

MERCER ISLAND RESIDENCE 8424 BENOTHO PLACE, MERCER ISLAND, WA 98040

PERMIT DRAWINGS OCTOBER 21, 2019 REPRESENTATIVE VIEW FOR REFERENCE ONLY

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FRAMING DETAILS

FRAMING DETAILS

FRAMING DETAILS



OKANO PICARD STUDIO

ABBREVIATIONS

POUND OR NUMBER EXISTING NEW AT DIAMETER
ANCHOR BOLT ABOVE ACCESS ACOUSTICAL ASPHALT CONCRETE PAVING ACCESS PANEL ACOUSTIAL CEILING TILE AREA DRAIN AMERICANS WITH DISABILITIES ADJUSTABLE ABOVE FINISHED FLOOR AGGREGATE AIR INFILTRATION BARRIER ALTERNATE ALUMINIUM APPROXIMATE ASPHALT ARCHITECTURAL AUTOMATIC
BOARD BITUMINOUS BUILDING BLOCKING BEAM BOTTOM OF BOTTOM BEARING BASEMENT BUILT UP ROOFING
CABINET CATCH BASIN CEMENT CERAMIC CAST-IN-PLACE CONTROL JOINT CEILING CAULKING CLOSET CLEAR CONCRETE MASONRY UNIT COUNTER COLUMN CONCRETE CONNECTION CONSTRUCTION CONSTRUCTION CONSTRUCTION CONTINUOUS CONTRACTOR CORRIDOR CARPET; CARPETED COLD ROLLED STEEL COUNTERSUNK CERAMIC TILE CENTER CUBIC FEET
DOUBLE DEMOLITION DETAIL DIAMETER DIMENSION DEAD LOAD DOWN DOOR DOOR OPENING DOOR OPENING DOWNSPOUT DRY STANDPIPE DRAIN TILE DISHWASHER DRAWING
EAST EACH EXHAUST FAN EXPANSION JOINT ELEVATION ELECTRICAL ELEVATOR ENCLOSURE EQUAL EQUIPMENT ESTIMATE EACH WAY EXISTING EXPANDED; EXPANSION EXPANSION BOLT EXPOSED EXTERIOR
FIRE ALARM FLAT BAR FLOOR DRAIN FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FIRE EXTINGUISHER CABINET FIRE ACOR ELEVATION FIRE HYDRANT FIRE HOSE CABINET FINISH FINISH FLOOR FLOOR; FLOORING FLOOR; FLOORING FLUORESCENT FACE OF CONCRETE FACE OF FINISH FURNISHED BY OWNER-INSTALLED BY CONTRACTOR FACE OF STUDS FIREPROOF FIREPLACE FRAME FOOT OR FEET FOOTING FURRING FURRING FURRING

FW

FULL WIDTH

A ALV C L LAM R WB YP	GAUGE GALVANIZED GENERAL CONTRACTOR GLASS GLUE-LAMINATED GRADE GYPSUM WALL BOARD GYPSUM
B C DO DR DW DWD M ORIZ P R R R T VAC W WT	HOSE BIB HOLLOW CORE HIGH DENSITY OVERLAY HEADER HARDWARE HARDWOOD HOLLOW METAL HORIZONTAL HIGH POINT HOUR HOUR HEIGHT HEATING/VENTILATING/AIR CONDITIONING HOT WATER HOT WATER TANK
) ICL ISUL IT IV	INSIDE DIAMETER INCH INCLUDED INSULATION INTERIOR INVERT
З = Г	JUNCTION BOX JOINT FILLER JOINT
іт О	KITCHEN KNOCKOUT
АМ AV BS = H - DC D Г	LAMINATE; LAMINATED LAVATORY POUNDS LINEAR FEET (FOOT) LEFT HAND LIVE LOAD LOCATION LOW POINT LIGHT
AS ATL AX B C DF DO ECH EMB EZZ FR IN IR ISC O TD TL UL	MASONRY MATERIAL MAXIMUM MACHINE BOLT MEDICINE CABINET MEDIUM DENSITY FIBERBOARD MEDIUM DENSITY OVERLAY MECHANICAL MEMBRANE MEZZANINE MANUFACTURER MINIMUM MIRROR MISCELLANEOUS MASONRY OPENING MOUNTED METAL MULLION
/A IC O M R TS	NORTH NOT APPLICABLE NOT IN CONTRACT NUMBER NOMINAL NOISE REDUCTION NOT TO SCALE
A C FF H HWM PNG PP SB	OVERALL ON CENTER OUTSIDE DIAMETER; OVERFLOW DRAIN OFFICE OVERHEAD ORDINARY HIGH WATER MARK OPENING OPPOSITE ORIENTED STRAND BOARD
BD CC CF ERF ERP L AM LAS LWD NL NL NT R CST SF SI T TN VC	PARTICLE BOARD PRECAST CONCRETE POUNDS PER CUBIC FOOT PERFORATED PERPENDICULAR PLATE PLASTIC LAMINATE PLASTER PLYWOOD PANEL POINT PAIR PRECAST POUNDS PER CUBIC FOOT POUNDS PER SQUARE INCH PRESERVATIVE TREATED PARTITION POLYVINYL CHLORIDE
A AD D EF EFR EG EINF EQ ESIL EV H M O	RISER RETURN AIR RADIUS ROOF DRAIN REFERENCE REFRIGERATOR REGISTER REINFORCED REMAINDER REQUIRED RESILIENT REVISION(S); REVISED RIGHT HAND ROOM ROUGH OPENING

ABBREVIATIONS

GA

ABBREVIATIONS

RWL

WWM

WELDED WIRE MESH

RAIN WATER LEADER

S	
SAF	SELF-ADHERED FLASHING
SC	SOLID CORE
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SECT	SECTION
SG	SAFETY GLAZING
SHR	SHOWER
SHT	SHEET
SHIMIL	SHEET METAL
SHIG	SHEATHING
SIM	SHELF, SHELVING
SOG	
SPEC	SPECIFICATION
SQ FT	SQUARE FOOT (FEET)
SQ IN	SQUARE INCH(ES)
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYM	SYMETRICAL
-	
TER	TERRAZZO
TG	TEMPERED GLASS
THK	THICK
ТО	TOP OF
TOB	TO OF BEAM
TOC	TOP OF CONCRETE; CURB
TOF	TOP OF FLOOR; FOOTING; FRAME
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET; PAVEMENT
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB; STEEL
TOW	
IS TOTAT	THEDMOSTAT
TYP	
UNO	UNLESS NOTED OTHERWISE
VB	VINYL BASE
VEN	VENEER
VERT	VERTICAL
VEST	VESTIBULE
VG	
VI	
W	WEST
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WF BM	WIDE FLANGE BEAM
WG	WIRED GLASS
WH	WATER HEATER
WL	
WLD	
WR	WATER RESISTANT
WSCT	WAINSCOT
WSG	WIRE SAFFTY GLASS
WT	WEIGHT
WTR	WATER
WWF	WELDED WIRE FABRIC

SYMBOLS



MATERIALS



LOCATION MAP



VICINITY MAP



GENERAL NOTES

1 CODES: ALL WORK SHALL CONFORM APPLICABLE LAND USE AND BUILDING CODES AS AMENDED BY AUTHORITIES HAVING JURISDICTION.

- 2 DO NOT SCALE DIMENSIONS FROM DRAWINGS. USE CALCULATED DIMENSIONS ONLY. NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONFLICTS EXIST.
- 3 CONTRACTOR SHALL VERIFY ALL CONDITIONS PRIOR TO INITIATING THE WORK. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- 4 VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT. PROVIDE ALL BUCK-OUT, BLOCKING, BACKING, AND JACKS REQUIRED FOR INSTALLATIONS.
- 5 DIMENSIONS ARE TO EXTERIOR FACE OF CONCRETE / WOOD FRAMING UNLESS OTHERWISE NOTED.
- 6. AIR TEST REQUIRED PER R402.1.4.2 AND SHALL MEET 3.0 AIR CHANGES PER HOUR MIN.

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PROJECT DIRECTORY



INFORMATION

GENERAL

1 10/25/19 Permit R1

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PERMIT DRAWINGS

OCTOBER 21, 2019

by

no. date

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APPLIANCE SCHEDULE									
MARK	ROOM	MANUFACTURER	MODEL	REMARKS					
E01	KITCHEN 103	WOLF	DF606CG						
E02	KITCHEN 103	SUB-ZERO	IC-24FI						
E02	KITCHEN 103	SUB-ZERO	IC-24FI						
E03	KITCHEN 103	ZEPHRY	38" TORNADO INSERT						
E04	KITCHEN 103	MIELE	G 6875 SCVi AM						
E04	KITCHEN 103	MIELE	G 6875 SCVi AM						

LIGHTING FIXTURE SCHEDULE								
TYPE	MANUFACTURER	MODEL	COMMENTS					
L01	CIRCA LIGHTING	3" ENTRA ROUND ADJUSTABLE						
L02	URBAN ARCHAEOLOGY	FARMHOUSE FLUSHMOUN-UA0081 IS						
L03	CIRCA LIGHTING	DOT 13" CAGED FLUSHMOUNT-PB4001						
L04	DEVOL	LARGE NARROW PLEAT						
L05	NICKEY KEHOE	STRING LANTERN PENDANT						
L06	DEVOL	LARGE CRACKLE PENDANT						
L10	CIRCA LIGHTING	MERCHANT DOUBLE BATH LIGHT-TOB2207						
L11	VINTAGE							
L12	SCHOOLHOUSE	NORFOLD SCONCE 2.25"						
L13	URBAN ARCHAEOLOGY	ARTICULATED LIGHT-UA0030 IS						
L20	PER MANUFACTURER	PER MANUFACTURER						
L#		TBD						

			PLUMBING SCHEDULE	
ROOM	TYPE	MANUFACTURER / STYLE	STYLE NUMBER	REMARKS
MAIN LEVEL				
GUEST BATH 109	P01	Waterworks	Otis	
GUEST BATH 109	P11	Waterworks	Alden-ALPL01	
GUEST BATH 109	P30	Waterworks	Easton-EAXS42	
KITCHEN 103	P20	Waterworks	Easton	
KITCHEN 103	P10	Blanco	Quatrus 518172	
KITCHEN 103	P21	Waterworks	Henry	
POWDER 110	P01	Waterworks	Otis	
POWDER 110	P11	Waterworks	Alden-ALPL01	
POWDER 110	P22	Waterworks	Highgate-HGLS10	
UPPER LEVEL				
BATH 209	P02	Waterworks	Alden-ALWC01	
BATH 209	P31	Waterworks	Minna-MIBT70	
BATH 209	P12	Waterworks	Clara CYLV20	
BATH 209	P12	Waterworks	Clara CYLV20	
BATH 209	P22	Waterworks	Highgate-HGLS10	
BATH 209	P22	Waterworks	Highgate-HGLS10	
BATH 209	P31	Waterworks	Universal-UNSH27	
BATH 209	P37	Waterworks	Highgate-HGXT20	
BATH 209	P32	Waterworks	Highgate-HBPB10	
BATH 212	P01	Waterworks	Otis	
BATH 212	P12	Waterworks	Clara CYLV20	
BATH 212	P23	Waterworks	Highgate	
BATH 212	P33	Waterworks	Highgate-HGSP08	
MASTER BATH 205	P38	Cheviot	Cast Iron Bath #2124	
MASTER BATH 205	P13	Waterworks	Clara	
MASTER BATH 205	P13	Waterworks	Clara	
MASTER BATH 205	P24	Waterworks	Easton	
MASTER BATH 205	P24	Waterworks	Easton	
MASTER BATH 205	P36	Waterworks	Easton	
MASTER BATH 205	P31	Waterworks	Universal-UNSH27	
MASTER BATH 205	P34	Waterworks	Easton	
MASTER BATH 205	P35	Waterworks	Easton	
MASTER BATH 205	P34	Waterworks	Easton	
WC 206	P01	Waterworks	Otis	

AREA SCHEDULE								
NAME	AREA							
UPPER LEVEL	2379 SF							
MAIN LEVEL	2349 SF							
LOT COVERAGE	3907 SF							

ROOM NU		ROOMS	SCHEDULE	•	
	JMBER	ROOM NAME	ARE	:A	ROOM TYPE
MAIN LEVEL SSL	L				
112 MAIN I EVEI	PATIO		400 SF		
100	HALL		181 SF		
101	LAUNDR	Y	88 SF		
102 103	PANTRY	1	67 SF 315 SE		
103	DINING	1	157 SF		
105	LIVING		342 SF		
106	FAMILY		379 SF		
107 108		N/	75 SF 177 SF		
109	GUEST E	ATH	60 SF		
110	POWDEF	2	38 SF		
11	STORAG	E / MECHANICAL	184 SF		
	ENTDV		112 CE		
00	MASTER	HALL	32 SF		
202	MASTER	BEDROOM	229 SF		
03	MASTER	CLOSET HALL	43 SF		
J4)5	MASTER	CLOSE I	86 SF		
, <u>,</u>)6	WC		141 SF 18 SF		
07	WIC		26 SF		
08	BEDROC	M	132 SF		
J9 10	BATH	N/	43 SF		
10 11	HALI	//VI	42 SF		
12	BATH		61 SF		
13	BEDROC	M	160 SF		
14	MUDROC	DM	60 SF		
O PLATE	GARAGE		415 SF		
)0	STORAG	E	192 SF		
Grand total			4705 SF		
					WII
MARK	OPERATION	WIDTH	HEIGHT	AREA	FRAME FINISH
R 103.1	SWING DOOR	.3' - 2"	7' - 9"	25 SF	ALUM/PTD WD
R 201.1	SWING DOOR	6' - 4"	8' - 0"	51 SF	ALUM/PTD WD
0	CASEMENT	3' - 0"	8' - 0"	24 SF	
1		21 01			
12		3 - U יי חיי	8' - 0"	24 SF	ALUM/PTD WD
12	CASEMENT	<u> </u>	8' - 0" 8' - 0" 8' - 0"	24 SF 24 SF 24 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14	CASEMENT CASEMENT FIXED	3' - 0" 3' - 0" 3' - 0" 3' - 0"	8' - 0" 8' - 0" 8' - 0" 10' - 6"	24 SF 24 SF 24 SF 24 SF 32 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14 15	CASEMENT CASEMENT FIXED SWING DOOR	3' - 0" 3' - 0" 3' - 0" 3' - 0" 6' - 4"	8' - 0" 8' - 0" 8' - 0" 10' - 6" 10' - 6"	24 SF 24 SF 24 SF 24 SF 32 SF 67 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16	CASEMENT CASEMENT FIXED SWING DOOR FIXED	3' - 0" 3' - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17	CASEMENT CASEMENT FIXED SWING DOOR FIXED FIXED CASEMENT	3 - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 3' - 0"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 8' - 0"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20	CASEMENT CASEMENT FIXED SWING DOOR FIXED FIXED CASEMENT CASEMENT	3 - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 3' - 0" 3' - 0" 3' - 0"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 8' - 0" 5' - 5"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 126 SF 24 SF 16 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20 21	FIXED CASEMENT CASEMENT FIXED SWING DOOR FIXED FIXED CASEMENT CASEMENT CASEMENT FIXED	3 - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 3' - 0" 3' - 0" 3' - 0" 3' - 0"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 8' - 0" 5' - 5" 5' - 5"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 16 SF 16 SF	ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20 21 22 22	CASEMENT CASEMENT FIXED SWING DOOR FIXED FIXED CASEMENT CASEMENT FIXED CASEMENT	3 - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 3' - 0" 3' - 0" 3' - 0" 3' - 0" 3' - 0" 3' - 0"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 8' - 0" 5' - 5" 5' - 5" 5' - 5"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 16 SF 16 SF	ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20 21 22 23 24	FIXED CASEMENT CASEMENT FIXED SWING DOOR FIXED FIXED CASEMENT CASEMENT FIXED	3 - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 3' - 0"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 8' - 0" 5' - 5" 5' - 5" 5' - 5" 5' - 5" 8' - 0"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 16 SF 16 SF 16 SF 16 SF 24 SF	ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20 21 22 23 24 25	FIXED CASEMENT FIXED SWING DOOR FIXED CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT FIXED CASEMENT FIXED CASEMENT FIXED CASEMENT FIXED CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT	3 - 0 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 12' - 0" 3' - 2"	8' - 0" 8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 5" 5' - 5" 5' - 5" 5' - 5" 5' - 5" 5' - 5" 8' - 0" 8' - 0" 8' - 0"	24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 16 SF 16 SF 16 SF 16 SF 24 SF 25 SF	ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20 21 22 23 24 25 26	FIXED CASEMENT FIXED SWING DOOR FIXED FIXED CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT FIXED CASEMENT	3 - 0" 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 3' - 2" 3' - 2"	8' - 0" 8' - 0" 10' - 6" 10' - 6" 10' - 6" 10' - 6" 5' - 5" 5' - 5" 5' - 5" 5' - 5" 8' - 0" 8' - 0" 8' - 0" 8' - 0" 8' - 0" 8' - 0" 8' - 0" 8' - 0" 8' - 0"	24 SF 24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 16 SF 16 SF 16 SF 16 SF 24 SF 25 SF 25 SF	ALUM/PTD WD ALUM/PTD WD
12 13 14 15 16 17 18 20 21 22 23 24 25 26 27 20	FIXED CASEMENT FIXED SWING DOOR FIXED CASEMENT CASEMENT CASEMENT CASEMENT CASEMENT FIXED CASEMENT FIXED CASEMENT FIXED CASEMENT CASEMENT CASEMENT CASEMENT FIXED CASEMENT FIXED CASEMENT FIXED CASEMENT FIXED	3 - 0 3' - 0" 3' - 0" 6' - 4" 3' - 0" 12' - 0" 12' - 0" 3' - 0"	8' - 0" $8' - 0"$ $8' - 0"$ $10' - 6"$ $10' - 6"$ $10' - 6"$ $10' - 6"$ $5' - 5"$ $5' - 5"$ $5' - 5"$ $5' - 5"$ $8' - 0"$ $8' - 0"$ $8' - 0"$ $8' - 0"$ $8' - 0"$ $8' - 0"$ $8' - 0"$ $8' - 0"$	24 SF 24 SF 24 SF 24 SF 32 SF 67 SF 32 SF 126 SF 24 SF 16 SF 16 SF 16 SF 24 SF 25 SF 25 SF 25 SF	ALUM/PTD WD ALUM/PTD WD
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WINDOW SCHEDULE								
DIMENS	SIONS (ROUGH OPENING)						
	HEIGHT	AREA	FRAME FINISH	GLASS TYPE	U VALUE	UA VALUE	REMARKS	
	7' - 9"	25 SF	ALUM/PTD WD	TYPE 1	0.28	7		
	8' - 0"	51 SF	ALUM/PTD WD	TYPE 1	0.28	14		
	8' - 0"	24 SF	ALUM/PTD WD	TYPE 1	0.28	7		
	8' - 0"	24 SF	ALUM/PTD WD	TYPE 1	0.25	6		
	8' - 0"	24 SF		TYPE 1	0.28	7		principal arch
	8' - 0"	24 SF		TYPE 1	0.28	7		
	10' - 6"	32 SF			0.20	9		project man
	10' - 6"	67 SF			0.28	19		draw
	10' - 6"	32 SE			0.20	0		
	10 - 0	126 SE			0.27	3/		
	8' 0"	24 SE			0.27	7		checke
	5' 5"	16 SE			0.20	5		jo'
	5' 5"	16 SE			0.20	5		,
	5-5	10 SF			0.27	4		
		10 SF			0.20	5		
	0 - 0	10 SF			0.20	5		
	0 - 0	24 SF			0.27	0		
	8 - 0	25 SF			0.28	1		revisions:
	8 - 0	25 SF			0.28	1		
	8 - 0	24 SF			0.27	6		
	8° - 0°	24 SF			0.27	6		
	8° - 0°	24 SF			0.27	6		
	8° - 0°	24 SF			0.27	6		
	8' - 0"	24 SF		TYPE 1	0.27	6		
	5' - 5"	16 SF			0.28	5		
	/ - U"	21 SF	ALUM/PTD WD	TYPE 1	0.28	6		
	/' - U''	21 SF	ALUM/PTD WD	TYPE 1	0.28	6		
	5' - 5"	21 SF	ALUM/PTD WD	TYPE 2	0.28	6		
	5' - 5"	21 SF	ALUM/PTD WD	TYPE 2	0.28	6		<u> </u>
	5' - 5"	16 SF	ALUM/PTD WD	TYPE 1	0.28	5		no date
	5' - 5"	16 SF	ALUM/PTD WD	TYPE 1	0.25	4		
	5' - 5"	16 SF	ALUM/PTD WD	TYPE 1	0.28	5		
	2' - 8 1/2"	7 SF	ALUM/PTD WD	TYPE 1	0.29	2		
	4' - 3"	13 SF	ALUM/PTD WD	TYPE 1	0.28	4		
	4' - 3"	13 SF	ALUM/PTD WD	TYPE 1	0.28	4		
	10' - 6"	115 SF	ALUM/PTD WD	TYPE 1	0.32	37		PERMIT
	10' - 6"	63 SF	ALUM/PTD WD	TYPE 1	0.27	17		
	5' - 7"	17 SF	ALUM/PTD WD	TYPE 1	0.28	5		OCTOR
	8' - 0"	24 SF	ALUM/PTD WD	TYPE 1	0.27	6		00100
	8' - 0"	24 SF	ALUM/PTD WD	TYPE 1	0.27	6		
	5' - 5"	16 SF	ALUM/PTD WD	TYPE 1	0.28	5		
	5' - 5"	16 SF	ALUM/PTD WD	TYPE 1	0.28	5		
	8' - 0"	24 SF	ALUM/PTD WD	TYPE 1	0.27	6		
(-√ <u>8</u> '-0"	24,SF	ALUM/RTO WD	TXPE 1	0.27	6		
\square	Y Y	1214 SF	Y Y	Y	Y	338		
\mathbf{S}	AREA WEIGHTED U-V	ALUE = 338/	/1214 = 0.278 /	1				SCHEDL



EAST GLAZING ELEVATION SCALE: 1/4" = 1'-0"

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WEST GLAZING ELEVATION SCALE: 1/4" = 1'-0"

WINDOW TYPES

TYPE A: ALUMINUM-CLAD WOOD SDL FIXED WINDOW BASIS OF DESIGN: LOEWEN OR APPROVED EQUAL

<u>FIXED / SDL</u> U-FACTOR 0.27 NFRC CPD NUMBER: LOW-N-65-04513-00001

TYPE B: ALUMINUM-CLAD WOOD SDL OPERABLE WINDOW BASIS OF DESIGN: LOEWEN OR APPROVED EQUAL

CASEMENT / SDL U-FACTOR 0.28

NFRC CPD NUMBER: LOW-N-87-07530-00001 TYPE C: ALUMINUM-CLAD FIXED WINDOW BASIS OF DESIGN: LOEWEN OR APPROVED EQUAL

<u>FIXED</u> U-FACTOR 0.27 NFRC CPD NUMBER: LOW-N-65-04473-00001

TYPE D: ALUMINUM-CLAD OPERABLE WINDOW BASIS OF DESIGN: LOEWEN OR APPROVED EQUAL

<u>AWNING</u> U-FACTOR 0.29

NFRC CPD NUMBER: LOW-N-87-07507-00001

TYPE G: THERMALLY BROKEN GARAGE DOOR DOOR BASIS OF DESIGN: TBD

TYPE F: WOOD / GLAZED PANEL DOOR BASIS OF DESIGN: TBD

NFRC CPD NUMBER: LOW-N-59-05003-00001

NFRC CPD NUMBER: LOW-N-58-04993-00001

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

GLASS TYPES GLASS TYPE 1 - TYPICAL UNLESS NOTED OTHERWISE EXTERIOR PANE: 1/4", CARDINAL LOW-E 272 THERMAL SPACER: 1/2" EDGETECH, COLOR BLACK GAS FILL: ARGON

INTERIOR PANE: 1/4" CARDINAL LOW-E:189 $^{
m }$ *PROVIDE HEAT STREGTHENED WHERE NOTED 'SAFETY GLAZING'.

S10

TYPE B

3'-0"

GLASS TYPE 2-PRIVACY

EXTERIOR PANE: 1/4" , CARDINAL LOW-E 272 THERMAL SPACER: 1/2" EDGETECH, COLOR BLACK

GAS FILL: ARGON INTERIOR PANE: 1/8" CARDINAL LOW-E i89 LAMINATED TO 3D TEXTURED GLASS

GLASS TYPE 3 - INTERIOR CLEAR SINGLE PANE 1/4" LOW IRON

GLASS TYPE 4 - INTERIOR CLEAR SINGLE PANE 1/4" 3D TEXTURED

WINDOW AND GLAZED DOOR FINISH

4'-2

TYPE B

3'-0"

EXTERIOR - FACTORY FINISH ALUMINUM - LOEWEN "STEEL MATTE BLACK" INTERIOR - PAINTED WOOD, BENJAMIN MOORE "BLACK", SATIN FINISH WINDOW HARDWARE - OIL RUBBED BRONZE DOOR HARDWARE - VERONA AND/OR BOTTICELLI HANDLES IN OIL RUBBED BRONZE (DEPENDENT ON APPLICATION)

DOOR TYPES

SWING DOOR

U-FACTOR 0.27

BIFOLD DOOR

U-FACTOR: 0.32

TYPE D: ALUMINUM CLAD WOOD, GLAZED/SDL DOOR BASIS OF DESIGN: LOEWEN OR APPROVED EQUAL

TYPE E: ALUMINUM-CLAD WOOD, GLAZED/SDL DOOR

BASIS OF DESIGN: LOEWEN OR APPROVED EQUAL

9'-0" 9'-0" 215.1 215.2 TYPE G TYPE G

CONFIRM W/ MFR

NORTH GLAZING ELEVATION

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





	<u></u>	analas meneralas ar					2015	WSCE – Table R406.2 – circle the options that you will be using for this project			
CITY OF MER	CER I	SLAN	D	OF M	RCERIS		OPTION	DESCRIPTION	CREDIT(S)	2015 V	VSCE – Table R406.2 - Continued
DEVELOPMENT SERVICES				À	A E			EFFICIENT BUILDING ENVELOPE 1a: Vertical fenestration U = 0.28		OPTION	DESCRIPTION
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)				TINGTON	la V	Floor R-38 Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab. <u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 5%. EFFICIENT BUILDING ENVELOPE 1b:	0.5		HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM: All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All combustion equipment shall be direct vent or sealed combustion.		
				16)	Vertical fenestration U = 0.25 Wall R-21 plus R-4 Floor R-38 1b Basement wall R-21 int plus R-5 ci			4	For forced air ducts: A maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ductslocated 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		
INFORMATION IN THESE	WORKSH	EETS MUST B	E INCLUDED	IN THE CONSTRU	CTION DO	CUMENTS		Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab.		ΙĈ	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
This set of worksheets has been develop Code. The following worksheets provide must also be shown on the drawings.	ped to assist p e much of the	ermit applicants required docume	vith documenting on ntation for plan re	compliance with the 20 view. The details, syste	15 Washingtor ems, and rating	n State Energy gs noted here	16	EFFICIENT BUILDING ENVELOPE 1c: Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.22 Ceiling and single-rafter or joist-vaulted R-49 advanced Wood frame wall R-21 int plus R-12 ci Floor R-38	2.0		heat pumps are not permitted under this option. Direct combustion heating equipment with AFUE less than 80% is not permitted under this option. To qualify to claim this credit, the building permit drawings shall specify theoption being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.
PRESCRIPTIVE ENERGY COD	E COMPLI		IMATE ZONE I	MARINE 4		Slab		Basement wall R-21 int plus R-12 ci	2.0		FEFICIENT WATER HEATING 5a
Component Vertical Overhead	Ceiling w/ Attic	Vaulted Fran Ceiling Wall	ned (Above	Below-Grade Wall 2,3	Framed Floor	R-Value &		Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab <u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 30%.			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
Prescriptive U. 0.30 U. 0.50 Value max. max.	R-49 min.	R-38 min. R-21	min. R-21 min.	R- 10/15/21 Int. + TB	R-30 min.	R-10 min. 2'	1d	EFFICIENT BUILDING ENVELOPE 1d: Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.24. Projects using this option may not use Option 1a, 1b or 1c.	0.5		Plumbing Fixtures Flow Ratings. Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following requirements:
¹ Fenestration is defined as skylights, roof w opaque/alazed doors. Fenestration inclu	indows, vertica udes products w	l windows (fixed or r vith alass and non-al	noveable), opaque do ass alazina materials.	oors, glazed doors, glazed l	olock and combin	nation		AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:		5a	1. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1.
² Int. (intermediate framing) denotes standa ³ 10/15/21 +TB" means R-10 continuous insi 10/15/21 +TB" means R-10	ard framing 16" ulation on the e	o.c. with headers in xterior of the wall of	ulated with a minimu R-15 on the continu	um R-10 insulation. Ious insulation on the inter	ior of the wall o	r R-21 cavity		Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum <u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the <i>International Residential Code</i> shall be met			2. Residential kitchen faucets: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1.
insulation plus a thermal break between with P.12 cavity insulation on the interi	n the slab and ti	he basement wall at	the interior of the ba	sement wall. "10/15/21 +	TB" shall be perm	nitted to be met	2a	with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilation systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode.	0.5		3. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA
break between floor slab and basement	t wall.		andous institution on	the menor of exterior of	the work. To m	curis therman		To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the qualifying ventilation system.			B125.1. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow
Whole House Ventilation (Pr	escriptive)			a <i>na-</i> 700			AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b:			rates for all showerheads, kitchen sink faucets, and other lavatory faucets.
Please check the appropriate be using AND fill in the requir	box to descri ed whole ho	ibe which of the use ventilation r	four prescriptive ate in CFM's. (See	"2015 Residential Whole I	tion Systems House Ventilation	you will n Rate"		Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0air changes per hour maximum <u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code shall be met with	n		Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.74
Handout.) A complete system requir	ed by one of the	e sections noted bel	ow must be specified	on the drawings.		122212-2200-2	2b	a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.70.	1.0	5b	OR Water heater heated by ground source heat pump meeting the requirements of Option 3c. 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 (
WHOLE HOUSE VENTILATION	METHOD				Ventilation	se Rate		tested building air leakage and shall show the heat recovery ventilation system.			minimum pipe insulation.
✓ Intermittent Whole House V	Intermittent Whole House Ventilation Using Exhaust Fans & Fresh Air Inlets. (IRC M1507.3.4) SEE A1.01				1.01	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c:			equipment type and the minimum equipment efficiency.		
Intermittent Whole House V	Ventilation In	tegrated with a	Forced Air System	n. (IRC M1507.3.5)			AND All whole house ventilation requirements as determined by Section M1507.3 of the <i>International Residential Code</i> shall be met		EFFICIENT WATER HEATING 5c: Water beating system shall include one of the following: Gas, pronane or oil water beater with a minimum FE of 0.91		
Intermittent Whole House Ventilation using a Supply Fan. (IRC M1507.3.6)					To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum		OR Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of				
	Ventilation Us	sing a Heat Reco	very ventilation S	system (IRC M1507.3.	/)			tested building air leakage and shall show the heat recovery ventilation system.	$ \rightarrow $	5.	85 therms or 2000 kWh based on the solar Rating and Certification Corporation (SKCC) Annual Performance of OG-300 Certified Solar Water Heating Systems
Source Specific Exhaust Vent	tilation &	Fan Efficiency	!					Gas, propane or oil-fired furnace with minimum AFUE of 94%, or Gas, propane or oiled-fired boiler with minimum AFUE of 92%.			OR Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEEA's Northern Climate Specifications for Heat Pump Water Heaters
Required in each kitchen, bathroo water vapor or cooking odor is pr	om, water clos	et compartment, M 1507 4) Fan effi	laundry room, indo ciency from WAC 5	oor swimming pool, spa 51-118 – Table B403 6 1	and other roo	ms where	3a	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 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 water heater
than 400 cfm require makeup air	per IRC M150	3.4	ciency nonin write o		. Ritchen 100	us Breuter		To qualify to claim this credit, the building permit drawings shall specify theoption being selected and shall specify the heating equipment type and the minimum equipment efficiency.			equipment type and the minimum equipment efficiency and, for solar water nearing systems, the calculation of the minimum energy savings.
Minin	num Source	Specific Vent	lation Capacity	Requirements	In-line fa			HIGH EFFICIENCY HVAC EQUIPMENT 3b:			EFFICIENT WATER HEATING 5d:
Intermittently operating		50 cfm min		100 cfm min	in inc iu		24	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.	10		efficiency of 40% if installed for equal flow or a minimum efficiency of 52% if installed for unequal flow. Such units shall be rated in
Continuous operation	14 cfm	20 cfm min	for hunts if	25 cfm min	2.8 cfm /u		30	To qualify to claim this credit, the building permit drawings shall specify theoption being selected and shall specify the heating	1.0	5d	accordance CSA B55.1 and be so labeled. To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specified the drain water heat
Winning Encacy (cm) watt)	<900	fm	>90cfm	2.8 cm/ watt	2.8 cm/ w	att		equipment type and the minimum equipment efficiency. HIGH EFFICIENCY HVAC EQUIPMENT 3c:			recovery units and the plumbing layout needed to install it and labels or other documentation shall be provided that demonstrates that the unit complies with the standard.
Energy Efficiency Credits								Closed-loop ground source heat pump; with a minimum COP of 3.3			RENEWABLE ELECTRIC ENERGY:
Each dwelling unit shall comply with	n sufficient op	ptions from WSE	C Table R406.2 se	o as to achieve the fo	llowing minim	num number	Зc	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	1.5		For each 1200 kWh of electrical generation per each housing unit provided annually by on-site wind or solar equipment a 0.5 credit
of credits as described on the reve	erse side of the	nis page.	than 1500 CE in	conditioned floor are	a with loce th	an 300		furnaces) both must meet the standard to receive the credit. To qualify to claim this credit, the building permit drawings shall specify theoption being selected and shall specify the heating			For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy
square feet of fenestration	area. Addit	ions to existing t	uilding that are g	greater than 500 SF o	f heated floor	area,		equipment type and the minimum equipment efficiency.	 	6	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:
but less than 1500 SF. TOTAL SQUARE FEET OF FENESTRATION:					Ductless Split System Heat Pumps, Zonal Control: In homes where the primary space heating system is zonal electric heating, a ductless		ΙŇ	The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower			
					heat pump system shall beinstalled and provide heating to the largest zone of the housing unit. 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 furnaces) both must meet the	10		To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovoltaic or			
Large Dwelling Unit: 4.	5 credits (D	welling Units exc	eeding 5000 SF o	of conditioned floor ar	ea.		30	standard to receive the credit. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the beging	1.0		wind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annual energy power production.
Additions less than 500	SF: 0.5 cre	dits						equipment type and the minimum equipment efficiency.		L	
S:\DSG\FORMS\2017\Building\2015	5_WSEC_IRC	_Ventilation.pdf									
							-			Em	WASHINGTON STATE UNIVERSE
Energy Cod	le		V	VASHINGTON S	STATE UN	IVERSITY				S II	
Suppor	Ť			EXTENSION EN	IERGY PROGRA	M	Ľ	nergy code WASHINGTON STATE UNIVERSITY		-5 u	
-5 α γ γ γ γ γ	L						C	THE PLAN THE 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 homeowner.

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:

- 1. 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:
- a. Northwest ENERGY STAR Homes Program, Performance Testing training for new construction.
- b. Performance Tested Comfort Systems (PTCS) training for existing homes and new construction.

2. 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.

Standard:

Energy Code Support

Fenestration	Schedule

			Glazing		Width		Height	
	Exemptions	Ref	U-Factor	Qt.	Feet	Inch	Feet	Inch
Swing Do	oor (24 SF Max)	NOT	USED					
Glazed F Max)	enestration (15 SF	NOT	USED					
many								1
VERTICA	L FENESTRATION (V Component	VINDOWS Ref	AND GLAZED	DOORS)	Wi	dth	Heij	ght
VERTICA Plan ID	L FENESTRATION(V Component Description	VINDOWS Ref	AND GLAZED Glazing U-Factor	DOORS) Qt.	Wi	dth Inch	Heij Feet	ght Inch
VERTICA Plan ID SEE	L FENESTRATION (V Component Description A0.21 / A0.22	VINDOWS Ref	AND GLAZED Glazing U-Factor	DOORS)	Wi Feet	dth Inch	Heij Feet	ght Inch

Plan	Component	Ref	Glazing	Qt.	L
ID	Description		U-Factor		
SEE	A0.21 / A0.22				

	-		
· · · · · · · · · · · · · · · · · · ·			

Plan	Component	Ref	Glazing	Qt.	Wi	dth	Hei	ght
ID	Description		U-Factor		Feet	Inch	Feet	In
	NONE							
								-
		-				e 33		-
				Sur	n of Overł	nead Glaz	ing Area	and
					Are	ea Weigh	ted U = U	
					Alt	a weign	leu 0 – 0	AJA

The second se	
VASHINGTON STATE UN	NIVERSITY
THE EXTENSION PRICE PROCE	11.1
ALL EXTENSION ENERGY PROGR	AM
2	

Total Duct Leakage Test

Support

Duct Leakage Affidavit	(New Construction)
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Testing Procedure Application: This test is appropriate in new construction when ducts are to be tested at the rough-in stage	Permit #:
before the house envelope is intact and can also be done post construction. The test measures	House address or lot number:
the total collected leaks in the system at an induced pressure of 25 Pascals (PA). Compared to	City: Zip:
leakage to inside and outside the heated space; as such, this test is not recommended for	Cond. Floor Area (ft ²): Source (circle one): Plans Estimated Measured
homes with complete house envelopes and HVAC systems. In such cases, the leakage to outside test is recommended.	Duct tightness testing is not required. 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.
	Air Handler in conditioned space? yes no Air Handler present during test? yes no
	Circle Test Method: Leakage to Outside Total Leakage
	Maximum duct leakage: Post Construction, total duct leakage: (floor area x .04) =CFM@25 Pa
	Post Construction, leakage to outdoors: (floor area x .04) =CFM@25 Pa
Standard:	Rough-In, total duct leakage with air handler installed: (floor area x .04) =CFM@25 Pa
square feet) served by the system at rough-in when the air handler is installed.	Rough-In, total duct leakage with air handler not installed: (floor area x .03) =CFM@25 Pa
 The measured duct leakage at rough-in must not exceed 0.03 CFM₂₅ x floor area (in square feet) served by the system when the air handler is <u>not</u> installed. 	Test Result:CFM@25Pa
	Ring (circle one if applicable): Open 1 2
 If testing post construction, the total leakage must not exceed 0.04 CFM₂₅ x floor area (in square feet) served by the system. 	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:

Fenestration Schedule	Cimple Heating System Size states in the state	
Please check the applicable boxes and complete the information below	Simple Heating System Size Electronic version available at: http://www.energy.wsu.edu/Documents/Heat_Sizing_code%20specs_final_2015.xis Please complete the following information regarding the heating system for this project. The electronic version automatically calculates the information based	
weighted average is U-0.30 or lower you may need to complete this form to document glazing compliance when applying for your	Conditioned Floor Area (sq ft)	
building permit.	Average Ceiling Height (ft)	
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	Conditioned Volume (cu ft)	OKANO PICARD STUDIO
Electronic version available at: http://www.energy.wsu.edu/Documents/2015%20Glazing%20Schedule.xlsx	Glazing and Doors U-Factor X Area = UA u=sf	815 SEATTLE BLVD S., STE 108, SEATTLE, WA 98134 USA
Glazing Width Height Glazing	Skylights U-Factor X Area = UA	E: info@OkanoPicardStudio.com
Exemptions Ref U-Factor Qt. Feet Inch Feet Inch		\bigoplus
Glazed Fenestration (15 SF NOT USED	Insulation Attic U-Factor X Area = UA	
Max)	u=sf	KATIE HACKWORTH
VERTICAL FENESTRATION (WINDOWS AND GLAZED DOORS)	Single Rafter or U-Factor X Area = UA	ARCHITECTURAL DESIGN + INTERIORS
Plan Component Ref Glazing Qt. Width Height Glazing ID Description U-Factor Feet Inch Feet Inch Area UA	Joist Vaulted Ceilings u= st	
SEE A0.21 / A0.22	Above Grade Walls U-Factor X Area = UA u= sf	
	Elearr V Area - UA	
	Below Grade Walls U-Factor X Area = UA	
	u=	
	Slab Below Grade F-Factor X Length = UA	
Sum of Vertical Eenestration Area and UA 1254 341	f= f	
Area Weighted U = UA/Area 0.27	Slab on Grade F-Factor X Length = UA	
OVERHEAD GLAZING (SKYLIGHT)	Sum of UA	9384 PECISTERED
ID Description U-Factor Feet Inch Feet Inch Area UA	Envelope Heat Load Btu / Hour	ARCHITECT
	Sum of UA x 45 Air Leakage Heat Load Btu / Hour	M. Da
	Volume x 0.6 x 45 x .018	MICHAEL PICARD
	Air Leakage Heat Load + Envelope Heat Load	STATE OF WASHINGTON
Sum of Overhead Glazing Area and UA	Building and Duct Heat Load Btu / Hour	2
Area weighted U = UA/Area	Ducts in conditioned space: Building Design Heat Load x 1	
Total Sums of Area and UA for Vertical Fenestration and Overhead Glazing Area and UA:	Maximum Heat Equipment Output Btu / Hour Building and Duct Heat Load x 1.40 for Forced Air Furnace	
	Building and Duct Heat Load x 1.25 for Heat Pump	
Energy Code WASHINGTON STATE UNIVERSITY EXTENSION ENERGY PROGRAM	Certificate (Electronic version available at: http://www.energy.wsu.edu/Documents/WSEC-2012-Avery-6878 4 Per Sheet.pdf)	
support 💝		40
Duct Leakage Test Results (Existing Construction)	A permanent certificate shall be posted within three feet of the electrical distribution panel. The certificate shall be	880
Permit #:	completed by the builder or registered design professional and include all of the information as follows:	ш ≯
	Property Address:	D, V
House address or lot number:	Conditioned Floor Area Deter / /	
City: Zip:	Puilder or registered design professional :	
Cond Floor Aroo (#2):	Bunder of registered design professional.	S H
		H
Duct tightness testing is not required for this residence per exceptions listed at the end of this document	Signature:	
	Ceiling: Vaulted R- Floors: Over unconditioned space R-	
Test Result:CFM@25Pa	Attic R- Slab on grade floor R-	iden //
Ring (circle one): Open 1 2 3	Walls: Above grade R Doors: R	
	Below, int. RR	
Duct Tester Location:	U-Factors and SHGC	
Pressure Tap Location:	NRFC rating (or) Windows U SHGC- N/A	4 drich Ct.
I certify that these duct leakage rates are accurate and determined using standard duct testing protocol	Default rating (Appendix A WSEC 2012) Skylights U SHGC- N/A	Proje (Good 842
	Table 406.2 Option(s) Total 406.2 Credits	
Company Name:	Heating, Cooling & Domestic Hot Water System Fificience Fificience	
Duct Testing Technician:	Heating	principal architect MP
Technician Signature: Date:	Cooling	project managerMP
	DHW Devet & Building die Laskage	drawn byNP, JS
Phone Number:	All ducts & HVAC in conditioned space (ves (no)) Insulation R-	Author
Washington State Energy Code Reference:	Air handler present (yes/no)	checked by Checker
R101.4.3.1 Mechanical Systems: When a space-conditioning system is altered by the installation or replacement of space-conditioning equipment (including replacement of the air handler, outdoor condensing unit of a split system air conditioner or heat nump, cooling or beating coil, or the furnace heat exchanger)	Test Target CFM@25Pa Test Result CFM@25Pa	job no. <u>1811</u>
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 provided to the building official and the homeowner.	Building air leakage target: $ACH_{50} < 5.0$ - Tested leakage: $ACH_{50} =$	date <u>OCTOBER 21,</u> 2019
Exceptions: 1. Duct systems that are documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with	Onsite Renewable Energy Electric Power System	
 Duct systems that are documented to have been previously seared as commined through new verification and diagnostic testing in accordance with procedures in RS-33. Ducts with loss than 40 linear fast in unconditioned spaces. 	System type: Rated annual generationKwh	no visiono.
 Existing duct systems constructed, insulated or sealed with asbestos. Additional of the state of		
4. Additions of less than 750 square feet.		
		no. date by
		-
		PERMIT DRAWINGS
		OCTOBER 21, 2019
		$\neg \cup . \angle \cup$

SEE A1.01 FOR THIS COMPLIANCE INFO







EROSION CONTROL RELATED NOTES

EXERPT FROM SOILS REPORT (GEOTECH CONSULTANTS)

HIGHLIGHTS SILTY WATER CANNOT DISCHARGE TO LAKE WASHINGTON

1. COVER BARE SOILS: One of the most important considerations, particularly during wet weather, is to immediately cover any bare soil areas to prevent accumulated water or runoff from the work area from becoming silty in the first place

2. TEMPORARY HOLDING TANK (BAKER TANK) : Silty water cannot be discharged to the lake, so a temporary holding tank should be planned for wet weather earthwork. A wire-backed silt fence bedded in compost, not native soil or sand, should be erected as close as possible to the planned work area, and the existing vegetation between the silt fence and the lake left in place

The site also meets the City of Mercer Island's criteria for an erosion hazard area. We have been associated with numerous waterfront projects involving excavation into steep slopes that have avoided siltation of the lake and surrounding properties by exercising care and being pro-active with the maintenance and potential upgrading of the erosion control system through the entire construction process. The location of the site on the shore of Lake Washington will make proper erosion control implementation important to prevent adverse impacts to the lake. The temporary erosion control measures needed during the site development will depend heavily on the weather conditions that are encountered during the site work. One of the most important considerations, particularly during wet weather, is to immediately cover any bare soil areas to prevent accumulated water or runoff from the work area from becoming silty in the first place. Silty water cannot be discharged to the lake, so a temporary holding tank should be planned for wet weather earthwork. A wire-backed silt fence bedded in compost, not native soil or sand, should be erected as close as possible to the planned work area, and the existing vegetation between the silt fence and the lake left in place. Rocked construction access and staging areas should be established wherever trucks will have to drive off of pavement, in order reduce the amount of soil or mud carried off the property by trucks and equipment. It will also be important to cap any existing drain lines found running toward the lake until excavation is completed. This will reduce the potential for silty water finding an old pipe and flowing into the lake. Covering the base of the excavation with a layer of clean gravel or rock is also prudent to reduce the amount of mud and silty water generated. Utilities reaching between the house and the lake should not be installed during rainy weather, and any disturbed area caused by the utility installation should be minimized by using small equipment. Cut slopes and soil stockpiles should be covered with plastic during wet weather. Soil stockpiles should be minimized. Following rough grading, it may be necessary to mulch or hydroseed bare areas that will not be immediately covered with landscaping or an impervious surface.

WET WEATHER NOTES BY GEOTECHNICAL ENGINEER

Wet weather construction on this site should be possible without adverse impacts to the surrounding properties. In preventing erosion control problems on any site, it is most important that any disturbed soil areas be immediately protected. This requires diligence and frequent communication on the part of the general contractor and earthwork subcontractor. As with all construction projects undertaken during potentially wet conditions, it is important that the contractor's on-site personnel are familiar with erosion control measures and that they monitor their performance on a regular basis. It is also appropriate for them to take immediate action to correct any erosion control problems that may develop, without waiting for input from the geotechnical engineer or representatives of the City.

In order to satisfy the City of Mercer Island's requirements, we make the following statement: It is our professional opinion that the development practices that we have recommended in this report would render the proposed development as safe as if it were not located in a geologic hazard area.

GEOTECHNICAL REPORT REFERENCE

CONTRACTOR(S) INVOLVED WITH THE PROJECT EXCAVATION, EROSION CONTROL, SHORING & FOUNDATION CONSTRUCTION SHOULD READ THE GEOTECHNICAL ENGINEERING STUDY BY GEOTECH CONSULTANTS, OCT 2018.

EROSION CONTROL PLAN

BENOTHO LAKEHOUSE 8424 BENOTHO PLACE, MERCER ISLAND, WA 98040 drawing no:

073610-0090 1905-063



RECOMMENDED CONSTRUCTION SEQUENCE

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

1. HOLD AN ONSITE PRE-CONSTRUCTION MEETING.

2. POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).

3. FLAG OR FENCE CLEARING LIMITS.

4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED.

5. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).

6. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).

7. CONSTRUCT SEDIMENT PONDS AND TRAPS.

8. GRADE AND STABILIZE CONSTRUCTION ROADS.

9. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.

10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.

11. RELOCATE SURFACE SURFACE WATER CONTROLS OR TESC MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH CITY OF MERCER ISLAND TESC REQUIREMENTS.

12. COVER ALL AREAS THAT WILL BE UN-WORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) OR TWO DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.

13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.

14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.

15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.

DENUDED AREAS REQUIREMENTS

APRIL 1 TO SEPT 30 ALL DENUDED AREAS MUST BE STABILIZED WITHIN 7 DAYS OF CONSTRUCTION. PLEASE READ ALL CITY TESC NOTES ON SHEET C1.2.

OCT 1 TO MARCH 31 ALL DENUDED AREAS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING. IF AN EROSION PROBLEM ALREADY EXISTS ON THE SITE, OTHER COVER PROTECTION AND EROSION CONTROL WILL BE REQUIRED.

WET WEATHER PERMIT NOTES

SEE SHEET C1.0

SHORING DRAIN DETAIL

SHEET C3.5

FOOTING DRAIN DETAIL

SHEET C3.5

GEOTECHNICAL REPORT REFERENCE

CONTRACTOR(S) INVOLVED WITH THE PROJECT EXCAVATION, EROSION CONTROL, SHORING & FOUNDATION CONSTRUCTION SHOULD READ THE GEOTECHNICAL ENGINEERING STUDY BY GEOTECH CONSULTANTS, OCT 2018.

EROSION CONTROL NOTES

D.8.2 STANDARD ESC PLAN NOTES THE STANDARD ESC PLAN NOTES MUST BE INCLUDED ON ALL ESC PLANS. AT THE APPLICANT'S DISCRETION, NOTES THAT IN NO WAY APPLY TO THE PROJECT MAY BE OMITTED; HOWEVER, THE REMAINING NOTES MUST NOT BE RENUMBERED. FOR EXAMPLE IF ESC NOTE #3 WERE OMITTED, THE REMAINING NOTES SHOULD BE NUMBERED 1, 2, 4, 5, 6, ETC.

1. APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

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

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

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

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

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

8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).

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

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

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

12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.

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

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



DATE: Oct 18, 2019 JOB# 1819

DRAFTED: CH DESIGN: DE DIGITAL SIGNATURE





102 NW CANAL STREET PHONE: 206.930.0342

<u>CITY NOTES</u>

- 1. ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.
- 2. APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.
- B. CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.
- 4. CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITES.
- 5. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.424.5555
- 6. DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED
- 7. EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE:
- 8. PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.
- 9. CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.
- 10. PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.
- 11. ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.
- 12. INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AN ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.
- 3. OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.
- 14. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
- 15. REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.
- 16. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.
- 17. SILENT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.
- 18. WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.
- 19. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.
- 16. THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.
- 20. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.
- 21. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
- 22. THE LIMITS AND EXTENDS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZE THE PROJECT.



TESC & CITY NOTES TESC DETAILS BENOTHO LAKEHOUSE 8424 BENOTHO PLACE, MERCER ISLAND, WA 98040 DRAWING NO:

073610-0090 1905-063



				Structure of the second
				W
NO.	DATE	BY	REVISIONS	APPLICANT: GOODRICH/SHELINE









LAKE CONNECTION CLEANOUT







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

DATE: Oct 18, 2019 JOB# 1819

DRAFTED: DE DESIGN: DE DIGITAL SIGNATURE



BACKWATER VALVE & MH





DATE: Oct 18, 2019 JOB# 1819

DRAFTED: DE DESIGN: DE DIGITAL SIGNATURE





102 NW CANAL STREET PHONE: 206.930.0342



DRIVEWAY PROFILE

BENOTHO LAKEHOUSE

8424 BENOTHO PLACE, MERCER ISLAND, WA 98040

073610-0090

1905-063



DRIVEWAY PROFILE

FOOTING DRAIN DETAIL



RECOMMENDED SHORING DRAIN

SOIL AMENDMENT REQUIRED COMPOST AMENDED SOIL REQUIRED ON ALL

LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

SOIL INSPECTION REQUIRED BY ENGINEER

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



PIPE @ LAKE DISCHARGE







VANTITY	SYMBOL	PLANT NAME	SIZE
2	ARUNC	ARUNCUS DIOICUS/	ONE GALLON
		GOATSBEARD	CAN, 18D" TRI SP
50	UUA	ARCTOSTAHPYLOS UVA URSI MASSACHUSETTS	1 GALLON CAN
33	CARO	CAREX OBNUPTA/	4" POTS
		SLOUGH SEDGE	24" TRI SP
16	CEAN	CEANOTHUS PROSTRATUS/	1 GALLON CAN16
		MAHALA MAT	
29	CORNS	CORNUS SERICEA KELSEYI/ DWARF RED OSIER DOGWOOD	2 GALLON CAN
18	GSH	GAULTHERIA SHALLON	4" POTS
	-	SALAL	
62	JUNC	JUNCUS EFFUSES QUARTZ CREEK	1 GALLON CAN
22	манс	MAHONIA CHARITY/	5 GALLON CAN, 18
		CHARITY OREGON GRAPE	HEIGHT 3' TRI. SPACING
44	MAHR	MAHONIA REPANS	1 GALLON CAN
			18" TRI SP
3	MYR	MYRICA CALIFORNICA/ BAY LAUREL	2 GALLON CAN, 18" HEIGHT
24	PENNST	PENNSTOMEN CATHERINE DE LA MARE	1 GALLON CAN
14	SPIRB	SPIRAEA BETULIFOLIA VAR. LUCIDA/ WHITE SPIRAEA	1 GALLON CAN
40	SYMP	SYMPHIOCARPUS ALBUS	1 GALLON CAN,
		SNOWBERRY	18" HEIGHT
3	SYS	SYSYRINCHIUM BELLUM/BLUE	4" POTS





ZONING CODE SUMMARY

EXISTING LOT INFO

PROJECT ADDRESS:

ASSESSORS PARCEL #:

ZONING: BUILDING TYPE:

LOT AREA (PER SURVEY) LANDWARD AREA (SURVEY):

LOT SLOPE: MAX ELEVATION ON SITE OHWE, LOW PT DISTANCE MAX EL TO OHWE SITE SLOPE

EXISTING AREAS

HOUSE BASEMENT MAIN UPPER GARAGE TOTAL EXISTING HOUSE

HARDSCAPE DRIVEWAY CONC. PATIOS, STAIRS TOTAL HARDSCAPE

YARDS (PER MICC 19.02.020.C)

YARD REQUIREMENTS FRONT YARD REAR YARD SIDE YARD: 1) TOTAL DEPTH (MICC...C.i) WIDTH. 92" (WIDTH) x 0.17 = 15.64'

2) MINIMUM YARD (MICC...C.ii) 0.33 = 5.16'

3) VARIABLE YARD (MICC...Ciii) FOLLOWING; THAN 15 FT ABOVE FINISHED OR EXISTING GRADE OR; 18 FT ABOVE FINISHED OR EXISTING GRADE OR;

INTO REQUIRED YARDS

FINISHED GRADE MAY BE LOCATED WITHIN REQUIRED YARDS

ALLOWED IN REQUIRED YARDS

PROPOSED YARDS: REFERENCE SITE PLAN AND NORTH AND SOUTH ELEVATION

REQUIREMENTS AREAS WITH CEILING 16FT + SHALL BE COUNTED AS 2xGFA.

REQUIRED

11,037SF (LAND AREA ABOVE OHWM) * 40%

PROPOSED

UPPER LEVEL AREA GARAGE MAIN LEVEL AREA TOTAL BUILT AREA

WALL LENGTH % COV'G 27.5% N1 48.5 12.5 1.3% N2

N3	1.8	79%	
E1	23	0%	
E2	16	0%	
E3	23	0%	
S1	37	19.7%	
S2	1.8	83%	
S3	24	1%	
W 1	23	96%	
W2	16	87%	
W3	22	78%	

EXCLUSIONS BASE AREA MAIN FLOOR

248.6

CALCULATED MAIN FL GFA 2349 - [(2349 X 76.9) / 248.6] 2349 - 726.6

STAIR EXCLUSION

TOTAL GFA 2379 (UPPER) + 1622.4 (MAIN) - 101 (STAIR) = 3900.4 SF

*SEE GFA DIAGRAM A1.01

HEIGHT LIMIT (PER MICC 19.02.020.E)

REQUIRED THE TOP OF ROOF

ALLOWABLE BUILDING HEIGHT

AVERAGE BUILDING ELEVATION IS CALCULATED USING WALL SEGMENT LOWER

SECTION FOR COMPLIANCE



A1.00

WEIGHTED AVERAGES, BASED OFF OF EXISTING OR NEW GRADE, WHICHEVER IS

SEE BUILDING HEIGHT DIAGRAM AND CALCULATIONS A1.01 AND ELEVATIONS /



LOT COVERAGE / HARD SURFACE DIAGRAM

SCALE: 1/16" = 1'-0"



AREA DIAGRAMS SCALE: 1/16" = 1'-0"



AVG BUILDING ELEVATION = 6858.44 / 224.6 = 30.53' = 30'-6"

AVERAGE BUILDING ELEVATION DIAGRAM

SCALE: 1/16" = 1'-0"

BUILDING CODE SUMMARY

LOT INFO

PROJECT ADDRESS:

ASSESSORS PARCEL # ZONING:

OCCUPANCY: OCCUPANCY TYPE: OCCUPANCY LOAD:

REQUIREMENTS CLIMATE ZONE (R301.1)

PERSCRIPTIVE R-VALUES PER COMPONENT (R402.1.1) FENESTRATION

SKYLIGHT CEILING (ATTIC) CEILING (RAFTÉR/VAULTED) WOOD FRAME WALL MASS WALL FLOOR **BELOW GRADE WALL** SLAB

PROVIDED COMPLIANCE

ADDITIONAL ENERGY EFFICIENCY (WSEC R406)

REQUIREMENTS MEDIUM RESIDENCE (R406.2) 3.5 CREDITS REQUIRED CREDITS OPT # CREDITS 1A 0.5 0.5 2A

3A 1.0

5C 1.5

TOTAL 3.5 CREDITS

PROVIDED 1A

5C

HEATING / VENTILATION

HEATING NOTED ABOVE.

VENTILATION REQUIRMENTS FANS ON TIMERS PER DOCUMENTS. OUTDOOR AIR PER TABLE 403.3 OF THE INTERNATIONAL MECHANICAL CODE. SEE A0.23 FOR MECH/ENERGY CALCULATIONS

MAKEUP AIR REQUIRED FOR KITCHEN HOOD EXHAUST MECHANICAL, ELECTRIGAL, PLUMBING PERMITS TO BE PERMITTED SEPARATELY.

MECHANICAL VENTILATION (IRC 1507.3)

WHOLE HOUSE MECHANICAL VENTILATION (IRC 1507.3.)

LOCAL EXHAUST RATES REQUIRED KITCHEN

BATHROOM

PROVIDED KITCHEN MODEL BATHROOMS

MASTER / LAUNDRY MODEL *SEE RCP FOR LOCATIONS

8424 BENOTHO PL

MERCER ISLAND, WA 98040

0736100090 R-8.4

R-3 SINGLE FAMILIY RESIDENCE

ENERGY CODE SUMMARY (WSEC R402)

4C

R-VALUE OR U-VALUE U-0.30 (NOT U-0.28 REQUIRED FOR ADDITIONAL ENERGY EFFICIENCY REQ) U-0.50 R-49 R-38

R-21 R-21 R-30

R-10/15/21+TB R-10, 2FT PERIM

REFERENCE ASSEMBLIES, A0.10 AND WINDOW INFO A0.21 / A0.22 FOR

CREDIT DESCRIPTION & REQUIREMENTS EFFICIENT ENVELOPE VERTICAL FENESTRATION U-0.28 FLOOR R-38 SLAB ON GRADE OR BELOW GRADE SLAB R-10 CONT.

AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION; REDUCE AIR LEAKAGE TESTING PER R402.2 TO 3.0 AIR CHANGES PER HOUR; AND FANS PROVIDING VENTILATION PER 1507.3 SHALL HAVE AN EFFICENCY OF 0.35 WATTS/CFM MAX.

HIGH EFFICIENCY HVAC EQUIPMENT; GAS, PROPANE, OR OIL WITH AFUE 94% OR BETTER

EFFICIENT WATER HEATER; GAS, PROPANE OR OIL WITH MINIMUM EF OF 0.91.

SEE ASSEMBLIES A0.10 SEE GENERAL NOTES A0.00, FAN NOTED ON A1.01 AND RCP MEETS EFFICIENCY NOTE POINTING BACK TO THIS REQUIREMENT ON RCP A6.10 NOTE POINTING BACK TO THIS REQUIREMENT ON RCP A6.10

HEATING SHALL BE PER INTERNATIONAL MECHANICAL CODE. TO BE COMPLETED UNDER SEPARATE PERMIT AND MEET MINIMUM EFFICIENCY REQUIREMENTS

4501-6000SF / 4-5 BEDROOMS 105 CFM REQUIRED

100 CFM INTERMITENT OR 25 CFM CONTINUOUS

50 CMF INTERMITENT OR 25 CFM CONTINUOUS

1000 CFM INTERMITENT SEE SCHEDULE

150 CFM INTERMITENT MAIN LEVEL LAUNDRY & UPPER LEVEL MASTER BATH, 50 CFM TYPICAL WHISPER CEILING VF-15VQ5 150 CFM 0.3 SONES



1 10/25/19 Permit R1 no. date

> PERMIT DRAWINGS OCTOBER 21, 2019

-

BUILDING/ZONING INFORMATION







GENERAL NOTES

1 VERIFY TOP OF CONCRETE STEM WALLS ARE ABOVE GRADE 8" MINIMUM.

- 2 VERIFY BOTTOM OF FOOTINGS ARE 18" MINIMUM BELOW GRADE.
- 3 ARCH FOUNDATION PLAN FOR CONFIGURATION AND ELEVATIONS, REFER TO STRUCTURAL FOR ALL CONSTRUCTION OF SHORING AND FOUNDATIONS

A3.00

EAST ELEVATION SCALE: 1/4" = 1'-0"

PRE-FINISHED STANDING SEAM METAL AND MATCHING EDGE FLASHING STAINED 3" BEVEL CEDAR SIDING APROX LOCATION OF DRIVEWAY WALL IN FOREGROUND PRE-FINISHED METAL PARAPET CAP	ROOF		
PRE-FINISHED METAL GUTTERS AND DOWNSPOUTS			
ALUMINUM CLAD WOOD WINDOWS			
Painted wood panel siding			

1 SEE SITE PLAN FOR SETBACK AND YARD INFORMATION, NOT PERPENDICULAR TO HOUSE

A3.00

BUILDING SECTION SCALE: 1/4" = 1'-0"

B (A) $\langle W1 \rangle$ W4 A B _____ R3 W4

- DECORATIVE WOOD BEAMS, PT

A6.10

CEILING PLAN

- FF EXHAUST FAN
- SC COMBINED CARBON MONOXIDE AND SMOKE DETECTOR
- PENDANT OR CEILING MOUNTED IN RECESSED BOX
- ⊢⊖- SCONCE OR WALL MOUNTED IN RECESSED BOX
- RECESSED CAN

GENERAL NOTES

- 1 EXHAUST FANS SHALL VENT DIRECTLY TO THE EXTERIOR OF THE BUILDING AND BE AT LEAST 3' FROM ANY OPENING TO THE INTERIOR OF THE BUILDING AND 10' FROM ANY FRESH AIR INLET.
- 2 UNDERCUT DOORS BETWEEN AIR INLETS AND WHOLE HOUSE EXHAUST 1/2" ABOVE FINISH FOR ADEQUATE VENTILATION.
- 3 S/C = COMBINED CARBON MONOXIDE AND SMOKE DETECTORS AND SHALL BE HARD WIRED AND INTERCONNECTED WITH A BATTERY BACK UP. COORDINATE EXACT PLACEMENT W/ ARCHITECT IN THE FIELD.
- 4 LIGHTING, TBD 75% OF LIGTHING SHALL BE HIGH EFFICACY
- 5 AIR INLETS SHALL BE DAMPERED AND HAVE INSECT SCREENS
- 6 WHOLE HOUSE EXHAUST:
 *RATES REQUIRED PER TABLE 1507.3.3: NOTED ON A1.01 *OPERATES INTERMITENTLY TO PROVIDE REQUIRED EXHAUST RATE * UTILIZING THE BATHROOM CEILING FANS AS A COMBINATION BATH FAN AND WHOLE HOUSE FAN (PANASONIC FV-05VQ5). INSTALL A TIMER LOCATED NEXT TO THE LIGHT SWITCH. ELECTRTICIAN TO WIRE A 24HR CLOCK TIMER TO THE FAN TO PROVIDE WHOLE HOUSE VENTILATION.

A6.20

CEILING PLAN

- (SC) COMBINED CARBON MONOXIDE AND SMOKE DETECTOR
- + PENDANT OR CEILING MOUNTED IN RECESSED BOX
- HO- SCONCE OR WALL MOUNTED IN RECESSED BOX
- RECESSED CAN

GENERAL NOTES

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STAIR SECTION SCALE: 1/2" = 1'-0" 4

- 2 TOP OF HANDRAIL TO BE 34" MIN TO 36" MAX ABOVE STAIR NOSING.
- 3 HANDRAIL SHALL BE 1 1/4" MIN TO 2" MAX IN WIDTH.
- 4 RAILINGS AND GUARDS SHALL WITHSTAND 200 LB FORCE IN ANY DIRECTION.

A7.00

GENERAL NOTES

- 1 ELEVATOR SHALL COMPLY WITH ALL REQUIREMENTS PER ASME 17.1.

- 4 CONTRACTOR TO VERIFY ALL CLEARNACES & UTILITY REQUIREMENTS WITH ELEVATOR MANUFACTURER / PROVIDER PRIOR TO FOUNDATION POUR.
- 5 SLOPE PIT FLOOR TO SELF PRIMING FLOOR DRAIN.
- 6 PROVIDE FIRE BLOCKING IN ALL CONCEALED WALLS.
- 7 PROVIDE RATED WALLS (5/8" TYPE X GWB) THROUGHOUT SHAFT, REF ASSEMBLIES.
- 8 PROVIDE LIGHTING PER ASME 17.1.
- 9 PROVIDE A 36" SELF CLOSING ACCESS DOOR FOR MACHINERY ACCESS, VERIFY REQUIRMENTS WITH ELEVATOR MFR.

3 DRAINS CONNECTED DIRECTLY TO SEWER OR STORM SEWER LINES SHALL NOT BE INSTALLED IN ELEVATOR PIT WITHOUT INSTALLATION OF AN APPROVED OIL WATER SEPARATOR SYSTEM.

2 ELEVATOR REQUIRES SEPARATE PERMIT BY A WASHINGTON STATE LICENSED ELEVATOR CONTRACTOR

OKANO PICARD STUDIO 815 SEATTLE BLVD S., STE 108, SEATTLE, WA 98134 USA E: info@OkanoPicardStudio.com \bigcirc KATIE HACKWORTH ARCHITECTURAL DESIGN + INTERIORS 9384 REGISTERED MICHAEL PICARD STATE OF WASHINGTON MERCER ISLAND RESIDENCE (Goodrich - Sheline Residence) 8424 BENOTHO PLACE, MERCER ISLAND, W/ R ISL principal architect MP project manager___MP___ drawn by MP, JS Author checked by job no.<u>1811</u> date OCTOBER 21, 2019 revisions: no. date by -PERMIT DRAWINGS OCTOBER 21, 2019 VERTICAL CIRCULATION A7.10

GENERAL NOTES

THESE GENERAL NOTES ARE TO BE USED AS A SUPPLEMENT TO THE SPECIFICATIONS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, 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. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE SPECIFIED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS RESPONSIBILITY INCLUDES BUT IS NOT LIMITED TO JOB SITE SAFETY: ERECTION MEANS, METHODS, AND SEQUENCES: TEMPORARY SHORING, FORMWORK, BRACING; USE OF EQUIPMENT AND CONSTRUCTION PROCEDURES. PROVIDE ADEQUATE RESISTANCE TO LOADS ON THE STRUCTURES DURING CONSTRUCTION PER SEI/ASCE STANDARD NO. 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION."

CONSTRUCTION OBSERVATION BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE WITH DESIGN ASPECTS ONLY AND IS NOT INTENDED IN ANY WAY TO REVIEW THE CONTRACTOR'S CONSTRUCTION PROCEDURES.

STANDARDS

ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2015 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION.

CONTRACT DRAWINGS / DIMENSIONS

ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. CONSULTANT DRAWINGS BY OTHER DISCIPLINES ARE SUPPLEMENTARY TO ARCHITECTURAL DRAWINGS. REPORT DIMENSIONAL OMISSIONS OR DISCREPANCIES BETWEEN ARCHITECTURAL DRAWINGS AND STRUCTURAL, MECHANICAL, ELECTRICAL OR CIVIL DRAWINGS TO ARCHITECT PRIOR TO PROCEEDING WITH WORK.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS. PRIMARY STRUCTURAL ELEMENTS ARE DIMENSIONED ON STRUCTURAL PLANS AND DETAILS AND OVERALL LAYOUT OF STRUCTURAL PORTION OF WORK. SOME SECONDARY ELEMENTS ARE NOT DIMENSIONED, SUCH AS WALL CONFIGURATIONS, INCLUDING EXACT DOOR AND WINDOW LOCATIONS, ALCOVES, SLAB SLOPES AND DEPRESSIONS, CURBS, ETC. VERTICAL DIMENSIONAL CONTROL IS DEFINED BY ARCHITECTURAL WALL SECTIONS AND BUILDING SECTIONS. STRUCTURAL DETAILS SHOW DIMENSIONAL RELATIONSHIPS TO CONTROL DIMENSIONS DEFINED BY ARCHITECTURAL DRAWINGS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

DESIGN CRITERIA

VERTICAL LOADS

AREA	DESIGN DEAD LOAD	LIVE LOAD (2)	ADDITIONAL LOAD	CONCENTRATED LOADS
ROOF	15 PSF	25 PSF (1)		300#
UNINHABITATED ATTIC WITH STORAGE	5 PSF	20 PSF		
RESIDENTIAL	20 PSF	40 PSF		
STAIRS	20 PSF	40 PSF		300#
GARAGE	55 PSF	40 PSF (3)		3,000#

(1) SNOW LOAD PER BUILDING CODE IS GREATER THAN ROOF LIVE LOAD AND CONTROLS DESIGN. (2) LIVE LOADS EXCEPT SNOW LOADS ARE REDUCED PER IBC SECTION 1607.10.

(3) LIVE LOAD REDUCTION NOT PERMITTED EXCEPT AS NOTED IN IBC SECTION 1607.10.

<u>SNOW:</u> (MINIMUM ROOF SNOW LOAD = 25 PSF)

LATERAL FORCES

LATERAL FORCES ARE TRANSMITTED BY DIAPHRAGM ACTION OF ROOF AND FLOORS TO SHEAR WALLS. LOADS ARE THEN TRANSFERRED TO FOUNDATION BY SHEAR WALL ACTION WHERE ULTIMATE DISPLACEMENT IS RESISTED BY PASSIVE PRESSURE OF EARTH. OVERTURNING IS RESISTED BY DEAD LOAD OF THE STRUCTURE.

WIND:

THE BUILDING MEETS THE CRITERIA TO USE THE "METHOD 2 - SIMPLIFIED ENVELOPE PROCEDURE" PER ASCE 7-10.

- EXPOSURE CATEGORY = C

- BASIC WIND SPEED, (3 SEC. GUST), V_{ULT} = 110 MPH; V_{ASD} = 85 MPH

- RISK CATEGORY PER TABLE 1.5-1 = II

- TOPOGRAPHIC FACTOR K_{ZT} = 1.0

- INTERNAL PRESSURE COEFFICIENT (ENCLOSED) = ± 0.18 - COMPONENTS AND CLADDING LOADS, SEE THE FOLLOWING TABLES:

ROOF SURFACES ¹						
	POSITIVE PRESSURES (PSF)			NEGATIVE PRESSURES (PSF)		
EFFECTIVE WIND AREA			ZON	NE ²		
	1	2	3	1	2	3
10 SF	27.9	27.9	27.9	-30.5	-35.7	-35.7
20 SF	27.2	27.2	27.2	-29.0	-34.0	-34.0
50 SF	26.0	26.0	26.0	-26.9	-32.1	-32.1
100 SF	25.3	25.3	25.3	-25.3	-30.5	-30.5
		WALL SURFACE	S AND ROOF OV	ERHANGS ¹		
	POSITIVE PRESSURE (PSF) NEGATIVE PRI			ESSURE (PSF) ROOF OVERHANGS (PSF)		
EFFECTIVE WIND AREA	ZONE ²					
	4	5	4	5	2	3
10 SF	30.5	30.5	-33.0	-40.7	-51.7	-51.7
20 SF	29.1	29.1	-31.6	-38.1	-50.1	-50.1
50 SF	27.3	27.3	-29.8	-34.4	-48.0	-48.0
100 SF	25.9	25.9	-28.6	-31.6	-46.5	-46.5
500 SF	22.7	22.7	-25.3	-25.3	-	-

1. VALUES SHOWN IN TABLE ARE GROSS ULTIMATE WIND PRESSURES. 2. ZONES ARE AS DEFINED BY FIGURE 30.5-1 IN ASCE 7-10.

<u>SEISMIC:</u> (ASCE 7-10) V = CsW

SEISMIC IMPORTANCE FACTOR. Ie = 1.0 RISK CATEGORY OF BUILDING PER TABLE 1.5-1 = II SPECTRAL RESPONSE ACCELERATIONS Ss = $1.462 \& S_1 = 0.555$ SITE CLASS PER TABLE 20.3-1 = D DESIGN SPECTRAL RESPONSE ACCELERATIONS S_{DS} = 0.975 & S_{D1} = 0.555 SEISMIC DESIGN CATEGORY = D W = EFFECTIVE SEISMIC WEIGHT OF BUILDING = 136^{K} ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE RESPONSE MODIFICATION FACTOR PER TABLE 12.2-1, R = 6.5 Cs = 0.150

DESIGN BASE SHEAR V = 20.4^{K}

FOUNDATION DESIGN CRITERIA (GEOTECHNICAL REPORT BY GEOTECH CONSULTANTS, INC. DATED OCTOBER 17, 2018).

PILE CAPACITY: 4" DIA. PILE = 10 TONS (ALLOWABLE)

ACTIVE PRESSURE - RESTRAINED: 50 PCF(+10H ULTIMATE (7H ALLOWABLE) SEISMIC SURCHARGE, 5 PCF AT GEOFOAM BACKFILL

ACTIVE PRESSURE - UNRESTRAINED: 40 PC + 10H ULTIMATE (7H ALLOWABLE) SEISMIC SURCHARGE (INCLUDES SOLDIER PILE WALLS) PASSIVE RESISTANCE: 165 PCF (INCLUDES F.O.S. ≥ 1.5), 200 PCF FOR SOLDIER PILE WALLS.

FREE DRAINING BACKFILL MATERIAL FOR RETAINING & BASEMENT WALLS

BACKFILL SHALL BE COURSE, FREE DRAINING STRUCTURAL FILL CONTAINING NO ORGANICS. THE ON-SITE SOILS SHOULD NOT BE REUSED AS WALL BACKFILL. THE TOP 12 TO 18 INCHES OF BACKFILL SHOULD CONSIST OF A COMPACTED, RELATIVELY IMPERMEABLE SOIL OR TOPSOIL, OR THE SURFACE SHOULD BE PAVED. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS AND RECOMMENDATIONS.

STEEL PILES

MATERIAL: PIPE PILES - ASTM A-53 SCHEDULE 40.

TIP DESIGN: TIP DESIGN SHALL BE PER CONTRACTOR AND TAKE INTO CONSIDERATION INSTALLATION REQUIREMENTS.

INSTALLATION: INSTALL IN A TRUE VERTICAL POSITION. REFER TO THE GEOTECHNICAL REPORT TO DETERMINE THE GENERALIZED SUBSURFACE PROFILES, DRIVEABILITY, SOIL PROPERTIES, CONSTITUENTS, EXISTING SITE FEATURES AND CONDITIONS, AND LOAD TESTING PROTOCALS.

INDICATOR PILES: THE LENGTH OF THE PILE REQUIRED AND THE PILE INSTALLATION SHALL BE VERIFIED IN THE FIELD BY A QUALIFIED INSPECTOR WHO WILL EVALUATE THE CONTRACTOR'S OPERATION AND COLLECT, INTERPRET AND RECORD DATA. A MINIMUM OF TWO INDICATOR PILES SHALL BE DRIVEN BEFORE ORDERING PRODUCTION PILES TO ESTIMATE THE TRUE PILE LENGTHS AND DETERMINE DRIVING CHARACTERISTICS AND PROBLEMS. A QUALIFIED INSPECTOR SHALL EVALUATE INSTALLATION OF INDICATOR PILES.

SOLDIER PILE RETAINING WALLS

INSTALL GENERALLY PER 2014 WSDOT STANDARD SPECIFICATIONS 6-05.

GEOTECHNICAL CRITERIA: REFER TO DESIGN CRITERIA SECTION.

CONCRETE PILES

ITEM	WSDOT CONCRETE CLASS	MAX. SLUMP (INCHES)	MAX. AGGREGATE SIZE	MAX. W/C RATIO
PILES WITH DRY HOLE	CDF	10"	SAND	2
PILES WITH WET HOLE	LEAN CONCRETE	10"	3/8"	2

SUBMIT PROPOSED MIX DESIGN FOR REVIEW.

WSDOT CLASS 4000P MAY BE USED AT CONTRACTOR'S PREFFERENCE AT LOWER EMBEDMENT HEIGHT. DO NOT REMOVE EARTH IN FRONT OF THE PILING UNTIL CONCRETE HAS CURED TO STRENGTH.

CONTINUOUS FLIGHT AUGER PILE OPTION: PILES SHALL BE INSTALLED BY DRILLING TO THE REQUIRED DEPTH WITH A CONTINUOUS FLIGHT, HOLLOW-STEM AUGER. CONCRETE SHALL BE PUMPED UNDER PRESSURE THROUGH THE HOLLOW AUGER AS THE AUGER IS WITHDRAWN, RESULTING IN A CAST-IN-PLACE PILE. THE CONTRACTOR SHALL PROVIDE A PRESSURE GAUGE IN THE GROUT LINE BETWEEN THE PUMP AND THE AUGER AND A MEANS OF MEASURING THE QUANTITY OF GROUT USED IN EACH PILE. IMMEDIATELY FOLLOWING WITHDRAWAL OF THE AUGER, STEEL PILE SHALL BE PLACED. CONFORM TO IBC 1808 AND 1810.

OPEN HOLE PILE OPTION: DRILL CONTINUOUSLY TO PROPER ELEVATION. PLACE CONCRETE AND STEEL PILE IMMEDIATELY AFTER DRILLING IS COMPLETE. BOTTOM OF PILE SHALL BE IMMEDIATELY SEALED WITH CONCRETE IF GROUNDWATER INFILTRATION OCCURS. EXCESS WATER IN PILE SHALL BE REMOVED WHEN OVER 12" DEEP. STEEL PILE SHALL BE INSTALLED AFTER CONCRETE PLACEMENT. PROVIDE CASING AS REQUIRED. CASING SHALL BE REMOVED 1" CLEAR MINIMUM FROM LAGGING. CONFORM TO IBC 1808 AND 1810. ALL ROCKS AND OBSTRUCTIONS SHALL BE REMOVED PRIOR TO DRILLING OPERATIONS.

STEEL PILES

MATERIAL: ASTM A992 OR A572, GRADE, 50 Fy = 50 KSI.

INSTALLATION: INSTALL IN A TRUE VERTICAL POSITION. ALIGN THE FRONT FLANGES FOR CONSISTENT ALIGNMENT ALONG THE WALL. BE EXTREMELY CAREFUL WHEN REMOVING THE CONCRETE AROUND THE FRONT FLANGE TO AVOID DAMAGE TO THE PILE AND COATING. FIELD SPLICING SHALL BE DONE AT THE UPPER END OF THE PILE WITH CONTINUOUS SPECIAL INSPECTION.

COATING: PRIMER COAT WITH INORGANIC ZINC RICH 2 COMPONENT COMPOUND WITH MINIMUM DRY THICKNESS OF 3 MIL MINIMUM, PREPARE STEEL FOR COATING WITH SSPC-10 WITH MIST PRIMER. RECOAT IN THE FIELD WHERE DAMAGED AND NOT PERMANENTLY CAST IN CONCRETE.

WOOD LAGGING:

HEM-FIR OR DOUGLAS FIR/LARCH WITH #2 OR BETTER GRADE. PRESSURE TREAT WITH CA-C, CCA, AQC OR ACZA, WITH 0.20 PCF MIN. RETENTION WITH APPROPRIATE INCISING. CONFORM TO 1999 APWA STANDARD C2. INSTALL LAGGING UNIFORMLY AND CONSISTENTLY HORIZONTAL. PROVIDE SINGLE FULL SPAN PIECES BETWEEN PILES. KEY EACH MEMBER BEHIND STEEL PILE FLANGES AS DETAILED. FIELD TREAT CUTS AND HOLES WITH COPPER NAPHTHENATE (9% SOLUTION), APPLIED LIBERALLY WITH 2 COATS.

DRAINAGE MAT:

PROVIDE COMPLETE INTEGRATED SYSTEM COMPONENTS FOR THE MAT AND DRAIN PIPE. CONFORM TO STANDARD SPECIFICATIONS 6-16.3(7) FOR GENERAL DESCRIPTION AND 9-33.2(3) FOR MATERIALS. CONFORM TO BDM DRAWING 8.1-A3-5 AND PRODUCT MANUFACTURER FOR SYSTEM DETAILS. REFER TO CIVIL DRAWINGS FOR DRAINAGE COLLECTION.

CONCRETE

CAST-IN-PLACE CONCRETE

MIX DESIGNS: THE CONTRACTOR SHALL DESIGN CONCRETE MIXES THAT MEET OR EXCEED THE REQUIREMENTS OF THE CONCRETE MIX TABLE. THE MIX DESIGNS SHALL FACILITATE ANTICIPATED PLACEMENT METHODS. WEATHER, REBAR CONGESTION, ARCHITECTURAL FINISHES, CONSTRUCTION SEQUENCING, STRUCTURAL DETAILS, AND ALL OTHER FACTORS REQUIRED TO PROVIDE A STRUCTURALLY SOUND, AESTHETICALLY ACCEPTABLE FINISHED PRODUCT. WATER REDUCING ADMIXTURES WILL LIKELY BE REQUIRED TO MEET THESE REQUIREMENTS. CONCRETE MIX DESIGNS SHALL CLEARLY INDICATE THE TARGET SLUMP. SLUMP TOLERANCE SHALL BE ± 1-1/2 INCHES.

<u>AGGREGATE</u>: COARSE AND FINE AGGREGATE SHALL CONFORM TO ASTM C33

CEMENT: CEMENT SHALL CONFORM TO ASTM C150, TYPE II PORTLAND CEMENT, UNLESS NOTED OTHERWISE.

FLYASH: SHALL CONFORM TO ASTM C618 CLASS C OR F, MAXIMUM LOSS OF IGNITION SHALL BE 1.0%.

SLAG: GROUND GRANULATED BLAST-FURNACE (GGBF) SLAG SHALL CONFORM TO ASTM C989 GRADE 100 OR 120.

ALTERNATE MIX DESIGNS: VARIATIONS TO THE MIX DESIGN PROPORTIONS MAY BE ACCEPTED IF SUBSTANTIATED IN ACCORDANCE WITH ACI 318, CHAPTER 19. PROVIDE SUBMITTALS A MINIMUM OF TWO WEEKS PRIOR TO BID FOR DETERMINATION OF ACCEPTABILITY.

ADMIXTURES: ADMIXTURES SHALL BE BY MASTER BUILDERS, W.R. GRACE, OR PRE-APPROVED EQUAL. ALL MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED.

WATER: SHALL BE CLEAN AND POTABLE.

MAXIMUM CHLORIDE CONTENT: THE MAXIMUM WATER SOLUBLE CHLORIDE CONTENT SHALL NOT EXCEED 0.15% BY WEIGHT OF CEMENTITIOUS MATERIAL UNLESS NOTED OTHERWISE.

CONCRETE EXPOSED TO WEATHER: PROVIDE 5.0% TOTAL AIR CONTENT FOR ALL CONCRETE EXPOSED TO WEATHER. TOTAL AIR CONTENT IS THE SUM OF ENTRAINED AIR PROVIDED BY ADMIXTURES AND NATURALLY OCCURRING ENTRAPPED AIR. AIR CONTENT SHALL BE TESTED PRIOR TO BEING PLACED IN THE PUMP HOPPER OR BUCKET; IT IS NOT REQUIRED TO BE TESTED AT THE DISCHARGE END OF THE PUMP HOSE. THE TOLERANCE ON ENTRAPPED AIR SHALL BE +2.0% AND -1.5% WITH THE AVERAGE OF ALL TESTS NOT LESS THAN THE SPECIFIED AMOUNT.

SHOTCRETE: SHALL CONFORM TO IBC SECTION 1908.

TOTAL CEMENTITIOUS MATERIAL: THE SUM OF ALL CEMENT PLUS FLYASH AND SLAG. AT THE CONTRACTORS OPTION FLYASH OR SLAG MAY BE SUBSTITUTED FOR CEMENT BUT SHALL NOT EXCEED 25% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL. IN NO CASE SHALL THE AMOUNT OF FLYASH OR SLAG BE LESS THAN REQUIRED BY THE CONCRETE MIX DESIGN TABLE. FOOTING MIXES SHALL CONTAIN NOT LESS THAN 5 SACKS OF CEMENTITIOUS MATERIAL PER CUBIC YARD, ALL OTHER MIXES SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENTITIOUS MATERIAL PER CUBIC YARD, UNLESS NOTED OTHERWISE.

ITEM	DESIGN f'c (PSI) (AT 28 DAYS U.N.O.)	MAX. W/C RATIO	MIN. FLYASH OR SLAG (PCY)	AGGREGATE GRADING ASTM AASHTO	NOTES
FOUNDATIONS/SLAB ON GRADE	2500	0.45	100	57 OR 67	1
WALLS	2500	0.45	100	57 OR 67	1
FOPPING SLAB	2500	0.50		7 OR 8	1
SHOTCRETE WALLS	2500	0.50	30	7 OR 8	1

CONCRETE MIX NOTES:

PROVIDE 3000 PSI AT 28 DAYS MINIMUM FOR DURABILITY.

CONCRETE PLACEMENT

PLACE CONCRETE FOLLOWING ALL APPLICABLE ACI RECOMMENDATIONS. CONCRETE SHALL BE PROPERLY CONSOLIDATED PER ACI 309 USING INTERIOR MECHANICAL VIBRATORS, DO NOT OVER-VIBRATE. CONCRETE SHALL BE POURED MONOLITHICALLY BETWEEN CONSTRUCTION OR EXPANSION JOINTS. IF CONCRETE IS PLACED BY THE PUMP METHOD, HORSES SHALL BE PROVIDED TO SUPPORT THE HOSE, THE HOSE SHALL NOT BE ALLOWED TO RIDE ON THE REINFORCING. WEATHER FORECASTS SHALL BE MONITORED AND ACI RECOMMENDATIONS FOR HOT AND COLD WEATHER CONCRETING SHALL BE FOLLOWED AS REQUIRED. CONCRETE SHALL NOT FREE FALL MORE THAN 5 FEET DURING PLACEMENT WITHOUT WRITTEN APPROVAL OF STRUCTURAL ENGINEER.

STRUCTURAL DRAWING INDEX				
SHEET NUMBER SHEET DESCRIPTION				
S0.01	GENERAL NOTES			
S0.02	GENERAL NOTES			
S0.03	GENERAL NOTES			
S1.00	SITE PLAN			
S1.01	SITE DETAILS			
S1.02	DETAILS			
S2.10	FOUNDATION AND MAIN LEVEL FRAMING PLAN			
S2.20	UPPER LEVEL FRAMING PLAN			
S2.40	ROOF FRAMING PLAN			
S3.01	FOUNDATION DETAILS			
S3.02	FOUNDATION DETAILS			
S4.01	FRAMING DETAILS			
S4.02	FRAMING DETAILS			
S4.03	FRAMING DETAILS			
S4.04	FRAMING DETAILS			
S4.05	FRAMING DETAILS			
Grand total: 16				

FLOATING & FINISHING OPERATIONS

WATER SHALL NOT BE ADDED TO THE CONCRETE SURFACE DURING FLOATING & FINISHING OPERATIONS. PRE-APPROVED EVAPORATION RETARDER SPECIFICALLY DESIGNED FOR FLOATING & FINISHING OPERATIONS ARE ACCEPTABLE.

FORMED SURFACES:

FORMWORK CLASS OF SURFACE PER ACI 347 TABLE 3.1				
ITEM	CLASS OF FINISH			
ALL SURFACES EXPOSED TO PUBLIC VIEW, U.N.O.	A			
ALL OTHER SURFACES, UNLESS NOTED OTHERWISE	С			

COLD WEATHER PLACEMENT

- COLD WEATHER IS DEFINED BY ACI 306 AS "A PERIOD WHEN FOR MORE THAN 3 SUCCESSIVE DAYS THE MEAN DAILY TEMPERATURE DROPS BELOW 40° F."
- NO CONCRETE SHALL BE PLACED ON FROZEN OR PARTIALLY FROZEN GROUND. THAWING THE GROUND WITH HEATERS IS PERMISSIBLE.
- CONCRETE MIX TEMPERATURES SHALL BE AS SHOWN BELOW. HEATING OF WATER AND/OR AGGREGATES MAY BE REQUIRED TO ATTAIN THESE TEMPERATURES.
- THE CONCRETE MAY REQUIRE PROTECTION FOR 4-7 DAYS AFTER POURING. IF TEMPERATURES REMAIN BELOW FREEZING, INSULATING BLANKET COVERAGE IS REQUIRED. IF TEMPERATURES ARE SLIGHTLY BELOW FREEZING (30° F MIN.) AT NIGHT AND ABOVE FREEZING DURING THE DAY, KRAFT PAPER WITH COMPLETE COVERAGE MAY BE USED IN LIEU OF INSULATED BLANKETS.
- NO ADDITIVES CONTAINING CHLORIDES SHALL BE USED. USE "POZZUTEC 20+" BY MASTER BUILDERS OR "POLARSET" BY W.R. GRACE OR PRE-APPROVED EQUAL

CONDITION OF PLACEMENT AND CURING		WALLS & SLABS	FOOTINGS
MIN. TEMP. FRESH CONCRETE AS MIXED FOR WEATHER INDICATED, DEGREES F.	ABOVE 30° F. 0° TO 30° F. BELOW 0° F.	60° 65° 70°	55° 60° 65°
MIN. TEMP. FRESH CONCRETE AS PLACED AN	55°	50°	
MAX. ALLOWABLE GRADUAL DROP IN TEMP. T HOURS AFTER END OF PROTECTION, DEGREE	50°	40°	

HOT OR WINDY WEATHER PLACEMENT

HOT WEATHER IS DEFINED BY ACI 305 AS "ANY COMBINATION OF HIGH AIR TEMPERATURE, LOW RELATIVE HUMIDITY, AND WIND VELOCITY, TENDING TO IMPAIR THE QUALITY OF FRESH HARDENED CONCRETE. ACI 305 FIGURE 2.1.5 SHALL BE USED BY THE CONTRACTOR TO ESTIMATE THE RATE OF EVAPORATION. WHEN THE ESTIMATED RATE OF EVAPORATION IS GREATER THAN 0.2 PSF/HOUR THE PLACEMENT SHALL BE CONSIDERED A HOT WEATHER PLACEMENT. PRECAUTIONS AGAINST PLASTIC SHRINKAGE CRACKING ARE NECESSARY. PRECAUTIONS TAKEN BY THE CONTRACTOR VARY DEPENDING UPON THE FACTORS ASSOCIATED WITH WATER EVAPORATION AND INCLUDE BUT ARE NOT LIMITED TO:

- 1. LIMITING CONCRETE TEMPERATURE TO 100°F AT TIME OF PLACEMENT
- 2. APPLICATION OF AN EVAPORATION RETARDER.
- 3. USE OF FOG SPRAY.
- 4. REDUCTION OF POUR SIZE
- 5. PLACING CONCRETE AT NIGHT.

CONTROL AND CONSTRUCTION JOINTS

CONSTRUCTION JOINTS SHALL MEET THE REQUIREMENTS OF ACI 301 SECTIONS 2.2.2.5 AND 5.3.2.6. SPECIAL BONDING METHODS PER SECTION 5.3.2.6 SHALL BE SATISFIED BY ITEM 4 BELOW UNLESS OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN ON PLAN OR ADDITIONAL CONSTRUCTION JOINTS ARE REQUIRED SUBMIT PROPOSED JOINTING FOR STRUCTURAL ENGINEERS APPROVAL PROVIDE CONSTRUCTION JOINTS AS INDICATED BELOW UNLESS NOTED OTHERWISE ON THE PLANS:

- SLABS ON GRADE: PROVIDE CONSTRUCTION AND/OR CONTROL JOINTS AT 16 FEET O.C. MAXIMUM FOR UNEXPOSED SLABS ON GRADE AND 12 FEET O.C. FOR EXPOSED SLABS ON GRADE. COORDINATE JOINTS WITH ARCHITECTURAL DRAWINGS.
- TOPPING OVER WOOD FRAMING: PROVIDE JOINTS AT 12' O.C. MAXIMUM
- BONDING AGENT: WHERE BONDING AGENT IS SPECIFICALLY CALLED OUT ON THE STRUCTURAL DRAWINGS USE "WELD CRETE" BY LARSON PRODUCTS CORPORATION OR PRE-APPROVED EQUAL. FOLLOW ALL MANUFACTURERS RECOMMENDATIONS.
- ATTACHMENT OF NEW CONCRETE TO EXISTING: WHERE SHOWN, ROUGHEN CONCRETE TO A MINIMUM AMPLITUDE OF 1/4" USING IMPACT HAMMER. REMOVE ALL LOOSE OR DAMAGED CONCRETE, THOROUGHLY FLUSH ALL SURFACES WITH POTABLE WATER, AIR BLAST WITH OIL FREE COMPRESSED AIR TO REMOVE ALL WATER.

EMBEDDED ITEMS

- NO ALUMINUM ITEMS SHALL BE EMBEDDED IN ANY CONCRETE.
- 2. ALL EMBED PLATES SHALL BE SECURELY FASTENED IN PLACE
- 3. ALL EMBEDDED STEEL ITEMS EXPOSED TO EARTH SHALL BE GALVANIZED
- 4. ALL EMBEDDED STEEL ITEMS EXPOSED TO WEATHER SHALL BE PAINTED UNLESS NOTED AS GALVANIZED. SEE DRAWINGS AND SPECIFICATIONS FOR PAINT, PRIMER, AND GALVANIZING REQUIREMENTS.

CONCRETE CURING AND SEALING

CURING PROCEDURES SHALL COMMENCE IMMEDIATELY AFTER FINISHING CONCRETE TO MAINTAIN CONCRETE IN A MOIST CONDITION. VERIFY CURING AND/OR SEALING PRODUCTS ARE COMPATIBLE WITH FLOOR COVERINGS SHOWN ON THE ARCHITECTURAL DRAWINGS. FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS. SLABS ARE DEFINED AS SLABS ON GRADE, CONCRETE ON METAL DECK, ELEVATED POST-TENSIONED OR MILD REINFORCED DECKS, AND TOPPING SLABS.

4

6.

ASTM A706 GRADE 60 FOR ALL WELDED BARS.

DETAIL FABRICATE AND PLACE PER ACI 315 AND ACI 318.

1. "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH ------ 3" EXPOSED TO WEATHER OR EARTH ------ 2" TIES ON BEAMS AND COLUMNS ------ 1-1/2" WALLS AND SLABS NOT EXPOSED TO WEATHER---- 3/4"

AUGERCAST PILES ------ 2-1/2"

POST-INSTALLED ANCHORS: SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH REBAR. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. INSTALLER SHALL BE QUALIFIED AND TRAINED BY THE MANUFACTURER. HOLES SHALL BE HAMMER DRILLED ONLY (ROTARY DRILLED ONLY AT UNREINFORCED MASONRY - NO HAMMER TOOLS).

SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED FOR APPROVAL A MINIMUM OF 2 WEEKS PRIOR TO BID, ALONG WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER (LICENSED IN THE STATE IN WHICH THE PROJECT OCCURS) DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.

ITEM	CONCRETE CURING NOTES
LABS EXPOSED TO EARTH OR WEATHER OR VEHICLE OR FORKLIFT RAFFIC INCLUDING LOADING DOCKS	1, (3 OR 4 OR 5), 6
LL OTHER SLABS	1, (3 OR 4 OR 5)
ORMED SURFACES EXCLUDING FOUNDATIONS	2
HOTCRETE WALLS	4
LL OTHER CONCRETE	NONE

CONCRETE CURING NOTES

- WHEN THE ESTIMATED EVAPORATION RATE IS GREATER THAN 0.2 PSF/HOUR PROVIDE A SPRAY APPLIED EVAPORATION RETARDER IMMEDIATELY AFTER CONCRETE PLACEMENT. THE EVAPORATION RATE MAY BE CALCULATED PER ACI 305 FIGURE 2.1.5.
- APPLY A LIQUID MEMBRANE FORMING CURING COMPOUND, CONFORMING TO ASTM C309 TYPE 1 CLASS B SPECIFICATIONS, PER MANUFACTURER'S RECOMMENDATIONS TO ALL FORMED SURFACES IMMEDIATELY AFTER FINAL FORM REMOVAL. NOT REQUIRED IF FORMWORK REMAINS IN PLACE FOR MORE THAN 7 DAYS.
- PROVIDE PRE-APPROVED CONTINUOUS WET CURE METHOD FOR A MINIMUM OF 14 DAYS.
- APPLY A LIQUID MEMBRANE FORMING CURING COMPOUND, CONFORMING TO ASTM C309 TYPE 1 CLASS B SPECIFICATIONS OR ASTM C1315 TYPE 1 CLASS A SPECIFICATIONS, PER MANUFACTURER'S RECOMMENDATIONS IMMEDIATELY AFTER FINAL FINISHING. CURING COMPOUND SHALL BE COMPATIBLE ARCHITECTURAL FLOOR COVERINGS AND SEALERS. WITH
- PROVIDE 'ULTRACURE MAX' MOISTURE RETAINING COVER BY MCTECH GROUP, OR APPROVED EQUAL, FOR A MINIMUM OF 14 DAYS.
- APPLY A SILANE SEALER WITH MINIMUM SOLIDS CONTENT OF 40% PER MANUFACTURER'S **RECOMMENDATIONS.**

GROUT

NON-SHRINK GROUT: MASTER BUILDERS "MASTERFLOW 928" OR PRE-APPROVED EQUAL. GROUT SHALL CONFORM TO CRD-C621 AND ASTM C1107 WHEN TESTED AT A FLUID CONSISTENCY PER CRD-C611-85 FOR 30 MINUTES. GROUT MAY BE PLACED FROM A 25 SECOND FLOW TO A STIFF PACKING CONSISTENCY. FILL OR PACK ENTIRE SPACE UNDER PLATES OR SHAPES. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PREPARATION, INSTALLATION, AND CURING.

REINFORCING STEEL

REINFORCING STEEL SHALL CONFORM TO:

ASTM A615, GRADE 60 TYPICAL UNLESS NOTED OTHERWISE.

<u>R</u>	REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE, Fy=60 KSI (UNLESS NOTED OTHERWISE)							
AR	MINIMUM LAP SPLICE LENGTHS ("Ls")		MINIMUM DEVELOPI					
IZE	TOP BARS (1)	OTHER BARS	TOP BARS (1)	OTHER BARS	STANDARD END HOOKS ("Ldh")			
#3	2'-0"	1'-6"	1'-6"	1'-3"	0'-7"			
#4	2'-8"	2'-0"	2'-0"	1'-7"	0'-9"			
#5	3'-4"	2'-7"	2'-7"	2'-0"	1'-0"			
#6	4'-0"	3'-1"	3'-1"	2'-4"	1'-2"			
#7	5'-10"	4'-6"	4'-6"	3'-6"	1'-5"			

SPLICE TABLE NOTES:

REINFORCING STEEL COVER

POST-INSTALLED ANCHORS

CONCRETE ANCHORS:

- ADHESIVE ANCHORS: HILTI HIT-HY 200 (ICC-ESR-3187)
 - *CONCRETE SHALL BE A MINIMUM OF 21 DAYS OLD AT TIME OF INSTALLATION. *CONCRETE SHALL BE IN THE TEMPERATURE RANGE AS REQUIRED BY THE CONCRETE
 - MANUFACTURER.
 - *HOLE SHALL BY HAMMER-DRILLED ONLY. *HOLE SHALL BE DRY AT TIME OF INSTALLATION.
- *INSTALLER OF HORIZONTAL OR UPWARDLY INCLINED (ANY POSITION EXCEPT DIRECTLY DOWNWARD) ANCHORS SHALL ALSO BE CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.
- EXPANSION ANCHORS: KWIKBOLT TZ (ICC ESR-1917) BY HILTI, INC. OR STRONG-BOLT 2 (ICC ESR-3037) BY SIMPSON STRONG TIE. INC.
- SCREW ANCHORS: KWIK HUS-EZ (ICC ESR-3027) BY HILTI, INC. OR TITEN HD (ICC ESR-2713) BY SIMPSON STRONG TIE, INC.

CARPENTRY:

PENNYWEIGHT	DIAMETER (INCHES)	LENGTH (INCHES)	TRACKER** EMBOSSED HEAD / COLOR
8d	0.131	2-1/2	3 / BLUE
10d	0.148	3	4 / WHITE
16d	0.162	3-1/2	6 / ORANGE
20d	0.192	4	-

WOOD SHEATHING (STRUCTURAL): SHEATHING ON ROOF SURFACES SHALL BE <u>PLYWOOD ONLY</u>. SHEATHING ON FLOOR AND WALLS SHALL BE PLYWOOD OR ORIENTED STRAND BOARD (OSB). PLYWOOD SHEATHING SHALL BE 5-PLY MINIMUM WHERE INDICATED AS PERFORMANCE CATAGORY 3/4" OR THICKER. WOOD SHEATHING SHALL BE "STRUCTURAL I" CONFORMING TO PS1-09 AND/OR PS2-10. ALL PANELS SHALL BEAR THE STAMP OF AN APPROVED GRADING AGENCY. SPAN RATING SHALL BE PROVIDED AS FOLLOWS: ROOF FRAMING AT 32"O.C. (48/24); ROOF FRAMING AT 24"O.C. (32/16); WALLS (32/16); FLOORS (48/24) ALL WOOD SHEATHED WALLS SHALL BE BLOCKED AT ALL PANEL EDGES UNLESS NOTED OTHERWISE.

GLUE-LAMINATED MEMBERS: CONFORM TO ANSI/AITC A190.1. MEMBERS SHALL BE COMBINATION 24F-V4 DOUGLAS FIR (DF) FOR SIMPLE SPANS AND 24F-V8 DF FOR CANTILEVERED SPANS (Fb=2400 PSI, Fv=265 PSI, E= 1.8X10[^]6 PSI) AND DF COMBINATION 2 FOR COLUMNS.

FRAMING LUMBER: STANDARDS. EACH PIECE SHALL BEAR THE GRADE TRADEMARK OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB), WESTERN WOOD PRODUCTS ASSOCIATION (WWPA), OR OTHER AGENCY ACCREDITED BY THE AMERICAN LUMBER STANDARD COMMITTEE (ALSC) TO GRADE UNDER ALSC CERTIFIED GRADING RULES.

<u>SPECIES AND GRADE</u> (BASE DESIGN VALUE) 6x BEAMS AND HEADERS. "DOUG FIR-LARCH" NO. 1 (Fb=1350 PSI, Fv=170 PSI)

- NO. 1 (Fb=975 PSI, Fv=150 PSI)
- 6x POSTS AND COLUMNS. "DOUG FIR-LARCH" NO. 1 (Fc=1000 PSI)
- Fc=1350 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI). INTERIOR NON-BEARING STUD WALLS. "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI. Fc=1350 PSI) OR "HEM-FIR"
- NO. 1 (Fb=975 PSI, Fc=1350 PSI) 2x & 3x T&G DECKING: "DOUG FIR-LARCH" COMMERCIAL (Fb=1450 PSI, E=1700 KSI)
- Fc=1350 PSI), OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI).
- UTILITY & STANDARD GRADES NOT PERMITTED.

EQUAL IN ACCORDANCE WITH APPROVED SHOP AND INSTALLATION DRAWINGS CONFORMING TO A CURRENT **EVALUATION REPORT.**

<u> MIINIMUM DESIGN VALUES:</u>

2x SCL: Fb = 1700 PSI, Fv = 285 PSI, E = 1300 KSI

- 1-3/4" SCL: Fb = 2600 PSI, Fv = 285 PSI, E = 1800 KSI 3-1/2" SCL: Fb = 2900 PSI, Fv = 285 PSI, E = 2000 KSI
- 5-1/4" SCL: Fb = 2900 PSI, Fv = 285 PSI, E = 2000 KSI

MEMBERS HAVE BEEN DESIGNED TO SERVICEABILITY AND OTHER PERFORMANCE BASED REQUIREMENTS. WHICH MAY EXCEED MINIMUM DESIGN LOADS AND CODE REQUIREMENTS. SUBSTITUTIONS MUST MEET OR EXCEED MOMENT, SHEAR, AND STIFFNESS OF THOSE MEMBERS SPECIFIED AT THE SAME DEPTH AND SPACING

PRESERVATIVE TREATED WOOD REQUIREMENTS:

		APPLICATION	SPECIFIED MATERIAL	PRESERVATIVE TREATMENT (1)	CONNECTORS & FASTENERS (2)(3)
	DRY	FOUNDATION SILL PLATES, TOP PLATES & LEDGERS ON	2x, 4x, 6x (FIR), OR GLULAM (SP)	SBX	GALV (G60)
OSURE		CONCRETE OR MASONRY WALLS (4)		ACQ, CBA, CA	GALV (G185)
		FRAMING, DECKING, POSTS & LEDGERS	2x, & 4x (FIR)	ACQ, CBA, CA	GALV (G185)
Image: Second se			2x, & 4x (CEDAR)	NONE	GALV (G90)
	M	BEAMS & COLUMNS	6x (FIR), OR GLULAM (SP)	ACQ, CBA, CA	GALV (G185)
			6x OR GLULAM (CEDAR)	NONE	GALV (G90)

- CCA: CHROMATED COPPER ARSENATE NOT PERMITTED SBX: DOT SODIUM BORATE ACQ: ALKALINE COPPER QUAT CBA & CA: COPPER AZOLE
- NUTS. NAILS, SPIKES, WOOD SCREWS, ETC.
- B695, CLASS 55 OR GREATER.
- ADHERING ICE & WATER SHIELD BARRIER (40 MIL MINIMUM).

GENERAL REQUIREMENTS: PROVIDE MINIMUM NAILING PER IBC TABLE 2304.10.1 OR MORE, AS OTHERWISE SHOWN. STAGGER ALL NAILING TO PREVENT SPLITTING OF WOOD MEMBERS. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED WITH THE EXCEPTION OF INTERIOR CONCRETE TOPPINGS ON WOOD FLOOR SYSTEMS. HOLES AND CUTS IN 3x OR 4x PLATES SHOULD BE TREATED WITH A 9% SOLUTION OF COPPER NAPHTHENATE. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. PROVIDE CUT WASHERS WHERE BOLT HEADS, NUTS AND LAG SCREW HEADS BEAR ON WOOD. PROVIDE A MINIMUM 3"x3"x0.229" PLATE WASHER ON ALL ANCHOR BOLTS WHICH CONNECT MUD SILLS TO FOUNDATION. DO NOT NOTCH OR DRILL STRUCTURAL MEMBERS, EXCEPT AS ALLOWED BY IBC SECTIONS 2308.4.2.4, 2308.5.9, 2308.5.10 AND 2308.7.4 OR AS RESTRICTED BY PLANS OR DETAILS, OR AS APPROVED PRIOR TO INSTALLATION. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

WOOD SHRINKAGE AND CONSOLIDATION: SHRINKAGE OF WOOD MEMBERS AND CONSOLIDATION OF BEARING WALLS IS EXPECTED FROM TIME OF FRAMING UNTIL AFTER BUILDING IS PUT IN SERVICE. MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS SHALL BE CONSTRUCTED TO ACCOMODATE 1/4" OF TOTAL SETTLEMENT PER STORY.

NAILS: CONNECTION DESIGNS ARE BASED ON "COMMON WIRE" NAILS WITH THE FOLLOWING PROPERTIES:

2x TO 4x JOISTS, PURLINS AND HEADERS. "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fv=180 PSI) OR "HEM-FIR"

EXTERIOR STUDS, INTERIOR BEARING WALLS AND 4x COLUMNS. "DOUG FIR-LARCH" NO. 2 (Fb= 900 PSI,

THE MINIMUM GRADE OF ALL OTHER STRUCTURAL FRAMING. "DOUG FIR-LARCH" NO. 2 (Fb= 900 PSI,

STRUCTURAL COMPOSITE LUMBER (SCL): SHALL BE MANUFACTURED BY WEYERHAEUSER, OR PRE-APPROVED

RIMBOARD: APA/EWS PERFORMANCE RATED RIM (PRR-401) 1-1/4" MINIMUM THICKNESS

TREATMENTS OTHER THAN THOSE LISTED BELOW ARE NOT PERMITTED.

FIR: DOUG-FIR OR HEM-FIR SP: SOUTHERN PINE

CONNECTORS: JOIST HANGERS, STRAPS, FRAMING CONNECTORS, COLUMN CAPS AND BASES, ETC. FASTENERS: MACHINE BOLTS, ANCHOR BOLTS AND LAG SCREWS WITH ASSOCIATED PLATE WASHERS AND

G60, G90 & G185 PER ASTM A653 FOR COLD-FORMED STEEL CONNECTORS. BATCH/POST HOT-DIP GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM A153 STRUCTURAL STEEL CONNECTORS. HOT-DIP GALVANIZED PER ASTM A153 FOR FASTENERS OR MECHANICALLY GALVANIZED FASTENERS PER ASTM

4. AT CONTRACTORS OPTION, LEDGERS AND TOP PLATES A MINIMUM OF 8 FEET ABOVE GRADE ON CONCRETE OR MASONRY WALLS MAY BE UN-TREATED IF COMPLETELY SEPARATED FROM THE WALL BY A SELF

FRAMING CONNECTORS: SHALL CONFORM TO CURRENT EVALUATION REPORT AND BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, SAN LEANDRO, CA., OR PRE-APPROVED EQUAL. PROVIDE MAXIMUM SIZE AND QUANTITY OF NAILS OR BOLTS PER MANUFACTURER, EXCEPT AS NOTED OTHERWISE. PROVIDE LEAD HOLES AS REQUIRED TO PREVENT SPLITTING OF WOOD MEMBERS. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

METAL-PLATE-CONNECTED WOOD TRUSSES: SHALL BE MANUFACTURED BY AN APPROVED TRUSS MANUFACTURER IN ACCORDANCE WITH APPROVED SHOP AND INSTALLATION DRAWINGS. TRUSS CALCULATION PACKAGE SHALL BE DESIGNED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF PROJECT PER IBC SECTION 2303.4 TO CARRY THE LOADS LISTED IN THE DESIGN CRITERION AND ANY ADDITIONAL LOADS INDICATED ON THE FRAMING PLANS AND DETAILS. THE TRUSS ENGINEER SHALL ASSUME ALL RESPONSIBILITY FOR THE WORK OF ALL SUBORDINATES INVOLVED IN THE PREPARATION OF THE TRUSS PLACEMENT PLANS AND TRUSS DESIGN DRAWINGS. ALL ROOF TRUSSES ARE TO BE PRE-ENGINEERED. ROOF TRUSSES SHALL BE PROVIDED TO COMPLETE THE ROOF FRAMING FROM THE ROOF SHEATHING TO THE SUPPORTING MEMBERS BELOW. TRUSSES DESIGNATED ON PLANS ARE FOR TYPICAL UNIFORMLY LOADED CONDITIONS. TRUSS ENGINEER SHALL PROVIDE ADDITIONAL TRUSSES AS REQUIRED TO SUPPORT SPECIAL LOADING CONDITIONS INDICATED ON DRAWINGS. PROVIDE SHOP AND INSTALLATION DRAWINGS AND CALCULATIONS PRODUCED UNDER THE SUPERVISION OF AND BEARING THE STAMP OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROJECT. DETAIL DRAWINGS TO INDICATE ALL INFORMATION AS REQUIRED IN IBC SECTION 2303.4.1. ALONG WITH THE FOLLOWING:

*KEY PLAN SHOWING EACH TRUSS

- *INDIVIDUAL TRUSS DESIGNS
- *PERMANENT BRACING REQUIREMENTS INCLUDING PLACEMENT AND CONNECTIONS DETAILS *TRUSS DRAWINGS SHALL SPECIFY ALL TRUSS CONNECTIONS/HARDWARE TO MEET THE REQUIREMENTS OF THE PLAN.

TRUSS DESIGN CALCULATIONS SHALL BE PROVIDED FOR STANDARD LOADING ALONG WITH DESIGN CHECKS FOR SPECIAL LOADING CONDITIONS WHICH INCLUDE FREE BODY DIAGRAMS, LOADING BREAK DOWN, DESCRIPTION OF LOADS (I.E. MECH UNIT. SUSPENDED WALL, ETC.) AND THE RATIONALE FOR LOADING DISTRIBUTION ON MULTIPLE MEMBERS. SUBMITTAL SHALL ALSO PROVIDE ANY DOCUMENTATION NECESSARY TO INTERPRET DATA INDICATED ON CALCULATIONS.

REFER TO THE <u>FRAMING CONNECTORS</u> SECTION OF THESE GENERAL NOTES FOR REQUIREMENTS PLACED UPON CONNECTOR HARDWARE SPECIFIED BY TRUSS ENGINEER AND/OR PROVIDED BY TRUSS MANUFACTURER.

PROVIDE CERTIFICATE OF CONFORMANCE FROM AN INDEPENDENT TESTING LABORATORY OR A LICENSED PROFESSIONAL ENGINEER CERTIFYING THAT THEY HAVE INSPECTED THE FINISHED TRUSSES AND THAT ALL TRUSSES ARE CONSTRUCTED IN CONFORMANCE WITH THE TRUSS DESIGN DRAWINGS.

I-JOISTS: SHALL BE MANUFACTURED BY WEYERHAEUSER, OR PRE-APPROVED EQUAL IN ACCORDANCE WITH APPROVED SHOP AND INSTALLATION DRAWINGS. MEMBERS SHALL BE DESIGNED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF PROJECT. THE ENTIRE I-JOIST ASSEMBLY SHALL BE AS APPROVED BY CURRENT EVALUATION REPORT. MEMBERS SHALL BE DESIGNED TO CARRY THE LOADS LISTED IN THE DESIGN CRITERION AND ANY ADDITIONAL LOADS INDICATED ON THE FRAMING PLANS AND DETAILS. THE ENGINEER SHALL ASSUME ALL RESPONSIBILITY FOR THE WORK OF ALL SUBORDINATES INVOLVED IN THE PREPARATION OF THE PLACEMENT PLANS AND DESIGN DRAWINGS. I-JOISTS SHALL BE PROVIDED TO COMPLETE THE ROOF AND/OR FLOOR FRAMING FROM THE SHEATHING TO THE SUPPORTING MEMBERS BELOW. MEMBER DESIGNATIONS ON PLANS ARE FOR TYPICAL UNIFORMLY LOADED CONDITIONS. MANUFACTURER SHALL PROVIDE ADDITIONAL MEMBERS AS REQUIRED TO SUPPORT SPECIAL LOADING CONDITIONS INDICATED ON DRAWINGS. PROVIDE SHOP AND INSTALLATION DRAWINGS AND CALCULATIONS PRODUCED UNDER THE SUPERVISION OF AND BEARING THE STAMP OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROJECT. DETAIL DRAWINGS TO INDICATE MEMBER TYPES, SIZE SPACING, BRIDGING, BLOCKING, CONNECTIONS, ANCHORING, BEARING PLATE AND OTHER PERTINENT DETAILS. PROVIDE 1 1/2" DIA. OPEN KNOCKOUTS AT 12" O.C. ON ALL ROOF I-JOISTS.

MEMBER DESIGN CALCULATIONS SHALL BE PROVIDED FOR STANDARD LOADING ALONG WITH DESIGN CHECKS FOR SPECIAL LOADING CONDITIONS WHICH INCLUDE FREE BODY DIAGRAMS, LOADING BREAK DOWN, DESCRIPTION OF LOADS (I.E. MECH UNIT, SUSPENDED WALL, ETC.) AND THE RATIONALE FOR LOADING DISTRIBUTION ON MULTIPLE MEMBERS. SUBMITTAL SHALL ALSO PROVIDE ANY DOCUMENTATION NECESSARY TO INTERPRET DATA INDICATED ON CALCULATIONS.

MEMBERS HAVE BEEN DESIGNED TO MEET SERVICEABILITY AND OTHER PERFORMANCE BASED REQUIREMENTS, WHICH MAY EXCEED MINIMUM DESIGN LOADS AND CODE REQUIREMENTS. SUBSTITUTIONS MUST MEET OR EXCEED MOMENT, SHEAR, AND STIFFNESS OF THOSE MEMBERS SPECIFIED AT THE SAME DEPTH AND SPACING.

REFER TO THE <u>FRAMING CONNECTORS</u> SECTION OF THESE GENERAL NOTES FOR REQUIREMENTS PLACED UPON CONNECTOR HARDWARE SPECIFIED BY TRUSS ENGINEER AND/OR PROVIDED BY TRUSS MANUFACTURER.

MISCELLANEOUS:

PRE-APPROVED SUBSTITUTIONS: SUBSTITUTIONS MAY BE ALLOWED ONLY IF THEY MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND THE SPECIFICATIONS, AND IF COMPLETE WRITTEN ENGINEERING DATA FOR EACH CONDITION REQUIRED FOR THIS PROJECT IS PROVIDED TO THE STRUCTURAL ENGINEER TWO WEEKS PRIOR TO BID DATE AND APPROVED IN WRITTEN ADDENDA BY THE ARCHITECT. DATA IS TO INDICATE CODE BASIS BY YEAR, AUTHORITY FOR STRESSES AND STRESS INCREASES, IF ANY, AND AMOUNT OF EXPECTED DEFLECTION FOR FLEXURAL MEMBERS UNDER (1) TOTAL LOAD AND (2) LIVE LOAD ONLY. ALL INCREASED COSTS IN MECHANICAL, SPRINKLER, ELECTRICAL OR GENERAL INSTALLATION AND ANY ARCHITECTURAL OR STRUCTURAL REDESIGN RESULTING FROM SUBSTITUTION SHALL BE BORNE BY THE GENERAL CONTRACTOR.

SHOP DRAWINGS/SUBMITTALS

THE FOLLOWING SHOP DRAWINGS/SUBMITTALS SHALL BE PROVIDED FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION OR DELIVERY.

		STRUCTURAL ENGR.	BLDG. DEPT.
1.	CONCRETE MIX DESIGNS	Х	Х
2.	REINFORCING STEEL SHOP DRAWINGS	Х	
3.	METAL-PLATE-CONNECTED WOOD TRUSSES	Х	Х
4.	CONTRACTOR'S STATEMENT OF RESPONSIBILITY	Х	Х

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING LABORATORY PER THE REQUIREMENTS OF IBC CHAPTER 17 AND THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION AND THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL FOR THE ITEMS LISTED IN THE QUALITY ASSURANCE/SPECIAL INSPECTION SECTION:

STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1704 AND 1705 AND AS NOTED HEREIN.

STRUCTURAL SYSTEM	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
SOILS	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH		Х		IBC 1705.6
	INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		Х		
DRIVEN-PILE FOUNDATIONS	VERIFY PILE MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS	Х			IBC 1705.7
	DETERMINE CAPACITIES OF TEST PILES AND CONDUCT ADDITIONAL LOAD TESTS AS REQUIRED	х			
	INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH PILE	Х			
	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT	Х			
	STEEL PILE INSPECTION			SEE STEEL CONSTRUCTION SPECIAL INSPECTION REQUIREMENTS	IBC 1705.2
WOOD FRAMING	SHEAR WALL NAILING		Х	SPECIAL INSPECTION NOT REQUIRED FOR FASTENER SPACING > 4" O.C.	IBC 1705.11.1, 1705.12.2, 1705.5
	DIAPHRAGM NAILING		Х	SPECIAL INSPECTION NOT REQUIRED FOR FASTENER SPACING > 4" O.C.	IBC 1705.11.1, 1705.12.2, 1705.5
	NAILING, BOLTING, AND ANCHORAGE OF COMPONENTS THAT ARE PART OF DRAG STRUTS, BRACES AND HOLD-DOWNS THAT ARE PART OF THE SEISMIC RESISTING SYSTEM		Х		IBC 1705.11.1, 1705.12.2
CONCRETE	INSPECT REINFORCEMENT AND VERIFY PLACEMENT		X		ACI 318: CH 20, 25.2, 25.3, 26.6-1 TO 26.6-3, IBC 1908.4

TESTING AND SPECIAL INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO OWNER, CONTRACTOR, BUILDING OFFICIAL, ARCHITECT AND STRUCTURAL ENGINEER OF RECORD.

STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE IN ACCORDANCE WITH IBC 1704.6. STRUCTURAL OBSERVATION SHALL BE PERFORMED AS FOLLOWS:

- » PERIODIC VISUAL OBSERVATION OF STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES.
- » REVIEW OF TESTING AND INSPECTION REPORTS.
- » REPORTS SHALL BE PREPARED FOR EACH SITE VISIT AND SHALL BE DISTRIBUTED TO ARCHITECT

GENERAL CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION

ABBREVIATION LIST							
0	AT	D.F.	DOUGLAS FIR	HGR	HANGER	P.P.T.	PRESERVATIVE PRESSURE TREATED
A.B.	ANCHOR BOLT	DIA. OR Ø	DIAMETER	HORIZ.	HORIZONTAL	P.S.F.	POUNDS PER SQUARE FOOT
ADD'L	ADDITIONAL	DIAG.	DIAGONAL	HSS	HOLLOW STRUCTURAL SECTION	PSL	PARALLAM
A.F.F.	ABOVE FINISH FLOOR	DIM.	DIMENSION	HT	HEIGHT	P.T.	POST TENSION
ALT.	ALTERNATE	D.L.	DEAD LOAD	INT.	INTERIOR	PW.	PLYWOOD
ARCH.	ARCHITECTURAL	DWG	DRAWING	JST	JOIST	REINF.	REINFORCING
BLD'G	BUILDING	DWL	DOWEL	TL	JOINT	REQ'D	REQUIRED
BLK'G	BLOCKING	(E)	EXISTING	L	ANGLE	SCHED.	SCHEDULE
BM	BEAM	EA.	EACH	L.L.	LIVE LOAD	S.C.L.SHT'G	STRUCTURAL COMPOSITE LUMBER
B.O.F.	BOTTOM OF FOOTING	E.F.	EACH FACE	LLH	LONG LEG HORIZONTAL	SHT'G	SHEATHING
BOT.	BOTTOM	EL.	ELEVATION	LLV	LONG LEG VERTICAL	SIM.	SIMILAR
BRG	BEARING	ELEV.	ELEVATOR	LOC.	LOCATION	S.O.G.	SLAB ON GRADE
BTWN	BETWEEN	ENGR.	ENGINEER	LSL	LAMINATED STRAND LUMBER	SQ.	SQUARE
B.V.	BUILT UP	EQ.	EQUAL	LVL	LAMINATED VENEER LUMBER	STD	STANDARD
(C=)	CAMBER	E.W.	EACH WAY	MAX.	MAXIMUM	STIFF.	STIFFENER
CANT.	CANTILEVER	EXP.	EXPANSION	M.B.	MACHINE BOLT	STL	STEEL
C.F.S.	COLD-FORMED STEEL	EXT.	EXTERIOR	MECH.	MECHANICAL	STRUCT.	STRUCTURAL
C.J.	CONTROL/CONSTRUCTION JOINT	FDN	FOUNDATION	MEZZ.	MEZZANINE	T∉B	TOP & BOTTOM
Ę.	CENTERLINE	F.F.	FAR FACE	MFR	MANUFACTURER	T∉G	TONGUE AND GROOVE
CLR.	CLEARANCE	FLR	FLOOR	MIN.	MINIMUM	THR'D	THREADED
CMU	CONCRETE MASONRY UNIT	F.O.M.	FACE OF MASONRY	MISC.	MISCELLANEOUS	T. <i>O</i> .F.	TOP OF FOOTING
COL.	COLUMN	F.O.S.	FACE OF STUD	MTL	METAL	T.O.S.	TOP OF STEEL
CONC.	CONCRETE	FRM'G	FRAMING	N.F.	NEAR FACE	TRT'D	TREATED
CONN.	CONNECTION	F.R.T.	FIRE RETARDANT TREATED	N.S.	NEAR SIDE	TYP.	TYPICAL
CONST.	CONSTRUCTION	F.S.	FAR SIDE	NTS	NOT TO SCALE	U.N. <i>O</i> .	UNLESS NOTED OTHERWISE
CONT.	CONTINUOUS	FTG	FOOTING	0.C.	ON CENTER	U.T.	ULTRASONIC TESTED
CONTR.	CONTRACTOR	GA.	GAGE/GAUGE	OPN'G	OPENING	VERT.	VERTICAL
COORD.	COORDINATE	GALV.	GALVANIZED	OPP.	OPPOSITE	Μ/	WITH
C.P.	COMPLETE PENETRATION	GL.	GLULAM	P.A.F.	POWDER ACTUATED FASTENER	W.P.	WORK POINT
CTR'D	CENTERED	GR.	GRADE	PERP.	PERPENDICULAR	MT	WEIGHT
C.Y.	CUBIC YARD	GWB	GYPSUM WALL BOARD	P	PLATE	W.W.R.	WELDED WIRE REINFORCING
DBL.	DOUBLE	HDR	HEADER	P.P.	PARTIAL PENETRATION		

SITE PLAN 3/16" = 1'-Ø" 1.00

1. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL, STRUCTURAL AND

INDICATES DRILLED SOLDIER PILE WITH 30" SHAFT DIAMETER.

- INDICATES WF PILE COLUMN. SEE TABLE BELOW AND 2/51.01 FOR SIZE.

▷ INDICATES CONTINUOUS FOOTING OR THICKENED SLAB EDGE. SEE SHEET SI.ØI FOR DETAILS.

- INDICATES STRUCTURAL WALL. SEE SHEET SI.ØI FOR DETAILS.

- INDICATES PIPE PILE. SEE SHEET SI.ØI FOR DETAILS.

7. PILE ELEVATIONS SHOWN IN THE TABLE BELOW SHALL BE VERIFIED IN THE FIELD WITH REQUIRED EMBEDMENT DEPTHS PER 2/S1.01. PILES MAY REQUIRE BEING CUT TO A LOWER TOP ELEVATION IN ORDER TO PLACE

MIN. TOP OF LE - BASED ON JIVIL GRADING	LOWER GRADE LIMIT OF EXCAVATION	MAX. RETAINED SOIL HEIGHT	BOTTOM ELEVATION (1)	MINIMUM PILE SIZE (2)
46'-Ø"	40'-0"	6'-Ø"	27'-3"	W18x35
49'-0"	40'-0"	9'-0"	24'-6"	W18x55
50'-0"	40'-0"	10'-0"	24'-6"	W18x55
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
52' - Ø"	40'-0"	12'-Ø"	21'-9"	W18x86
51'-Ø"	40'-0"	11'-Ø"	21'-9"	W18x86
49' - Ø"	40'-0"	9'-Ø"	24'-6"	W18x55
47' - Ø"	40'-0"	7'-Ø"	27'-3"	W18x35
34' - Ø"	26'-Ø"	8'-0"	13'-3"	W18x35
36'-Ø"	26'-Ø"	10'-0"	10'-6"	W18x55
38'-Ø"	26'-Ø"	12'-Ø"	7'-9"	W18x86
4Ø'-Ø"	26'-Ø"	14'-Ø"	5' - Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14' <i>-</i> Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14' <i>-</i> Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
40'-0"	26'-Ø"	14'-Ø"	5'-Ø"	W18x119
38' - Ø"	26'-Ø"	12'-Ø"	7'-9"	W18x86
34'-0"	26'-Ø"	8'-0"	13'-3"	W18x35

(1) SEE S1.01 FOR EMBEDMENT REQUIREMENTS. (2) AT CONTRACTOR'S OPTION STRUCTURALLY ACCEPTABLE TO INCREASE PILE SIZE.

and a second sec

IEBACK)	IØ	10-0	CCXOIN			
	8'	12'-9"	W18x35			
BLE BASE	D ON MAX. PILE S	SPACING OF	⁼ 8'-Ø".			
3LE BASED ON 30"¢ CONC. PILE.						

ATION	"H" <i>(</i> MAX.)	"D" (MIN.)	STEEL PILE SECTION
	14'	21'-Ø"	W18x119
LEVERED ER PILES TEBACK)	12'	18'-3"	W18x86
	10'	15'-6"	W18x55
	8'	12'-9"	W18x35

S1.01 |" = 1'-0"

OKANO PICARD STUDIO 815 SEATTLE BLVD S., STE 108, SEATTLE, WA 98134 USA E: info@OkanoPicardStudio.com \bigcirc KATIE HACKWORTH ARCHITECTURAL DESIGN + INTERIORS **Structural** Solutions Seattle | Tacoma | Portland www.pcs-structural.com MIL. 98040 MERCER ISLAND RESIDENCE 8424 BENOTHO PLACE, MERCER ISLAND, WA principal architect MP project manager MP drawn by MP, JS TNM checked by BLO job no.<u>1811</u> date MAY 13, 2019 revisions: no. date by PERMIT DRAWINGS MAY 13, 2019

SITE DETAILS

S1.01

- DRIVEWAY -STRUCTURAL

SLAB PER 4

∕ 2" CLR

FOUNDATION NOTES

3

- - -

FOUNDATION AND MAIN LEVEL FRAMING PLAN

52.10 1/4" = 1'-0"

INDICATES WOOD STUD WALL. WOOD STUDS SHOULD ALIGN WITH TRUSS LAYOUT AND BE SPACED AT 16" ON CENTER MAXIMUM UNLESS NOTED OTHERWISE.

INDICATES THICKENED SLAB ON GRADE 1'-6" UNLESS NOTED OTHERWISE. - SEE SHEETS S3.01 & S3.02 FOR TYPICAL FOOTING

INDICATES WOOD STUD BUILT-UP COLUMN - SEE 2/S4.01 FOR TYPICAL

INDICATES SPECIAL BUILT-UP WOOD STUD COLUMN REQUIREMENTS UNDER HEADER. FOR TYPICAL FRAMING REQUIREMENTS AT OPENING IN STRUCTURAL WALLS - SEE 1/S4.01 FOR TYPICAL DETAIL

INDICATES HOLDOWN - SEE 3/54.02 FOR SCHEDULE.

INDICATES CONCRETE BASEMENT WALL - SEE 53.02 FOR DETAILS.

- INDICATES PIPE PILE - SEE \$3.02 FOR DETAILS AND PLACEMENT. PILES ARE EQUALLY SPACED UNLESS NOTED OTHERWISE.

STUD WALL CONSTRUCTION SCHEDULE

SHEAR WALL REQUIREMENTS

SHEATHING REQUIREMENTS	(a) _{EDGE} NAILING	FIELD NAILING	(b)SOLE NAILING	(e)5/8" ANCHOR BOLT SPACING
1/2" ONE SIDE	8d @ 6"	8d @ 12"	16d @ 6"	48"
1/2" ONE SIDE	8d @ 6"	8d @ 12"	16d @ 6"	48"
1/2" ONE EACH SIDE	8d @ 4"	8d @ 12"	16d @ 4"	36"
(2) 1/2" ONE EACH SIDE b,c,d	8d @ 6"	8d @ 12"	16d @ 3"	30"
(2) 1/2" ONE EACH SIDE b,c,d	8d @ 4"	8d @ 12"	16d @ 2"	2Ø"

a) ALL DESIGNATED SHEAR WALLS SHALL BE BLOCKED AT ALL SHEATHING EDGES. EDGE NAILING APPLIES TO ALL TOP AND BOTTOM PLATES, VERTICAL JOINTS, HORIZONTAL BLOCKED JOINTS, WALL CORNERS, AND HOLD DOWN ANCHORED STUDS.

STAGGER NAILING TO AVOID SOLE PLATE SPLITTING.

c) PROVIDE 3x MEMBERS AT ABUTTING SHEATHING JOINTS AND AT SILL PLATE.

d) STAGGER PLYWOOD LAYUP.

e) ALL ANCHOR BOLT CONNECTIONS SHALL HAVE 3"x3"x1/4" PLATE WASHERS MINIMUM.

FLOOR FRAMING NOTES

- ROOF DIAPHRAGM NAILING: 2.

3/4" TONGUE AND GROOVE WOOD SHEATHING NAILED WITH 8d AT 6" ON CENTER AT SUPPORTED EDGES AND 8d AT 12" ON CENTER AT INTERMEDIATE FRAMING MEMBERS (UNBLOCKED - UNLESS NOTED OTHERWISE ON PLAN). FACE GRAIN PERPENDICULAR TO SUPPORTS.

MARK EXTERIOR WALL (1) P-6 (1) P-4

(2) P-4 (2c)

(2) P-6

8.

9. PROVIDE HANGERS PER TABLE BELOW UNLESS NOTED OTHERWISE.

MEMBER	HANGER
DII ILT	ITS1.81/11.88
2x8	LUS28
(2) 2x8	LUS28-2
3½×11½ LSL	BA3.56/11.88

COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

STUD WALL CONSTRUCTION SCHEDULE

SHEAR WALL REQUIREMENTS						
SHEATHING REQUIREMENTS	(a)EDGE NAILING	FIELD NAILING	(b)SOLE NAILING	(e)5/8" ANCHOR BOLT SPACING		
2" ONE SIDE	8d @ 6"	8d @ 12"	16d @ 6"	48"		
2" ONE SIDE	8d @ 6"	8d @ 12"	16d @ 6"	48"		
2" ONE EACH SIDE	8d @ 4"	8d @ 12"	16d @ 4"	36"		
2) 1/2" ONE EACH SIDE b,c,d	8d @ 6"	8d @ 12"	16d @ 3"	30"		
2) 1/2" ONE EACH SIDE b,c,d	8d @ 4"	8d @ 12"	16d @ 2"	2Ø"		

a) ALL DESIGNATED SHEAR WALLS SHALL BE BLOCKED AT ALL SHEATHING EDGES. EDGE NAILING APPLIES TO ALL TOP AND BOTTOM PLATES, VERTICAL JOINTS, HORIZONTAL BLOCKED JOINTS, WALL CORNERS, AND HOLD DOWN ANCHORED STUDS.

b) STAGGER NAILING TO AVOID SOLE PLATE SPLITTING.

PROVIDE 3x MEMBERS AT ABUTTING SHEATHING JOINTS AND AT SILL PLATE.

d) STAGGER PLYWOOD LAYUP.

e) ALL ANCHOR BOLT CONNECTIONS SHALL HAVE 3"x3"x1/4" PLATE WASHERS MINIMUM.

PROVIDE SOLID BLOCKING IN THE FLOOR JOISTS CAVITY BENEATH ALL COLUMN LOCATIONS AND BETWEEN UPPER AND LOWER STUDS AT FLOOR TO FLOOR HOLDOWN LOCATIONS.

4. PROVIDE TIMBERSTRAND RIM WHERE FLOOR JOISTS BEAR AT WALLS.

INDICATES SPECIAL BUILT-UP WOOD STUD COLUMN REQUIREMENTS UNDER HEADER. FOR TYPICAL FRAMING REQUIREMENTS AT OPENING IN STRUCTURAL WALLS SEE 1/S4.01 FOR TYPICAL DETAIL.

INDICATES HOLDOWN. SEE 3/54.02 FOR SCHEDULE.

INDICATES TYPICAL HEADER IN WALL BELOW - SEE 1/S4.01.

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ROOF FRAMING NOTES

1. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

2. <u>ROOF DIAPHRAGM NAILING</u>:

5/8" WOOD SHEATHING NAILED WITH 8d AT 6" ON CENTER AT SUPPORTED EDGES AND 8d AT 10" ON CENTER AT INTERMEDIATE FRAMING MEMBERS (UNBLOCKED). FACE GRAIN PERPENDICULAR TO SUPPORTS.

3. PROVIDE SOLID BLOCKING BETWEEN THE BEARINGS OF EVERY RAFTER OR TRUSS AND A SIMPSON H2.5 CLIP AT EVERY MEMBER.

4. GABLE END WALLS WHICH ARE NOT BALLOON FRAMED ARE REQUIRED TO BE LATERALLY SUPPORTED AT THE PLATE LINE BY BRACING DESIGNED BY ROOF TRUSS MANUFACTURER.

+===== → INDICATES WALL EXTENDING TO ROOF STRUCTURE.

INDICATES TYPICAL HEADER IN WALL BELOW - SEE 1/S4.01.

1. VERTICAL REINFORCEMENT SHOWN IS ADDITIONAL IF NORMAL STEM WALL REINFORCEMENT IS NOT IN PROPER LOCATION. 2. CORNER REINFORCEMENT IS SAME SIZE AND SPACING AS HORIZONTAL REINFORCEMENT. 3. STANDARD HOOK MAY BE SUBSTITUTED FOR CORNER REINFORCEMENT - SEE NOTE #5. 4. REINFORCEMENT AT ALL CORNERS, ENDS, AND INTERSECTIONS OF WALLS SHALL BE PLACED IN ACCORDANCE WITH APPROPRIATE DETAIL SHOWN. 5. USE STANDARD HOOK FOR EMBEDMENT LESS THAN 24" PAST FACE OF WALL.

S3.02

<u>NOTE</u>:

FC INDICATES A35 OR A34 AT 2x4 WALLS.

S4.01 NO SCALE

DOUBLE TOP PLATE REINFORCEMENT NOTES:

- 1. BORING, CUTTING, AND NOTCHING WALL FRAMING OTHER THAN INDICATED HERE REQUIRES PRIOR APPROVAL FROM ENGINEER OF RECORD.
- 2. BORING, CUTTING, AND NOTCHING WITHIN THE MIDDLE 1/3 OF THE STUD HEIGHT IS NOT ALLOWED WITHOUT PRIOR APPROVAL FROM ENGINEER OF RECORD.
- 3. NOTCHING AS INDICATED IS PERMITTED ON ONE FACE OF THE
- WALL ALONE. 4. MAXIMUM BORED HOLE DIAMETER IN STUD "D" MAXIMUM. LIMITED TO
- 25%. "W" AT BUILT-UP STUDS AND
- HOLDOWN ANCHORED STUDS.

DETAIL

3 \

S4.01 NO SCALE

ALLOWABLE LOAD BEARING/SHEARWALL STUD BORING, CUTTING, AND NOTCHING

TYPICAL REINFORCING AT WALL DOUBLE TOP PLATE PENETRATIONS

S4.01 NO SCALE

H6 - TYP

(2) 2x (6'-Ø" TO 1Ø'-Ø") BLK'G AT HORIZ. JT'S IN WOOD SHEATHED WALLS - FLR SHT'G - I-JST BLK'G OR SOLID RIM - BOT. PL

IN JST CAVITY & ABOVE HDR

- I-JST FLR FRM'G

(1) 2x (LESS THAN 6'-0")

(2) 2x (6'-Ø" TO 1Ø'-Ø")

-(4) 16d - TYP.

ADDED STUD BLK'G BELOW BRG STUDS

DROPPED HDR U.N.O. - PROVIDE (2)

- INDICATES NUMBER OF BRG STUDS

(1) STUD MIN. U.N.O. ON PLANS

& AT ALL 4x & 6x POSTS

- PRE-MANUFACTURED ROOF TRUSSES 2x FULL HT BLK'G - PROVIDE VENTILATION

- (1) 2x (LESS THAN 6'-Ø")

SECTION

54.01 NO SCALE

5 DETAIL

54.02 NO SCALE

S4.02 NO SCALE

HOLDOWN SCHEDULE

FOUNDATION ANCHOR ROD TYPE 1								
MARK		1A	NCHOR ROD ²	REQUIRED STUDS	REFERENCED DETAILS			
	HOLDOWN	DIAMETER	REINFORCEMENT					
2	HDU2	5/8"	(2) #4	(2) 2x	4/54.02 \$ 6/54.02			
4	HDU4	5/8"	(2) #4	(2) 2x	4/54.02 \$ 6/54.02			
5	HDU5	5/8"	(2) #4	(2) 2x	4/54.02 & 6/54.02			
8	HDU8	7/8"	(2) #4	(3) 2x	4/54.02 & 6/54.02			
<11	HDU11	1"	(2) #4	6x	4/54.02 & 6/54.02			
(14)	HDU14	1"	(4) #4	6x	4/54.02 & 6/54.02			

FLOOR TO FLOOR STRAP 1					
MARK	COILED STRAP CUT TO LENGTH	NAILING	OPTIONAL STRAP	REQUIRED STUDS	REFERENCED DETAILS
<37	CMST12x37"	16d @ 1¾"	MST37	(2) 2x	5/54.02
<u> </u>	CMST12x48"	16d @ 1¾"	MST48	(2) 2x	5/54.02
60	CMST12x60"	16d @ 1¾"	MST6Ø	(2) 2x	5/54.02
<72	CMST12x72"	16d @ 1¾"	MST72	(2) 2x	5/54.02
<u><84</u>	CMST12x84"	16d @ 1¾"	-	(2) 2x	5/54.02
<96	CMST12x96"	16d @ 1¾"	-	(2) 2x	5/54.02

NOTES:

1. ALL HOLDOWNS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

2. ALL-THREAD ROD ASTM A36 WITH 3"x3"x3/8" PLATE WITH

DOUBLE NUTS AT FOUNDATION.

SCHEDULE 3 S4.02 NO SCALE

TYPICAL STRINGER TO LOWER LANDING 1 SECTION 54.03 NO SCALE

TYPICAL STRINGER CONNECTION TO FLOOR/LANDING

– PW. FILLER

- SIMPSON HUC26-3

- SIMPSON ACE6

- WOOD COLUMN

TYPICAL TRUSS TO STUD WALL CONNECTION

POST CAP EA. SIDE

 \mathbb{N}

5 SECTION 54.05 NO SCALE

PW. FILLER

³ SECTION

S4.05 NO SCALE

DIAPHRAGM NAILING

RIM NAILS

EDGE NAILING

STUD WALL

TYPICAL I-JOIST BLOCKING PARALLEL TO EXTERIOR WALL

