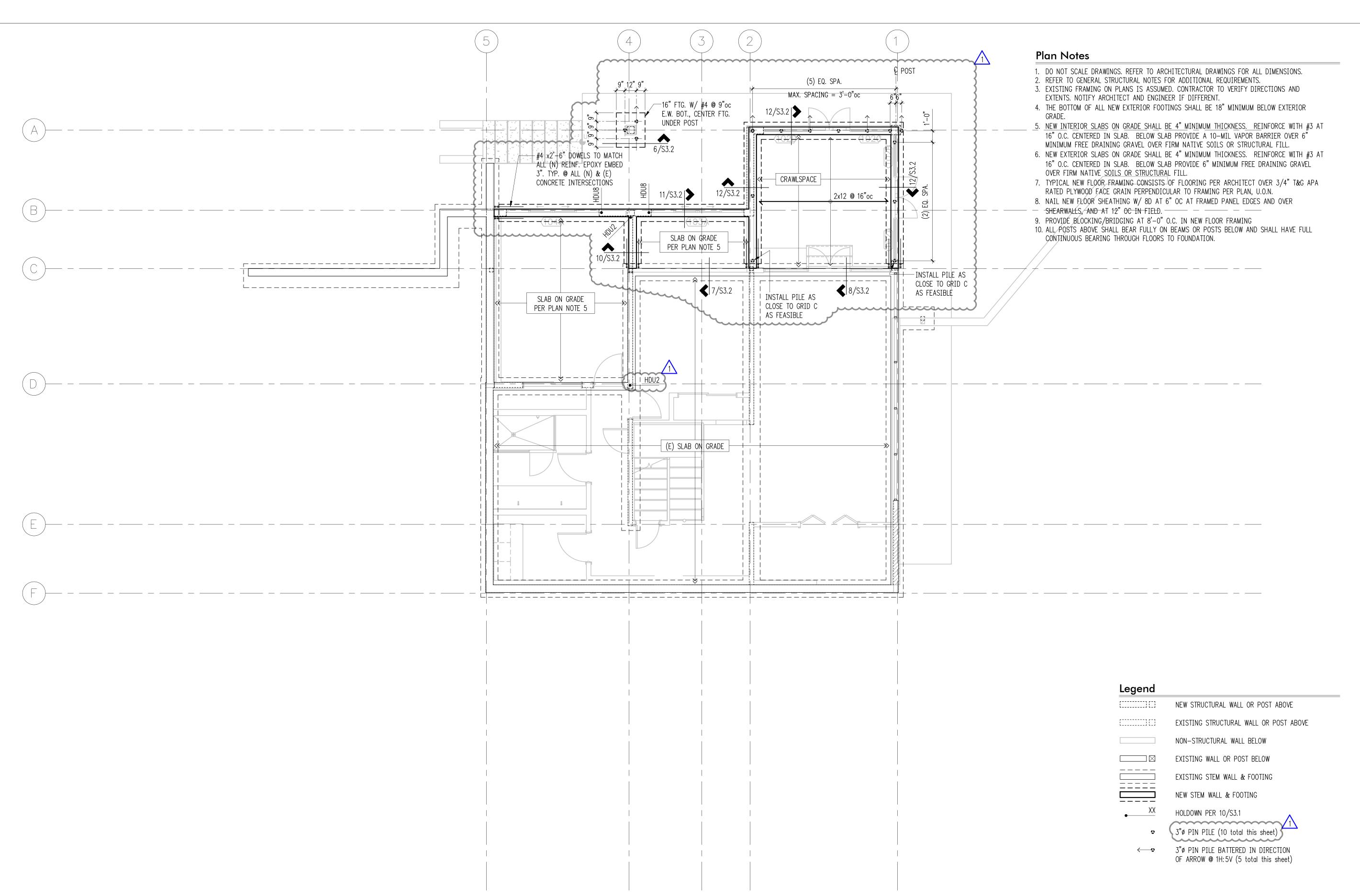
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General Structural Notes

DATE:

SHEET NO:

March 22, 2021 PROJECT NO: 01519-2020-13



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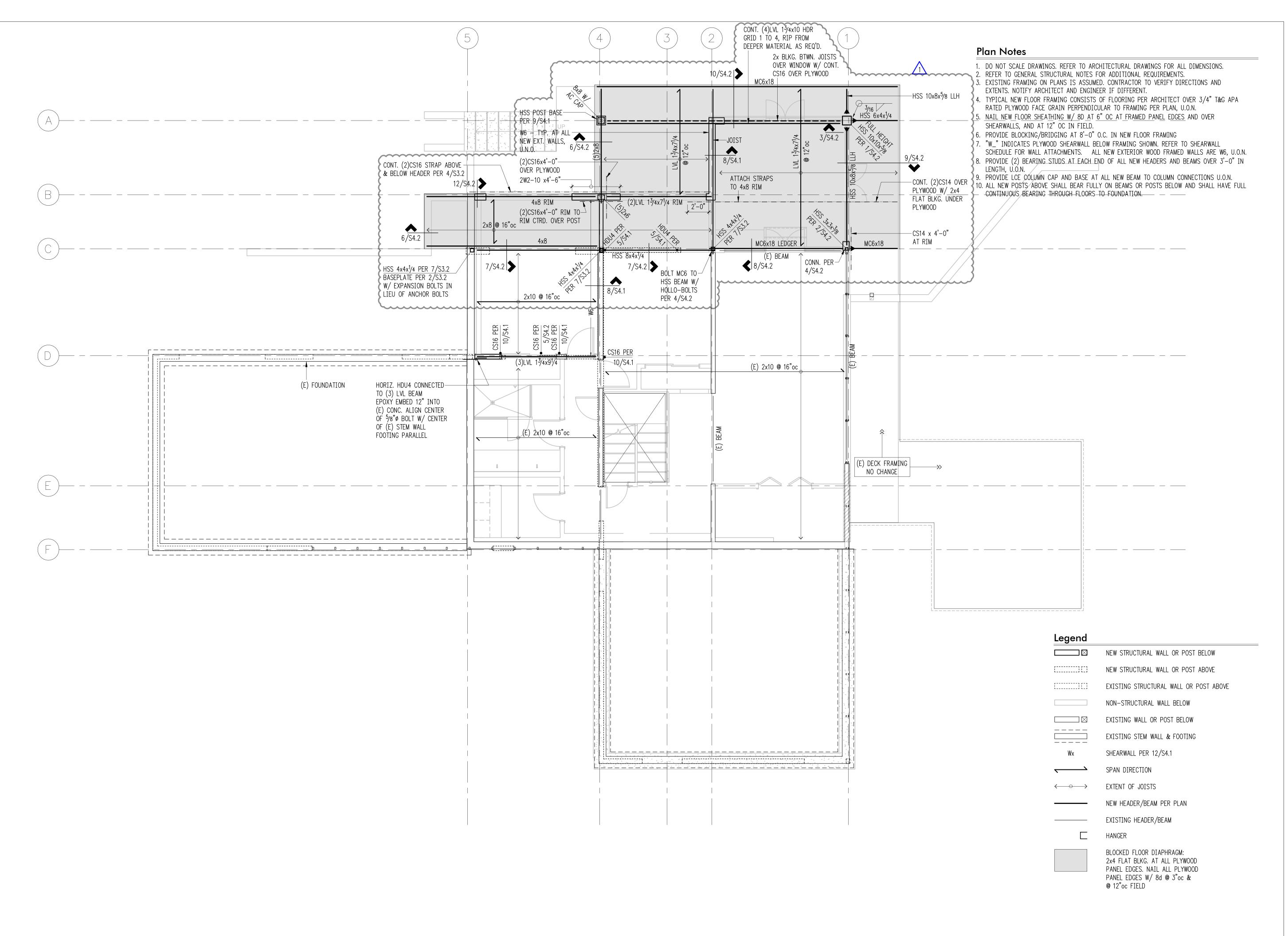
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Foundation Plan

1/4" = 1'-0" U.N.O. March 22, 2021 PROJECT NO:

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Main Floor Framing Plan

Scale: 1/4" = 1'-0"



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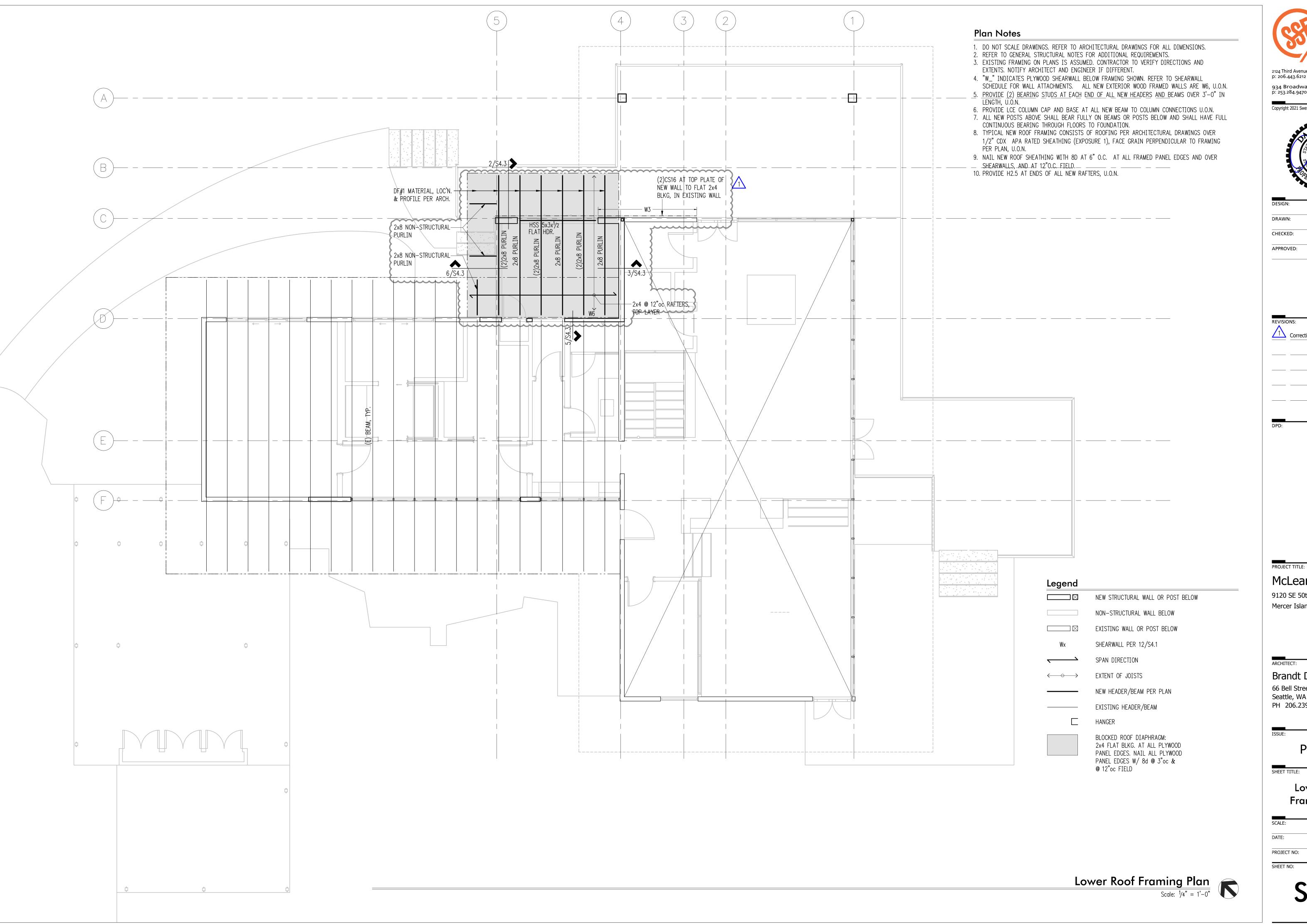
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Main Floor Framing Plan

1/4" = 1'-0" U.N.O. March 22, 2021

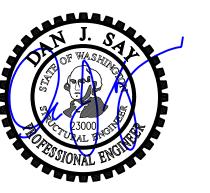
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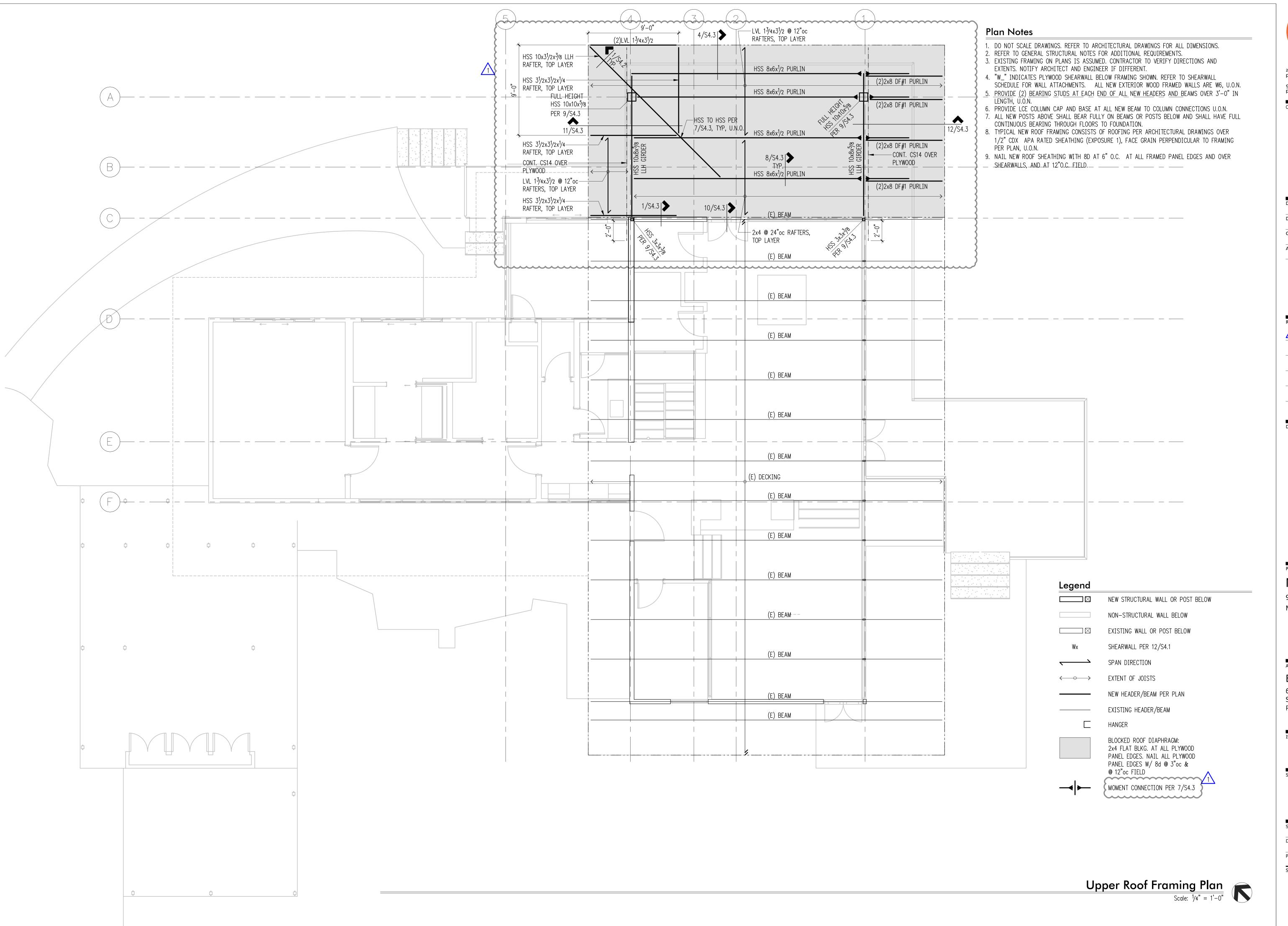
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Lower Roof

Framing Plan

1/4" = 1'-0" U.N.O. March 22, 2021 PROJECT NO: 01519-2020-13

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ARCHITECT:

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Upper Roof Framing Plan

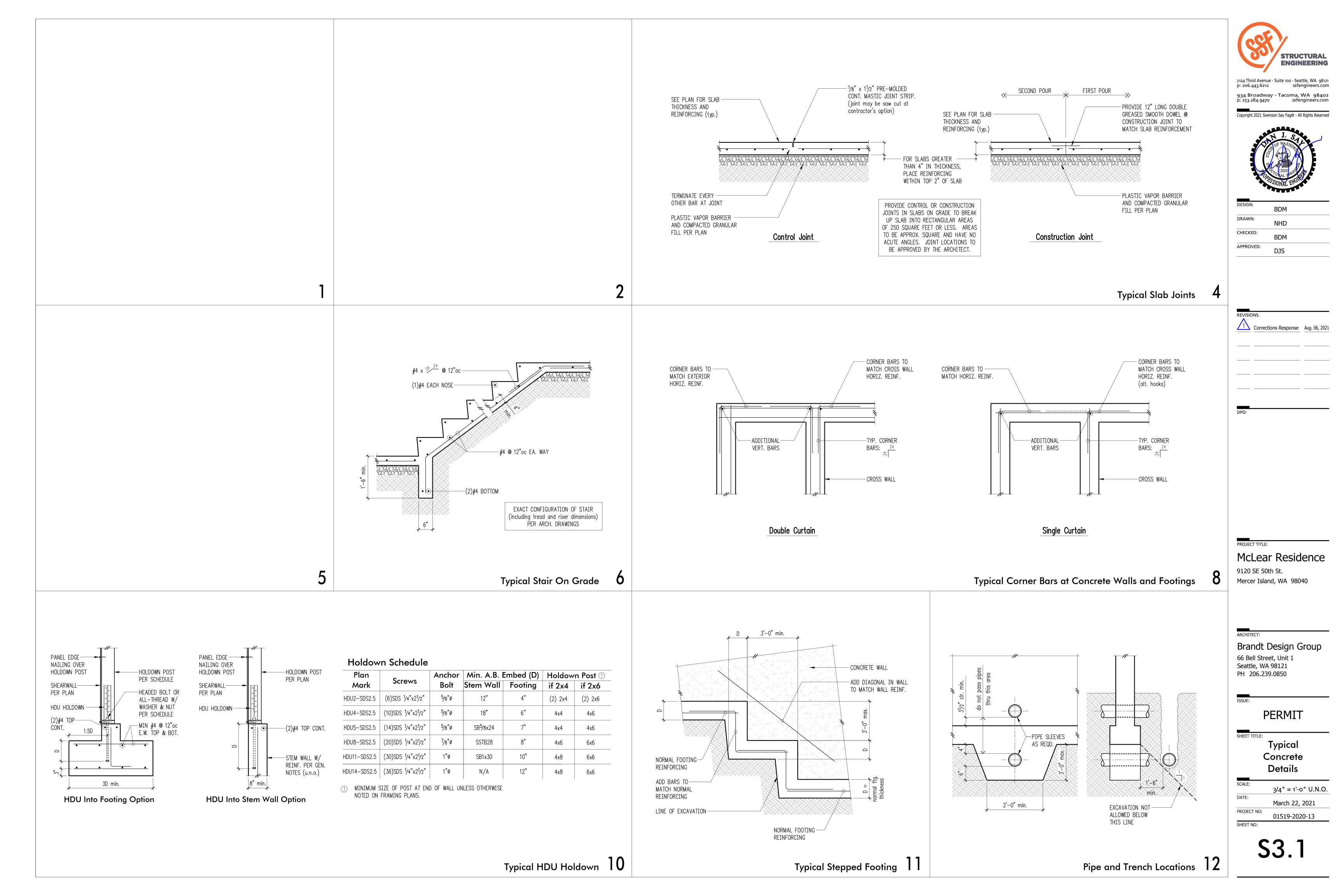
SCALE: 1/4" = 1'-0" U.N.O.

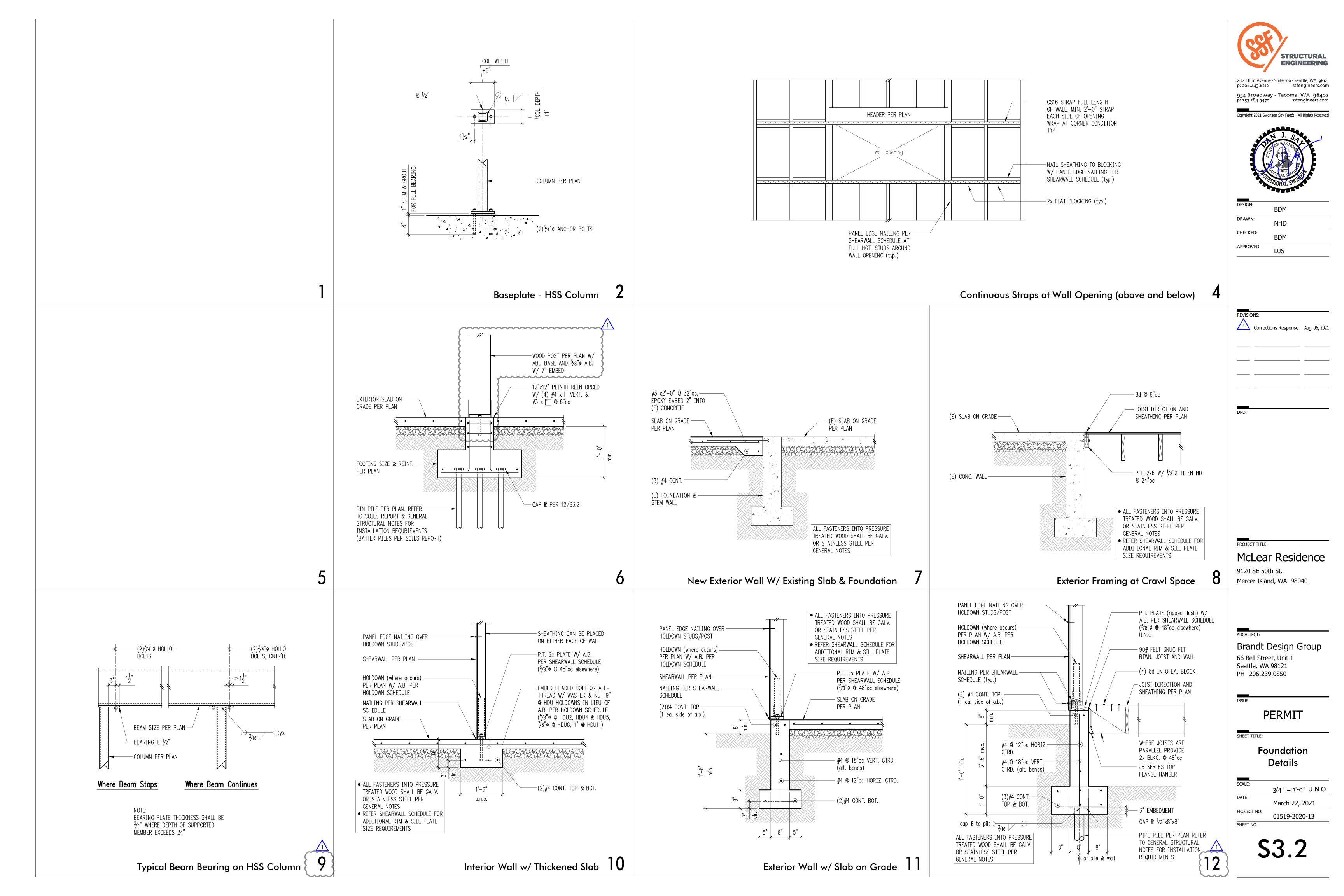
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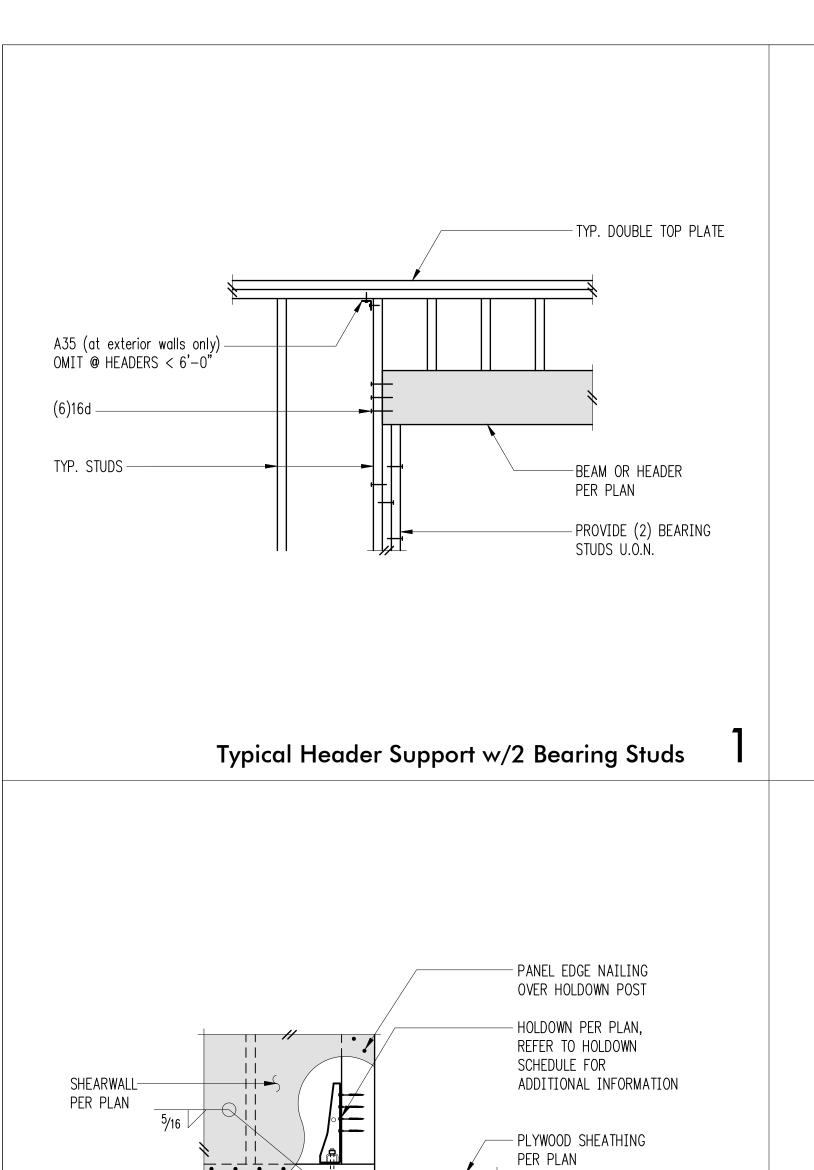
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S2 1







- ALL-THREAD TO MATCH

A.B. SIZE IN HOLDOWN

- COLUMN PER PLAN

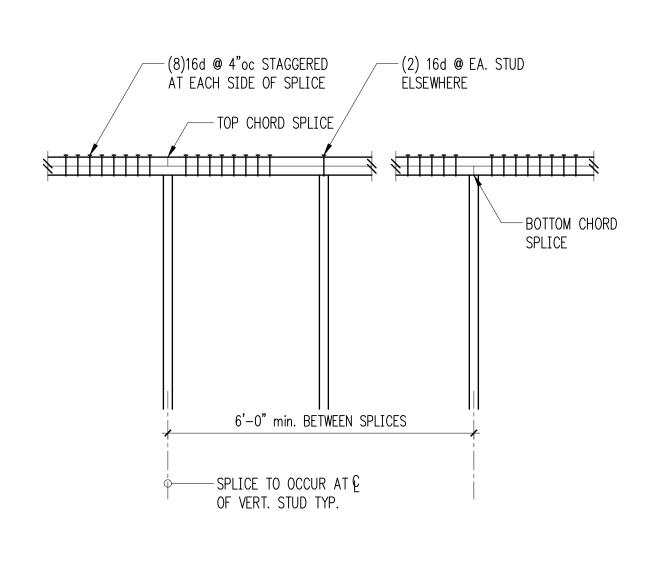
 $-(2)^{3}/4$ % x4" LAG SCREWS

WOOD BEAM PER PLAN

SCHEDULE

Holdown at WF Beam - HDU

BEAM PER PLAN



Typical Top Plate Splice

4-1³/4"

0.220x6

2

12"OC

NOTE: MAY USE SDS 1/4"

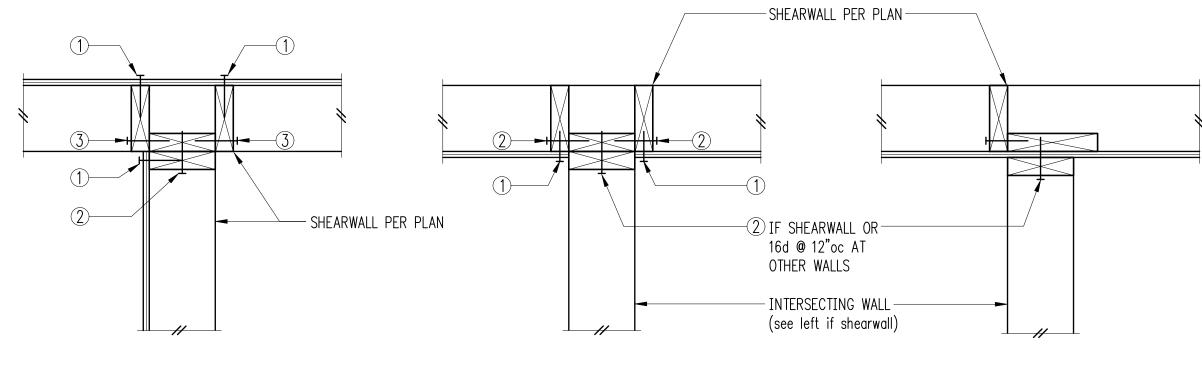
© CONTRACTORS OPTION

3-1³/4"

0.220x5

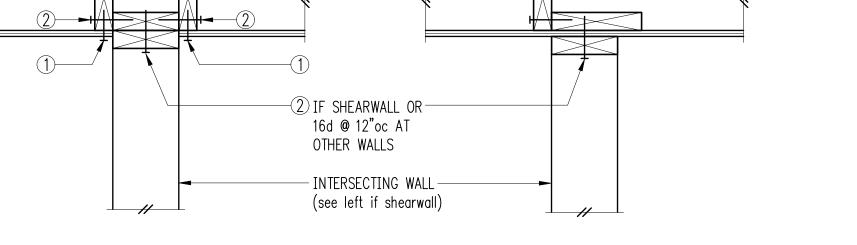
12"OC

Sistering Schedule for Multi Beams (SDWS)

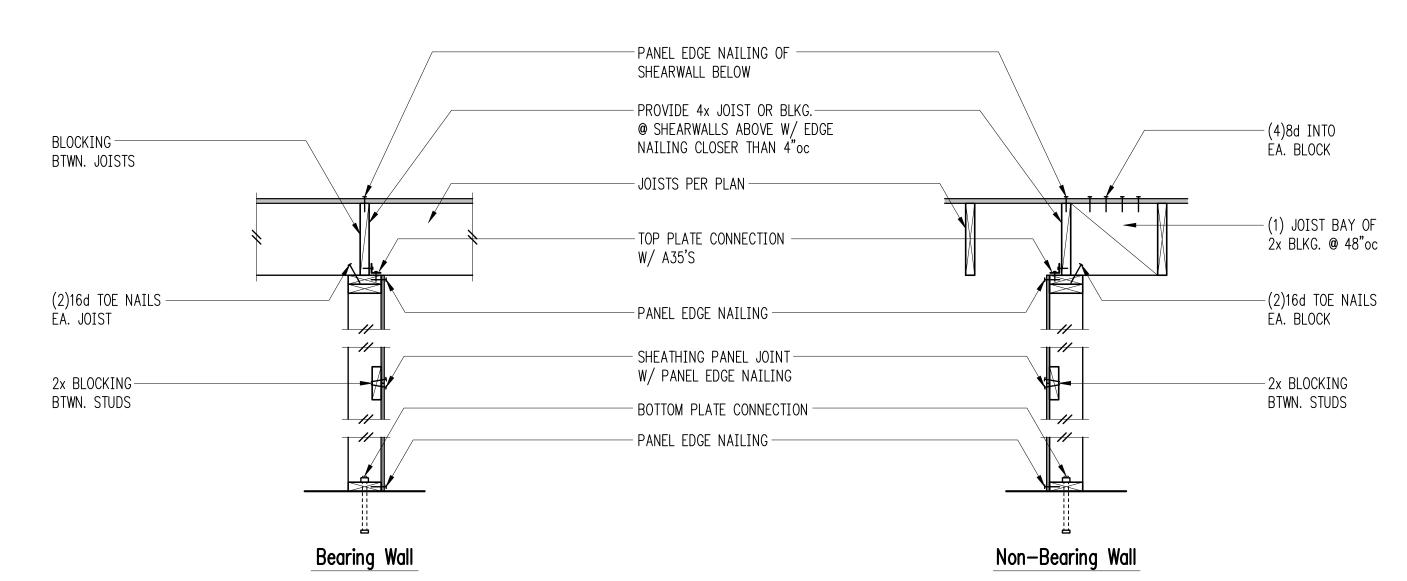


1 PLYWOOD PANEL EDGE NAILING PER SHEARWALL SCHEDULE

- 2 BASE PLATE NAILING PER SHEARWALL SCHEDULE
- 3 16d **@** 8"oc



Typical Shearwall Intersections



SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, NOT OTHERWISE NOTED

Panel Edge

Nailing

8d @ 6"oc

8d @ 4"oc

8d @ 3"oc

8d @ 2"oc

① BLOCK PANEL EDGES WITH 2x MIN. LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d @ 12"o.c.

Typical Shearwall Construction

16d @ 6"oc

A35 @ 9"oc (2)rows 16d @ 4"oc (3) 5/8"ø A.B. @ 16"oc

HGA10KT @ 6"oc (4)rows 16d @ 4"oc (4) 5/8"ø A.B. @ 12"oc

Base Plate Connection

(2)rows 16d @ 6"oc | 5/8"ø A.B. @ 32"oc

(2)rows 16d @ 6"oc | ⁵/8"\psi A.B. @ 24"oc

(3)rows 16d @ 4"oc (14) | 5/8" Ø A.B. @ 16"oc

(3)rows 16d @ 4"oc ⁽¹⁴⁾ | ⁵/8"ø A.B. @ 12"oc

at Wood (11) at Concrete

⁵/8"ø A.B. @ 48"oc

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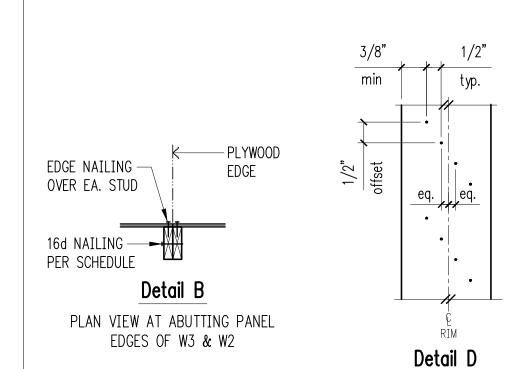
Wood Framing **Details**

3/4" = 1'-0" U.N.O. DATE: March 22, 2021

PROJECT NO: 01519-2020-13 SHEET NO:

S4.1

SAWN OR MFR. --PER SCHEDULE LUMBER. 2x MIN. SEE NOTES FOR 2x NAILER ADDITIONAL REQUIREMENTS 1/2" MAX. TO ÉDGE OF 16d NAILING -WASHER PER SCHEDULE



<u>Detail A</u>	<u>Detail C</u>
EDGE NAILING — PLYWOOD EDGE OVER EA. STUD 16d NAILING — PER SCHEDULE	3/8" 1/2" typ. eq. eq.
Detail B	
PLAN VIEW AT ABUTTING PANEL	Ę RIM

<u>Detail A</u>	<u>Detail C</u>
EDGE NAILING PLYWOOD OVER EA. STUD 16d NAILING PER SCHEDULE Detail B	3/8" 1/2" typ. eq. eq.
PLAN VIEW AT ABUTTING PANEL	- 1 E RIM

		— PANEL EDGE NAILING TO ALL HOLDOWN STUDS/POST
		— HOLDOWN PER PLAN REFER TO SCHEDULE
SHEARWALL PER PLAN	Schedule Schedule	— HOLDOWN POST/STUDS PER SCHEDULE
	End End	— PLYWOOD SHEATHING PER PLAN
ORIENTATION ————————————————————————————————————	End Length Per Schedule	FULL WIDTH VERTICAL GRAIN BLOCKING TO MATCH HOLDOWN STUDS/POST PER SCHEDULE REFER TO PLAN FOR LOCATIONS WHERE WALL CONTINUES

2-1³/4"

0.220x3

Holdown Strap Schedule

PLAN VIEW

SECTION

OF WOOD BMS (LVL)

SDW22 SCREW SIZE

OF SDW22 SCREWS

SPACING OF SDW22 SCREWS 12"OC

- MIN. SCREW END DISTANCE = 6"

Plan End		#Nails Ea.	Holdown Studs/Post	
Mark	Length	End Length	if 2x4	if 2x6
CS16	1'-2"	(13) 8d	(1) 2x4	(1) 2x6
CMST14	2'-6"	(33) 10d	4x6	4x6
CMST12	3'-3"	(43) 10d	4x8	6x6

Typical Holdown Schedule 10

② 8d NAILS SHALL BE 0.131"ø x 2 1/2" (common) – 16d NAILS SHALL BE 0.135"ø x 3 1/2" (box) – 10d NAILS SHALL BE 0.148"ø x 3" (common). ③ EMBED ANCHOR BOLTS AT LEAST 7". EXPANSION BOLTS MAY BE SUBSTITUTED FOR ANCHOR BOLTS WITH 4" EMBEDMENT. TITEN HD SCREW ANCHORS MAY BE SUBSTITUTED FOR ANCHOR BOLTS W/ 4" EMBEDMENT. ALL BOLTS SHALL HAVE 3" x 3" x 1/4" MIN. PLATE WASHERS. PLATE WASHERS SHALL EXTEND TO ④ 3x STUDS OR DOUBLE STUDS NAILED TOGETHER W/BASE PLATE NAILING ARE REQUIRED AT ABUTTING PANEL EDGES OF W3 AND W2. SEE DETAIL B. WHERE 3x STUDS ARE USED FOR W2, STAGGER NAILS AT ADJOINING PANEL EDGES. ⑤ 3x FOUNDATION SILL PLATES ARE REQUIRED FOR 2W3 AND 2W2. 3x STUDS ARE REQUIRED AT ABUTTING PANEL EDGES AND PANEL JOINTS SHALL BE OFFSET EACH SIDE OF WALL. STAGGER NAILS AT ADJOINING PANEL EDGES. 3x STUD, MIN., REQUIRED AT END OF SHEARWALL.

Mark

W6

W4

W3 4

W2 (4)

6 TWO STUDS MINIMUM ARE REQUIRED AT EACH END OF ALL SINGLE-SIDED SHEARWALLS. ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING. SEE PLANS AND HOLDOWN SCHEDULE FOR ALTERNATE REQUIREMENTS. ② ALL EXTERIOR WALLS SHALL BE W6, UNLESS NOTED OTHERWISE.

- 7/16" O.S.B. MAY BE SUBSTITUTED FOR 15/32" CDX, EXCEPT AT 10d PANEL EDGE NAILING.
- ① A 2x NAILER ATTACHED W/ BASE PLATE NAILING PER DETAIL A MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
- ① AT MULTI-ROW NAILING, MINIMUM OFFSET BETWEEN ROWS AND ROW SPACING 1/2", SEE DETAIL D.
- ② LVL RIMS PERMITTED AT SINGLE SIDED SHEAR WALLS ONLY.

Shearwall Schedule 123678

Sheathing

15/32" CDX PLYWOOD

15/32" CDX PLYWOOD

15/32" CDX PLYWOOD

15/32" CDX PLYWOOD

2W2-10⁽⁵⁾ | 15/32" CDX PLYWD. EA. SIDE | 10d @ 2"oc EA. SIDE

15/32" CDX PLYWD. EA. SIDE | 8d @ 3"oc EA. SIDE

15/32" CDX PLYWD. EA. SIDE | 8d @ 2"oc EA. SIDE

Top Plate Connection

if Wood $^{ ext{@}}$

A35 @ 24"oc ⑪

A35 **@** 16"oc ^①

A35 **@** 12"oc ¹⁰

A35 @ 6"oc

HGA10KT @ 8"oc

if TJI

16d @ 6"oc

16d @ 4"oc

(2)rows 16d @ 4"oc

(2)rows 16d @ 4"oc

13 PROVIDE (3) ROWS 16d @ 6"oc AT LVL RIMS. MINIMUM RIM OR JOIST 31/2" WIDE BELOW SHEARWALL. Shearwall Schedule - (Sheathed One & Two Sides) 12

