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	PERMIT SET 09/08/2023
	Х
	Х
	Х
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	Х
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	Х
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	Х
	X
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ND SYMBOLS	Х
	Х
	Х
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	X
	X
	X

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2.02	ELECTRICAL FLOOR PLANS	Х
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**FUSED ELEMENTS 4525 FOREST AVE SE** MERCER ISLAND,WA 98040 PERMIT SET

09/08/2023

# Olson Kundig 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA 206 624 5670 olsonkundig.com

## ABBREVIATIONS

ABBF	REVIATIONS
@ Ø # (E) (N)	AT DIAMETER POUND OR NUMBER EXISTING NEW
AD AFF AGGR AIB ALT ALUM APPROX ARCH	ANCHOR BOLT ABOVE ASPHALT CONCRETE PAVING ACOUSTIAL CEILING TILE ACCESS PANEL AREA DRAIN ABOVE FINISHED FLOOR AGGREGATE AIR INFILTRATION BARRIER ALTERNATE ALUMINIUM APPROXIMATE ARCHITECTURAL ASPHALT AUTOMATIC
BD BITUM BLDG BLKG BM BO BOT BRG BSMT BUR	BOARD BITUMINOUS BUILDING BLOCKING BEAM BOTTOM OF BOTTOM BEARING BASEMENT BUILT UP ROOFING
CAB CB CER CIP CJ CLG CLK CLO CLR CMU CNTR COL CONC CONC CONN CONSTR CONT CONSTR CONT CONSTR CONT CONT CONT CONT CONSTR COT CONT CONT CONT CONT CONT CONT CONT	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 CARPET; CARPETED COLD ROLLED STEEL COUNTERSUNK CENTER CUBIC FEET CERAMIC TILE
DBL DEMO DET DIA DIM DL DN DR DR OR OPNG DS DSP DT DW DWG	DOUBLE DEMOLITION DETAIL DIAMETER DIMENSION DEAD LOAD DOWN DOOR DOOR OPENING DOWNSPOUT DRY STANDPIPE DRAIN TILE DISHWASHER DRAWING
E EA EJ EL ELEC ELEV ENCL EQ EQUIP EST EF EXIST EXP EXP BT EXP0 EXT EXP EXT EW	EAST EACH EXPANSION JOINT ELEVATION ELECTRICAL ELEVATOR ENCLOSURE EQUAL EQUIPMENT ESTIMATE EXHAUST FAN EXISTING EXPANDED; EXPANSION EXPANSION BOLT EXPOSED EXTERIOR EACH WAY
FA FB FD FE FEC FF EL FH FHC FIN FLR FLASH FLASH FLR FLUOR FOC FOF FOIC FOF FOIC FOM FOS FP FPL FR FT FTG FURR FUT	FIRE ALARM FLAT BAR FLOOR DRAIN FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FIRE EXTINGUISHER CABINET FINISH FLOOR ELEVATION FIRE HYDRANT FIRE HOSE CABINET FINISH FLOOR FINISH TO FINISH FLASHING FLOOR; FLOORING FLOOR; FLOORING FLOOR; FLOORING FLOOR; FLOORING FLOORSCENT FACE OF CONCRETE FACE OF FINISH FURNISHED BY OWNER-INSTALLED BY CONTRACTOR FACE OF MASONRY FACE OF STUDS FIREPROOF FIREPLACE FRAME FOOT OR FEET FOOTING FURRING FUTURE
FW GA GALV GC	FULL WIDTH GAUGE GALVANIZED GENERAL CONTRACTOR

BBF	REVIATIONS
- _AM R WB {P	GLASS GLUE-LAMINATED GRADE GYPSUM WALL BOARD GYPSUM
DR DWD DW M DRIZ DRIZ R R	HOSE BIB HOLLOW CORE HIGH DENSITY OVERLAY HEADER HARDWOOD HARDWARE HOLLOW METAL HORIZONTAL HIGH POINT HOUR HOUR HEIGHT HEATING/VENTILATING/AIR CONDITIONING HOT WATER HOT WATER TANK
CL SUL T V	INSIDE DIAMETER INCH INCLUDED INSULATION INTERIOR INVERT
	JUNCTION BOX JOINT FILLER JOINT
Т )	KITCHEN KNOCKOUT
	LAMINATE; LAMINATED LAVATORY POUNDS LINEAR FEET (FOOT) LEFT HAND LIVE LOAD LOCATION LOW POINT LIGHT
	MASONRY MATERIAL MAXIMUM MACHINE BOLT MEDICINE CABINET MEDIUM DENSITY FIBERBOARD MEDIUM DENSITY OVERLAY MECHANICAL MEMBRANE MAZZANINE MANUFACTURER MINIMUM MIRROR MISCELLANEOUS MASONRY OPENING MOUNTED METAL MULLION
A D DM R TS C	NORTH NOT APPLICABLE NUMBER NOMINAL NOISE REDUCTION NOT TO SCALE NOT IN CONTRACT
A C D 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 F F F F F AM AS AM AS AWD AL AT R CST SF SI T N C	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 EF EFR EG EINF EM EQ ESIL EV H M D NL	RISER RETURN AIR RADIUS ROOF DRAIN REFERENCE REFRIGERATOR REGISTER REINFORCED REMAINDER REQUIRED RESILIENT REVISION(S); REVISED RIGHT HAND ROOM ROUGH OPENING RAIN WATER LEADER

SOUTH

SAF SELF-ADHERED FLASHING

SAM SELF-ADHERED MEMBRANE

RWL

S

WSCT

WTR

WT

WAINSCOT

WSG WIRE SAFETY GLASS

WWF WELDED WIRE FABRIC

WWM WELDED WIRE MESH

WATER

WEIGHT

ABB	REVIATIONS	GENERAL SYN
	SOLID CORE	•==•
SCHED	SCHEDULE	1. GRID LINE REFERENCE
	SMOKE DETECTOR	1. OND LINE NEI ENENOE
	SECTION	
	SAFETY GLAZING SHELF; SHELVING	
	SHOWER	2. LEVEL / DATUM REFERENCE
	SHEET	
	SHEET METAL	
SHTG	SHEATHING	
	SIMILAR	3. EXTERIOR ELEVATION REI
	SLAB ON GRADE SPECIFICATION	
	SPECIFICATION SQUARE FOOT (FEET)	
SQIN	SQUARE INCH(ES)	
	STAINLESS STEEL	
STD	STANDARD	4. INTERIOR ELEVATION REF
	STEEL	
	STORAGE	
	STRUCTURAL SUSPENDED	
	SYMETRICAL	
0 m		5. BUILDING SECTION REFER
Т	TREAD	
	TONGUE AND GROOVE	
	TELEPHONE	
TG THK	TEMPERED GLASS THICK	6. WALL SECTION REFERENCE
TO	TOP OF	0. WALL SECTION REPERENC
TOB	TO OF BEAM	
TOC	TOP OF CONCRETE; CURB	
TOF	TOP OF FLOOR; FOOTING; FRAME	
TOM	TOP OF MASONRY	7. DETAIL SECTION REFEREN
TOP TOPO	TOP OF PARAPET; PAVEMENT TOPOGRAPHY	7. DETAIL SECTION REPEREI
TOPO	TOP OF SLAB; STEEL	
TOW		
TS	TUBE STEEL	
TSTAT	THERMOSTAT	
TYP	TYPICAL	8. CALLOUT/DETAIL REFEREN
UNO	UNLESS NOTED OTHERWISE	
VB	VINYL BASE	
VEN	VENEER	
VERT	VERTICAL	
	VESTIBULE	
	VERTICAL GRAIN	
VIF VT	VERIFY IN FIELD VINYL TILE	9. REVISION REFERENCE
VI	VINTETILE	
W	WEST	
W/	WITH	
W/O	WITHOUT	
WC	WATER CLOSET	10. ROOM REFERENCE
WD	WOOD	
WDW		
	WIDE FLANGE WIDE FLANGE BEAM	
WF DIVI WG	WIRED GLASS	11. ASSEMBLY REFERENCE
WH	WATER HEATER	
WL	WATER LINE	
WLD	WELDED	12. WINDOW REFERENCE
WP	WATERPROOF	
WPM	WATERPROOF MEMBRANE	
WR WSCT	WATER RESISTANT	

1.	GRID LINE	REFERENCE	

2. LEVEL / DATUM REFERENCE

3. EXTERIOR ELEVATION REFERENCE

4. INTERIOR ELEVATION REFERENCE

5. BUILDING SECTION REFERENCE

6. WALL SECTION REFERENCE

7. DETAIL SECTION REFERENCE

8. CALLOUT/DETAIL REFERENCE

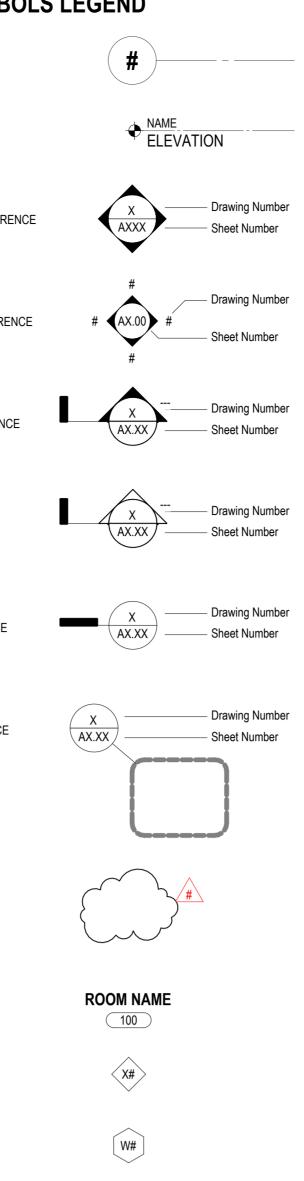
13. DOOR REFERENCE

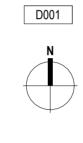
14. NORTH ARROW

## MATERIALS LEGEND

WOOD B (SHIM)
FINISHEI
BATT INS
MINERAI INSULAT
GRAVEL
ALUMINU

## GENERAL SYMBOLS LEGEND





WOOD BLOCKING (SHIM)	WOOD FRAMING (CONTINUOUS)
FINISHED WOOD	PLYWOOD
BATT INSULATION	RIGID INSULATION
MINERAL WOOL INSULATION	FOAM INSULATION
GRAVEL	EARTH
ALUMINUM	STEEL
MASONRY (CMU)	BRICK

## **BUILDING CODE / ZONING SUMMARY** PROJECT ADDRESS:

ASSESOR'S PARCEL NUMBER: LEGAL DESCRIPTION:

PROJECT NARRATIVE

APPLICABLE CODES:

PHYSICAL ADDRESS:

BUILDING:

LOT SIZE:

DENSITY:

HEIGHT:

YARD SETBACKS:

PROPOSED:

LOT COVERAGE:

LOT COVERAGE PROPOSED:

IMPERVIOUS AREA:

FIRE CODE ALTERNATIVE PROTECTIONS:

ELECTRONIC MAIL:

LAND USE DESIGNATION:

PROJECT DESCRIPTION:

4525 FOREST AVE SE MERCER ISLAND, WA 98040 770010-0205

THE SOUTH 30 FEET OF LOT 38, ALL OF LOTS 39 AND 40, SEWARD ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 24 OF PLATS, PAGE 26, RECORDS OF KING COUNTY, WASHINGTON; TOGETHER WITH TIDELANDS OF THE SECOND CLASS ADJOINING. TOGETHER WITH THAT PORTION OF LOT 37 AND LOT 38 LYING SOUTHERLY OF THE FOLLOWING DESCRIBED

BEGINNING AT A POINT OF THE EAST LINE OF THE SOUTH 30 FEET OF LOT 38 OF SEWARD ADDITION, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 24 OF PLATS, PAGE 26, IN KING COUNTY, WASHINGTON; EXEPT THE EAST 136 FEET OF SAID PREMISSES MEASURED PARALLEL WITH THE WESTERLY LINE OF 80TH AVE SOUTH EAST; SAID POINT BEING N 15°45'37"W 18.32 FEET FROM THE SOUTHEAST CORNER THEREOF; THENCE N 88°36'13"W 127.43 FEET; THENCE N 49°02'28"W 38.89 FEET; THENCE S84°19'47"W 72.81 FEET TO SHORELINE AS ESTABLISHED BY THE LOT LINE REVISION AS RECORDED IN AUDITOR'S FILE NO. 20000516900002. TOGETHER WITH SHORE LANDS OF THE SECOND CLASS ADJOINING; SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

PARCEL 7700100205 IS A 1.38-ACRE SITE LOCATED ON LAKE WASHINGTON IN MERCER ISLAND, WASHINGTON. THE WESTERN PORTION OF THE PROPERTY HAS A SHORT SEGMENT ADJACENT TO THE LAKE WITH A WATERCOURSE RUNNING THROUGH THE PROPERTY. THE PROPOSAL CONSISTS OF THE DEMOLITION OF AN EXISTING RESIDENCE AND CONSTRUCTION OF A NEW SINGLE-FAMILY RESIDENCE (8678 SF) ON THE SITE (67673 SF). PROPOSAL INCLUDES LANDSCAPING, DRIVEWAY UPDATES, AND ASSOCIATED UTILITIES.

2018 INTERNATIONAL RESIDENTIAL CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FUEL GAS CODE 2018 UNIFORM PLUMBING CODE 2018 INTERNATIONAL FIRE CODE 2018 INTERNATIONAL SWIMMING POOL AND SPA CODE WASHINGTON STATE ENERGY CODE (WCEC) LAND USE DEVELOPMENT CODE: MERCER ISLAND CITY CODE (MICC) - TITLE 19

AUTHORITY HAVING JURISDICTION: CITY OF MERCER ISLAND 9611 SE 36TH ST MERCER ISLAND, WA 98040

> 206.275.7605 epermit.tech@mercerisland.gov 67,673 SQ FT

1.55 ACRES SINGLE FAMILY R-15

NEW CONSTRUCTION OF SINGLE FAMILY RESIDENCE

ALLOWED: 30 FT PROPOSED: TBD NOT TO EXCEED 30 FT ABOVE THE AVERAGE BUILDING ELEVATION TO HIGHEST POINT OF THE ROOF HEIGHT ON DOWNHILL BUILDING FACADE: 30 FT MEASURED FROM EXISTING OR FINISHED GRADE, WHICHEVER IS LOWER AT FURTHEST DOWNHILL EXTENT OF EXTERIOR WALL SUPPORTING THE ROOF

FROM ORDINARY HIGH WATER MARK (OHWM) SHORELINE SETBACK, ALL STRUCTURES, FENCES AND PARKING: 25'

FRONT: 20 FT REAR: 25 FT SIDE: 30'-1" FT COMBINED, 8'-3" FT MIN SIDE SETBACK

FRAMING

MICC 19.02.020, LOTS WITH A WIDTH OF MORE THAN 90 FT, THE SIDE YARD SETBACKS MUST SUM TO 17% OF THE LOT WIDTH; PROVIDED THAT NO SIDE YARD SHALL BE LESS THAN 33% OF THE REQUIRED SIDE YARD WIDTH. LOT WIDTH CIRCLE 177'-3"

17 % OF 177'-3" LOT WIDTH = 30'-1" COMBINED SIDE SETBACK (MICC 19.02.020). MIN REQUIRED 5' OR 33% OF THE AGGREGATE SIDE YARD TOTAL, WHICHEVER IS GREATER. 30'-3" - 5' x 33% = 8'-3" FT MIN SIDE SETBACK. WATERCOURSE SETBACK, PIPED: 45'

WATERCOURSE SETBACK, OPEN: 60' WATERCOURSE BUFFER, AT OPEN: 15'

ENERGY CODE COMPLIANCE: VERTICAL GLAZING: 0.30 U-FACTOR SKYLIGHT: 0.50 U-FACTOR CEILING: R-49 FLOOR: R-30

WALL ABOVE GRADE: R-21 WALL BELOW GRADE: R-10 CONT ON EXT OF WALL OR R-15 CONT ON INT SIDE OF WALL OR R-21 CAVITY PLUS R-5 THERMAL BREAK BETWEEN SLAB AND BASEMENT WALL AT INT WALL SLAB ON GRADE: R-10, 2 FT ALLOWABLE SQUARE FOOTAGE: 12,000 SF OR 40% OF LOT AREA WHICHEVER IS LESS

> (67,673 SF LOT x 40% = 27,069 SF) SEE ZONING SHEETS A0.50

MAXIMUM LOT COVERAGE: 35% (HOUSE, DRIVING SURFACES AND ACCESSORY BUILDINGS) FOR LOT SLOT FROM 15% TO LESS THAN 30% (SITE 27% SLOPE)

MAX 9% OF NET LOT AREA MAY CONSIST OF HARDSCAPE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO WALKWAYS, DECKS, ETC REQUIRED LANDSCAPE COVERAGE: 65%

SEE SHEET A0.50 MAX IMPERVIOUS AREA BETWEEN

25' AND 50' OHWM (MICC 19.13.050): 30% MAX IMPERVIOUS AREA BETWEEN

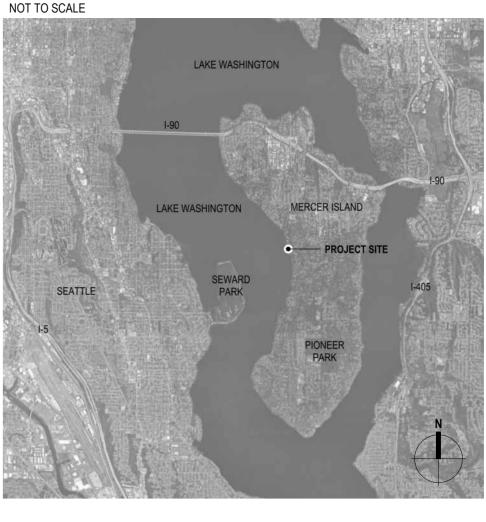
0' AND 50' OHWM (MICC 19.13.050): 10% IMPERVIOUS AREA PROPOSED: SEE SHEET A0.50

- 1. NARROWEST PART OF THE EXISTING ACCESS ROAD (8.26 FT) IS REPLACED IWTH A NEW CONCRETE 14 FOOT DRIVE; THE
- NARROWEST PART OF THE REMAINING EXISTING DRIVE IS 10.5 FT. 2. UPGRADED SPRINKLER SYSTEM NFPA 13R - PLUS.

3. INSTALLATION OF HOUSEHOLD FIRE ALARM SYSTEM PER NFPA 72 CHAPTER 29. 4. FIRE RETARDANT COATING TREATMENT IN THE CRAWLSPACE.

5. INSTALL 1-HR RATED GYPSUM IN ALL INTERIOR SPACES.
 6. SOLID CORE DOORS AT ALL INTERIOR LOCATIONS.

## VICINITY MAP



## LOCATION MAP NOT TO SCALE



## **GENERAL NOTES**

1. FEILD VERIFY ALL ROUGH OPENINGS BEFORE ORDERING DOORS 2. EXTERIOR DOOR SIZE ARE DOOR PANEL SIZES U.N.O 3. EXTERIOR DOOR SIZE ARE DOOR PANEL SIZES U.N.O 4. REFER TO DETAILS FOR JAMB AND HEAD INFORMAATION

- 5. ALL DOORS TO BE SOLID CORE
- ELEVATIONS FOR SIZES

6. EXTERIOR SLIDING GLASS DOORS ARE SHOWN ON THE WINDOW SCHEDULE 7. ALL SAFETY GLASS SHOWER DOORS EXCLUDED FROM SCHEDULE SEE INTERIOR

## **PROJECT DIRECTORY**

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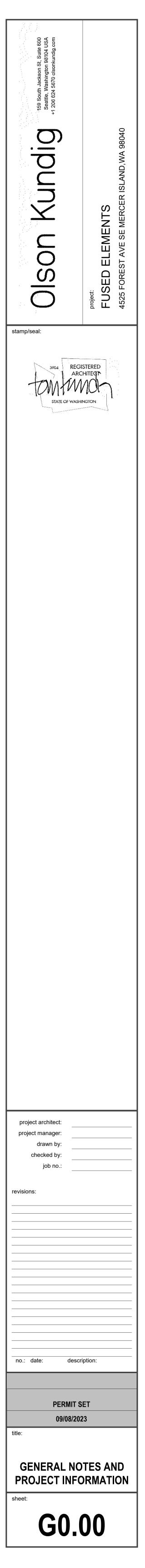
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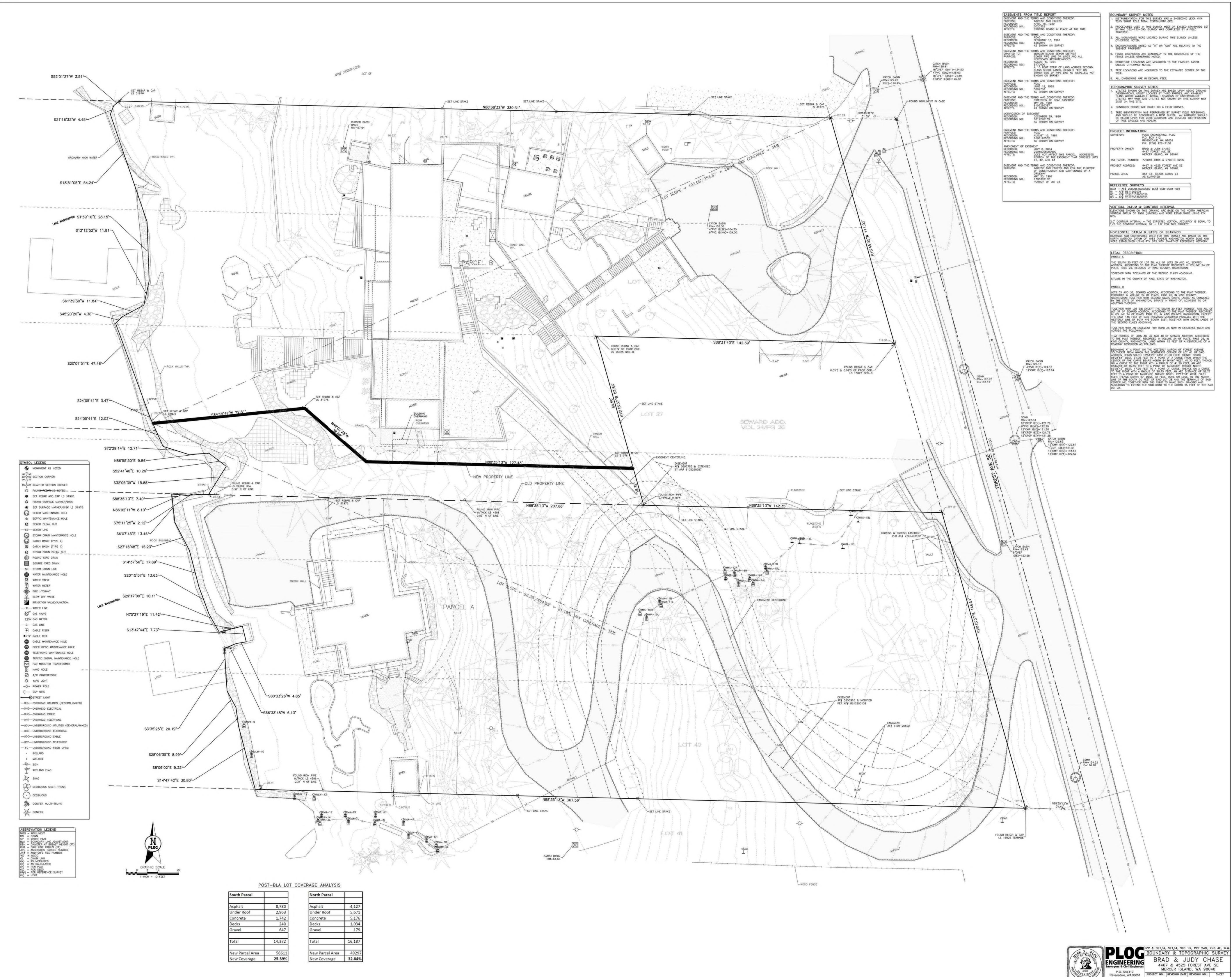
LIGHTING NITEO 1932 1ST AVENUE, SUITE 605 SEATTLE. WA 98101 PHONE: 650.291.5437 CONTACT: JASON EDLING EMAIL: jason@niteolighting.com

MEP ROBISON ENGINEERING INC. 19401 40TH AVE W SUITE 302 LYNNWOOD, WA 98036 PHONE: 206.384.1976 CONTACT: JON ROBISON EMAIL: jrobison@robisonengineering.com

ENVIRONMENTAL WET.LAND 8201 164TH AVE NORTHEAST, SUITE 200, PMB 141 REDMOND, WA PHONE: 206.309.8100 CONTACT: JENNIFER MARRIOTT

EMAIL: jen@wet.land

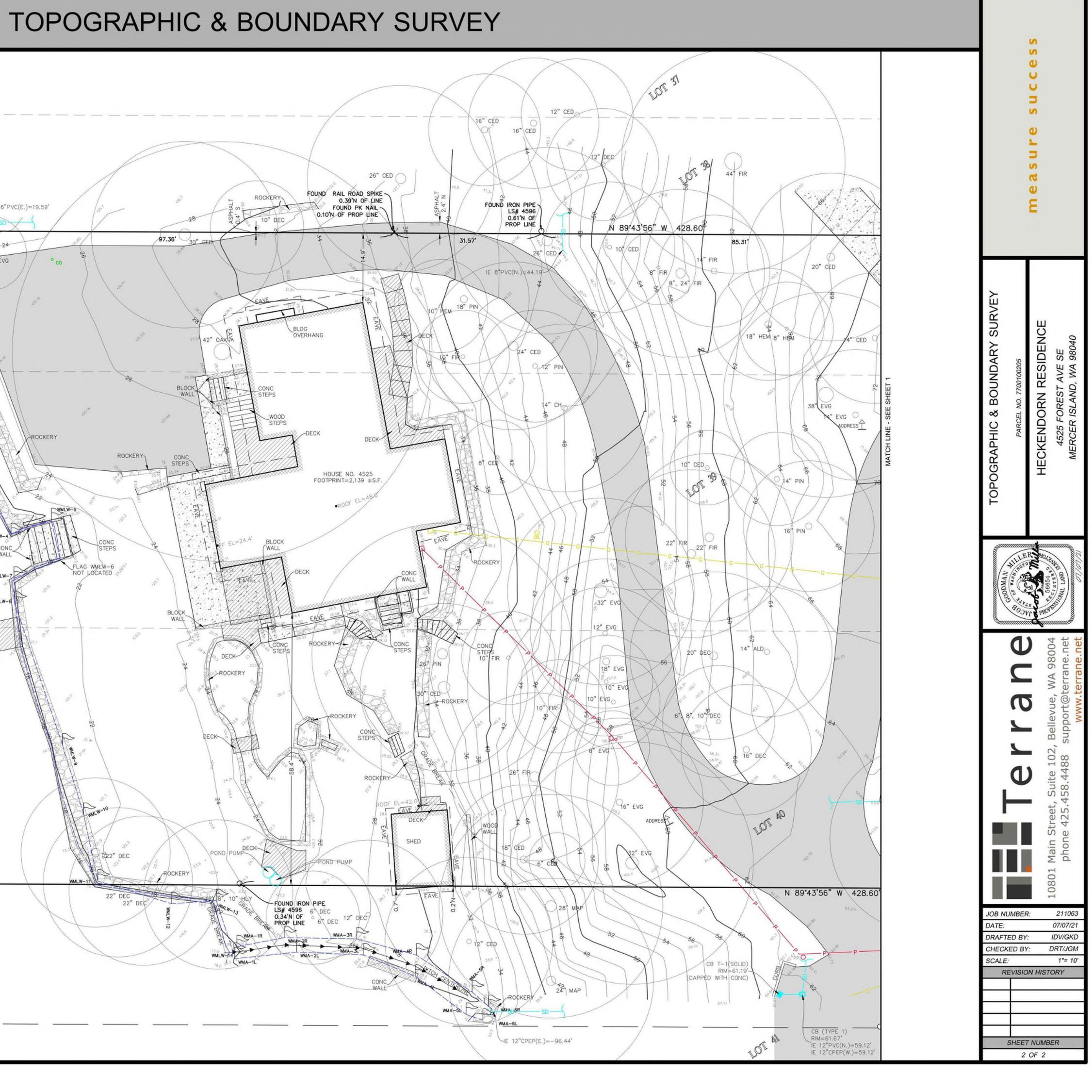




(206) 420-7130

North Parcel	
Asphalt	4,12
Under Roof	5,67
Concrete	5,17
Decks	1,03
Gravel	17
Total	16,18
New Parcel Area	4929
New Coverage	32.84

## LEGEND ASPHALT SURFACE NAIL AS NOTED $\times$ doccoccocco Building OIL O OIL FILL CAP ----- CENTERLINE ROW PD POWER METER CO • CLEANOUT ------ POWER (OVERHEAD) \_\_\_\_\_ > CULVERT PIPE PPO POWER POLE CONCRETE SURFACE REBAR & CAP (SET) To The ROCKERY DECK SEWER MANHOLE SIGN (AS NOTED) H> STORM MANHOLE FOUND REBAR 1.28'S OF PROP LINE SET PK NAIL W/ WASHER LS# 56654 GAS LINE G GAS METER TREE (AS NOTED) SIZE TYPE ( ) & HE 6"PVC(E.)=19.59' WATER LINE > GUY ANCHOR WM C WATER METER INLET (TYPE 1) MONUMENT IN CASE (FOUND) WETLAND FLAG 85 REBAR/IRON PIPE AS NOTED (FOUND) 0 WMLW-2 INDEXING INFORMATION \_\_\_\_\_ ORDINARY HIGHW WATER MARK OF LAKE WASHINGTON IS AT THE 18.6' CONTOUR PER MICC 19.16.010 ROCKERY-( IN FEET ) 1 INCH = 10 FT. WMLW-WMLW-7 WMLW-8 \_\_\_\_\_



	SECTION CORNER
( )	QUARTER SECTION CORNER
$\bigcirc$	FOUND REBAR AS NOTED
	SET REBAR AND CAP LS 31976
	FOUND SURFACE MARKER/DISK SET SURFACE MARKER/DISK LS 31976
	SEWER MAINTENANCE HOLE
S	SEPTIC MAINTENANCE HOLE
$\bigcirc$	SEWER CLEAN OUT
-SS	SEWER LINE
$\bigcirc$	STORM DRAIN MAINTENANCE HOLE
	CATCH BASIN (TYPE 2)
	CATCH BASIN (TYPE 1)
$\bigcirc$	STORM DRAIN CLEAN OUT
	ROUND YARD DRAIN
	SQUARE YARD DRAIN
-sd	STORM DRAIN LINE
WMH W V	WATER MAINTENANCE HOLE
	WATER VALVE
FH FH	WATER METER
FH	FIRE HYDRANT BLOW OFF VALVE
	IRRIGATION VALVE/JUNCTION
– W –––	-WATER LINE
GV	GAS VALVE
GM	GAS METER
	-GAS LINE
	CABLE RISER
CTV	CABLE BOX
CTV	CABLE MAINTENANCE HOLE
FMH	FIBER OPTIC MAINTENANCE HOLE
	TELEPHONE MAINTENANCE HOLE
	TRAFFIC SIGNAL MAINTENANCE HOLE
PMT	PAD MOUNTED TRANSFORMER
	HAND HOLE
	A/C COMPRESSOR
I	YARD LIGHT POWER POLE
	GUY WIRE
	-STREET LIGHT
I	-OVERHEAD UTILITIES (GENERAL/MIXED)
	OVERHEAD ELECTRICAL
)HC—	-OVERHEAD CABLE
ЭНТ—	OVERHEAD TELEPHONE
UGU—	UNDERGROUND UTILITIES (GENERAL/MIXED)
UGE—	-UNDERGROUND ELECTRICAL
JGC—	-UNDERGROUND CABLE
UGT—	-UNDERGROUND TELEPHONE
F0 —	UNDERGROUND FIBER OPTIC
0	BOLLARD
	MAILBOX
$\leq$	
	WETLAND FLAG
S	SNAG
20	DECIDUOUS MULTI-TRUNK
•	DECIDUOUS
	CONIFER MULTI-TRUNK
M	CONIFER
¥ N	

LEGEND (PROPOSED)

EASEMENT CENTERLINE \_\_\_\_\_ LIMITS OF WORK LIMITS OF SHORING ---- SAWCUT · /· /· /· /· /· /· /· /· /· /· /· DEMOLISH SURFACE FEATURE ----------------------------------STORM DRAIN – – – – – – PERFORATED STORM DRAIN – — FD — — FD — FOOTING DRAIN SANITARY SIDE SEWER \_\_\_\_ WATER LINE \_\_\_\_\_ ELECTRICAL SERVICE -----E ------E ------DISPERSION TRENCH MAJOR CONTOUR MINOR CONTOUR —58——— SHORING WALL CAST IN PLACE RETAINING WALL ROCKERY CAP SEWER CLEANOUT • CHAMBER STORM DRAIN CATCH BASIN AREA DRAIN CLEANOUT • WATER METER . . . . . . . . . . . CONCRETE PAVING . . . . . . . . . . . . . . . . ASPHALT PAVING ASPHALT GRIND & OVERLAY CONCRETE SIDEWALK j· ∢i 0,000 GRAVEL FOOTPATH SEE LANDSCAPE

APN = ASSESSORS PARCEL NUMBER

dlr = drip line radius (ft)

AF# = AUDITOR'S FILE NUMBER

(R#) = PER REFERENCE SURVEY

WD = WOODCL = CHAIN LINK (M) = AS MEASURED (C) = AS CALCULATED

(H) = HELD

(P) = PER PLAT(D) = PER DEED

# FUSED ELEMENTS **4545 FOREST AVENUE SOUTHEAST** MERCER ISLAND, WA 98040

\_\_\_\_\_

\_\_SET\_REBAR & CAP /\_LS\_31976

ORDINARY HIGH WATER

UNE REPRESENTAL

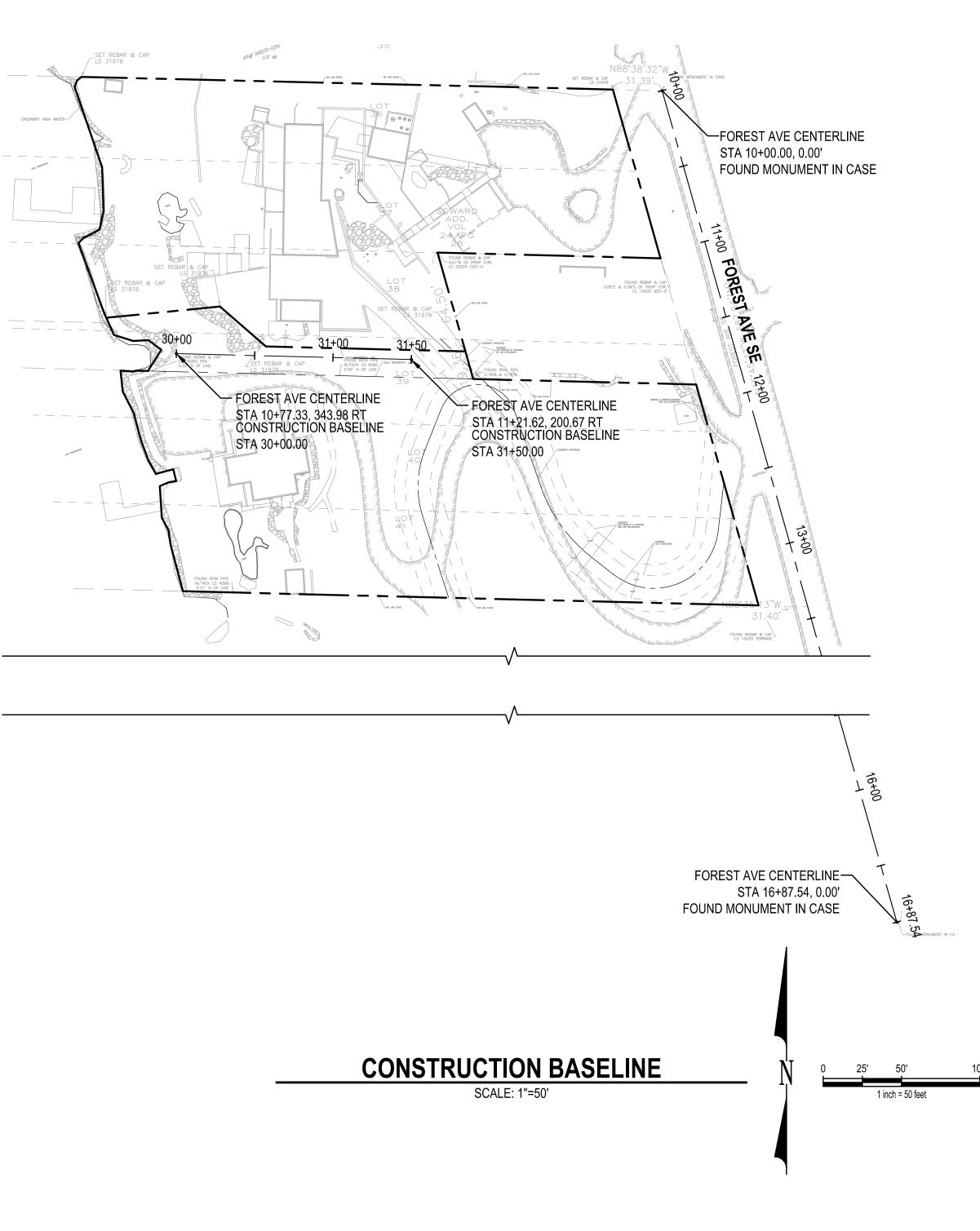
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UNE WOMMERS

30+00

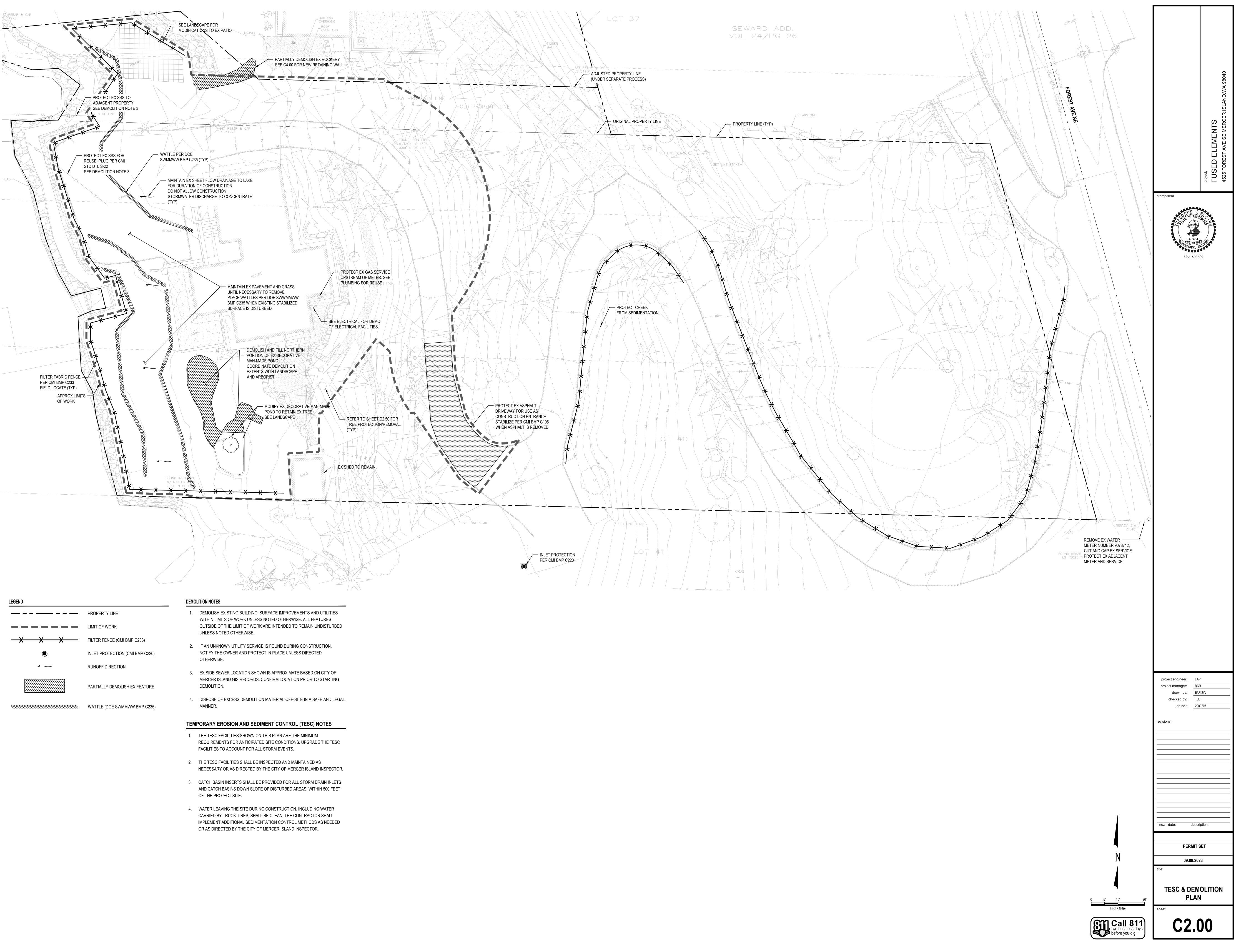
## ABBREVIATIONS (PROPOSED) ARCHITECTURE ARCH BEST MANAGEMENT PRACTICE BMP BOTTOM OF WALL BW CATCH BASIN CB CAST IN PLACE CIP CITY OF MERCER ISLAND CMI CLEANOUT CO CRUSHED SURFACING BASE COURSE CSBC DETAIL DTL DEPARTMENT OF ECOLOGY DOE **ELEVATION** EXISTING ΕX FOOTING DRAIN CLEANOUT FDCO FLOW LINE INVERT ELEVATION MAX MAXIMUM MINIMUM MIN NOT TO SCALE NTS POINT OF CURVATURE PC POINT OF CONNECTION POC POINT OF TANGENCY RIGHT STORM DRAIN SANITARY SIDE SEWER SSS STATION STA STD STANDARD SWMMWW STORM WATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON TOP OF CURB TOP OF WALL ΤW TYPICAL TYP WSDOT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

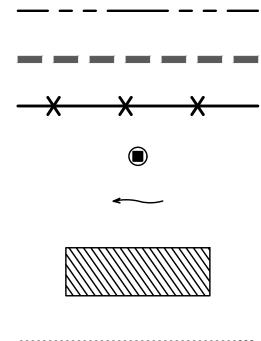
SANITARY SEWER BACKFLOW VALVE

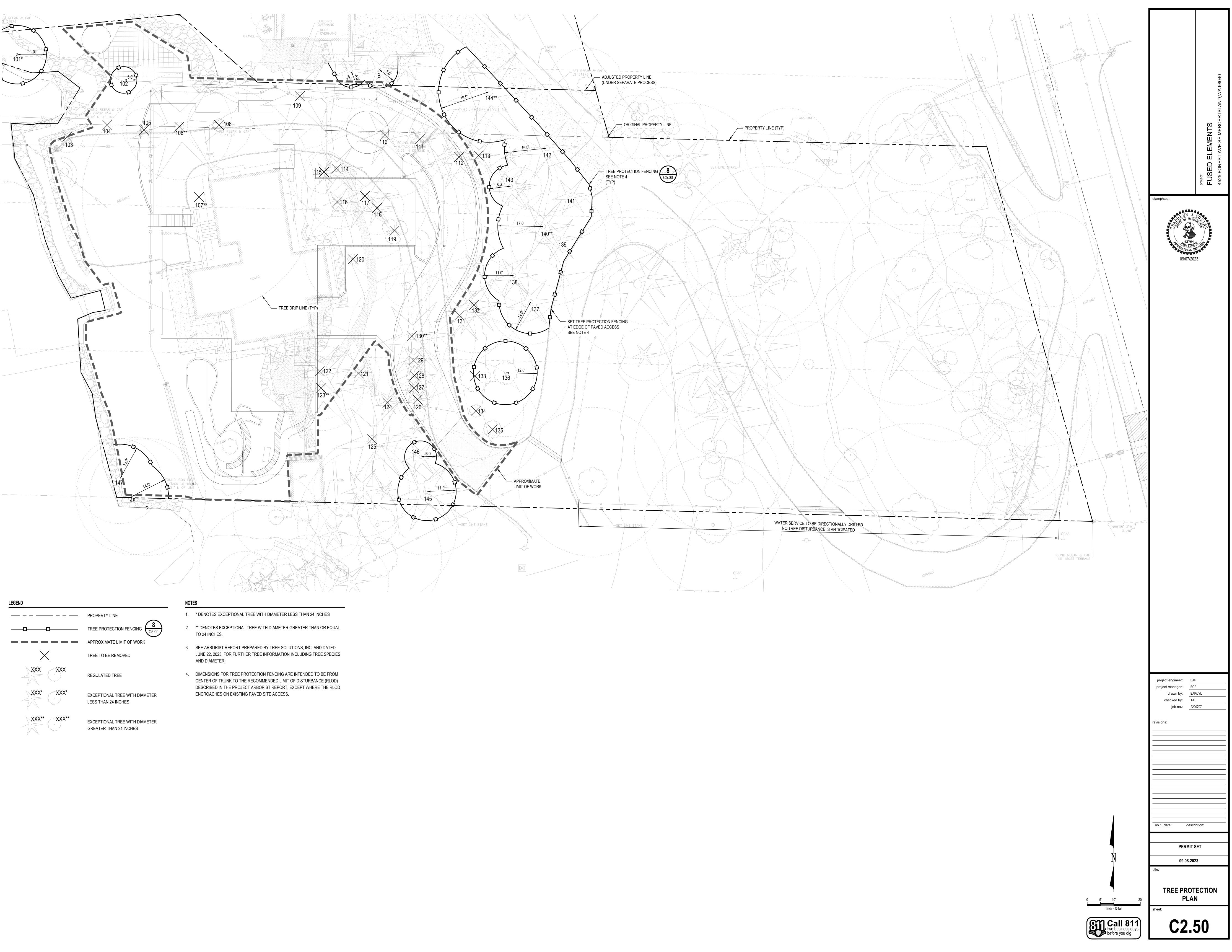


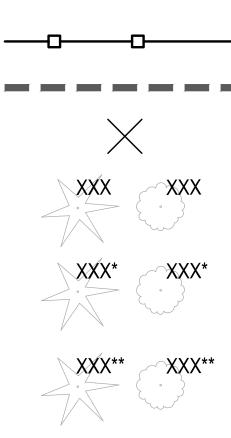
CIVIL	CIVIL SHEET INDEX									
Sheet Number	Sheet Title									
C1.00	CIVIL COVER SHEET									
C2.00	TESC & DEMOLITION PLAN									
C2.50	TREE PROTECTION PLAN									
C3.00	GRADING PLAN									
C4.00	PAVING & UTILITY PLAN									
C4.50	SUBSURFACE DRAINAGE PLAN									
C5.00	CIVIL DETAILS									

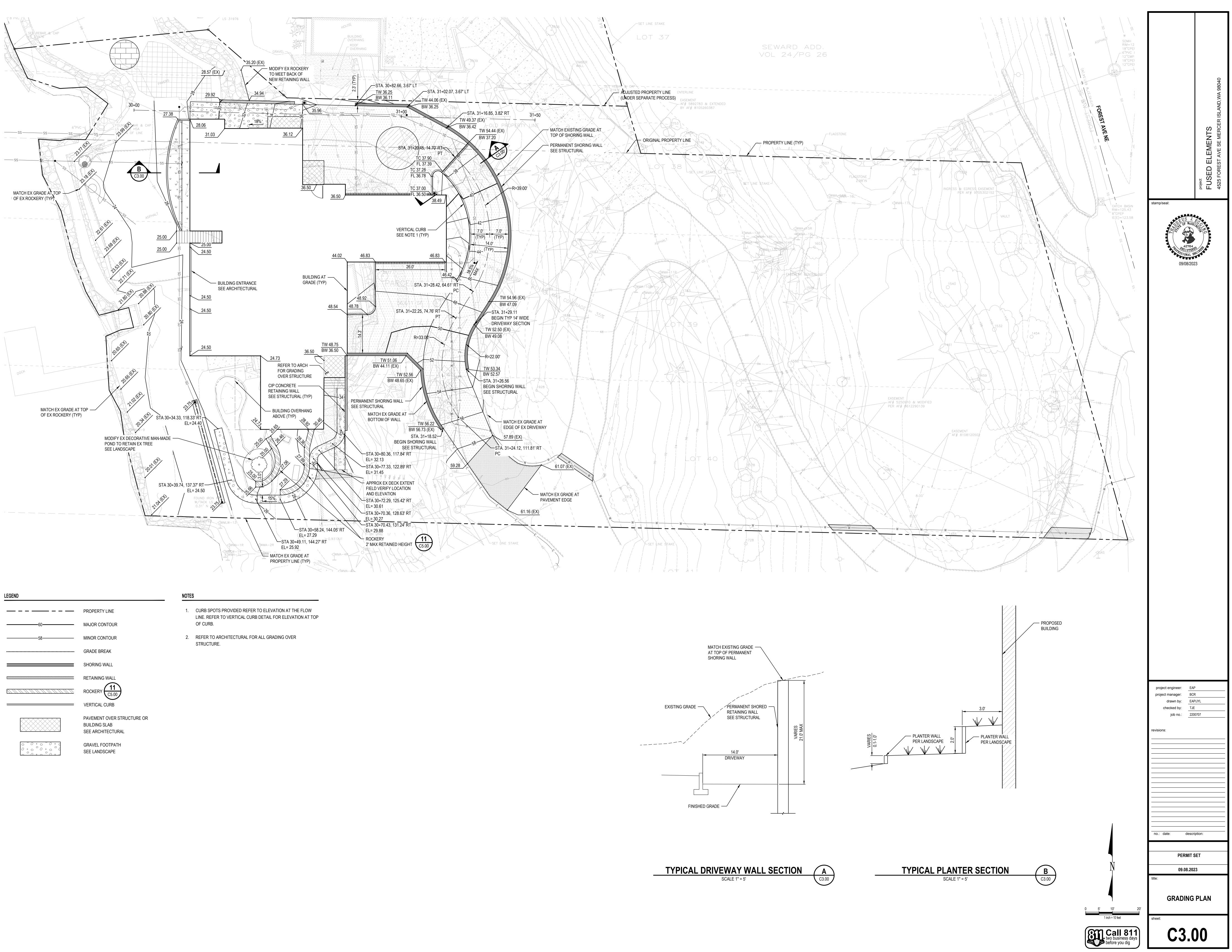
stamp/seal:	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
DEUS J.	C INFE
project engineer: EAP project manager: BCR drawn by: EAP checked by: TJE job no.: 2200 revisions:	/JYL
	ET 3
civil cover	

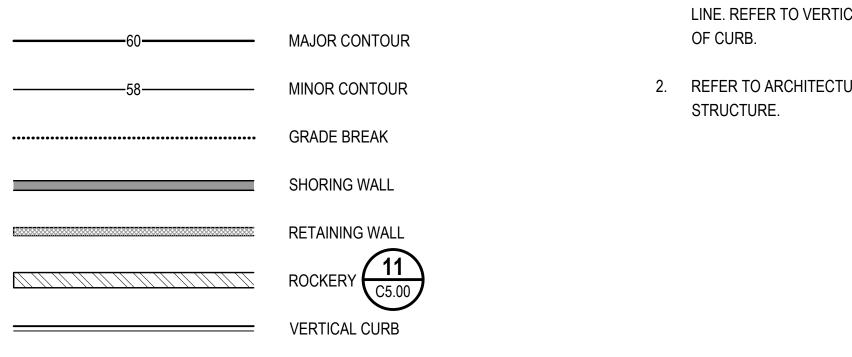




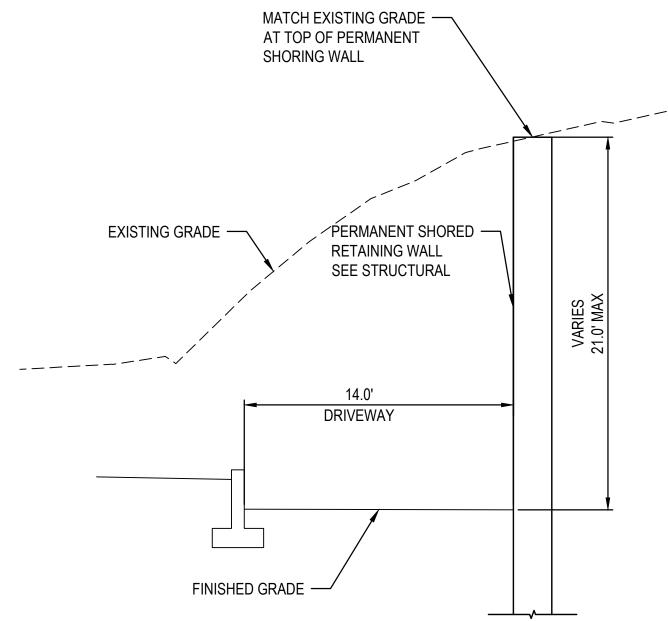


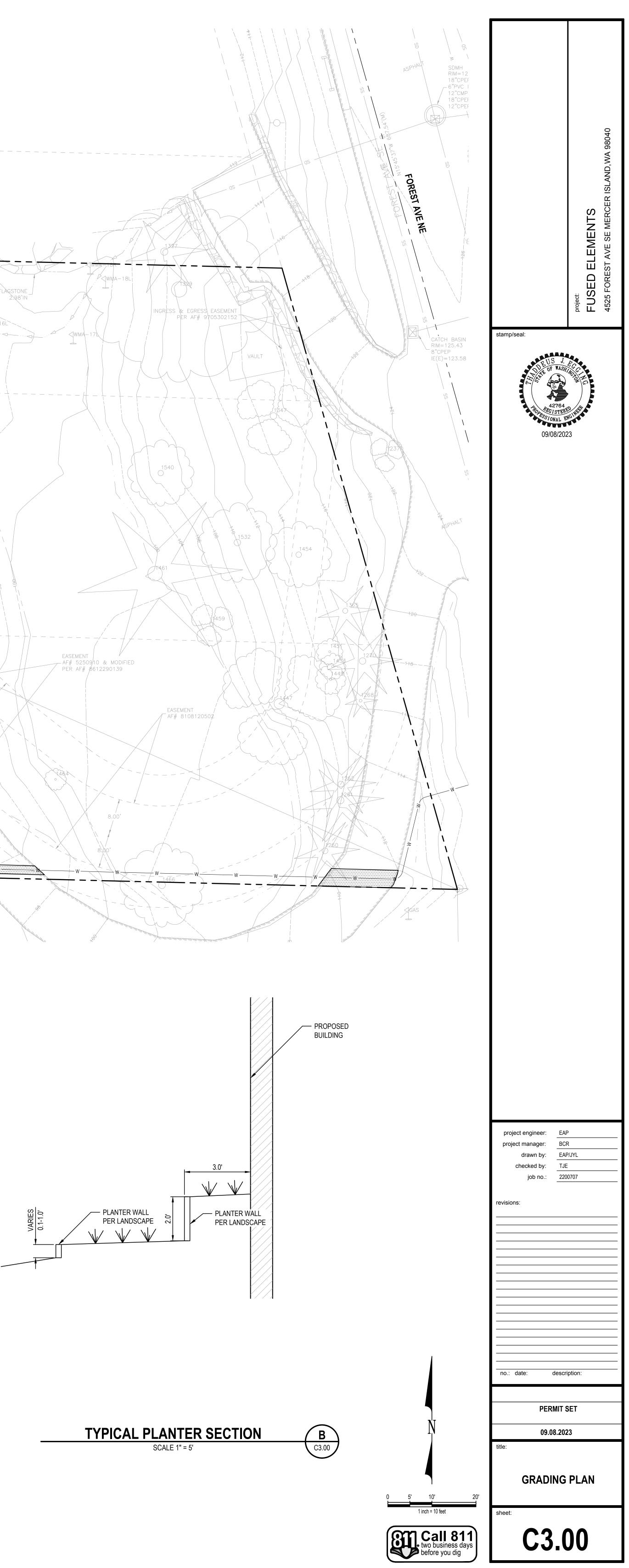


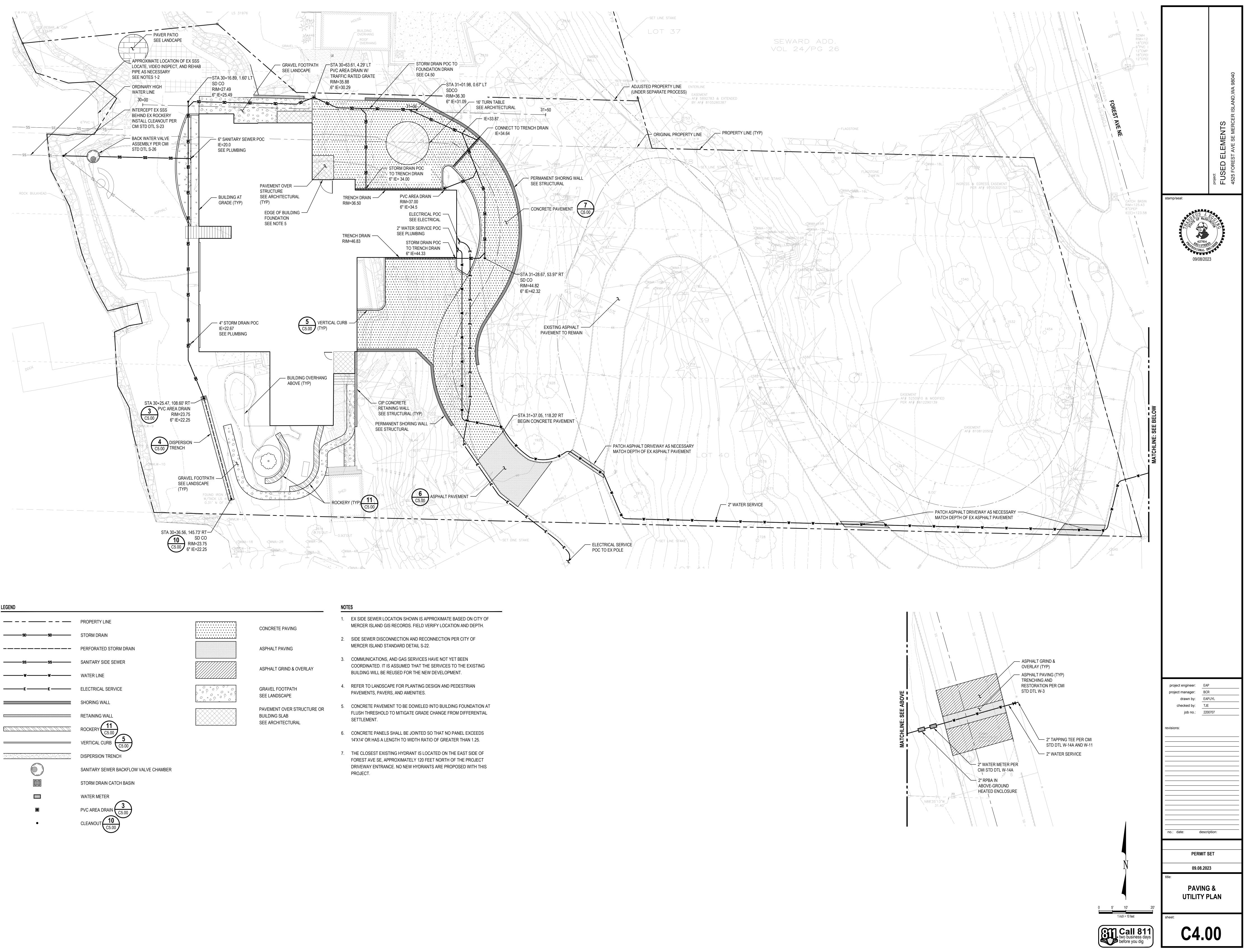




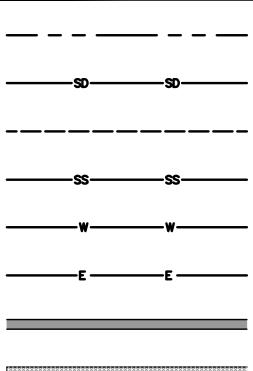




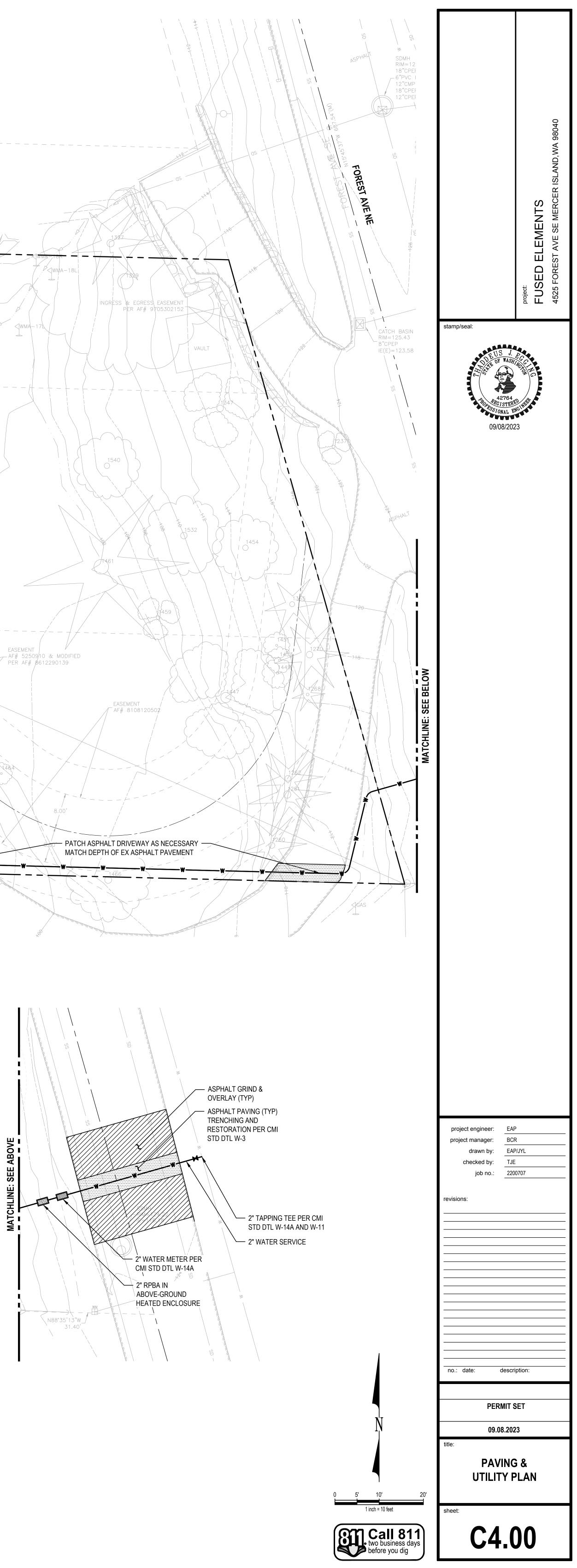


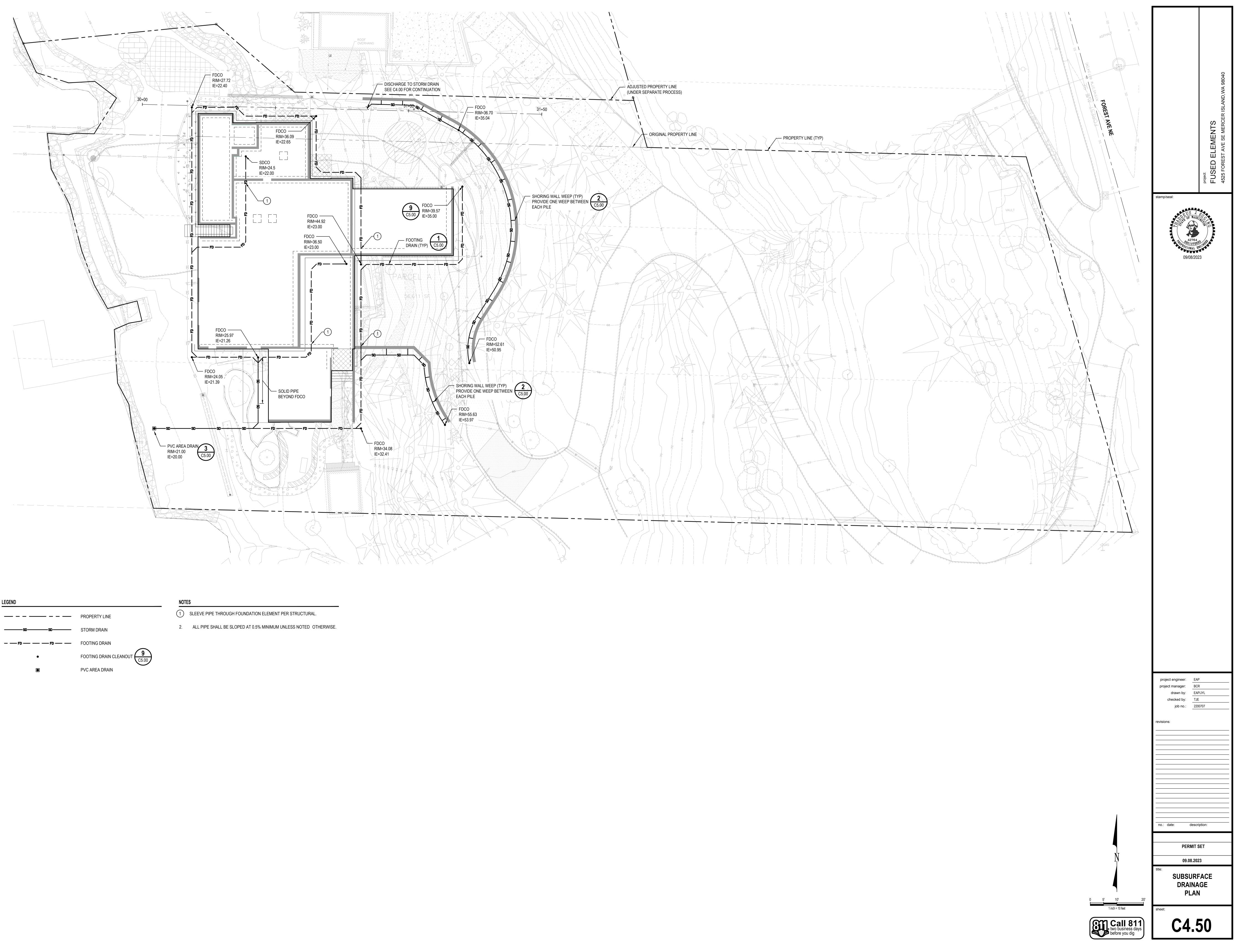


## LEGEND

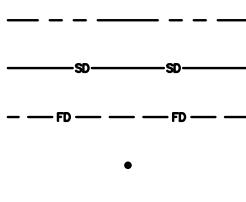


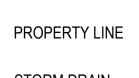












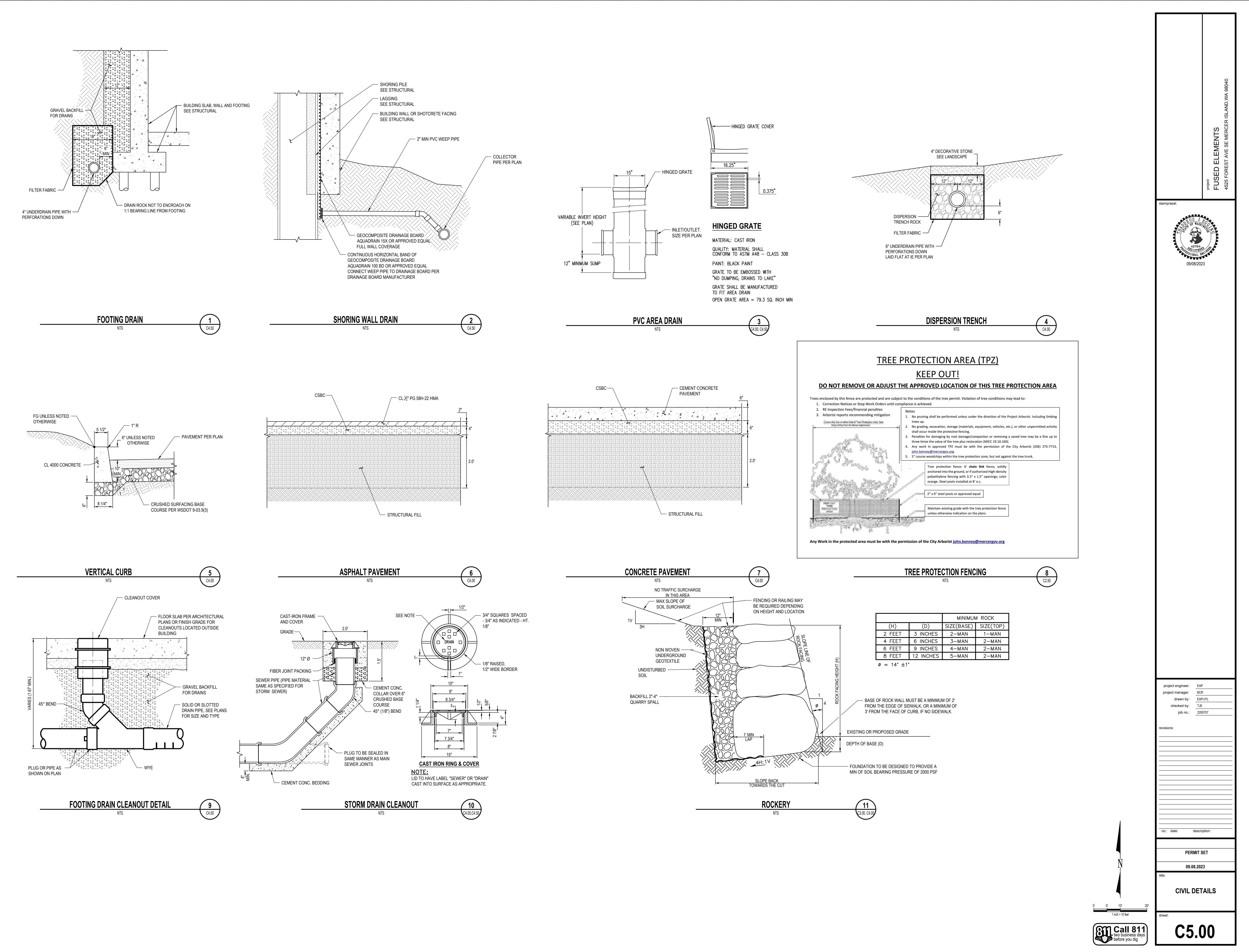
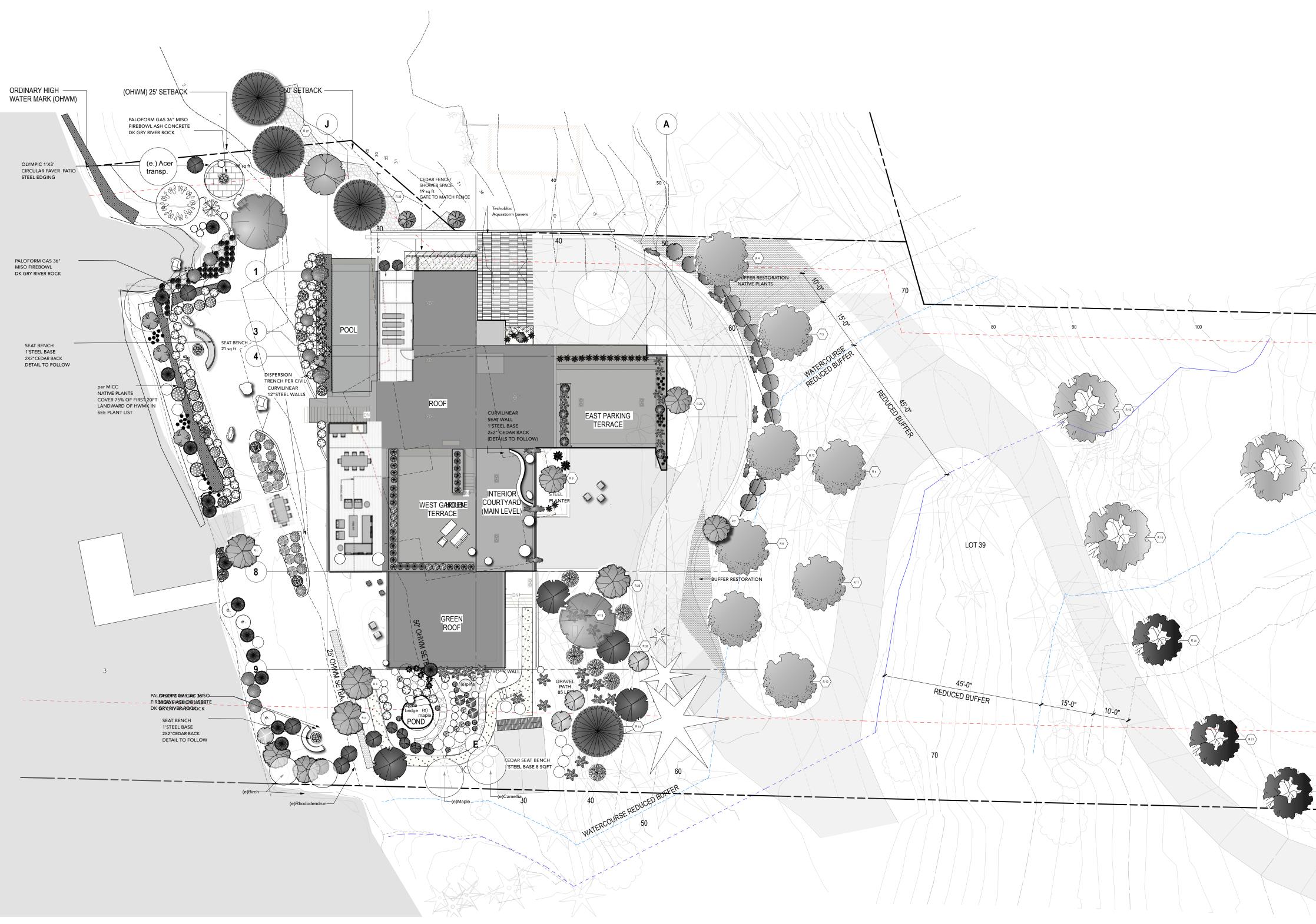
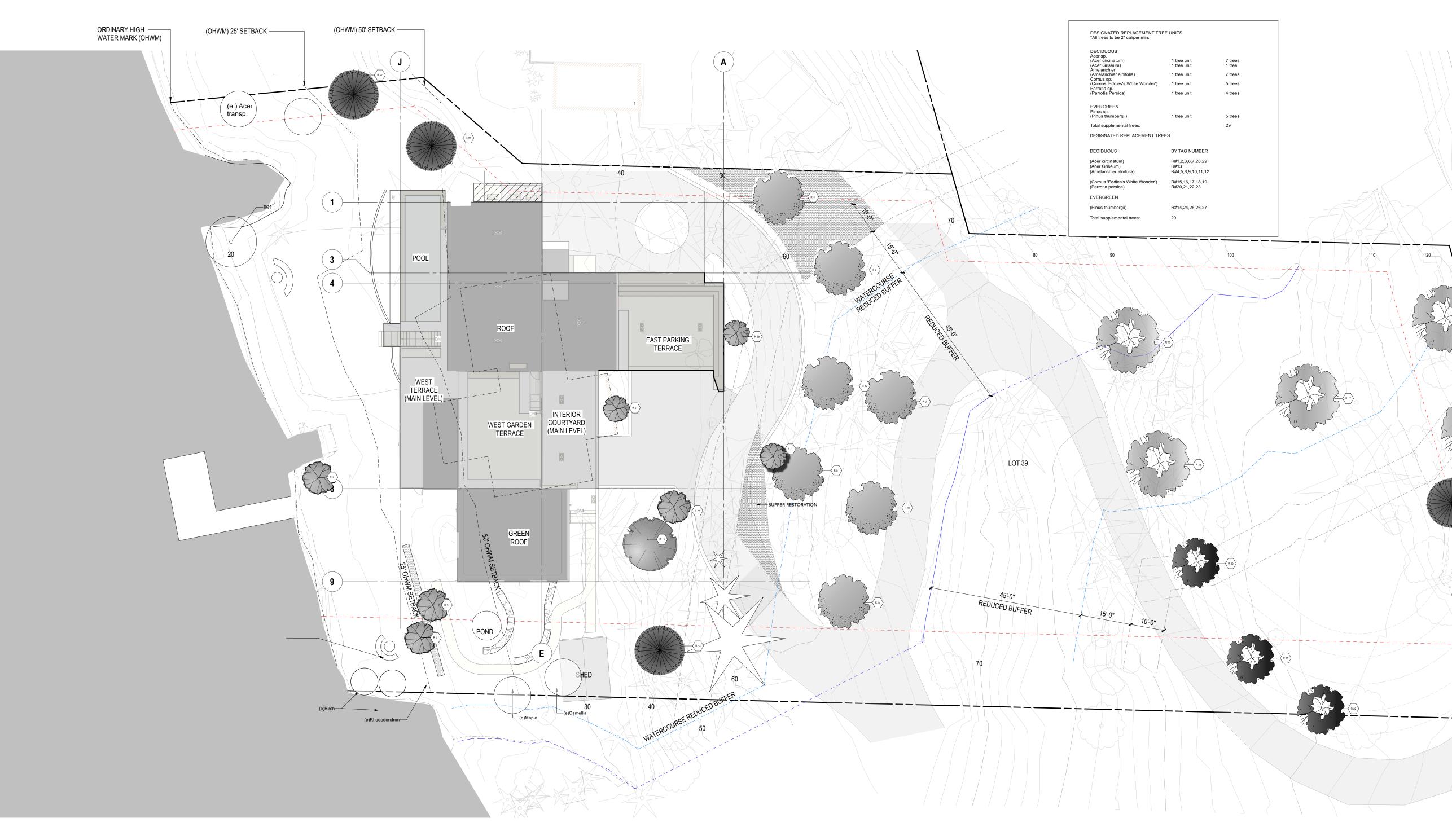


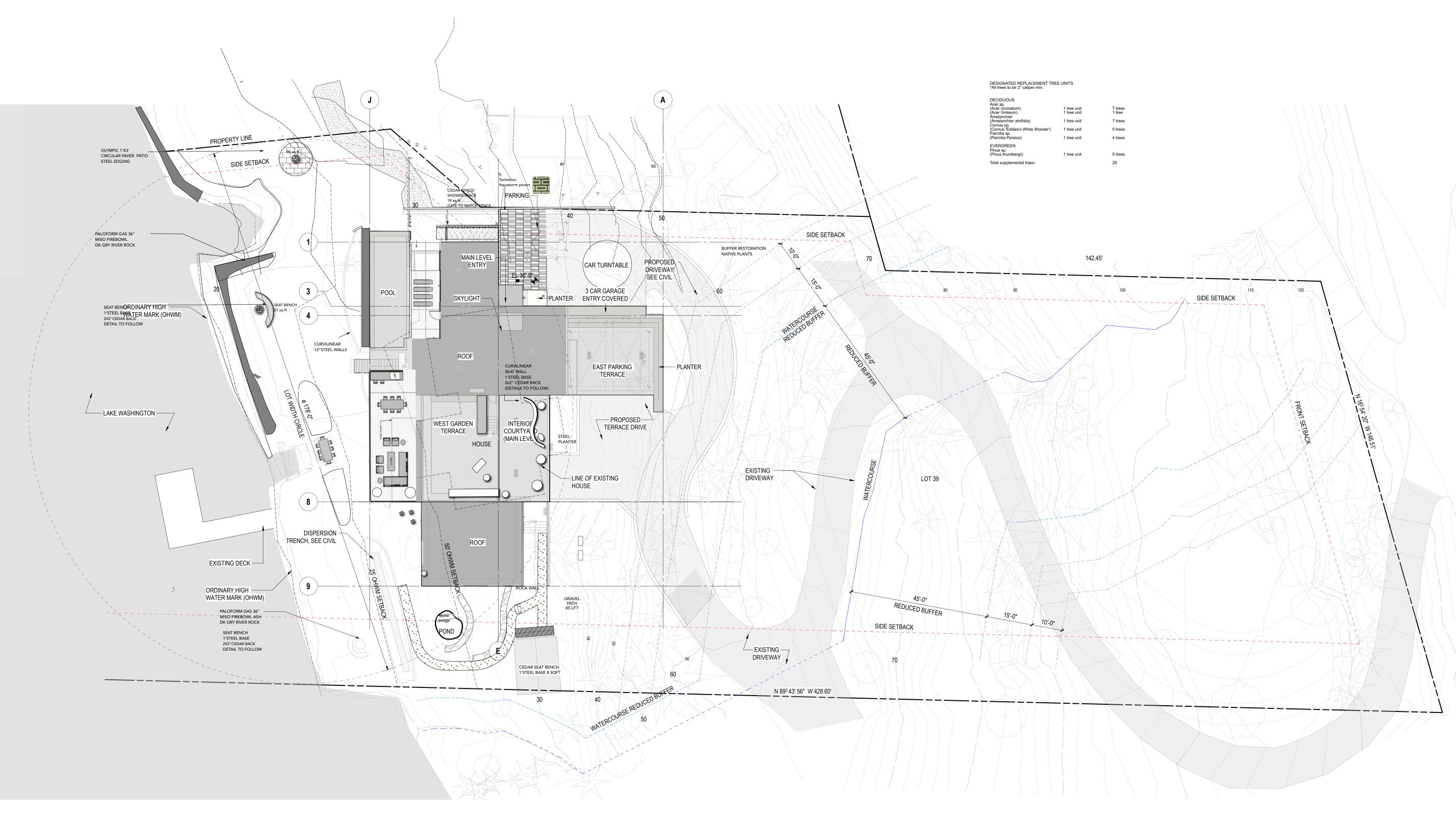
Image	ID	Qty	duled	Common Name	Botanical Name
		5	7'		
	acer ci pf	2	7'		acer circinatum 'Pacific fire'
	Agri	7	8'		Acer ariseum
	Amel ain	7	1#	Pacific Serviceberrv	Amelanchier alnifolia
	C-Aa	9	1#	Boston Ivv	Akebia quinata
	Cal ff-1	1	7#	Firefly heather	Calluna vulgaris 'Firefly'
	Cal x aph	2	8'	Aphrodite sweetshrub	Calvcanthus x aphrodite
	Car b fas	9	3#	Fastigiate European Hornbea	Carpinus betulus fastigiata
	Cis mi sun	1	2#	Miss Sunshine Rockrose	Cistus hvbrid 'Little Miss Sunshine'
	Clero th	9	3#	Bleeding Heart Vine	Clerodendron thomsoniae
	CMid			Red-barked Dogwood	Cornus sanquinea 'Midwinter Fire'
	Cminim	10	3#	Marie Bleu™ New Jersev Tea	Ceanothus x pallidus 'Minimari'
	Cor Ed ww	5	1.5"	Eddie's White wonder Doawo	Cornus kousa 'Eddies White wonder'
$\odot$	desc nor Its	24	2#	Northern Lights Tufted Hair G	Descampsia spitosa 'northern lights'
	Epi sulf	15	1#	Sulfureum Barrenwort	Epimedium x perralchicum 'Sulphure
*	F-Pm	19	1#	Polvstichum Munatum	Polvstichum munitum
	G 01	37	1#	Japanese forest grass	Hakoenchloa 'aureola'
$\bigcirc$	G-Hm au	47	1#		Hakonechloa macra 'aureola'
٢	Heb Bux	2	1#		Hebe Buxifolia
		8	7#		
<u></u>	Hian02	1	7#		Hvdrancea paniculata 'Jane' USPP 2
	lGre	19	1#	Japanese Hollv	llex crenata 'fasticiata'
VIIIV	Lmus	6	1#	Bia Blue Lilv Turf	Liriope muscari
alle.	Mah sc	6	1#	Soft Caress Mahonia	mahonia soft caress
	Mstr			European Ostrich Fern	Matteuccia struthiopteris
$\overline{\bigcirc}$	P 10	14	1#	Catmint	Perennial 10
	P-Ad	19	1#	Aruncus	Aruncus dioicus
	P-Arma	21	1#	Arneria	Armeria maritima
	P-Heni dk	5	2#	Dark and Handsome Niger H	Helleborus niger' Dark and Handsom
	P-HoBL	7	1#	Blue Ladv Hellebore	Helleborus orientalis 'Blue Ladv'
$\ast$	P-Lm	13	1#	Lirope Muscari	Liriope muscari
	Par per V	4	2"	Vanessa Persian Parrotia	
*	phor pkst	5	5#	'Pink Stripe'New Zealand Fla	
*		1	6'		
	Pi kor Oc	15	10#		Pinus korainesis 'Oculis Draconis'
<u>é</u>	Pin stro Gl	1	7'	Dwarf Eastern White Pine	Pinus strobus 'Glauca Nana'
<u>s</u>	Pin thn	19	1#	Thunderhead Pine	Pinus thunbergii 'Thunderhead'
	Ppol	5	3#	Tassel Fern	Polystichum polyblepharum
	Psvl			Scotch Pine	Pinus svlvestris
	Rchew	9	3#	Oso Easv® Paprika Rosa	Rosa 'ChewMavTime' USPP 18347
	ro gym	2	2#	bald hip rose	Rosa 'gymnocarpa'
0	S-Euxmar	6	1#	martin spurge	Euphorbia x martinii
	S-Hm	1	1.25"	Seven-Son Flower	Heptacodium micinioides
North States	s-Hol dis	1	7#	Oceanspray	Holodiscus discolor
×	S-HaSa	3	5#	Snow Queen Hydrangea	Hvdrangea guercifolia 'Snow gueen'
$\bigcirc$	S-HxiJ	3	7#		Hamamelis x intermedia 'Jelena'
۲		3	7#		
$\bigcirc$	S-Mvcal	1	5#		Mvrtus californica
	S-phil Lew	8	3#	Lewis' Mock Orange	Philadelphus 'lewisii'
	S-Pm	7	3#	mugo pine	Pinus mugo
	S-RsKEVII	10	3#	King Edward VII Flowering C	Ribes sanguineum 'King Edward VII'
<b>VI</b> A	S-Shvh			sweet box	Sarcococca hookeriana var. humilis
	Sp dens	3	2#	Subalpine Spirea	Spiraea densiflora
	Spi MC	2	2#	Magic Carpet Spirea	Sprirea x bumalda 'Magic Carpet'
濑	tax em sp	2	1#	emerald spreader iapanese v	taxus cupidata 'emerald spreader'
0	Tax Silv sp	2	5#	'Silver spire' English Yew	Taxus baccata 'Silver spire'
8		3		Japanese Maple	Acer palmatum
	Untitled ID-1	17	3#	Sabanose Maule	

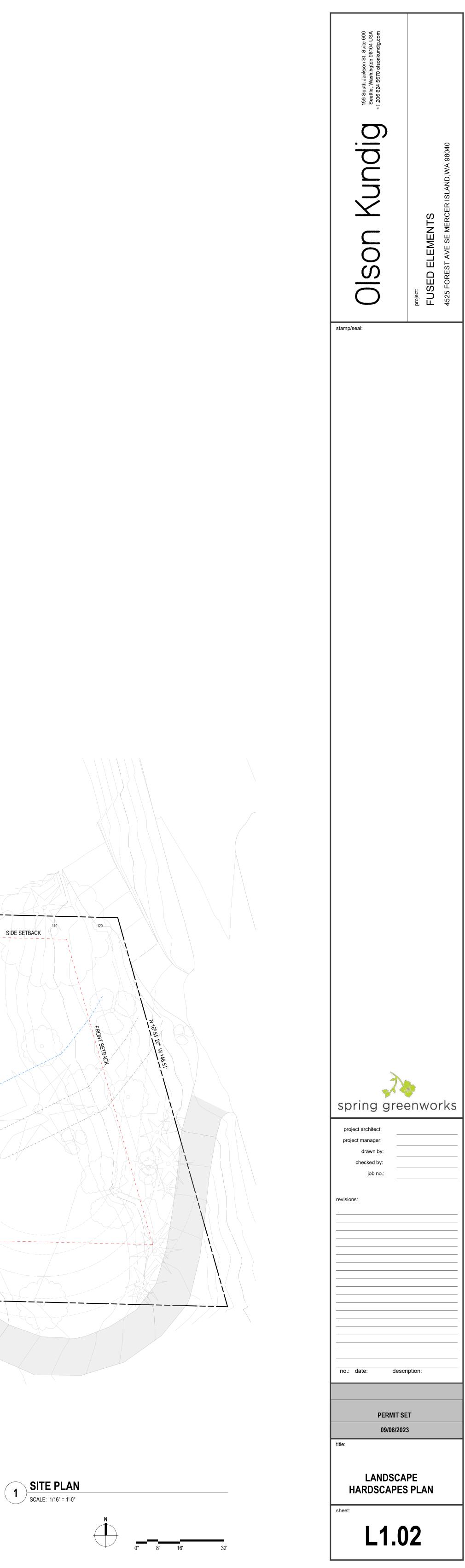


	Seattle, Washington 98104 USA 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA 15 206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
	project architect: project manager: drawn by: checked by: job no.:	enworks
	revisions:	
SCALE: 1/16" = 1'-0" $\int_{0'}^{N} \int_{0'}^{-\frac{1}{3'}} \int_{16'}^{-\frac{1}{3''}} \int_{32'}^{-\frac{1}{3''}} \int_{16'}^{-\frac{1}{3''}} \int_{32'}^{-\frac{1}{3''}} \int_{16''}^{-\frac{1}{3''}} \int_{16''}^{-\frac{1}{3'''}} \int_{16''''}^{-\frac{1}{3'''''''''''''''''''''''''''''''''''$	LANDSCAPE sheet: L1.0	











WEST ELEVATION



ENTRY LOOKING SOUTH



COURTYARD LOOKING NORTH



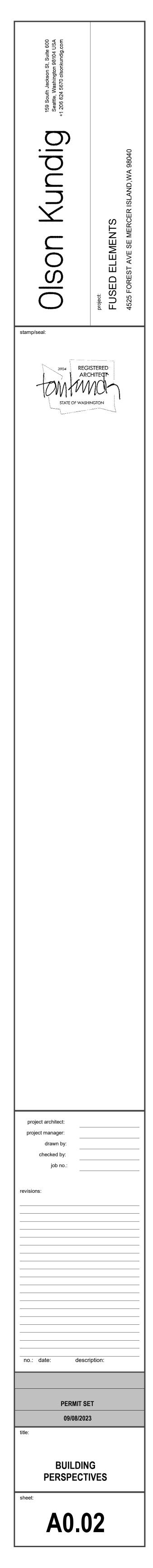
ENTRY LOOKING EAST



WEST ROOF TERRACE



EAST PARKING TERRACE



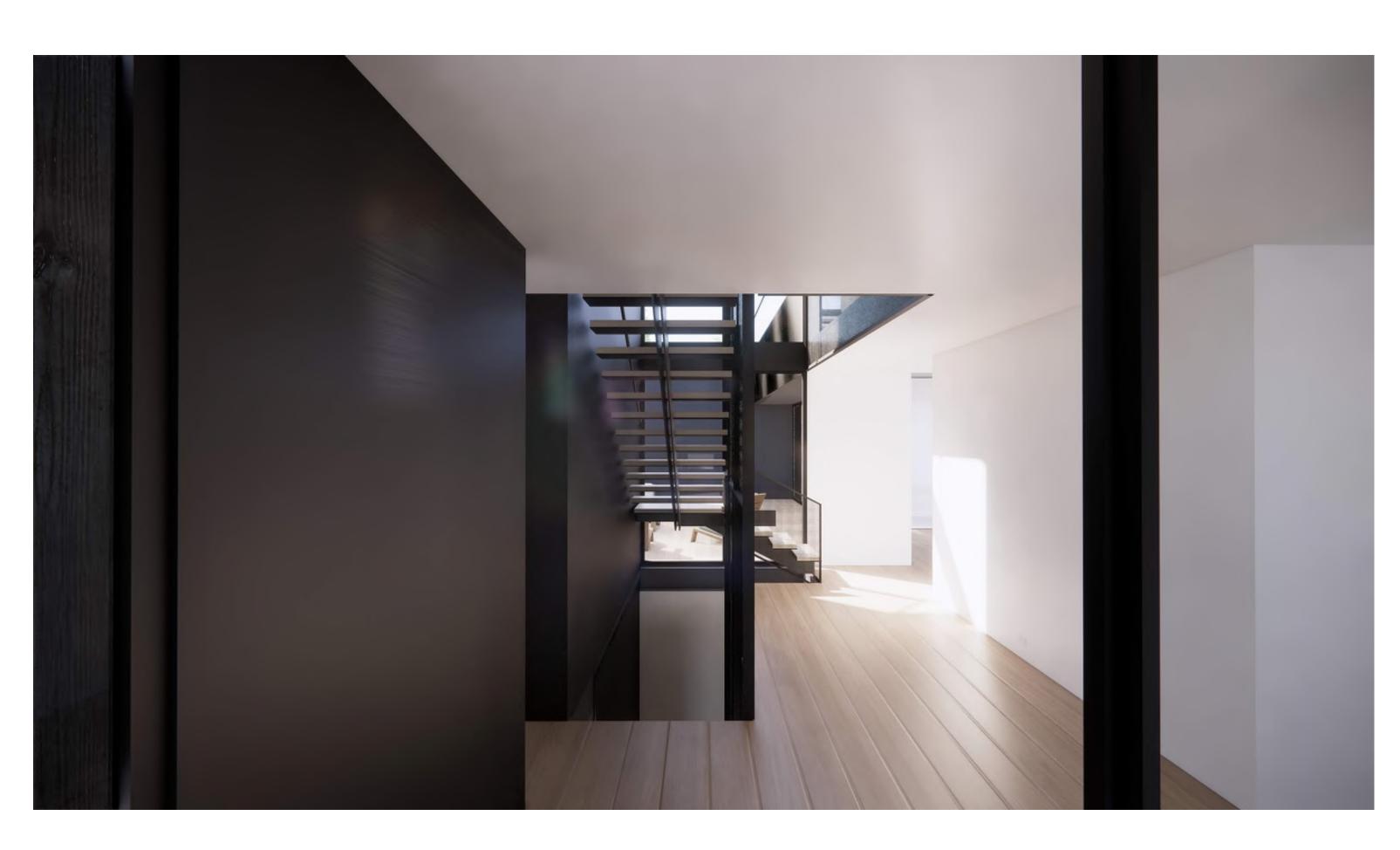
LOOKING AT KITCHEN



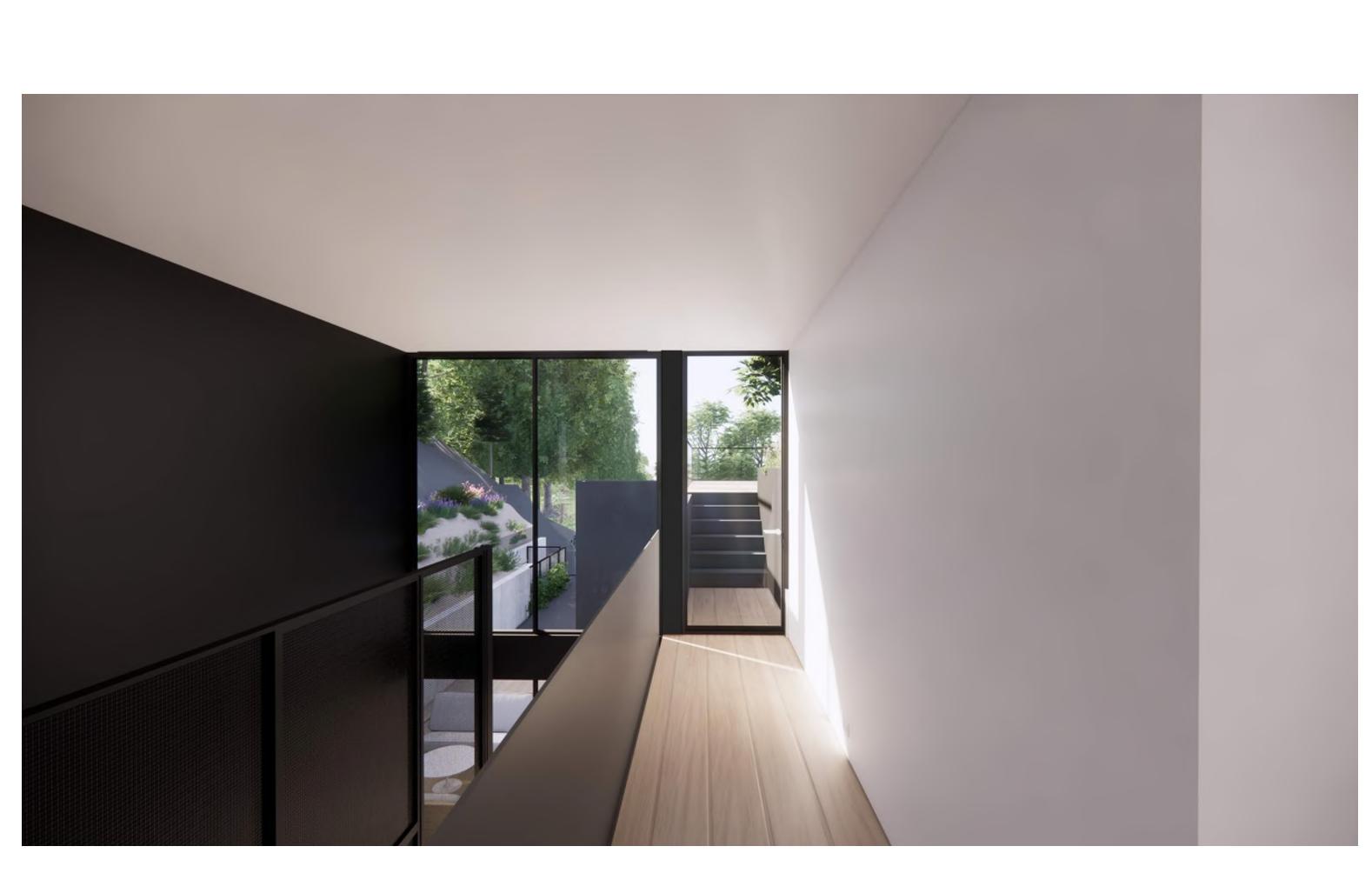
WEST TERRACE



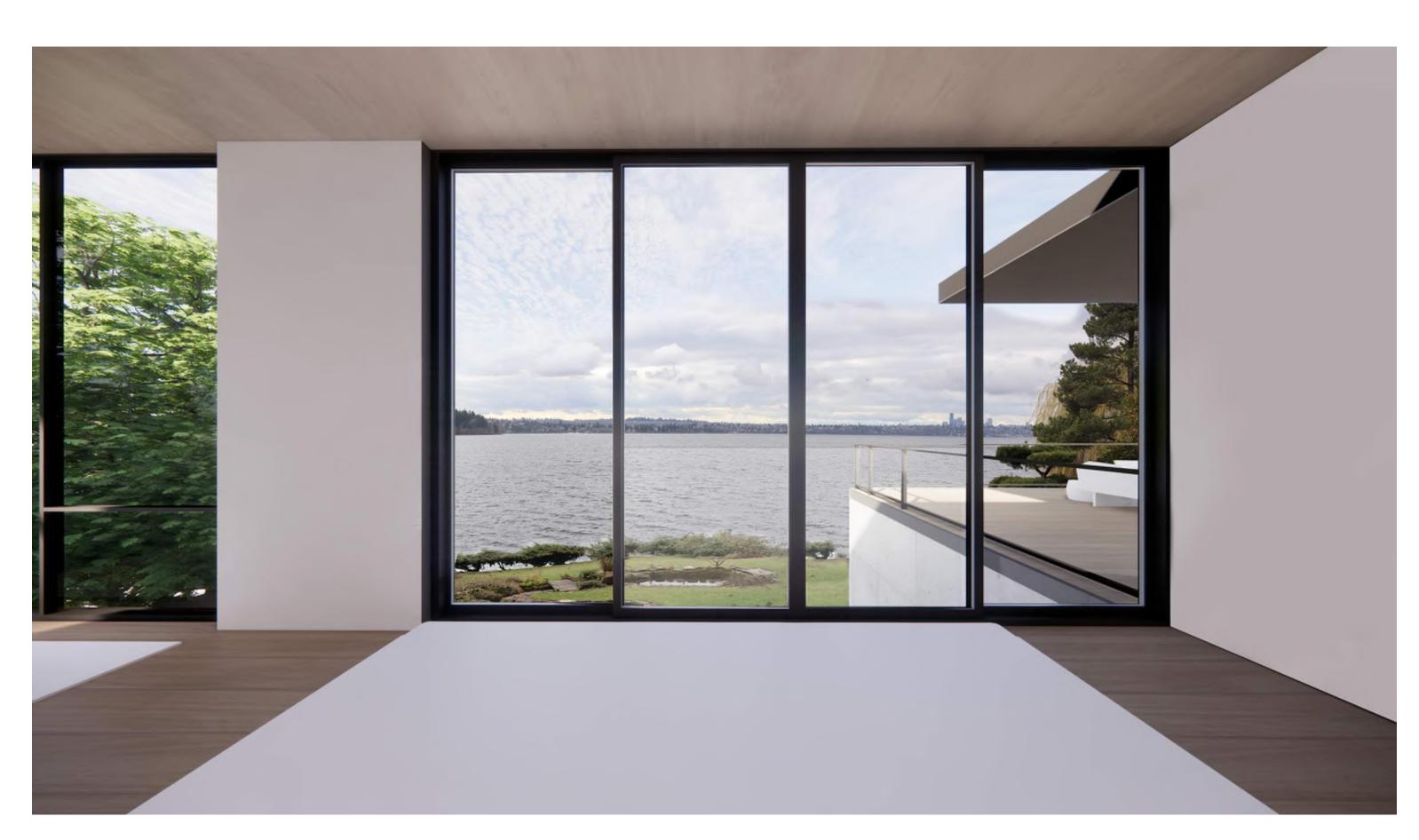
ENTRY LOOKING SOUTH



STAIR TO WEST ROOF TERRACE



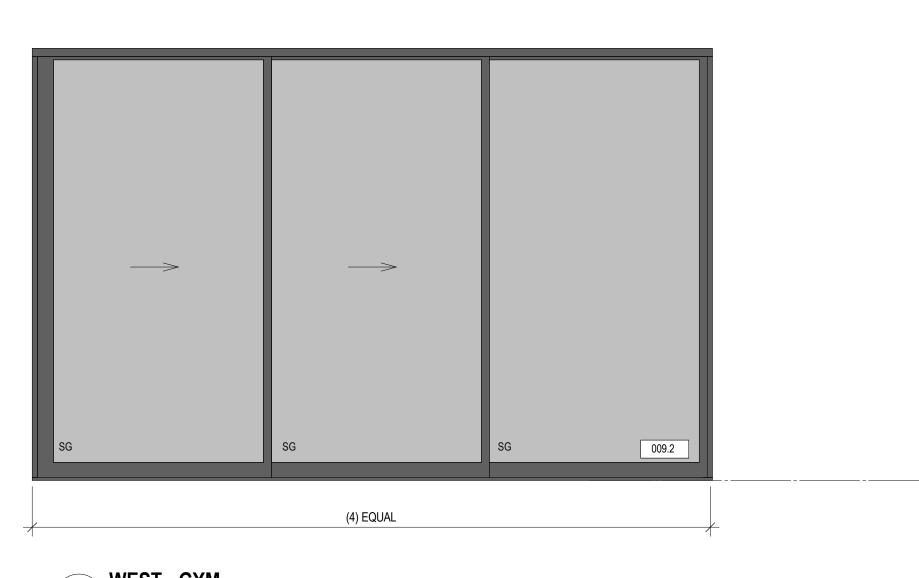
PRIMARY LOOKING WEST



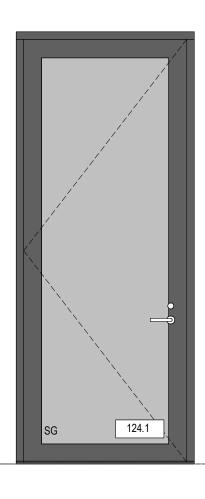
LIVING LOOKING SOUTH



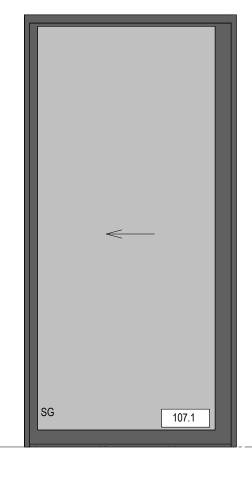
8 X 159 South Jack Seattle, Washir 1 206 624 5670 Jdig Kur S EMENT: VE SE MER Olson Ш  $\mathbf{A}$ project: FUSED EL | 4525 FOREST A stamp/seal: 1 ..... 39D4 REGISTERED ARCHITECT FMAC STATE OF WASHINGTON project architect: project manager: drawn by: checked by: job no.: revisions: no.: date: description: PERMIT SET 09/08/2023 BUILDING PERSPECTIVES sheet: A0.03



15 WEST - GYM SCALE: 1/2" = 1'-0"



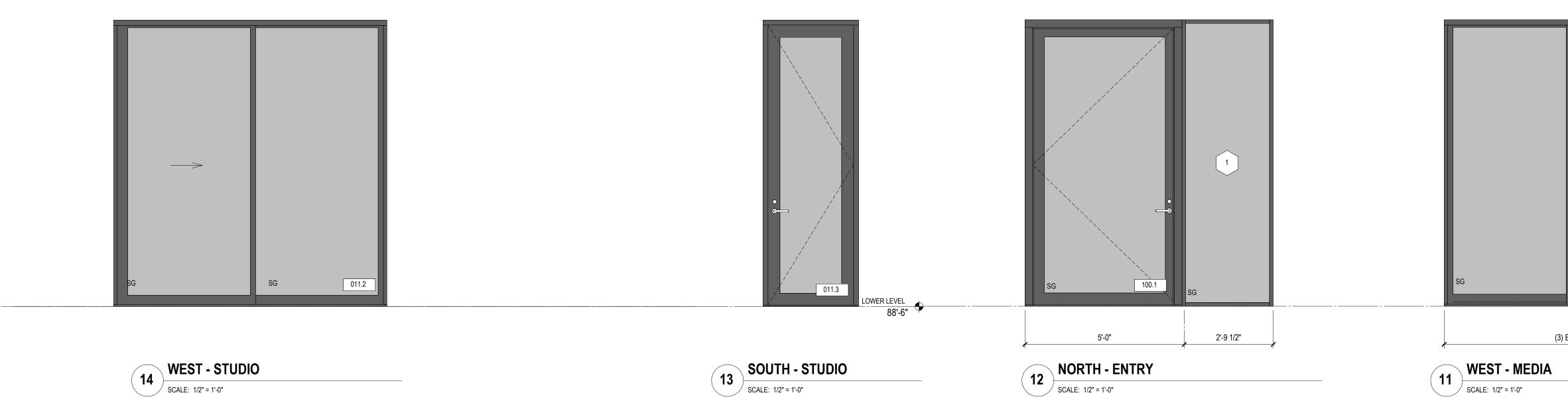


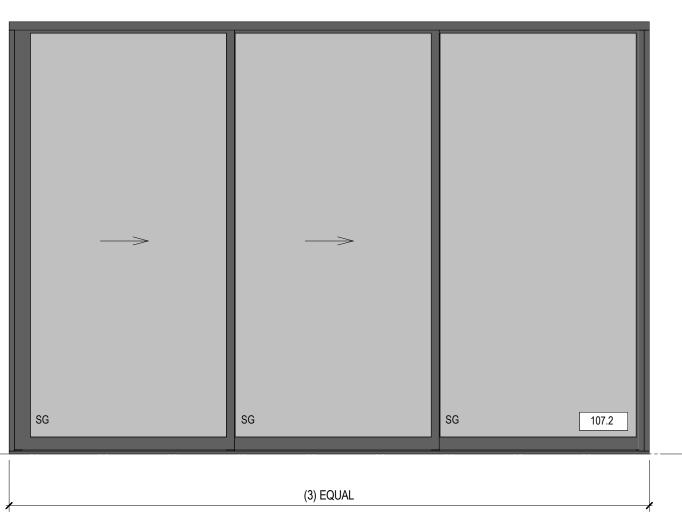


9 NORTH - KITCHEN SCALE: 1/2" = 1'-0"

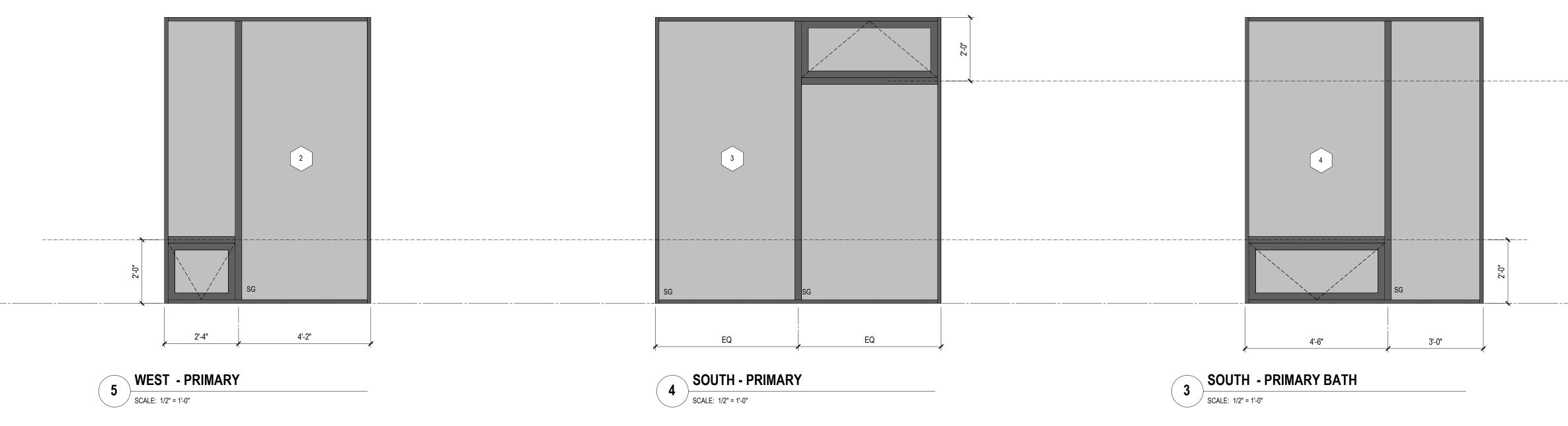


6 WEST E- PRIMARY SLIDING SCALE: 1/2" = 1'-0"



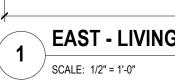


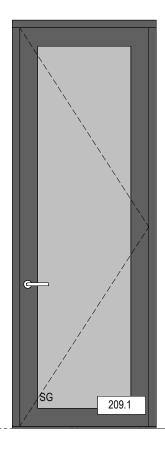
8 WEST - KITCHEN SCALE: 1/2" = 1'-0"

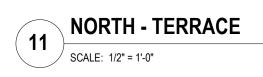


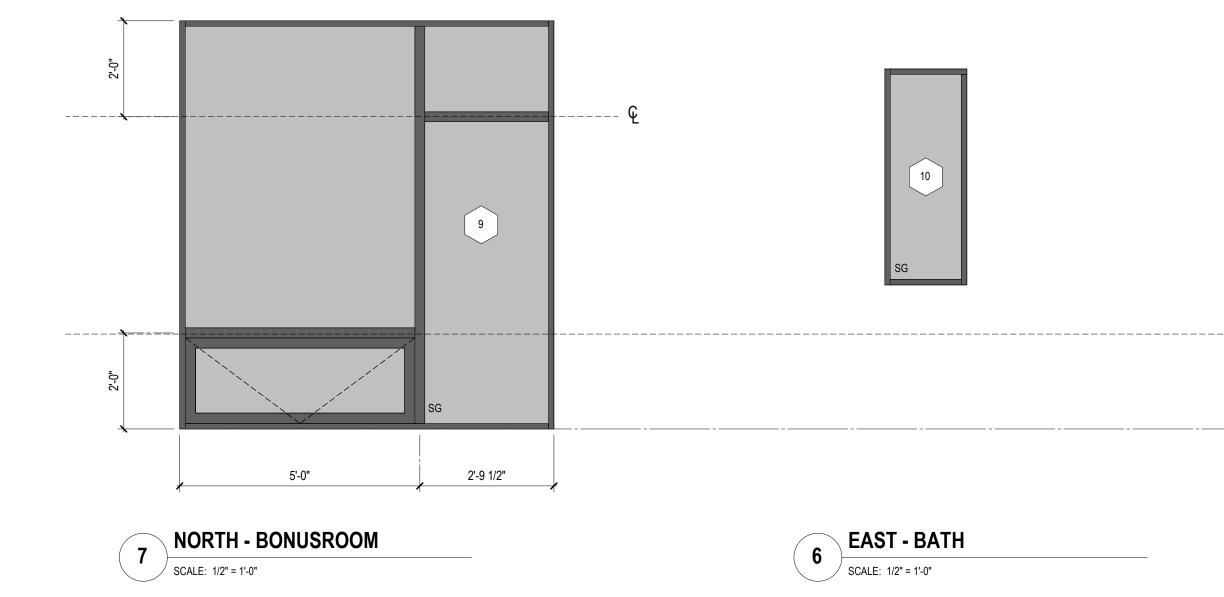
		$\rightarrow$	$\rightarrow$
SG 108.1	SG	SG	SG
EQUAL			(5) EQUAL
WEST -LIVING	γ UMN		·

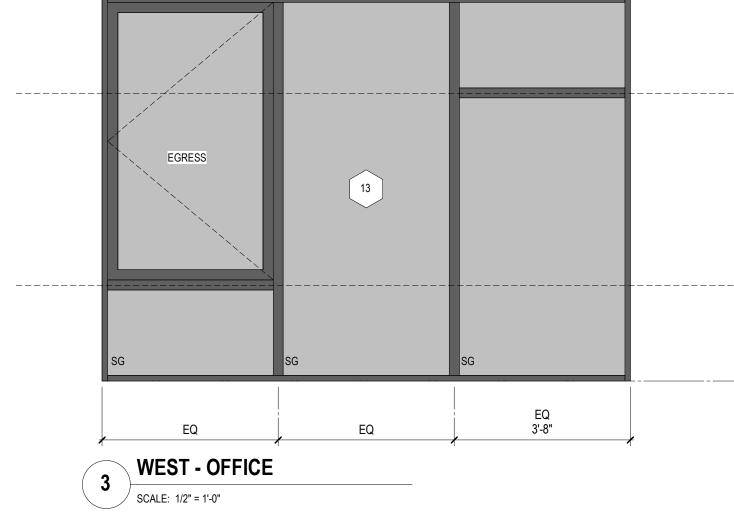


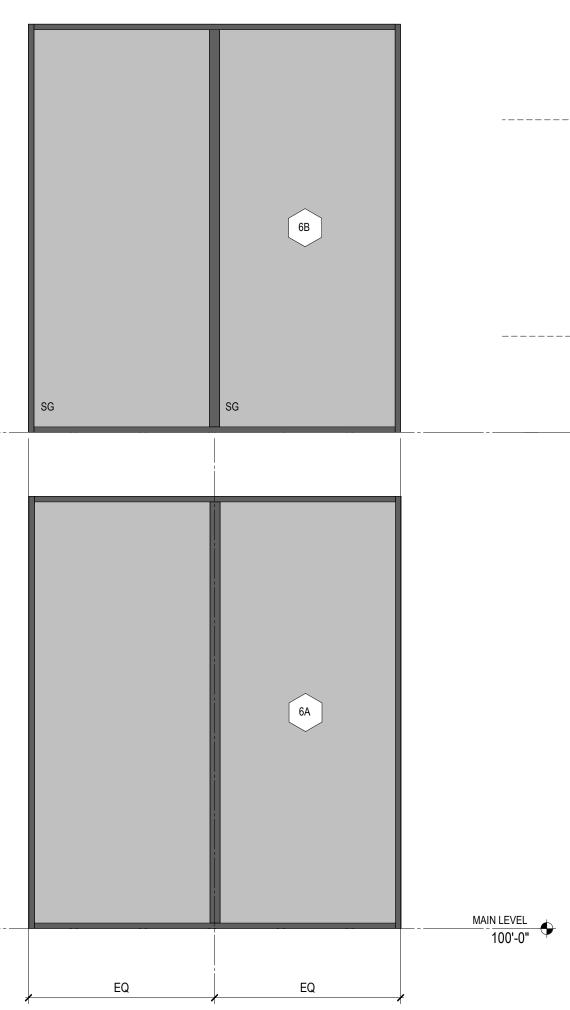


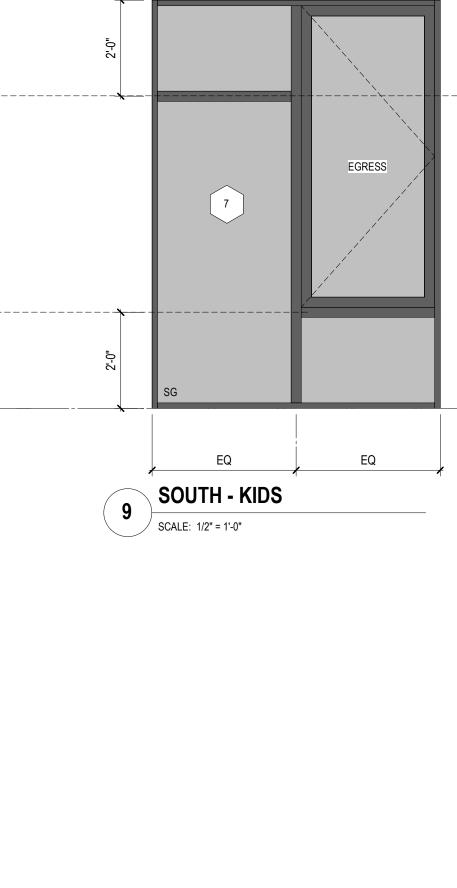




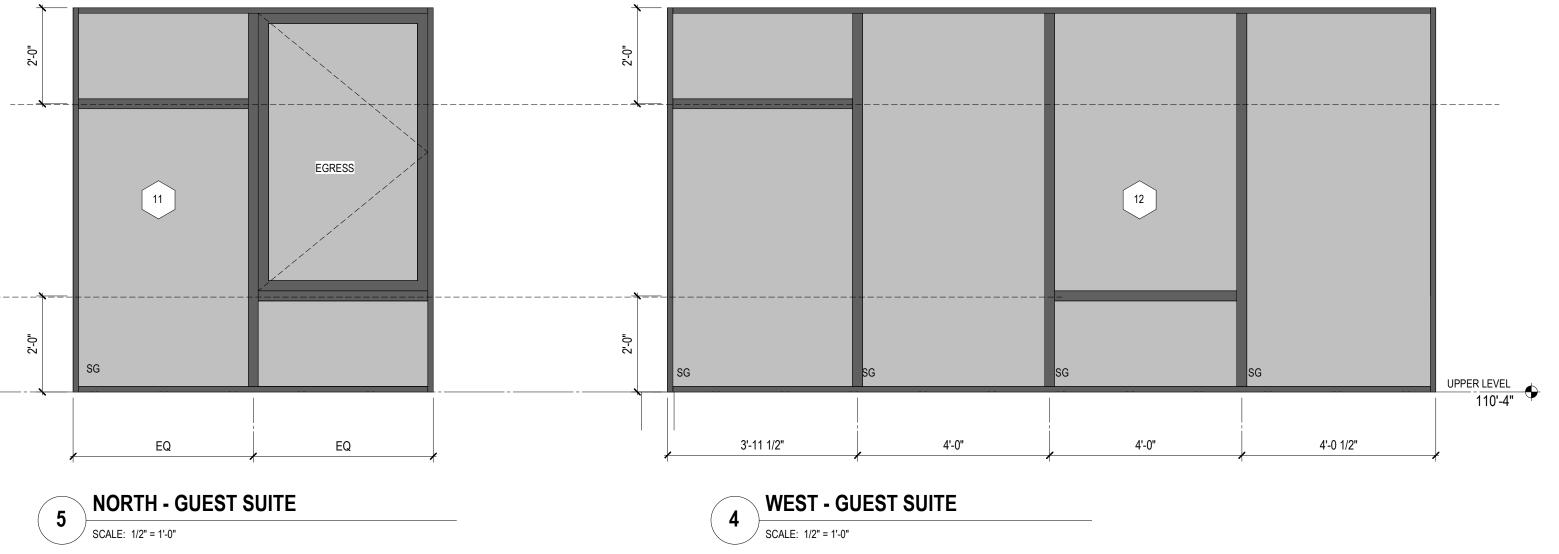


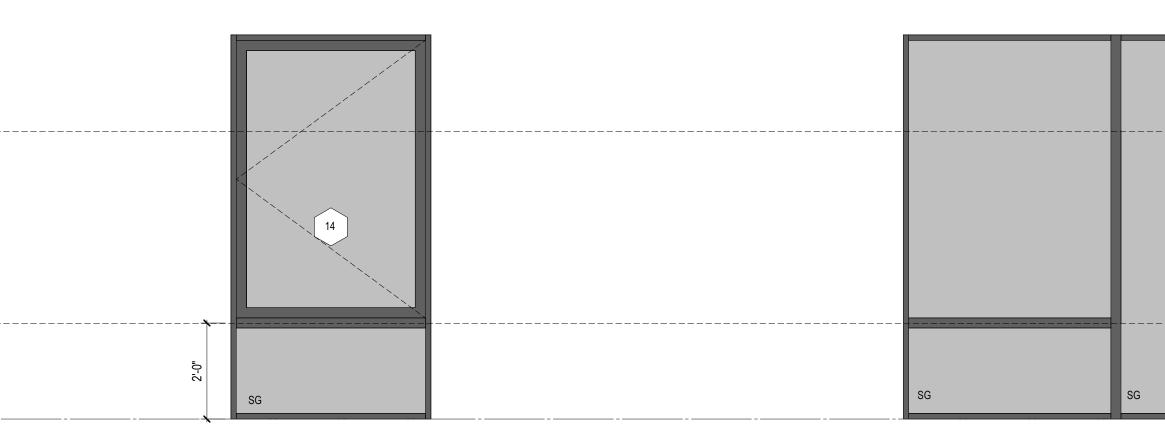






10 SOUTH - STAIR SCALE: 1/2" = 1'-0"

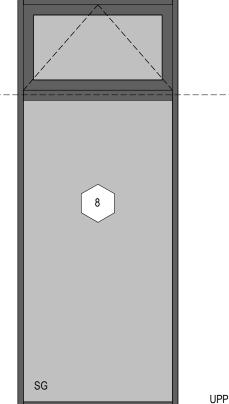




2 NORTH - GUEST SCALE: 1/2" = 1'-0"

1 WEST - GUEST SCALE: 1/2" = 1'-0"

	HEET A0.24 FOR WINDOW AND DOOR SCHEDULES.  DW LEGEND EMERGENCY EGRESS LOCATION	159 South Jackson St, Suite 600 Seatte, Washington 98104 USA
SG	PROVIDE SAFETY GLAZING WHERE REQUIRED BY CODE	159 Sour Seattle, +1 206 62-
		. <u>の</u>
		, n n d i



UPPER LEVEL •

## 8 EAST - UPPER MUD SCALE: 1/2" = 1'-0"

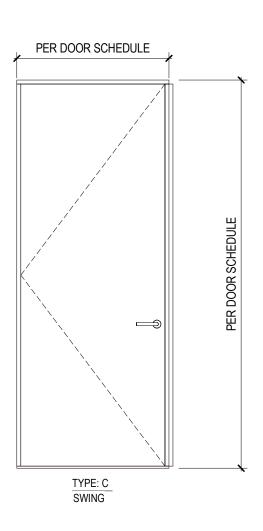
15	EGRESS	
	SG	UPPER L

S Z project: FUSED  $\frac{0}{0}$ stamp/seal: 39D4 REGISTERED ARCHITECT MMCCH STATE OF WASHINGTON project architect: project manager: drawn by: checked by: job no.: revisions: no.: date: description: PERMIT SET 09/08/2023 title: WINDOW SCHEDULES



sheet:

UPPER LEVEL 110'-4"



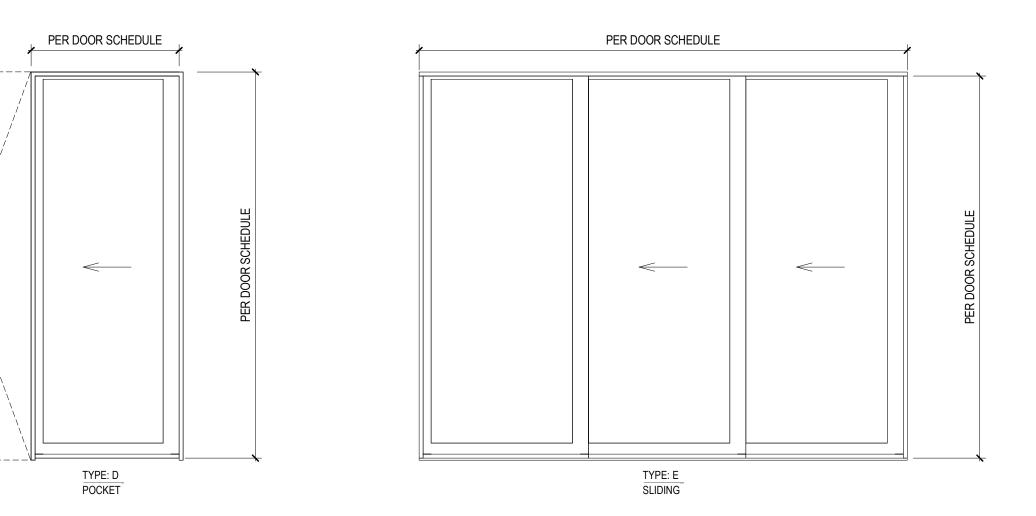


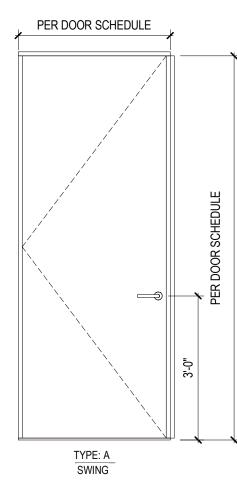
						DIME	NSIONS		FINI	SH	
REF.	LOCATION	ROOM NUMBER	OPERATION	TYPE	WIDTH (PANEL 1)	HEIGHT	THICKNESS	UNDERCUT	PANEL	FRAME	REMARKS
OWER LEV	/EL										
001.1	PLAYROOM	004	SWING	А	3'-0"	8'-0"	1 3/4"	1/2"	WOOD	WOOD	
002.1	STORAGE	002	SWING	А	3'-0"	8'-0"	1 3/4"	1/2"	WOOD	WOOD	
003.1	POOL/SPA/ MECHANICAL	005	SWING	А	3'-0"	4'-0"	1 3/4"	1/2"	FIBERGLASS	HMF	
004.1	PLAYROOM	004	SWING	А	4'-0"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
005.1	POOL/SPA/ MECHANICAL	005	SWING	А	4'-0"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
006.1	BASE BATH	006	SWING	А	3'-0"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
009.1	GYM	009	SWING	А	4'-0"	8'-11"	1 3/4"	1/2"	WOOD		
010.1	KILN	010	SWING	А	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
011.1	JUDY'S STUDIO	011	SWING	А	3'-0"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
MAIN LEVEL	=	· · ·			1 1			1	L L		
101.1	MUD ROOM	103	SWING	А	3'-0"	8'-0"	1 3/4"	1/2"	WOOD	WOOD	
103.1	MUD ROOM	103	SWING	А	3'-0"	8'-0"	1 3/4"	1/2"	WOOD	WOOD	SELF-CLOSING SELF
106.1	PANTRY	106	POCKET	В	3'-4"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
106.2	PANTRY	106	POCKET	В	3'-4"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
112.1	LAUNDRY	112	POCKET	В	3'-0"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
113.1	MUD	113	SWING	А	3'-0"	9'-0"	1 3/4"	1/2"	WOOD	WOOD	
116.1	PRIMARY BATH	116	POCKET	В	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
117.1	WC	117	POCKET	В	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
118.1	PRIMARY BEDROOM	118	SWING	А	3'-0"	8'-11"	1 3/4"	0"	WOOD	WOOD	
118.2	PRIMARY BEDROOM	118	POCKET	В	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
118.3	PRIMARY BEDROOM	118	POCKET	В	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
120.1	MEDIA / FAMILY	120	SWING	А	3'-0"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
121.1	POOL BATH	121	POCKET	В	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
122.1	POOL BATH	121	POCKET	В	2'-6"	8'-11"	1 3/4"	1/2"	WOOD	WOOD	
JPPER LEV	EL						•		- L		
201.1	HALL	203	SWING	А	3'-0"	8'-0"	1 3/4"	1/2"	WOOD	WOOD	
204.1	KIDS BATH	204	SWING	А	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	
205.1	KIDS ROOM	205	SWING	А	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	
210.1	OFFICE	210	SWING	А	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	
211.1	GUEST SUITE	211	SWING	A	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	
212.1	GUEST SUITE BATH	212	SWING	А	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	
213.1	GUEST	213	SWING	А	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	
214.1	GUEST BATH	214	SWING	A	2'-6"	8'-5"	1 3/4"	1/2"	WOOD	WOOD	

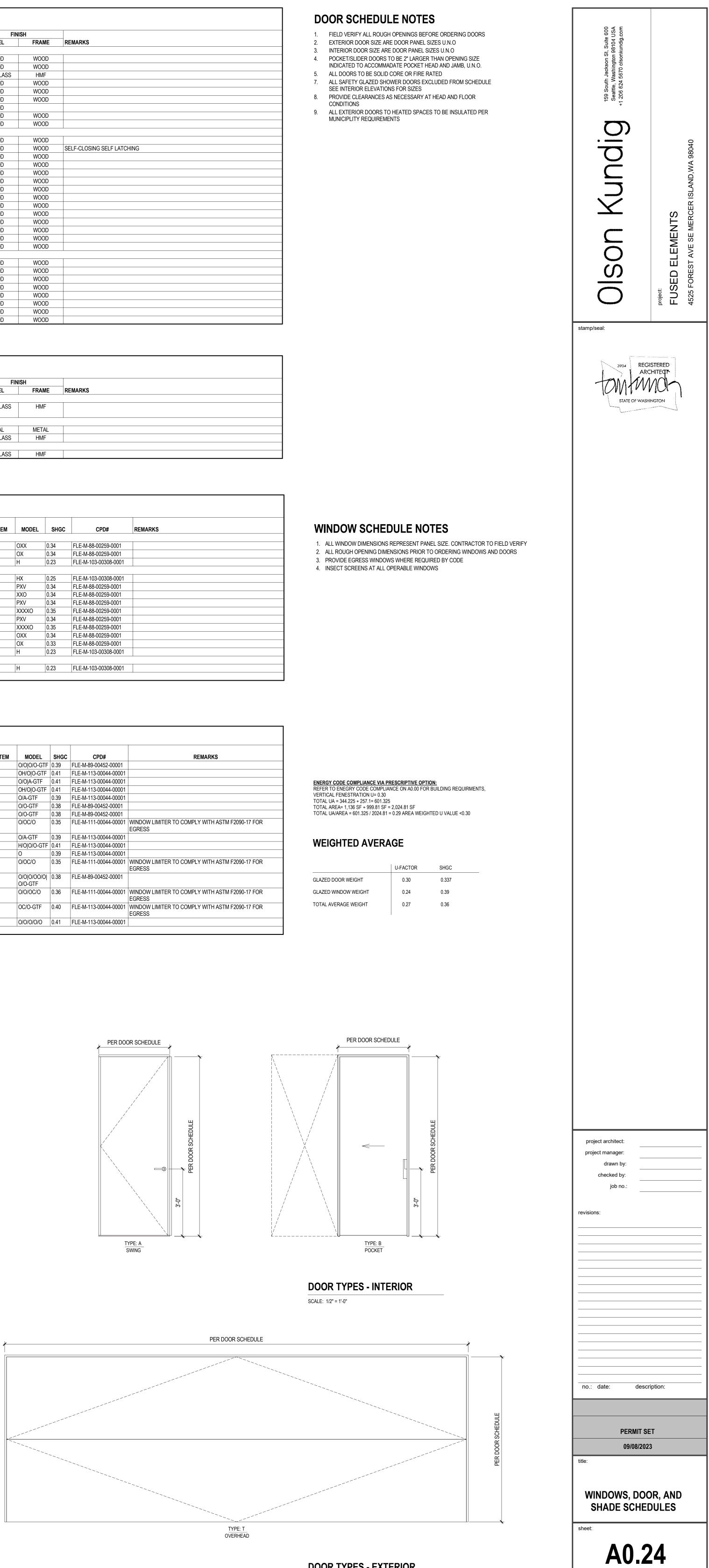
	EXTERIOR DOOR SCHEDULE										
						DIME	ISIONS		FIN	ISH	
REF.	LOCATION	ROOM NUMBER	OPERATION	TYPE	WIDTH	HEIGHT	THICKNESS	UNDERCUT	PANEL	FRAME	REMARKS
LOWER LEVE	EL										
007.1	OUTDOOR TOOL/FURNITURE STORAGE	007	SWING	C	4'-0"	8'-11"	1 3/4"	1/2"	FIBERGLASS	HMF	
MAIN LEVEL					1	1					
104.1	GARAGE	104	OVERHEAD	Т	32'-0"	8'-0"	1 3/4"	0"	METAL	METAL	
111.1	HALL	111	SWING	C	3'-0"	9'-0"	1 3/4"	0"	FIBERGLASS	HMF	
UPPER LEVE	Ĺ	I		•					· · · · · ·		
206.1	HALL	203	SWING	C	3'-0"	8'-6"	1 3/4"	1/2"	FIBERGLASS	HMF	

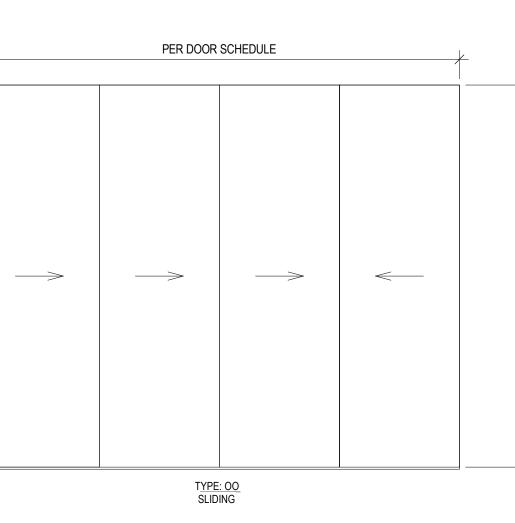
	EXTERIOR GLAZED DOOR SCHEDULE														
				DIMENSIO	ONS (ROUG	H OPENING)									
MARK	ORIENTATION	OPERATION	TYPE	WIDTH	HEIGHT	AREA	U VALUE	UA VALUE	GLASS TYPE	MANUFACTURER	SYSTEM	MODEL	SHGC	CPD#	REMARKS
LOWER LEVE	Ē			ł			·	·			·	·			
009.2	WEST	SLIDING	E	14'-2"	9'-0"	127.5 SF	0.3	38.25	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	OXX	0.34	FLE-M-88-00259-0001	
011.2	WEST	SLIDING	QQ	8'-7"	9'-0"	77.25 SF	0.3	23.175	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	OX	0.34	FLE-M-88-00259-0001	
011.3	SOUTH	SWING	С	3'-0"	9'-0"	27 SF	0.41	11.1	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3900-T	Н	0.23	FLE-M-103-00308-0001	
MAIN LEVEL			•							T	·	•			
100.1	NORTH	SWING	W	4'-11 1/8"	9'-0"	44.34 SF	0.39	17.3	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3900-T	HX	0.25	FLE-M-103-00308-0001	
107.1	NORTH	POCKET	D	4'-5"	9'-0"	39.75 SF	0.29	11.5	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	PXV	0.34	FLE-M-88-00259-0001	
107.2	WEST	SLIDING	E	13'-4"	9'-0"	120 SF	0.29	34.8	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	XXO	0.34	FLE-M-88-00259-0001	
108.1	WEST	POCKET	D	4'-4"	9'-0"	39 SF	0.29	11.3	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	PXV	0.34	FLE-M-88-00259-0001	
108.2	WEST	SLIDING	E	21'-5"	9'-0"	192.75 SF	0.28	54	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	XXXXO	0.35	FLE-M-88-00259-0001	
108.3	EAST	POCKET	D	4'-4"	9'-0"	39 SF	0.29	11.3	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	PXV	0.34	FLE-M-88-00259-0001	
108.4	EAST	SLIDING	E	20'-5 9/256"	' 9'-0"	183.78 SF	0.28	51.1	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	XXXXO	0.35	FLE-M-88-00259-0001	
118.4	WEST	SLIDING	E	12'-9"	9'-0"	114.75 SF	0.3	34.2	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	OXX	0.34	FLE-M-88-00259-0001	
120.2	WEST	SLIDING	QQ	8'-0"	9'-0"	72 SF	0.31	22.3	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3070-T	OX	0.33	FLE-M-88-00259-0001	
124.1	WEST	SWING	С	3'-8 1/2"	9'-0"	33.37 SF	0.41	13.7	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3900-T	Н	0.23	FLE-M-103-00308-0001	
UPPER LEVE	Ĺ							1	-						1
209.1	SOUTH	SWING	С	3'-0"	8'-6"	25.5 SF	0.41	10.2	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3900-T	Н	0.23	FLE-M-103-00308-0001	
Grand total						1,136 SF		344.225		-					

								WINDOW SCHE	DULE					
			DIMENS	IONS (ROUG	H OPENING)									
MARK	ORIENTATION	OPERATION	WIDTH	HEIGHT	AREA	U-VALUE	UA VALUE	GLASS TYPE	MANUFACTURER	SYSTEM	MODEL	SHGC	CPD#	REMARKS
1	NORTH	FIXED, DOOR	7'-9 1/2"	9'-0"	70.13 SF	0.30	20.3	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3800-T	0/0 0/0-GTF	0.39	FLE-M-89-00452-00001	
2	WEST	FIXED,HOPPER	6'-6"	9'-6"	58.5 SF	0.22	16.8	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	OH/O O-GTF	0.41	FLE-M-113-00044-00001	
3	SOUTH	FIXED, AWNING	9'-0"	9'-6"	81 SF	0.22	17.8	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	0/0 A-GTF	0.41	FLE-M-113-00044-00001	
4	SOUTH	FIXED,HOPPER	7'-6"	8'-8"	67.5 SF	0.22	14.9	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	OH/O O-GTF	0.41	FLE-M-113-00044-00001	
5	SOUTH	FIXED, AWNING	3'-0"	9'-0"	27 SF	0.24	6.5	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	O/A-GTF	0.39	FLE-M-113-00044-00001	
6A	SOUTH	FIXED	7'-9"	9'-0"	69.75 SF	0.26	18.1	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3800-T	O/O-GTF	0.38	FLE-M-89-00452-00001	
6B	SOUTH	FIXED	7'-9"	8'-6"	65.88 SF	0.26	17.1	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3800-T	O/O-GTF	0.38	FLE-M-89-00452-00001	
7	SOUTH	FIXED,CASEMENT EGRESS	6'-0"	8'-6"	51 SF	0.25	12.8	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	0/0C/0	0.35	FLE-M-111-00044-00001	WINDOW LIMITER TO COMPLY WITH ASTM F2090-17 F0 EGRESS
8	EAST	FIXED, AWNING	3'-4"	8'-6"	28.33 SF	0.24	4.7	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	O/A-GTF	0.39	FLE-M-113-00044-00001	
9	NORTH	FIXED,HOPPER	7'-9 1/2"	8'-6"	66.23 SF	0.22	14.6	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	H/O O/O-GTF	0.41	FLE-M-113-00044-00001	
10	EAST	FIXED	1'-8 1/2"	4'-6"	7.69 SF	0.24	6.1	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	0	0.39	FLE-M-113-00044-00001	
11	NORTH	FIXED,CASEMENT EGRESS	7'-6"	8'-0"	60 SF	0.24	14.4	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	0/0C/0	0.35	FLE-M-111-00044-00001	WINDOW LIMITER TO COMPLY WITH ASTM F2090-17 F0 EGRESS
12	WEST	FIXED	16'-0"	8'-0"	128 SF	0.26	41.6	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	3800-T	0/0 0/00/0  0/0-GTF	0.38	FLE-M-89-00452-00001	
13	WEST	FIXED,CASEMENT EGRESS	11'-0"	8'-0"	88 SF	0.23	20.2	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	0/0/0C/0	0.36	FLE-M-111-00044-00001	WINDOW LIMITER TO COMPLY WITH ASTM F2090-17 F0 EGRESS
14	NORTH	FIXED,CASEMENT EGRESS	4'-2"	8'-0"	33.33 SF	0.23	7.7	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	OC/O-GTF	0.40	FLE-M-113-00044-00001	WINDOW LIMITER TO COMPLY WITH ASTM F2090-17 F0 EGRESS
15	WEST	FIXED	13'-3 1/2"	8'-0"	106.33 SF	0.22	23.5	Clear Cardinal 272 - Argon - Clear Cardinal i89	FLEETWOOD	450-T	0/0/0/0/0	0.41	FLE-M-113-00044-00001	
Grand total					1,008.67 SF		257.1					•		
•														

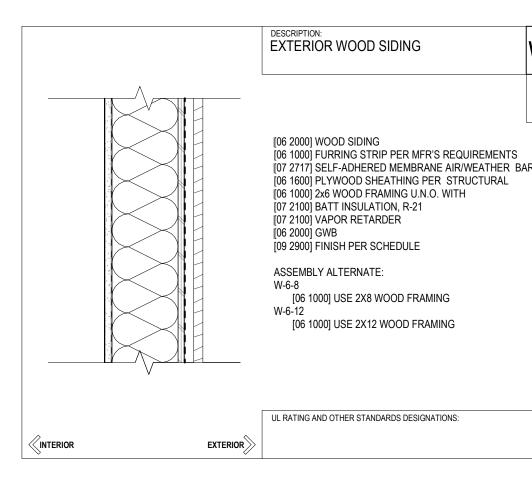


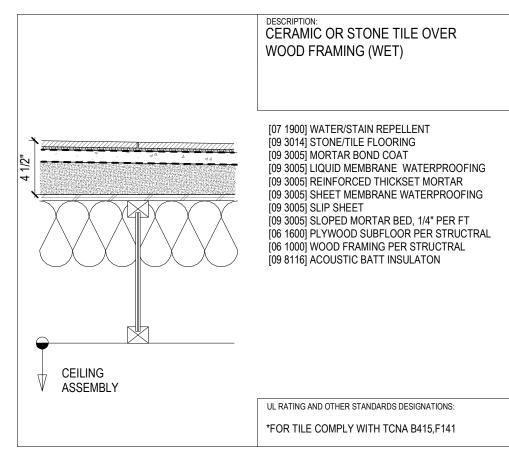


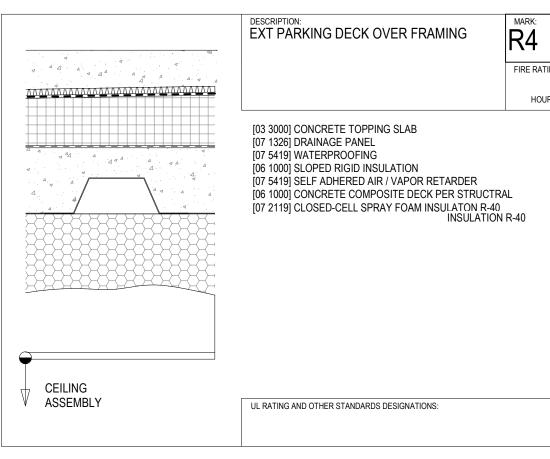




**DOOR TYPES - EXTERIOR** SCALE: 1/2" = 1'-0"







	DESCRIPTION: EXTERIOR CEMENT BOARD SOFFIT	S2		EXTERIOR STEEL SOFFIT	S1
		FIRE RATING:			FIRE
A STRUCTURAL ASSEMBLY	[06 1000] WOOD FRAMING AS REQ [07 4647] FIBER CEMENT PANEL SIDING	HOUR	STRUCTURAL ASSEMBLY	[06 1000] WOOD FRAMING AS REQ [09 2900] TYPE-X GYPSUM BOARD [05 5815] STEEL SHEET SOFFIT	
	UL RATING AND OTHER STANDARDS DESIGNATIONS:			UL RATING AND OTHER STANDARDS DESIGNATIONS:	

WARK:	EXTERIOR FIBER CEMENT SIDING	5	DESCRIPTION: CONCRETE WITH FRAMED WALL	WARK:	DESCRIPTION: CONCRETE WITH FRAMED WALL [BELOW GRADE]	WARK: W3	DESCRIPTION: CONCRETE WALL [BELOW GRADE] CRAWLSPACE	WARK:	<u> (Inti</u>
FIRE RATING: 1 HOUR MENTS ITHER BARRIER JRAL	1	ATING: DUR	[03 3000] CAST-IN-PLACE CONCRETE [PER STRUCT [03 0515] WATERPROOFING ADDITIVE [07 2100] XPS CONTINUOUS RIGID INSULATION (1") [06 1000] 2x6 WOOD FRAMING U.N.O. WITH [07 2100] BATT INSULATION, R-21 [06 2000] GWB [07 2100] FINISH PER SCHEDULE ASSEMBLY ALTERNATE: W4-A [07 8100]ADD FIRE RETARDANT COATING W-4-8 [06 1000] USE 2X8 WOOD FRAMING W-4-10 [06 1000] USE 2X10 WOOD FRAMING		[31 2000] PREPARED SUBGRADE [PER CIVIL] [31 2000] DRAINGE COURSE [PER CIVIL] [07 1326] DRAINAGE PANEL [07 1326] SELF-ADHERING SHEET WATERPROO [03 3000] CAST-IN-PLACE CONCRETE [PER STRI [03 0515] WATERPROOFING ADDITIVE [07 2100] CONTINUOUS XPS RIGID FOAM INSUL [06 1000] 2x6 WOOD FRAMING U.N.O. WITH [07 2100] BATT INSULATION, R-21 [06 2000] GWB [09 2900] FINISH PER SCHEDULE ASSEMBLY ALTERNATE: W3-A [07 8100] ADD FIRE RETARDANT COATI W-3-8 [06 1000] USE 2X8 WOOD FRAMING W-3-10 [06 1000] USE 2X10 WOOD FRAMING	JCTRAL] ATION, R-5	<ul> <li>[31 2000] PREPARED SUBGRADE [PER CIVIL]</li> <li>[31 2000] DRAINGE COURSE [PER CIVIL]</li> <li>[07 2100] XPS RIGID FOAM INSULATION,R-10</li> <li>[07 1326] DRAINAGE PANEL</li> <li>[07 1326] SELF-ADHERING SHEET WATERPROOFING</li> <li>[03 3000] CAST-IN-PLACE CONCRETE WALL [PER ST</li> </ul> ASSEMBLY ALTERNATE: <ul> <li>W2-A</li> <li>[07 2100] ADD CONTINUOUS XPS RIGID FOAM INSULATION R-5</li> <li>[07 8100] ADD FIRE RETARDANT COATING</li> </ul>		_
	UL RATING AND OTHER STANDARDS DESIGNATIONS:		UL RATING AND OTHER STANDARDS DESIGNATIONS:		UL RATING AND OTHER STANDARDS DESIGNATIONS:		UL RATING AND OTHER STANDARDS DESIGNATIONS:		<b>K</b> INT

FIRE RATING: HOUR	CEILING ASSEMBLY	DESCRIPTION: CERAMIC OR STONE TILE OVER WOOD FRAMING (DRY) [07 1900] WATER/STAIN REPELLENT [09 3014] STONE/TILE FLOORING [09 3005] THIN-SET MORTAR [09 3005] CEMENTITIOUS BACKER BOARD [06 1600] PLYWOOD SUBFLOOR PER STRUCTRAL [06 1000] WOOD FRAMING PER STRUCTRAL [09 8116] ACOUSTIC BATT INSULATON	HOUR	<ul> <li>[06 1000] PT WOOD SLEEPERS</li> <li>[07 5419] COVER BOARD</li> <li>[07 5419] PVC ROOFING</li> <li>[07 5419] GYPSUM SUBSTRATE BOARD</li> <li>[06 1000] RIGID INSULATION/FRAMING</li> <li>SLOPED TO DRAIN</li> <li>[03 3000] CONCRETE SLAB PER STRUCTRAL</li> <li>[03 3000] VAPOR RETARDER</li> <li>[07 2100] R-10 MIN XPS RIGID INSULATION</li> </ul>
		UL RATING AND OTHER STANDARDS DESIGNATIONS:		UL RATING AND OTHER STANDARDS DESIGNATIONS:
		*FOR TILE COMPLY WITH TCNA F144		

<sup>k:</sup> <b>1</b>		DESCRIPTION: EXT WOOD DECKING OVER WOOD FRAMING	R3		DESCRIPTION: GREEN ROOF	R2	
RATING:			FIRE RATING:			FIRE RATING:	1
HOUR			HOUR			HOUR	
		[06 2000] EXTERIOR WOOD DECKING [06 1000] PT WOOD SLEEPERS [07 5419] COVER BOARD [07 5419] PVC ROOFING [07 5419] GYPSUM SUBSTRATE BOARD [06 1000] RIGID INSULATION/FRAMING SLOPED TO DRAIN [06 1600] PLYWOOD SUBFLOOR PER STRUCTRAL [06 1000] WOOD FRAMING PER STRUCTRAL [07 2119] CLOSED-CELL SPRAY FOAM INSULATION R-40			[07 3363] MODULAR TRAY VEGETATED COVERING PER LANDSCAPE [07 3811] DRAINAGE COMPOSITE [07 5419] PVC ROOFING [07 5419] GYPSUM SUBSTRATE BOARD [07 5419] RIGID INSULATION SLOPED TO DRAIN 1/4":12" [07 5419] SELF ADHERED AIR / VAPOR RETARDER [06 1600] PLYWOOD SHEATHING PER STRUCTRAL [06 1000] WOOD FRAMING PER STRUCTRAL [07 2119] CLOSED-CELL SPRAY FOAM INSULATION R-40		
	CEILING						7
	V ASSEMBLY	UL RATING AND OTHER STANDARDS DESIGNATIONS:		CEILING ASSEMBLY	UL RATING AND OTHER STANDARDS DESIGNATIONS:		1

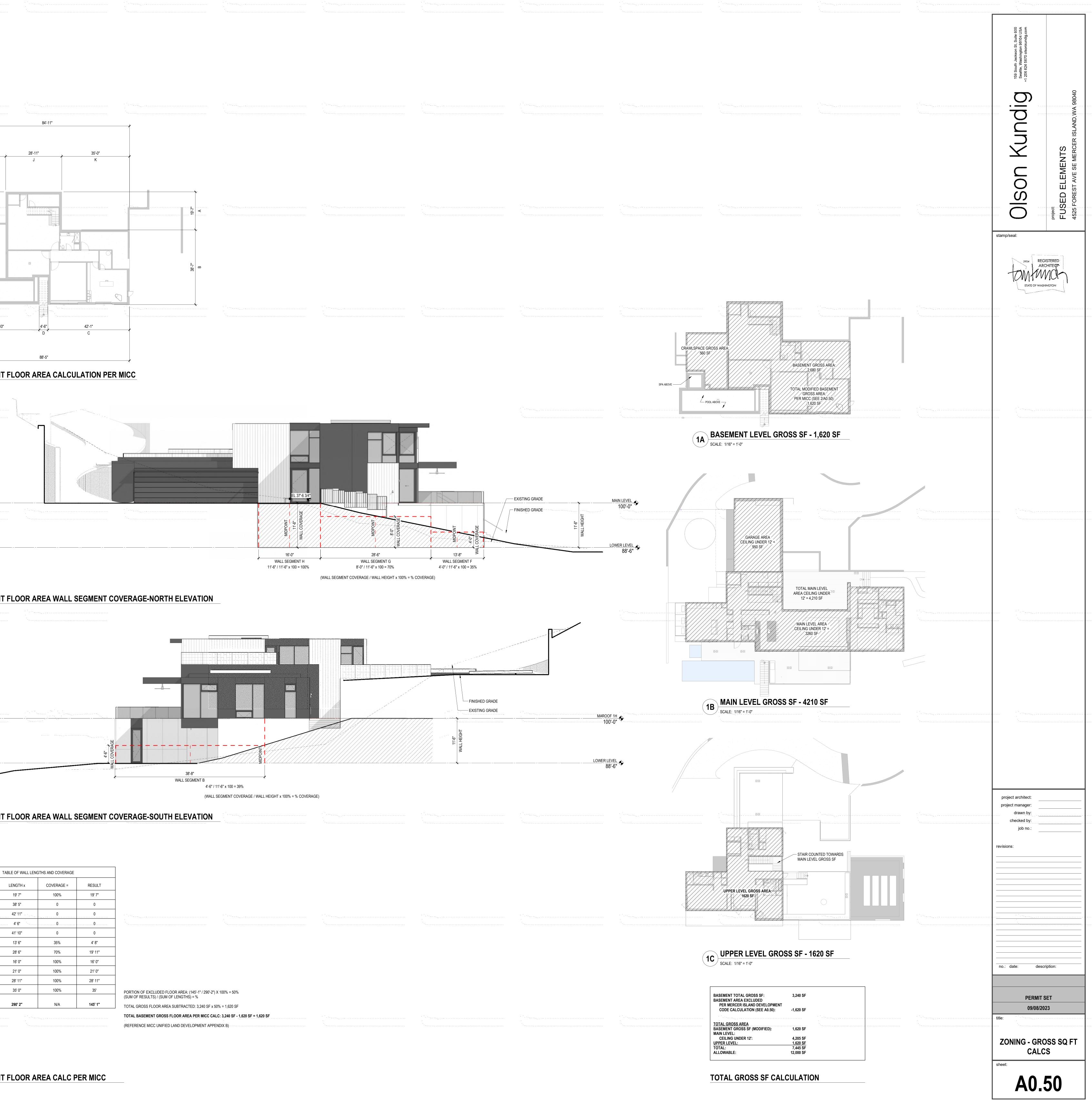
	DESCRIPTION: TILE CEILING	C3		DESCRIPTION: WOOD CEILING	C2
		FIRE RATING:	-		FIRE RATING: <b>1</b> HOUR
STRUCTURAL ASSEMBLY	[06 1000] WOOD FRAMING AS REQ [09 3005] THINSET SHEET MEMBRANE WATERPROOFIN [09 3005] CEMENTITIOUS BACKER BOARD [09 3005] THIN-SET MORTAR [09 3014] STONE/TILE FLOORING [07 1900] WATER/STAIN REPELLENT	lG	STRUCTURAL ASSEMBLY	[06 1000] WOOD FRAMING AS REQ [09 2900] TYPE-X GYPSUM BOARD [06 2000] WOOD CEILING BOARDS	
	UL RATING AND OTHER STANDARDS DESIGNATIONS:			UL RATING AND OTHER STANDARDS DESIGNATIONS:	
				UL RATING AND OTHER STANDARDS DESIGNATIONS:	

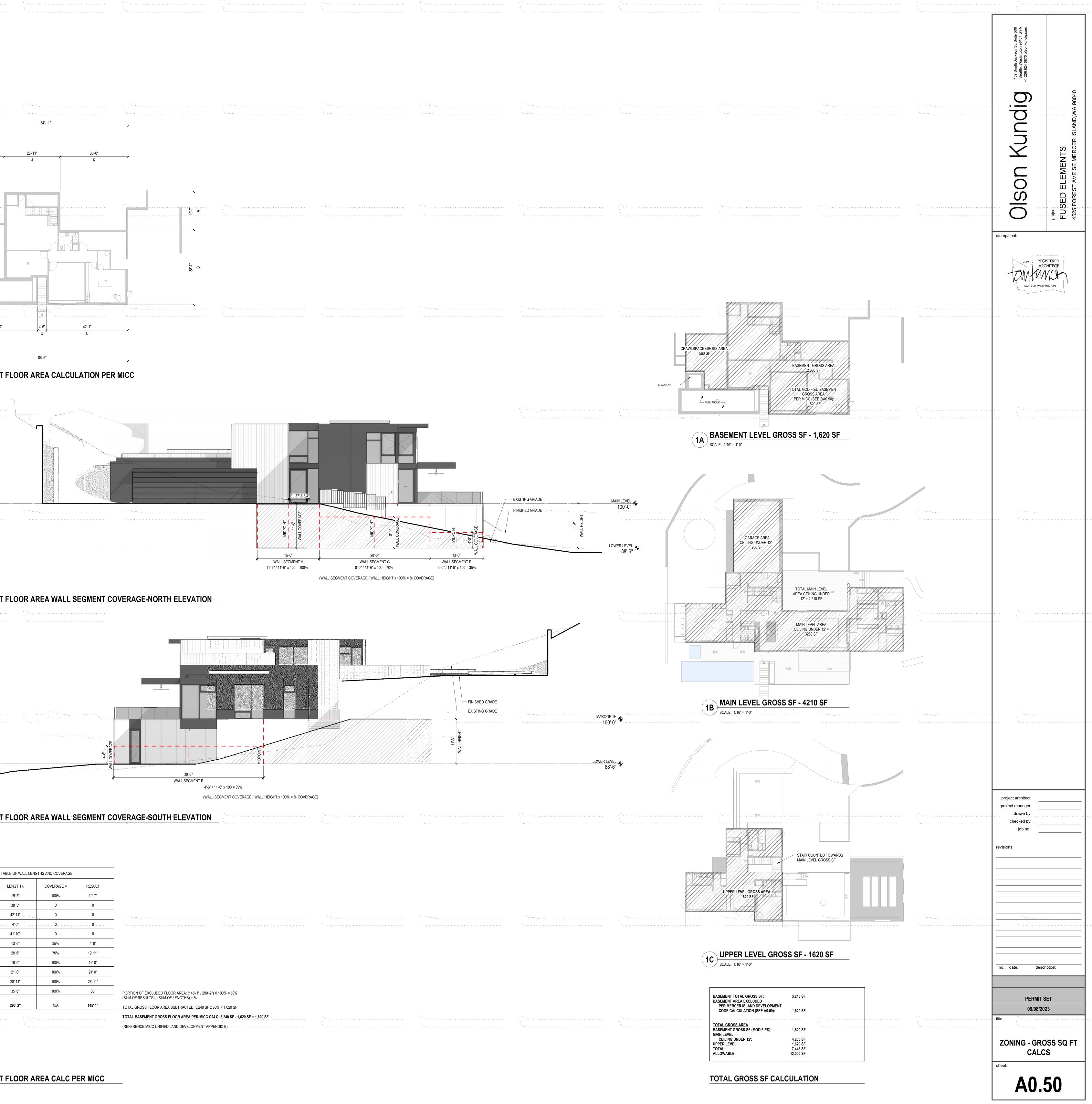
ACOUSTIC BOARD	P3	PARTITION	DESCRIPTION: TILE (WET LOCATIONS)	P2
[09 2900] FINISH PER SCHEDULE (ACOUSTIC) [06 1000] 2x6 WOOD FRAMING U.N.O. [09 8116] ACOUSTIC BATT INSULATION	FIRE RATING: 1 HOUR STC RATING: 		[09 3014] STONE/TILE FLOORING [09 3005] THIN-SET MORTAR [09 3005] LIQUID- APPLIED WATERPROOFING [09 3005] CEMENTITIOUS BACKER BOARD [06 1000] WOOD FRAMING PER STRUCTRAL [09 8116] ACOUSTIC BATT INSULATON [09 2900] FINISH PER SCHEDULE *TYPE-X GWB AT GARAGE SIDE WHERE APPLICAB *MOISTURE RESISTANT GWB AT DAMP AREAS ASSEMBLY ALTERNATE: P2A - (STEAM SHOWER LOCATIONS) REMOVE [09 3005] LIQUID- APPLIED WATERPR [09 3005] THINSET SHEET MEMBRANE WATERF	OOFING ADD
UL RATING AND OTHER STANDARDS DESIGNATIONS:			UL RATING AND OTHER STANDARDS DESIGNATIONS: *FOR TILE COMPLY WITH TCNA W244C	

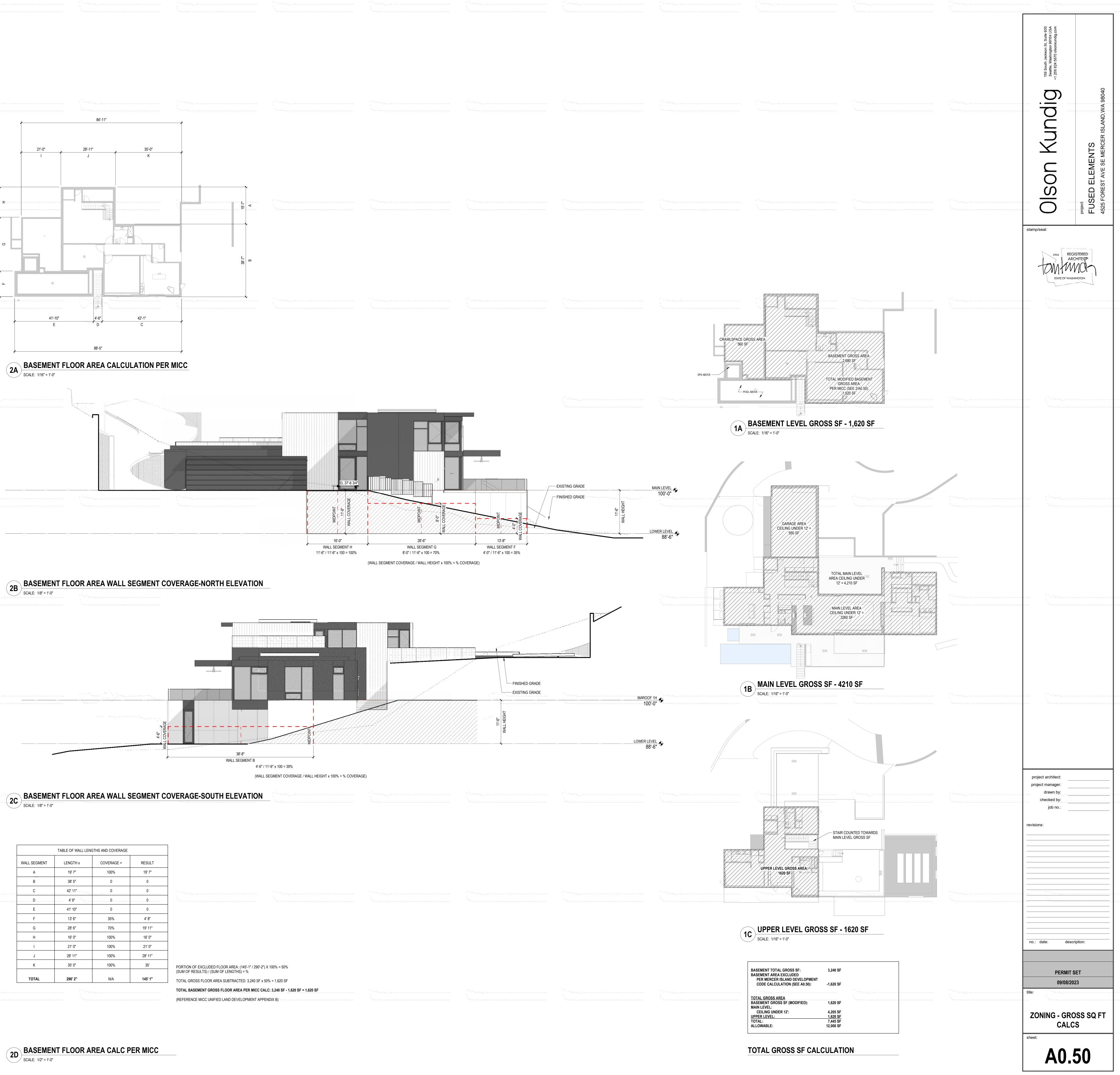
MARK: F3 FIRE RATING:		DESCRIPTION: WOOD FLOORING OVER WOOD FRAMING	MARK: F2 FIRE RATING:	DESCRIPTION: CONCRETE TOPPING SLAB OVER SLAB ON GRADE	MARK: F1A FIRE RATING:
HOUR	CEILING ASSEMBLY	[09 6400] WOOD FLOORING (3/4") [09 6400] SLIP SHEET [09 6400] PLYWOOD UNDERLAYMENT [09 6400] PLYWOOD UNDERLAYMENT [06 1600] PLYWOOD SUBFLOOR PER STRUCTRAL [06 1000] WOOD FRAMING PER STRUCTRAL [09 8116] ACOUSTIC BATT INSULATON ASSEMBLY ALTERNATE: F2A [07 2100] REPLACE ACOUSTIC BATT INSULATION WITH R-30 BATT INSULATION F2-B [07 8100]ADD FIRE RETARDANT COATING	HOUR	[07 1900] CLEAR SEALER [03 3000] CONCRETE TOPPING SLAB [03 3000] VAPOR RETARDER [07 2100] R-10 MIN XPS RIGID INSULATION [31 2000] DRAINAGE COURSE PER CIVIL [31 2000] STRUCTURAL FILL PER GEO REPORT ASSEMBLY ALTERNATE F1B [09 2000]	HOUR
		UL RATING AND OTHER STANDARDS DESIGNATIONS:		UL RATING AND OTHER STANDARDS DESIGNATIONS:	

Image: constraint of the second se	DESCRIPTION: PVC ROOF [07 5419] PVC ROOFING [07 5419] GYPSUM SUBSTRATE BOARD [07 5419] RIGID INSULATION SLOPED TO DRAIN 1/4":12" [07 5419] SELF ADHERED AIR / VAPOR RETARDER [06 1600] PLYWOOD SHEATHING PER STRUCTRAL [06 1000] WOOD FRAMING PER STRUCTRAL [07 2119] CLOSED-CELL SPRAY FOAM INSULATION R-40 UL RATING AND OTHER STANDARDS DESIGNATIONS:		Olson Kundig 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1.206 624 5670 alsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
STRUCTURAL ASSEMBLY	DESCRIPTION: GYPSUM BOARD CEILING [06 1000] WOOD FRAMING AS REQ [09 2900] TYPE-X GYPSUM BOARD ASSEMBLY ALTERNATE: C1-A [07 8100] ADD FIRE RETARDANT COATING UL RATING AND OTHER STANDARDS DESIGNATIONS:	MARK: C1 FIRE RATING: 1 HOUR		STERED HITEOT
CEILING & SOFFIT ASSEMI SCALE: 11/2" = 1'-0"	DESCRIPTION: GYPSUM WALL BOARD [09 2900] FINISH PER SCHEDULE [06 1000] 2x6 WOOD FRAMING U.N.O. [09 8116] ACOUSTIC BATT INSULATION [09 2900] FINISH PER SCHEDULE *TYPE-X GWB AT GARAGE SIDE WHERE APPLICABLE *MOISTURE RESISTANT GWB AT DAMP AREAS ASSEMBLY ALTERNATE: P1A [06 1000] USE 2X4 WOOD FRAMING P1B [06 1600] ADD PLYWOOD PER STRUCTURAL ONE SIDE OF FRAMING	Mark: P1 Fire rating: 1 Hour StC Rating:		
INTERIOR WALL ASSEMBL SCALE: 1 1/2" = 1'-0"	IES (06 2000) GWB (06 2000) GWB (06 1000) FURRING STRIP PER MFR REQUIREMENTS (07 2717) SELF-ADHERED MEMBRANE AIR/WEATHER B (06 1600) PLYWOOD SHEATHING PER STRUCTURAL (06 1000) 2x6 WOOD FRAMING U.N.O. WITH (07 2100) BATT INSULATION, R-21 (07 2100) VAPOR RETARDER (06 2000) GWB (09 2900) FINISH PER SCHEDULE	MARK: W77 FIRE RATING: HOUR		
	ASSEMBLY ALTERNATE: W-6-8 [06 1000] USE 2X8 WOOD FRAMING W-6-10 [06 1000] USE 2X10 WOOD FRAMING UL RATING AND OTHER STANDARDS DESIGNATIONS: DESCRIPTION: CONCRETE UNINSULATED [03 3000] CAST-IN-PLACE CONCRETE [PER STRUCTRAL ASSEMBLY ALTERNATE: W1-A [07 2100] ADD CONTINUOUS XPS RIGID FOAM INSULATION R-5 [07 8100] ADD FIRE RETARDANT COATING	MARK: W1 FIRE RATING: 1 HOUR	project architect: project manager: drawn by: checked by: job no.:	
PER STRUCT INTERIOR EXTERIOR WALL ASSEMB SCALE: 1 1/2" = 1'-0"	UL RATING AND OTHER STANDARDS DESIGNATIONS: LIES DESCRIPTION: CONCRETE SLAB ON GRADE [07 1900] CLEAR SEALER [03 3000] CONCRETE SLAB PER STRUCTRAL [03 3000] VAPOR RETARDER [07 2100] R-10 MIN XPS RIGID INSULATION [31 2000] DRAINAGE COURSE PER CIVIL [31 2000] STRUCTURAL FILL PER GEO REPORT	MARK: F1 FIRE RATING: HOUR		
FI OOR ASSEMBLIES	UL RATING AND OTHER STANDARDS DESIGNATIONS:		09/08/2023 title: ASSEMBL sheet: A0.3	IES

	84'-11" 84'-11"
	BASEMENT FLOOR AREA CALCULATION PER N SCALE: 1/16" = 1'-0"
	BASEMENT FLOOR AREA WALL SEGMENT CON SCALE: 1/8" = 1'-0"
	4.e.
	2C BASEMENT FLOOR AREA WALL SEGMENT CON SCALE: 1/8" = 1'-0"
	TABLE OF WALL LENGTHS AND COVERAGE           WALL SEGMENT         LENGTH x         COVERAGE =         RESULT           A         19'7"         100%         19'7"           B         38'5"         0         0           C         42'11"         0         0           D         4'6"         0         0           E         41'10"         0         0           F         13'6"         35%         4'8"           G         28'6"         70%         19'11"           H         16'0"         100%         16'0"           I         21'0"         100%         21'0"
	J         28' 11"         100%         28' 11"           K         35' 0"         100%         35'           TOTAL         290' 2"         N/A         145' 1"





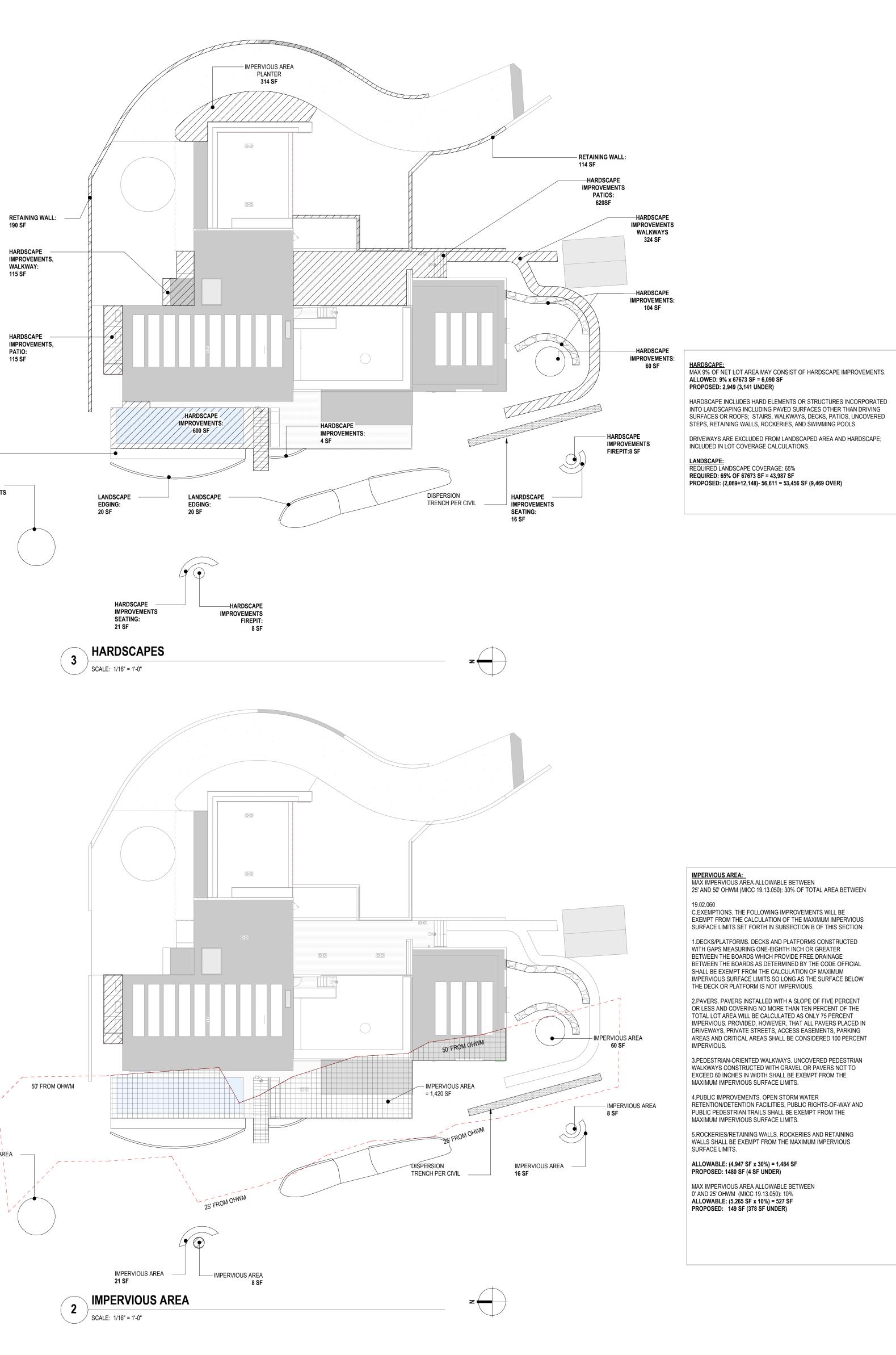


IMPERVIOUS AREA -96 SF

PLANTER: 118 SF

HARDSCAPE

IMPROVEMENTS PATIO: 96 SF



IMPERVIOUS AREA: MAX IMPERVIOUS AREA ALLOWABLE BETWEEN 25' AND 50' OHWM (MICC 19.13.050): 30% OF TOTAL AREA BETWEEN SHALL BE EXEMPT FROM THE CALCULATION OF MAXIMUM

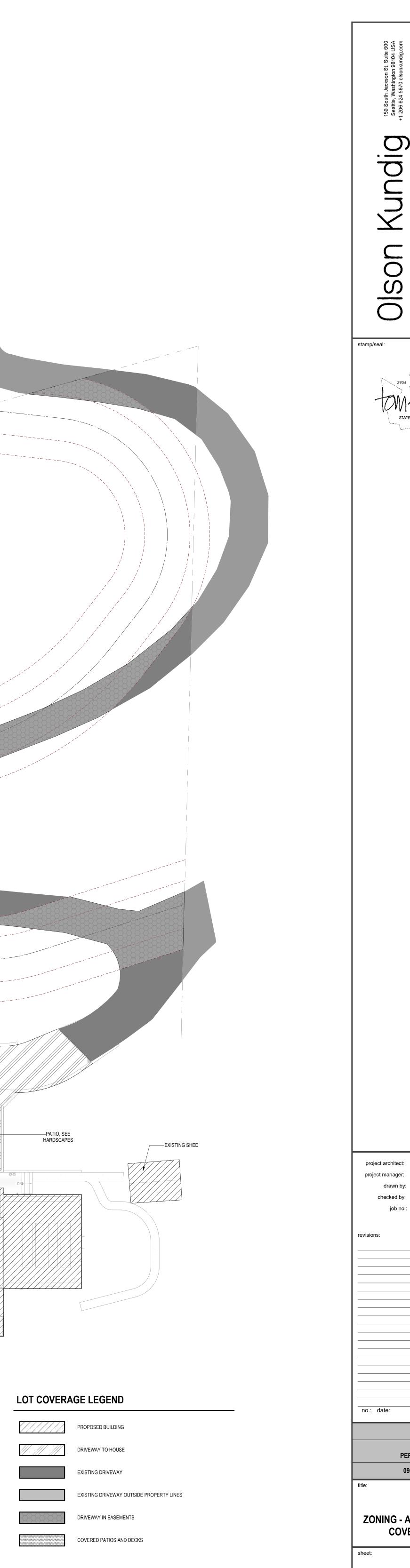
C.EXEMPTIONS. THE FOLLOWING IMPROVEMENTS WILL BE EXEMPT FROM THE CALCULATION OF THE MAXIMUM IMPERVIOUS SURFACE LIMITS SET FORTH IN SUBSECTION B OF THIS SECTION: 1.DECKS/PLATFORMS. DECKS AND PLATFORMS CONSTRUCTED WITH GAPS MEASURING ONE-EIGHTH INCH OR GREATER BETWEEN THE BOARDS WHICH PROVIDE FREE DRAINAGE BETWEEN THE BOARDS AS DETERMINED BY THE CODE OFFICIAL IMPERVIOUS SURFACE LIMITS SO LONG AS THE SURFACE BELOW THE DECK OR PLATFORM IS NOT IMPERVIOUS. 2.PAVERS. PAVERS INSTALLED WITH A SLOPE OF FIVE PERCENT OR LESS AND COVERING NO MORE THAN TEN PERCENT OF THE TOTAL LOT AREA WILL BE CALCULATED AS ONLY 75 PERCENT IMPERVIOUS. PROVIDED, HOWEVER, THAT ALL PAVERS PLACED IN DRIVEWAYS, PRIVATE STREETS, ACCESS EASEMENTS, PARKING AREAS AND CRITICAL AREAS SHALL BE CONSIDERED 100 PERCENT

3.PEDESTRIAN-ORIENTED WALKWAYS. UNCOVERED PEDESTRIAN WALKWAYS CONSTRUCTED WITH GRAVEL OR PAVERS NOT TO EXCEED 60 INCHES IN WIDTH SHALL BE EXEMPT FROM THE

WALKWAY, SEE //HARDSCAPES / / / / / / / / / ' \_\_\_\_\_ POOL AND STAIRS, SEE HARDSCAPES LOT COVERAGE: MAXIMUM LOT COVERAGE: 35% FOR LOT SLOPE FROM 15% TO LESS THAN 30% (SITE 26.5% SLOPE) INCLUDES BUILDING STRUCTURE, ALL DRIVABLE SURFACES (DRIVEWAY, PARKING PAD, TURN-AROUNDS, EXCEPT THOSE PORTIONS IN ACCESS EASEMENTS THAT DO NOT SURE THE ENCUMBERED LOT), ROOF LINE (INCLUDING EAVES AND COVERED DECKS). DRIVEWAYS ARE EXCLUDED FROM LANDSCAPED AREA AND HARDSCAPE. TOTAL DRIVEWAY FROM STREET TO BUILDING TRANSITION = 7,186 SF MINUS AREA OUTSIDE PROPERTY LINE = 1,799 SF MINUS DRIVEWAY IN EASEMENT = 2,901 SF BALANCE OF DRIVEWAY TO HOUSE = 4,152 SF PROPOSED BUILDING: 5,350 SF EXISTING SHED: 258 SF PROPOSED COVERED PATIO AND DECKS: 188 SF TOTAL PROPOSED LOT COVERAGE = 12,240 SF ALLOWABLE: 35% OF 67,673 SF = 23,685 SF PROPOSED: 12,246 SF

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

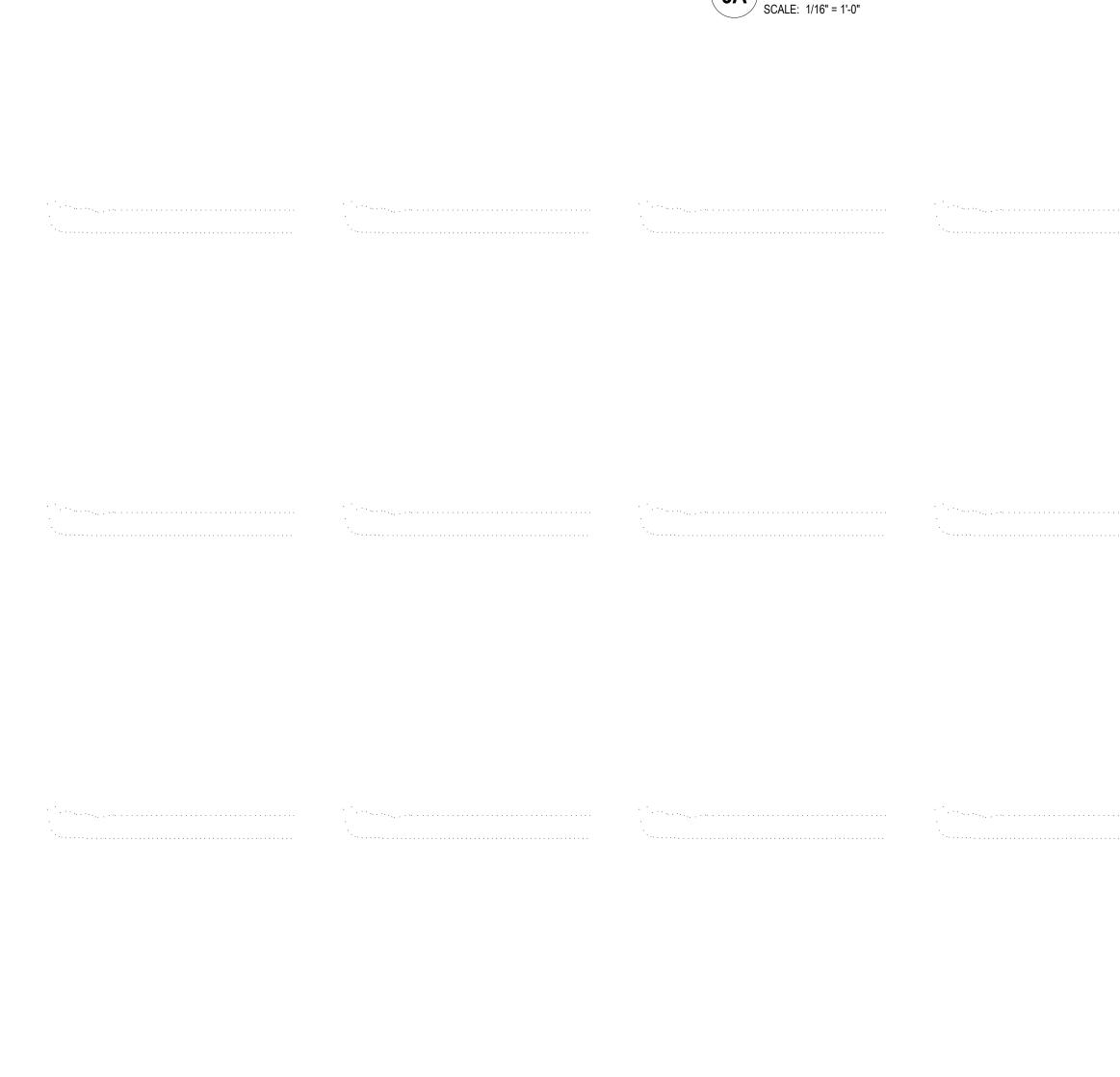
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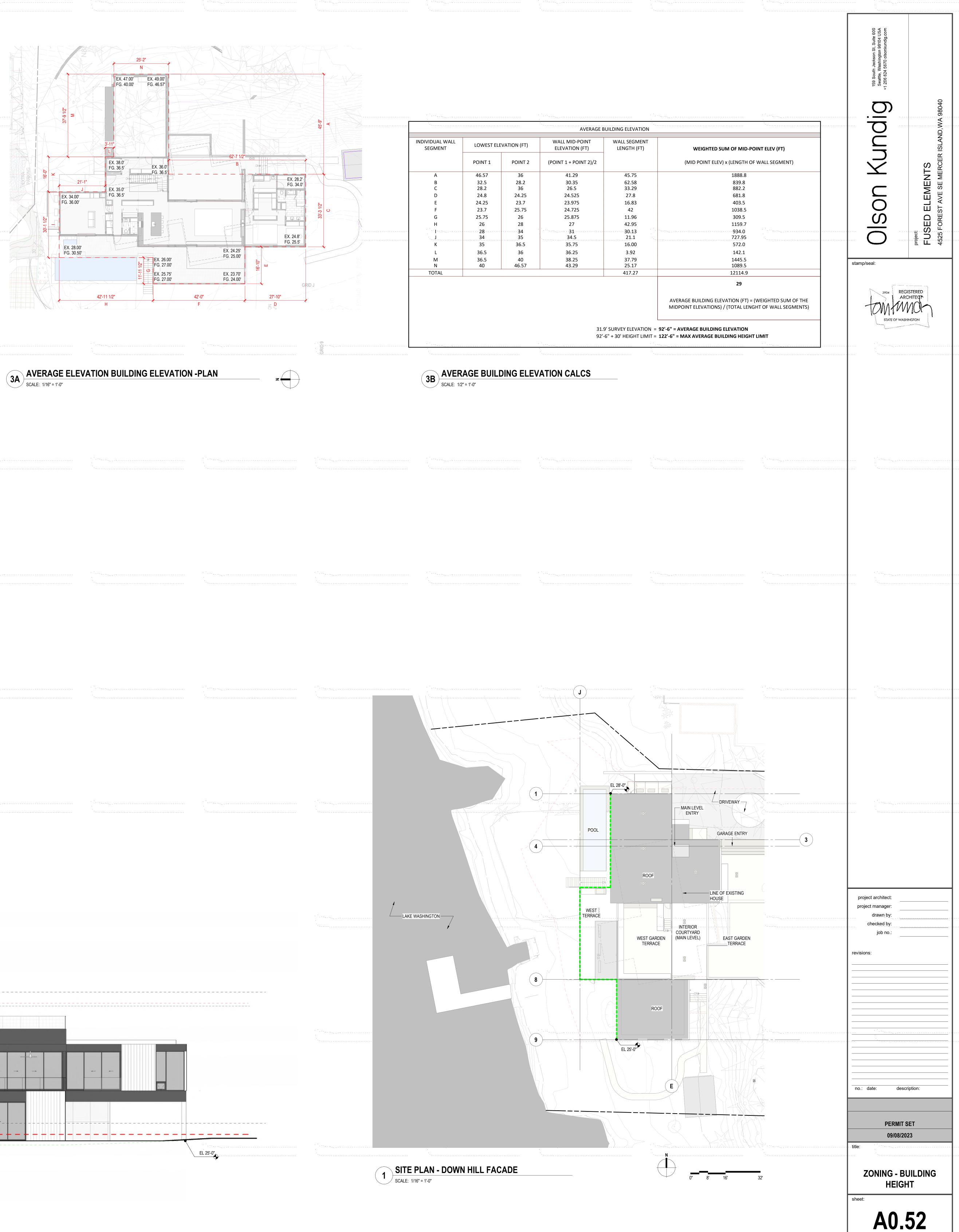


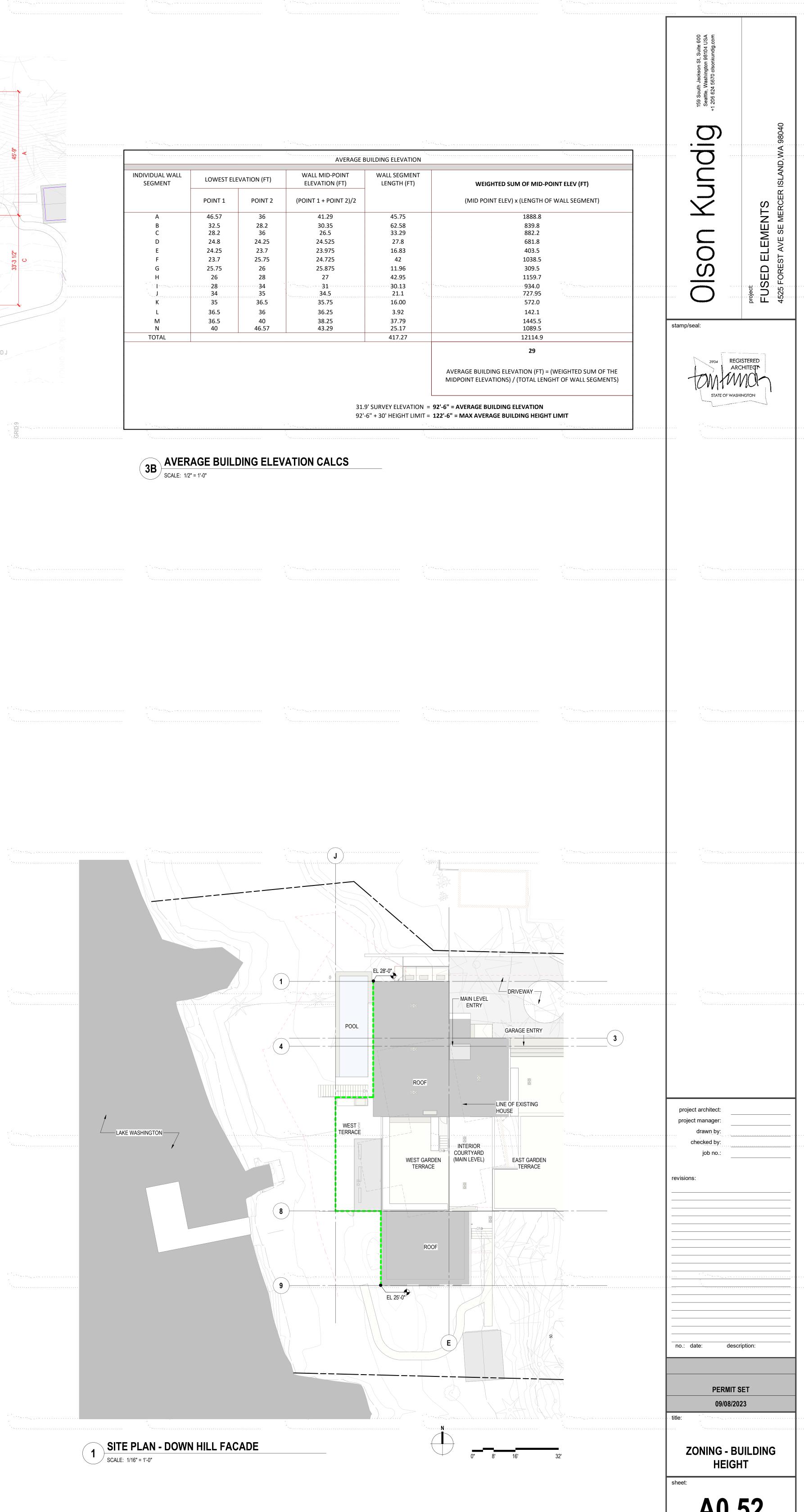
Olson Kundig 159 South Jackson St, Suite 600 Seattle, Washington 99104 USA +1 206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040				
	STERED HITEOT MOTON				
project architect: project manager: drawn by: checked by: job no.: revisions:					
no.: date: descri	ption:				
PERMIT SE 09/08/2023					
title: ZONING - AREAS & LOT COVERAGE					
sheet: A0.51					

					25'-2" N EX. 47.00' EX. 49.00' FG. 40.00' FG. 46.57' G. 40.00' FG. 46.57' EX. 38.0' FG. 36.5' FG. 36.5' FG. 36.5' FG. 36.5'
					28.00' .30.50' 42'-11 1/2" H
				<b>3A AVERAGE E</b> SCALE: 1/16" = 1'-0"	LEVATION BUILDING ELEV
					· · · · · · · · · · · · · · · · · · ·
	AVERAGE BUILDING ELEV HEIGHT LIM 122'-6" DOWNHILL FACADE HEIGHT LIMIT UNDER LIMIT TOP OF WALL FACADE SUPPORTING ROOF FRAMING SEE MICC 19.02.020(E)(2) FINISHED GRADE AVERAGE BUILDING ELEV 92'-6"				
	AVERAGE DOWNHILL FACADE ELEVAT	ION = 26' 6" EXISTING WEST ELEVATION- DOWNHI	GRADE AT DOWNHILL FACADE		

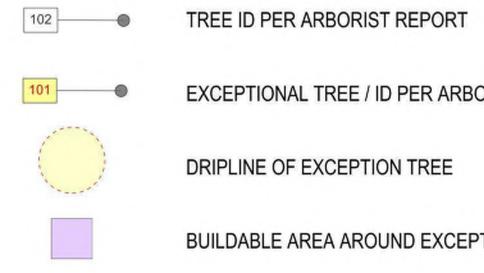
2 WEST ELEVATION- DOWNHILL FACADE SCALE: 1/8" = 1'-0"

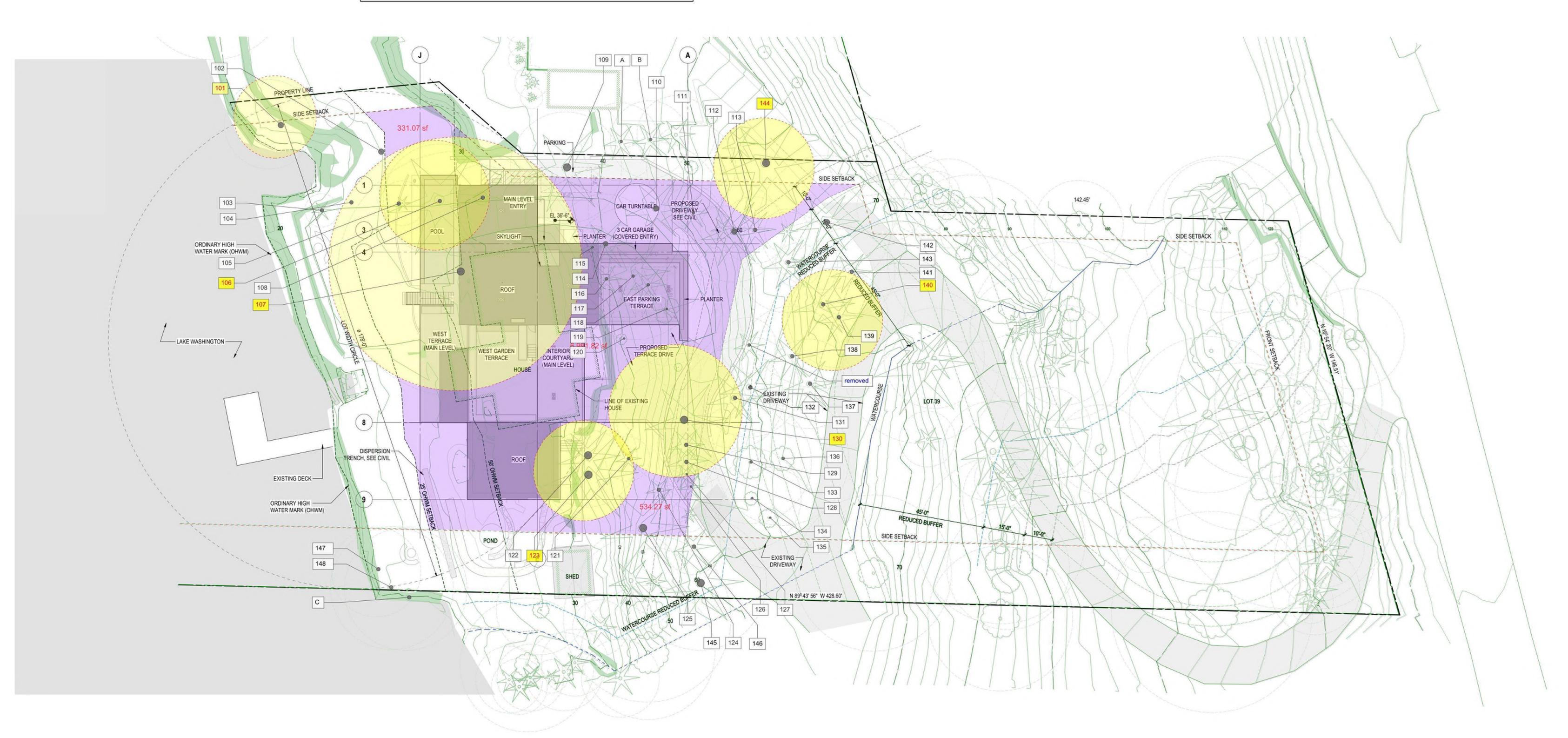






## DRAWING LEGEND





BUILDABLE AREA AROUND EXCEPTIONAL TREES

EXCEPTIONAL TREE / ID PER ARBORIST REPORT

85% x 12,000 SF = 10,200 SF 10,200 SF ALLOWABLE - 7,857 SF BUILDABLE AREA AROUND EXCEPTIONAL TREES 2,343 SF DEFICIT

12,000 SF MAX ALLOWABLE SF PER MICC

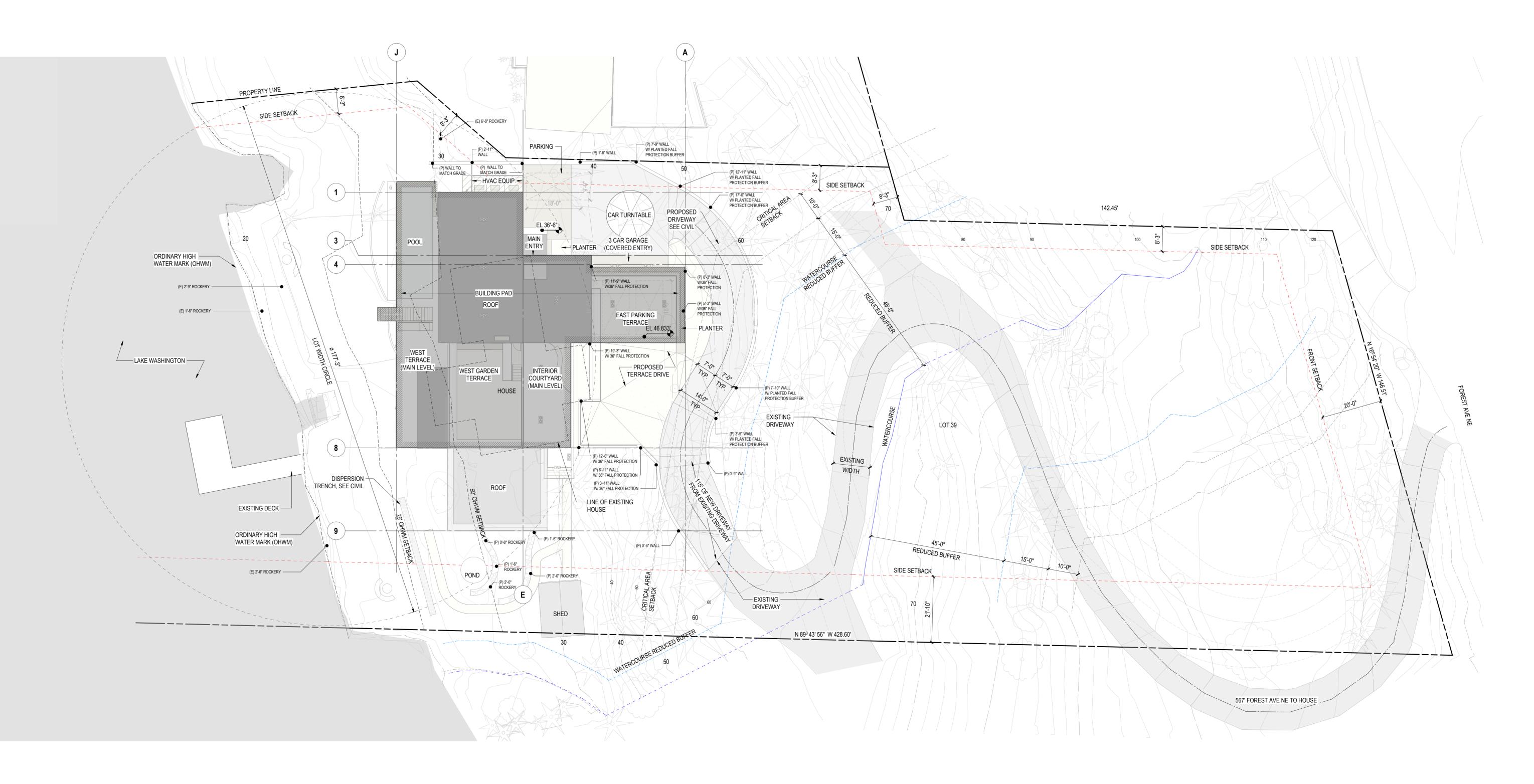
7,857 SF BUILDABLE AREA AROUND EXCEPTIONAL TREES

(MICC 19.10.060(A)(3)) B. RETENTION WILL LIMIT THE CONSTRUCTIBLE GROSS FLOOR AREA TO LESS THAN 85% OF THE MAXIMUM GROSS FLOOR AREA ALLOWED UNDER MICC 19.02

**RETENTION / REMOVAL OF EXCEPTIONAL TREES** 

1 EXCEPTION TREE - BUILDABLE AREA EXHIBIT SCALE: 1/16" = 1'-0"

OSON KUNDO Seattle, Washington 93104 USA +1.206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
project architect: project manager:	
project manager:	
no.: date: descri	ET
09/08/202 title: EXCEPTIC TREE-BUILDAE EXHIB	DNAL BLE AREA
sheet:	



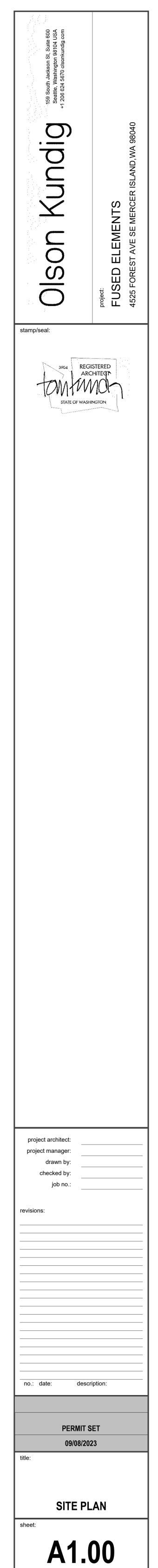
## SITE PLAN NOTES

- 1. SITE SURVEY ELEVATION 36'-6" = MAIN LEVEL BUILDING ELEVATION 100'-0"
- 2. SEE CIVIL DRAWINGS FOR GRADING AND DRAINAGE PLANS 3. SEE ARBORIST REPORT FOR EXISTING TREE LOCATIONS
- MICC 19.02.020 EACH SINGLE-FAMILY DWELLING WITH A GROSS FLOOR AREA OF 3,000 SQUARE FEET OR MORE SHALL HAVE AT LEAST THREE PARKING SPACES SUFFICIENT IN SIZE TO PARK A PASSENGER AUTOMOBILE; PROVIDED, AT LEAST TWO OF THE
- STALLS SHALL BE COVERED STALLS. 5. SEE SURVEY FOR ALL EASEMENTS
- 6. SEE CIVIL FOR ALL PROPOSED (P) WALL HEIGHTS. SEE SURVEYS FOR ALL EXISTING (E) WALLS 7. ALL WALLS GREATER THAN 30" IN HEIGHT THAT ARE ADJACENT TO WALKING
- SURFACES SHALL COMPLY WITH FALL PROTECTION CIDE MINIMUMS 8. ASSOCIATED LAND USE APPLICATIONS INCLUDE CAR2 AND SHORELINE EXEMPTION PERMIT

## SITE PLAN LEDGEND

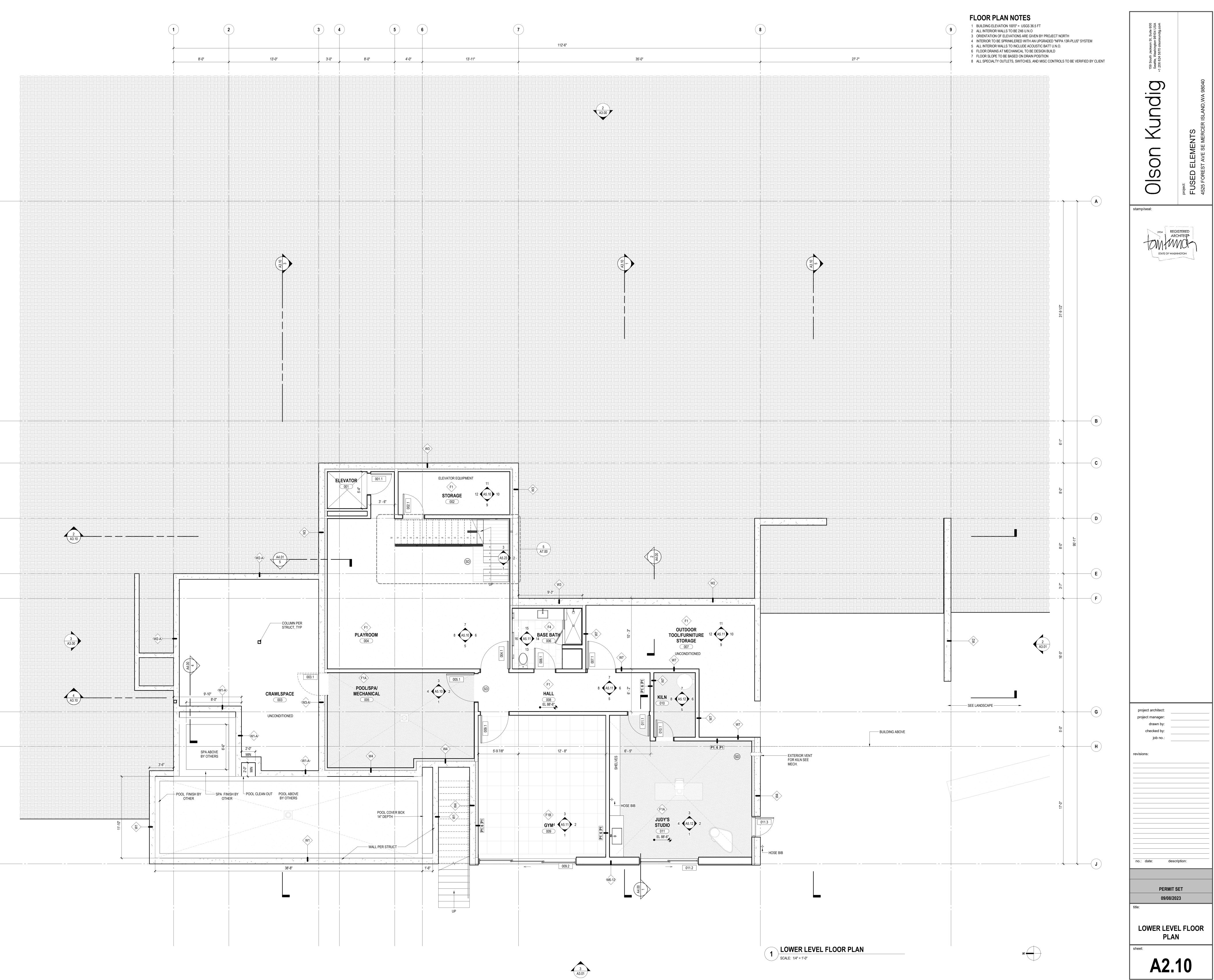
 PROPERTY LINE
 SIDE SETBACK
 SETBACK/ EASEME
 10' EXISTING CONT
 2' EXISTING CONTO

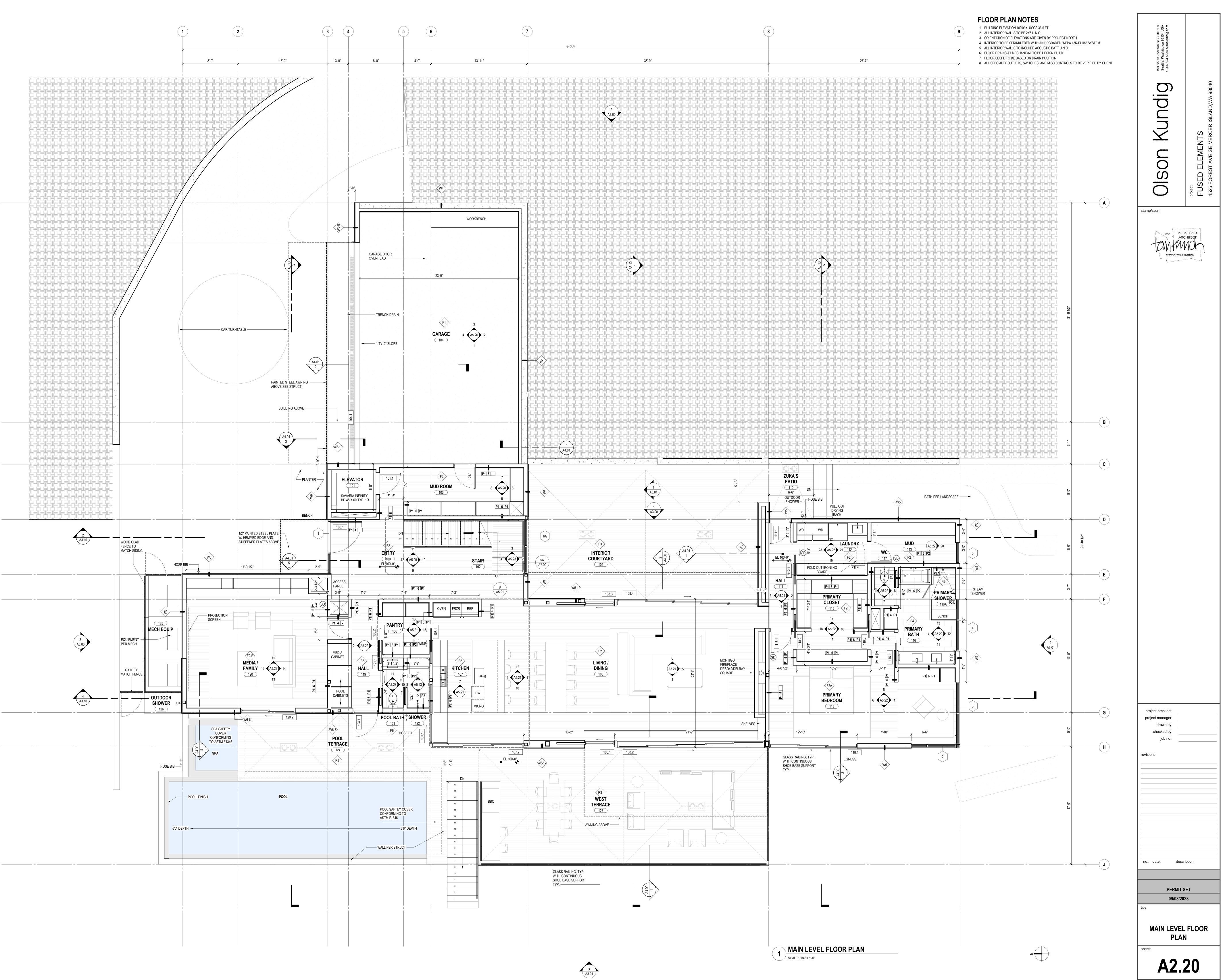
MENTS NTOURS ITOURS BUILDING PAD

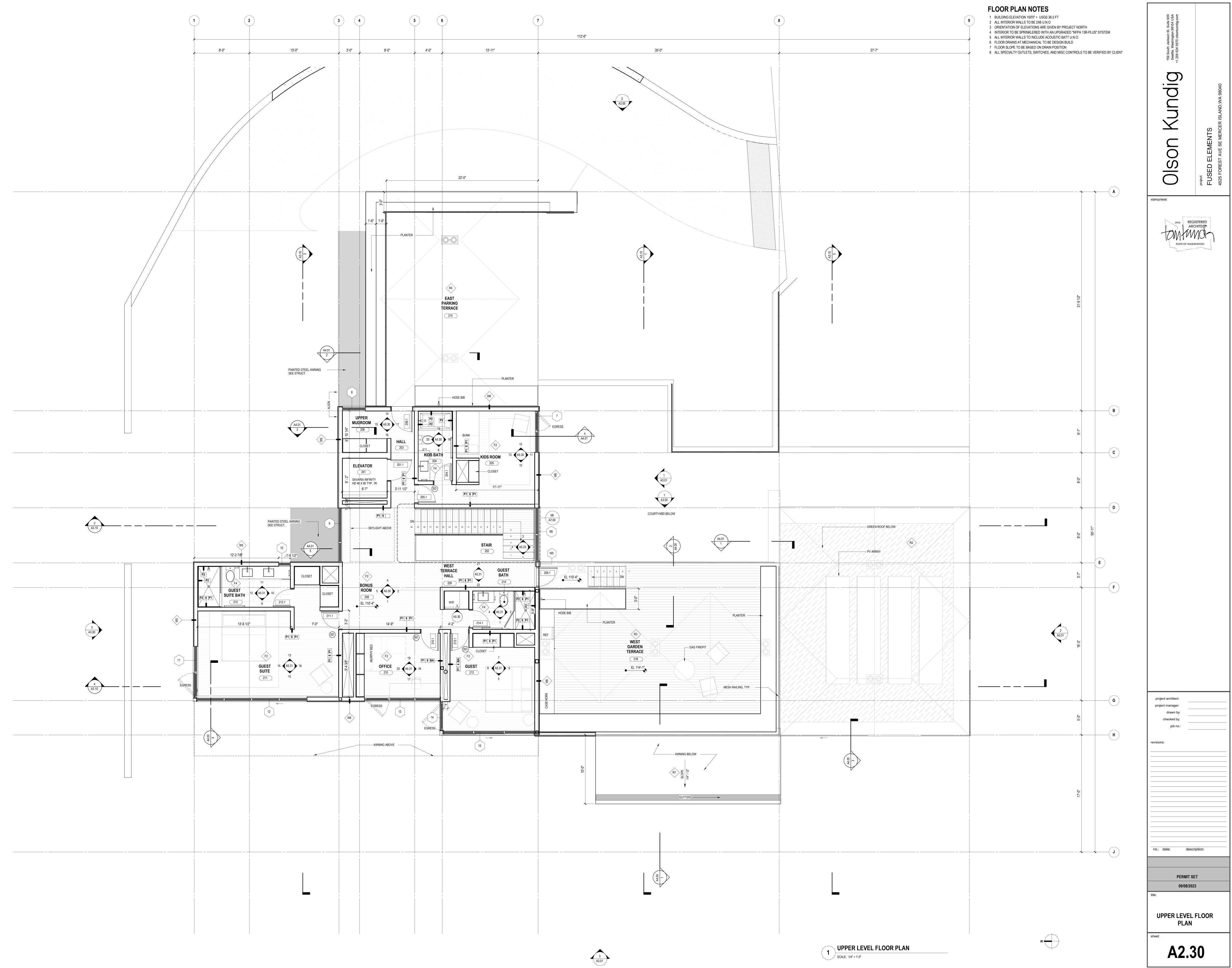


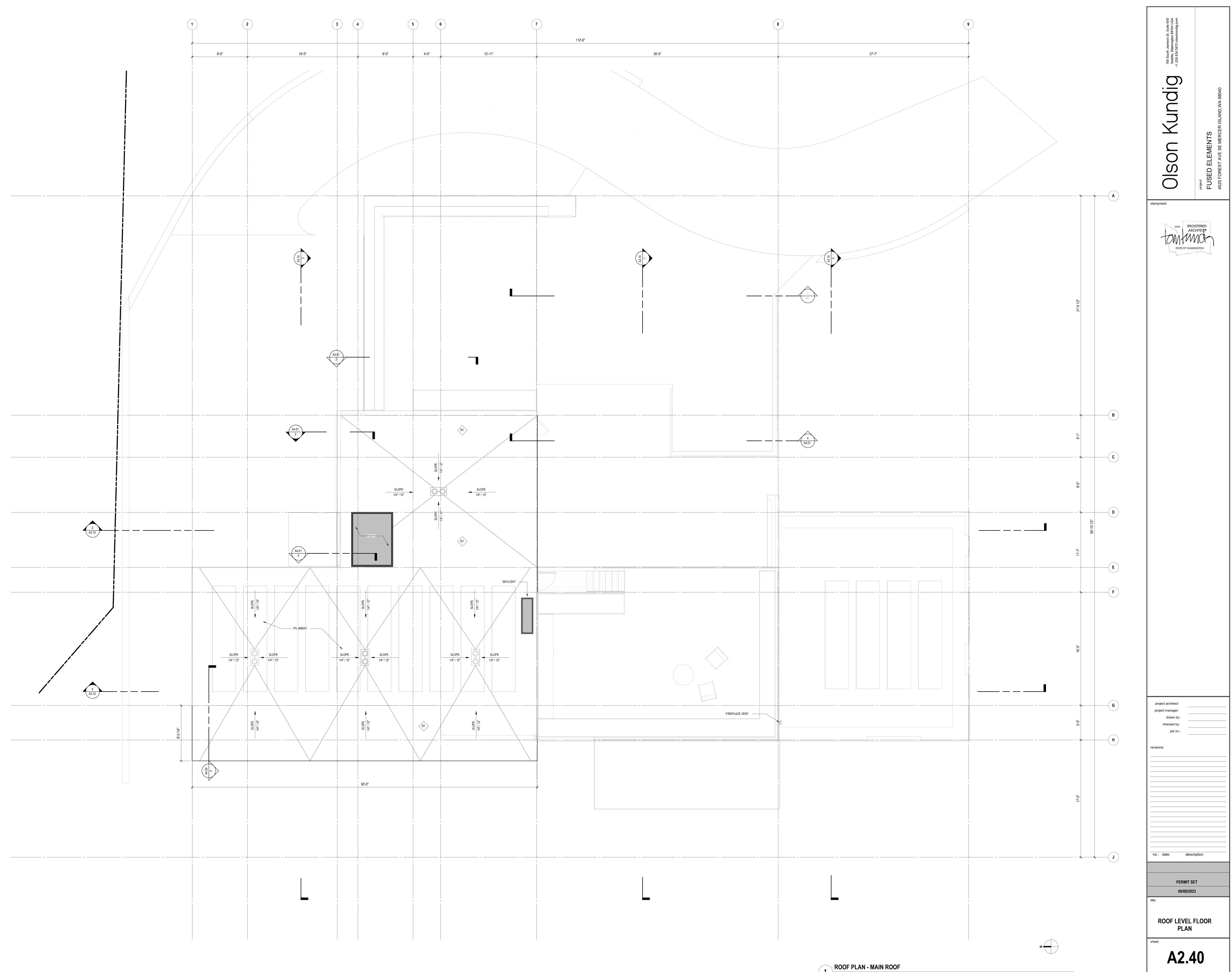
1 SITE PLAN SCALE: 1/16" = 1'-0"

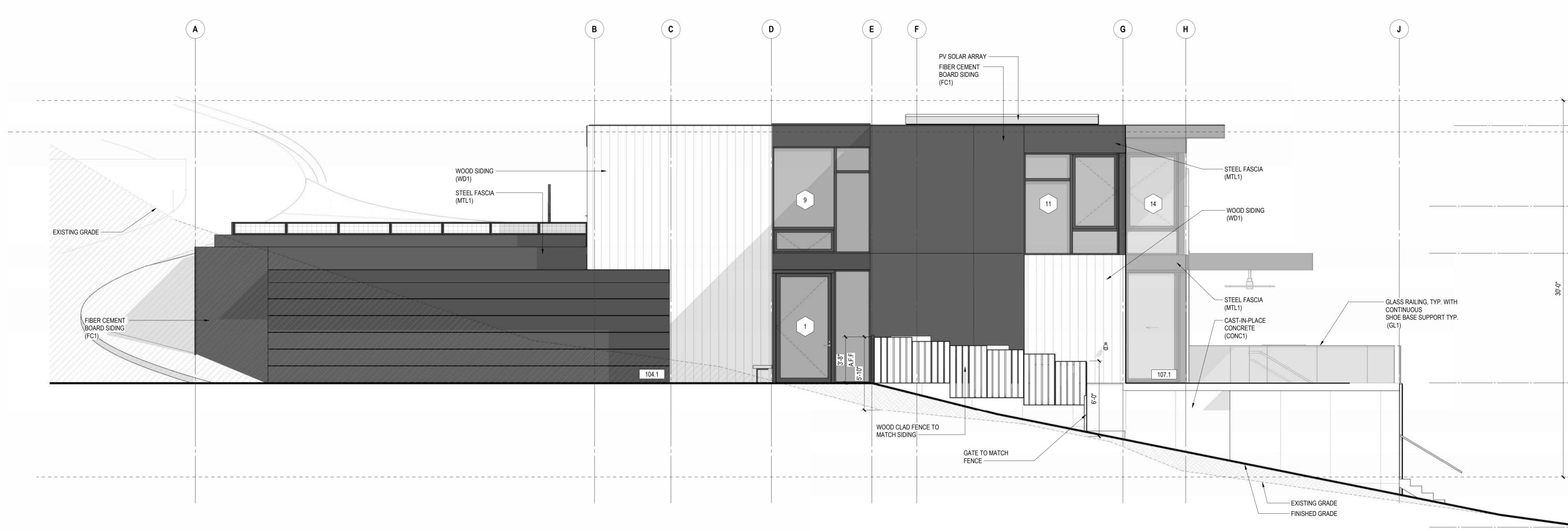
0" 8' 16'

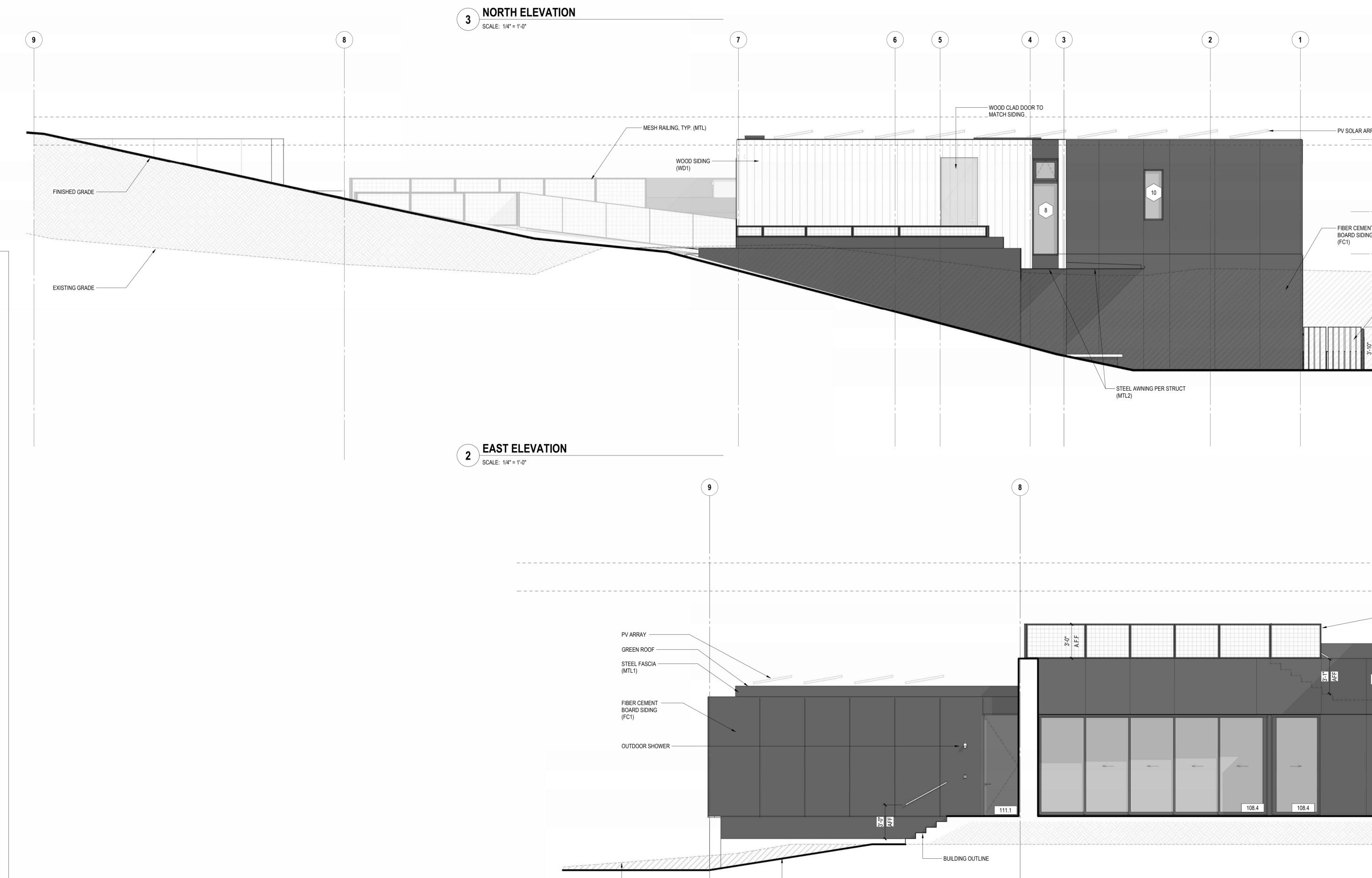






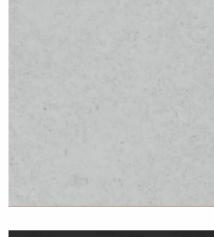






EXISTING GRADE

## EXTERIOR MATERIAL KEY













## CAST-IN-PLACE CONCRETE (CONC1) SMOOTH PANEL-FORMED CONCRETE WITH EXPOSED TIE HOLES

**PAINTED STEEL, TO MATCH WINDOWS (MTL1, MTL2)** STEEL SOFFIT STEEL FASCIAS EXTERIOR COLUMNS

METAL WINDOWS THERMALLY BROKEN METAL WINDOWS

VERTICAL FIBER CEMENT SIDING (FC1) SWISS PEARL LARGO, BLACK OPAL 7025

VERTICAL WOOD SIDING (WD1) CEDAR SIDING WITH PINE TAR FINISH

GLASS EXTERIOR GUARDRAILS WITH CONTINUOUS SHOE BASE SUPPORT TYP.(GL1)

- FINISH GRADE

AVERAGE BUILDING ELEV HEIGHT LIMIT (ABE) 122'-6" DOWNHILL FACADE HEIGHT LIMIT 120'-0"	ELEVATION LEGEND	Image: State Stat
	MAIN LEVEL 100'-0"	3904 REGISTERED ARCHITEQT STATE OF WASHINGTON
AVERAGE BUILDING ELEV 92'-6"	LOWER LEVEL 88'-6"	
RRAY	AVERAGE BUILDING ELEV HEIGHT LIMIT (ABE) 122'-6" UPPER ROOF 120'-6" DOWNHILL FACADE HEIGHT LIMIT 120'-0"	
ENT NG WOOD CLAD FENCE TO MATCH SIDING	WEST GARDEN TERRACE 114'-1" UPPER LEVEL 110'-4"	
3-10" A.F.F	MAIN LEVEL 100'-0"	
7		
	UPPER ROOF 122'-6" UPPER ROOF 120'-6" FACADE HEIGHT LIMIT 120'-0"	project architect: project manager: drawn by: checked by: job no.:
3:8. AFF	UPPER LEVEL 110'-4"	revisions:
	MAIN LEVEL 100'-0"	no.: date: description:
<u>Av</u>	92'-6"	PERMIT SET         09/08/2023         title:         EXTERIOR ELEVATIONS         NORTH AND EAST         sheet:
	0" 2' 4' 8'	A3.00



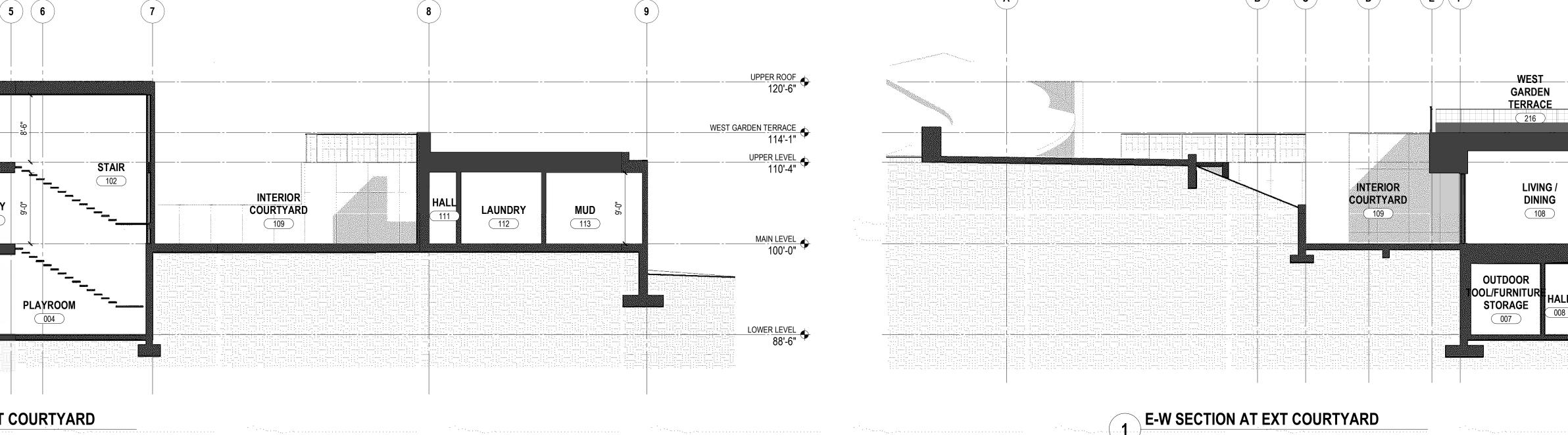


1 PARTIAL ELEVATION - SOUTH SCALE: 1/4" = 1'-0"

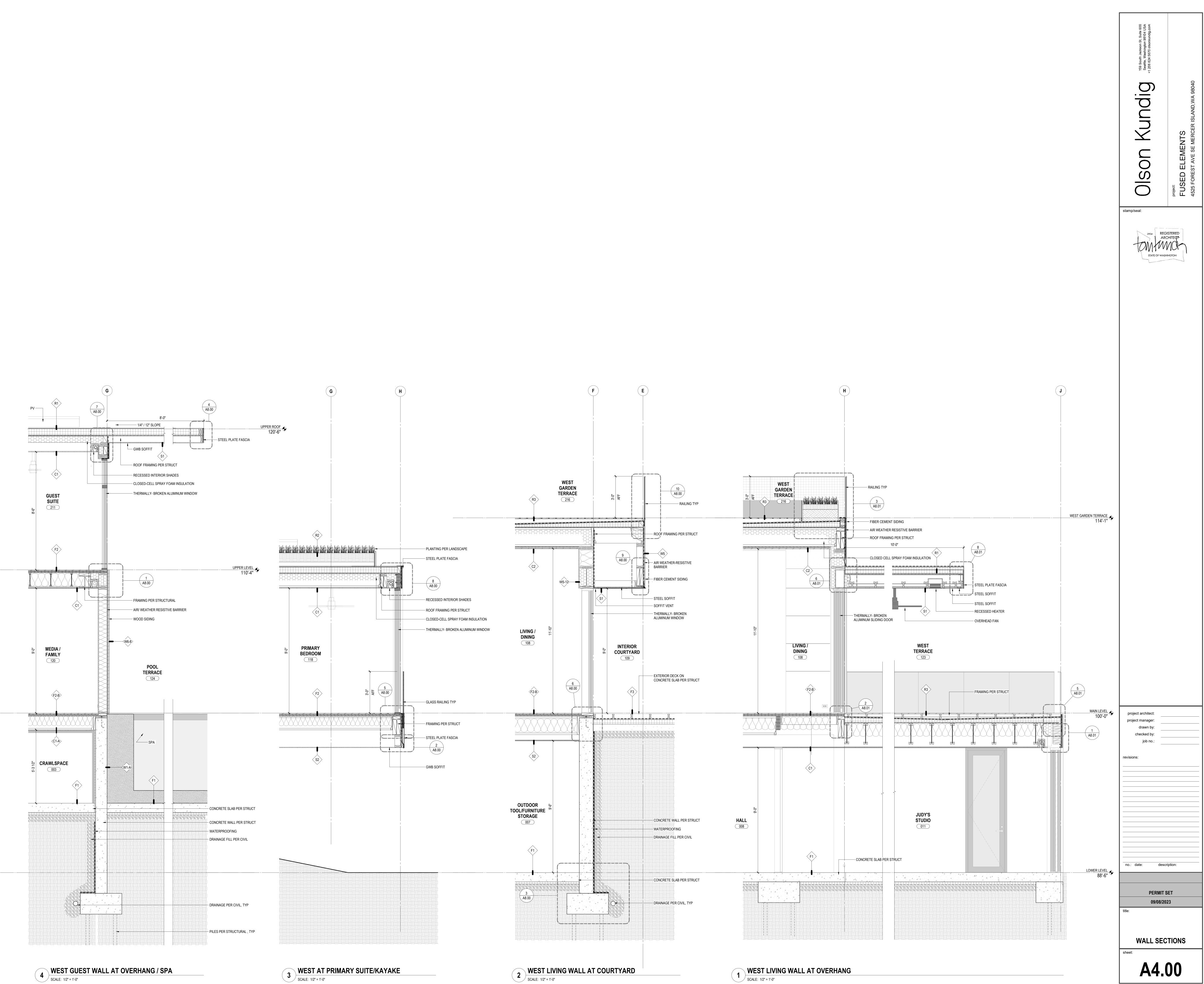
	ELEVATION LEGEND	S S O
9	СИТ	159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com
3	FILL	uth Jacksor ∍, Washingt i24 5670 ols
		159 Sc Seattle +1 206 6
	AVERAGE BUILDING ELEV HEIGHT LIMIT (ABE) 122'-6"	8840 8040
	UPPER ROOF 120'-6"	D, WA 9
	DOWNHILL FACADE HEIGHT LIMIT 120'-0"	
PV ARRAY		ISON Kundig Sed elements Forest ave se mercer island, wa 98040
GREEN ROOF	WEST GARDEN TERRACE 114'-1"	
(MTL1)	UPPER LEVEL 110'-4"	D ELI B ELI
	110'-4"	OISON K Project: FUSED ELEMENTS 4525 FOREST AVE SE MERCI
		stamp/seal:
2 WOOD SIDING (WD1)		stamp/seai:
STEEL FASCIA (MTL1) CAST-IN-PLACE	.0- .0E	3904 REGISTERED ARCHITECT
CONCRETE(CONC1)		STATE OF WASHINGTON
	AVERAGE BUILDING ELEV 92'-6"	
	LOWER LEVEL 88'-6"	
	AVERAGE BUILDING ELEV HEIGHT LIMIT (ABE) 122'-6"	
	UPPER ROOF 120'-6"	
	DOWNHILL FACADE HEIGHT LIMIT 120'-0"	
	WEST GARDEN TERRACE 114'-1"	
	UPPER LEVEL 110'-4"	
5		
30'-0"	MAIN   FVFI	
	MAIN LEVEL 100'-0"	
·	<u>AVERAGE BUILDING ELEV</u> 92'-6"	
	88'-6"	
		project architect: project manager:
		drawn by: checked by:
		job no.:
		revisions: 
		no.: date: description:
		PERMIT SET 09/08/2023
		title:
		EXTERIOR ELEVATIONS
		SOUTH AND WEST
		A3.01
	0" 4' 8' 16'	

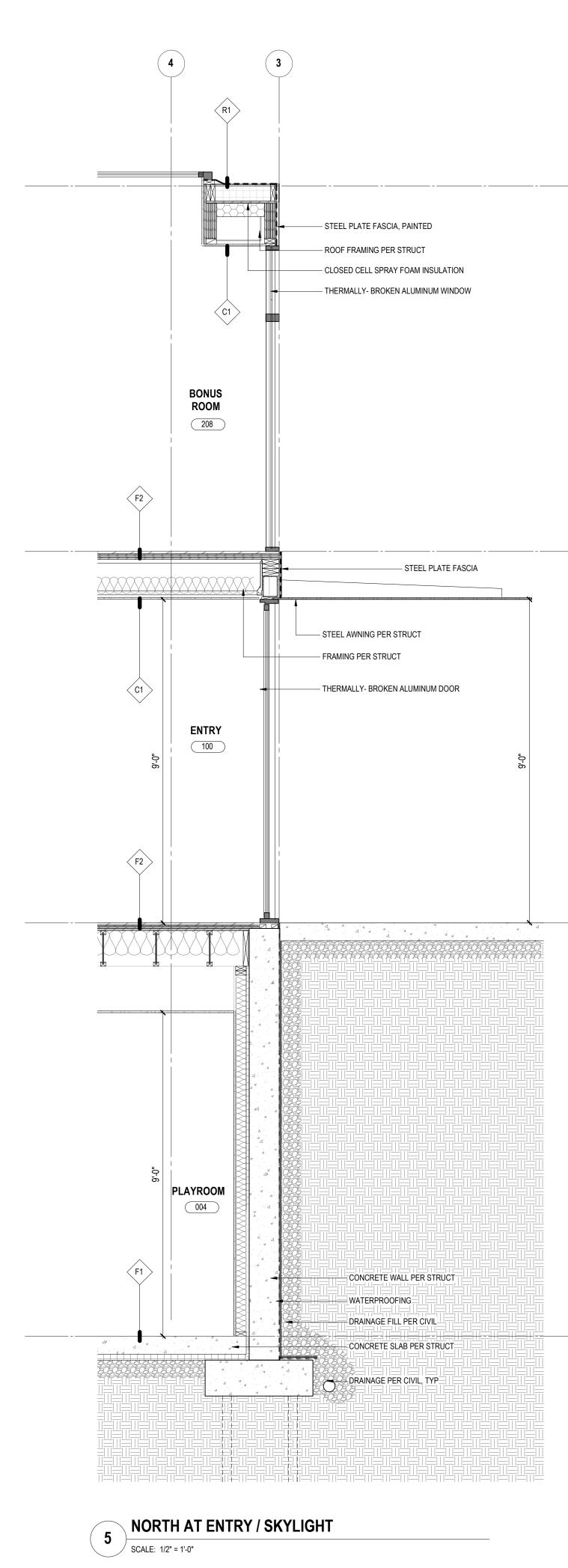
	1 2	
		GUEST SUITE 211 OFFIC 210 210 MEDIA / FAMILY 120 HALL 119
		AWLSPACE 003 S LONGITUDINAL AT LIVING
		E: 1/8" = 1'-0"
	· · · · · · · · · · · · · · · · · · ·	
		BONUS ROOM 208

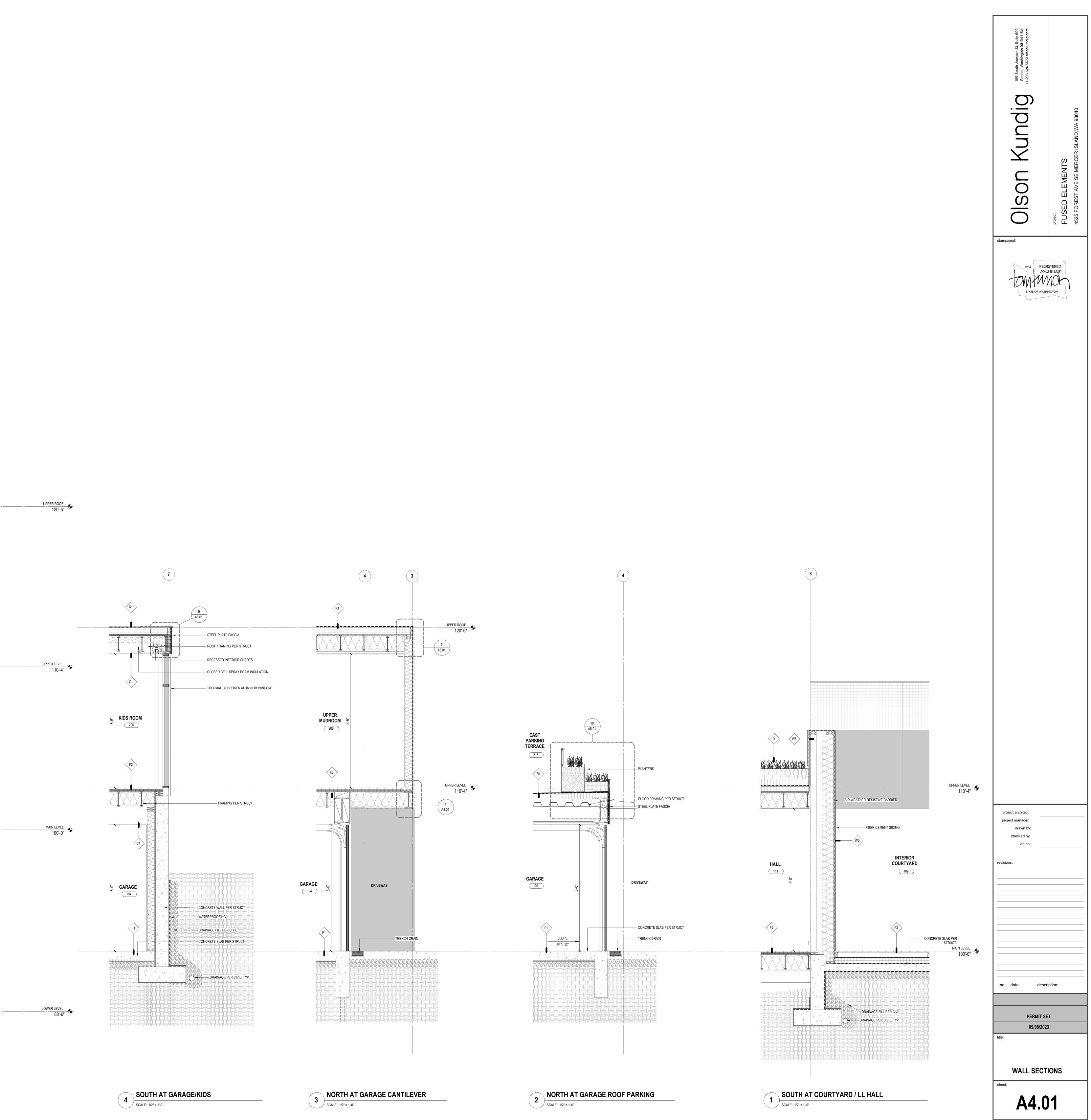
**ENTRY** 2 N-S LONGITUDINAL AT EXT COURTYARD SCALE: 1/8" = 1'-0"

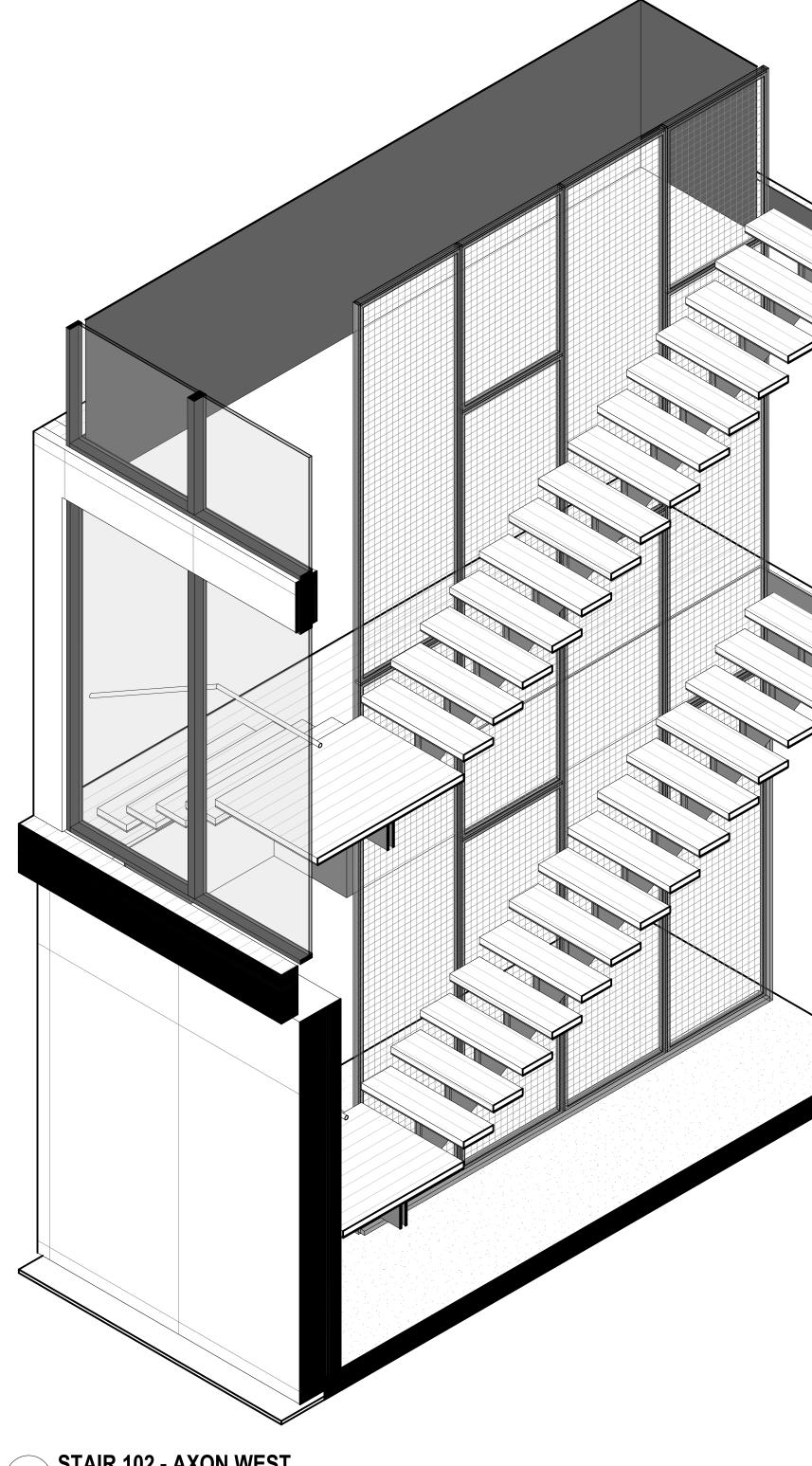




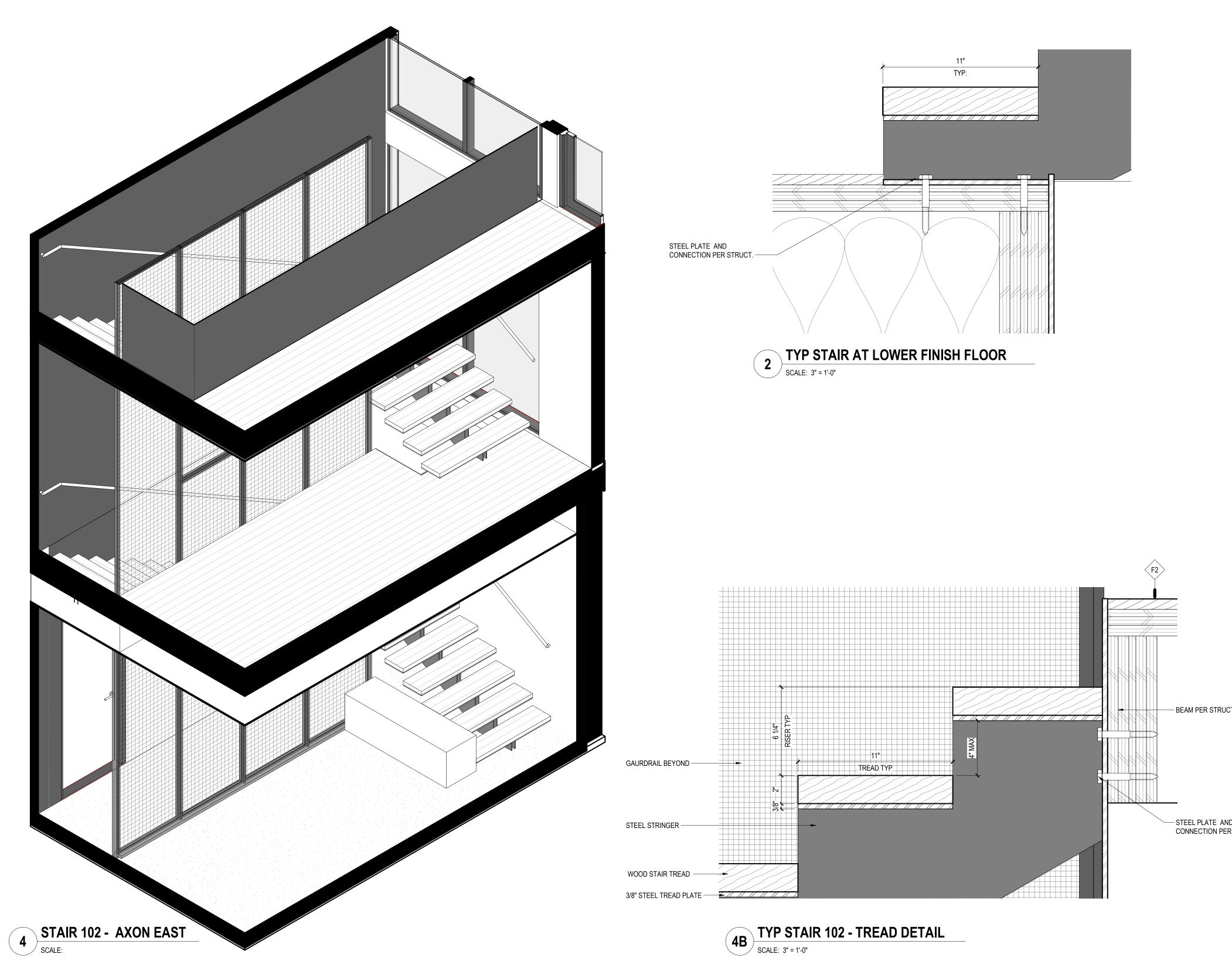


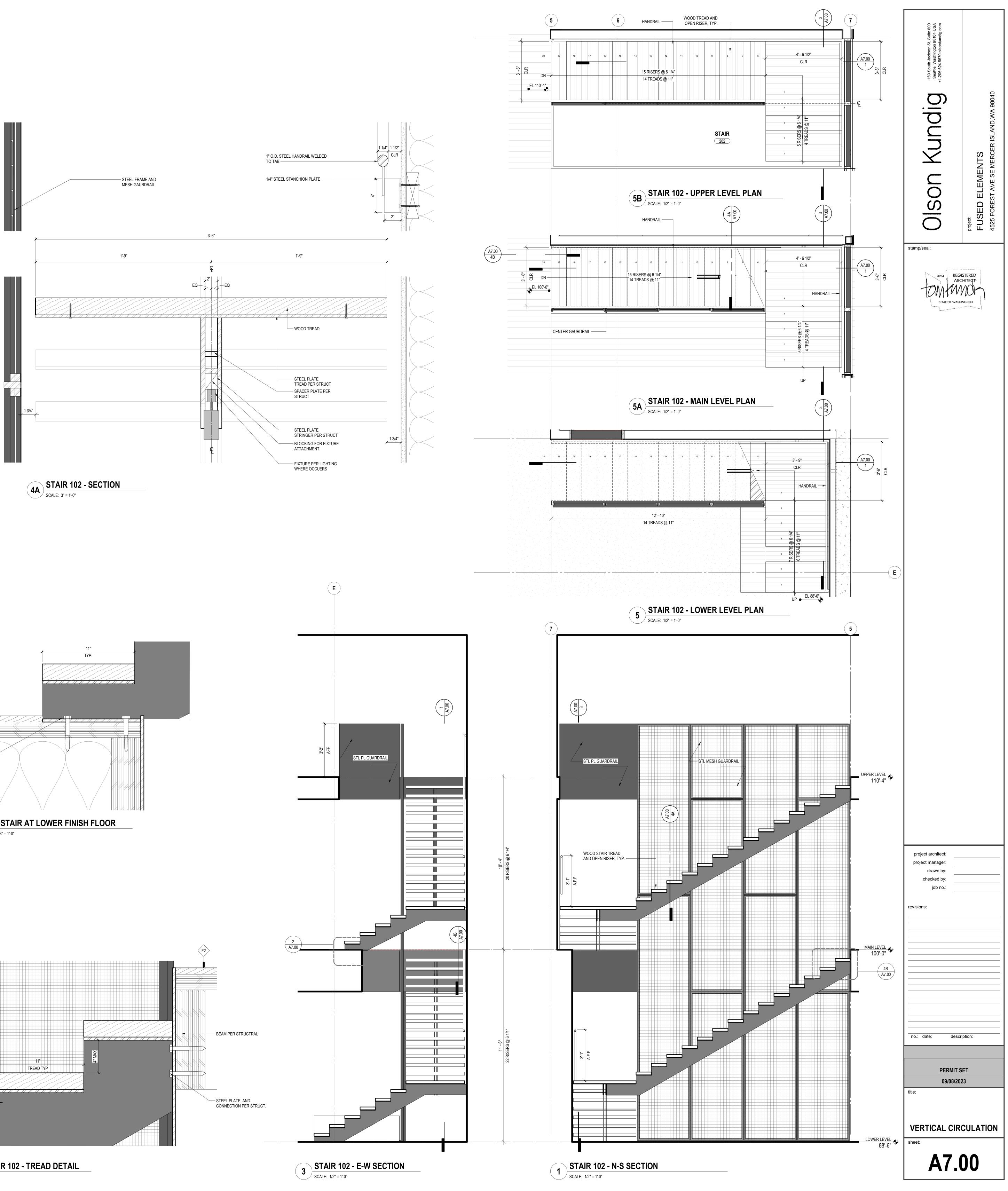




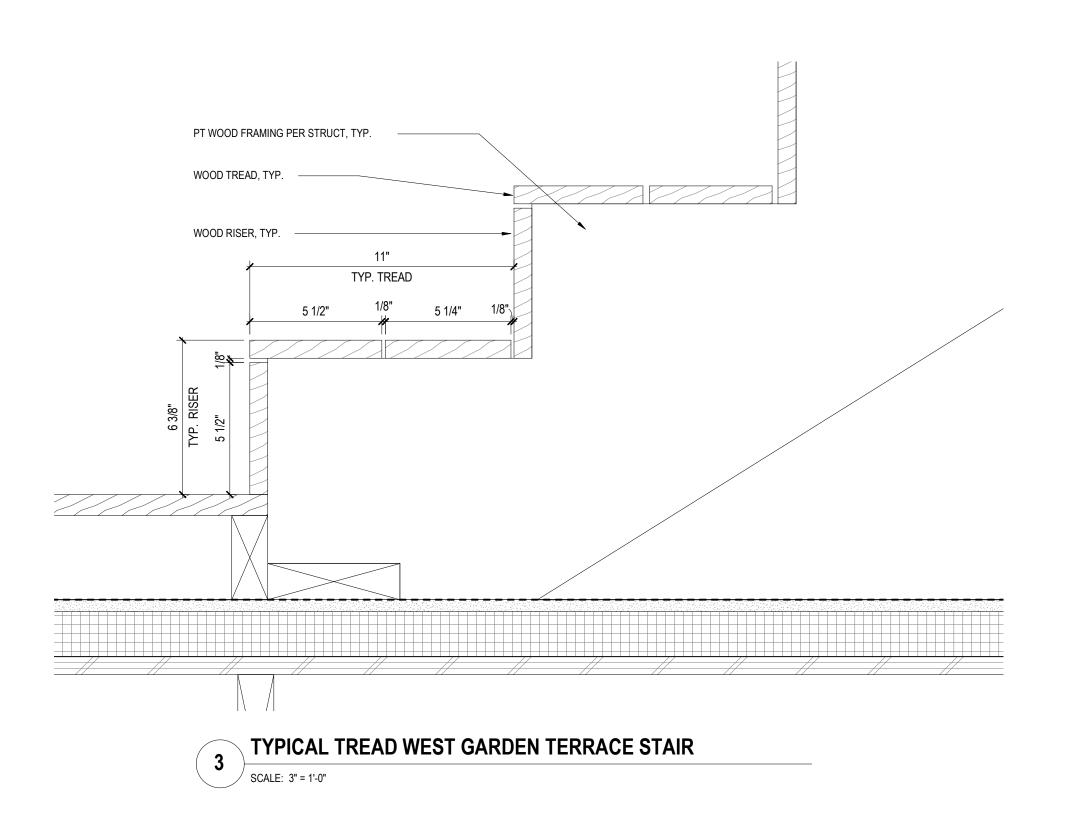


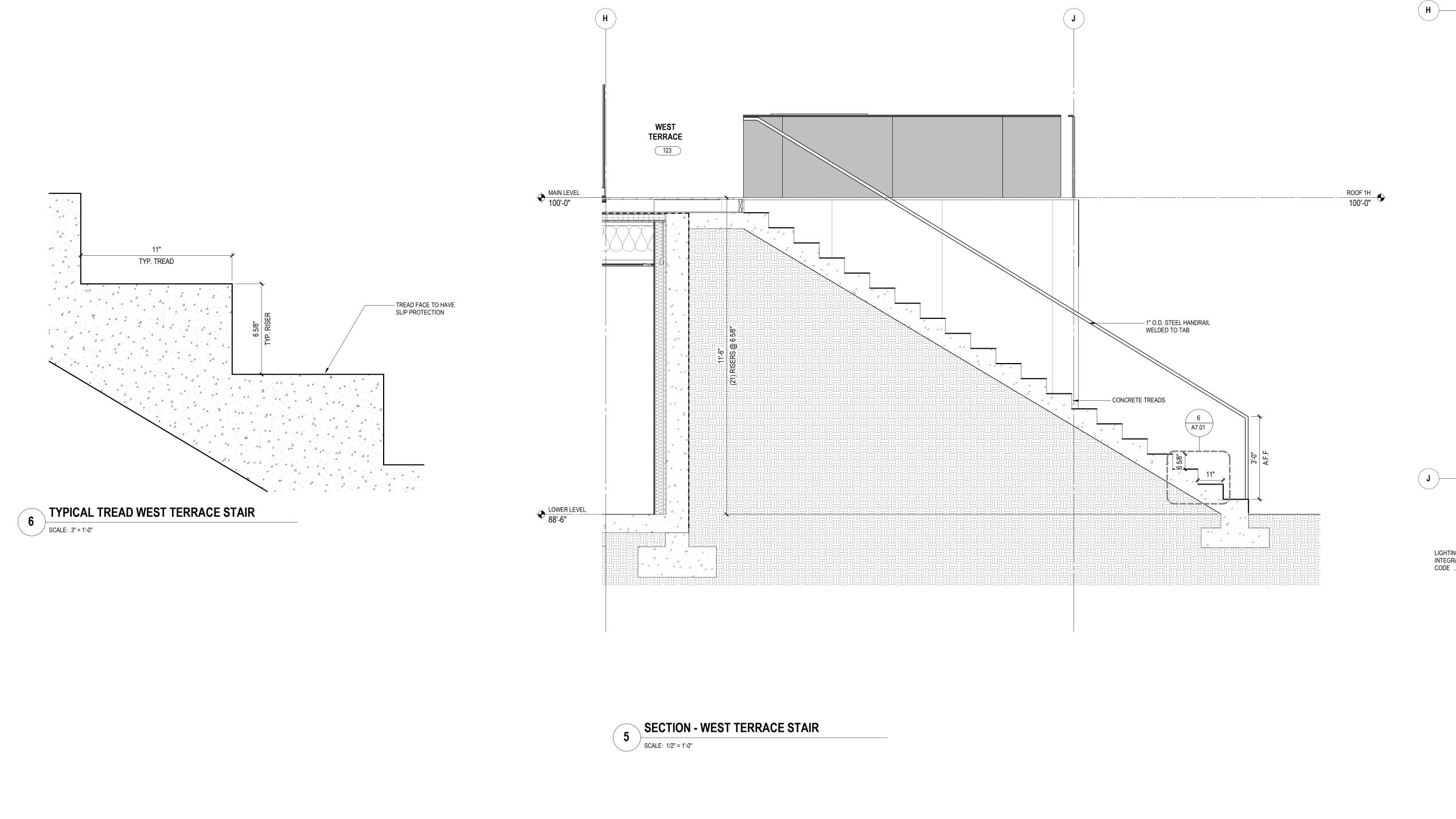
6 STAIR 102 - AXON WEST SCALE:

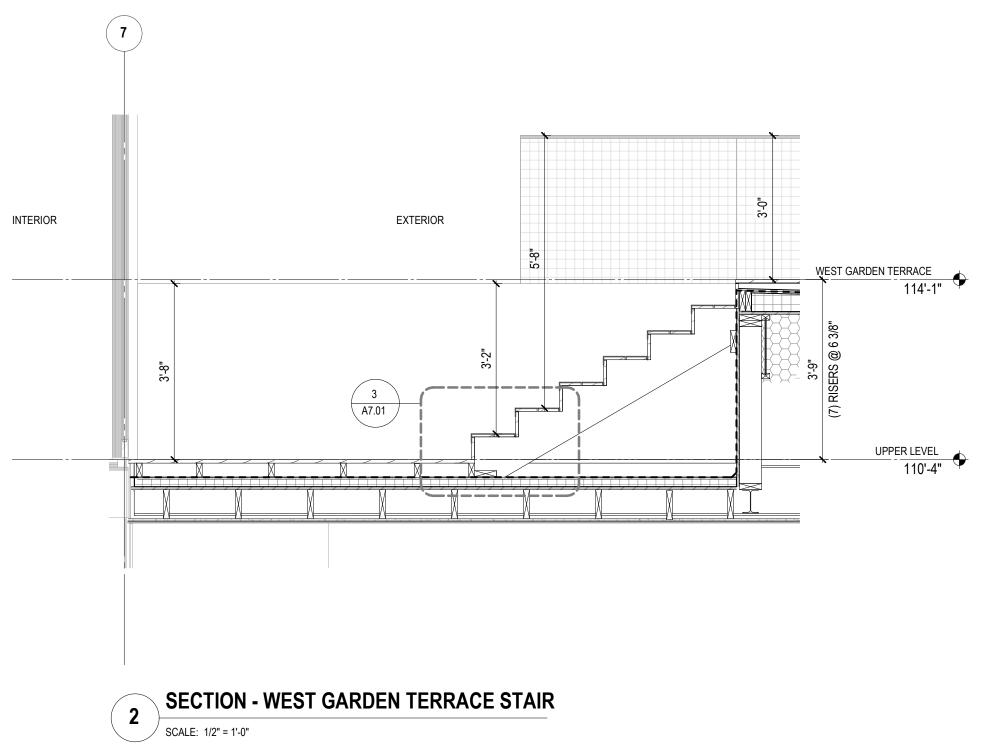


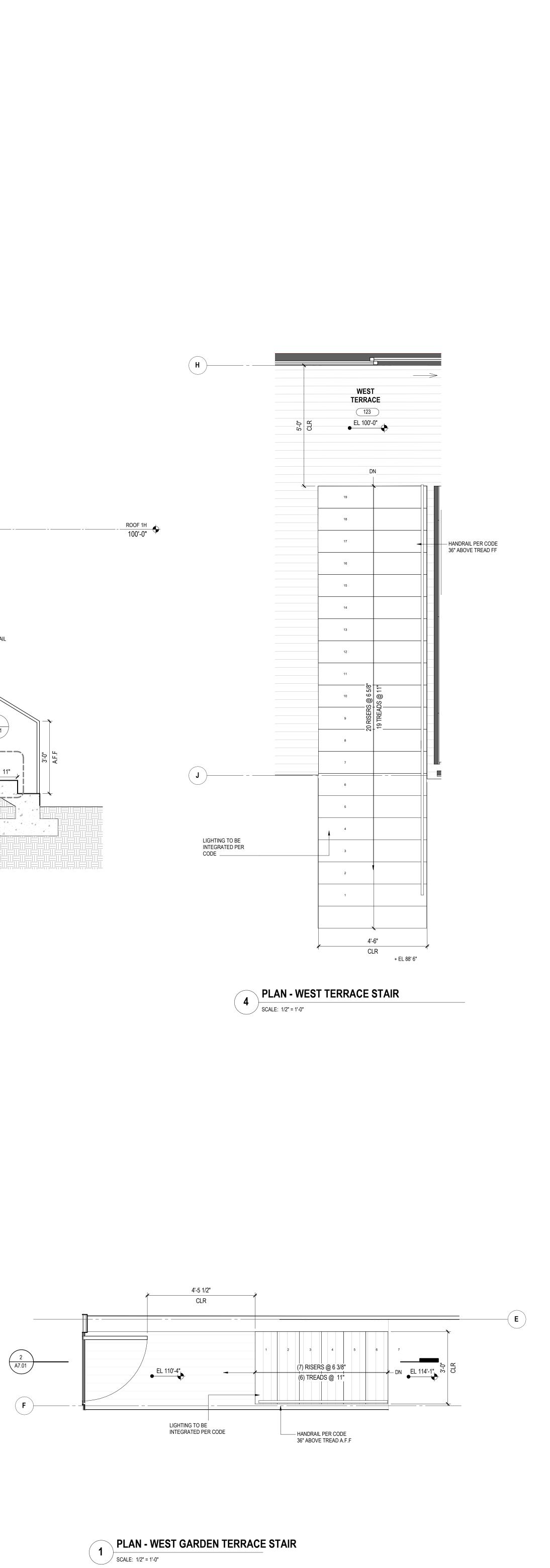


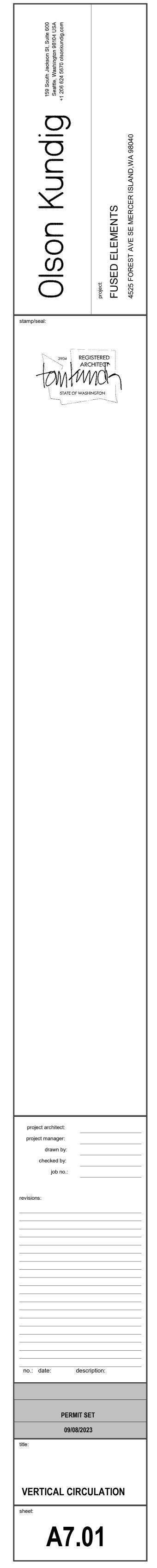


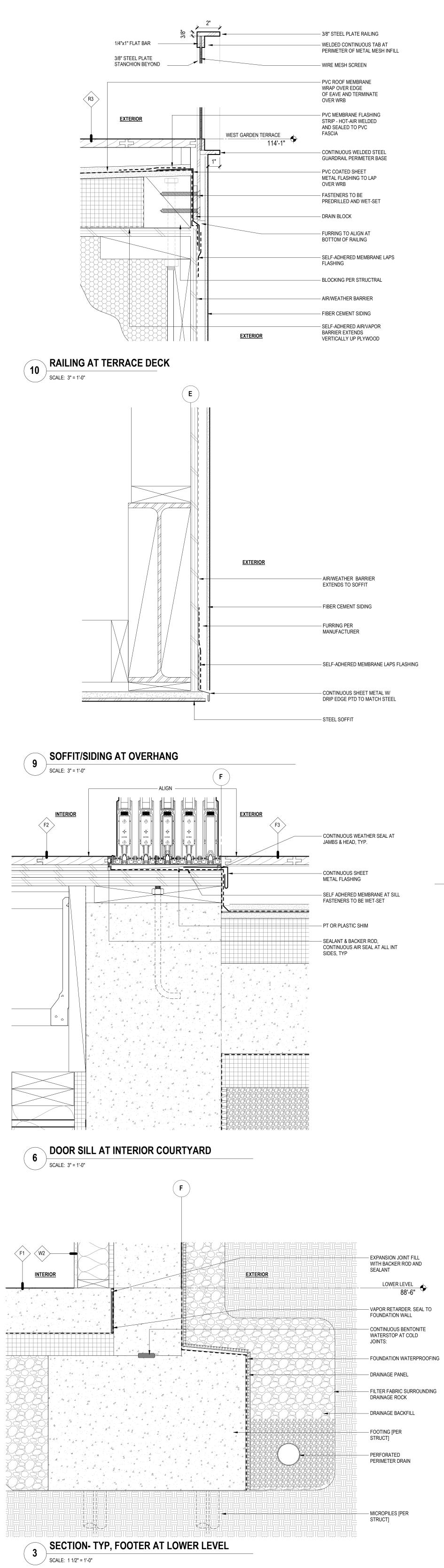






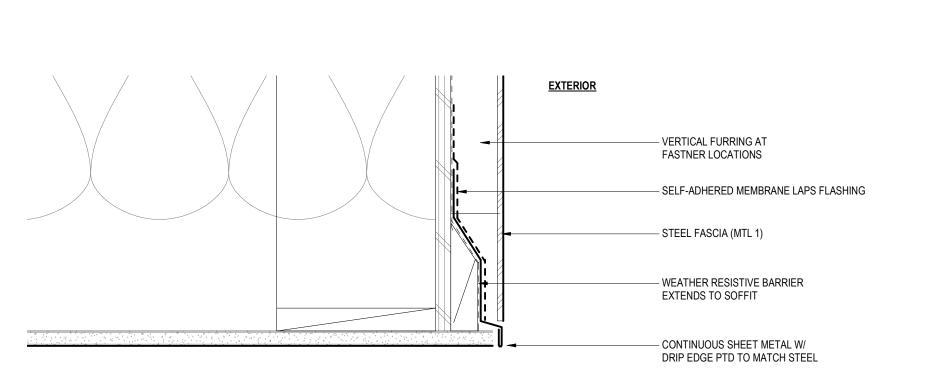




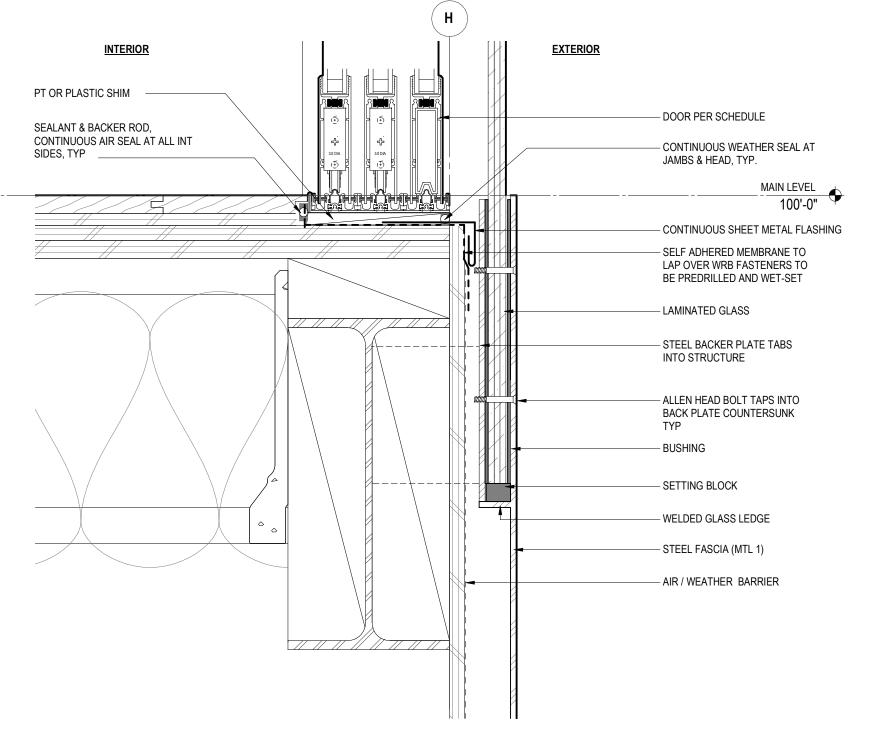


# 2 FASCIA AT FLOOR CANTILEVER SCALE: 3" = 1'-0"

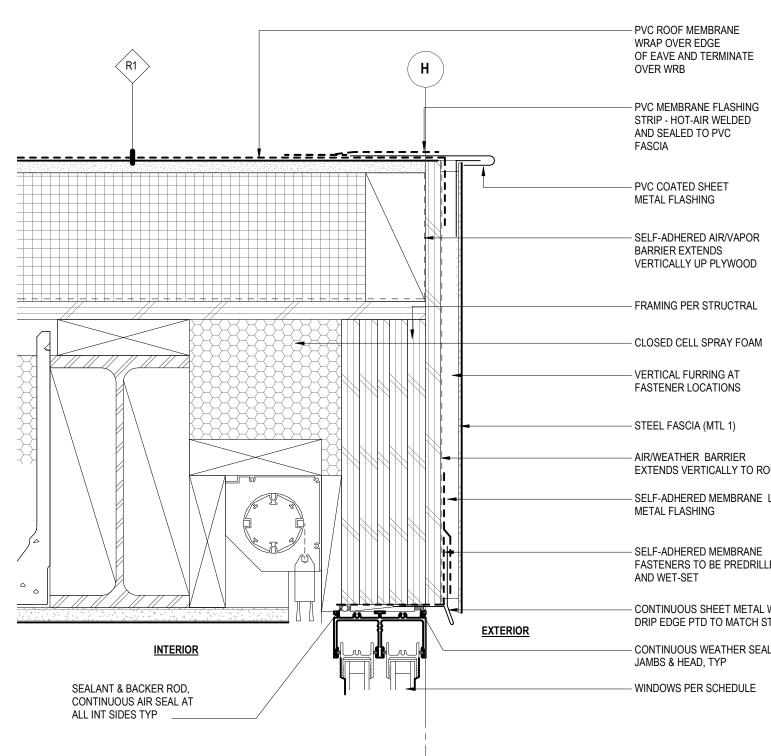




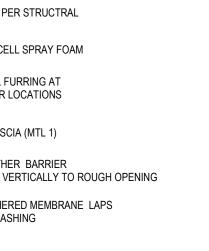
# 5 DOOR SILL AT GLASS RAILING SCALE: 3" = 1'-0"

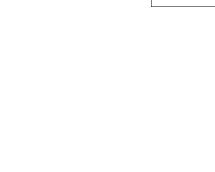


#### DOOR HEAD AT ROOF FASCIA 8)-----SCALE: 3" = 1'-0"



# EXTENDS VERTICALLY TO ROUGH OPENING — SELF-ADHERED MEMBRANE LAPS FASTENERS TO BE PREDRILLED - CONTINUOUS SHEET METAL W/ DRIP EDGE PTD TO MATCH STEEL — CONTINUOUS WEATHER SEAL AT





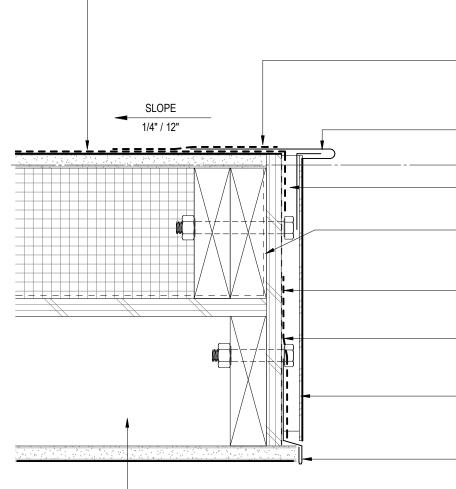
INTERIOR

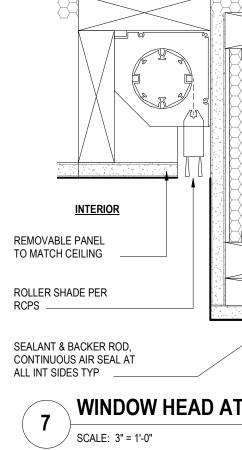
INTERIOR

\_\_\_\_\_//

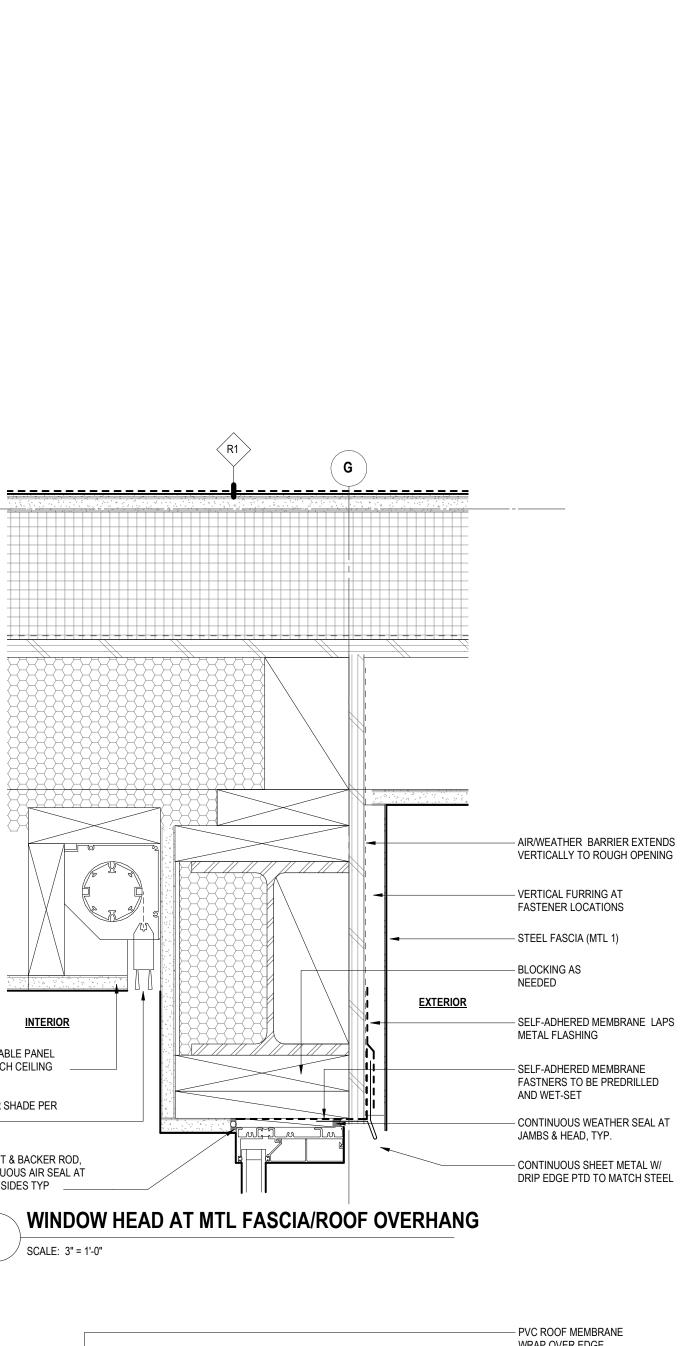
 $\mathbb{Z}$ 

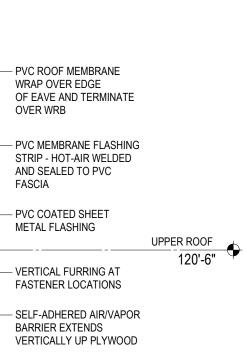
SCALE: 3" = 1'-0"













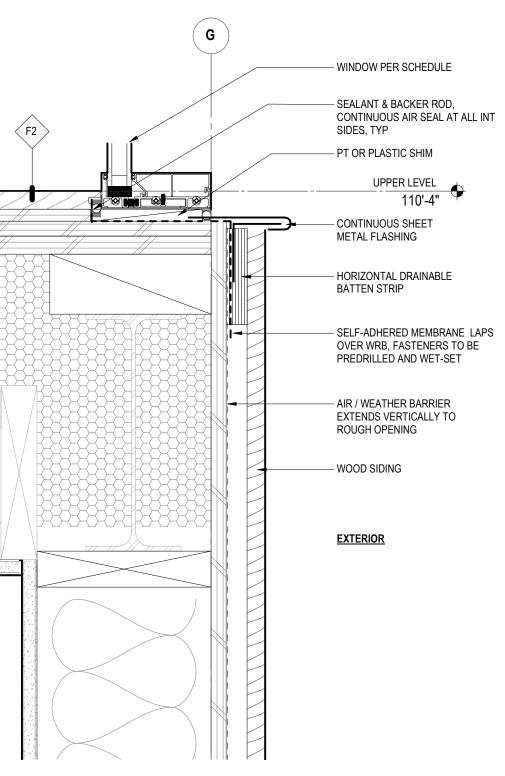
— SELF-ADHERED MEMBRANE LAPS FLASHING

— STEEL FASCIA (MTL 1)

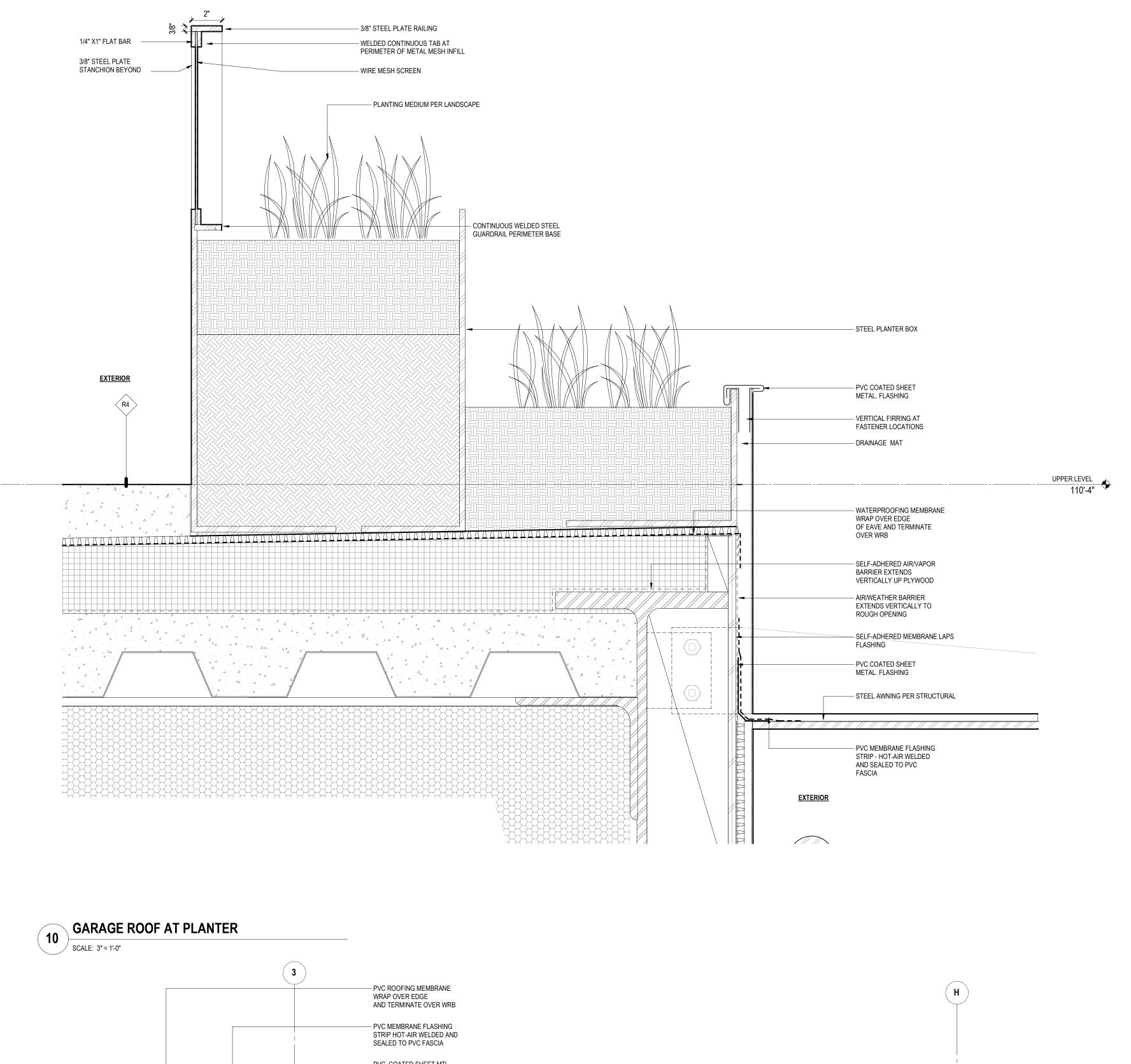
- CONTINUOUS SHEET METAL W/ DRIP EDGE PTD TO MATCH STEEL

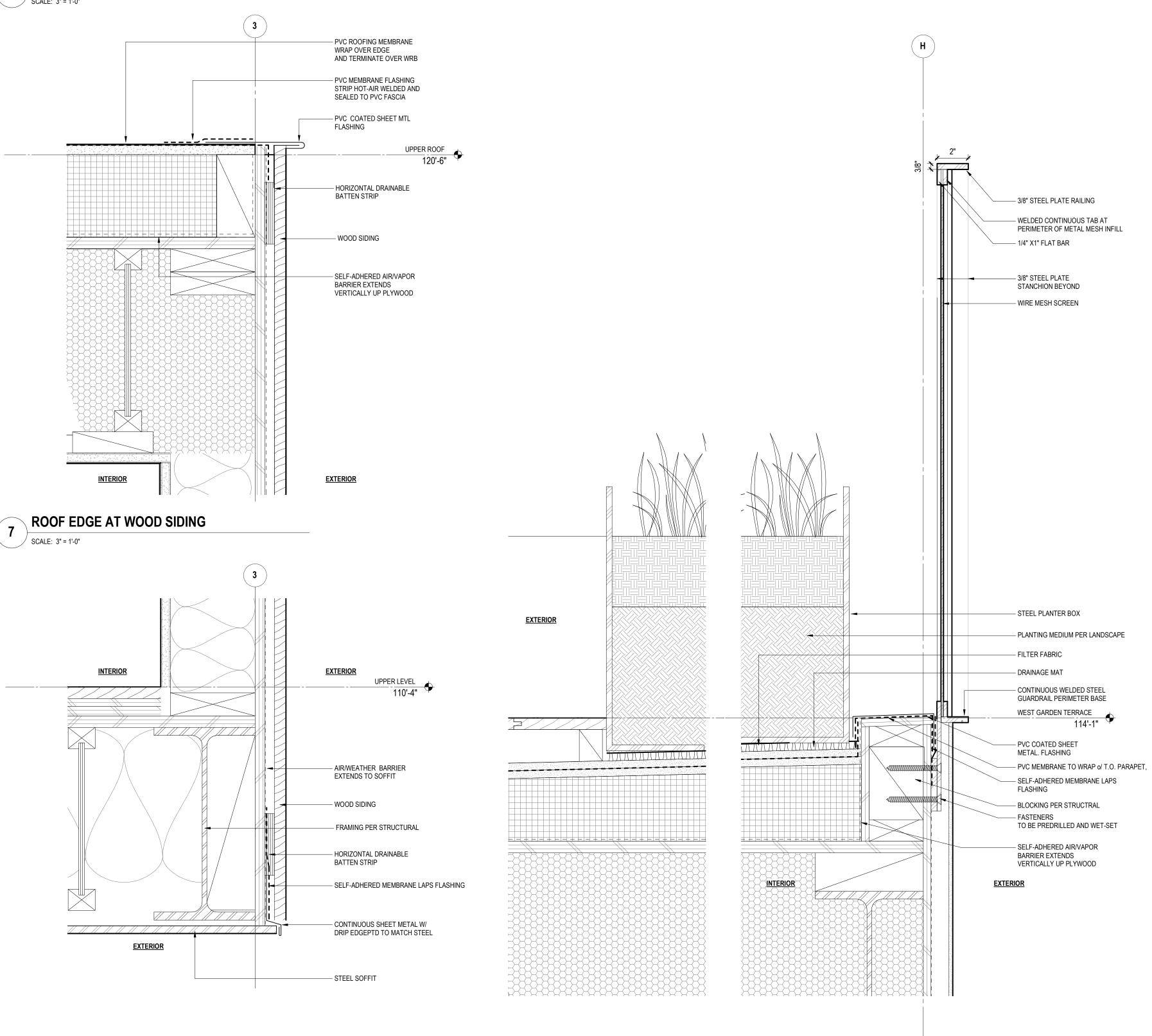
- FRAMING PER STRUCTRAL

## MTL FASCIA AT ROOF OVERHANG

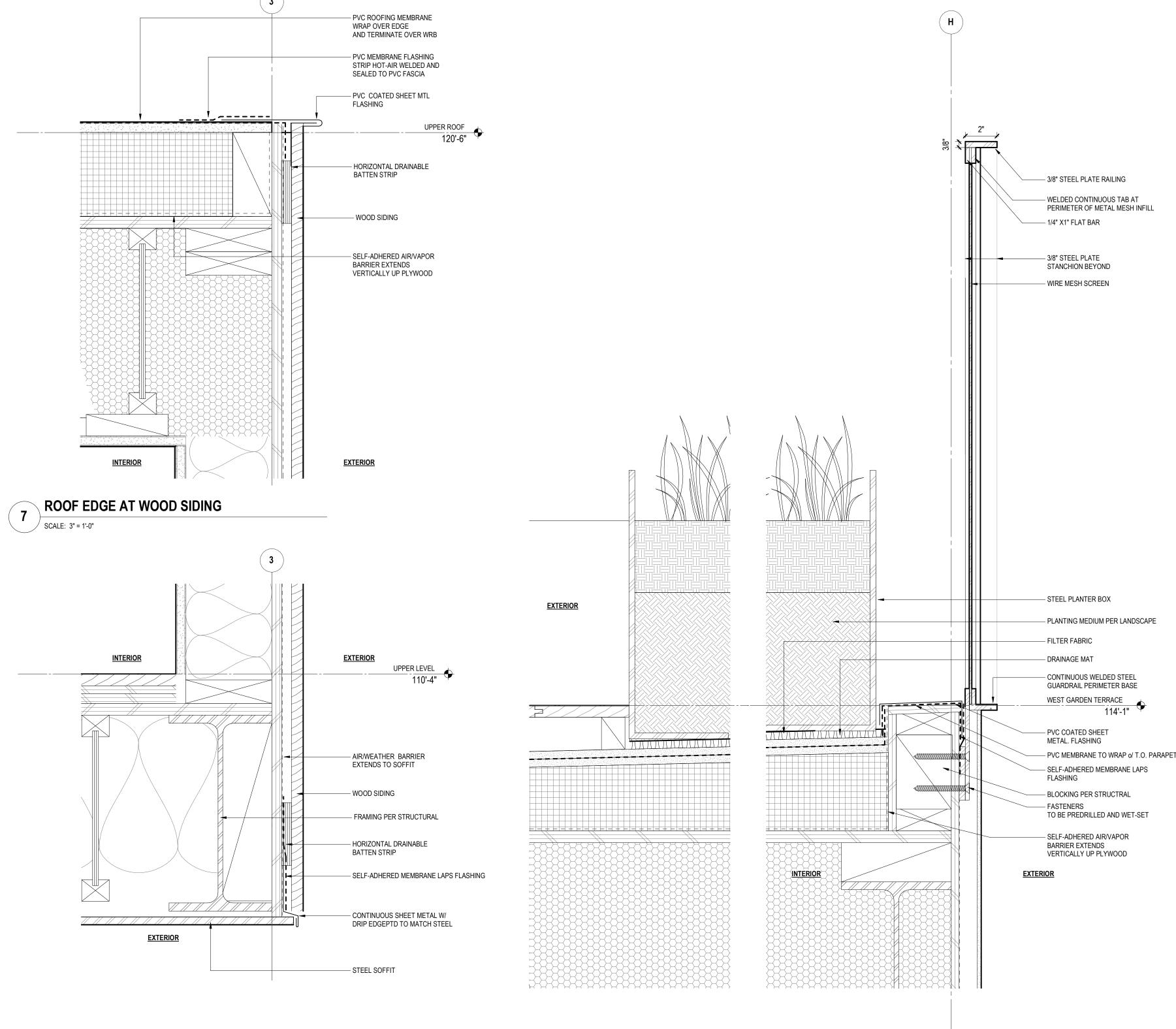


OISON KUNDIG <sup>159</sup> South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
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TOM HAN STATE OF WAS	
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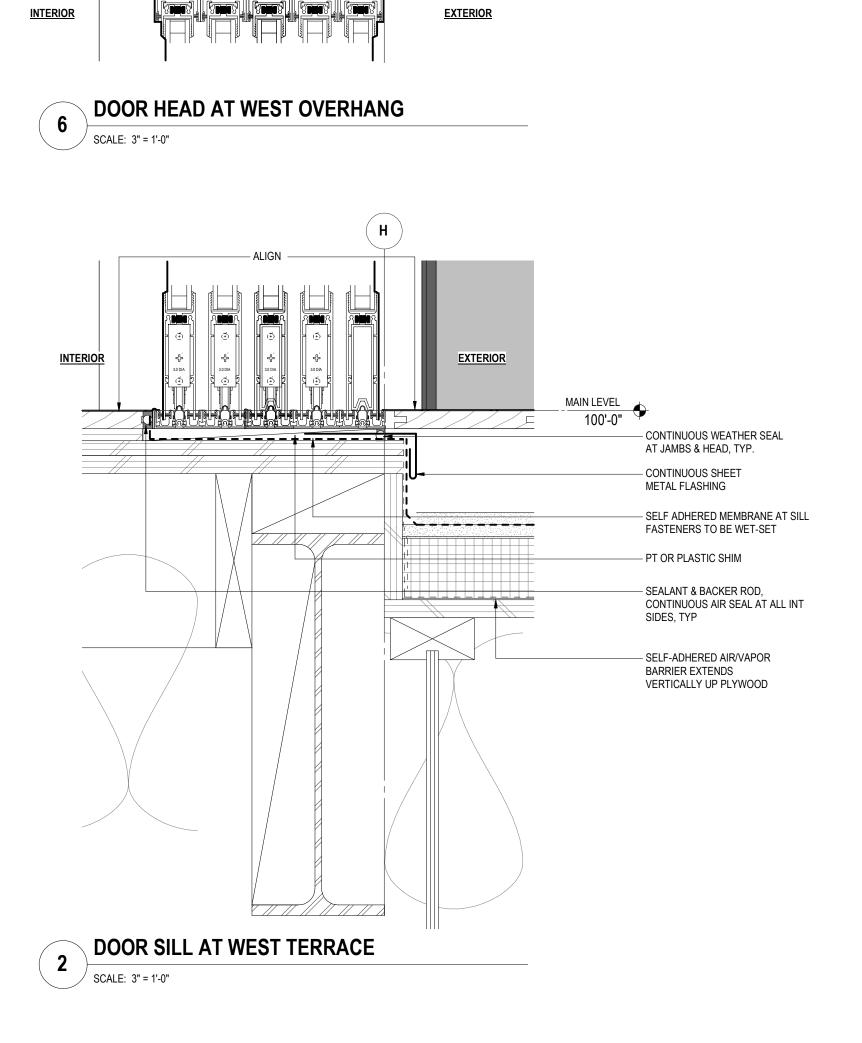








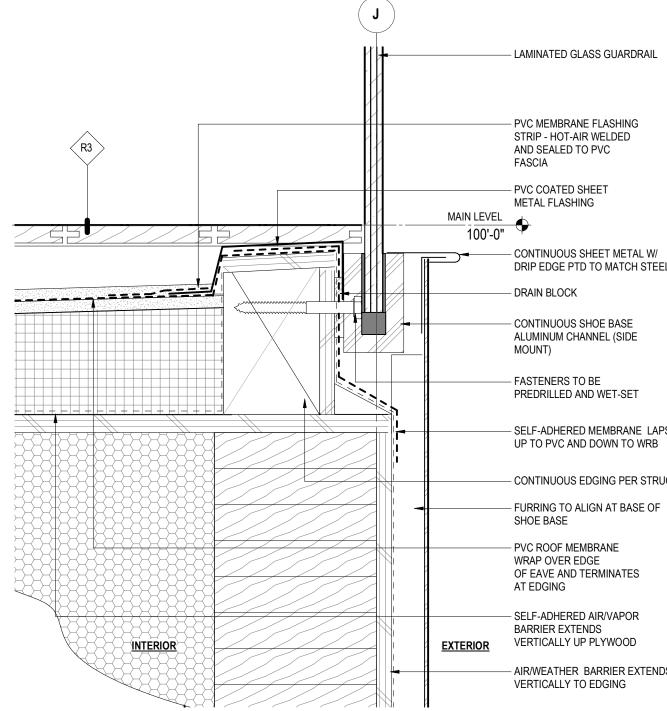
RAILING AT TERRACE DECK/PLANTER 3 **KAILING A** SCALE: 3" = 1'-0"



# 5 RAILING AT WEST TERRACE SCALE: 3" = 1'-0"

SEALANT & BACKER ROD,

CONTINUOUS AIR SEAL AT

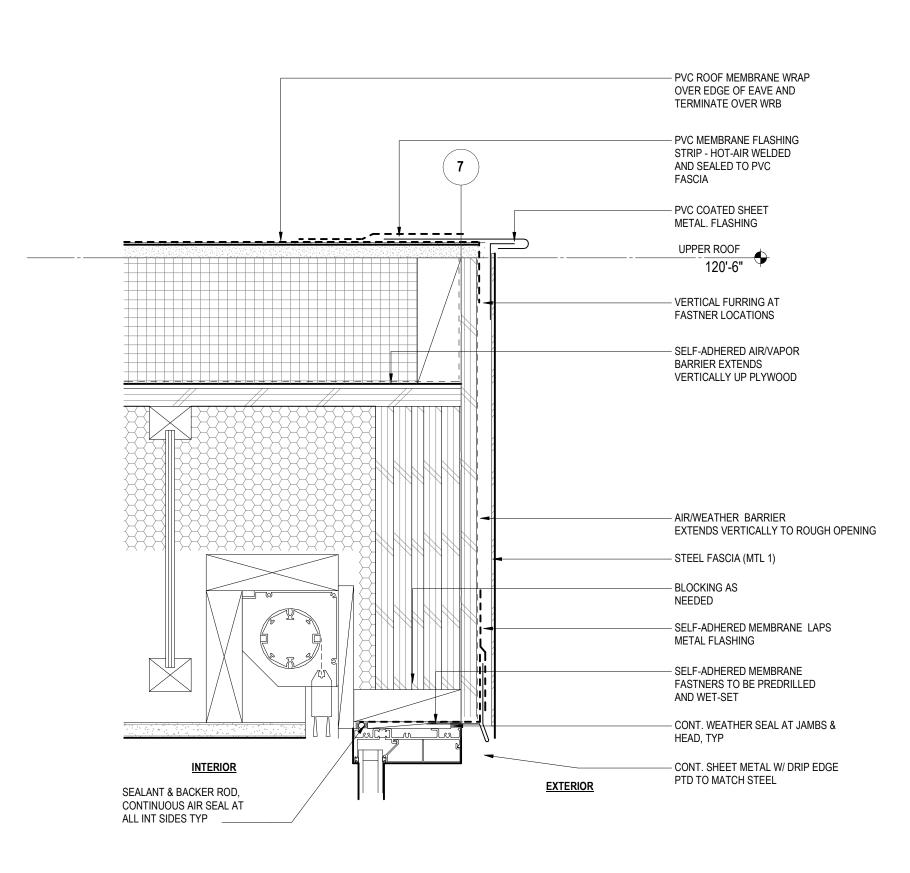


#### WINDOW HEAD AT ROOF FASICA 9) SCALE: 3" = 1'-0"

-

w L

Y



- AIR / WEATHER

ROOFING

FASCIA

 $\mathbf{\nabla}$ 

BARRIER EXTENDS TO

- PVC COATED SHEET

METAL. FLASHING

- PVC MEMBRANE FLASHING

STRIP - HOT-AIR WELDED

- SELF-ADHERED AIR/VAPOR

VERTICALLY UP PLYWOOD

- BLOCKING AS NEEDED

SIDES, TYP

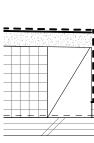
FOR RECESSED SHADES

- CONTINUOUS AIR SEAL AT ALL INT

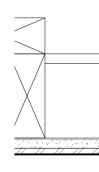
— CONTINUOUS WEATHER SEAL AT JAMB & HEAD, TYP

BARRIER EXTENDS

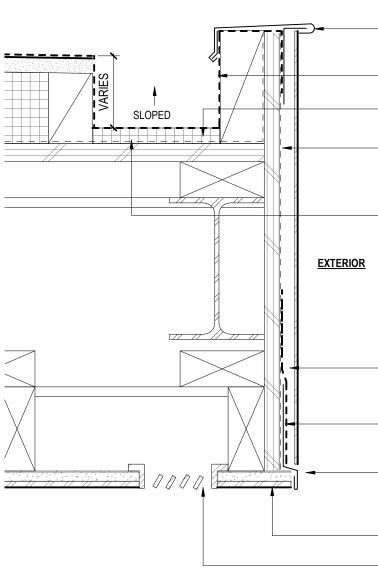
AND SEALED TO PVC

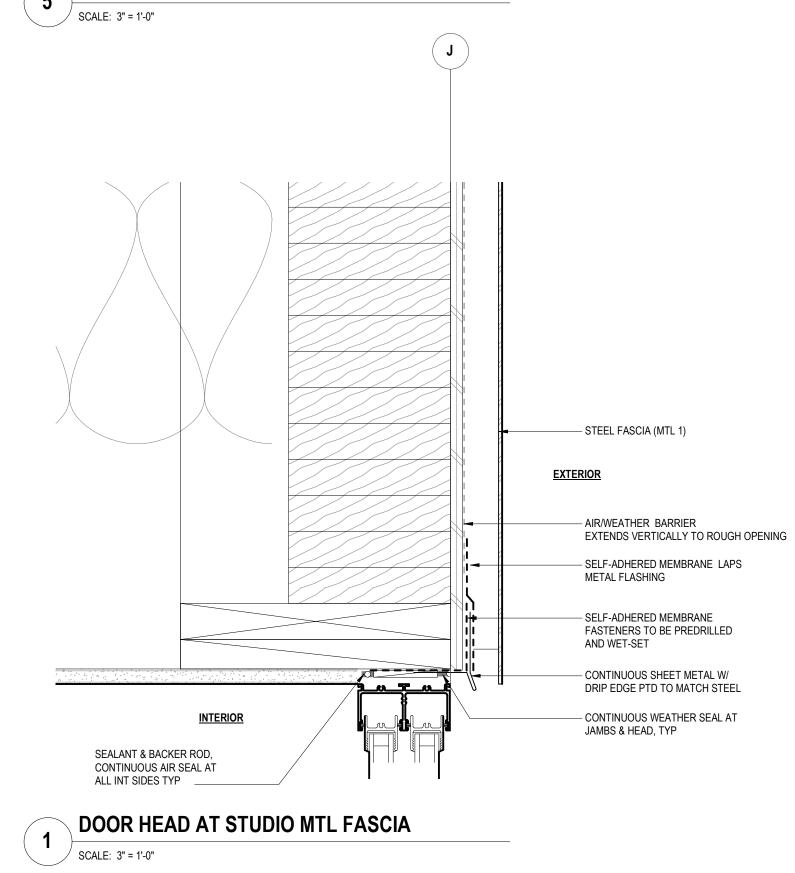


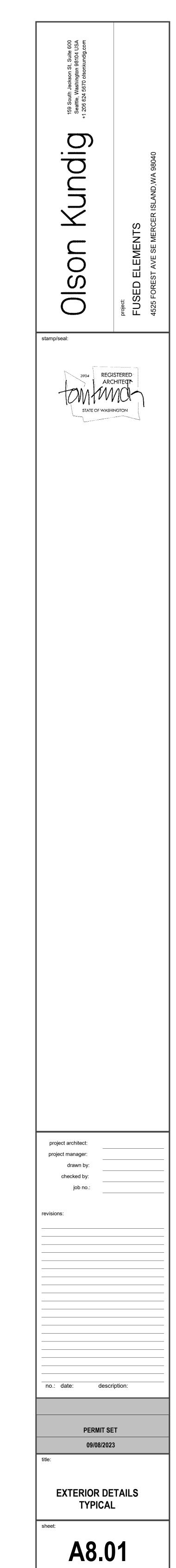




#### MTL FASCIA AT WEST OVERHANG SCALE: 3" = 1'-0"







METAL FLASHING - PVC MEMBRANE TO WRAP o/ T.O. PARAPET,

- RIDGED INSULATION AS NEEDED FOR SLOPE

- PVC COATED SHEET

- AIR/WEATHER BARRIER EXTENDS TO SOFFIT

#### - SELF-ADHERED AIR/VAPOR BARRIER EXTENDS VERTICALLY UP PLYWOOD

- FURRING PER MANUFACTURER

- CONTINUOUS SHEET METAL W/ DRIP EDGE PTD TO MATCH STEEL

- STEEL SOFFIT 

- PVC MEMBRANE FLASHING STRIP - HOT-AIR WELDED AND SEALED TO PVC FASCIA - PVC COATED SHEET METAL FLASHING CONTINUOUS SHEET METAL W/ DRIP EDGE PTD TO MATCH STEEL - DRAIN BLOCK - CONTINUOUS SHOE BASE ALUMINUM CHANNEL (SIDE MOUNT) - FASTENERS TO BE PREDRILLED AND WET-SET - SELF-ADHERED MEMBRANE LAPS UP TO PVC AND DOWN TO WRB — CONTINUOUS EDGING PER STRUCTURAL FURRING TO ALIGN AT BASE OF SHOE BASE - PVC ROOF MEMBRANE WRAP OVER EDGE OF EAVE AND TERMINATES AT EDGING - SELF-ADHERED AIR/VAPOR BARRIER EXTENDS EXTERIOR VERTICALLY UP PLYWOOD — AIR/WEATHER BARRIER EXTENDS VERTICALLY TO EDGING

DI	ESIGN LOADS
	N SHALL CONFORM TO THE REQUIREMENTS OF THE E (IBC), 2018 EDITION, AS AMENDED BY THE CITY OF MERCER
<u>LIVE LOADS</u> IN ADDITION TO THE DEAD LOAD DESIGN. LIVE LOAD REDUCTION	DS, THE FOLLOWING FLOOR LIVE LOADS WERE USED FOR IS PER IBC SECTION 1607.11.
	REDUCIBLEUNREDUCIBLE40PSFX1.5TIMES THE LIVE LOAD FOR THEAREA SERVED, NOT REQUIRED TOEXCEED 100 PSF
REFER TO TABLE 1607.1 IN THE I	BC FOR RELEVANT CONCENTRATED LIVE LOADS.
	ROOF DEAD LOAD AD INCLUDES AN ALLOWANCE OF 3 PSF TO ACCOMMODATE TAIC PANEL AND RACK SUPPORT SYSTEMS.
ROOF SNOW LOAD THE ROOF SNOW LOAD IS DETEI IBC SECTION 1608 AND WITH TH	RMINED USING CHAPTER 7 OF ASCE 7 IN ACCORDANCE WITH E FOLLOWING FACTORS:
$\begin{array}{llllllllllllllllllllllllllllllllllll$	SF WITHOUT DRIFT $C_e = 0.9$ $C_t = 1.0$
RAIN LOADS RAIN LOADS ARE DETERMINED U SECTION 1611 WITH THE FOLLOV	JSING CHAPTER 8 OF ASCE 7 IN ACCORDANCE WITH IBC WING FACTORS:
i = 1 IN/HOUR	
LOADS IS COMPRISED OF SHEAT	SYSTEM (SFRS) USED TO RESIST EARTHQUAKE AND WIND THED WOOD LIGHT FRAMED WALL DESIGNED IN SIONS OF ANSI/AWC 2018 SPDWS. EARTHQUAKE DESIGN IS DWING FACTORS:
SITE CLASS D RISK CATEGORY II SEISMIC DESIGN CATEGORY $I_e = 1.0$ $S_s = 1.435$ g $S_1 = 0.499$ g $S_{DS} = 0.96$ g $S_{D1} = 0.9$ g $T_L = 6$ SECONDS	$\begin{array}{rcl} h_n &=& 35 \ \text{FT} \\ T &=& 0.3 \ \text{SECONDS} \\ \text{D} & \text{R} &=& 6.5 \\ \Omega &=& 3 \\ \rho &=& 1.3 \\ C_s &=& 0.147 \\ \text{V} &=& C_s W = 133 \ \text{KIPS} \end{array}$
THE SEISMIC FORCE-RESISTING MEMBERS AND CONNECTIONS II	SYSTEM IS COMPRISED OF THE STRUCTURAL WOOD DENTIFIED IN PLAN.
WIND LOADS WIND LOAD IS DETERMINED USII SECTION 1609 WITH THE FOLLOV	NG CHAPTERS 26-31 OF ASCE 7 IN ACCORDANCE WITH IBC WING FACTORS:
RISK CATEGORY II EXPOSURE CATEGORY B V = 110 MPH V <sub>asd</sub> = 85 MPH	$K_{zt} = 1.0$ $G_{cpi} = 0.18$
SHALL BE DETERMINED USING C 1609 BY THE WASHINGTON STAT	DETERMINING FORCES ON COMPONENTS AND CLADDING CHAPTER 30 OF ASCE 7 IN ACCORDANCE WITH IBC SECTION TE REGISTERED PROFESSIONAL ENGINEER WHO IS OF SUCH ELEMENTS, UNLESS NOTED OTHERWISE ON THE
<u>SOIL LOADS</u> 6"Ø PIPE PILE CAPACITY RETAINING WALLS	15 TONS DOWNWARD 55 PCF (EQUIVALENT FLUID PRESSURE) UNRESTRAINED 35 PCF (EQUIVALENT FLUID PRESSURE) RESTRAINED
GE	NERAL NOTES

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO ANY FABRICATION OR

CONSTRUCTION FOR ALL STRUCTURAL ITEMS, INCLUDING THE FOLLOWING: CONCRETE OR

MASONRY REINFORCEMENT, PRECAST OR PRESTRESSED CONCRETE ITEMS, EMBEDDED

STEEL ITEMS, STRUCTURAL STEEL, STEEL JOISTS, STEEL DECK, SHEAR STUD LAYOUT,

IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL

DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE

METAL GRATING, GLUED-LAMINATED MEMBERS, CLADDING PANELS AND STAIRS.

REGISTERED PROFESSIONAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN.

PER IBC SECTION 107.3.4.1, DRAWINGS AND CALCULATIONS FOR THE DESIGN AND

ALTERNATE ANCHORS (WHEN ALTERNATE ANCHORS ARE PROPOSED)

ACCORDANCE WITH IBC SECTION 1613, ASCE 7 CHAPTER 13, AND THE PROJECT

SPECIFICATIONS. NONSTRUCTURAL COMPONENTS DESIGNED BY OTHERS SHALL NOT

BRACING SHALL BE DESIGNED BY THE NONSTRUCTURAL COMPONENT DESIGNER AND

INDUCE TORSIONAL LOADING INTO SUPPORTING STRUCTURAL MEMBERS WITHOUT

ATTACH TO STRUCTURE SHALL ACCOMMODATE CONSTRUCTION TOLERANCES AS

ACCOMMODATE THE FOLLOWING RELATIVE MOVEMENTS BETWEEN LEVELS WITHOUT

WHICH ATTACH TO MORE THAN ONE LEVEL OF THE STRUCTURE SHALL ALSO

VERTICAL DEFLECTION OF ±1/2 INCH DUE TO VARIABLE LIVE LOADS

CLADDING DESIGNED BY OTHERS SHALL BE SUPPORTED AT EACH STORY TO BE

BE DESIGNED BY THE CLADDING DESIGNER AND APPROVED BY THE ENGINEER.

OTHERS SHALL NOT INDUCE TORSIONAL LOADING INTO SUPPORTING STRUCTURAL

SPECIAL INSPECTION PER IBC CHAPTER 17 SHALL BE PERFORMED BY AN APPROVED

TESTING AGENCY AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS AND

FIELD BEFORE PROCEEDING. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY

DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN DIRECTION FROM THE ARCHITECT BEFORE PROCEEDING.

DIMENSIONS--DO NOT SCALE DRAWINGS. DIMENSIONS OF EXISTING CONDITIONS.

TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE

REMOVED FROM BENEATH FILL SUPPORTING CONCRETE SLABS OR PAVING.

DIMENSIONED FRAMING UNLESS NOTED OTHERWISE.

NOT BE LESS THAN AS INDICATED IN THESE DRAWINGS.

TESTING. ALL PREPARED SOIL-BEARING SURFACES SHALL BE INSPECTED BY THE

GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL. SOIL

COMPACTION SHALL BE SUPERVISED BY AN APPROVED TESTING AGENCY OR

ELASTIC STORY DRIFT PER "STORY DRIFT" SECTION ABOVE

FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND

SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER WHO IS

DESIGN, DETAILING AND ANCHORAGE OF ALL NONSTRUCTURAL COMPONENTS SHALL BE IN

ADDITIONAL BRACING OF THOSE MEMBERS TO ELIMINATE TORSIONAL FORCES. TORSIONAL

DESIGN, DETAILING AND CONSTRUCTION OF ALL NONSTRUCTURAL COMPONENTS WHICH

ESTABLISHED BY THE STRUCTURAL SPECIFICATIONS. ANY NONSTRUCTURAL COMPONENTS

IN ADDITION, NONSTRUCTURAL COMPONENTS ATTACHED TO MORE THAN ONE LEVEL SHALL

ACCOMMODATE AN INELASTIC STORY DRIFT PER "STORY DRIFT" SECTION ABOVE WITHOUT

CONSISTENT WITH THE DESIGN OF THE BUILDING STRUCTURE. CLADDING DESIGNED BY

MEMBERS WITHOUT ADDITIONAL BRACING OF THOSE MEMBERS TO ELIMINATE TORSIONAL

FORCES, UNLESS OTHERWISE APPROVED BY THE ARCHITECT. TORSIONAL BRACING SHALL

CONTRACTOR SHALL VERIFY ALL LEVELS, DIMENSIONS, AND EXISTING CONDITIONS IN THE

DISCREPANCIES OR FIELD CHANGES PRIOR TO INSTALLATION OR FABRICATION. IN CASE OF

APPROXIMATE. NOTIFY ARCHITECT IMMEDIATELY OF CONFLICTS OR EXCESSIVE VARIATIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS,

SEE THE GEOTECHNICAL REPORT BY ASSOCIATED EARTH SCIENCES INC, DATED AUGUST

16TH, 2022, FOR MORE COMPLETE INFORMATION. EARTHWORK MATERIAL, BACKFILL AND

GEOTECHNICAL REPORT. BACKFILL BEHIND WALLS SHALL NOT BE PLACED BEFORE THE

TEMPORARILY BRACED. ALL TOPSOIL ORGANICS AND LOOSE SURFACE SOIL SHALL BE

WALLS AND SUPPORTING SLABS ACHIEVE 28 DAY CONCRETE STRENGTH OR THE WALLS ARE

ALL FRAMING MEMBERS SHALL BE EQUALLY SPACED BETWEEN GRID LINES, COLUMNS, AND

**PIPE PILES** 

DIMENSIONS NOTED AS PLUS OR MINUS (±) INDICATE UNVERIFIED DIMENSIONS AND ARE

FROM INDICATED DIMENSIONS. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED

RESPONSIBLE FOR THE DESIGN AND SHALL BE SUBMITTED TO THE ARCHITECT AND THE

BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION. DEFERRED SUBMITTALS

DEFERRED SUBMITTALS

SKYLIGHT FRAMING

EQUIPMENT ANCHORAGE

NONSTRUCTURAL COMPONENTS

APPROVED BY THE ENGINEER.

CREATING A LIFE SAFETY HAZARD.

**INSPECTION** 

GEOTECHNICAL ENGINEER.

SPECIAL CONDITIONS

MEMBER SPACING

INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

DAMAGE TO THE NONSTRUCTURAL COMPONENTS:

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS

EXTERIOR CLADDING SYSTEMS

HELICAL FOUNDATION ANCHORS

## CONCRETE

CONCRETE MIXTURES SHALL CONFORM TO THE F

CONCRETE WORK SHALL CONFORM TO ALL REQU

f'c   TEST AGE   EXPOSURE CLASS	
(PSI) (DAYS) F S W C	
4,000 28 F1 S0 W0 C0 FC	DU Lae

CONCRETE MIXTURES SHALL CONFORM TO THE MOST STRINGENT REQUIREMENTS FOR EXPOSURE CLASSES SPECIFIED IN THE TABLE ABOVE AND ACI 318 TABLE 19.3.2.1. WATER-REDUCING ADMIXTURES MAY BE INCORPORATED IN CONCRETE MIX DESIGNS, BUT SHALL CONFORM TO ASTM C 494. AND BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CaCl2 OR OTHER WATER-SOLUBLE CHLORIDE ADMIXTURES SHALL NOT BE USED.

WATER/CEMENTITIOUS MATERIALS RATIO SHALL BE MEASURED BY WEIGHT AND SHALL BE BASED ON THE TOTAL CEMENTITIOUS MATERIAL. WATER/CEMENTITIOUS MATERIALS RATIO AND WATER CONTENT SHALL BE DETERMINED BY THE SUPPLIER BASED ON STRENGTH REQUIREMENTS AND SHALL NOT EXCEED THE MAXIMUM WATER/CEMENTITIOUS MATERIAL RATIO AND/OR WATER CONTENT IF SHOWN ABOVE OR IN ACI 318 TABLE 19.3.2.1 FOR THE EXPOSURE CLASSES LISTED. FIELD-MEASURED SLUMP SHALL CONFORM TO THE SUBMITTED CONCRETE MIX DESIGN.

TOLERANCE OF SLUMP SHALL CONFORM TO ASTM C 94. ALL CONCRETE SUBJECT TO EXPOSURE CLASSES F1, F2 OR F3 SHALL BE AIR ENTRAINED. AIR-ENTRAINING AGENTS SHALL CONFORM TO ASTM C 260. THE PERCENTAGE OF TOTAL AIR SHALL BE ACCORDING TO ACI 318 TABLE 19.3.3.1 WITH A FIELD TOLERANCE OF ±1.5 PERCENT BY VOLUME. THE PERCENTAGE OF TOTAL AIR SHALL BE MEASURED IN THE FIELD AT THE DISCHARGE FROM THE TRUCK.

THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR APPROVAL 2 WEEKS PRIOR TO PLACING ANY CONCRETE. THE MIX DESIGN SHALL BE IN CONFORMANCE WITH ACI 318, CHAPTER 19. THE SUBMITTAL SHALL INDICATE WHERE EACH CONCRETE MIX IS TO BE USED ON THE PROJECT, AS WELL AS THE MAXIMUM AGGREGATE SIZE OF EACH MIX. MAXIMUM AGGREGATE SIZE SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

IF THE AIR TEMPERATURE WILL EXCEED 75 DEGREES F WITHIN 48 HOURS OF PLACING CONCRETE, A MOIST CURE SHALL BE APPLIED TO THE CONCRETE FOR A PERIOD OF 36 HOURS AFTER FINISHING CONCRETE SURFACES. REFER TO THE PROJECT SPECIFICATIONS FOR CURING REQUIREMENTS.

SHOTCRETE SHOTCRETE SHALL CONFORM TO ACI 506R, ACI 506.2, IBC CHAPTER 19. SHOTCRETE MIX DESIGN, APPLICATION, NOZZLEMAN'S QUALIFICATIONS AND TEST PROCEDURE SHALL BE IN STRICT CONFORMANCE WITH THESE PUBLICATIONS. REINFORCING STEEL DEFORMED BARS

REINFORCING SHALL BE SUPPORTED AS SPECIFIED BY THE PROJECT SPECIFICATIONS AND THE CRSI MANUAL OF STANDARD PRACTICE. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH ACI STANDARD OF PRACTICE AS OUTLINED IN ACI 315. "GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS".

LAP ALL REINFORCING BARS AS NOTED ON THE DRAWINGS. WHERE SPLICE LENGTH IS NOT SHOWN, USE TYPE Lb (Lbt FOR TOP BARS) SPLICE PER DEVELOPMENT AND SPLICE LENGTH SCHEDULE. MECHANICAL SPLICES CALLED OUT ON THE PLANS SHALL BE TYPE 1, UNLESS OTHERWISE NOTED. TYPE 1 SPLICES SHALL DEVELOP 125 PERCENT OF THE YIELD CAPACITY OF THE SPLICED BARS IN BOTH TENSION AND COMPRESSION. TYPE 2 SPLICES SHALL DEVELOP THE SPECIFIED TENSILE STRENGTH OF THE SPLICED BARS IN TENSION IN ADDITION TO MEETING TYPE 1 SPLICE REQUIREMENTS. SUBMIT ICC-ES OR IAPMO UES REPORT VALID FOR THE 2018 IBC DEMONSTRATING COMPLIANCE OF COUPLERS WITH THESE REQUIREMENTS.

DEFORMED BARS MAY BE USED IN LIEU OF REINFORCING BARS SHOWN WITH STANDARD 90 OR 180 DEGREE HOOKS AND MECHANICAL SPLICES MAY BE USED IN LIEU OF LAP SPLICES. USE OF HEADED DEFORMED BARS IS SUBJECT TO CONFORMANCE WITH ACI 318 SECTION 25.4.4. USE OF MECHANICAL SPLICES IS SUBJECT TO CONFORMANCE WITH ACI 318 SECTION 18.2.7 AND REQUIRES SUBMITTAL OF AN ICC-ES OR IAPMO UES REPORT VALID FOR THE 2018 REINFORCING STEEL SHALL HAVE PROTECTION AS FOLLOWS, UNLESS NOTED OTHERWISE:

BEAM STIRRUPS AND COLUMN TIES STRUCTURAL SLAB-AT-GRADE BOTTOM BARS WALL BARS: INTERIOR FACES EXPOSED TO EARTH OR WEATHER

HEADED DEFORMED BARS

FOOTING, PILE CAP, GRADE BEAM BOTTOM BARS TOP BARS

SIDE BARS

WELDING OF REINFORCING, WHERE APPROVED BY THE ARCHITECT, SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES AND PREHEATED IN ACCORDANCE WITH AWS D1.4, REINFORCING STEEL WELDING CODE. WELDERS AND WELDING PROCEDURES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.4. MATERIALS SHALL CONFORM TO THE FOLLOWING:

REINFORCING BARS TO BE WELDED WELDING ELECTRODES

NONSHRINK GROUT BASE PLATE GROUT SHALL BE NONSHRINK TYPE WITH MINIMUM fc = 8,000 PSI. ALL OTHER NONSHRINK GROUT SHALL HAVE MINIMUM f'c = 5,000 PSI. REINFORCING ALLOWANCE THE CONTRACTOR SHALL PROVIDE 2,000 LINEAR FEET OF #4 REINFORCING STEEL FOR THE ENGINEER TO USE AT THEIR DISCRETION DURING CONSTRUCTION. THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR THE UNUSED PORTION.

## ANCHORS

POST-INSTALLED ANCHORS PROVIDE POST-INSTALLED ANCHORS PER THE FOLLOWING SCHEDULE UNLESS NOTED OTHERWISE: **ANCHORS IN CONCRETE** APPROVED ANCHOR(S) **EVALUATION REPORT** ADHESIVE HILTI HIT-RE 500 SD ICC-ES ESR-2322 ICC-ES ESR-4266

ANCHOR TYPE HILTI KWIK BOLT TZ2 MECHANICAL ADHESIVE REINFORCING DOWEL MATERIALS ADHESIVE REINFORCING DOWELS (ARD) THREADED ARD

ASTM A 615, GRADE 60 ASTM F 1554, GRADE 36 (CARBON STEEL) ASTM A193 B8M CLASS 1 (STAINLESS) ANCHOR EMBEDMENT DEPTHS LISTED SHALL BE CONSIDERED EFFECTIVE EMBEDMENT DEPTHS AS DEFINED IN THE ICC-ES OR JAPMO UES EVALUATION REPORTS. PROVIDE ANCHOR LENGTH AND HOLE PER EVALUATION REPORT TO ACCOMMODATE THE EFFECTIVE EMBEDMENT SPECIFIED IN THESE DRAWINGS. SEE DETAIL 11/S4.01

MECHANICAL AND ADHESIVE ANCHORS SHALL BE ZINC PLATED CARBON STEEL UNLESS NOTED OTHERWISE. MECHANICAL AND ADHESIVE ANCHORS EXPOSED TO WEATHER SHALL **BE STAINLESS STEEL** DO NOT DAMAGE EXISTING REINFORCEMENT. IF LOCATION OF REINFORCEMENT IS

UNKNOWN, SCAN FOR EXISTING REINFORCING STEEL PRIOR TO DRILLING. USE OF ALTERNATE PRODUCTS, OR OF POST-INSTALLED ANCHORS AT LOCATIONS NOT SHOWN IN THESE DRAWINGS. IS SUBJECT TO THE APPROVAL OF THE ARCHITECT, SUBMIT PROPOSED ANCHORS TO THE ARCHITECT WITH AN ICC-ES OR IAPMO UES REPORT VALID FOR THE 2018 IBC AND DOCUMENTATION SHOWING THAT THE ALTERNATE PRODUCTS PROVIDE EQUIVALENT CAPACITY FOR ALL CONDITIONS IN THIS PROJECT. SUBMITTED ICC-ES AND IAPMO UES REPORTS SHALL DEMONSTRATE THAT THE ANCHORS ARE SUITABLE FOR USE IN CRACKED CONCRETE. WHERE ANCHORS RESIST SEISMIC LOADS OR SUSTAINED TENSION, SUBMITTED ICC-ES AND IAPMO UES REPORTS SHALL DEMONSTRATE THAT THE ANCHORS ARE SUITABLE FOR THE RESISTANCE OF SEISMIC LOADS OR SUSTAINED TENSION

(AS APPLICABLE). DOCUMENTATION OF CAPACITY FOR ALTERNATE PRODUCTS MUST BE INCLUDED AS A DEFERRED SUBMITTAL.

ADHESIVES SHALL NOT BE INSTALLED PRIOR TO THE CONCRETE REACHING AN AGE OF 21 DAYS AS REQUIRED BY ACI 318. ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE INSTALLED BY PERSONNEL CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT PROGRAM.

WELDED HEADED STUDS, WELDED THREADED STUDS, AND DEFORMED BAR ANCHORS ALL STUDS AND DEFORMED BAR ANCHORS (DBA) SHALL BE AUTOMATICALLY END WELDED IN SHOP OR FIELD WITH EQUIPMENT RECOMMENDED BY MANUFACTURER WITH LENGTH AFTER WELD AS SHOWN ON THE STRUCTURAL DRAWINGS.

WELDED THREADED STUDS AWS D1.1 TYPE A PER DETAILS DEFORMED BAR ANCHORS ASTM A 1064

**BIDDER-DESIGNED** PIPE PILES SHALL BE A DEFERRED SUBMITTAL PER THE REQUIREMENTS OF THE GENERAL NOTES. PIPE PILES SHALL BE DESIGNED FOR THE LOADS INDICATED IN THESE DRAWINGS. PIPE PILES DESIGN CAPACITIES SHALL BE DETERMINED USING THE METHODS IN THE FHWA

PIPE PILES DESIGN AND CONSTRUCTION REFERENCE MANUAL AND THE CONTRACTOR'S EXPERIENCE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN. INSTALLATION, AND TESTING OF PIPE PILES AND THE DESIGN AND INSTALLATION OF THE PIPE PILES TOP ATTACHMENT TO THE SUPPORTED STRUCTURE. THE CONTRACTOR SHALL SELECT THE PIPE PILES TYPE, SIZE, EMBEDMENT DEPTH, REINFORCEMENT, AND INSTALLATION MEANS AND METHODS TO MEET

THE SPECIFIED PERFORMANCE REQUIREMENTS. THE MINIMUM PIPE PILES DIAMETER SHALL

PIPE PILES LOAD CAPACITIES SHALL BE CONFIRMED BY PROOF TESTING, AND SHALL MEET THE TEST ACCEPTANCE CRITERIA IN THE PROJECT SPECIFICATIONS.

## STRUCTURAL NOTES

MIXTURES	
FOLLOWING REQUIREMENTS:	
UIREMENTS OF IBC CHAPTER 19.	

USE JNDATIONS, CONCRETE WALLS, AB-AT-GRADE, GRADE BEAMS

ASTM A 615, GRADE 60 ASTM A 970, HEAD TYPE HA

AT THE CONTRACTOR'S OPTION AND WITH THE ARCHITECT'S APPROVAL, HEADED

COVER 1 1/2"

1 1/2" (#5 AND SMALLER) (#6 AND LARGER)

(CAST AGAINST EARTH) (#6 AND LARGER WHERE EXPOSED TO EARTH OR WEATHER)

ASTM A 706, GRADE 60, LOW ALLOY E80XX

TYPEMATERIALSIZEWELDED HEADED STUDSAWS D1.1 TYPE B3/4"Ø UNLESS NOTED OTHERWISE 1/2"Ø UNLESS NOTED OTHERWISE

AWS D1.1, TYPICAL AWS D1.3 FOR STEEL DECK AND COLD-FORMED FRAMING AWS D1.8 FOR SUPPLEMENTAL SEISMIC PROVISIONS AWS PREQUALIFIED JOINT DETAILS AMERICAN WELDING SOCIETY (AWS) STEEL JOISTS AND BRIDGING SJI STANDARD SPECIFICATIONS ANSI/SDI C "STANDARD FOR COMPOSITE STEEL FLOOR DECK-SLABS" ANSI/SDI RD "STANDARD FOR STEEL ROOF DECK" AISI S100 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" WIDE FLANGE SHAPES (W AND WT) ASTM A 992 ASTM A 36 TYPICAL, ASTM A 572 GRADE 50 WHERE NOTED ANGLES (L), CHANNELS (C AND MC) ASTM A 36 ASTM A 500, GRADE C ASTM A 53, GRADE B ASTM A 252, GRADE \*\*3 (MOD)\*\* FY = \*\*60 KSI\*\* ASTM F 3125, GRADE A 325 ASTM F 1554. GRADE \*\*36\*\* UNLESS NOTED OTHERWISE ASTM A 36, UNLESS NOTED OTHERWISE 70 KSI, LOW HYDROGEN, TYPICAL 60 KSI, MINIMUM, STEEL DECK SUBSTITUTION OF MEMBER SIZES OR STEEL GRADE WILL NOT BE ALLOWED WITHOUT PRIOR CONNECTIONS. ALTERNATIVE CONNECTIONS TO THOSE SHOWN ON THESE DRAWINGS WILL THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT

AND UNEQUAL PARTS. PROTECTION OF STEEL STRUCTURAL STEEL AND CONNECTIONS, INCLUDING PLATES AND OTHER STEEL ITEMS EMBEDDED IN CONCRETE, WHICH ARE EXPOSED TO WEATHER AND NOT TO BE PAINTED ACCORDING TO THE ARCHITECT, SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A 123. ALL FIELD WELDS ON GALVANIZED MATERIAL SHALL BE COATED WITH BRUSH APPLIED ZINC-RICH PAINT COMPLYING WITH THE SPECIFICATIONS. STRUCTURAL STEEL AND CONNECTIONS SHALL BE FIREPROOFED WHERE REQUIRED BY THE ARCHITECT, PRIMARY AND SECONDARY STRUCTURE ARE TO BE AS DEFINED BY THE IBC. STRUCTURAL MEMBERS SHALL BE ASSUMED TO BE IN A THERMAL UNRESTRAINED

CONDITION FOR THE PURPOSES OF DETERMINING FIREPROOFING THICKNESS. UL DESIGN SHALL BE IN ACCORDANCE WITH LRFD DESIGN METHODOLOGY. WHERE SPRAY-APPLIED CEMENTITIOUS FIREPROOFING IS EXPOSED TO WEATHER.

PROTECTED ACCORDINGLY. ALL COATINGS ARE TO FOLLOW THE SPECIFICATIONS AND PRODUCT MANUFACTURER'S INSTRUCTIONS.

ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS, AND SHALL BE PERFORMED BY \*\*AWS-WABO\*\*-CERTIFIED WELDERS. ONLY WELDS THAT ARE PREQUALIFIED, AS DEFINED BY AWS, OR QUALIFIED BY TESTING SHALL BE USED. SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 SYMBOLS. WELDS SHOWN ON THE DRAWINGS ARE MINIMUM SIZES. INCREASE WELD SIZE TO AWS MINIMUM SIZES BASED ON THICKNESS. MINIMUM WELD SIZE SHALL BE 3/16-INCH, UNLESS NOTED OTHERWISE. THE WELDS SHOWN ARE FOR THE FINAL CONNECTIONS. FIELD WELD SYMBOLS ARE SHOWN WHERE FIELD WELDS ARE REQUIRED BY THE STRUCTURAL DESIGN. WHERE FIELD WELD IS NOT INDICATED, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF A WELD SHOULD BE SHOP OR FIELD-WELDED IN ORDER TO FACILITATE THE STRUCTURAL STEEL ERECTION. WELDING OF THE SEISMIC FORCE-RESISTING SYSTEM SHALL BE EXECUTED IN ACCORDANCE WITH THE PROVISIONS OF AWS D1.8 "STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT".

WELDS ASSOCIATED WITH THE SEISMIC FORCE-RESISTING SYSTEM ARE IDENTIFIED WITHIN THESE DRAWINGS AS FOLLOWS: NOTE WITHIN WELD TAIL INDICATES WELDS SUBJECT TO REQUIREMENTS OF D1.8 D1.8-DCW INDICATES DEMAND CRITICAL WELDS SUBJECT TO

ADDITIONAL SPECIFIC REQUIREMENTS WITHIN D1.8 THE LOWEST ANTICIPATED SERVICE TEMPERATURE IS 30 DEGREES FAHRENHEIT FOR DETERMINATION OF REQUIRED CHARPY V-NOTCH TOUGHNESS LEVEL.

## **STEEL DECK**

STEEL DECK SHALL CONFORM TO ASTM A 653. WHERE THE DECK IS LEFT PERMANENTLY EXPOSED, GALVANIZED COATING SHALL CONFORM TO ASTM A 924, G90. IN OTHER AREAS, GALVANIZED COATING SHALL CONFORM TO ASTM A 924, G60. STEEL DECK SHALL CONFORM TO THE FOLLOWING:

#### <u>t<sub>v</sub> (PSI)</u> 40,000 MINIMUM COMPOSITE FLOOR/ROOF SLAB DECK NONCOMPOSITE STEEL ROOF DECK 33,000 MINIMUM

MINIMUM DECK GAUGES ARE SHOWN ON PLANS AND ARE BASED ON 3-SPAN, UNSHORED CONDITIONS. HEAVIER DECK GAUGES MAY BE REQUIRED FOR CONDITIONS OTHER THAN THESE, DEPENDING ON MANUFACTURER'S AND CONTRACTOR'S LAYOUT. DECK SUPPLIER SHALL VERIFY DECK GAUGES AND CAPACITIES BASED ON ACTUAL DECK LAYOUT AND SPAN CONDITIONS INCLUDING A 3 PSF SUPERIMPOSED DEAD LOAD ALLOWANCE FOR THE STEEL ROOF DECK. DEVIATIONS IN DECK GAUGES FROM THOSE SHOWN SHALL BE SUBMITTED TO THE ARCHITECT, ALONG WITH A VALID ICC REPORT FOR APPROVAL PRIOR TO SHOP DETAILING.

DECK WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3, "STRUCTURAL WELDING CODE -SHEET STEEL." ARC SPOT WELD SIZES NOTED ARE BASED ON THE NOMINAL (VISIBLE) DIAMETER.

CONTRACTOR SHALL PROVIDE CLOSURE PLATES, FLASHING, AND ALL MISCELLANEOUS COLD-FORMED FRAMING NECESSARY TO COMPLETE THE WORK. THE MINIMUM BEARING SHALL BE 2 INCHES.

COMPOSITE FLOOR/ROOF STEEL DECK

TEEL FLOOR DECK SHALL BE A COMPOSITE TYPE DECK WITH RIBS AT 12 INCHES ON CENTER OF THE SIZE AND GAUGE SHOWN ON THE PLANS AND DETAILS, OR AN APPROVED EQUAL. ELECTRICAL CONDUIT SHALL NOT BE EMBEDDED IN COMPOSITE FLOORS. FLOOR DECK FASTENING SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE, AND EXCEPT AS INDICATED IN TYPICAL COMPOSITE BEAM DETAILS. MIN 5/8-INCH DIAMETER ARC-SPOT WELDS AT 12 INCHES ON CENTER AT TRANSVERSE

AND PERIMETER SUPPORTS MIN 5/8-INCH DIAMETER ARC-SPOT WELDS AT 18 INCHES ON CENTER AT LONGITUDINAL SUPPORTS BUTTON PUNCH OR 1 1/2-INCH TOP OR SIDE SEAM WELD AT 18 INCHES ON CENTER AT SIDE LAP CONNECTIONS

#### POWER-DRIV SUBSTITUTIO

FASTENE TYPE 8d COMM 16d SHO 10d COMM 16d SHC 
 16d COMMON
 0.162"
 3 1/2"
 16"
 12"
 8"
 6"
 4"
 3"

 16d SHORT
 0.131"
 3 1/4"
 10"
 8"
 5"
 4"
 2 1/2"
 2"

**IDENTIFICATION** GLUED FLOOR AND ROOF SYSTEM

SAWN LUM RULES" BY SEASONED [ GRADE SPEC <u>USE</u>

BEAMS & ST 5"x5" AN

<u>POSTS</u> 5"x5" ANレ 4"X4"

15/32 C 19/32 CA 23/32 CA 19/32 CA SUBFLOORI 19/32 CA

23/32 CA 1-1/8 CAT SHEAR WALL

HEADS AND SEASONED SHALL BE C OTHERWISE BEAMS WITH ALL FRAMINO FOLLOWING

NOTED OTH ESR-1539. N

STRUCTURAL STEEL

REFERENCE SPECIFICATIONS AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" HIGH STRENGTH BOLTS RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS"

WELDING

WELDER CERTIFICATION STEEL DECKING

STEEL MATERIALS PLATES (PL), BARS STRUCTURAL TUBES (HSS) STEEL PIPE

STEEL PIPE PILES STRUCTURAL BOLTS ANCHOR RODS

THREADED RODS WELDING ELECTRODES

STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE REQUIREMENTS OF IBC CHAPTER 22. ALL MEMBERS ARE TO BE ERECTED WITH NATURAL MILL CAMBER OR INDUCED CAMBER UP. UNLESS OTHERWISE NOTED ON THE PLANS. APPROVAL BY THE ARCHITECT. A MINIMUM OF TWO BOLTS IS REQUIRED FOR ALL BEAM REQUIRE PRIOR APPROVAL BY THE ARCHITECT.

PREPARATIONS THAT INCLUDE, BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES AND OTHER AIDS, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES,

STRUCTURAL STEEL SHALL BE CONSIDERED EXPOSED TO WEATHER, AND SHALL BE

		W		)					
WOOD CONSTR	UCTION SHALL	CONFORM TO	ALL REG	UIREN	IENTS	OF IBC	CHAP	TER 23	3.
SAWN LUMBER SAWN LUMBER RULES" BY WCL SEASONED DRY GRADE SPECIFIE	IB OR "WESTER WITH A MAXIMI	N LUMBER GF	RADING R	ULES"	BY WV	VPA. L	JMBEF	R SHAL	L BE
<u>USE</u> WALL STUDS		<u>GRADE</u>				<u> </u>	<u>(PSI) (S</u>	SINGLE	<u>USE)</u>
	CK, 2" AND WIDE	DOUGLA	R STUD G AS FIR-LA AS FIR-LA	RCH S		RADE	67 70 90	0	
2" TO 4" THIC	CK, 2" AND WIDE		R NO. 2 AS FIR-LA	RCH N	IO. 2		85 90	-	
JOISTS & RAFTE 2" TO 4" THIC	<u>:RS</u> CK, 2" AND WIDE		R NO. 2 AS FIR-LA	RCH N	IO. 2		85 90	-	
BEAMS & STRING 5"x5" AND LA		DOUGLA	AS FIR-LA	RCH N	IO. 1		1,3	350	
<u>POSTS</u> 5"x5" AND LA 4"X4"	RGER		AS FIR-LA AS FIR-LA					200 000	
GLUED-LAMINAT GLUED-LAMINATE A190.1 "STRUCTU SEALER IMMEDIA GRADED WESTEE WITH LAYUP COM	ED TIMBER SHA JRAL GLUED LAI JTELY AFTER TF RN SPECIES MA	MINATED TIME RIMMING IN SH NUFACTURED	BER". APF IOP OR F	PLY ON IELD. I	IE COA MEMBE	T OF P RS SH	ENETF	RATING VISUA	END LLY
<u>TYPE</u> BEAMS	COMBINATION SYMBOL 24F-V4		PECIES F/DF			LE SPA			
COLUMNS TRUSSES	24F-V8 COMBINAT COMBINAT	TION 3 D				TINUOI FILEVE		N	
PITCHED AND CURVED BEAMS	24F-V8		F/DF		ALL				
STRUCTURAL CC STRUCTURAL CC THE DRAWINGS / SHALL HAVE THE	MPOSITE LUMB	ER PRODUCT	JS JOIST	OR AP	PROVE				
<u>TYPE</u> PSL (COL)	)	<u>AODULUS OF</u> <u>ASTICITY (PS</u> 1,800,000	<u>I)</u>	<u>FI</u>	<u>EXUR/</u> 2	,400		<u>PSI)</u>	
PSL (BEAI LVL LSL LSL	vi)	2,000,000 2,000,000 1,300,000 1,550,000			2 1	,900 ,600 ,700 ,325			
FLEXURAL STRES	SSES NOTED AF		R A 12-1NI	CH ME				/BERS	SHALL
BE DESIGNED FO	R REDUCED ST	RESSES PER	THE MAN	IUFAC	TURER C-ES OF	'S REQ R IAPM	UIREM D-UES	IENTS. REPOI	रा
VALID FOR THE 2 EQUIVALENT STF ALTERING THE S THE STRUCTURA SIGNATURE OF T RESPONSIBLE FO	RENGTH, STIFFN TRUCTURAL DE L DESIGN, THE THE WASHINGTO	IESS, AND ALI SIGN. WHERE SUBSTITUTIO ON STATE REC	LOWABLE SUBSTIT	E SPAC IUTIOI ST SH	CING OF N REQU IALL IN	F FAST JESTS CLUDE	ENERS INVOL	S WITH VE ALT SEAL AI	out Ering Nd
WOOD I-JOISTS WOOD I-JOISTS S SHALL BE OF THE COMPATIBLE WIT	HALL BE MANU	FACTURED BY	ON THE D	RAWI	NGS. J	OISTS	SHALL	BE	
PROJECT. PRODUCT SUBST	ITUTION REQUE	ESTS SHALL IN		AN ICC	-ES OR		D-UES	REPOF	RT
VALID FOR THE 20 EQUIVALENT STR ALTERING THE ST DEMONSTRATED REQUESTS INVOL SHALL INCLUDE T	ENGTH, STIFFN TRUCTURAL DE TO BE EQUIVAL VE ALTERING T	IESS, AND ALL SIGN. **PERCI LENT TO A TJ- THE STRUCTU	OWABLE EIVED FL PRO RAT RAL DES	SPAC OOR P ING O IGN, T	ERFOF F 55.** HE SUE	FAST RMANC WHERE SSTITU	ENERS E SHAI E SUBS TION F	S WITH LL BE STITUT REQUE	OUT ION ST
JOISTS SHALL BE BRIDGING, AND B	NGINEER WHO	IS RESPONSI H THE PROPE	BLE FOR	THE D	ESIGN	, WEB	STIFFE	ENERS	3
BRIDGING, AND B BE PROVIDED BY WELDABLE HANG	THE JOIST SUP	PLIER WHERE	E SUPPOI	RT CO	NDITIO	NS RE	QUIRE	THEM.	
WOOD STRUCTL WOOD STRUCTL EDITION OF DOO	JRAL PANELS S						OF THE	E LATE	ST
19/32 CATEG 23/32 CATEG	ORY APA RATE ORY APA RATE ORY APA RATE	D SHEATHING D SHEATHING	i, 40/20, E i, 48/24, E	XPOSI	JRE 1				
SUBFLOORING S 19/32 CATEG	ORY APA A-C, C <u>SHEATHING (TO</u> ORY APA RATE ORY APA RATE	<u>NGUE AND GF</u> D SHEATHING	<u>ROOVE, U</u> 5, 40/20, E	XPOS	JRE 1	<u>S BLO</u>	<u>CKED)</u>		
1-1/8 CATEG SHEAR WALL SH 15/32 CATEG	ORY APA RATEI <u>IEATHING</u> SORY APA RATE	D STURD-I-FLO	OOR 2400 6, 32/16, E	C, EXP XPOSI	OSURE JRE 1				
19/32 CATEG ALL ROOF SHEA PERPENDICULAI		3FLOORING SI	HALL BE I	NSTAL	LED W	'ITH TH	IE LON	G DIM	
CONTINUOUS O FLOOR DIAPHRA FRACTURE THE	VER TWO OR M AGM AND SHEAF	ORE SUPPOR R WALL NAILS	TS. INSTA SHALL B	ALL WI	TH 1/8"	GAP B	ETWE	EN PAI	NELS.
TIMBER FASTEN WOOD CONNEC C-C-2022, OR AP	TORS SHALL BE	SIMPSON ST							
MANUFACTUREF SPECIFIED BY TI MEMBERS, PLAC	R'S RECOMMEN HE MANUFACTU CE ONE-HALF OF	DATIONS WIT JRER. WHERE F THE FASTEN	H NUMBE CONNEC IERS IN E	R AND TOR S ACH N	) SIZE ( STRAPS IEMBEI	OF FAS S CONN RS. ALI	TENEF NECT T _ BOLT	RS AS WO S IN W	
MEMBERS SHAL HEADS AND NUT SEASONED DRY SHALL BE CONN	S OF ALL BOLT AND BE THE SA ECTED TO FLUS	S AND LAG SO AME GRADE (N SH BEAMS WI	CREWS B //IN) AS T TH LU SE	EARIN HE ME RIES J	G ON V MBERS OIST H	VOOD. S CONN ANGEF	ALL SH IECTEI RS, UN	HIMS S D. ALL LESS N	HALL E JOISTS IOTED
OTHERWISE. AL BEAMS WITH US	L DOUBLE AND SERIES HANGEF	TRIPLE-JOIST RS, UNLESS N	BEAMS S OTED OT	SHALL HERW	BE CO ISE.	NNECT	ED TO	FLUS	4
FOLLOWING TAE NOTED OTHERW ESR-1539. NAILIN 7/S6.02 AND 11/S SHEATHING, RES	BLE, UNLESS NC VISE. POWER-DI NG NOT SHOWN S6.02FOR NAIL S	DTED OTHERV RIVEN NAILS A	VISE. NAI AND STAF 6 INDICAT	L TYPE PLES S ED IN	E SHAL SHALL E IBC TA	L BE C BE IN A BLE 23	OMMO CCORI 04.10.1	N UNLE DANCE I. SEE	ESS
F	TYPE MARK	FRAMINO TYPE	G NAII SHAN DIAMET	K					
	8d 10d 16d	COMMON COMMON COMMON	0.131 0.148 0.162	"	2 1, 3 3 1,	/2"			
POWER-DRIVEN SUBSTITUTIONS	16d-SHORT	SHORT	0.131 FOR CO		3 1. I NAILS	/4" AT SP		-	-
		NATE NA					.∝∪ırtE	. יזר <b>ר</b> א	υAL.
FASTENER TYPE	SHANK DIAMETER	LENGTH			S	PACIN		-	
8d COMMON 16d SHORT	0.131" 0.131"	2 1/2" 3 1/4"	16" 16"	12" 12"	8" 8"	6" 6"	4" 4"	3" 3"	2" 2"
10d COMMON 16d SHORT	0.148" 0.131"	3" 3 1/4"	16" 12"	12" 10"	8" 6"	6" 4"	4" 3"	3" 2 1/2"	2" 1 1/2"
	0.460"	2.4/2"	10"	10"	0"	6"	4"	2"	Г <b></b>

ALL FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED LUMBER SHALL BE GALVANIZED WITH A MINIMUM COATING OF 1.85 OUNCES/SQUARE FOOT.

ALL SAWN LUMBER AND PREFABRICATED WOOD PRODUCTS SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

ALL HORIZONTAL SHEATHING SHALL BE GLUED TO FLOOR JOISTS, ROOF TRUSSES, ROOF JOISTS, RIM BOARDS, AND BLOCKING. THE FIELD-GLUED SYSTEM SHALL BE INSTALLED ACCORDING TO THE RECOMMENDATIONS OF THE APA. GLUE SHALL BE APPLIED TO THE SUPPORTING FRAMING AND TO THE GROOVE IN THE EDGE OF THE T&G PANELS. GLUE SHALL MEET THE REQUIREMENTS OF THE APA ADHESIVE SPECIFICATION AFG-01 AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

<u>WOOD SHRINKAGE</u> THE ARCHITECTURAL, PLUMBING, ELECTRICAL, MECHANICAL, AND FIRE PROTECTION SYSTEMS SHALL BE DESIGNED TO ACCOUNT FOR THE CUMULATIVE VERTICAL SHRINKAGE DUE TO LUMBER DRYING AND CRUSHING DUE TO THE BUILDING SELF-WEIGHT. LUMBER DRYING SHRINKAGE IS BASED ON A MOISTURE CONTENT AT THE TIME OF PLACEMENT EQUAL TO 19% AND A FINAL MOISTURE CONTENT OF 9%.

PRESERVATIVE-TREATED WOOD

WOOD SHALL BE PROTECTED FROM DECAY AND TERMITES IN ACCORDANCE WITH IBC 2304.12. PRESERVATIVE-TREATMENTS SHALL CONFORM TO THE APPROPRIATE STANDARDS OF THE AWPA FOR SAWN LUMBER, GLUED-LAMINATED TIMBER, ROUND POLES, PILES, AND MARINE PILES AND SHALL BEAR A TREATMENT IDENTIFICATION MARK BY THE CERTIFYING AGENCY. THE SELECTED PRESERVATIVE-TREATMENT SHALL CONFORM TO THE "BEST MANAGEMENT PRACTICES" OF THE WWPI. ALL LUMBER IN CONTACT WITH CMU, CONCRETE OR GROUND SURFACES SHALL BE PRESERVATIVE-TREATED. PRESERVATIVE TREATMENT SHALL NOT REDUCE ALLOWABLE DESIGN STRESSES.

SPECIAL INSPECTIONS					
AND TESTING SCHEDULE					
ESTABLISHED PER IBC 2018 SECTION 110 AND CHAPTER 17					
ITEM	IBC CODE	COMMENTS			
SOILS		-			
GRADING, EXCAVATION AND FILL	1705.6	BY GEOTECHNICAL ENGINEER			
FINAL FOUNDATION PREPARATION		BY GEOTECHNICAL ENGINEER			
DRIVEN DEEP FOUNDATION ELEMENTS	1705.7	BY GEOTECHNICAL ENGINEER			
CAST-IN-PLACE DEEP FOUNDATION ELEMENTS	1705.8	BY GEOTECHNICAL ENGINEER			
HELICAL PILE FOUNDATION ELEMENTS	1705.9	BY GEOTECHNICAL ENGINEER			
MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS	1807.2	BY GEOTECHNICAL ENGINEER			
TENSION ANCHORS	1705.1.1	BY GEOTECHNICAL ENGINEER			
CONCRETE		-			
POST-INSTALLED ADHESIVE ANCHORS		-			
POST-INSTALLED MECHANICAL ANCHORS	4705.0	-			
EMBEDDED PLATES	— 1705.3	-			
POST-TENSIONED CONCRETE		-			
SHOTCRETE		-			
STRUCTURAL STEEL		-			
FABRICATION AND ERECTION		-			
HIGH STRENGTH BOLTING	— 1705.2	-			
WELDING		-			
STEEL DECK	1705.2.2	-			
WOOD	-	-			
PREFABRICATED STRUCTURAL ELEMENTS	1704.2.5	-			
HIGH-LOAD DIAPHRAGMS	1705.5.1	-			
PREFABRICATED WOOD SHEAR PANELS	1703.4	-			
SEISMIC RESISTANCE	1705.12	-			
SEISMIC - CONCRETE	1705.12, 1705.13	-			
SEISMIC - STEEL	1705.12.1, 1705.13.1	-			
SEISMIC - WOOD	1705.12.2	-			
WIND RESISTANCE	1705.11.3	-			
WIND - WOOD	1705.11.1	-			
PRE-ENGINEERED STRUCTURES	1705.1.1	-			

SPECIAL INSPECTIONS AND TESTING NOTES: 1. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. 2. INSPECTION REQUIREMENTS FOR SYSTEMS DESIGNED BY OTHERS SHALL BE DEFINED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THEIR DESIGN. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY TO ALL BIDDER-DESIGNED COMPONENTS.

# **DRAWING LIST**

01	STRUCTURAL NOTES, DRAWING LIST, SPECIA
02	STRUCTURAL ABBREVIATIONS AND SYMBOL
01	LOAD MAPS
00	FOUNDATION PLAN
01	MAIN LEVEL FRAMING PLAN
02	UPPER LEVEL FRAMING PLAN
03	UPPER ROOF FRAMING PLAN
01	TYPICAL CONCRETE DETAILS
02	TYPICAL CONCRETE DETAILS
01	TYPICAL STEEL DETAILS
01	TYPICAL WOOD DETAILS
02	TYPICAL WOOD DETAILS
03	TYPICAL WOOD DETAILS

D Broject:	FUSED ELEMEN I S 4525 FOREST AVE SE MERCER ISLAND,WA 98040
stamp/seal:	
project engineer       CBJ         project manager:       JRS         drawn by:       RMF         checked by:       AES	
checked by:       AES         job no.:       2200638	
PERMIT 09/08/2023 title: STRUCTURAL NO DRAWING LIST, SPI INSPECTIONS sheet: S0.01	ECIAL

## STRUCTURAL ABBREVIATIONS

IF

IN

INFO

INT

KSF

LFH

LLH

LLV

LNGT

IΡ

LSL LVL

MAX

MFR

MIN

MISC MOM

NIC

NO

NS

NS

OC

OD

OF

OPNG

OPP

PAF

PC

PC

PL

PEN

PJP

PLWD

PNL

PSF

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SECT

SFRS SHT

SHTG

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SQ

SST

STD STIFF

STIRR

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SUPP

SYM

T&B T&G

Τ/

ΤВ THK

THRU

TRANS TYP

UNO

UT VERT

VIF

W

W/

W/O

WD WHS

WL

WP

WSBC

STL

ST

SP

RO

SC

RD

PS

NOM

NTS

MECH

INSIDE FACE

AB	ANCHOR BOLT
ADD'L	
ADH ADJ	ADHESIVE ADJUSTABLE
AESS	ARCHITECTURALLY EXPOSED
	STRUCTURAL STEEL
AFF	ABOVE FINISH FLOOR
AGG ANCH	AGGREGATE ANCHOR
ARCH	ARCHITECTURAL
ARD	ADHESIVE REINFORCING DOWEL
B/	BOTTOM OF
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BN BOT	DIAPHRAGM BOUNDARY NAILING BOTTOM
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOF
С	CAMBER
CAP	
CC CDF	CENTER TO CENTER CONTROLLED DENSITY FILL
CFS	COLD-FORMED STEEL
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION OR CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLG	CEILING
CLR CLT	CLEAR CROSS-LAMINATED TIMBER
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR CONTY	CONTRACTOR CONTINUITY
COORD	COORDINATE
CTR	CENTER
CY	CUBIC YARD
DB	DIVIDER BEAM
DBA	
DBL DCW	DOUBLE DEMAND CRITICAL WELD
DEMO	DEMOLISH
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DKG DN	DECKING DOWN
DO	DITTO
DWF	DEFORMED WIRE FABRIC
DWG	DRAWING
DWL	DOWEL
EA EF	EACH EACH FACE
EL	ELEVATION
ELECT	ELECTRICAL
ELEV	ELEVATOR
EN	PANEL EDGE NAILING
EQ	EQUAL
EQUIP ES	EQUIPMENT EACH SIDE
EW	EACH WAY
EX	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F FD	FAHRENHEIT FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FIN	FINISH
FLG	FLANGE
FLR	FLOOR
FOB FS	FACE OF BUILDING FAR SIDE
FT	FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GEN GL	GENERAL GLUED LAMINATED TIMBER
GOVT	GOVERNMENT
GR	GRADE
GWB	GYPSUM WALL BOARD
HF	HEM-FIR
HGR HK	HANGER
HK HORIZ	HOOK HORIZONTAL
HORIZ	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
IBC	INTERNATIONAL BUILDING CODE
ID IE	
	INVERT ELEVATION

INSIDE FACE
INCH INFORMATION
INTERIOR
JOIST
JOINT
KIP (1,000 LBS.)
KIPS PER SQUARE FOOT
LINEAL FOOT LONG FACE HORIZONTAL
LONG LEG HORIZONTAL
LONG LEG VERTICAL
LONGITUDINAL
LOW POINT
LAMINATED STRAND LUMBER
LAMINATED VENEER LUMBER MAXIMUM
MECHANICAL
MANUFACTURER
MINIMUM
MISCELLANEOUS
MOMENT
NUMBER NOMINAL
NEAR SIDE
NONSHRINK
NOT TO SCALE
ON CENTER
OUTSIDE DIAMETER
OPENING OPPOSITE
POST
POWER ACTUATED FASTENER
PIECE
PILE CAP
PENETRATION
PARTIAL JOINT PENETRATION
PROPERTY LINE PLATE
PLYWOOD
PANEL
POUNDS PER SQUARE FOOT
POUNDS PER SQUARE INCH
POST-TENSIONED
PRESERVATIVE-TREATED
PREFABRICATED WOOD TRUSS RADIUS
ROOF DRAIN
REINFORCING
REMAIN(DER)
REQUIRED
ROUND
ROUGH OPENING RETURN
SLIP CRITICAL
SCHEDULE
SEATTLE DEPARTMENT OF
CONSTRUCTION AND INSPECTIONS
SPECIAL DUCTILE QUALITY SECTION
SECTION SEISMIC FORCE-RESISTING SYSTEM
SHEET
SHEATHING
SIMILAR
SLAB-ON-GRADE
SPACE
SPECIFICATION SQUARE
SQUARE STAINLESS STEEL
SUSTAINED TENSION ANCHOR
STANDARD
STIFFENER
STIRRUP
STEEL STRUCTURAL
SUPPORT
SYMMETRICAL
TOP AND BOTTOM
TONGUE AND GROOVE
TOP OF
TABLE THICK(NESS)
THROUGH
TRANSVERSE
TYPICAL
UNLESS NOTED OTHERWISE
VERTICAL VERIFY IN FIELD
W-SHAPE
WITH
WITHOUT
WOOD
WELDED HEADED STUD
WELDED HEADED STUD WATER LINE
WELDED HEADED STUD WATER LINE WORK POINT
WELDED HEADED STUD WATER LINE
WELDED HEADED STUD WATER LINE WORK POINT

## **CONCRETE SYMBOLS**

$\bigcirc$	



# STRUCTURAL DRAWING SYMBOLS

CONCRETE COLUMN ABOVE OR PASSING THROUGH THIS LEVEL	ΙΟΟ	STEEL COLUMN A
CONCRETE COLUMN BELOW		STEEL COLUMN B
REINFORCING TYPE	Ţ	COLUMN SPLICE F
STEPPED FOOTING		
CONCRETE WALL ABOVE OR PASSING THROUGH LEVEL	A	COLUMN SPLICE 1
PARTIAL HEIGHT CONCRETE WALL	D 1/2"	DOUBLER PLATE I
MASONRY WALLS	T	
CONCRETE IN CROSS SECTION		STIFFENER PLATE
EXISTING CONCRETE IN CROSS SECTION	D 1/2"	BOTH DOUBLER &
	·	

#### STEEL SYMBOLS

N ABOVE OR PASSING THROUGH THIS LEVEL

N BELOW THIS LEVEL

E PER FRAME ELEVATIONS

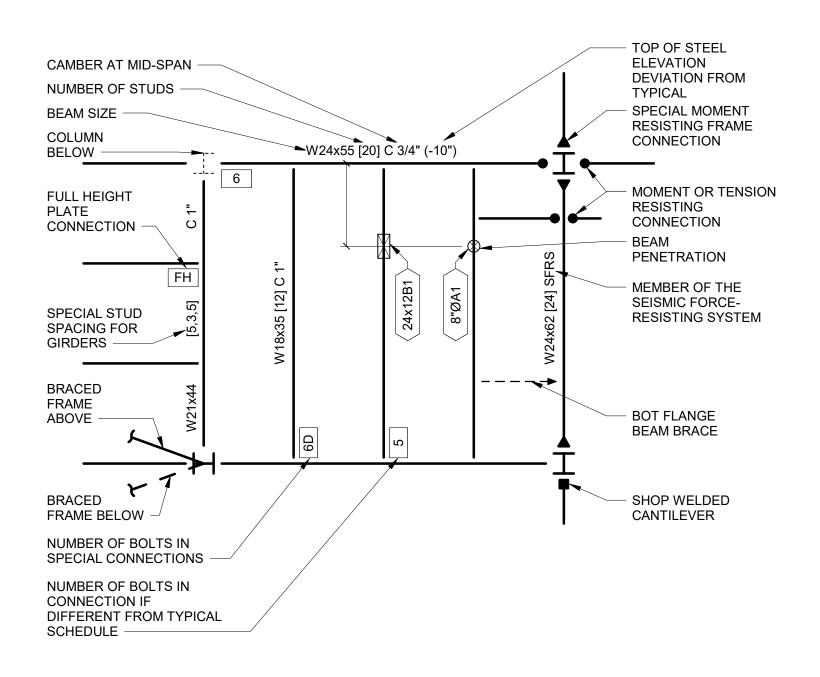
E TYPE

E PER FRAME ELEVATIONS

ATES PER FRAME ELEVATIONS

R & STIFFENER PLATES

STEEL IN CROSS SECTION



GE	NERAL SYMBOLS
(10)	GRID BUBBLE
7777,5557	SURFACE - SLOPE UP
7777	SURFACE - STEPPED
777777777,	SURFACE - SLOPE DOWN
	SURFACE - SLOPE TWO WAYS
PLAN	UNDISTURBED SOIL, COMPACTED SOIL, BACKFILL, OR ANY PREPARED SUBGRADE. SEE SPECIFICATIONS FOR TYPE OF MATERIAL AND PREPARATION METHOD.
NORTH	NORTH ARROW
1 S3.1	STANDARD SECTION CUTS
1 S3.1 S3.1 S3.1	BUILDING SECTION CUTS
1 S3.1	ELEVATION OF WALL OR FRAME
100'-0"	SPOT ELEVATION: TOP OF PLYWOOD TOP OF CONCRETE TOP OF STEEL
100'-0"	TOP OF CONCRETE ELEVATION
• 100'-0"	TOP OF STEEL ELEVATION
T/SLAB	REFERENCE ELEVATION. REFER TO PLAN UNLESS NOTED OTHERWISE.
LEVEL 01	ELEVATION OF LEVEL
<b>▲</b> WP	WORKPOINT
>	DIRECTION OF DOWNWARD SLOPE
	DIRECTION OF SPAN
	EXISTING FRAMING
	WOOD SYMBOLS
	HINGE CONNECTION
	GLULAM SECTION
	ENGINEERED LUMBER SECTION (PSL, LSL, LVL)
$\boxtimes$	SOLID WOOD SECTION
	SOLID WOOD BLOCKING SECTION
Ο	BUNDLED STUDS, WOOD POST
	PLYWOOD SECTION
	BEAM / GIRDER / JOIST
	WALL ABOVE THIS LEVEL WITH HEADER BELOW
C 3 <del>488888</del> 23	WALL BELOW THIS LEVEL WITH HEADER BELOW

WALL ABOVE THIS LEVEL

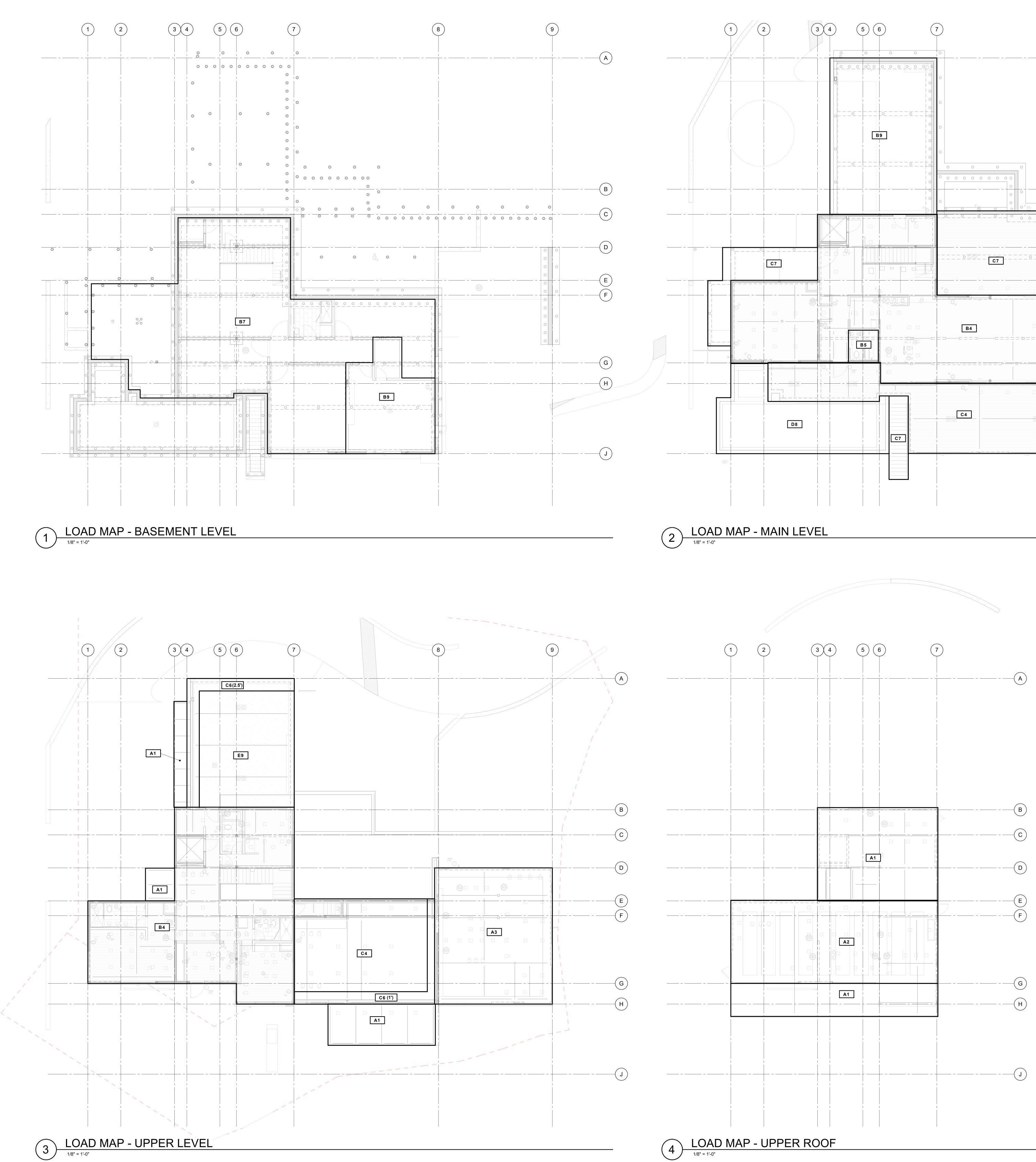
WALL BELOW THIS LEVEL

1 S3.1

Olson kundig 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
stamp/seal:	ff.
project engineer CB. project manager: JRS drawn by: RM checked by: AES job no.: 220 revisions:	5 F S
	ption:
PERMIT 09/08/202	

09/08/2023 title: STRUCTURAL ABBREVIATIONS AND SYMBOLS sheet:

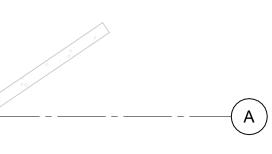
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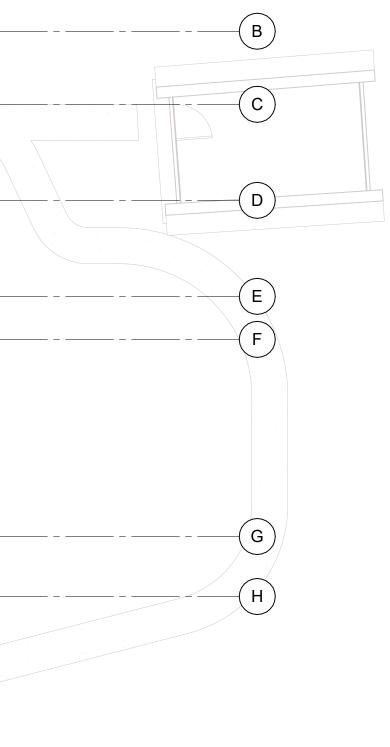


7	8	9

LIVE LOAD SCHEDULE				
TYPE MARK	DESCRIPTION	LOAD, PSF (R=REDUCIBLE)	TYPE COMMENTS	
A	ROOF	20 (R) LIVE 25 SNOW	-	
В	INTERIOR RESIDENTIAL	40 (R)	-	
С	EXTERIOR TERRACE	60 (R) LIVE 25 SNOW	-	
D	POOL	60 (R)	-	
E	ELEVATED PARKING	250	-	

LOAD SCHEDULE NOTES:
1. A1 (1') INDICATES LIVE LOAD AND SUPERIMPOS LINES.
👖 🕴 🖳 MAXIMUM DEPTH OF SOIL OR WATER, W
SUPERIMPOSED DEAD LOAD
LIVE LOAD
2. (R) INDICATES LIVE LOADS ARE REDUCED IN AC
3. + 15 INDICATES 15 PSF NON REDUCIBLE PARTITI
4. EXTERIOR BALCONIES AND DECKS ARE DESIGNED
<ol> <li>WHERE EQUIPMENT WEIGHTS EXCEED 150 PSF, FL 40 PSF IN OPEN AREAS.</li> </ol>
6. REFER TO IBC TABLE 1607.1 FOR RELEVANT CONCE
<ol><li>SDL INCLUDES 2 PSF FOR PV PANELS.</li></ol>
8. TOTAL SDL IS THE SOIL OR WATER DEPTH TIMES T





SUPERIMPOSED DEAD LOAD SCHEDULE				
TYPE MARK	DESCRIPTION	LOAD, PSF	TYPE COMMENTS	
1	TYPICAL ROOF	14	-	
2	ROOF WITH SOLAR PV ARRAY	16	NOTE 7	
3	GREEN ROOF	44	-	
4	WOOD FRAMED FLOOR	13	-	
5	WOOD FRAMED FLOOR WITH TILE	24	-	
6	PLANTER	133	-	
7	FLOOR AT GRADE	5	-	
8	POOL, 4'-0" WATER HEIGHT	270	-	
9	4" TOPPING SLAB	55	-	

OSED LOAD PER SCHEDULES. LOADING OCCURS WITHIN REGIONS BOUND BY BOLD WHERE APPLICABLE

ACCORDANCE WITH BUILDING CODE PROVISIONS.

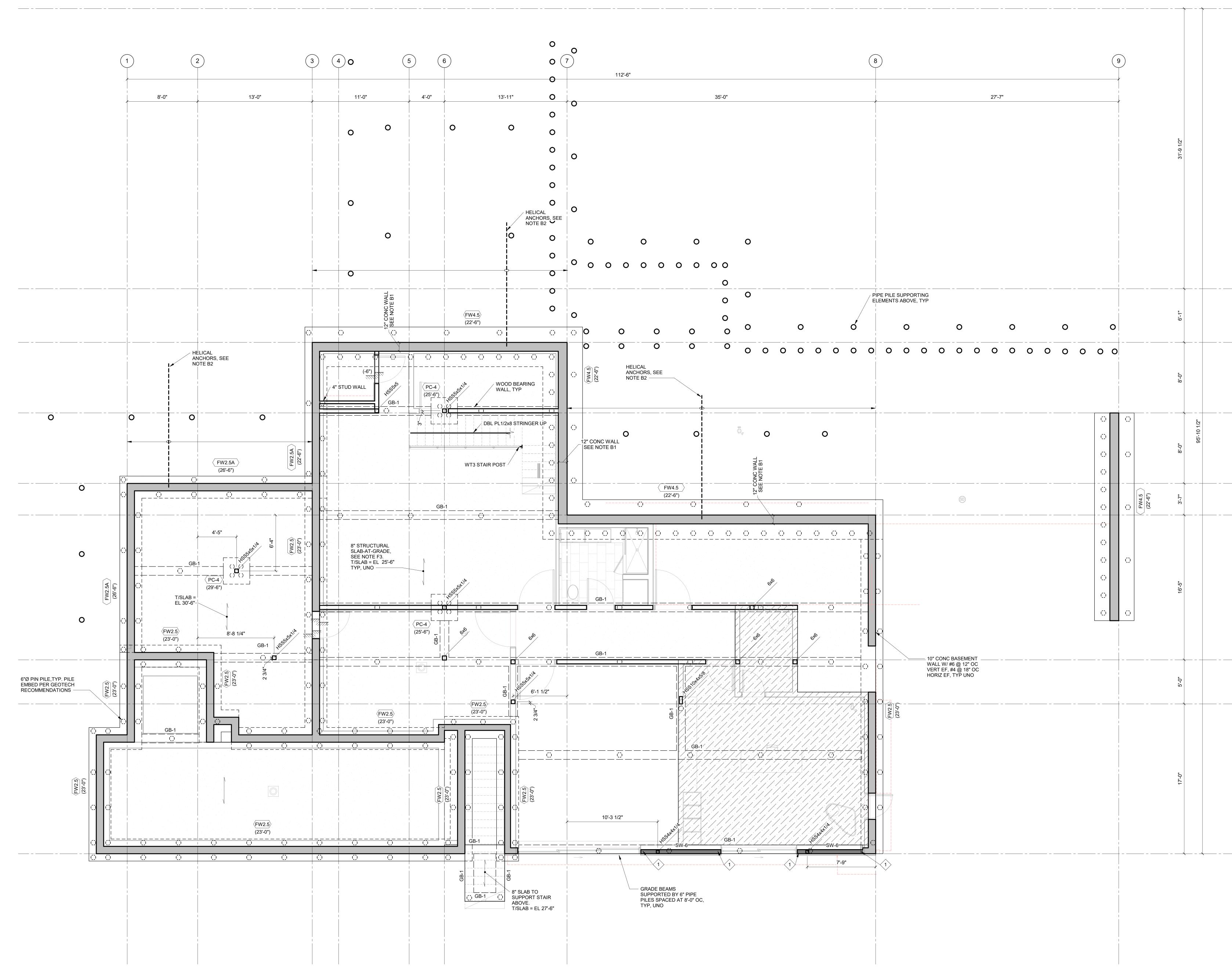
TITION LOAD. IED FOR 1.5 TIMES THE OCCUPANCY SERVED, 100 PSF MAXIMUM. FLOORS ARE DESIGNED FOR ACTUAL EQUIPMENT WEIGHT + 4" HOUSEKEEPING PAD + ICENTRATED LIVE LOADS.

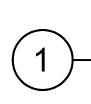
THE LISTED DENSITY IN PCF, PLUS THE ADDITIONAL SDL LISTED IN THE SCHEDULE.

Son kundig 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 otsonkundig.com	ED ELEMENTS OREST AVE SE MERCER ISLAND,WA 98040
$\overline{O}$	project: FUSED 4525 FORI
AT248 AT248 S JONAL ENGLANCE	
IGO1 Fifth Avenue, S Seattle, WA 98101 206.622.5822 kpff.com project engineer CBJ project manager: JRS drawn by: RMF checked by: AES job no.: 2200 revisions:	Suite 1600
no.: date: descrip	ption:
PERMIT 09/08/202	3
title:	

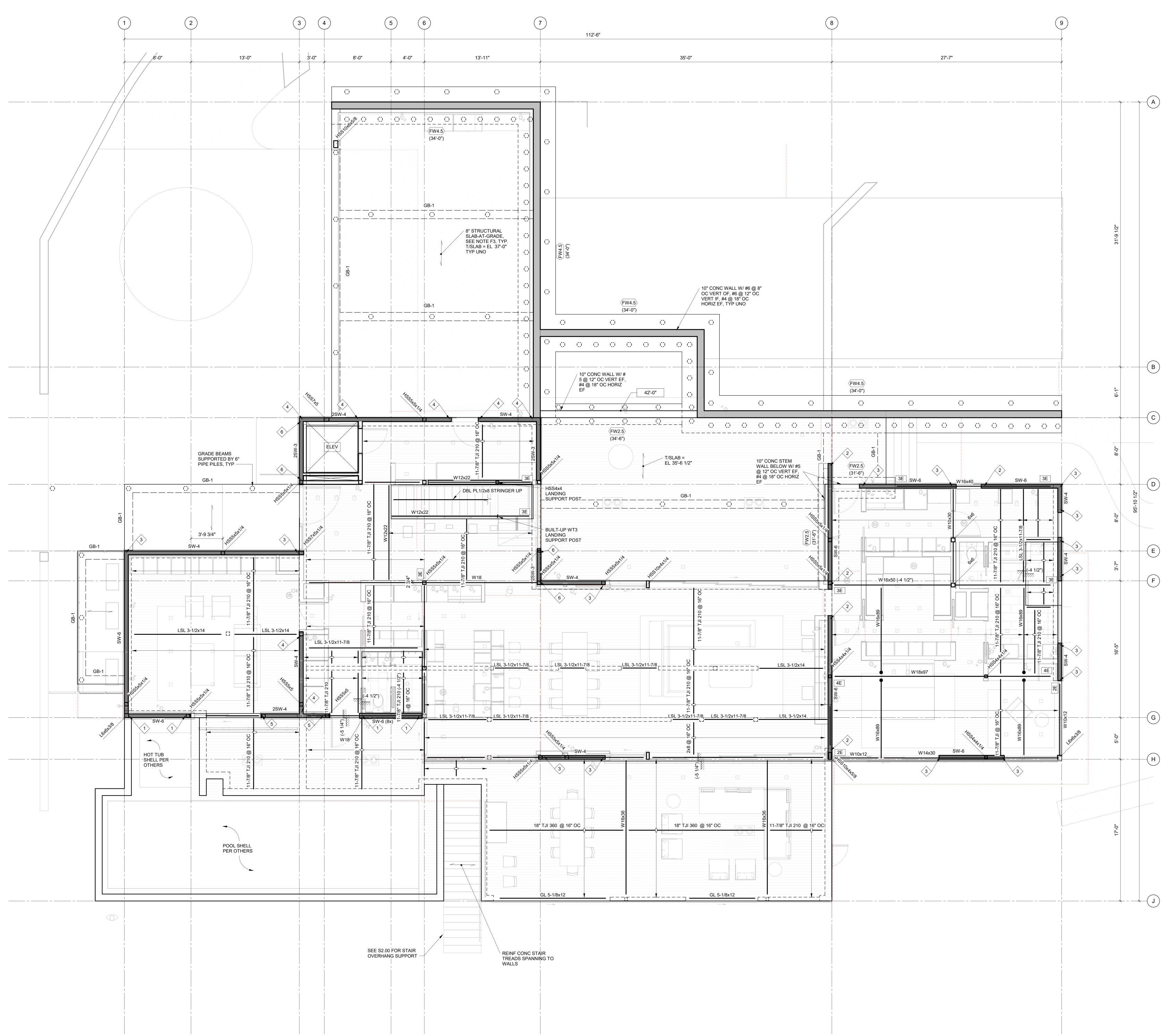
LUAD WAFS **S1.01** 

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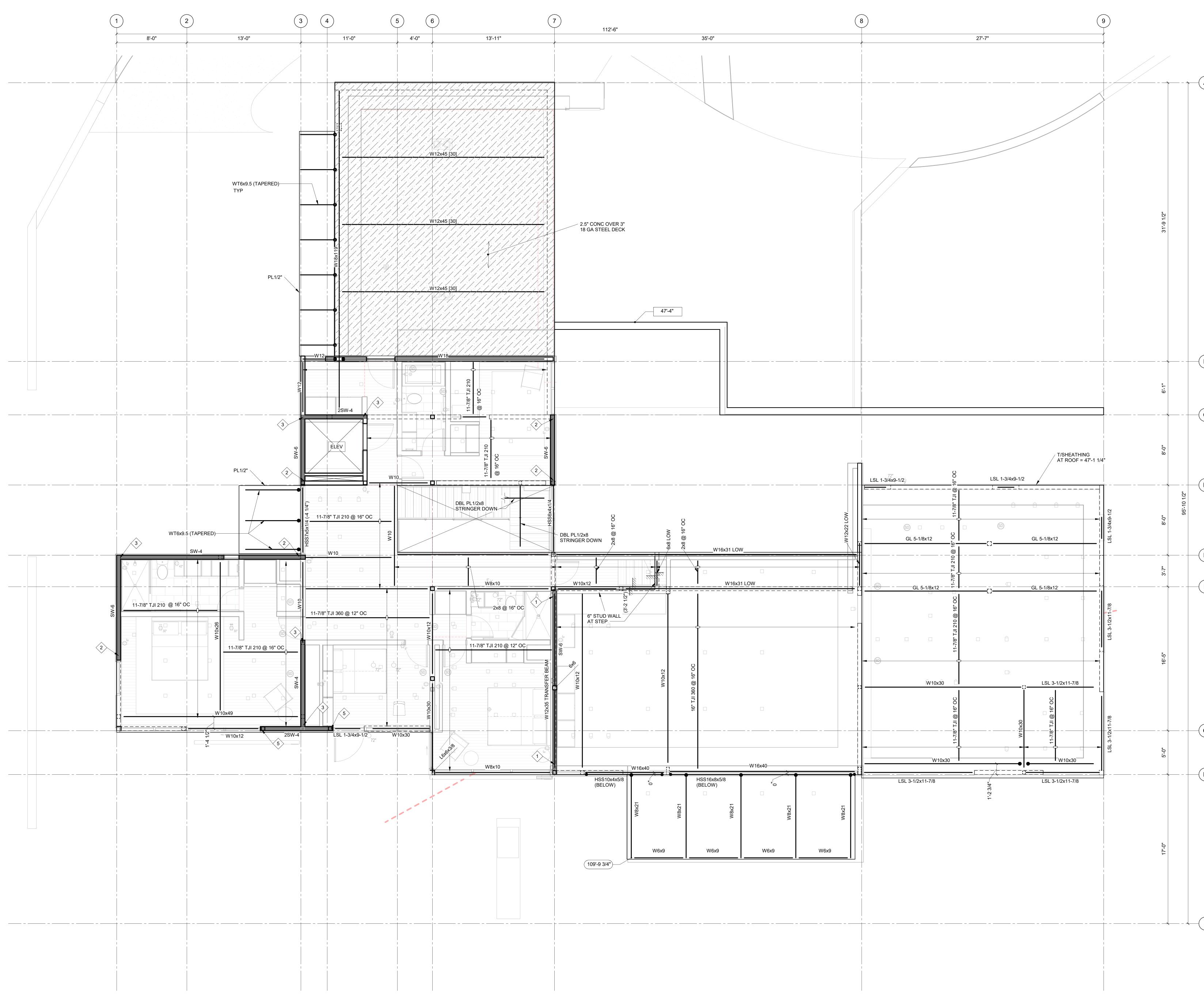


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— B	
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— ( <b>F</b> )	
—G —H	Interview       Non-Alignment         Interview       Suite 1600         Seattle, WA 98101       206.622.5822         kpff.com       Non-Alignment
—U	project engineer       CBJ         project manager:       JRS         drawn by:       RMF         checked by:       AES         job no.:       2200638
	EVALUATION PLAN



1 MAIN LEVEL FRAMING AND FOUNDATION PLAN

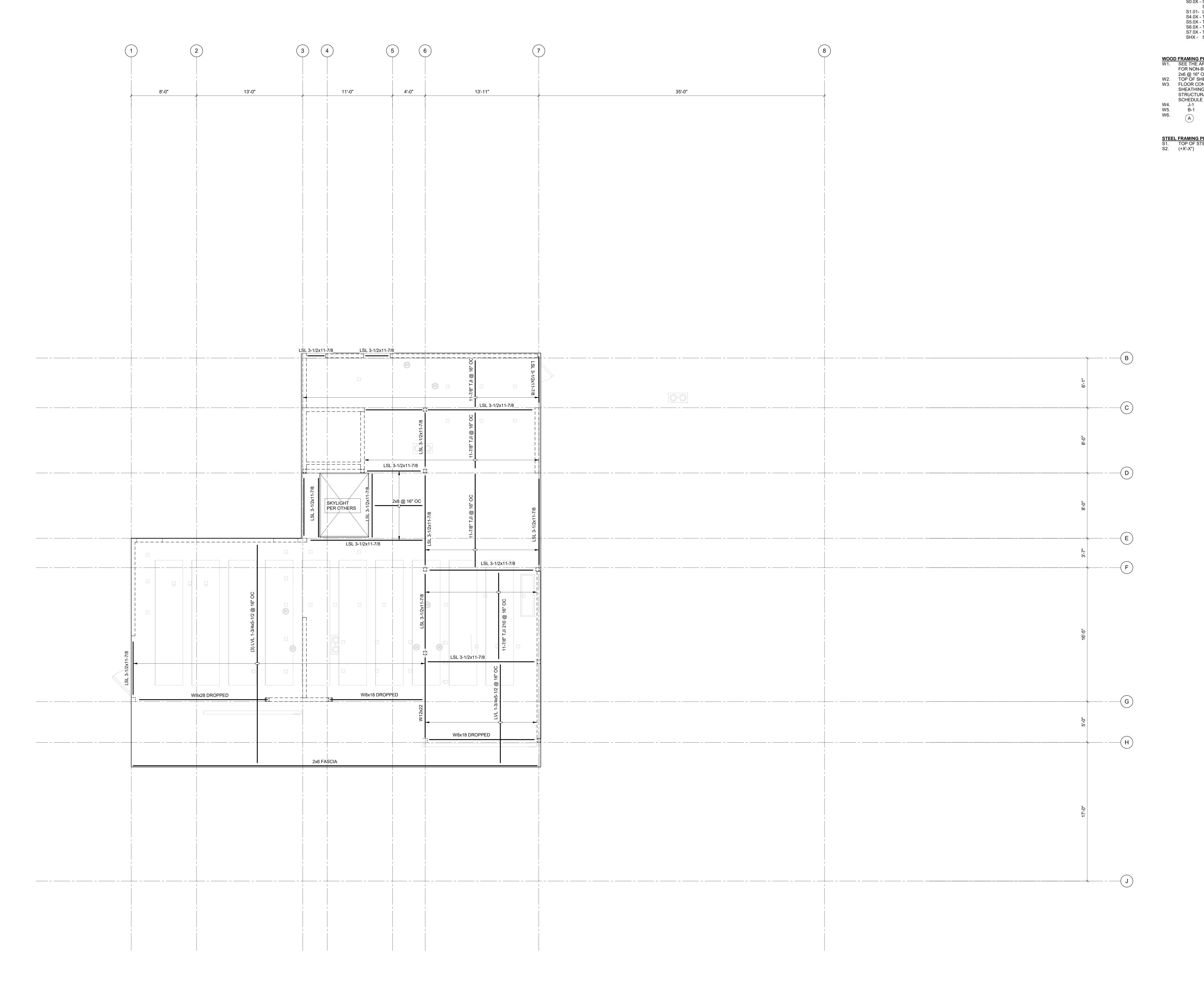
GENERAL PLAN NOTES: G1. REFERENCE DRAWINGS: S0.0X - STRUCTURAL NOTES, SPECIAL INSPECTION SCHEDULE, SYMBOLS AND ABBREVIATIONS S1.01- LOAD MAPS S4.0X - TYPICAL CONCRETE DETAILS S5.0X - TYPICAL STEEL DETAILS S6.0X - TYPICAL WOOD DETAILS S7.0Y TYPICAL WOOD DETAILS	159 South Jackson St, Suite 600 Seatte, Washington 98104 USA 206 624 5670 olsonkundig.com
<ul> <li>S7.0X - TYPICAL WOOD DETAILS SHX - SHORING DRAWINGS</li> <li>FOUNDATION PLAN NOTES:</li> <li>F1. SEE 6/S4.01 FOR BEAM SCHEDULE.</li> <li>F2. SEE 1/S4.02 FOR CONTINUOUS FOOTING SCHEDULE.</li> <li>F3. STRUCTURAL SLAB-AT-GRADE SHALL BE 8" THICK WITH # 4's @ 10' OC T&amp;B PRIMARY REINF, #4's @ 18" OC T&amp;S REINFORCEMENT, UNO.</li> <li>F4. FW0 INDICATES FOOTING TYPE AND BOTTOM OF FOOTING ELEVATION. SEE 1/S4.02.</li> <li>F5. GB-X INDICATES GRADE BEAM TYPE. SEE 6/S4.01.</li> <li>F6. PC-2 INDICATES PILE CAP PER 10/S4.02.</li> <li>F7. INDICATES AREA OF TOPPING SLAB OVER SLIP MEMBRANE.</li> <li>F8. INDICATES AREA OF 4" SLAB OVER EPS GEOFOAM.</li> </ul>	AENTS AENTS
<ul> <li>WOOD FRAMING PLAN NOTES:</li> <li>W1. SEE THE ARCHITECTURAL DRAWINGS FOR WALL TYPES AND FOR NON-BEARING WALL LOCATIONS. WALL STUDS SHALL BE 2x6 @ 16" OC, UNO.WALL HEADERS ARE PER 18/S6.01UNO.</li> <li>W2. TOP OF SHEATHING SHALL BE 36'-11 1/4" THIS LEVEL, UNO.</li> <li>W3. FLOOR CONSTRUCTION SHALL BE 23/32 STRUCTURAL RATED SHEATHING. ROOF CONSTRUCTION SHALL BE 15/32 STRUCTURAL RATED SHEATHING. SEE DIAPHRAGM NAILING SCHEDULE PER 11/S6.02</li> <li>W4. DIMENSIONS SHOWN ARE TO FACE OF STUD, UNO.</li> <li>W5. J-1 INDICATES JOIST PER 18/S6.01</li> <li>W6. B-1 INDICATES FLUSH FRAMED BEAM PER 18/S6.01</li> <li>W7. 5 INDICATES NUMBER OF BUNDLED STUDS LOCATED UNDER BEAM ABOVE PER 3/S6.02.</li> <li>W8. 3 INDICATES NUMBER OF BUNDLED STUDS LOCATED UNDER BEAM ABOVE PER 3/S6.02.</li> <li>W9. A INDICATES HARDWARE PER 1/S6.02</li> <li>W10. SW-6 INDICATES WOOD SHEAR WALL ABOVE</li> </ul>	stamp/seal:
SW-3       PER 9/S6.02. "SSW-X" DENOTES PREFABRICATED SIMSPON WOOD STRONG WALL SHEAR WALL.         STEEL FRAMING PLAN NOTES:       S1.         S1.       TOP OF STEEL SHALL BE 36'-8 3/4"       THIS LEVEL, UNO.         S2.       (+X'-X")       INDICATES VERTICAL OFFSET OF TOP OF STEEL RELATIVE TO ELEVATIONS SPECIFIED IN NOTE S1.	47248 TORAL ENGLISH SSIONAL ENGLISH ARCHINE
	Image: Description of the second s
	1601 Fifth Avenue, Suite 1600 Seattle, WA 98101 <b>206.622.5822</b>
	1601 Fifth Avenue, Suite 1600 Seattle, WA 98101 206.622.5822 kpff.comproject engineerCBJ project manager: JRS drawn by: checked by:RMF checked by:AES
	1601 Fifth Avenue, Suite 1600 Seattle, WA 98101 206.622.5822 kpff.comproject engineerCBJ project manager: JRS drawn by: checked by: AES job no.:200638
	1601 Fifth Avenue, Suite 1600 Seattle, WA 98101 206.622.5822 kpff.comproject engineerCBJ project manager: JRS drawn by: checked by: AES job no.:200638





1 UPPER LEVEL FRAMING PLAN

<u>GENER</u> G1.	SC S1.01- LO S4.0X - TY S5.0X - TY S6.0X - TY S7.0X - TY	DRAWINGS: RUCTURAL NOTES, SPE( HEDULE, SYMBOLS AND	ABBREVIATIONS		159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	
W1. W2. W3. W4. W5. W6. W7. W8. W9. W10.	FOR NON-BEA 2x6 @ 16" OC, TOP OF SHEA FLOOR CONS SHEATHING. I STRUCTURAL SCHEDULE PE	HITECTURAL DRAWINGS ARING WALL LOCATIONS UNO.WALL HEADERS AF THING SHALL BE 47'-2 1/ TRUCTION SHALL BE 23/3 ROOF CONSTRUCTION S RATED SHEATHING. SEI ER 11/S6.02 SHOWN ARE TO FACE OF INDICATES JOIST PER INDICATES FLUSH FRAI INDICATES HOLD-DOW STUDS PER 2/S6.02. INDICATES NUMBER OF LOCATED UNDER BEAM INDICATES HARDWARE PER 1/S6.02. INDICATES WOOD SHE PER 9/S6.02. "SSW-X" D SIMSPON WOOD STROP	. WALL STUDS SHALL BE RE PER 18/S6.01UNO. 2" THIS LEVEL, UNO. 32 STRUCTURAL RATED HALL BE 15/32 E DIAPHRAGM NAILING F STUD, UNO. 18/S6.01 MED BEAM PER 18/S6.01 N AND COMPRESSION F BUNDLED STUDS MABOVE PER 3/S6.02.	ED	Olson Kundig	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
S1.	TOP OF STEE (+X'-X")	L SHALL BE 47'-0" 1 INDICATES VERTICAL C	THIS LEVEL, UNO. DFFSET OF TOP OF STEE ONS SPECIFIED IN NOTE		stamp/seal:	a 4
					project manager: J drawn by: F checked by: A	e, Suite 1600
					   	cription:
	~				PERM 09/08/2 title:	
					sheet: S2.	N



1 UPPER ROOF FRAMING PLAN

~

GENERAL PLAN NOTES: G1. REFERENCE DRAWINGS: S0.0X - STRUCTURAL NOTES, SPECIAL INSPECTION SCHEDULE, SYMBOLS AND ABBREVIATIONS S1.01- LOAD MAPS S4.0X - TYPICAL CONCRETE DETAILS S5.0X - TYPICAL STEEL DETAILS S6.0X - TYPICAL WOOD DETAILS S7.0X - TYPICAL WOOD DETAILS SHX - SHORING DRAWINGS	159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com
<ul> <li>WOOD FRAMING PLAN NOTES:</li> <li>W1. SEE THE ARCHITECTURAL DRAWINGS FOR WALL TYPES AND FOR NON-BEARING WALL LOCATIONS. WALL STUDS SHALL BE 2x6 @ 16" OC, UNO.WALL HEADERS ARE PER 18/S6.01UNO.</li> <li>W2. TOP OF SHEATHING SHALL BE 57'-1" THIS LEVEL, UNO.</li> <li>W3. FLOOR CONSTRUCTION SHALL BE 23/32 STRUCTURAL RATED SHEATHING. ROOF CONSTRUCTION SHALL BE 15/32 STRUCTURAL RATED SHEATHING. SEE DIAPHRAGM NAILING SCHEDULE PER 11/S6.02</li> <li>W4. J-1 INDICATES JOIST PER 18/S6.01.</li> <li>W5. B-1 INDICATES FLUSH FRAMED BEAM PER 18/S6.01</li> <li>W6. A PER 1/S6.02.</li> </ul>	Kundig       ENTS       ENTS       ENTS
STEEL FRAMING PLAN NOTES:         S1.       TOP OF STEEL SHALL BE 56'-10 1/2" THIS LEVEL, UNO.         S2.       (+X'-X")         INDICATES VERTICAL OFFSET OF TOP OF STEEL         RELATIVE TO ELEVATIONS SPECIFIED IN NOTE S1.	OISON K Project: FUSED ELEMENTS 4525 FOREST AVE SE MERC
	stamp/seal: E. SUL OF WASHING FOR WASHING
	Loop1601 Fifth Avenue, Suite 1600Seattle, WA 98101206.622.5822kpff.com
	project engineer       CBJ         project manager:       JRS         drawn by:       RMF         checked by:       AES         job no.:       2200638
	PERMIT 09/08/2023 title:
	UPPER ROOF FRAMING PLAN
	S2.03

f' <sub>c</sub> =	4,000 PSI
f <sub>y</sub> =	60,000 PSI

SIZE	Ld	Ldt	Lb	Lbt	Ldh
#4	19 (28)	25 (37)	25 (37)	32 (48)	9
#5	24 (36)	31 (46)	31 (46)	40 (60)	12
#6	28 (43)	37 (55)	37 (55)	48 (72)	14
#7	42 (62)	54 (81)	54 (81)	70 (105)	17
#8	47 (71)	62 (92)	62 (92)	80 (120)	19
#9	54 (80)	70 (104)	70 (104)	90 (136)	21
#10	60 (90)	78 (117)	78 (117)	102 (153)	24
#11	67 (100)	87 (130)	87 (130)	113 (170)	27
#14	80 (120)	104 (157)	N/A	N/A	32
#18	107 (161)	139 (209)	N/A	N/A	43

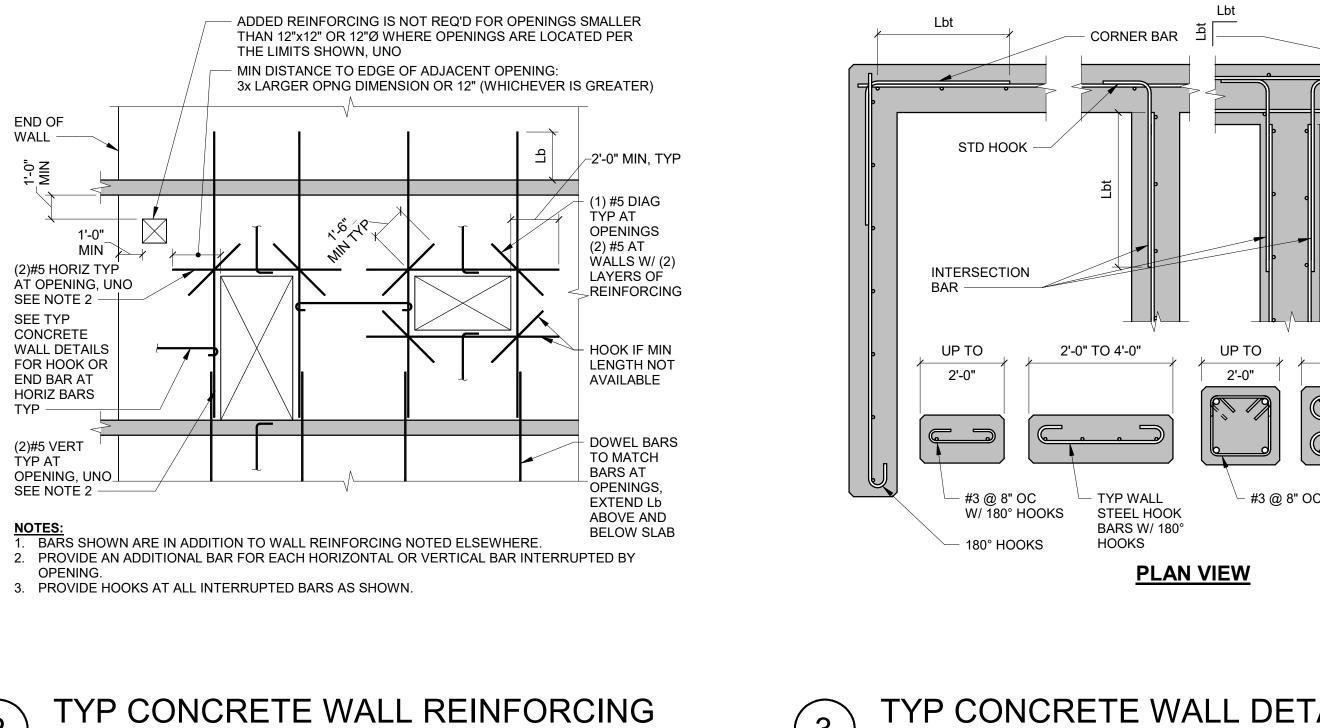
#### **ABBREVIATIONS** db = BAR DIAMETER

- Ld = TENSION DEVELOPMENT LENGTH Ldt = TENSION DEVELOPMENT LENGTH FOR A TOP BAR
- Lb = CLASS B LAP SPLICE LENGTH, 1.3 Ld Lbt = CLASS B LAP SPLICE LENGTH FOR A TOP BAR, 1.3 Ldt Ldh = TENSION DEVELOPMENT LENGTH FOR A STANDARD HOOK

#### NOTES: 1. USE THE LENGTHS IN THIS SCHEDULE, UNLESS NOTED OTHERWISE.

- 2. USE LENGTH IN ( ) WHEN BAR COVER IS db OR LESS OR BAR CLÉAR SPACING IS 2db OR LESS. 3. A TOP BAR IS A HORIZONTAL BAR WITH MORE
- THAN 12" OF FRESH CONCRETE CAST BELOW IT. 4. FOR GRADE 80 BARS, MULTIPLY ABOVE VALUES BY 1.33.





(3)

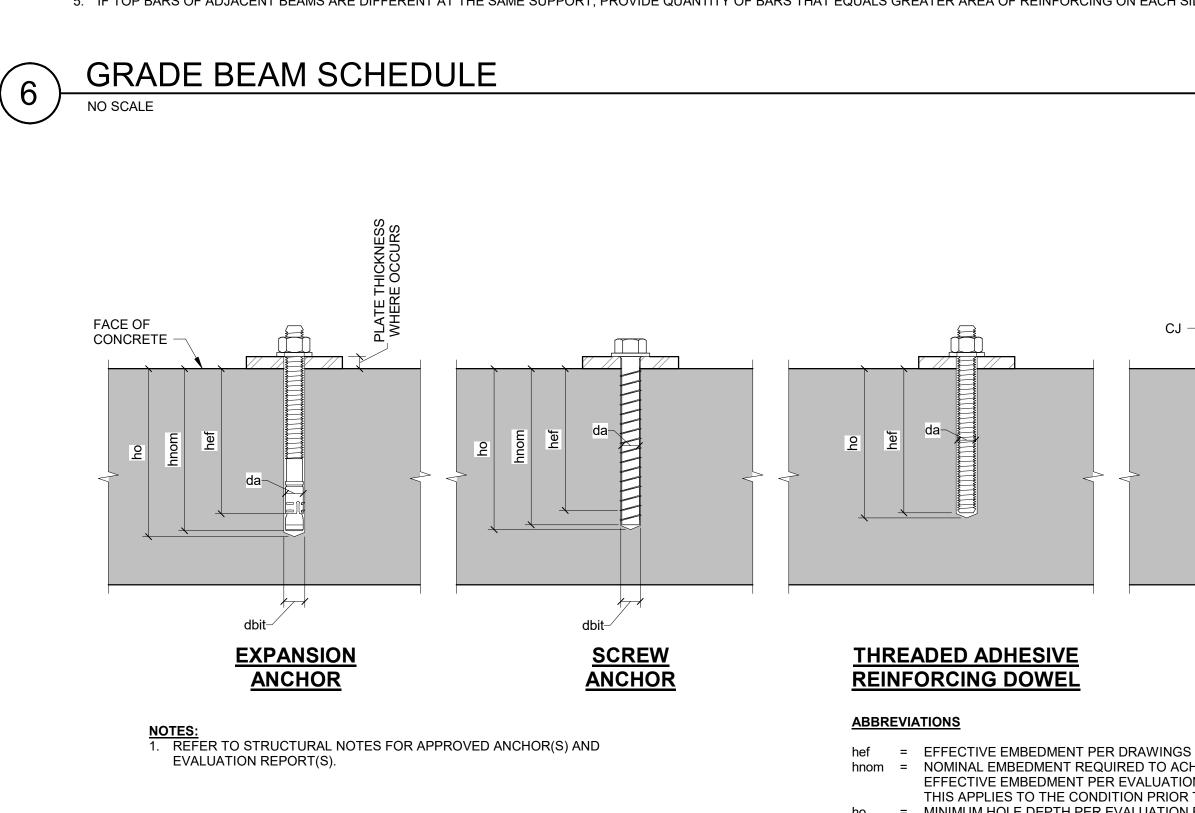
8



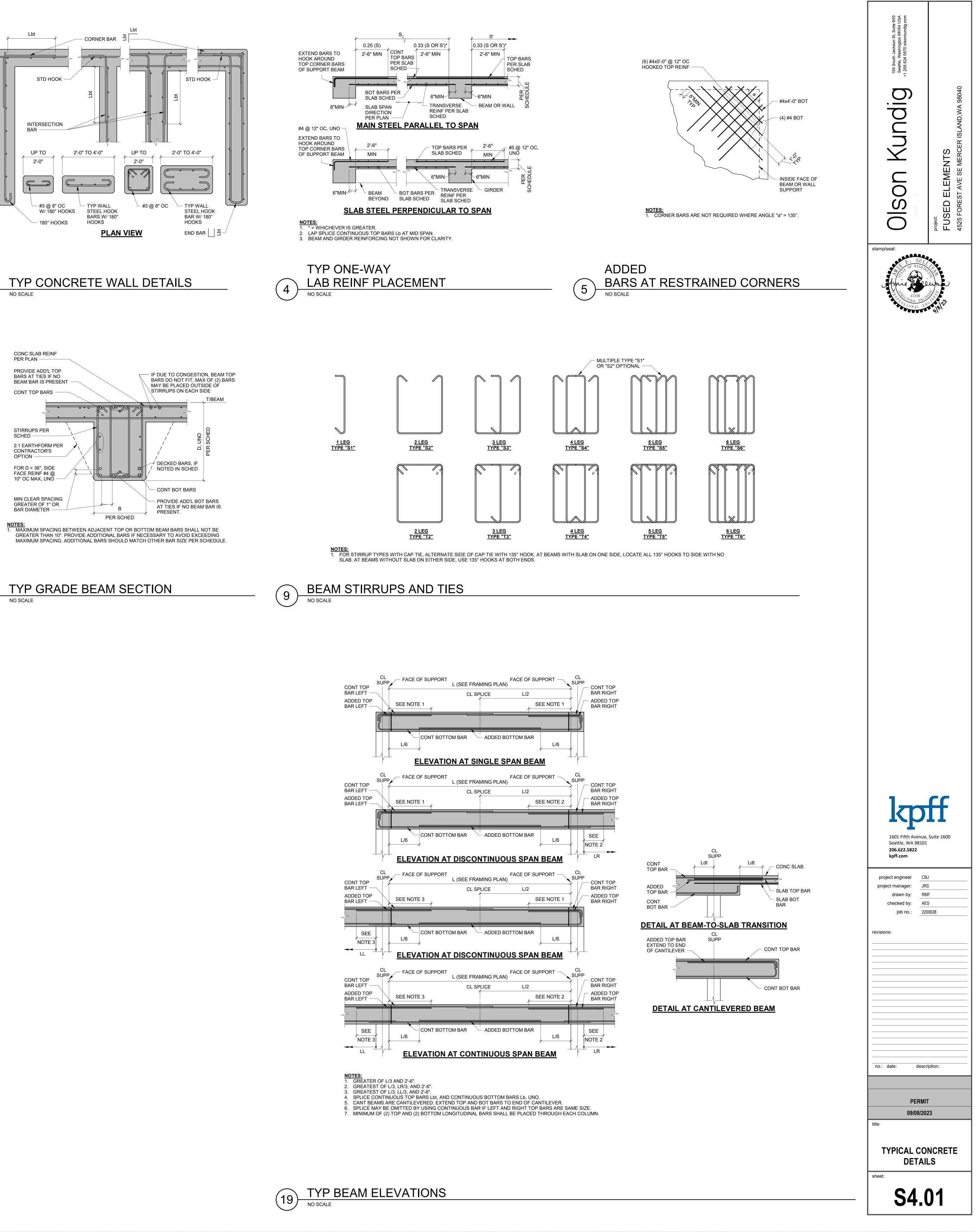
							CON	CRET	E GR	ADE	BEAM SCHEDULE	
TVDE	SIZE	(IN)		LONGI	UDINAL F	REINFORC	EMENT			STIRRUPS		
TYPE MARK	B D	D	TOP	LEFT	TOP I	RIGHT	B	ОТ	SIZE	E TYPE	SPACING	
	D		CONT	ADDED	CONT	ADDED	CONT	ADDED		ITE	SPACING	
GB-1	12	18	(3) #5	-	(3) #5	-	(3) #5	-	#4	T2	6" OC	

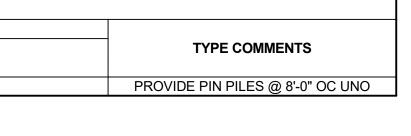
#### NOTES: 1. SEE 8/S4.01 FOR TYPICAL BEAM SECTION. 2. SEE 9/S4.01 FOR BEAM STIRRUP TYPES.

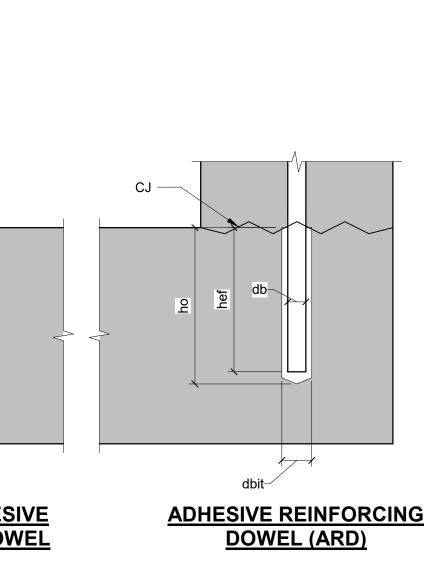
3. SEE 19/S4.01-OR TYPICAL BEAM ELEVATIONS 4. FOR BEAMS PARALLEL TO NORTH-SOUTH, LEFT IS TO THE SOUTH AND RIGHT IS TO THE NORTH. FOR BEAMS PARALLEL TO EAST-WEST, LEFT IS TO THE WEST AND RIGHT IS TO THE EAST. FOR ALL OTHER BEAMS, LEFT IS CLOSER TO THE SOUTH AND RIGHT IS CLOSER TO THE NORTH. "OPP" INDICATES OPPOSITE BAR LAYOUT. 5. IF TOP BARS OF ADJACENT BEAMS ARE DIFFERENT AT THE SAME SUPPORT, PROVIDE QUANTITY OF BARS THAT EQUALS GREATER AREA OF REINFORCING ON EACH SIDE OF THE SUPPORT



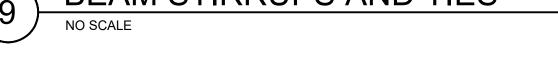


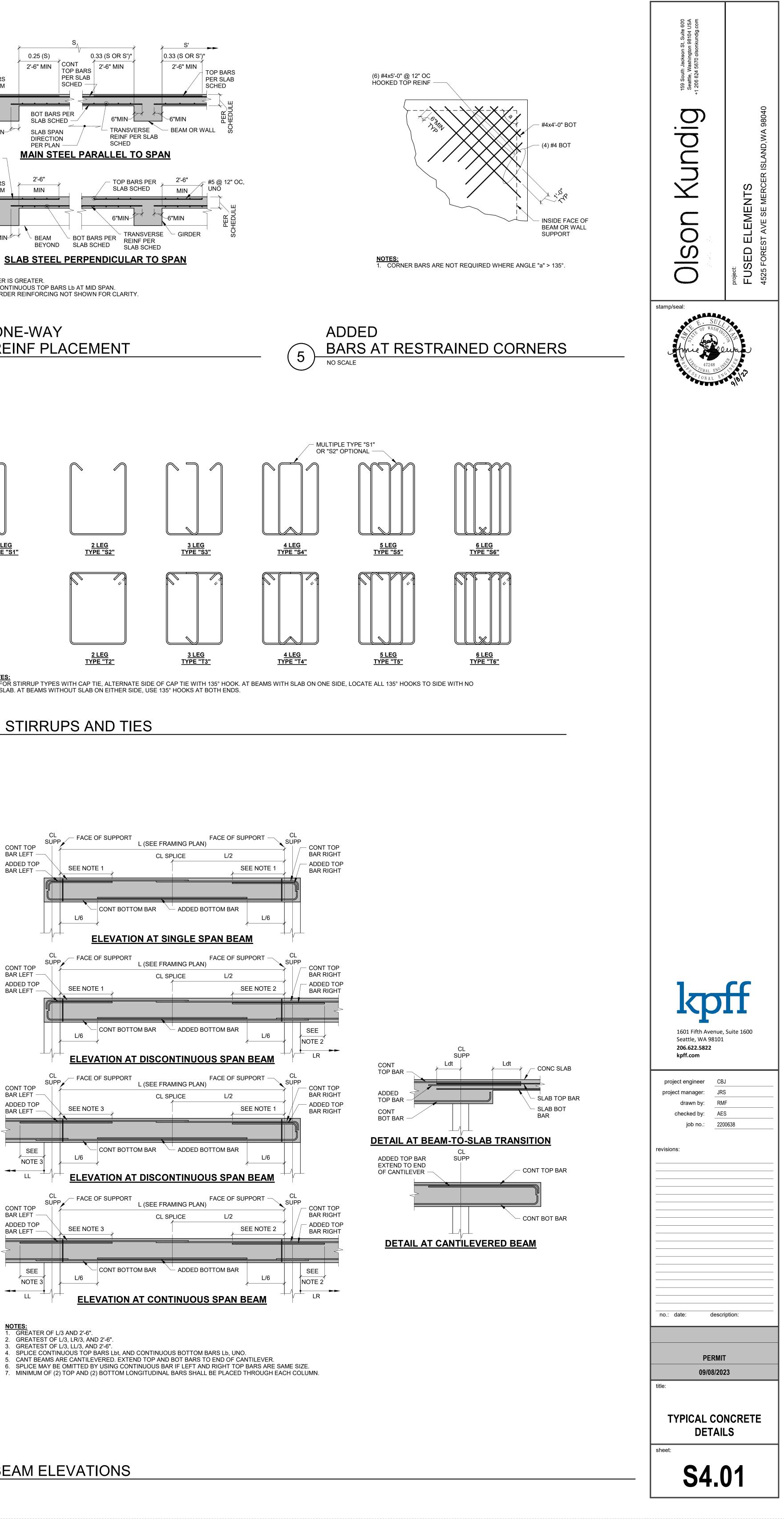






hnom = NOMINAL EMBEDMENT REQUIRED TO ACHIEVE EFFECTIVE EMBEDMENT PER EVALUATION REPORT. FOR EXPANSION ANCHORS, THIS APPLIES TO THE CONDITION PRIOR TO APPLICATION OF TORQUE. ho = MINIMUM HOLE DEPTH PER EVALUATION REPORT da, db = DIAMETER OF ANCHOR/BAR PER DRAWINGS dbit = DIAMETER OF DRILL BIT PER EVALUATION REPORT







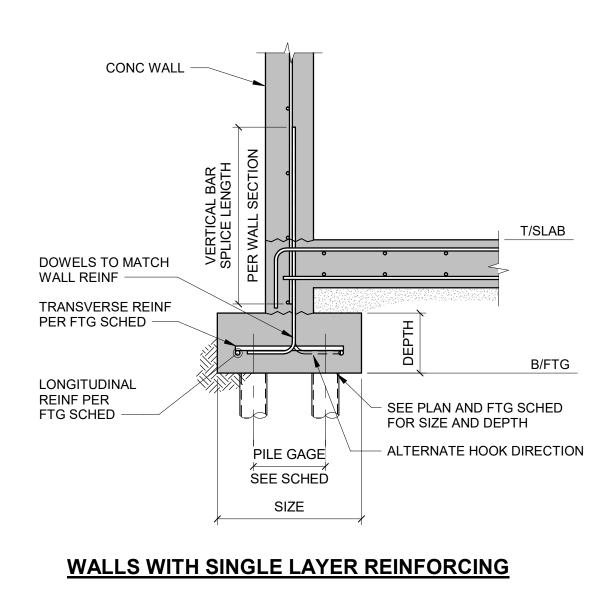
	CONTINUOUS FOOTING SCHEDULE									
DIMENSIONS REINFORCING PILE PIPE										
TYPE MARK	WIDTH	DEPTH	TRANSVERSE	LONGITUDINAL	SCH 40 PIPE Ø	GAGE	LONGITUDINAL SPACING			
FW2.5	2'-6"	1'-6"	-	-	6"	1'-8"	4'-0"			
FW2.5A	2'-6"	2'-0"	-	-	SEE RETAINING WALL SCHEDULE					
FW4.5	4'-6"	2'-0"	-	-	SEE RET	AINING WA	LL SCHEDULE			

NOTES: 1. SEE 3/S4.02 FOR TYPICAL FOOTING DETAIL.

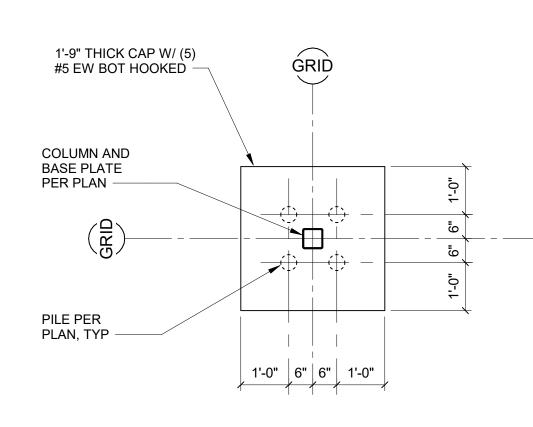
# 1 CONTINUOUS FOOTING SCHEDULE

DIMENSIONS REINFORCING									PILE PIPE							
н	tw	w	D	Р	A BARS	B BARS	C BARS	D BARS	E BARS	F BARS	G BARS	J BARS	K BARS	SCH 40 PIPE Ø	PILE PIPE A LONGITUDINAL SPACING	PILE PIPE B LONGITUDINAL SPACING
UP TO 8'-0"	10"	2'-6"	2'-0"	0'-10"	#6 @ 12" OC	#6 @ 12" OC		#4 @ 18" OC			#4 @ 18" OC	#6 @ 12" OC	#6 @ 12" OC	6"	8'-0"	4'-0"
8'-0" TO 13'-0"	12"	4'-6"	2'-0"	1'-9"	#7 @ 9" OC	#7 @ 9" OC		#4 @ 16" OC			#4 @ 16" OC	#7 @ 12" OC	#7 @ 12" OC	6"	6'-0"	2'-0"

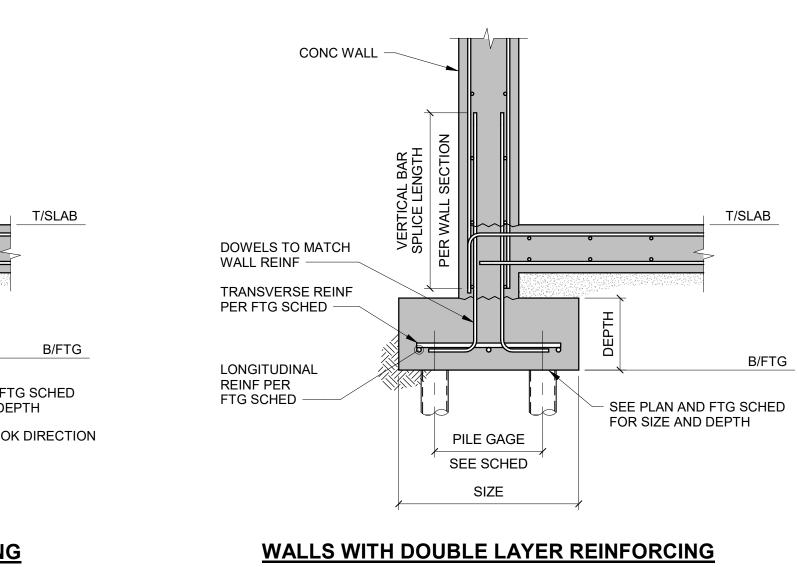
# 6 CANTILEVERED RETAINING WALL SCHEDULE NO SCALE

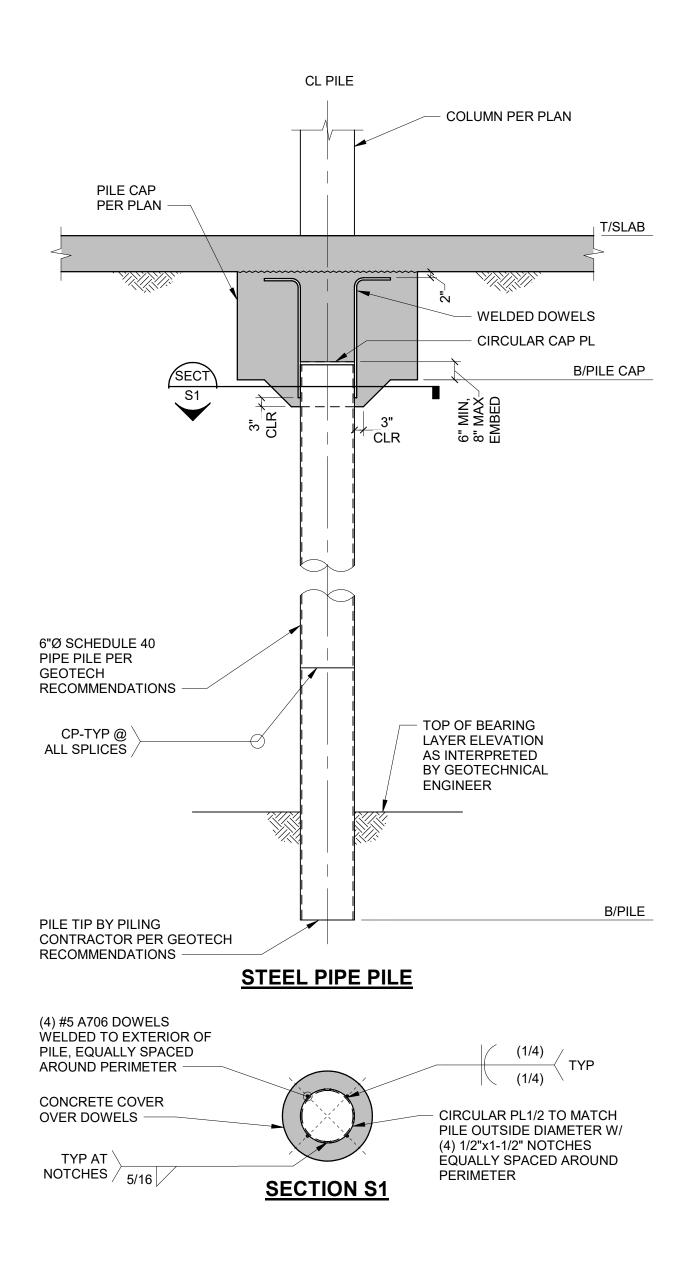




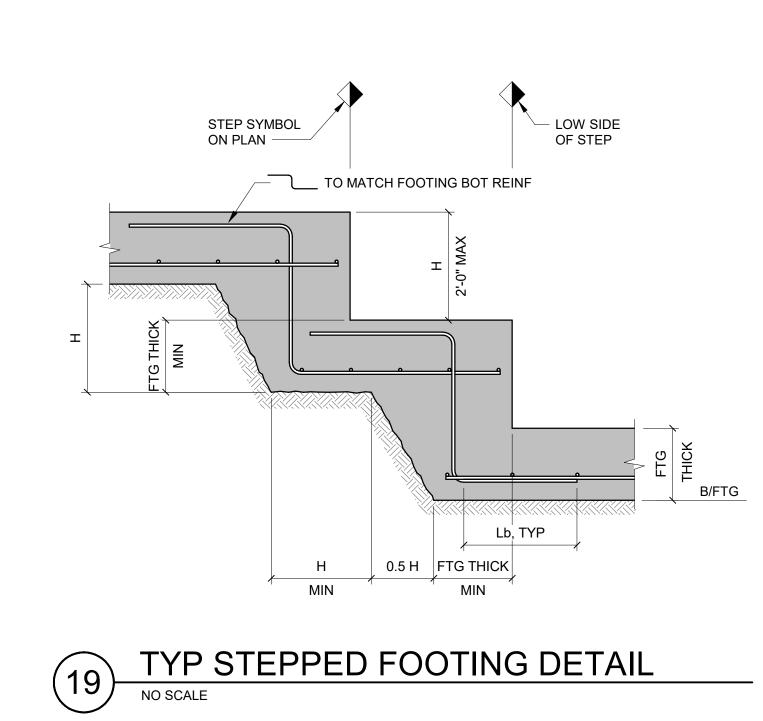


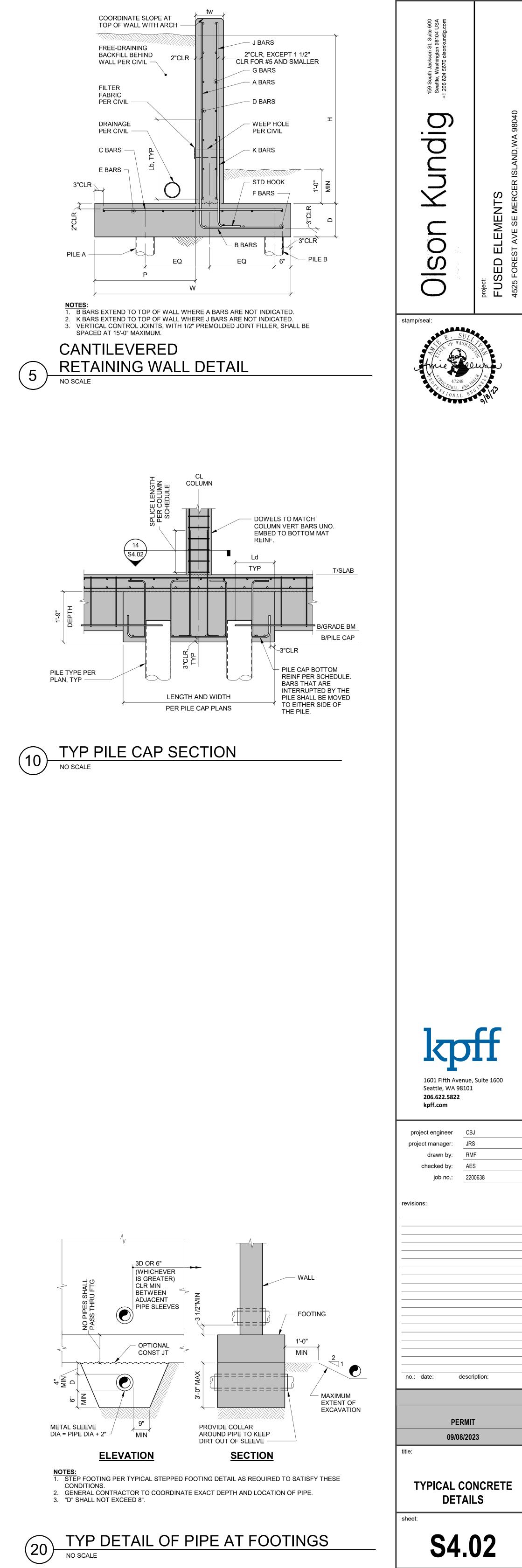


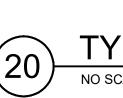




14 STEEL PIPE PILE DETAIL \*\*TYPE S1\*\* NO SCALE







**S4.02** 

**CONNECTION NOTES:** 

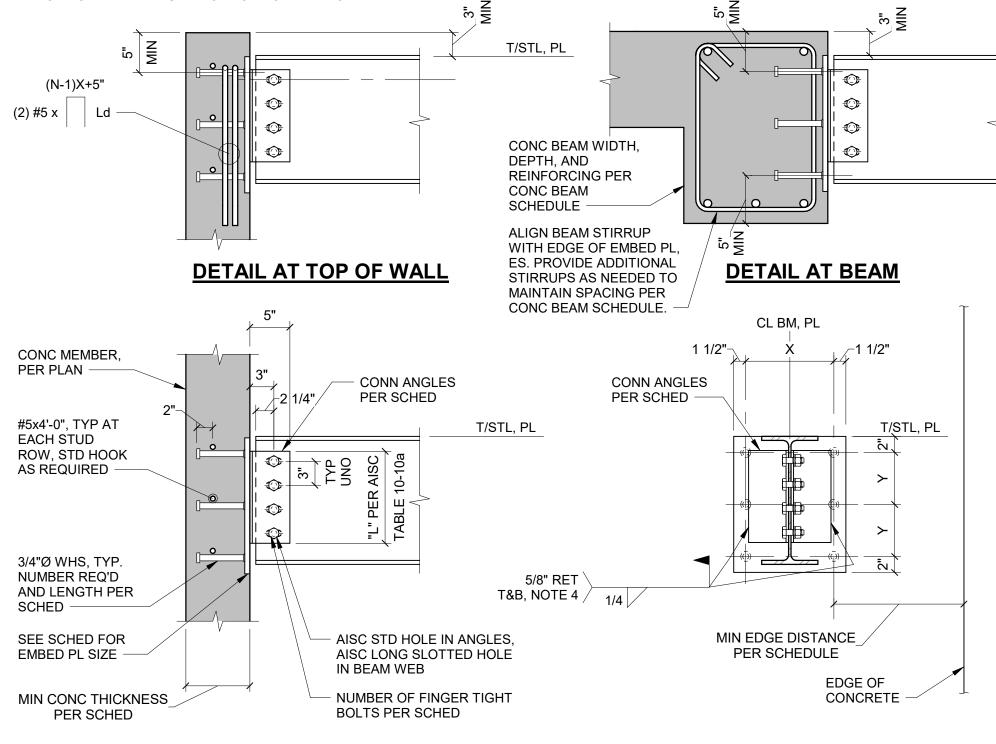
- 1. ALL BOLTED CONNECTIONS TO BE TYPE N WITH FULLY PRETENSIONED ASTM A325-N BOLTS PER AISC STANDARDS EXCEPT WHERE "SNUG TIGHT", "FINGER TIGHT" OR "SLIP CRITICAL" CONNECTIONS ARE INDICATED.
- 2. BOLTS IN BEAM TO BEAM CONNECTIONS MAY BE TIGHTENED TO AISC "SNUG TIGHT" CONDITION UPON APPROVAL OF ENGINEER AND OWNER. 3. CONNECTIONS TO HAVE AISC STANDARD ROUND HOLES EXCEPT AS NOTED OTHERWISE.
- 4. BEAM CONNECTIONS TO BE PER THE STANDARD BOLTED BEAM CONNECTION DETAIL UNLESS NOTED OTHERWISE. \_\_\_\_\_
- 5. 5 SHOWN ON PLANS INDICATES NUMBER OF BOLTS REQUIRED IF DIFFERENT FROM NUMBER OF BOLTS REQUIRED USING 3/S5.01
- 6. 5E SHOWN ON PLANS INDICATES NUMBER OF BOLTS REQUIRED IN A DOUBLE ANGLE EMBEDDED PLATE CONNECTION. SEE 11/S5.01
- 7. FH SHOWN ON PLANS INDICATES FULL HEIGHT STIFFENER PLATE REQUIRED. SEE 8. ALTERNATE CONNECTION DETAILS MAY BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL BE ACCOMPANIED BY CALCULATIONS BEARING THE SEAL AND SIGNATURE OF THE WASHINGTON STATE STRUCTURAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN. ALTERNATE CONNECTIONS SHALL HAVE EQUAL OR GREATER CAPACITY THAN THE
- CONNECTIONS SHOWN ON THE DRAWINGS. 9. FOR MEMBERS DESIGNATED AS PART OF THE SFRS, WELD TABS SHALL BE REMOVED UPON COMPLETION AND COOLING OF THE WELD, AND THE ENDS OF THE WELD SHALL BE MADE SMOOTH AND FLUSH WITH THE EDGES OF ABUTTING PARTS.

# TYP CONNECTION NOTES NO SCALE

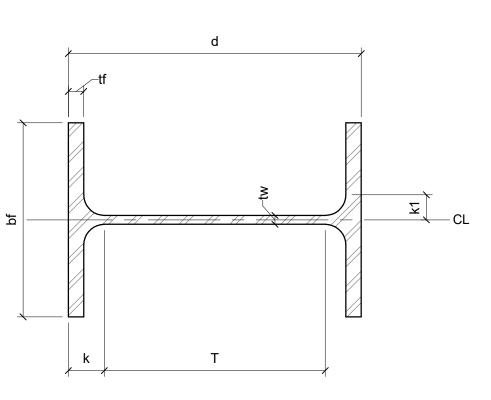


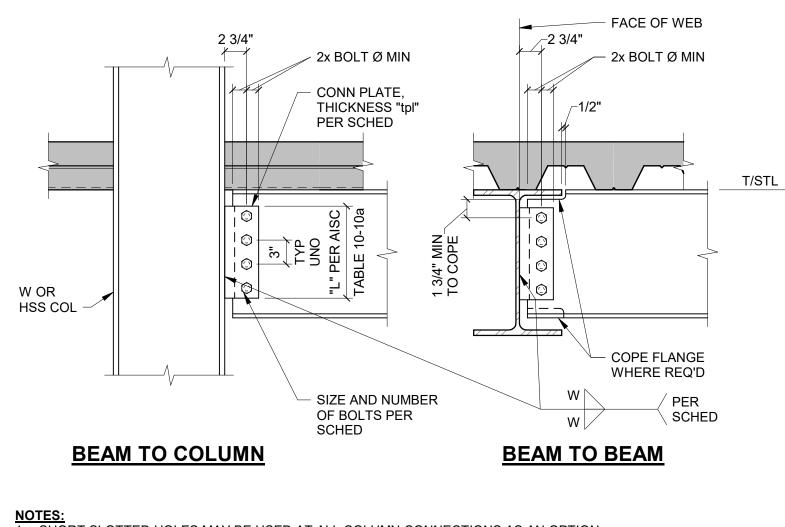
D	MIN	PACING	STUD S	NUMBER OF	NUMBER OF		NUMBER OF	TYPE
ANG	STUD LENGTH	Y	x	STUDS PER ROW, N	HORIZ ROWS OF STUDS	PLATE SIZE	BOLTS REQUIRED	MARK
L5x3	5"	7"	7"	2	2	PL5/8x10x0'-11"	2	2E
L5x3	5"	5"	8"	2	3	PL5/8x11x1'-2	3	3E
L5x3	6"	6 1/2"	11"	2	3	PL5/8x14x1'-5"	4	4E
L5x3	6"	5 1/2"	12"	2	4	PL3/4x15x1'-8 1/2"	5	5E
L5x3	6"	5 1/2"	12"	2	5	PL3/4x15x2'-2"	6	6E
L5	8"	6"	7 1/2"	3	5	PL1x18x2'-4"	7	7E
L5	8"	6 1/2"	9"	3	5	PL1x21x2'-6"	8	8E
L5	8"	8"	10 1/2"	3	6	PL1x24x3'-8"	9	9E
L5	8"	8"	10 1/2"	3	7	PL1x24x4'-4"	10	10E

# NOTES: BOLTS TO BE FINGER TIGHT, JAMB NUT. DO NOT TIGHTEN FULLY. BOLT DIAMETERS TO BE SAME AS SHOWN ON STANDARD BOLTED BEAM CONNECTION SCHEDULE. TYPICAL WALL REINFORCING NOT SHOWN FOR CLARITY. LENGTH OF WELD RETURN NOT TO EXCEED 1" TO LIMIT FIXITY.



#### TYP EMBEDDED PLATE CONNECTION (11)NO SCALE





NOTES: 1. SHORT SLOTTED HOLES MAY BE USED AT ALL COLUMN CONNECTIONS AS AN OPTION.

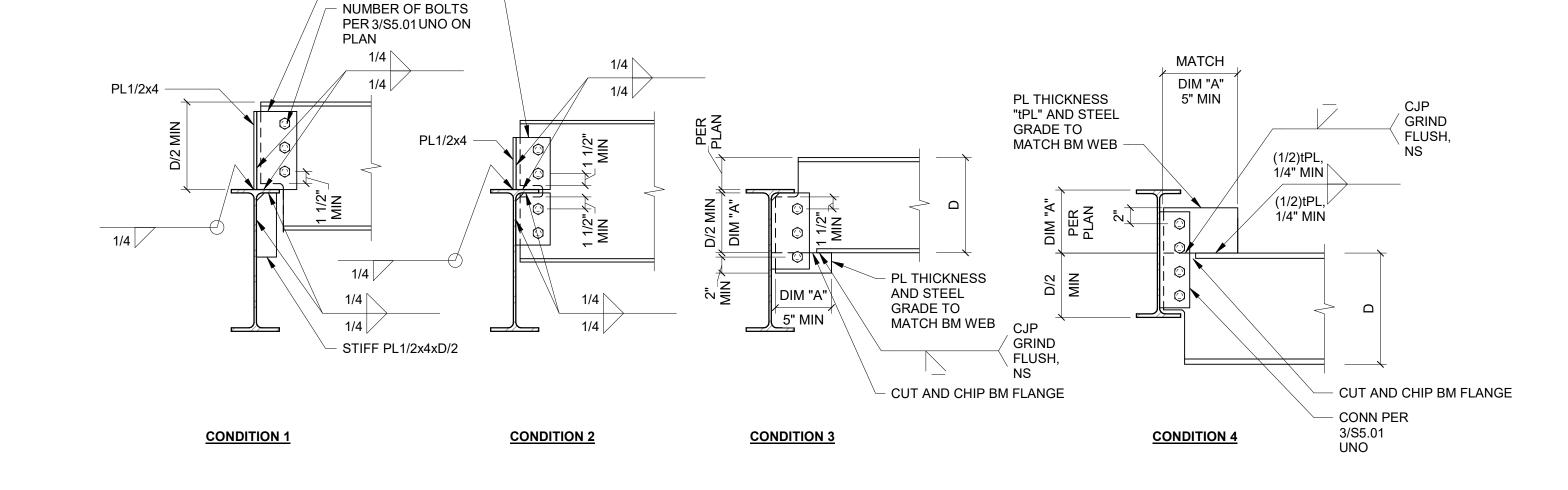
PL SIZE PER 3/S5.01—

#### TYP STANDARD BOLTED BEAM CONN (3/4" AND 1" DIAMETER BOLTS) (3) NO SCALE

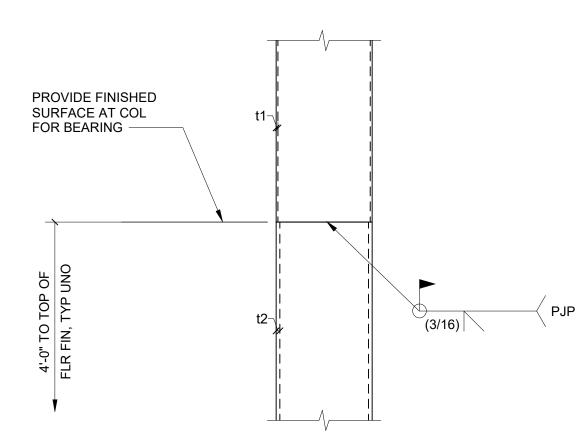










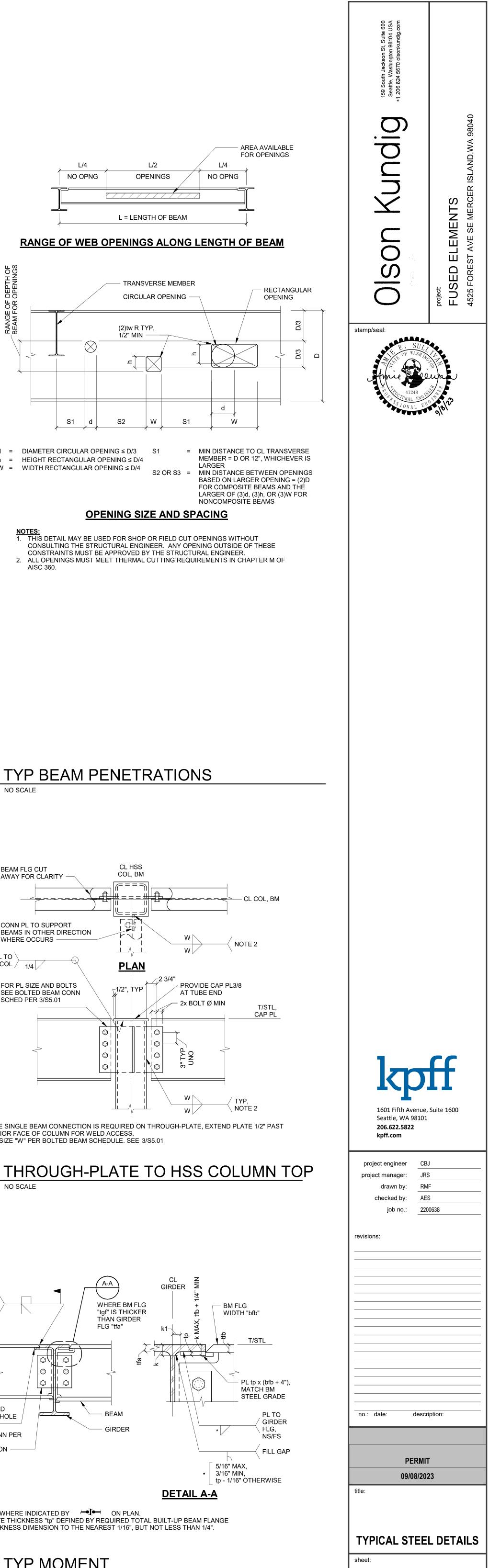


NOTES: 1. PROVIDE ERECTION AIDS AS REQUIRED.

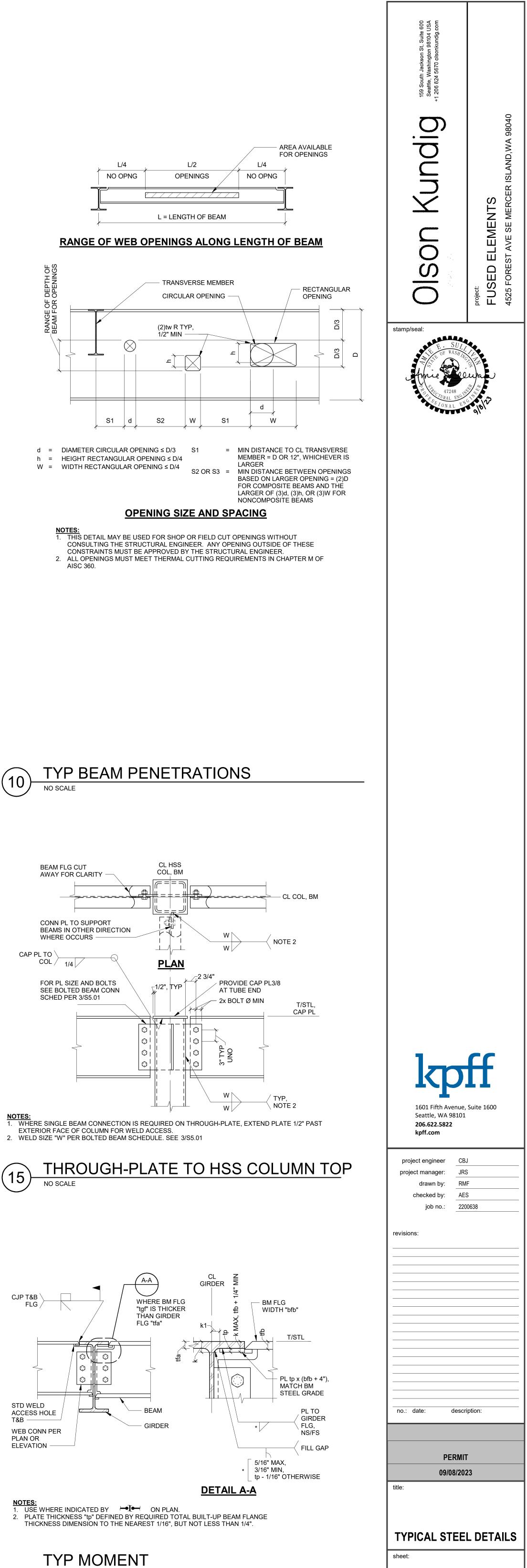


STANDAR	D BOLTED CON	NECTION S	CHEDULE
BEAM SIZE	NUMBER AND SIZE OF BOLTS REQUIRED	MIN PLATE THICKNESS "tPL"	WELD SIZE "W"
W6, C4, C6, C7	(2) 3/4"Ø @ 2" GA	1/4"	3/16"
W8, C8, C9	(2) 3/4"Ø	1/4"	3/16"
W10, C10	(2) 3/4"Ø	1/4"	3/16"
W12, C12	(3) 3/4"Ø	1/4"	3/16"
W14, C15	(3) 3/4"Ø	1/4"	3/16"
W16	(4) 3/4"Ø	1/4"	3/16"
W18	(4) 3/4"Ø	5/16"	1/4"
W21	(5) 3/4"Ø	5/16"	1/4"
W24	(6) 3/4"Ø	5/16"	1/4"
W27	(7) 3/4"Ø	5/16"	1/4"
W30	(8) 1"Ø	3/8"	1/4"
W33	(9) 1"Ø *	1/2"	5/16"
W36	(10) 1"Ø *	1/2"	5/16"
W40	(11) 1"Ø *	1/2"	5/16"
W44	(12) 1"Ø *	1/2"	5/16"

## TYP CONNECTIONS FOR BEAMS AT DIFFERENT ELEVATION CONDITIONS



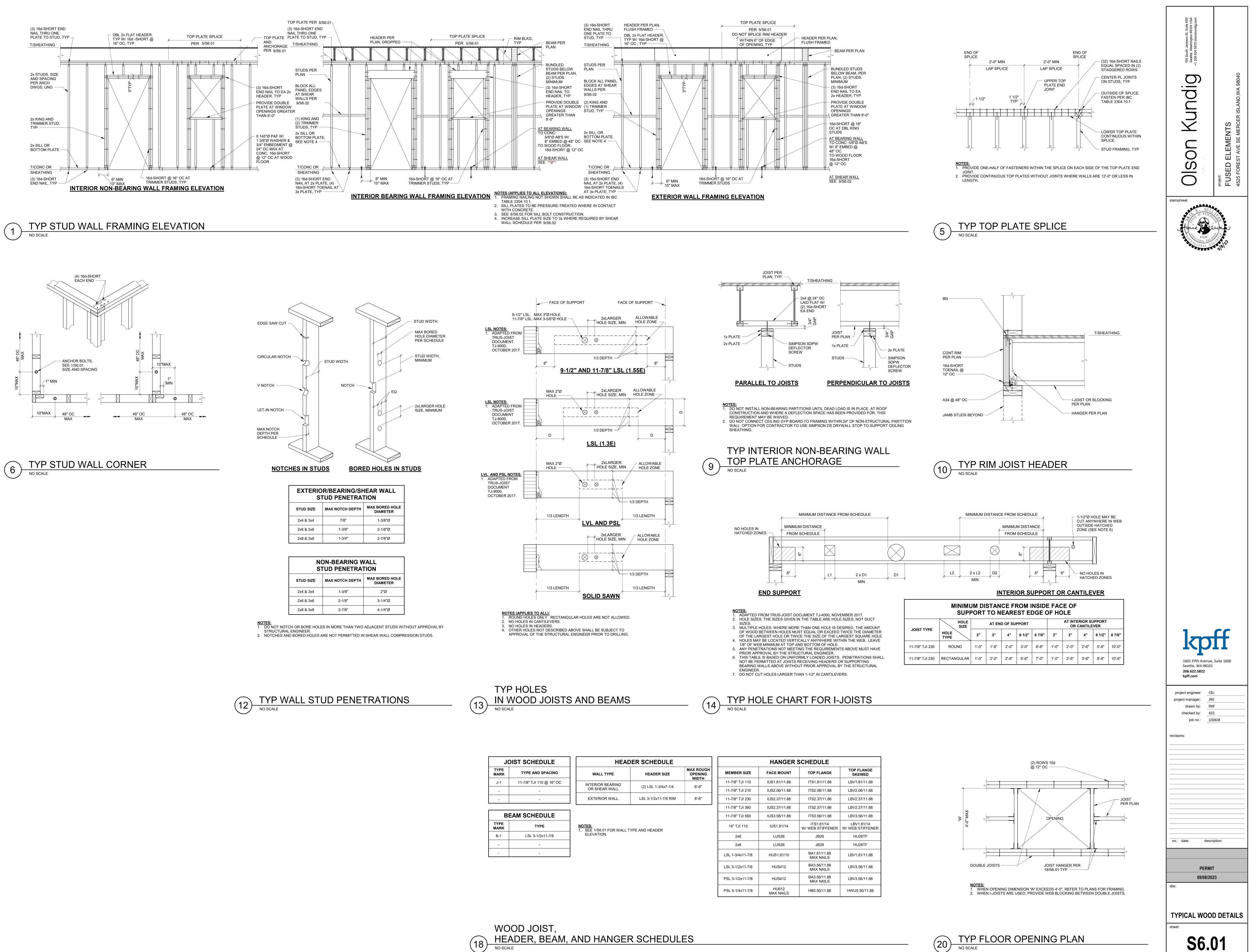
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DRAG STRUT CONN TO BEAM

**S5.01** 



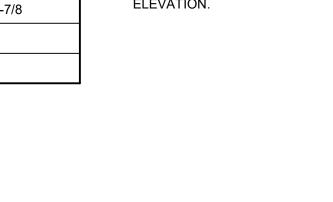
EXTERIOR/BEARING/SHEAR WALL STUD PENETRATION						
STUD SIZE	MAX BORED HOLE DIAMETER					
2x4 & 3x4	7/8"	1-3/8"Ø				
2x6 & 3x6	1-3/8"	2-1/8"Ø				
2x8 & 3x8	1-3/4"	2-7/8"Ø				

NON-BEARING WALL STUD PENETRATION							
STUD SIZE	MAX NOTCH DEPTH	MAX BORED HOLE DIAMETER					
2x4 & 3x4	1-3/8"	2"Ø					
2x6 & 3x6	2-1/8"	3-1/4"Ø					
2x8 & 3x8	2-7/8"	4-1/4"Ø					





	DIST SCHEDULE	JO
١	TYPE AND SPACING	TYPE MARK
INTE	11-7/8" TJI 110 @ 16" OC	J-1
OR	-	-
EX	-	-
EX		BE
NOTES:	- EAM SCHEDULE	- BE TYPE MARK
		TYPE
NOTES: 1. SEE	ТҮРЕ	TYPE MARK



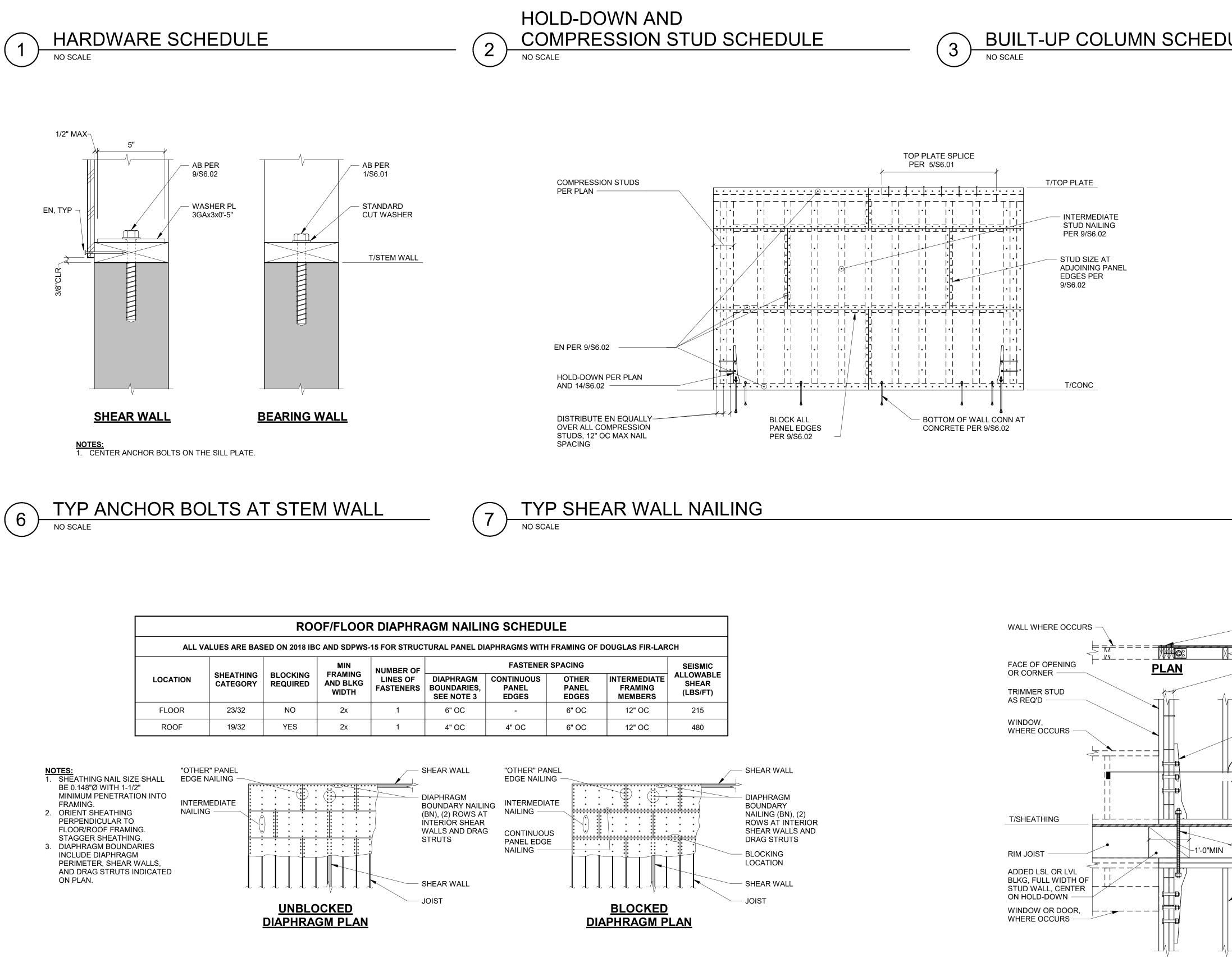
R SCHEDULE			HANGER	SCHEDULE	
HEADER SIZE	MAX ROUGH OPENING WIDTH	MEMBER SIZE	FACE MOUNT	TOP FLANGE	TOP FLANGE SKEWED
		11-7/8" TJI 110	IUS1.81/11.88	ITS1.81/11.88	LBV1.81/11.88
(2) LSL 1-3/4x7-1/4	6'-6"	11-7/8" TJI 210	IUS2.06/11.88	ITS2.06/11.88	LBV2.06/11.88
LSL 3-1/2x11-7/8 RIM	8'-6"	11-7/8" TJI 230	IUS2.37/11.88	ITS2.37/11.88	LBV2.37/11.88
		11-7/8" TJI 360	IUS2.37/11.88	ITS2.37/11.88	LBV2.37/11.88
		11-7/8" TJI 560	IUS3.56/11.88	ITS3.56/11.88	LBV3.56/11.88
AND HEADER		14" TJI 110	IUS1.81/14	ITS1.81/14 W/ WEB STIFFENER	LBV1.81/14 W/ WEB STIFFENER
		2x6	LUS26	JB26	HU26TF
		2x8	LUS26	JB28	HU28TF
		LSL 1-3/4x11-7/8	HUS1.81/10	BA1.81/11.88 MAX NAILS	LBV1.81/11.88
		LSL 3-1/2x11-7/8	HUS412	BA3.56/11.88 MAX NAILS	LBV3.56/11.88
		PSL 3-1/2x11-7/8	HUS412	BA3.56/11.88 MAX NAILS	LBV3.56/11.88
		PSL 5-1/4x11-7/8	HU612 MAX NAILS	HB5.50/11.88	HWU5.50/11.88



	HARDWARE SCHEDULE							
TYPE MARK	SIMPSON MODEL #	TYPE COMMENTS						
А	CS16	(20) 10d AND 11" END LENGTHS						
В	-	-						
С	-	-						
D	-	-						
E	-	-						
F	-	-						
G	-	-						
Н	-	-						

н	OLD-DOWN A	AND COM	PRESSION ST		DULE
TYPE MARK	HOLD-DOWN	THREADED ROD SIZE	WASHER PL SIZE	MIN ROD EMBEDMENT	COMPRESSION STUDS, SEE NOTE 1
1	DTT2Z-SDS2.5	1/2"Ø	1/2x2 1/2x0'-2 1/2"	-	(2) 2x6
2	HDU4-SDS2.5	5/8"Ø	1/2x2 1/2x0'-2 1/2"	-	(2) 2x6
3	HDU8-SDS2.5	7/8"Ø	1/2x3x0'-3"	-	(2) 2x6
4	HDU11-SDS2.5	1"Ø	1/2x3x0'-3"	-	(2) 2x6
5	(2) HDU14-SDS2.5	1"Ø	1/2x3x0'-3"	-	(3) 2x6
6	(2) HDU14-SDS2.5	1"Ø	1/2x3x0'-3"	-	(4) 2x6

NOTES: 1. FASTEN COMPRESSION STUDS TOGETHER PER 3/S6.02



ROOF/FLOOR DIAPHRAGM NAILING SCHEDULE (11) NO SCALE

(17)

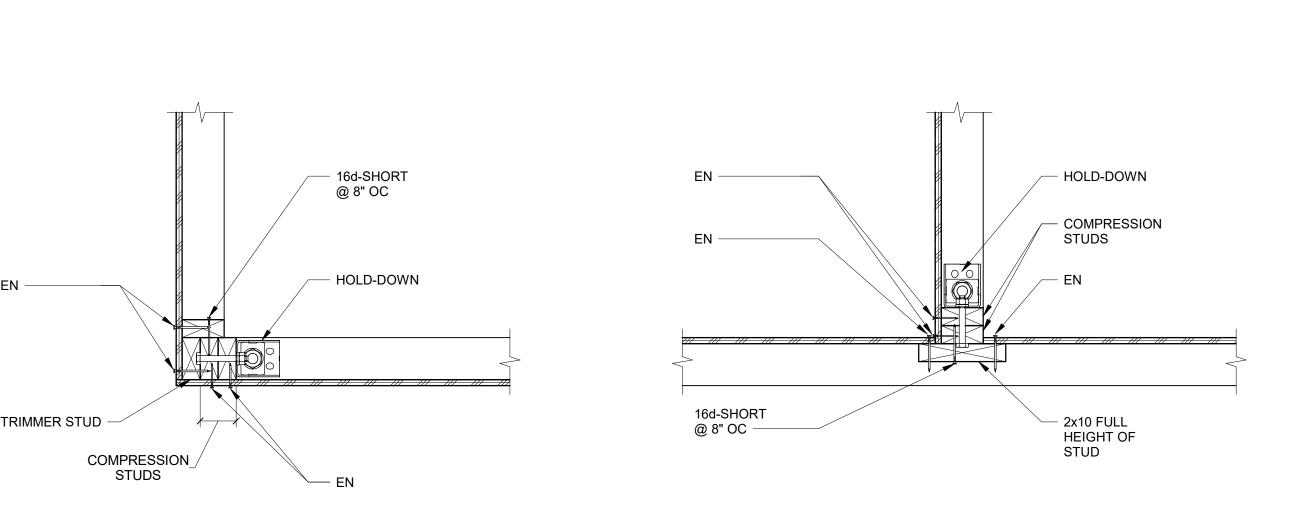
NO SCALE

## **TYP COMPRESSION STUD INTERSECTION**

<u>CORNER</u>

## **TEE INTERSECTION**

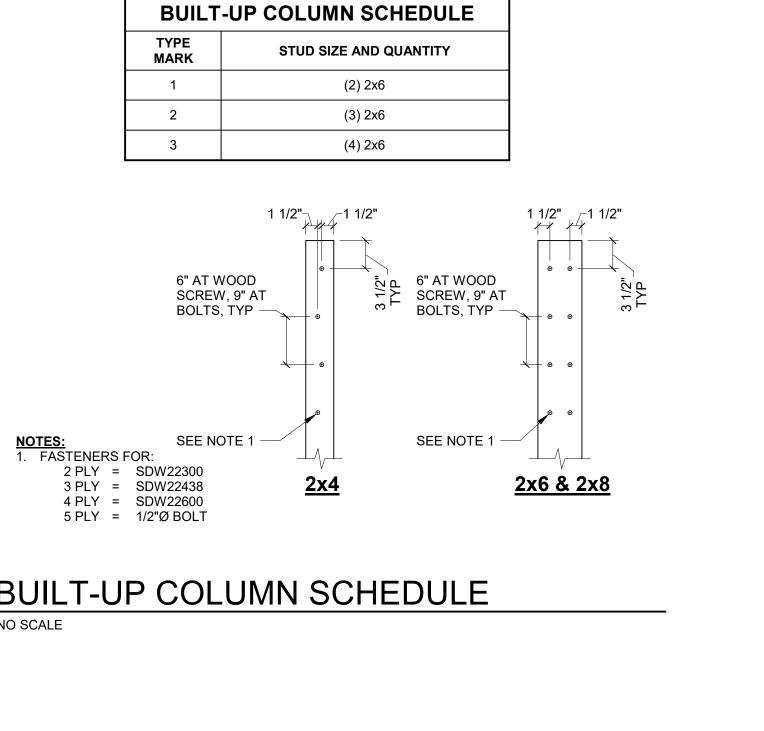
TYP HOLD-DOWN AT FLOOR



(13)

NO SCALE

# **BUILT-UP COLUMN SCHEDULE**



PLAN

COMPRESSION STUDS

ABOVE AND BELOW

- HOLD-DOWN ABOVE

AND BELOW PER

- THREADED ROD

- STUDS PER PLAN

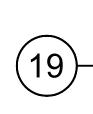
PER 2/S6.02

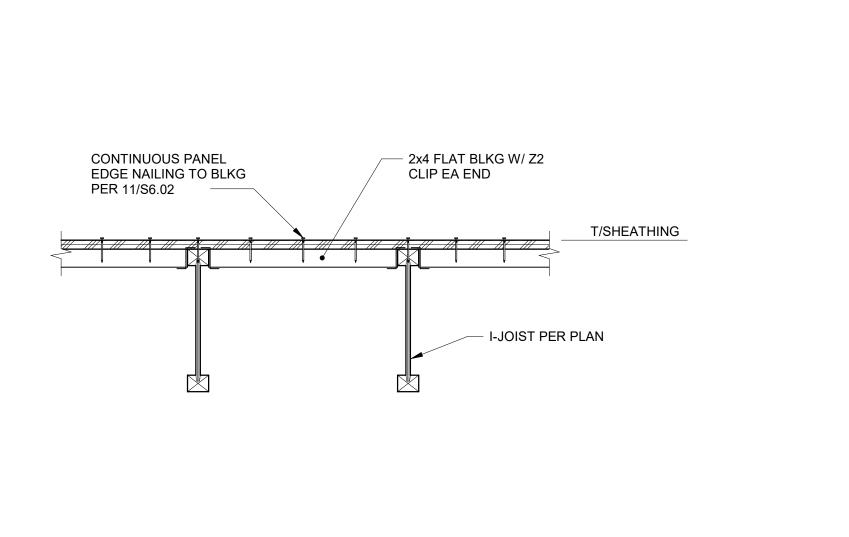
2/S6.02

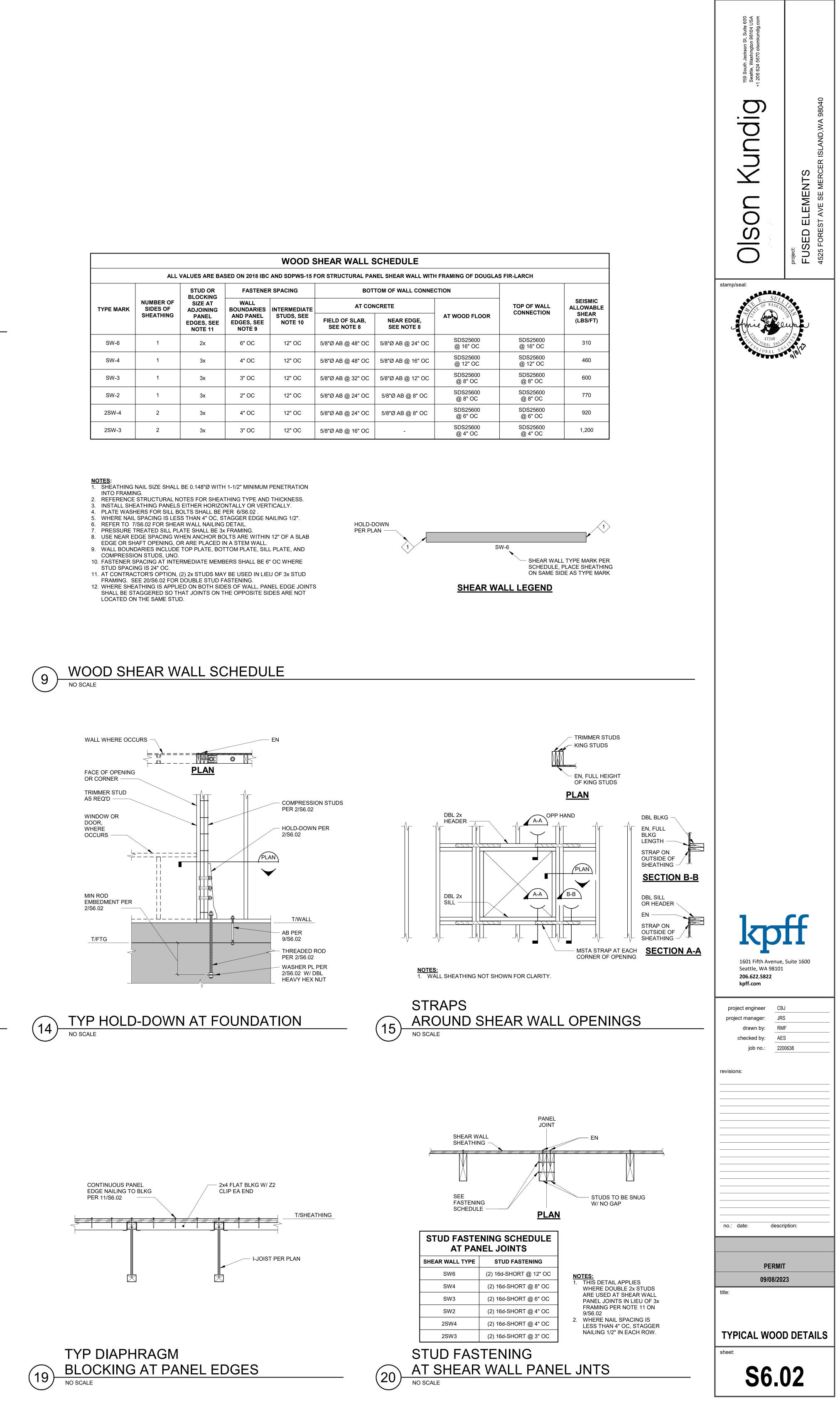
PLAN

-1'-0"MIN

PER 2/S6.02



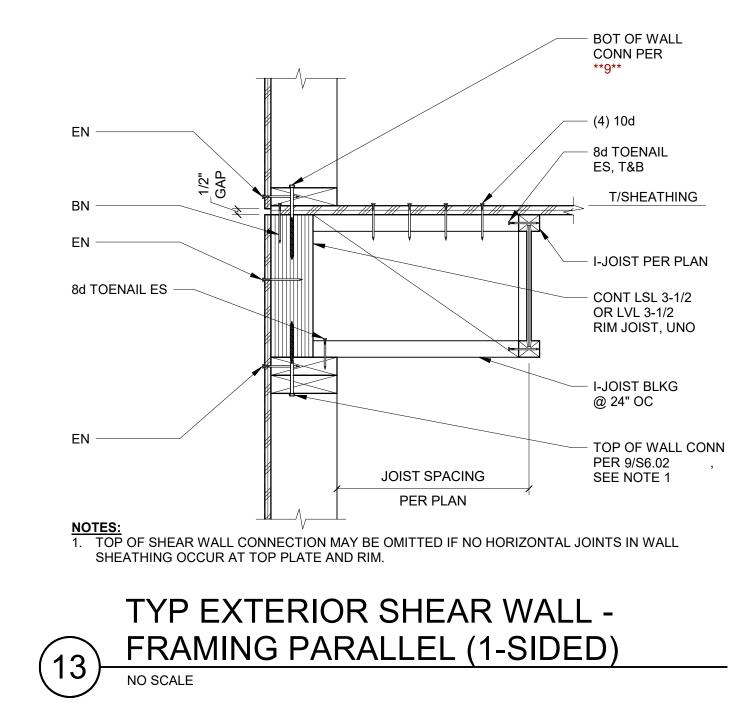


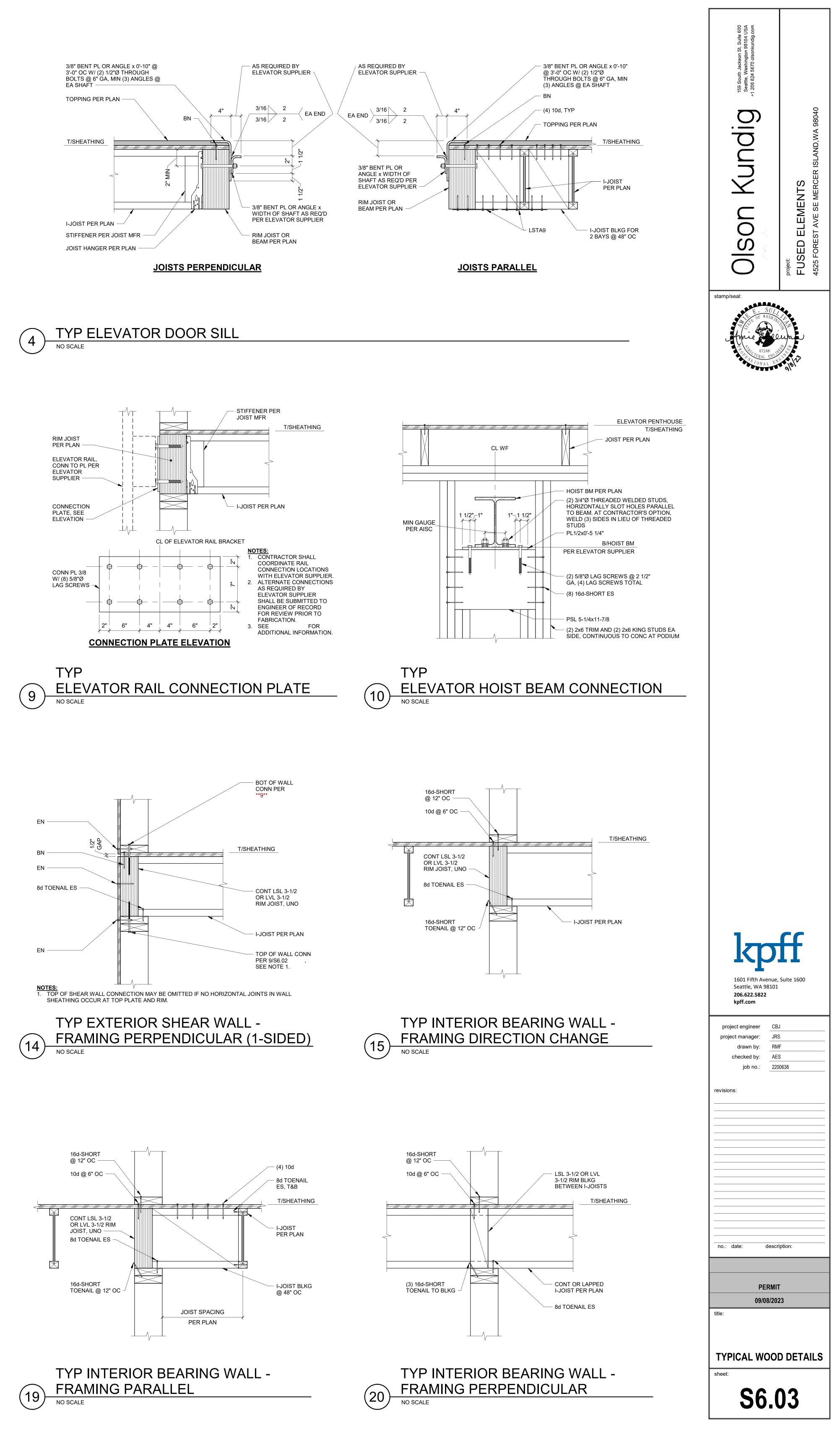












- CONT LSL 3-1/2

— I-JOIST PER PLAN

T/SHEATHING

- BOT OF WALL CONN PER

## **GENERAL SHORING NOTES**

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION, AS AMENDED BY THE CITY OF MERCER ISLAND.

**REFERENCE DOCUMENTS** "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS" BY THE POST-TENSIONING INSTITUTE, LATEST EDITION. 2. GEOTECHNICAL REPORT BY ASSOCIATED EARTH SCIENCES, INC, DATED AUGUST 16, 2022. <u>DESIGN LOADS</u> THE SOIL PRESSURES RECOMMENDED IN THE GEOTECHNICAL REPORT WERE USED FOR DESIGN.

<u>SUBMITTALS</u> SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL STRUCTURAL ITEMS.

INSPECTION SPECIAL INSPECTION PER IBC CHAPTER 17 BY A QUALIFIED GEOTECHNICAL ENGINEER OR INDEPENDENT TESTING LAB WILL BE PROVIDED BY THE OWNER AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS AND TESTING FOR EXCAVATION SHORING.

<u>SPECIAL CONDITIONS</u> CONTRACTOR SHALL VERIFY ALL LEVELS, DIMENSIONS, AND EXISTING CONDITIONS IN THE FIELD BEFORE PROCEEDING. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR FIELD CHANGES PRIOR TO INSTALLATION OR FABRICATION. IN CASE OF DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN DIRECTION FROM THE ENGINEER BEFORE PROCEEDING DIMENSIONS NOTED AS PLUS OR MINUS (±) INDICATE UNVERIFIED DIMENSIONS AND ARE APPROXIMATE. NOTIFY ENGINEER IMMEDIATELY OF CONFLICTS OR EXCESSIVE VARIATIONS FROM INDICATED DIMENSIONS. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS--DO NOT SCALE DRAWINGS.

UTILITY LOCATION UTILIZE THE SERVICES OF THE "UTILITY LOCATOR SERVICE" (1-800-424-5555) TO VERIFY THE EXTENT AND LOCATIONS AND ALIGNMENTS OF SITE UTILITIES. IF THE ACTUAL FIELD VERIFIED LOCATIONS OF UTILITIES COULD RESULT IN A CONFLICT WITH THE SHORING NOTIFY THE ENGINEER IMMEDIATELY. DO NOT DAMAGE EXISTING UTILITIES. PRIOR TO CONSTRUCTION, VERIFY THAT OVERHEAD OBSTRUCTIONS, INCLUDING

ELECTRICAL LINES, DO NOT INTERFERE WITH THE CONTRACTOR'S DRILLING EQUIPMENT.

CONCRETE CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF IBC CHAPTER 19. CONCRETE MIXTURES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: MINIMUM CEMEN

PER CUBIC YARD PILE STRUCTURAL CONCRETE 4 SACKS 1 1/2 SACKS LEAN MIX

CONCRETE STRENGTH TEST AGE SHALL BE 28 DAYS, UNLESS NOTED OTHERWISE. ADMIXTURES SHALL CONFORM TO ASTM C 494. DO NOT USE ADMIXTURES THAT WEAKEN THE CONCRETE MIX.

WATER-REDUCING ADMIXTURES MAY BE INCORPORATED IN CONCRETE MIX DESIGNS, BUT SHALL CONFORM TO ASTM C 494, AND BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CaCl2 OR OTHER WATER-SOLUBLE CHLORIDE

ADMIXTURES SHALL NOT BE USED. SUBMIT CONCRETE MIX DESIGNS TO THE ENGINEER FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE MIX DESIGN SHALL BE IN CONFORMANCE WITH ACI 318, CHAPTER 19.

CONTROLLED DENSITY FI DF SHALL BE PER SECTION 2-09.3(1)E "BACKFILLING" OF THE 2016 EDITION WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.

TIEBACK GROUT NEAT CEMENT OR SAND/CEMENT MIXTURE WITH A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 1,500 PSI AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI, PER ASTM C 109.

PRESTRESSING STEEL

JNCOATED SEVEN WIRE STRESS RELIEVED STRAND GRADE 270 SHALL CONFORM TO ASTM A STEEL REFERENCE SPECIFICATIONS

DESIGN, FABRICATION AND ER SPECIFICATIONS:	RECTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING
STRUCTURAL STEEL	AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION
WELDING	AWS D1.1 AWS PREQUALIFIED JOINT DETAILS
WELDER CERTIFICATION	AMERICAN WELDING SOCIETY (AWS) WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO)
STEEL MATERIALS	

WIDE FLANGE SHAPES (W AND WT) ASTM A 992 PLATES (PL), BARS ANGLES (L), CHANNELS (C AND MC) ASTM A 36 STRUCTURAL TUBES (HSS) STEEL PIPE STEEL PIPE 12"Ø AND LARGER STRUCTURAL BOLTS THREADED RODS WELDING ELECTRODES

ASTM A 36 TYPICAL, ASTM A 572 GRADE 50 WHERE NOTED ASTM A 500, GRADE C ASTM A 53, GRADE B ASTM A 252, GRADE 3 ASTM F 3125, GRADE A 325 ASTM A 36, UNLESS NOTED OTHERWISE 70 KSI, LOW HYDROGEN, TYPICAL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATIONS THAT INCLUDE. BUT ARE NOT LIMITED TO. ERECTION ANGLES. LIFT HOLES AND OTHER AIDS, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES, AND UNEQUAL PARTS.

#### **NELDED HEADED STUDS**

ALL STUDS SHALL BE AUTOMATICALLY END WELDED IN SHOP OR FIELD WITH EQUIPMENT RECOMMENDED BY MANUFACTURER WITH LENGTH AFTER WELD AS SHOW ON THE STRUCTURAL DRAWINGS. WELDED HEADED STUDS ARE 3/4"Ø UNLESS NOTED OTHERWISE AND SHALL CONFORM TO AWS D1.1 TYPE B.

ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS, AND SHALL BE PERFORMED BY WABO-CERTIFIED WELDERS. ONLY WELDS THAT ARE PREQUALIFIED, AS DEFINED BY AWS, OR QUALIFIED BY TESTING SHALL BE USED. SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 SYMBOLS. WELDS SHOWN ON THE DRAWINGS ARE MINIMUM SIZES. INCREASE WELD SIZE TO AWS MINIMUM SIZES BASED ON THICKNESS. MINIMUM WELD SIZE SHALL BE 3/16-INCH, UNLESS NOTED OTHERWISE. THE WELDS SHOWN ARE FOR THE FINAL CONNECTIONS, FIELD WELD SYMBOLS ARE SHOWN WHERE FIELD WELDS ARE REQUIRED BY THE STRUCTURAL DESIGN. WHERE FIELD WELD IS NOT INDICATED, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF A WELD SHOULD BE SHOP OR FIELD-WELDED IN ORDER TO FACILITATE THE STRUCTURAL STEEL ERECTION.

<u>SAWN LUMBEF</u> SAWN LUMBER SHALL CONFORM TO "GRADING AND DRESSING RULES," WEST COAST LUMBER INSPECTION BUREAU (WCLIB), LATEST EDITION. LUMBER SHALL BE ROUGH CUT AND BE ONE OF THE TWO GRADES LISTED BELOW:

Fb (PSI) (BASE VALUES) TIMBER LAGGING DOUGLAS FIR-LARCH NO. 2 HEM-FIR NO. 1

TIMBER LAGGING SHALL BE PRESERVATIVE TREATED WITH WATERBORNE PRESERVATIVES IN ACCORDANCE WITH AWPA UC4B.

## SHORING PROCEDURE

SHAFT DRILLING DRILL PILE AND ANCHOR SHAFTS WITHOUT LOSS OF GROUND AND WITHOUT ENDANGERING PREVIOUSLY INSTALLED PILES AND ANCHORS. SEE THE GEOTECHNICAL REPORT FOR POSSIBLE OBSTRUCTIONS.

SOLDIER PILE PLACEMENT TOLERANCES SOLDIER PILES SHALL BE PLACED ACCORDING TO THE MOST STRINGENT OF THE FOLLOWING REQUIREMENTS: 1. THE CENTER OF THE PILE IS WITHIN 3 INCHES HORIZONTAL OF THE PLAN LOCATION ALONG THE ENTIRE LENGTH OF THE PILE.

2. NO PART EXTENDS MORE THAN 1 1/2 INCHES INTO THE EXCAVATION. 3. WITHIN 1% OF PLUMB.

4. WITHIN 3 INCHES VERTICAL OF SCHEDULED ELEVATION. **EXCAVATION BELOW TIEBACKS** 

COMPLETE TIEBACK INSTALLATION AND STRESSING PRIOR TO EXCAVATING MORE THAN 2 FOOT BELOW TIEBACK CENTERLINE LEVEL.

BACKFILL VOIDS BETWEEN LAGGING AND SOIL IMMEDIATELY AFTER LAGGING INSTALLATION USING A FREE DRAINING BACKFILL MATERIAL SELECTED BY THE SHORING CONTRACTOR. DRAINAGE BEHIND THE WALL MUST BE MAINTAINED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE AMOUNT OF EXPOSED SOIL WITHOUT LAGGING TO AVOID LOSS OF SOIL. LIMIT THE EXCAVATION TO 4 FEET BELOW PREVIOUSLY INSTALLED LAGGING.

# **TIEBACK STRESSING AND TESTING**

PERFORMANCE TESTING PRIOR TO INSTALLING PRODUCTION TIEBACKS, CONDUCT A MINIMUM OF TWO SUCCESSFUL PERFORMANCE TESTS ON TIEBACKS FOR EACH INSTALLATION METHOD AND SOIL TYPE ENCOUNTERED ON THE PROJECT. INSTALL THE TEST TIEBACKS BY THE SAME METHODS, PERSONNEL. MATERIALS. AND EQUIPMENT AS THE PRODUCTION ANCHORS. CHANGES IN METHODS, PERSONNEL, MATERIALS, OR EQUIPMENT MAY REQUIRE ADDITIONAL PERFORMANCE TESTING AS DETERMINED BY THE ENGINEER. PERFORM TESTING AFTER THE GROUT HAS CURED FOR AT LEAST 72 HOURS OR ATTAINED AT LEAST THE SPECIFIED 3-DAY COMPRESSIVE STRENGTH. AN INDEPENDENT TESTING LABORATORY SHALL RECORD ALL TEST DATA.

THE MAXIMUM STRESS IN THE PRESTRESSING STEEL SHALL NOT EXCEED 80 PERCENT OF THE GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS) DURING TESTING. PILES AND TIEBACKS MAY REQUIRE EXTRA REINFORCEMENT TO PERMIT STRESSING TO 150 PERCENT OF THE DESIGN TIEBACK LOAD (DTL) AS REQUIRED BY THE PERFORMANCE TEST. TIEBACK DESIGN TEST LOADS SHALL BE THE DESIGN LOADS SHOWN ON THE DRAWINGS. CONDUCT THE PERFORMANCE TESTS BY INCREMENTALLY LOADING THE TEST TIEBACKS TO A MAXIMUM TEST LOAD OF 150 PERCENT OF DTL IN ACCORDANCE WITH THE FOLLOWING SCHEDULE. RECORD THE TIEBACK MOVEMENTS AT EACH LOAD INCREMENT.

	PERI	ORMAN	ICE LOAD SCHED	ULE	
LOAD CYCLE	APPLIED LOAD	HOLD TIME	RECORD AND PLOT MOVEMENT $\delta n$ = INCREMENT MOVEMENT $\delta tn$ = TOTAL MOVEMENT TAKE READINGS AT 1, 2, 3, 4, 5, 6 AND 10 MINUTES	RECORD AND PLOT RESIDUAL MOVEMENT (δrn)	CALCULATE AND PLOT ELASTIC MOVEMENT (õen)
CYCLE 1	AL	< 1 MINUTE	-	-	δe1=δt1-δr1
CYCLE 1	0.25DTL	10 MINUTE	δt1	-	
	1				
CYCLE 2	AL	< 1 MINUTE	-	δr1	δe2=δt2-δr2
CYCLE 2	0.25DTL	< 1 MINUTE	δ2	-	
CYCLE 2	0.50DTL	10 MINUTE	δt2	-	
CYCLE 3	AL	< 1 MINUTE	-	δr2	δe3=δt3-δr3
CYCLE 3	0.25DTL	< 1 MINUTE	δ3	-	
CYCLE 3	0.50DTL	< 1 MINUTE	δ3	-	
CYCLE 3	0.75DTL	10 MINUTE	δt3	-	
CYCLE 4	AL	< 1 MINUTE	-	δr3	δe4=δt4-δr4
CYCLE 4	0.25DTL	< 1 MINUTE	δ4	-	
CYCLE 4	0.50DTL	< 1 MINUTE	δ4	-	
CYCLE 4	0.75DTL	< 1 MINUTE	δ4	-	
CYCLE 4	1.00DTL	10 MINUTE	δt4	-	
CYCLE 5	AL	< 1 MINUTE	-	δr4	δe5=δt5-δr5
CYCLE 5	0.25DTL	< 1 MINUTE	δ5	-	
CYCLE 5	0.50DTL	< 1 MINUTE	δ5	-	
CYCLE 5	0.75DTL	< 1 MINUTE	δ5	-	
CYCLE 5	1.00DTL	< 1 MINUTE	δ5	-	
CYCLE 5	1.33DTL	10 MINUTE	δt5	-	
CYCLE 6	AL	< 1 MINUTE	-	δr5	δe6=δt6-δr6
CYCLE 6	0.25DTL	< 1 MINUTE	δ6	-	
CYCLE 6	0.50DTL	< 1 MINUTE	δ6		
CYCLE 6	0.75DTL	< 1 MINUTE	δ6	-	
CYCLE 6	1.00DTL	< 1 MINUTE	δ6	-	
CYCLE 6	1.33DTL	< 1 MINUTE	δ6	-	
CYCLE 6	1.50DTL (CREEP TEST)	10 MINUTE	δt5, ZERO READING FOR CREEP TEST	-	
CYCLE 6	AL	< 1 MINUTE	-	δr6	
LOCK-OFF	LOCK-OFF LOAD IF TEST RESULTS SATISFY ACCEPTANCE	-	_	-	-
	CRITERIA				

APPLY THE MINIMUM ALIGNMENT LOAD (AL) REQUIRED TO ALIGN THE TESTING APPARATUS, NOT TO EXCEED 5 PERCENT OF DTL, SET THE DIAL GAUGES TO "ZERO" AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED. FOLLOWING THE APPLICATION OF THE MAXIMUM LOAD (1.50 DTL), REDUCE THE LOAD TO THE ALIGNMENT LOAD (0.05 DTL MAXIMUM) AND RECORD THE PERMANENT SET.

START THE PERFORMANCE CREEP TEST PERIOD AS SOON AS THE MAXIMUM TEST LOAD (1.50 DTL) IS APPLIED. MEASURE AND RECORD TIEBACK MOVEMENTS DURING THE CREEP PORTION OF THE TEST IN INCREMENTS ON 1, 2, 3, 4, 5, 6, AND 10 MINUTES. MAINTAIN THE \_OAD DURING THE CREEP TEST WITHIN 2 PERCENT OF THE INTENDED LOAD. WHERE THE TIEBACK MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCHES. MAINTAIN THE MAXIMUM TEST LOAD FOR AN ADDITIONAL 50 MINUTES AND RECORD TIEBACK MOVEMENTS AT 20, 30, 40, 50, AND 60 MINUTES. PERFORMANCE TESTED TIEBACKS MAY BE USED AS PRODUCTION TIEBACKS IF THEY FULFILL THE ACCEPTANCE CRITERIA NOTED BELOW AND UPON APPROVAL BY THE ENGINEER.

PROOF TESTING COMPLETE PROOF TESTS ON ALL PRODUCTION TIEBACKS NOT SUBJECT TO A PERFORMANCE TEST. THE MAXIMUM STRESS IN THE PRESTRESSING STEEL SHALL NOT EXCEED 80 PERCENT OF GUTS DURING TESTING. USE THE DTL SHOWN ON THE DRAWINGS. CONDUCT THE PROOF TESTS BY INCREMENTALLY LOADING THE TEST TIEBACKS TO A MAXIMUM TEST LOAD OF 130 PERCENT OF DTL IN ACCORDANCE WITH THE FOLLOWING SCHEDULE. RECORD THE TIEBACKS MOVEMENTS AT EACH LOAD INCREMENT.

PROOF TEST

LOAD INCREMENT	APPLIED LOAD	HOLD TIME	RECORD AND PLOT MOVEMENT $\delta n$ = INCREMENT MOVEMENT $\delta tn$ = TOTAL MOVEMENT TAKE READINGS AT 1, 2, 3, 4, 5, 6 AND 10 MINUTES	
NCREMENT 1	ALIGNMENT LOAD (AL)	< 1 MINUTE	-	
NCREMENT 1	0.25 DESIGN LOAD (DTL)	< 1 MINUTE	δ1	
NCREMENT 2	0.50DTL	< 1 MINUTE	δ2	
NCREMENT 3	0.75DTL	< 1 MINUTE	δ3	
NCREMENT 4	1.00DTL	< 1 MINUTE	δ4	
NCREMENT 5	1.20DTL	< 1 MINUTE	δ5	
NCREMENT 6	1.33DTL (CREEP TEST)	10 MINUTES	δ6	
LOCK-OFF	ADJUST TO LOCK-OFF IF TEST RESULTS SATISFY ACCEPTANCE CRITERIA	-	-	

APPLY THE MINIMUM ALIGNMENT LOAD (AL) REQUIRED TO ALIGN THE TESTING APPARATUS, NOT TO EXCEED 5 PERCENT OF DTL. SET THE DIAL GAUGES TO "ZERO" AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED.

START THE PROOF CREEP TEST PERIOD AS SOON AS THE MAXIMUM TEST LOAD (1.33DTL) IS APPLIED. MEASURE AND RECORD TIEBACK MOVEMENTS DURING THE CREEP PORTION OF THE TEST IN INCREMENTS OF 1, 2, 3, 4, 5, 6, AND 10 MINUTES. MAINTAIN THE LOAD DURING THE CREEP TEST WITHIN 2 PERCENT OF THE INTENDED LOAD. WHERE THE TIEBACK MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCHES, MAINTAIN THE MAXIMUM TEST LOAD FOR AN ADDITIONAL 50 MINUTES AND RECORD TIEBACK MOVEMENTS AT 20, 30, 40, 50, AND 60 MINUTES.

#### TEST TIEBACK ACCEPTANCE CRITERIA A TEST TIEBACK IS CONSIDERED ACCEPTABLE WHEN ALL OF THE FOLLOWING CRITERIA ARE

- 1. FOR PERFORMANCE TESTS, THE TOTAL CREEP MOVEMENT IS LESS THAN 0.04 INCHES BETWEEN THE 1 AND 10 MINUTE READINGS OR THE TOTAL CREEP MOVEMENT IS LESS THAN 0.08 INCHES BETWEEN THE 6 AND 60 MINUTE READINGS, AND THE CREEP RATE IS LINEAR OR DECREASING THROUGHOUT THE CREEP TEST LOAD HOLD PERIOD.
- FOR PROOF TESTS, THE TOTAL CREEP MOVEMENT IS LESS THAN 0.04 INCHES BETWEEN 1 AND 10 MINUTES, OR THE TOTAL CREEP MOVEMENT IS LESS THAN 0.08 INCHES BETWEEN 6 AND 60 MINUTES READINGS, AND THE CREEP RATE IS LINEAR OR
- DECREASING THROUGHOUT THE CREEP TEST LOAD HOLD PERIOD. 3. FOR PERFORMANCE AND PROOF TESTS, THE TOTAL MEASURED MOVEMENT AT THE MAXIMUM TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC
- ELONGATION OF THE UNBONDED LENGTH. 4. A PULLOUT FAILURE DOES NOT OCCUR, PULLOUT FAILURE IS DEFINED AS THE INABILITY TO FURTHER INCREASE THE TEST LOAD WHILE THERE IS CONTINUED PULLOUT MOVEMENT OF THE TEST TIEBACK OR THE NON-ELASTIC MOVEMENT EXCEEDS 2 INCHES.

MAINTAINING STABILITY OF THE TEMPORARY UNBONDED TEST LENGTH FOR SUBSEQUENT GROUTING IS THE CONTRACTOR'S RESPONSIBILITY. IF THE UNBONDED TEST LENGTH OF PRODUCTION PROOF TEST TIEBACKS CANNOT BE SATISFACTORILY GROUTED SUBSEQUENT TO TESTING, THE PROOF TEST TIEBACK SHALL BECOME SACRIFICIAL AND SHALL BE REPLACED.

- TEST REJECTION A TIEBACK MAY BE REJECTED IF IT DOES NOT MEET THE FOLLOWING CRITERION: 1. FOR PERFORMANCE TESTS, THE ENGINEER WILL EVALUATE THE RESULTS OF EACH PERFORMANCE TEST. INSTALLATION METHODS THAT DO NOT SATISFY THE TESTING REQUIREMENTS WILL BE REJECTED. THE CONTRACTOR SHALL PROPOSE ALTERNATIVE METHODS AND INSTALL REPLACEMENT VERIFICATION TEST TIEBACKS.
- THE ADJACENT PASSING PROOF TEST. ALTERNATIVELY, THE ENGINEER MAY REQUIRE ADJACENT PREVIOUSLY INSTALLED PRODUCTION TIEBACKS HAVE SUFFICIENT LOAD-CARRYING CAPACITY.

TIEBACK LOCK-OFF OLLOWING SUCCESSFUL PROOF LOADING, LOCK-OFF EACH TIEBACK ANCHOR AT THE LOADS NOTED ON THE PILE AND TIEBACK SCHEDULES. THE MAXIMUM STRESS IN PRESTRESSING STEEL SHALL NOT EXCEED 60 PERCENT OF THE GUTS AT THE DESIGN LOADS.

- JACKING AND TEST EQUIPMENT MEASURE THE LOAD ON THE TIEBACKS WITH A PRESSURE GAUGE CALIBRATED WITH THE JACK AND ACCURATE ENOUGH TO READ 100 PSI PRESSURE INCREMENTS. THE PUMP SHALL BE CAPABLE OF APPLYING EACH LOAD INCREMENT IN LESS THAN 60
- SECONDS 2. MEASURE THE TIEBACK HEAD MOVEMENT WITH A MINIMUM OF 2 DIAL GAUGES CAPABLE OF MEASURING TO 0.001 INCHES. 3. THE JACK SHALL BE POSITIONED SUCH THAT REPOSITIONING IS NOT REQUIRED DURING TESTING.

PILE BRACING FOR TIEBACK TESTING STEEL BRACING MAY BE REQUIRED DURING TIEBACK STRESSING AND TESTING TO RESTRAIN THE SOLDIER PILES FROM TWISTING. THE LOCATIONS AND CONFIGURATION OF THE BRACING WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION. THE COST TO FURNISH AND INSTALL THE BRACING WILL BE CONSIDERED INCIDENTAL AND AT NO ADDITIONAL CHARGE TO THE OWNER.

#### SCHEDULE

RECORD THE PULLOUT FAILURE LOAD AS PART OF THE TEST DATA.

FOR PROOF TESTS, THE ENGINEER MAY REQUIRE THE CONTRACTOR TO REPLACE SOME OR ALL OF THE INSTALLED PRODUCTION TIEBACKS BETWEEN A FAILED PROOF TEST AND THE INSTALLATION AND TESTING OF ADDITIONAL PROOF TEST TIEBACKS TO VERIFY THE

## SHORING MONITORING

PRECONSTRUCTION SURVEY PRIOR TO CONSTRUCTION, COMPLETE A WRITTEN AND PHOTOGRAPHIC LOG OF EXISTING CONDITIONS OF THE ADJOINING CONSTRUCTION AND SITE IMPROVEMENTS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY THE ABSENCE OF, THE INSTALLATION OF, OR THE PERFORMANCE OF EXCAVATION SUPPORT AND PROTECTION SYSTEMS. A LICENSED SURVEYOR SHALL DOCUMENT ALL EXISTING SUBSTANTIAL CRACKS IN ADJACENT STREETS, SIDEWALKS, AND EXISTING STRUCTURES. CRACK GAUGES MAY BE REQUIRED BY THE ENGINEER.

OPTICAL SURVEY SURVEY THE VERTICAL AND HORIZONTAL DISPLACEMENT AT THE TOP OF EVERY OTHER SOLDIER PILE.

ESTABLISH SURVEY LINES NEAR THE TOP OF THE WALL AND AT DISTANCES UP TO THE WALL HEIGHT. H. BEHIND THE WALL FACE. SPACE THESE POINTS A MAXIMUM OF 50 FEET APART. FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER OF RECORD FOR ESTABLISHING THE SPACING AND LOCATION OF THE MONITORING POINTS.

ESTABLISH A BASELINE READING OF THE MONITORING POINTS ON THE GROUND SURFACE BEHIND THE SHORING WALLS BEFORE INSTALLING THE SHORING. ESTABLISH A BASELINE READING OF THE SURVEY POINTS ON THE SOLDIER PILES PRIOR TO BEGINNING EXCAVATION.

THE GEOTECHNICAL ENGINEER SHALL REVIEW SURVEY DATA AND PROVIDE AN EVALUATION OF WALL PERFORMANCE ALONG WITH SURVEY DATA TO THE AUTHORITY HAVING JURISDICTION (AHJ) ON AT LEAST A WEEKLY BASIS. IMMEDIATELY AND DIRECTLY NOTIFY THE AHJ IF ANY UNUSUAL OR SIGNIFICANTLY INCREASED MOVEMENT OCCURS.

MONITORING OF THE SURVEY POINTS SHALL INCLUDE VERTICAL AND HORIZONTAL MEASUREMENTS ACCURATE TO AT LEAST 0.01 FEET. THE FREQUENCY OF THE READINGS IS DEPENDENT ON THE CONSTRUCTION STAGE, AS NOTED BELOW:

OPTICAL SURVEY SCHEDU	JLE
CONSTRUCTION STAGE	MONITORING FREQUENCY
DURING EXCAVATION AND UNTIL WALL MOVEMENTS HAVE STABILIZED.	TWICE WEEKLY
DURING EXCAVATION IF LATERAL WALL MOVEMENTS EXCEED 1/2 INCH, OR AT THE DISCRETION OF THE ENGINEER.	GEOTECHNICAL AND SHORING ENGINEER TO EVALUATE
AFTER EXCAVATION IS COMPLETE AND WALL MOVEMENTS HAVE STABILIZED, IF THE DATA INDICATES LITTLE OR NO MOVEMENT.	TWICE MONTHLY

SUBMIT SURVEY DATA TO THE GEOTECHNICAL ENGINEER, SHORING ENGINEER, AND THE AHJ EACH WEEK. NOTIFY THE AHJ IMMEDIATELY IF ANY UNUSUAL OR SIGNIFICANTLY INCREASED MOVEMENTS OCCUR.

SURVEYING MUST CONTINUE UNTIL THE PERMANENT STRUCTURE IS COMPLETE UP TO FINAL STREET GRADES. TERMINATION OF SURVEY MONITORING WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AFTER REVIEW AND APPROVAL BY THE AHJ\*.

<u>NCLINOMETERS</u> PROVIDE AND INSTALL INCLINOMETER CASING ON SOLDIER PILES SELECTED BY THE GEOTECHNICAL ENGINEER TO FACILITATE MEASUREMENT OF WALL DEFLECTIONS AS THE EXCAVATION AND SHORING INSTALLATION PROCEEDS.

PROVIDE INCLINOMETER CASINGS CONSISTING OF 2.75 INCH OD ABS PLASTIC PIPE WITH INTERNAL LONGITUDINAL GROOVES, AS SUPPLIED BY SLOPE INDICATOR COMPANY (SINCO) OR APPROVED EQUAL. PROVIDE SELF-ALIGNING COUPLINGS, CAPS AND FITTINGS AND ALL NECESSARY INSTALLATION TOOLS AND ACCESSORIES.

FIRMLY ATTACH INCLINOMETER CASINGS TO THE BACK FACE OF THE STEEL SOLDIER PILE PER DETAIL 13/SH4.01 . AFFIX THE BOTTOM OF THE CASING APPROXIMATELY 2 FEET ABOVE THE BOTTOM OF THE SOLDIER PILE. THE TOP OF THE CASING SHALL EXTEND A LEAST 1 FOOT ABOVE THE TOP OF THE SOLDIER PILE.

SECURE THE CASING TO THE STEEL SOLDIER PILE ON MAXIMUM 5 FOOT CENTERS USING C CLAMPS OR STEEL STRAPS TACK-WELDED TO THE FLANGE. PROTECT CASING FROM DAMAGE DURING THE WELDING OPERATIONS. INSTALL THE CASINGS WITH NOT MORE THAN 3° OF TWIST OR AXIAL ROTATION BETWEEN TOP AND BOTTOM. GROOVES ON THE INSIDE OF THE CASING MUST BE ORIENTED SO THAT THE ORTHOGONAL GROOVES ARE POSITIONED PARALLEL AND PERPENDICULAR AT THE EXCAVATION. TIGHTLY CAP CASINGS AT EACH END PRIOR TO ATTACHMENT TO THE STEEL BEAM. TAPE ALL JOINTS TO PREVENT INTRUSION OF GROUT. FILL CASINGS WITH CLEAN WATER PRIOR TO INSERTION INTO PILE HOLE. INSTALL ALL INCLINOMETER CASING IN THE PRESENCE OF AND WITH APPROVAL OF THE GEOTECHNICAL ENGINEER.

## SHORING WALL DEFLECTION LIMITS **AND MITIGATION MEASURES**

IF LATERAL MOVEMENTS OF THE SHORING WALL ARE OBSERVED TO EXCEED 0.5 INCH WHERE ABUTTING CITY RIGHT-OF-WAYS OR PRIVATE PROPERTIES, STOP CONSTRUCTION OF THE SHORING WALL IN THE VICINITY OF THE AFFECTED PORTION OF THE SHORING WALL. IMMEDIATELY AND DIRECTLY NOTIFY THE GEOTECHNICAL AND STRUCTURAL ENGINEERS, WALL DESIGNER, SDCI, AND SDOT IF 0.5 INCH OF MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS AND WHEN TOTAL MOVEMENTS REACH 0.5 INCH. AT THAT AMOUNT OF MOVEMENT, THE CONTRACTOR, ENGINEER, AND GEOTECHNICAL ENGINEER SHALL DETERMINE THE CAUSE OF DISPLACEMENT AND DEVELOP REMEDIAL MEASURES SUFFICIENT TO LIMIT TOTAL WALL MOVEMENTS TO 1 INCH. THESE MEASURES MAY CONSIST OF INTERNAL BRACING (I.E. WALES AND RAKERS), ADDITIONAL TIEBACKS AND/OR SOIL BERMING. IMPLEMENTATION OF THE MITIGATION MEASURES WILL BE CONSIDERED AT THAT

THE FREQUENCY OF THE SHORING SURVEY MONITORING PROGRAM WILL BE ALTERED DEPENDING ON HOW MUCH MOVEMENT IS OBSERVED. AT MINIMUM, THE MONITORING WILL BE INCREASED TO ONCE PER DAY UNTIL DIRECTED OTHERWISE BY THE GEOTECHNICAL ENGINEER.

IMPLEMENT THE MITIGATION MEASURES DEVELOPED ABOVE IF 1 INCH LATERAL DEFLECTION IS EXCEEDED FOR SHORING SYSTEMS RETAINING CITY RIGHT-OF-WAYS. BERM SOIL AGAINST THE SUBJECT WALL TO ARREST THE WALL MOVEMENT UNTIL THE MITIGATION MEASURES ARE IMPLEMENTED. NOTIFY SDCI AND SDOT IMMEDIATELY OF THE OCCURRENCE OF THESE EVENTS.

## **PRECONSTRUCTION MEETING**

A PRE-CONSTRUCTION MEETING WITH SDOT SHORING REVIEW AND INSPECTION. SEPARATE FROM ANY SDCI PRE-CONSTRUCTION MEETING, WILL BE REQUIRED PRIOR TO THE START OF EXCAVATIONS ADJACENT TO THE PUBLIC ROW. ATTENDEES SHALL INCLUDE REPRESENTATIVES OF THE OWNER, ARCHITECT, GENERAL CONTRACTOR, EXCAVATION AND SHORING CONTRACTORS, THE PROJECT GEOTECHNICAL ENGINEER, PROJECT SURVEYORS, AND SDOT SHORING REVIEW AND INSPECTION PERSONNEL

## PAINTING

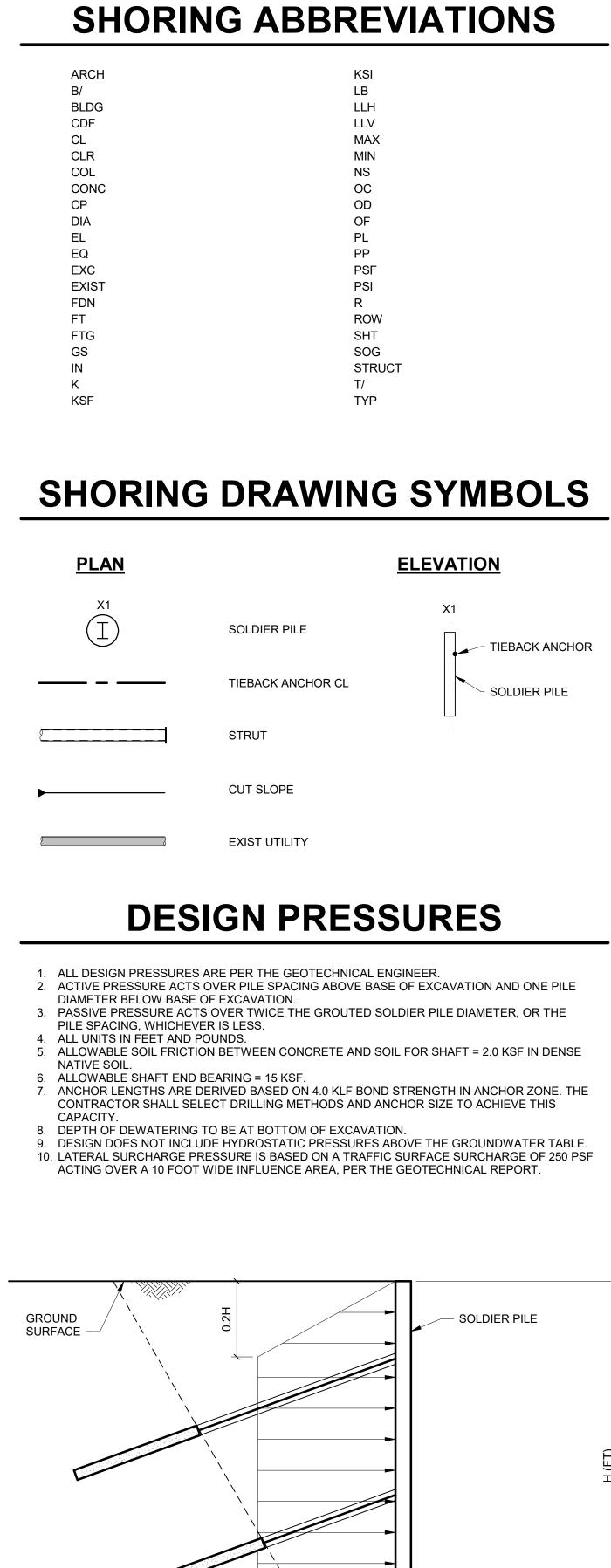
STEEL PAINTING PAINT PERMANENT SOLDIER PILES WITH THE FOLLOWING PAINTING SYSTEM WHERE EXPOSED TO WEATHER.

SURFACE PREPARATION: PRIMER: INTERMEDIATE: FINISH:

STEEL STRUCTURES PAINTING COUNCIL (SSPC) SSPC-SP6 SSPC PAINT SPECIFICATION NO. 1 PER ARCHITECT PER ARCHITECT

150

(PSF)



EQUIVALENT SOIL SURCHARGE FOR MATERIALS, **EQUIPMENT, VEHICLES, ETC.** 

, ∠/PSF

# - BASE OF EXCAVATION -----1771771 H/4 26H (PSF) 180D (PSF)

**DESIGN LATERAL SOIL PRESSURES MULTIPLE TIEBACK ROWS** 

SHORING SPE
TEST
ESTABLISHED PE
ITEM
SOLDIER PILES
TEBACK ANCHORS
NSPECTION IN FABRICATION SHOP
PILE STRUCTURAL CONCRETE AND TIEBACK GROU
STRUCTURAL STEEL
FABRICATION AND ERECTION
HIGH STRENGTH BOLTING
WELDING
HORING SPECIAL INSPECTIONS AND TESTING NO

. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. 2. INSPECTION REQUIREMENTS FOR SYSTEMS DESIGNED BY OTHERS SHALL BE DEFINED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THEIR DESIGN. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY TO ALL BIDDER-DESIGNED COMPONENTS.

# **DRAWING LIST**

DRAWING LIST

AND SYMBOLS

SH0.01	SHORING NOTES, DRAWING ABBREVIATIONS AND SYMBO
SH2.01	SHORING SITE PLAN
SH4.01	TYPICAL SHORING DETAILS

 $\mathbf{O}$ • 0 л В Ц Ш EL ST / S ED Ō project: FUS stamp/seal: 1601 Fifth Avenue, Suite 1600 Seattle, WA 98101 206.622.5822 kpff.com project engineer project manager: JRS drawn by: RMF checked by: AES job no.: 2200638 revisions: no.: date: description:

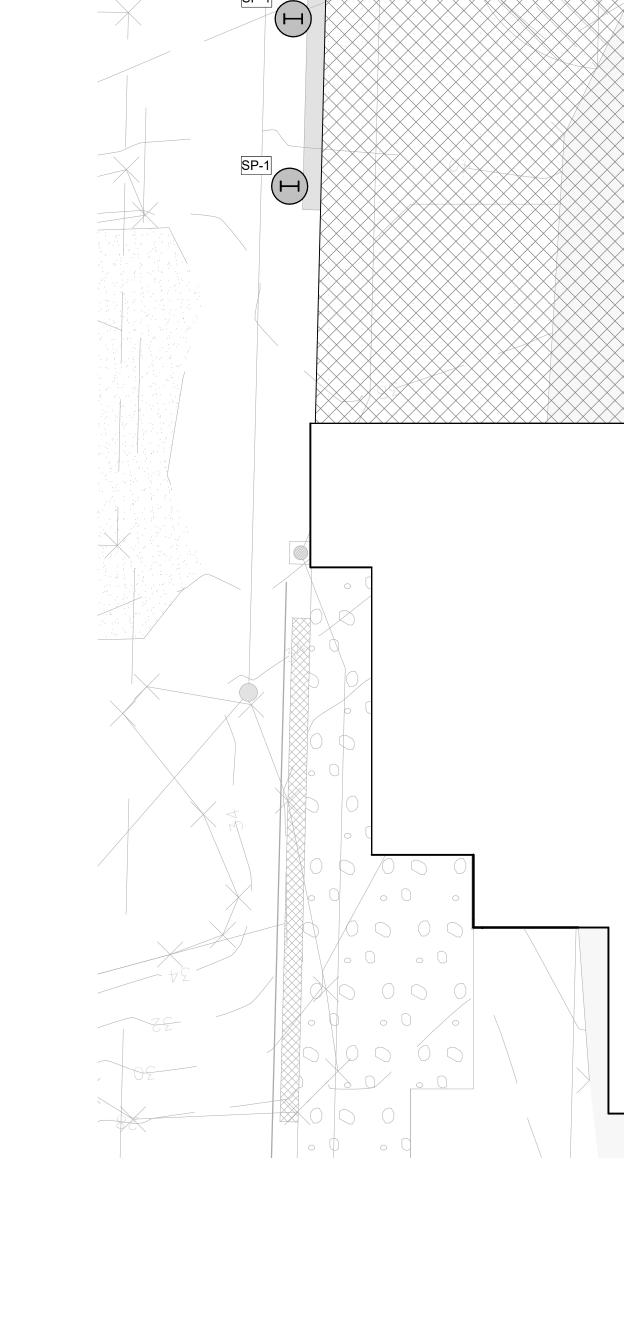
PERMIT 09/08/2023 SHORING NOTES DRAWING LIST, ABBREVIATIONS AND

SYMBOLS

sheet:

## **ECIAL INSPECTIONS AND FING SCHEDULE**

R IBC 2018 SECTION 109 AND CHAPTER 17				
	IBC CODE	COMMENTS		
	1705.8	BY GEOTECHNICAL ENGINEER		
	1705.1.1	BY GEOTECHNICAL ENGINEER		
	1704.2.5	-		
UT	1705.3	-		
		-		
	1705.2	-		
		-		



















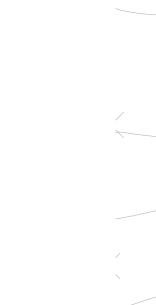












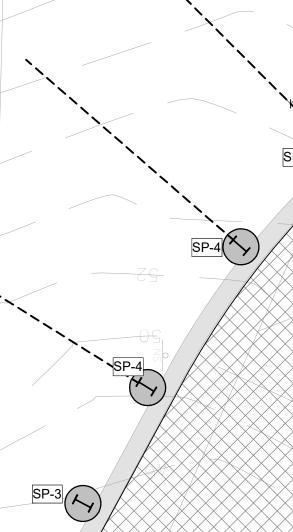


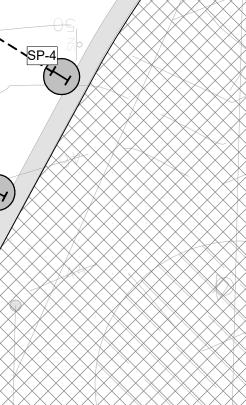


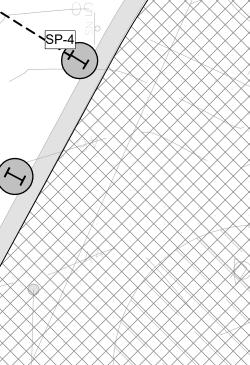


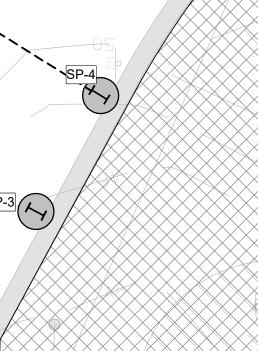
SP-3

SP-1

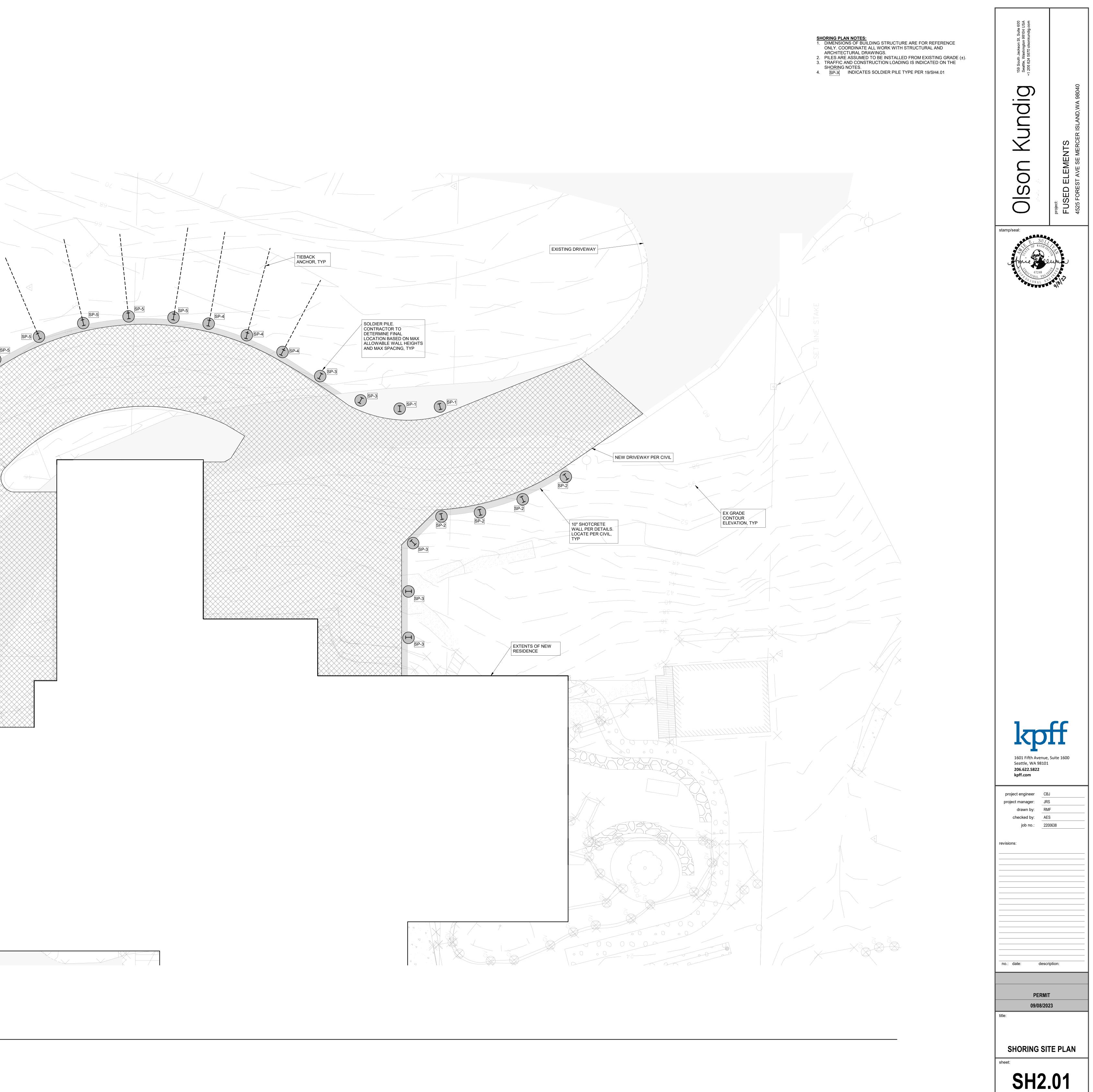


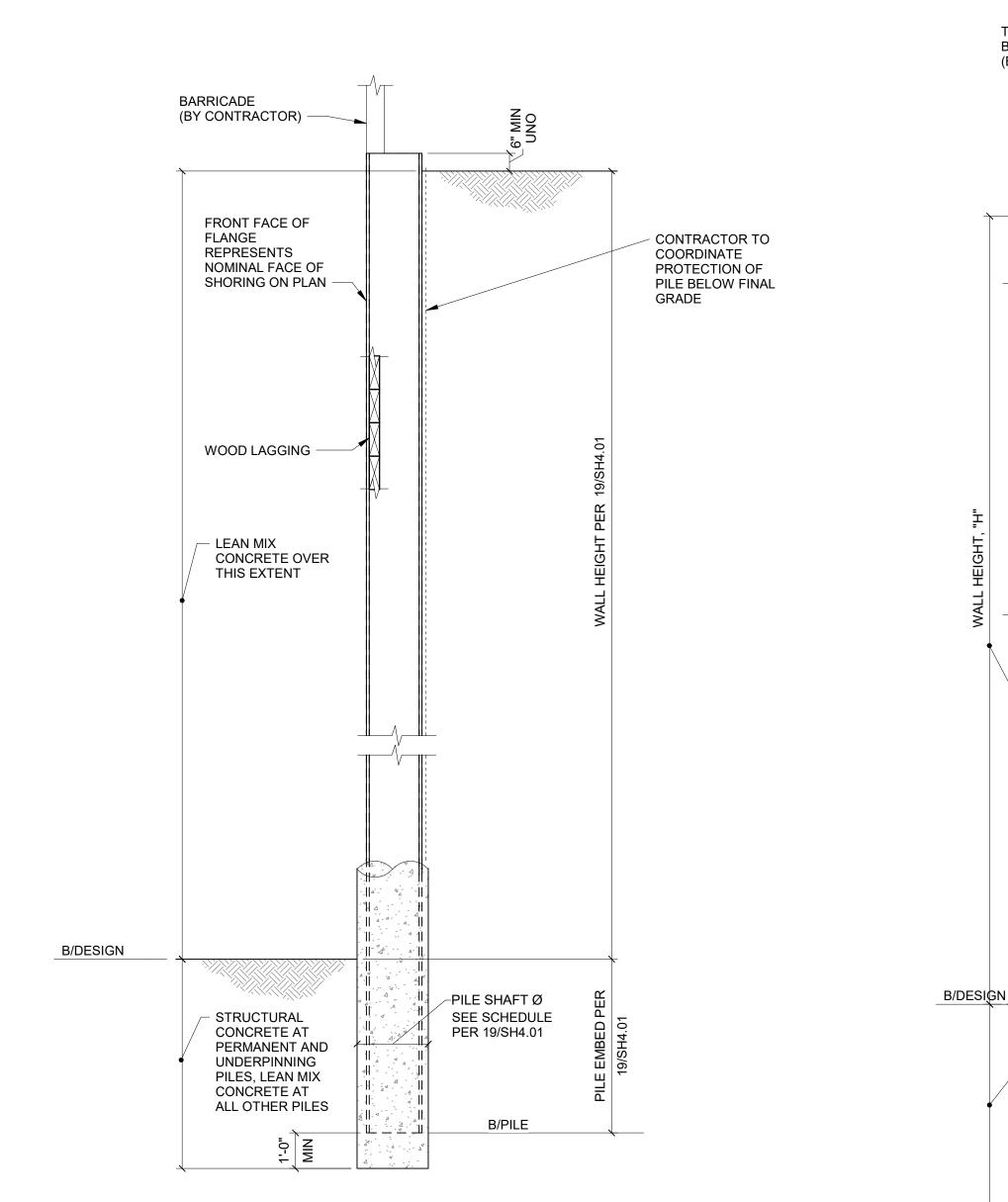


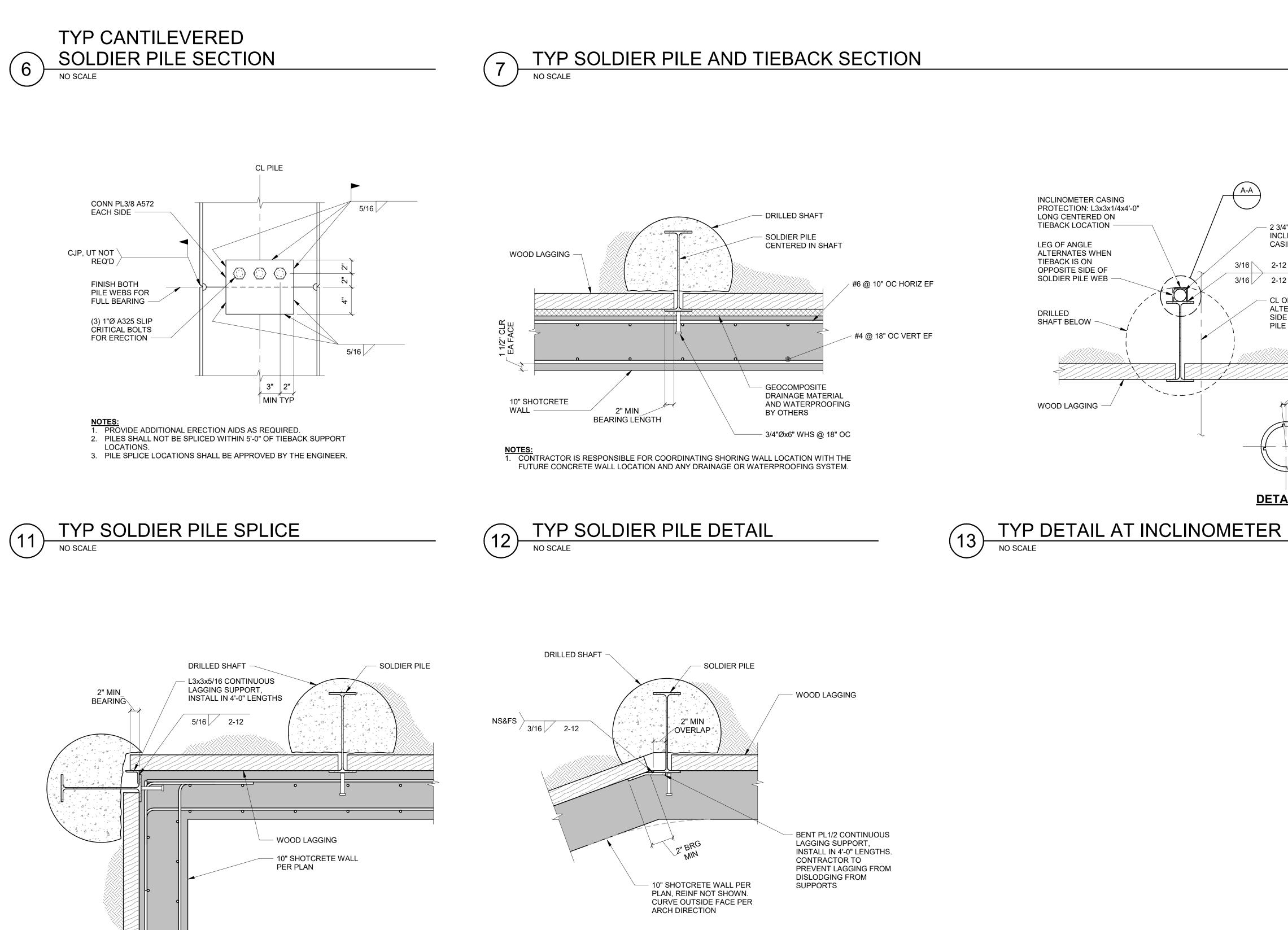




1 SHORING SITE PLAN 3/16" = 1'-0"

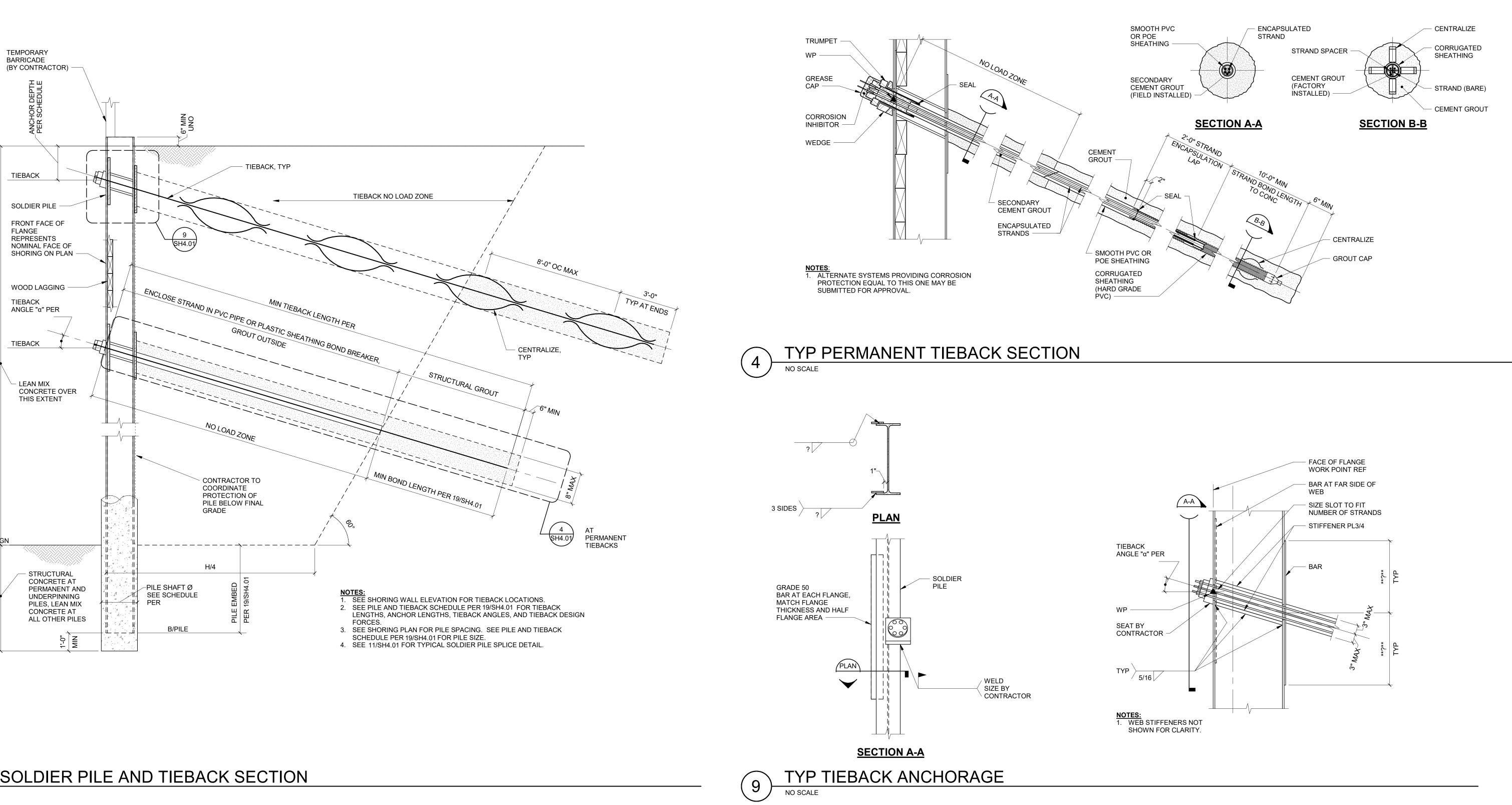




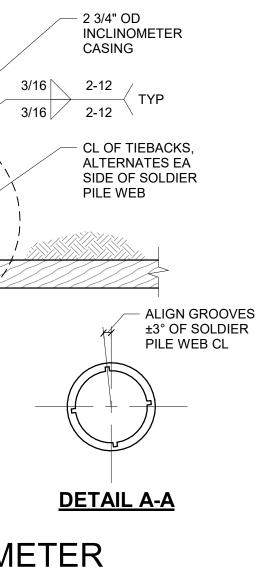


16 LAGGING DETAIL (INSIDE CORNER) NO SCALE

NO SCALE



SHORING WALL BEND DETAIL



A-A

SH	ORING WALL PIL	E AND	TIEBAC	к зсн	EDULE	
	PILE NUMBER	SP-1	SP-2	SP-3	SP-4	SP-5
Щ	W SECTION	W12x30	W12x30	W12x106	W12x35	W12x35
R PI	MAX WALL HEIGHT (FT)	6	6	10	17	21
SOLDIER PIL	EMBED DEPTH (FT)	12	14.5	19	10	10
sc	PILE LENGTH (FT)	18	20.5	29	27	31
	DRILLED SHAFT DIA (IN)	24	24	24	24	24
	ANCHOR DEPTH (FT)	-	-	-	5	5
	α (DEG)	-	-	-	20	20
TIEBACK INFO	TIEBACK LENGTH (FT)	-	-	-	40	55
ACK	BOND LENGTH (FT)	-	-	-	27	41
LIEB/	# 0.6-IN DIA STRANDS	-	-	-	3	4
	DESIGN LOAD (K)	-	-	-	84	127
	KICKOFF LOAD (K)	-	-	-	84	127

NOTES: 1. PROVIDE (2) ADDITIONAL STRANDS FOR TIEBACKS RECEIVING 200% DESIGN STRESS VERIFICATION TEST LOADS.

SHORING WALL PILE AND TIEBACK SCHEDULE

(19) SHOP NO SCALE

ISS South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
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1601 Fifth Avenue, Seattle, WA 98101 206.622.5822 kpff.com	
project engineer CBJ project manager: JRS drawn by: RMF checked by: AES job no.: 2200	
revisions:	
no.: date: descriț PERMIT	JIIOTI.
<b>09/08/202</b> title:	
TYPICAL SH DETAIL	
SH4.	01

ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
C	COMMON
CAP	CAPACITY
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING, COOLING
CO	CLEANOUT
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
D	DIAMETER
DB	DRY BULB, DECIBEL
DEG	DEGREE
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE, ENGINE
	GENERATOR
ELEC	ELECTRIC
EQUIV	EQUIVALENT
	EXTERNAL STATIC PRESSURE
ESP	
EXH	EXHAUST
EXT F	EXTERIOR, EXTERNAL
F	FAHRENHEIT
FD	FIRE DAMPER
FCU	FAN COIL UNIT
FLR	FLOOR
FPM	
FPS	
FSD	FIRE/SMOKE DAMPER
G	GAS
GRD	GRILLES, REGISTERS, AND
	DIFFUSERS
GWB	
HORIZ	GYPSUM WALLBOARD HORIZONTAL HORSEPOWER, HEAT PUMP
	HORSEPOWER, HEAT PUMP
	HONSLEOWEN, HEAT FOWE
HRU	HEAT RECOVERY UNIT
HVAC	HEATING, VENTILATING, AND AIR
	CONDITIONING
HVU	HEATING AND VENTILATION UNIT
HWR	HIGH WALL RETURN, HOT WATER
	RETURN
HWS	HIGH WALL SUPPLY, HOT WATER
	SUPPLY
НХ	HEAT EXCHANGER
ID	
	INDIRECT DRAIN, INSIDE DIAMETER
IN	INCH
KW	KILOWATT
L	LONG, LENGTH
LB	POUND
LWR	LOW WALL RETURN
LWS	LOW WALL SUPPLY
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MCA	MINIMUM CIRCUIT AMPACITY
MOCP	MAXIMUM OVER CURRENT
	PROTECTION
MTD	MOUNTED
OSA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
REF	REFERENCE
RF	RELIEF FAN
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SA SCH	SCHEDULE
SF	SUPPLY FAN, SQUARE FOOT
SENS	SENSIBLE
SG	SUPPLY GRILLE
SMACNA	
	CONDITIONING CONTRACTORS
	NATIONAL
	ASSOCIATION
SO	SCREENED OPENING
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SANITARY
~~	SEWER
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	
	UNIT HEATER
UON	
	UNIT HEATER
UON V	UNIT HEATER UNLESS OTHERWISE NOTED VENT
UON V VENT	UNIT HEATER UNLESS OTHERWISE NOTED VENT VENTILATION, VENTILATOR
UON V VENT VTR	UNIT HEATER UNLESS OTHERWISE NOTED VENT VENTILATION, VENTILATOR VENT THRU ROOF
UON V VENT VTR W	UNIT HEATER UNLESS OTHERWISE NOTED VENT VENTILATION, VENTILATOR VENT THRU ROOF WASTE, WATT, WIDE
UON V VENT VTR	UNIT HEATER UNLESS OTHERWISE NOTED VENT VENTILATION, VENTILATOR VENT THRU ROOF

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# LEGEND

EQUIPMENT TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN) DUCT SMOKE DETECTOR ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER CARBON MONOXIDE SENSOR SMOKE DETECTOR TERMINALS DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
(EXHAUST FAN SHOWN) DUCT SMOKE DETECTOR ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER CARBON MONOXIDE SENSOR SMOKE DETECTOR <u>TERMINALS</u> DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER CARBON MONOXIDE SENSOR SMOKE DETECTOR <u>TERMINALS</u> DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
TEMPERATURE TRANSMITTER ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER CARBON MONOXIDE SENSOR SMOKE DETECTOR <u>TERMINALS</u> — DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE — DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
TRANSMITTER CARBON MONOXIDE SENSOR SMOKE DETECTOR <u>TERMINALS</u> DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
CARBON MONOXIDE SENSOR SMOKE DETECTOR <u>TERMINALS</u> OIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
TERMINALS - DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE - DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW) CEILING RETURN/EXHAUST GRILLE
AIRFLOW) CEILING RETURN/EXHAUST GRILLE
LINEAR DIFFUSER, CEILING OR WALL
MOUNTED (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
WALL SUPPLY GRILLE (SG)
WALL RETURN/EXHAUST GRILLE (RG, EG)
TRANSFER GRILLE (TG), DUCT CONNECTED, WALL MOUNTED W/
OPTIONAL CFM SHOWN TRANSFER GRILLE, CEILING MOUNTED WITH FULL-SIZED LINED
DUCT CONNECTION GENERAL
ARCHITECTURAL BACKGROUND (THIN LINE)
NEW MECHANICAL WORK
(HEAVY LINE) MATCHLINE OR PROPERTY LINE
<u>SECTION_INDENTIFICATION</u> (DETAIL_SIMILAR)
(NO. INDICATES SECTION (NO. INDICATES DETAIL) —SHEET # WHERE SECTION IS DRAWN
-SHEET # WHERE SECTION IS TAKEN DUCTWORK
DUCT (1ST FIGURE = SIDE SHOWN, 2ND FIGURE = SIDE NOT SHOWN)
DUCT SECTION, POSITIVE PRESSURE
DUCT SECTION, NEGATIVE
PRESSURE
DUCT PENETRATION THRU FLOOR
OR ROOF FIRE/SMOKE DAMPER $(4) =$
HORIZ DUCT, $ \spadesuit = \text{VERT DUCT}$ 2-HR RATED, UON
VOLUME DAMPER
FIRE DAMPER $( \triangleleft = HORIZ)$ DUCT, $ \blacklozenge = VERT$ DUCT), 2-HR
RATED, UON
90° ELBOW, R/D OR R/W=1.5
SQUARE CORNER ELBOW WITH TURNING VANES
90° TAKE-OFF OR TEE
90° CONICAL TAKE-OFF
45° LATERAL TAKE-OFF
TRANSITION OR REDUCER (FOT =
FLAT ON TOP, FOB = FLAT ON BOTTOM)
WYE FITTING
90° RECTANGULAR TAKE-OFF WITH 45° TAPER
90° DIVERGING RECTANGULAR TEE, EITHER RADIUS OR TURNING VANES
FLEXIBLE DUCT

ROUND DUCT INDICATOR

Ø

<u>GENERAL NOTES – MECHANICAL</u>

- 1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
- 2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC.) OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED. 3. CODES: COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM
- SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ. 4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON
- FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL DUCTWORK, DAMPERS, EQUIPMENT, PIPING, ETC. A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL. B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK. C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM. D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
- 5. MECHANICAL CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITHIN THE STRUCTURE.
- 6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
- 7. RATED PENETRATION: DUCT PENETRATIONS THROUGH RATED ENCLOSURES SHALL BE FIRE/SMOKE DAMPERED PER THE LATEST EDITION OF THE UNDERWRITERS LABORATORIES(UL) FIRE RESISTANCE WITH HOURLY RATINGS FOR THROUGH-PENETRATION FIRE STOPS SYSTEM VOLUME #2, OR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL LISTINGS (3M OR EQUIVALENT). DETERMINE REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO BID.
- 8. EXHAUST OUTLETS/DRYER VENTS: SOURCE-SPECIFIC FANS SHALL BE VENTED TO OUTDOORS WITH A MINIMUM 3' CLEARANCE BETWEEN VENT OUTLETS AND BUILDING OPENINGS, AND 10' MINIMUM BETWEEN VENT OUTLETS AND MECHANICAL AIR INTAKES.
- 9. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
- 10. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
- 11. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD. 12. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT
- ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE. COORDINATION REQUIREMENTS
- 1. DUCTWORK: LOCATE AND COORDINATE THE EXACT LOCATION OF DUCTWORK WITH STRUCTURAL PLANS AND WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY STRUCTURE OR EQUIPMENT. COORDINATE WITH FRAMING CONTRACTOR TO ASSURE JOIST SPACES LINE UP WHEN DUCTWORK MUST PASS THROUGH DIFFERENT JOIST SPACES.
- 2. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
- 3. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, ETC. CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH HIS MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THESE REQUIREMENTS IN HIS BID.
- <u>HVAC NOTES</u>
- 1. ATTACHMENTS: AIR DISTRIBUTION OUTLETS AND LOUVERS SHALL HAVE ALL REQUIRED ACCESSORIES AND ATTACHMENTS FOR A COMPLETE CONNECTION TO THE SPECIFIC TYPE OF STRUCTURE THAT THEY ARE BEING ATTACHED TO. THIS INCLUDES, BUT IS NOT LIMITED TO, EXTERIOR BRICKS, GWB WALLS, GWB CEILING, ETC.
- 2. FIRE RATINGS: RATED FLOOR/CEILING JOINT SPACES HAVING DUCTWORK INSIDE THEM SHALL BE FIRE/SMOKE PROTECTED TO MAINTAIN THE 1-HOUR FLOOR/CEILING RATING PER LOCAL JURISDICTIONS. EXHAUST DUCTWORK PENETRATING THE 1-HOUR ROOF/CEILING OR FLOOR/CEILING ASSEMBLY SHALL HAVE ACCESSIBLE CEILING FIRE DAMPERS. ALTERNATIVELY, THE EXHAUST DUCTWORK SHALL BE ROUTED INSIDE A RATED SHAFT TO PROTECT THE CEILING/ROOF RATING PER THE LOCAL JURISDICTIONS.
- 3. FIRESTOP: PIPE, DUCT, AND CONDUIT PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE AND SMOKE STOPPED PER CODE.
- 4. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0", UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.

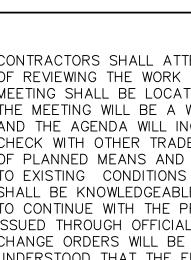
# **GENERAL NOTES**

- 5. DUCTWORK AND PIPING OUTSIDE OF MECHANICAL ROOMS SHALL BE CONCEALED. COORDINATE WITH THE GENERAL CONTRACTOR TO FUR-OUT AS REQUIRED.
- 6. VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA, AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILINGS SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION. PROVIDE "YOUNG" REGULATOR OR EQUAL. EXACT LOCATION OF CONTROL DEVICES VISIBLE IN FINISHED SPACES SHALL BE COORDINATED WITH THE ARCHITECT.
- 7. SEISMIC: PROVIDE SEISMIC RESTRAINTS FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK PER SMACNA AND LOCAL
- REGULATIONS. 8. FILTER CLEARANCE: PROVIDE ADEQUATE CLEARANCE FOR
- CHANGING AIR FILTERS <u>SHEET METAL NOTES</u>
- 1. REFERENCE: SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, CURRENT EDITION.
- 2. CLEARANCE: COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
- 3. ROUND ELBOWS AND OFFSETS: FULL RADIUS (R/D = 1.5), 5-PIECE SEGMENTED OR STAMPED. REFER TO SMACNA HVACDCS FIG 2-7, 3-3. DO NOT USE ANGLED OFFSET (TYPE 1). MITERED OFFSET (TYPE 2) MAY BE USED UP TO 30 DEGREE OFFSET ANGLE.
- 4. ROUND TEES AND LATERALS: CONICAL TEE PER SMACNA HVACDCS FIG 3–5; DO NOT USE STRAIGHT TEE; DO NOT USE CONICAL SADDLE TAP FOR EXPOSED DUCTWORK IN FINISHED SPACES. 90-DEGREE TEE WITH OVAL TO ROUND TAP, LATERAL, AND 45-DEGREE RECTANGULAR LEAD-IN PER SMACNA HVACDCS FIG 3-4.
- 5. RECTANGULAR ELBOWS AND OFFSETS: FULL RADIUS WHERE SPACE PERMITS, R/W = 1.5; OTHERWISE USE SQUARE CORNER ELBOW WITH TURNING VANES.
- 6. RECTANGULAR DIVIDED FLOW FITTINGS: USE GENERALLY, EXCEPT BRANCHES TO TERMINALS; SMACNA HVACDCS FIG 2-5,

TYPES 1, 2, 4A, AND 4B. DO NOT USE TYPE 3.

- 7. TURNING VANES: H.E.P. MANUFACTURER OR APPROVED HIGH EFFICIENCY PROFILE AIRFOIL TYPE FOR RECTANGULAR SQUARE THROAT ELBOWS. ACOUSTICAL TYPE FOR RETURN AIR MITERED ELBOWS.
- 8. TAKEOFFS TO OPENINGS: CONICAL TYPE WITH VOLUME DAMPER FOR ROUND DUCT BRANCHES PER SMACNA HVACDCS FIG 2-6, MINIMUM INLET DIAMETER 2 INCHES LARGER THAN DUCT SIZE. 45 DEGREE ENTRY FITTING FOR RECTANGULAR DUCT BRANCHES PER SMACNA HVACDCS FIG 2-6.
- 9. FLEXIBLE CONNECTIONS: PROVIDE AT EACH DUCT CONNECTION TO FANS, PACKAGED HVAC EQUIPMENT, EXTERNALLY ISOLATED AIR HANDLING UNITS, FAN COIL UNITS, AND SIMILAR EQUIPMENT. EXCEPTION: EQUIPMENT IN CORRIDOR CEILING SPACES WHERE FIRE RATING IS REQUIRED.
- 10. ALL DUCT WORK SHALL BE CLASSIFIED FOR LOW PRESSURE SYSTEMS PER IMC SECTION 603.
- 11. ALL DUCTS AND JOINTS SHALL BE SEALED PER IMC SECTION 603. IN<u>SULATION/LINING NOTES</u>
- 1. ENERGY CODE: AS A MINIMUM, COMPLY WITH THICKNESSES AND TYPES LISTED IN ENERGY CODE ENFORCED BY AHJ.
- 2. EXTENT OF INTERNAL DUCT LINING: A. GRILLE AND DIFFUSER BOXES AND BOOTS. B. TRANSFER DUCTS.
- 3. EXTENT OF EXTERNAL DUCT INSULATION: A. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACES, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND EQUIPMENT ROOMS NOT SPECIFIED TO BE INTERNALLY LINED. B. SUPPLY AIR ABOVE CEILINGS OR EXPOSED NOT SPECIFIED TO BE INTERNALLY LINED. C. OUTDOOR AIR INTAKE.
- 4. MISCELLANEOUS DUCT FITTINGS (CONICAL TAKEOFFS, ETC.): WRAP WITH INSULATION FOR CONDENSATION CONTROL. <u>PIPING NOTES</u>
- 1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
- 2. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
- 3. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
- 4. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.





<b>PRE-CON MEETING</b>	te 600 4 USA ig.com
DNTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE F REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE DETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE UTUALLY AGREED. HE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER ND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS HECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW T PLANNED MEANS AND METHODS, AND ON-SITE INVESTIGATION OF FIELD CONDITIONS, RELATIVE D EXISTING CONDITIONS THAT COULD AFFECT THE WORK, PERSONS ATTENDING THE MEETING HALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED D CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE SUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO HANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE NOPERSY WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANGES. HE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM WE INDICATED: ECHANICAL SHEET METAL 2 HOURS LECTRICAL 4 HOURS LECTRICAL 5HEET METAL 2 HOURS LECTRICAL 5HEET METAL 2 HOURS ERERAL CONTRACTOR ALL SESSIONS HESE DRAWINGS ARE BASED ON THE FOLLOWING CODES: -2018 INTERNATIONAL RESIDENTIAL CODE (WITH STATE OF WASHINGTON AMENDMENTS)	Olson Kundig Seattle, Washington 98704 USA seattle, Washington 98704 USA +1 206 624 5670 disonkundig.comproject:Project:FUSED ELEMENTS4525 FOREST AVE SE MERCER ISLAND, WA 98040
-2019 UNI ONA PLUMING COUL (WIT STATE DE WASTING ON AULNOVENIS) -2019 MASHNOTON STATE ENERGY COUL - RESIDENTIAL PROVISIONS	
DWG       DESCRIPTION       MILLICED N SET       SHETS WTH REVISIONS         DWG       DESCRIPTION       Image: Section of the se	project architect: JMN   project manager: JMN   drawn by: JMN   checked by: PR   job no: 1216-001   revisions:
M5.00HVAC LOAD CALCULATIONSImage: Constraint of the second	sheet: M0.00

# SCHEDULES

	SPLIT SYSTEM HEAT PUMP SCHEDULE – INDOOR UNIT													
EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	NDOC  AIKFLUW,  LO		MIN. OSA,	AUX. HEAT, KW	AUX. HEAT VOLTAGE		TRICAL MOCP	FAN COIL VOLTAGE		RICAL MOCP	BASIS OF DESIGN	CONNECTED OUTDOOR UNIT
FCU-1	JUDY'S STUDIO	VERTICAL	400	WG 0.20	CFM (1)	(240V) N/A		_	_	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-2
FCU-2	GYM	VERTICAL	400	0.20	(1)	N/A	_	_	_	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-2
FCU-3	PLAYROOM	VERTICAL	400	0.20	(1)	N/A	_	_	_	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-2
FCU-4	KITCHEN/LIVING/DINING ROOMS	VERTICAL	900	0.50	(1)	N/A	_	_	_	(2)	(2)	(2)	MITSUBISHI NTXAMT36A112A (3)	HP-1
FCU-5	PRIMARY BEDROOM	HORIZONTAL	570	0.20	(1)	N/A	_	_	_	(2)	(2)	(2)	MITSUBISHI NTXDKS18A112A	HP-1
FCU-6	MEDIA/FAMILY ROOM	VERTICAL	400	0.20	(1)	N/A	_	_	_	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-2
FCU-7	ENTRY	VERTICAL	400	0.20	(1)	N/A	_	_	-	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-2
FCU-8	GUEST SUITE	VERTICAL	400	0.20	(1)	N/A	—	—	—	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-3
FCU-9	BONUS/PLAYROOM	VERTICAL	400	0.20	(1)	N/A	_	—	—	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-3
FCU-10	OFFICE	VERTICAL	400	0.20	(1)	N/A	—	—	—	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-3
FCU-11	GUEST BEDROOM	VERTICAL	400	0.20	(1)	N/A	_	—	—	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-3
FCU-12	KIDS BEDROOM	VERTICAL	400	0.20	(1)	N/A	_	_	—	(2)	(2)	(2)	MITSUBISHI NTXAMT12A112A (3)	HP-3

(2) INDOOR UNIT POWERED FROM OUTDOOR UNIT. (3) PROVIDE MANUFACTURER'S OPTIONAL CONDENSATE PUMP.

			SPLIT SYS	STEM	HEAT PL	JMP	SCHED	ULE	- OU	TDOOR	R UNIT	
EQUIP NO.	SERVICE	CAPACITY, TONS	TOTAL COOLING CAPACITY, BTUH		TOTAL HEATING CAPACITY, BTUH		VOLTAGE	LECTRICAL MCA	МОСР	WEIGHT, LBS	BASIS OF DESIGN (1)(2)(3)(4)	CONNECTED BRANCH BOX
HP-1	PER PLANS	5.0	60,000	17.8	66,000	10.7	230V/1P	46.0	60	310	MITSUBISHI NTXMSM60A182AA	BC-1
HP-2	PER PLANS	5.0	60,000	17.8	66,000	10.7	230V/1P	46.0	60	310	MITSUBISHI NTXMSM60A182AA	BC-2
HP-3	PER PLANS	5.0	60,000	17.8	66,000	10.7	230V/1P	46.0	60	310	MITSUBISHI NTXMSM60A182AA	BC-3

NOTES: (1) ARI LISTED WITH ALL STANDARD FEATURES, INSTALLATION ACCESSORIES AND COMPRESSOR SHORT CYCLING PROTECTION. FILTER DRIVER, REFRIGERANT LINE FILTER, LIQUID SOLENOID VALVE AND SAFETY PRESSURE SWITCHES. INSTALL REFRIGERANT TUBING AND LENGTH IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. (2) PROVIDE ALL REQUIRED ACCESSORIES FOR LOW-AMBIENT AND LONG-LINE APPLICATIONS. (3) ROUTING OF REFRIGERANT LINES FROM INDOOR UNITS TO OUTDOOR UNITS NOT SHOWN ON PLANS. CONTRACTOR TO FIELD COORDINATE ROUTING. (4) REFRIGERANT SHALL BE R-410A.

	BRANCH BOX CONTROLLER SCHEDULE											
EQUIP NO.	SERVICE	NUMBER OF PORTS	ELECTRICAL WEIGH		WEIGHT,		NUMBER OF CONNECTED	CONNECTED INDOOR	CONNECTED OUTDOOR HEAT			
EQUIP NO.			VOLTAGE	MCA	MOCP	LBS.	(1)(2)	INDOOR UNITS	FAN COIL UNITS	PUMP UNIT		
BC-1	PER PLANS	2	(3)	(3)	(3)	22	TAC-MKA31BC	2	FCU-4,5	HP-1		
BC-2	PER PLANS	5	(3)	(3)	(3)	25	TAC-MKA51BC	5	FCU-1,2,3,6,7	HP-2		
BC-3	PER PLANS	5	(3)	(3)	(3)	25	TAC-MKA51BC	5	FCU-8,9,10,11,12	HP-3		

NOTES:(1) INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS. (2) CONTRACTOR TO FIELD COORDINATE ROUTING OF REFRIGERANT PIPING. REFRIGERANT PIPE

ROUTING NOT SHOWN ON PLANS. (3) BRANCH BOX CONTROLLER POWERED FROM OUTDOOR HEAT PUMP UNIT.

	FAN SCHEDULE											
EQUIP NO.	SERVICE	TYPE	AIRFLOW, CFM	ESP. IN WG	ELECTR VOLTAGE	ICAL HP	OPERATION	BASIS OF DESIGN (1)				
EF-1	BATHROOM/POWDER ROOM	CEILING MOUNTED	50	0.25	120V/1P	FHP	(2)	PANASONIC FV-0511VK2 (3)(4)(5)				
EF-2	KILN ROOM	CEILING MOUNTED	100	0.25	120V/1P	FHP	(6)	PANASONIC FV-0511VK2 (4)				
EF-3	STORAGE ROOM	CEILING MOUNTED	250	0.25	120V/1P	FHP	(7)	PANASONIC FV-30VQ3				
EF-4	POOL/SPA MECH ROOM	CEILING MOUNTED	200	0.25	120V/1P	FHP	CONTINUOUS	PANASONIC FV-30VQ3				
EF-5	GYM	CEILING MOUNTED	100	0.25	120V/1P	FHP	(2)	PANASONIC FV-0511VK2 (3)(4)(5)				
EF-6	LAUNDRY ROOM	CEILING MOUNTED	50	0.25	120V/1P	FHP	(2)	PANASONIC FV-0511VK2 (3)(4)(5)				
EF-7	MUD ROOM 103	CEILING MOUNTED	50	0.25	120V/1P	FHP	(2)	PANASONIC FV-0511VK2 (3)(4)(5)				
EF-8	MUD ROOM 113	CEILING MOUNTED	50	0.25	120V/1P	FHP	(2)	PANASONIC FV-0511VK2 (3)(4)(5)				
EF-9	MUD ROOM 206	CEILING MOUNTED	50	0.25	120V/1P	FHP	(2)	PANASONIC FV-0511VK2 (3)(4)(5)				

NOTES: (1) PROVIDE BACKDRAFT DAMPERS ON EXHAUST FANS. (2) FAN SHALL RUN VIA MOTION SENSOR.

(3) 1.0 SONES MAXIMUM.

(4) FAN SHALL BE ENERGY STAR RATED. (5) PROVIDE MANUFACTURER'S OPTIONAL MOTION SENSOR.

(6) FAN SHALL BE INTERLOCKED WITH WALL THERMOSTAT. FAN SHALL TURN ON WHEN ROOM TEMPERATURE REACHES 70° F. (7) FAN SHALL BE INTERLOCKED WITH WALL THERMOSTAT. FAN SHALL TURN ON WHEN ROOM TEMPERATURE REACHES 90° F.

			EN	ERGY R	ECOVE	RY V	enti	LAT	OR		
			MOUNTING/	FAN	ELECTRICAL			SENSIBLE HEAT	BASIS OF DESIGN (1)(2)(3		
	EQUIP NO.	SERVICE	DISCHARGE	AIRFLOW, CFM	ESP. IN WG	VOLTAGE	WATTS	моср	RECOVERY EFFICIENCY	BASIS OF DESIGN (1)(2)(3	
	DOAS-1	PER PLANS	VERTICAL	120	0.4	120V/1P	45	15	0.77	PANASONIC FV-20VEC1	
	NOTES:	OTES: (1) INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.									

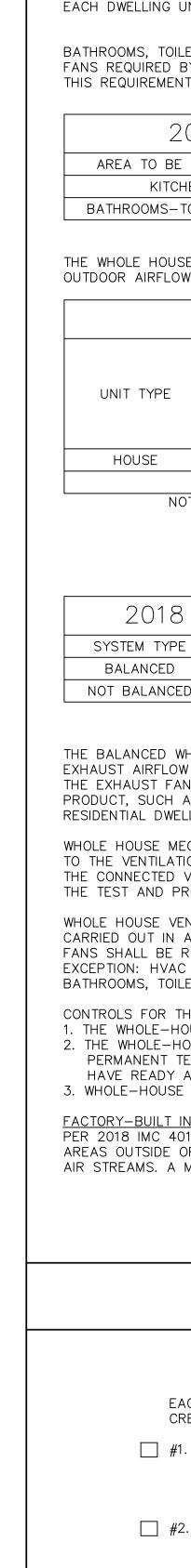
(2) UNIT SHALL RUN CONTINUOUSLY. (3) UNIT SHALL HAVE A MINIMUM MERV 8 FILTER.

		-i			
EQUIP NO.	BASIS OF DESIGN	AIRFLOW, CFM	ELECTRICAL, WATTS	MINIMUM FAN EFFICACY (1)	FAN EFFICACY
EF-1	PANASONIC FV-0511VK2	50	6.2	1.4 CFM/WATT	8.3 CFM/WATT
EF-2	PANASONIC FV-0511VK2	100	13.1	1.4 CFM/WATT	7.7 CFM/WATT
EF-3	PANASONIC FV-30VQ3	250	66.8	2.8 CFM/WATT	4.1 CFM/WATT
EF-4	PANASONIC FV-30VQ3	200	60.0	2.8 CFM/WATT	3.3 CFM/WATT
EF-5	PANASONIC FV-0511VK2	100	13.1	1.4 CFM/WATT	7.7 CFM/WATT
EF-6	PANASONIC FV-0511VK2	50	6.2	1.4 CFM/WATT	8.3 CFM/WATT
EF-7	PANASONIC FV-0511VK2	50	6.2	1.4 CFM/WATT	8.3 CFM/WATT
EF-8	PANASONIC FV-0511VK2	50	6.2	1.4 CFM/WATT	8.3 CFM/WATT
EF-9	PANASONIC FV-0511VK2	50	6.2	1.4 CFM/WATT	8.3 CFM/WATT
DOAS-1	PANASONIC FV-20VEC1	120	45	1.2 CFM/WATT	2.6 CFM/WATT

NOTES: (1) PER 2018 WSEC TABLE R403.6.1.

	DIFF	USER	SCHED	DULE
CALLOUT	DESCRIPTION	AIRFLOW RANGE, CFM	FACE SIZE, IN	BASIS OF DESIGN
CD-1	CEILING DIFFUSER	0-100	8x8	SHOEMAKER 100 O SERIES
CD-2	CEILING DIFFUSER	0-200	12x12	SHOEMAKER 100 O SERIES
CD-3	CEILING DIFFUSER	0-50	6x6	SHOEMAKER 100 O SERIES
CG-1	CEILING GRILLE	0-125	8ø	SHOEMAKER 90 SERIES
CG-2	CEILING GRILLE	0-250	12ø	SHOEMAKER 90 SERIES
CG-3	CEILING GRILLE	0-325	14ø	SHOEMAKER 90 SERIES
EG-1	EXHAUST GRILLE	0-100	8x8	SHOEMAKER 1050 SERIES
FG-1	FLOOR GRILLE	0-100	10x4	SHOEMAKER 375 SERIES
FG-2	FLOOR GRILLE	0-150	10x6	SHOEMAKER 375 SERIES
FG-3	FLOOR GRILLE	0-200	14x6	SHOEMAKER 375 SERIES
FG-4	FLOOR GRILLE	0-250	16x6	SHOEMAKER 375 SERIES
RG-1	RETURN GRILLE	0-100	8x8	SHOEMAKER 1050 SERIES
RG-2	RETURN GRILLE	0-2000	20x20	SHOEMAKER 1050 SERIES
RG-3	RETURN GRILLE	0-750	14x14	SHOEMAKER 1050 SERIES
RG-4	RETURN GRILLE	0-200	10x10	SHOEMAKER 1050 SERIES
RG-5	RETURN GRILLE	0-650	18x12	SHOEMAKER 1050 SERIES
RG-6	RETURN GRILLE	0-325	14x8	SHOEMAKER 1050 SERIES
RG-7	RETURN GRILLE	0-425	18x8	SHOEMAKER 1050 SERIES
RG-8	RETURN GRILLE	0-570	14x14	SHOEMAKER 1050 SERIES
RG-9	RETURN GRILLE	0-600	14ø	SHOEMAKER 90 SERIES
SG-1	SUPPLY GRILLE	0-250	16x6	SHOEMAKER 950 SERIES
SG-2	SUPPLY GRILLE	0-425	20x8	SHOEMAKER 950 SERIES
SG-3	SUPPLY GRILLE	0-175	12x6	SHOEMAKER 950 SERIES
SG-4	SUPPLY GRILLE	0-375	18x8	SHOEMAKER 950 SERIES
SG-5	SUPPLY GRILLE	0-570	14x14	SHOEMAKER 950 SERIES
1 1				

I SCHEDI	JLE	
INSULATION MATERIAL	R–VALUE	VAPOR RETARDEF REQUIRED
MINERAL-WOOL BLANKET	8.0	Y
	INSULATION MATERIAL MINERAL-WOOL	MATERIAL R-VALUE



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# NOTES

WHOLE HOUSE VENTILATION REQUIREMENTS EACH DWELLING UNIT OR SLEEPING UNIT SHALL BE EQUIPPED WITH A WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM THAT COMPLIES WITH SECTIONS M1505.4.1 THROUGH M1505.4.4.

BATHROOMS, TOILET ROOMS, AND KITCHENS SHALL INCLUDE A LOCAL EXHAUST SYSTEM. SUCH LOCAL EXHAUST SYSTEMS SHALL HAVE THE CAPACITY TO EXHAUST THE MINIMUM AIRFLOW RATE IN ACCORDANCE WITH TABLE M1505.4.4(1). FANS REQUIRED BY THIS SECTION SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OR AUTOMATIC OCCUPANCY SENSOR, HUMIDITY SENSOR OR POLLUTANT SENSOR CONTROLS. AN "ON/OFF" SWITCH SHALL MEET THIS REQUIREMENT FOR MANUAL CONTROLS. MANUAL FAN CONTROLS SHALL BE READILY ACCESSIBLE IN THE ROOM SERVED BY THE FAN.

2018 IRC	TABLE M1505.	4.4(1)
BE EXHAUSTED	INTERMITTENT	CONTINUOUS
TCHENS	100 CFM	30 CFM
-TOILET ROOMS	50 CFM	20 CFM

THE WHOLE HOUSE VENTILATION SYSTEM SHALL CONSIST OF AN ERV/HRV WITH INTEGRAL FANS; AND THE ASSOCIATED DUCTS AND CONTROLS. THE SYSTEM SHALL BE DESIGNED AND INSTALLED TO SUPPLY AND EXHAUST THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS CORRECTED BY THE BALANCED AND/OR DISTRIBUTED WHOLE-HOUSE VENTILATION SYSTEM COEFFICIENTS IN ACCORDANCE WITH SECTION M1505.4.3.1. BUILDING 1 RESIDENTIAL VENTILATION CALCULATIONS

	DUIL		<b>LUDLINII</b>	AL VLIVIII		CALCOLATIO	N D	
ΈE	TOTAL SQUARE FOOTAGE	NUMBER OF BEDROOMS						
			NUMBER OF BEDROOMS	FLOOR AREA (SQUARE FEET)	REQUIRED CFM	VENTILATION QUALITY ADJUSTMENT COEFFICIENT (3)	MINIMUM VENTILATION RATE REQUIRED	TOTAL CFM PROVIDED BY ERV/HRV
Ε	6,440	4	4	6,440	94	1.0	102	120
NOTE:	(1) VENTILATION	I CRITERIA IS F	PER THE 2018 IRC	C, CHAPTER 15, E	QUATION 15-	·1.		

(2) MINIMUM OSA FOR CONTINUOUSLY OPERATING FAN(S). (3) ADJUSTMENT COEFFICIENT IS PER 2018 IRC, TABLE M1505.4.3(2) FOR A BALANCED AND DISTRIBUTED WHOLE HOUSE VENTILATION SYSTEM.

8	RC	TABLE	M15	05.4.3(2)
ΈE		DISTRIBUTE	D	NOT DISTRIBUTED
D		1.0		1.25
CED		1.25		1.5

THE BALANCED WHOLE HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5 CFM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST FANS IN A PACKAGED PRODUCT, SUCH AS AN ERV/HRV SHALL MEET THE REQUIREMENTS OF HVI 920, AS APPLICABLE. INTERMITTENT DRYER EXHAUST, INTERMITTENT RANGE HOOD EXHAUST, AND INTERMITTENT TOILET ROOM EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATIONS. WHOLE HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS, OUTLET TERMINALS OR GRILLES OR IN

THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7. WHOLE HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WASHINGTON STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHOLE HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.3.1. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MINIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN. W.C. (25 PA) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTION M1505.4.1.2 AND M1505.4.1.3. EXCEPTION: HVAC AIR HANDLERS, ERV/HRV UNITS, AND REMOTE MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS. TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FEET OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.

CONTROLS FOR THE WHOLE-HOUSE VENTILATION SYSTEM SHALL COMPLY WITH THE FOLLOWING: 1. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT HAVE READY ACCESS FOR THE OCCUPANT. 2. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING; "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL HAVE READY ACCESS FOR THE OCCUPANT. 3. WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS ARE PROVIDED IN ACCORDANCE WITH SECTION M1505.4.3.2. FACTORY-BUILT INTAKE/EXHAUST COMBINATION TERMINATIONS

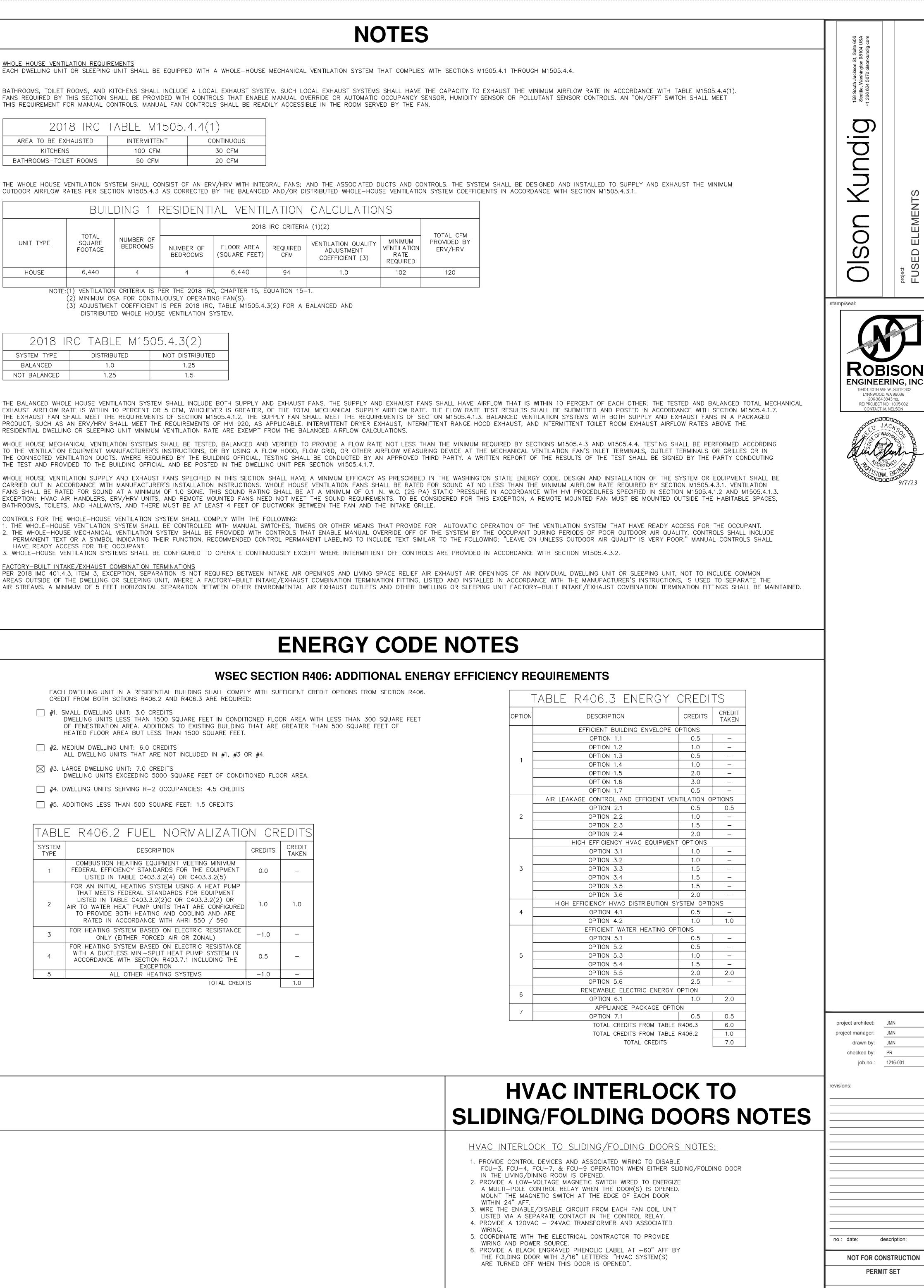
PER 2018 IMC 401.4.3, ITEM 3, EXCEPTION, SEPARATION IS NOT REQUIRED BETWEEN INTAKE AIR OPENINGS AND LIVING SPACE RELIEF AIR EXHAUST AIR OPENINGS OF AN INDIVIDUAL DWELLING UNIT OR SLEEPING UNIT, NOT TO INCLUDE COMMON AREAS OUTSIDE OF THE DWELLING OR SLEEPING UNIT, WHERE A FACTORY-BUILT INTAKE/EXHAUST COMBINATION TERMINATION FITTING, LISTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, IS USED TO SEPARATE THE AIR STREAMS. A MINIMUM OF 5 FEET HORIZONTAL SEPARATION BETWEEN OTHER ENVIRONMENTAL AIR EXHAUST OUTLETS AND OTHER DWELLING OR SLEEPING UNIT FACTORY-BUILT INTAKE/EXHAUST COMBINATION TERMINATION FITTINGS SHALL BE MAINTAINED.

# **ENERGY CODE NOTES**

## WSEC SECTION R406: ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

	H DWELLING UNIT IN A RESIDENTIAL BUILDING SHALL COMPL DIT FROM BOTH SCTIONS R406.2 AND R406.3 ARE REQUIRE		FFICIENT C	REDIT OPTIONS FROM SECTION R406.	TA
	SMALL DWELLING UNIT: 3.0 CREDITS DWELLING UNITS LESS THAN 1500 SQUARE FEET IN CONDIT OF FENESTRATION AREA. ADDITIONS TO EXISTING BUILDING HEATED FLOOR AREA BUT LESS THAN 1500 SQUARE FEET.	THAT ARE			
	MEDIUM DWELLING UNIT: 6.0 CREDITS ALL DWELLING UNITS THAT ARE NOT INCLUDED IN #1, #3 (	DR #4.			
	LARGE DWELLING UNIT: 7.0 CREDITS DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDIT	TIONED FLO	OR AREA.		
#4.	DWELLING UNITS SERVING R-2 OCCUPANCIES: 4.5 CREDITS				
<b>#</b> 5.	ADDITIONS LESS THAN 500 SQUARE FEET: 1.5 CREDITS				2
BL	E R406.2 FUEL NORMALIZATIC	N CR	EDITS		
TEM PE	DESCRIPTION	CREDITS	CREDIT TAKEN		
1	COMBUSTION HEATING EQUIPMENT MEETING MINIMUM FEDERAL EFFICIENCY STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3.2(4) OR C403.3.2(5)	0.0	_		3
2	FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR EQUIPMENT LISTED IN TABLE C403.3.2(2)C OR C403.3.2(2) OR AIR TO WATER HEAT PUMP UNITS THAT ARE CONFIGURED TO PROVIDE BOTH HEATING AND COOLING AND ARE RATED IN ACCORDANCE WITH AHRI 550 / 590	1.0	1.0		4
3	FOR HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY (EITHER FORCED AIR OR ZONAL)	-1.0	_		
4	FOR HEATING SYSTEM BASED ON ELECTRIC RESISTANCE WITH A DUCTLESS MINI-SPLIT HEAT PUMP SYSTEM IN ACCORDANCE WITH SECTION R403.7.1 INCLUDING THE EXCEPTION	0.5	_		5
5	ALL OTHER HEATING SYSTEMS	-1.0	—		
	TOTAL CREDIT	rs	1.0		6
					7

HVA SLIDING
<ul> <li>HVAC INTERLOCK</li> <li>PROVIDE CONTROL DI FCU-3, FCU-4, FCU IN THE LIVING/DININ</li> <li>PROVIDE A LOW-VOL A MULTI-POLE CON MOUNT THE MAGNET WITHIN 24" AFF.</li> <li>WIRE THE ENABLE/DI LISTED VIA A SEPAF</li> <li>PROVIDE A 120VAC - WRING.</li> <li>COORDINATE WITH TH WRING AND POWER</li> <li>PROVIDE A BLACK EI THE FOLDING DOOR ARE TURNED OFF WING</li> </ul>

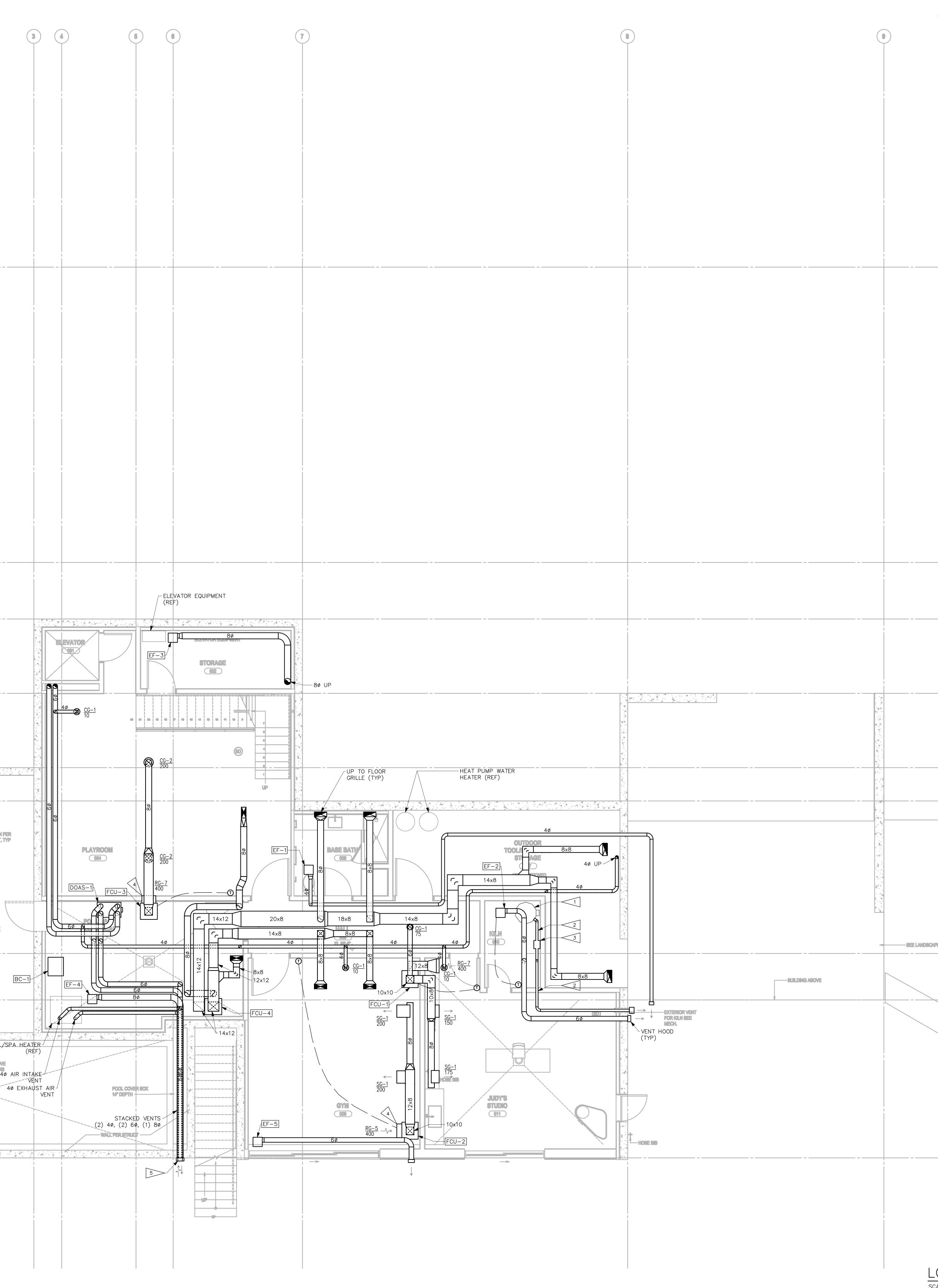


**ENERGY CODE NOTES SCHEDULES** 

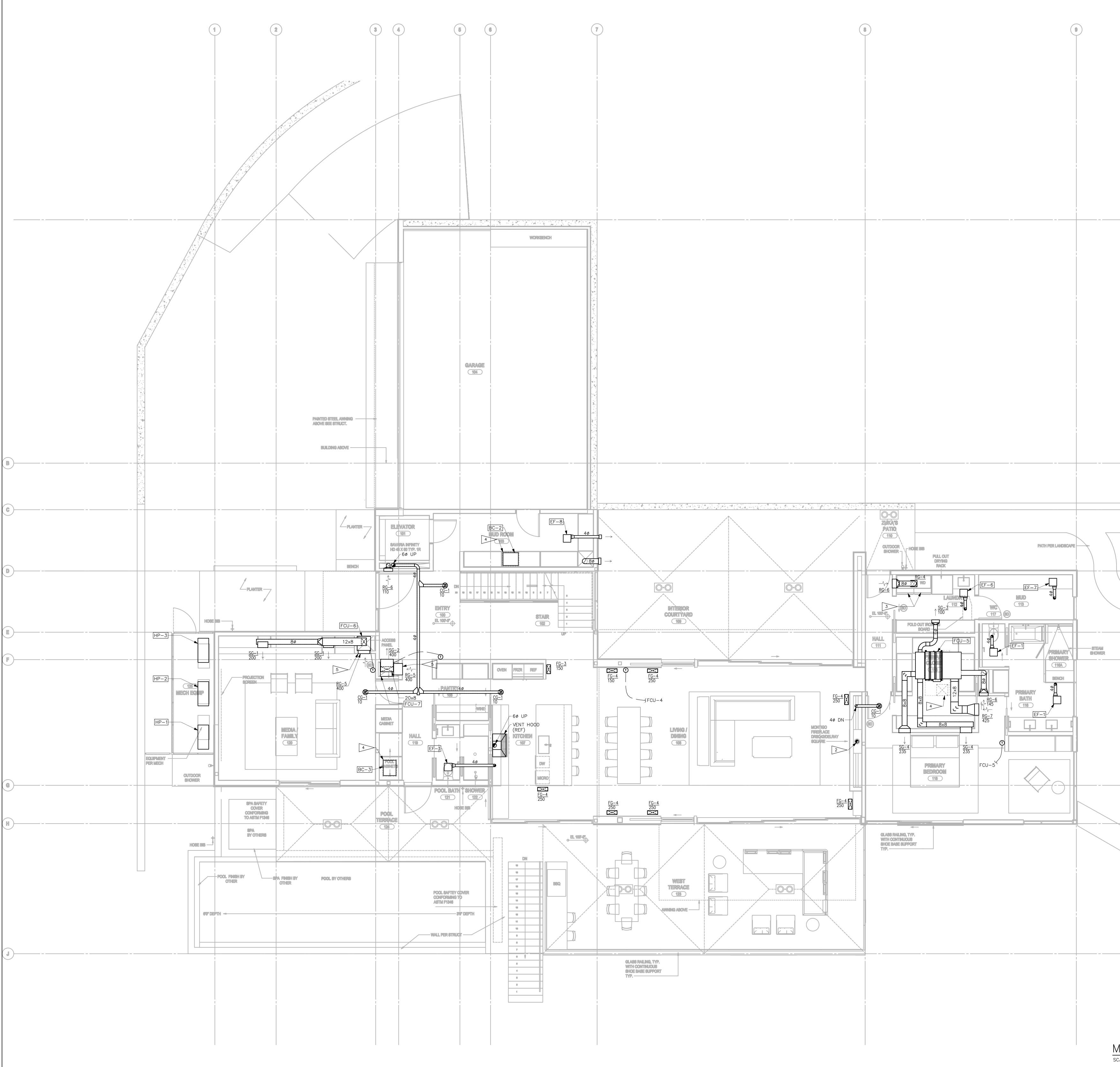
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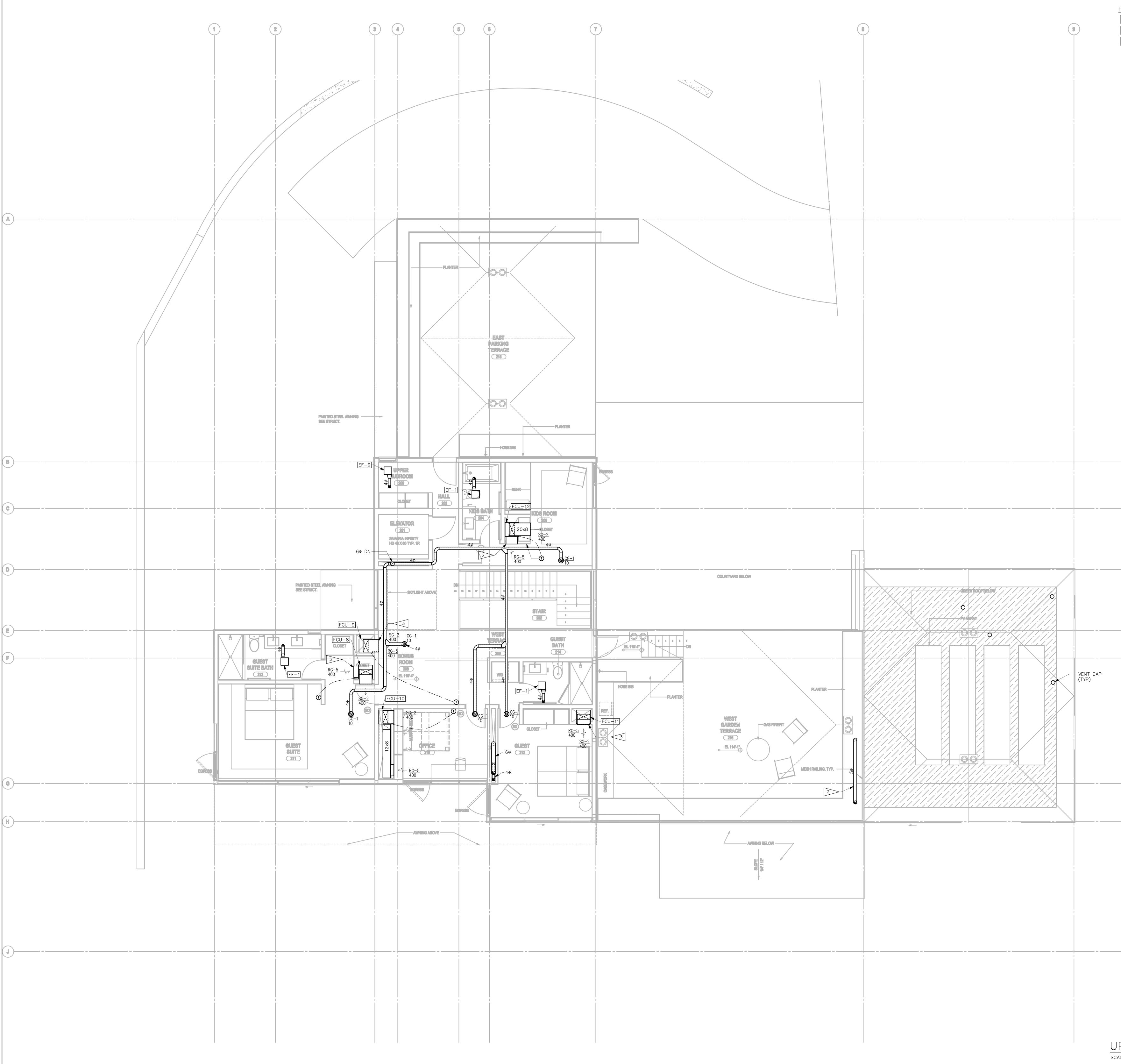
			1	2	
C					
<b>D</b>	 	 			
					COLUMN P STRUCT, T
G	 	 			CRAWLSPACE
H	 		SPA ABC BY OTHE		POOL/
			POOL FINISH BY OTHER	SPA_FINISH BY -POO OTHER	L CLEAN OUT BY OTHERS 40
J	 				



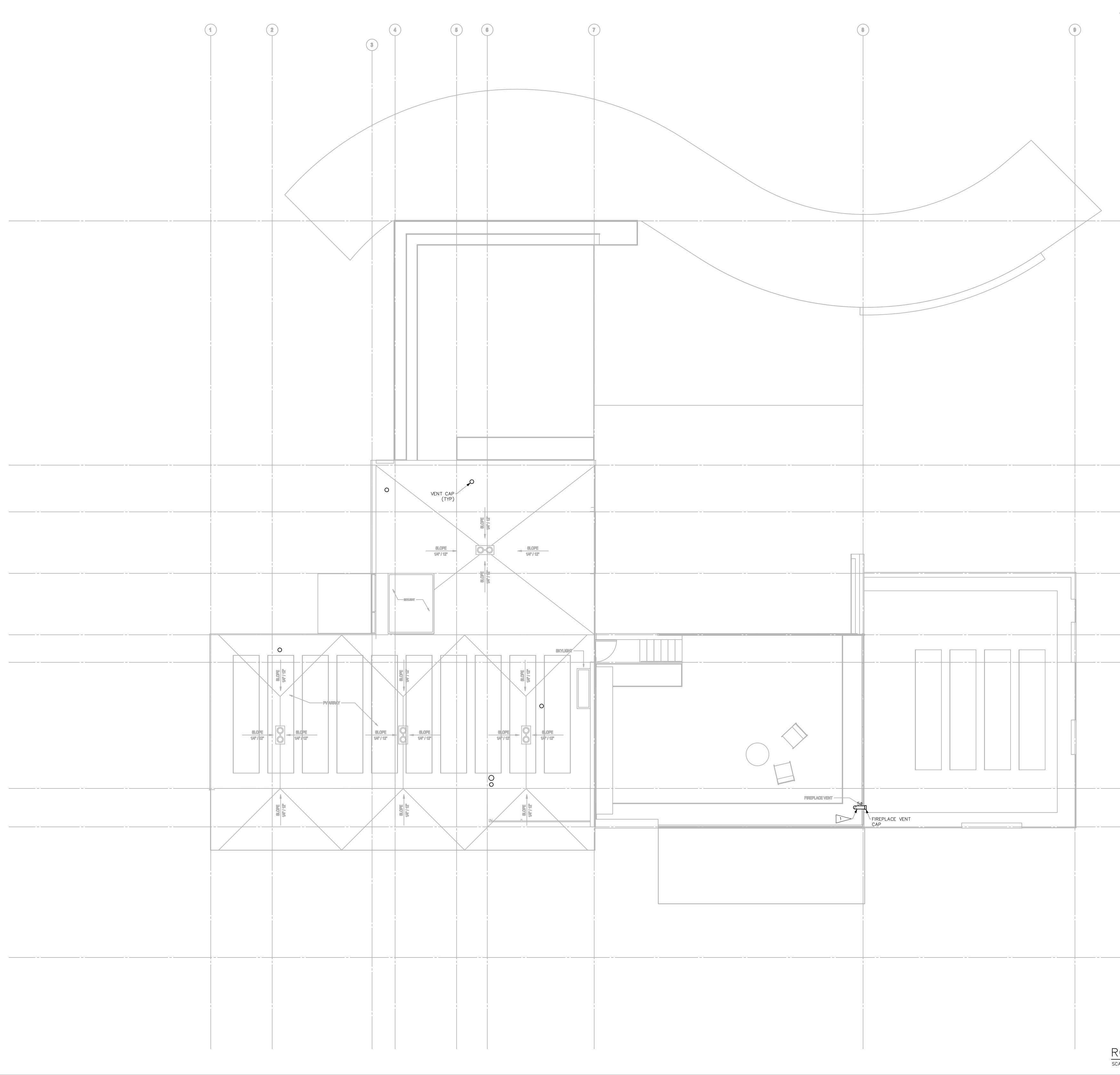
FLAG 1 2 3 4 5	NOTES: KILN (REF). SKUTT KM–1027. DUCTING FOR KILN SHALL BE SIZED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SKUTT OPTIONAL VENT KIT (REF). SKUTT ENVIROVENT 2. BOTTOM OF RETURN GRILLE SHALL BE 2" AFF. VENT HOOD (TYP OF 5). EXHAUST AIR VENT HOOD TERMINATIONS SHALL BE A MINIMUM OF 3 FEET ABOVE THE OUTSIDE AIR INTAKE VENT HOODS.	DISOD Kundig       159 South Jackson St, Suite 600 Seattle, Washington 89104 USA seattle, Washington 99104 USA seatt
	(A)	stamp/seal:
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PE		project architect: JMN project manager: JMN drawn by: JMN checked by: PR job no.: 1216-001
		revisions:
	J	
	$\frac{1}{2} = 1^{2} - 0^{2}$	<sup>sheet:</sup> M2.10



FLAG NOTES:         POC RANGE HOOD.         FIREPLACE VENT. CONFIRM SIZE WITH MFR.         VENTLESS HEAT PUMP DRYER.         ACCESS PANEL.         BOTTOM OF RETURN GRILLE SHALL         BE 2" AFF.	Olson kundig 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
	stamp/seal:	ING, INC , SUITE 302 A 98036 3 TEL 1005-002 ELSON
	project manager: JN drawn by: JN checked by: PI	/N /N /N R 216-001
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IAIN LEVEL FLOOR PLAN CALE: 1/4" = 1'-0"	sheet: M2.	



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PPER LEVEL FLOOR PLAN $ALE: 1/4" = 1'-0"$	L sheet: M2.30



L COPYRIGHT 2023, ROBISON ENGINEERING, INC. MNELSON F:\1216-001 FUSED ELEMENTS RESIDENCE (CHASE)\DWG\P2\_00 FLOOR PLANS.DWG 06-08-2023 14:37

FLAG NOTES: FIREPLACE VENT. CONFIRM SIZE WITH MFR.	Image: South Jackson St, Suite 600         Colson Kundig com         Reattle, Washington 98704 USA         Project:         Image: Project Elements         4525 FOREST AVE SE MERCER ISLAND, WA 98040
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(G)	project architect:       JMN         project manager:       JMN         drawn by:       JMN         checked by:       PR         job no.:       1216-001         revisions:
$\frac{200F PLAN}{CALE: 1/4" = 1'-0"}$	<sup>sheet:</sup> M2.40

## HEAT PUMP WATER HEATER **NEEA RATING**

integrated Wate	r Heaters						CTA-2045		
			Volume	Maximum Recommended		niform Energy Facto	Compliant Communication		
Product Tier Tier 4	Product Brand	Model"	(gallers)	Household Size	Efficiency (CCE) <sup>9</sup>	(UEP)	Part	tligible <sup>4</sup>	Qualified Dat
	A.O. Smith A.O. Smith	HPTS-50 2** HPS10-50H450V 2**	50 50	2-3 2-3	3.4 3.4	3.80 3.80	x	x	6/16/22 6/16/22
	A.O. Smith A.O. Smith	HPTS-66.2** HPS10-66H45DV.2**	66 65	3	3.5 3.5	4.02	x x	x	6/16/22 6/16/22
	A.O. Smith	HPTS-80.2**	80	4+	3.4	3.88	х	x	6/16/22
	A.O. Smith American	HP510-80H450V 2** HP510250H0450V 2**	80 50	4+ 2-3	3.4	3.88	x x	x x	6/16/22
	American	HP510266H0450V 2**	66	3	3.5	4.02	x	x	6/16/22
	American American Standard	HP510280H0450V 2** ASHPWH-50	50	4+ 2	3.4 8.2	3.88	x	x	6/16/22
	American Standard	ASHPWH-50-JA13	50	2	3.2	3.75	к		1/1/23
	American Standard American Standard	ASHPWH-80 ASHPWH-80-JA13	80	4	3.1 3.1	4.01	x	x	1/1/23
	Bradford White	RE2H50510-1NCTT-CON	50	2-3	3.0	3.44	x	x	1/13/23
	Bradford White Bradford White	RE2H65T10-1NCTT-CON RE2H80T10-1NCTT-CON	65 80	3 4+	3.2 3.2	3.64	x	x	1/13/23 1/13/23
	Direct Energy	ECEPH40 T2 RH375-15	40	2	3.1	3.45	x	x	10/23/20
	Direct Energy Direct Energy	ECEPH50 T2 RH375-15 ECEPH65 T2 RH375-15	50	2-3	3.2	3.75	x x	X	10/23/20 10/23/20
	Direct Energy	ECEPH80 T2 RH375-15	80	4	3.2	3.70	x		10/23/20
	Direct Energy Direct Energy	ECEPH40 T2 RH375-30 ECEPH50 T2 RH375-30	40	2	3.1 3.2	3.75	x	x	10/23/20 10/23/20
	Direct Energy	ECEPH65 T2 RH375-30	65	2-3	3.2	3.85	x	x	10/23/20
	Direct Energy Direct Energy	ECEPH80 T2 RH375-30 ECEPH40 T2 RH375-50	80	4	3.2 3.1	4.00	x x		10/23/20 10/23/20
	Direct Energy Direct Energy	ECEPH50 T2 RH375-S0 ECEPH65 T2 RH375-S0	50	2-3	3.2	3.75	x	*	10/23/20 10/23/20
	Direct Energy	ECEPH80 T2 RH375-50	80	4	3.2	4.00	x	x	10/23/20
	Lochinvar Lochinvar	HPSADSOKD 2** HPSAD65KD 2**	50	2-3	3.4	3.80	x x	x	6/16/22 6/16/22
	Lochinvar	HPSADBOKD 2**	80	4+	3.4	3.88	x	*	6/16/22
	Reliance	10-50-DHPTS 2** 10-66-DHPTS 2**	50	2-3	3.4	3.80	x	X	6/16/22 6/16/22
	Reliance	10-80-DHPTS 2**	80	4+	3.4	3.88	x	x	6/16/22
	Rheem	HPLD40-1RH HPLD50-1RH	40	2	3.1	3.75	x	*	10/23/20 10/23/20
	Rheem	HPLD65-1RH	65	2-3	3.2	3.85	ж	x	10/23/20
	Rheem	HPLD8D-18H PROPH40 T2 RH375-15	40	4	3.2	4.00	x		10/23/20 4/23/20
	Rheem	PROPHS0 T2 8H375-15	50	2-3	3.2	3.75	x	x	4/23/20
	Rheem	PROPHES T2 RH375-15 PROPHED T2 RH375-15	65 80	3 4+	3.2	3.55	x		4/23/20 4/23/20
	Rheem	PROPH40 T2 8H375-30	40	2	3.1	3.75	×	x	4/23/20
	Rheem	PROPH50 T2 RH375-30 PROPH65 T2 RH375-30	50	2-3	3.2 3.2	3.75	x x	x	4/23/20 4/23/20
	Rheem	PROPHIBD T2 RH375-30	80	4+	3.2	4.00	x	x	4/23/20
	Rheem	PROPH40 T2 RH375-SO PROPH50 T2 RH375-SO	40	2	3.1 3.2	3.75	x x		4/23/20 4/23/20
	Rheem	PROPHES T2 RH375-SO PROPHED T2 RH375-SO	65	3	3.2	3.85	x		4/23/20
	Rheem	XE40T10H22U0	80 40	4+	3.2	4.00 3.45	x	x	4/23/20 4/23/20
	Rheem Rheem	XE50710H22U0 XE65710H22U0	50 65	2-3	3.2	3.75	x	x	4/23/20 4/23/20
	Rheem	XE80710H22U0	80	4+	3.2	3.70	x	x	4/23/20
	Rheem	XE40730H45U0 XE50730H45U0	40	2-3	3.1 3.2	3.75	x	x	4/23/20 4/23/20
				Maximum	a standard		Compliant	2023 Tax	
Product Tier	Product Brand	Model"	(gallom)	Recommended Household Size	Cool Climate U Efficiency (CCE)*	niform Energy Facto (UEF)	Communication Port <sup>1</sup>	1 Credit Eligible <sup>4</sup>	Qualified Da
Tier 3 continued	Rheem Rheem	HPL050 HPL065	50	2-3	3.2	3.55		x	12/6/17
	Rheem	HPL080	80	4	3.4	3.70	-	×	12/6/17
	Rheem	PRO H40 T2 RH3508M PRO H40 T2 RH350UM	40	2	2.9	3.50	-	x	4/23/20 11/23/20
	Rheem	PRO H50 T2 RH3108M	50	2-3	2.9	3.50	-	x	4/23/20
	Rheem	PRO HS0 T2 RH310UM PRO HS0 T2 RH350BM	50	2-3	3.2	3.50	-	x	11/23/20 8/20/18
	Rheem	PRO H65 T2 RH3108M	65	2-3	2.9	3.50	-	x	4/23/20
	Rheem Rheem	PRO H65 T2 RH310UM PRO H65 T2 RH3508M	65	2-3	2.9	3.50	-	×	11/23/20 8/20/18
	Rheem	PRO H80 T2 RH3108M	80	4	2.9	3.50	-	x	4/23/20
	Rheem	PRO H80 T2 #H310UM PRO H80 T2 #H350BM	80	4	2.9	3.50		x	11/23/20 8/20/18
	Rheem	PROPHSO T2 RH350 DC	50	2-3	3.2	3.55	-	×	12/6/17
	Rheem	PROPH65 T2 RH350 DC PROPH80 T2 RH350 D	65 80	2-3	3.4	3.70	-	x	12/6/17 10/24/16
	A. O. Smith A. O. Smith	HPTU 50N *** HPTU 66 120	50 66	2-3	2.9	3.45	-	-	6/24/16 6/24/16
	A. O. Smith	HPTU 66N ***	66	3	3.1	3.45	-	x	6/24/16
	A. O. Smith A. O. Smith	HPTU 80 120 HPTU 80N	80 80	4+ 4+	2.9 2.9	2.73 3.45	-	x	6/24/36
	A. O. Smith A. O. Smith	HPTU-SOCTA 130 HPTU-SOOR 130	50	2-3	2.9	3.45	x	x	1/18/21 10/14/20
	A. O. Smith	HPTU-66CTA 130	66	3	3.1	3.45	x		1/18/21
	A. O. Smith A. O. Smith	HPTU-66DR 130 HPTU-80CTA 130	66 80	3 6+	3.1 2.9	3.45	x		10/14/20 1/18/21
	A. O. Smith	HPTU-800R 130	80	4+	2.9	3.45	x		10/14/20
	American American	HPHE10250H0450V 120 HPHE10250H0450VCTA 130	50	2-3	2.9	3.42			6/24/36
	American	HPHE10250H0450VDR 130	50	2-3	2.9	3.45	x	x	10/14/20
	American	HPHE10250H045DVN *** HPHE10256H045DV 120	50	2-3	2.9	3.45 3.52	-	x	6/24/16
	American	HPHE10266H045DVCTA 130 HPHE10266H045DVDR 130	66	3	3.1	3.45	x		1/18/21
	American	HPHE10266H0450V0K 190	66 65	3	3.1	3.45	×	x	10/14/20 6/24/16
	American American	HPHE10280H0450V 120 HPHE10280H0450VCTA 130	80	4+ 4+	2.9	2.73 3.45		-	6/24/16 1/18/21
	American	HPHE10280H0450VDR 130	80	4+	2.9	3.45	x	- x	10/14/20
	American Bradford White	HPHE10280H0450VN *** RE2H50510-****	80	4+ 2-3	2.9	3.45	-	*	6/24/36 2/8/18
	Bradford White	RE2H65T10-****	65	1	3.0	3.39	-	x	3/26/20
	Bradford White Direct Energy	RE2H80T10-**** ECE H40 T2 RH310BM	80	4+	3.1 2.9	3.48	-	*	2/8/18
	Direct Energy	ECE H50 T2 RH3108M	50	2-3	2.9	3.50	-		10/23/20
	Direct Energy Direct Energy	ECE H65 T2 RH3108M ECE H80 T2 RH3108M	65	2-3	2.9	3.50	-		10/23/20 10/23/20
	Kenmore	153.5925	50	2-3	2.9	2.9	-	-	6/24/16
	Kenmone Kenmone	153.5926	66 80	3 6+	3.1 2.9	3.1 2.9	-	-	6/24/36 6/24/36
	Lochinvar	HPA051KD 120	50	2-3	2.9	3.42			6/24/16
	Lochinvar	HPA052KD *** HPA067KD 120	50	2-3	2.9	3.45	-		6/24/16
	Lochinvar	HPA068KD ***	66	3	3.1	3.45		х	6/24/16
	Lochinvar	HPA081KD 120 HPA082KD ***	80	6+ 4+	2.9	2.73 3.45	-	- X	6/24/16
	Reliance	10 50 DHPHT 120	50	2-3	2.9	3.42	-	x	6/24/16
	Reliance	10 50 DHPHTNE *** 10 66 DHPHT 120	50	2-3	2.9	3.45	-	-	6/24/16 6/24/16
	Reliance	10 66 DHPHTNE ***	66	3	8.1	3.45		х	6/24/16
	Reliance	10 80 DHPHT 120 10 80 DHPHTNE ***	80	4+ 4+	2.9	2.73	-	-	6/24/35
	Reliance	10-50-DHPHTCTA 130	50	2-3	2.9	3.45	x	x	1/18/21
	Reliance	10-50-DHPHTDR 130 10-66-DHPHTCTA 130	50	2-3	2.9	3.45	x	x	10/14/20
	Reliance	10-66-DHPHTDR 130	66	3	3.1	3.45	ж		10/14/20
	Reliance Reliance	10-80-DHPHTCTA 130 10-80-DHPHTDR 130	80	4+ 4+	2.9	3.45	x	I I	1/18/21 10/14/20
				Maximum	faul (Emple		Compliant	2023 Tax	
Product Tier	Product Brand	Model	Volume (gallens)	Recommended Household Size	Efficiency (CCE) <sup>b</sup>	niform Energy Facto (UEF)	Port	Eligible	Oselfied Da
Tier 3 continued	Rheem	HPLD50 HPLD65	50 65	2-3 2-8	3.2 3.4	3.55 3.70	-		12/6/17 12/6/17
	Rheem	HPL080	80	4	3.4	3.70		X	12/6/17
	Rheem	PRO H40 T2 RH3106M PRO H40 T2 RH310UM	40	2	2.9	3.50		х х	4/23/20 11/23/20
	Rheem	PRO HS0 T2 RH3306M PRO HS0 T2 RH3306M	50	2-3	2.9	3.50	-	x	4/23/20
	Rheem	PRO HS0 T2 RH350EM PRO HS0 T2 RH350EM	50	2-3 2-3	2.9 3.2	3.50	× -	X	11/23/20 8/20/18
	Rheem	PRO H65 T2 RH3108M	65	2-3	2.9	3.50	-	x	4/23/20
	Rheem	PRO H65 T2 8H330UM PRO H65 T2 8H350BM	65	2-3 2-3	2.9 3.4	3.50	*	- 1	11/23/20 8/20/18
	Rheem	PRO H80 T2 RH3508M	80	- 4	2.9	3.50	-	x	4/23/20
	Rheem	PRO H80 T2 #H310UM PRO H80 T2 #H350EM	80	4	2.9	3.50	- X	x	8/20/18
	Rheem	PRO HED 12 KHUSUEW	84						
	Rheem Rheem Rheem	PROPH50 T2 RH350 DC PROPH55 T2 RH350 DC	50	2-3 2-3	3.2 3.4	3.55	-	x	12/6/17 12/6/17

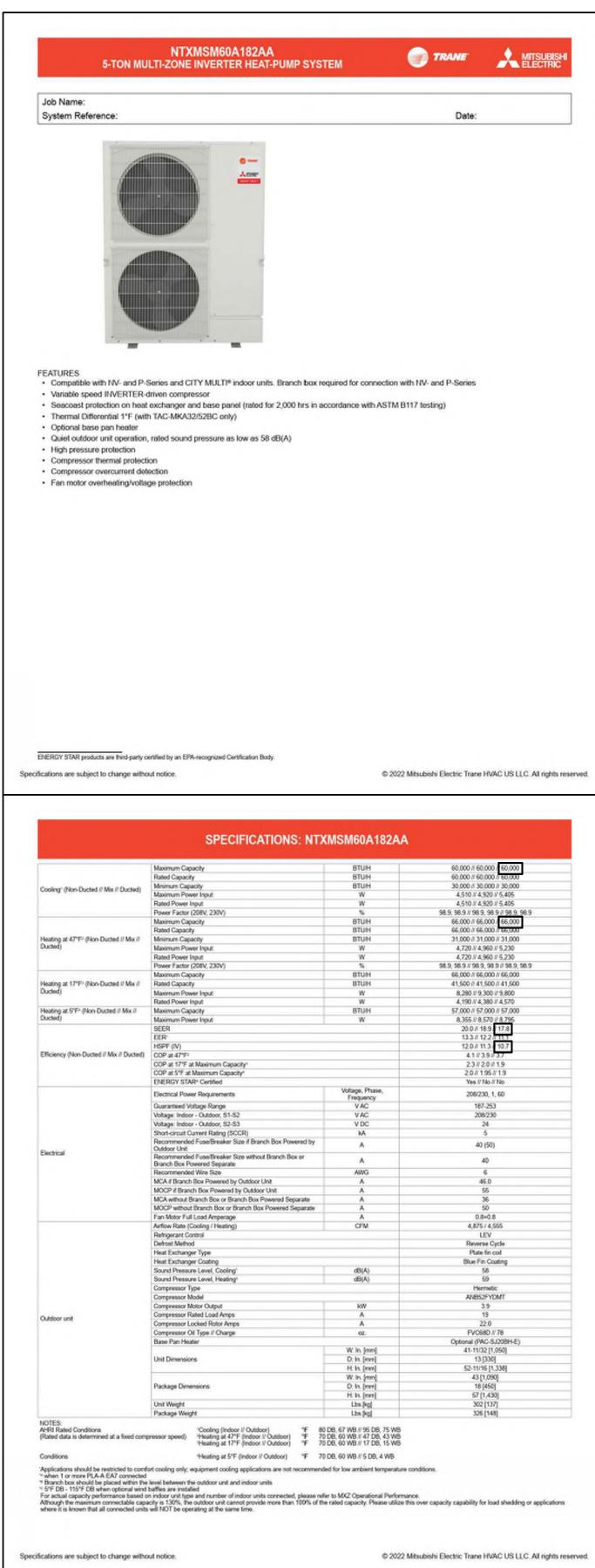


# **EQUIPMENT DATA SHEETS**

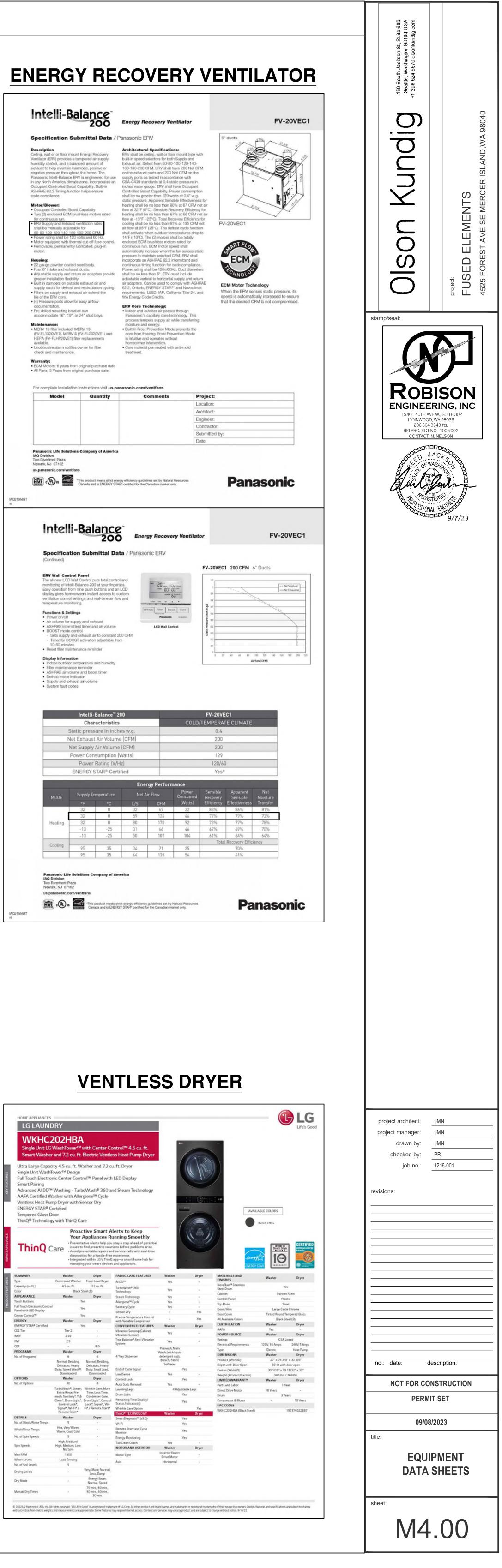
# HEAT PUMP WATER HEATER

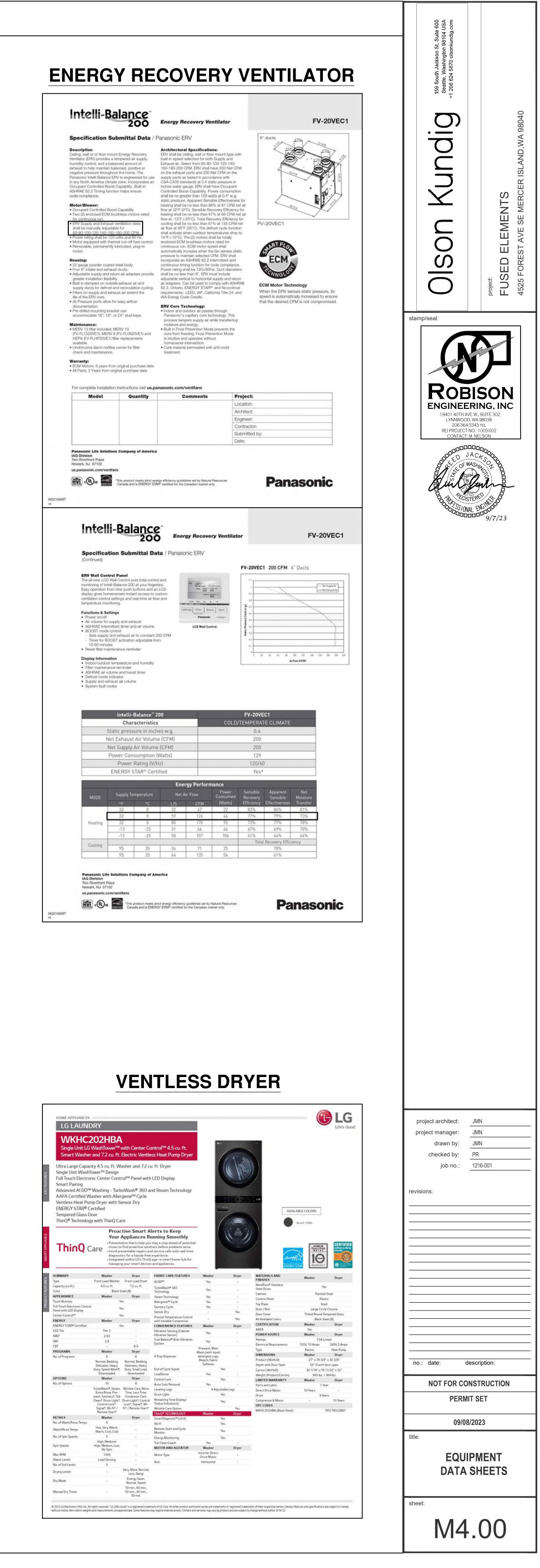
	<b>3</b> .			
Specification Submittal Data / F	anasonic Ventilatio	n Fan		
Description Ventilating fan shall be Low Noise ceiling mount type rated for continuous run. Fan shall be ENERGY STAR® rated and certified by the Home Ventilating Institute (HVI). Evaluated by Underwriters Laboratories and conform to both I, and oUL safety standards.	Attaches directly to Warranty: ALL Parts: For perio	Attractive design using PP material.     Attaches directly to housing with torsion springs.		
Motor/Blower: • Four-pole totally enclosed condenser motor sted for continuous run. • Power Rating shall be 120 volts and 60 Hz. • Fan shall be UL listed for tub/shower enclosure when used with a GFCI branch circuit wring. • Motor equipped with thermal-outoff fuse. • Removable with permanently lubricated plug-in motor.	no less than 243 CFM w.g. Power Consump	of the ceiling mo with no less than in 2.0 sones as o institute (HVI) at 0 for gauge (w.g.) a l as certified by H tion shall be no g and 65.8 watts o	1280 entitled by In statio and with W at 0.25 reater than at 0.25 w.g.	
Housing: • Rust proof paint, galvanized steel body. • 6° diameter duct adaptor. • Built in backdraft damper. • Expandable extension bracket up to 26°.	than 4.6 CFM/watt at at 0.25 w.g. The moto four pole condenset by continuously. Power in Duct diameter shall be be UL and cUL listed when used with GFCI shall be ASHRAE 62.3 EarthCraft, California 1 Code compliant.	0.1 w.g. and 4.1 r shall be totally of the engineered to sting shall be120 a no less than 6*, for tub/shower en- branch circuit will 2, LEED, ENERGY	CFM/watt enclosed, FV-30VQ3 coperate w60Hz, Fan shall ring, Fan Y STAR IAP,	
Spacefications: WhienarCailing P	(-20VD2 e*	Duct	G 1.00	
Specifications: WhisperCeiling FV Static Pressure in inches wg.	0.1	0.25	0.00 ¥	
		243		
Air Volume (CFM)	280	2.40		
	280	2.5	1 0.60	
Air Volume (CFM)			9.00 grant	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt)	2.0 67.1 4.6	2.5 65.8 4.1	$\sim$	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM)	2.0 67.1 4.6 877	2.5 65.8 4.1 990	$\sim$	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps)	2.0 67.1 4.5 877 0.53	2.5 65.8 4.1 990 0.62	0.40	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated	2.0 67.1 4.6 877 0.53	2.5 65.8 4.1 990 0.52 YES		
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VAQ Code As of date 4/11	2.0 67.1 4.6 877 0.53	2.5 65.8 4.1 990 0.52 YES	0.40	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VAQ Code	2.0 67.1 4.6 877 0.53	2.5 65.8 4.1 990 0.52 YES YES		
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VIAQ Code As of dase 4/11 For complete Installation Instructions Visit <b>us</b> .	2.0 67.1 4.5 877 0.53 panasonic.com/ventfa	2.5 65.8 4.1 990 0.52 YES YES	0.40 0.20 0.00 0 50 100 150 200 250 30 Airford	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VIAQ Code As of dase 4/11 For complete Installation Instructions Visit <b>us</b> .	2.0 67.1 4.5 877 0.53 panasonic.com/ventfa	2.5 65.8 4.1 990 0.52 YES YES	0.40 0.20 0.50 100 150 200 250 50 Artown	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VIAQ Code As of dase 4/11 For complete Installation Instructions Visit <b>us</b> .	2.0 67.1 4.5 877 0.53 panasonic.com/ventfa	2.5 65.8 4.1 990 0.52 YES YES	0.40 0.20 0.50 100 150 200 250 30 Antique Location:	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VIAQ Code As of dase 4/11 For complete Installation Instructions Visit <b>us</b> .	2.0 67.1 4.5 877 0.53 panasonic.com/ventfa	2.5 65.8 4.1 990 0.52 YES YES	Project: Location: Architect:	
Air Volume (CFM) Noise (sones) Power Consumption (watts) Energy Efficiency (CFM Watt) Speed (RPM) Current (amps) ENERGY STAR rated Washington State VIAQ Code As of dase 4/11 For complete Installation Instructions Visit <b>us</b> .	2.0 67.1 4.5 877 0.53 panasonic.com/ventfa	2.5 65.8 4.1 990 0.52 YES YES	Project: Location: Architect: Engineer:	

## HEAT PUMP



Whice.	sree al anti	<b>P</b> FV-0511VK2
	STGTCCISclect Submittal Data / Panasonic Ventilation Fan	Buit-to Suit Adjusting Arthon Copability
ENERGY STAR® rate	nount ventifiating fan, low sone and rated for continuous operation. d'and certified by the Home Ventifiating, Institute (F-VI), Evaluated	4" or 6" duct
Motor/Blower: • Enclosed brushless	aboratories and conforms to both UL and cUL standards <u>ECM smart motor technology rated for continuous operation</u>	Poizo
Power rating of 120     UL and cUL isted for     Motor equipped wit     Removable perman	ar tub/shawer enclosure when GFCI protected	
<ul> <li>Integrated dual 4" o</li> <li>Built-in damper reck</li> <li>Built-in matai flanga</li> </ul>	ndy 26 gauge housing using Ziric-Aleminum-Magnesium (ZAM) coatin t 8" dismeter direct adapter: ces back draft and helps with blower door testing provides blocking for penetrations through drywall as an Air with the decrease in leakage in the Building Ervelope during	19 19 19 19 19 19 19 19 19 19 19 19 19 1
blower clocr testing • Suitable for installati • Articulating and exp		
<ul> <li>Includes a motion s Plug in Play<sup>®</sup> modu</li> </ul>	ing Poly Pro-material housing with torsion springs; ensor cap for use as a cover when motion sensor le has not been selected	13.
	s from original purchase date form original purchase date	FV-0511VK2
selector, Select from 5 Institute (HVI) at 0.1 v 0.25 w.g. and 51/79/1 9.9/7.9/6,5 watts at 0. CFMWatt at 0.375 w.g. Ef CFMWatt at 0.1 w.g. at 0.375 w.g. The mol continuously. ECM mic pressure to maintain si be no tess than 4°, int modules provide up to Contensation Sensor, listed for hub/stydwar ef insulated up to R60. I STAR <sup>®</sup> IAP, EarthCraft, ECM I	mount ventilation fan, ENERGY STARP rated with built-in speed 0/30/110 CPM with <0.3 sone as certified by the Home Ventilating v.g. with 51/30/110 CFM and no more than 0.4/0.5/0.8 sones at 0.8 CFM at 0.375 w.g. Power Consumption shalt be no greater than 0.4 with 51/30/110 CFM and no more than 0.4/0.5/0.8 sones at 0.8 CFM at 0.375 w.g. Power Consumption shalt be no greater than 0.4 with at 51/31/11.2 wetts at 0.25 w.g. and 9.6/13.4/20.0 NERGY STAR <sup>9</sup> nated with efficiency of no less than 16.2/15.7/11.1 and 3.3/8.3/7.1 CFM/watt at 0.25 w.g. and 5.3/5.9/5.4 CFM/watt for shalt be enclosed with brushless ECM motor engineered to run stor speed shall automatically increase when the fan senses stallo elected CFM. Power rating shalt be 120x/60Hz, Duct diameter shall be traveled that 4' or 6' cluct adapter. <b>Ping 'N Play''</b> to three additional features. Select from Multi-Speed with Thre Delay, and Motion Sensor, Fan shalt be RoHS Compliant and UL indicate when GECI protected. Also suitable for inistallation in cellings Fan can be used to comply with ASHENAE 62.2. LEED, ENERGY california Title-24 and WA ventilation Code.	Performance Curve: 4" or 6" duc!
	n as rated Quantity Comments	Project:
		Location: Architect:
		Engineer: Contractor: Submitted by:
	Glase ( Séerr <sup>1</sup> a UL basa ne use sais na Panssena Ósény Audaten Sapper Marié + PC-800605, seu se	oundey.
hisper@	GreenSelect	Buit-In Sulf Adjusting Action Capability FV-0511VK2
ug 'N Pla	GreenSelect <sup>-</sup> y™ Modules	Buit-In Saif Adjusting Antow Capability
ug 'N Pla	GreenSelect	FV-0511VK2 But in Sulf Adjusting Addow Capability Time Delay, Motion Sensor, and Condensation Sensor. E 62.2 continuous ventilation requirements. The fan runs norements), then elevates to a maximum level of operation notion sensor or Condensation Sensor module is activated.
ug 'N Pla	GreenSelect y <sup>™</sup> Modules Mede up to three additional features. Select from Multi-Speed with FV-VS15VK1: Multi-Speed with Time Delay Alows you to select the proper CFM settings to satisfy ASHRAI continuously at a pre-set lower level (0, 30-100 CFM, in 10 CFM) (50-80-110 CFM) when the wall switch is turned on, or when the m A High/Low delay timer returns the fan to the pre-set CFM level at FV-MSVK1: Motion Sensor	FV-0511VK2 Editor Capability Time Delay, Motion Sensor, and Condensation Sensor. E 62.2 continuous ventilation requirements. The fan runs notion sensor or Condensation Sensor module is activated. ter a period of time set by the user.
ug 'N Pla	GreenSelect y <sup>™</sup> Modules Mode up to three additional features. Select from Multi-Speed with FV-VS15VK1: Multi-Speed with Time Delay Allows you to select the proper CFM settings to satisfy ASHRAI continuously at a pre-set lower level (0, 30-100 CFM, in 10 CFM) (50-80-110 CFM) when the wall switch is turned on, or when the m A High/Low delay timer returns the fan to the pre-set CFM level at	Events         Events           During Addressing         Events
ug 'N Pla	GreenSelect y <sup>™</sup> Modules Mede up to three additional features. Select from Multi-Speed with FV-VS15VK1: Multi-Speed with Time Delay Allows you to select the proper CFM settings to satisfy ASHRAI continuously at a pre-set lower level (0, 30-100 CFM, in 10 CFM (50-80-110 CFM) when the wall switch is turned on, or when the m A High/Low delay timer returns the fan to the pre-set CFM level at FV-MSVK1: Motion Sensor Automatically activates when someone enters the room. Once the s	The Delay, Motion Sensor, and Condensation Sensor Answer Condensation Requirements. The fan runs forements), then elevates to a maximum level of operation toton sensor or Condensation Sensor module is activated. The period of time set by the user.
In Specifications	<section-header><section-header><section-header><text><section-header><text><section-header><text><text><text></text></text></text></section-header></text></section-header></text></section-header></section-header></section-header>	Image: Description of the property of t
In Play® modules prov	Freese         Subscription           y <sup>M</sup> Modules         Modules           where additional features, select from Multi-Speed with         Modules <i>Forstatic Multi-Speed with Time Delay</i> Modeus you to select the proper CFM settings to satisfy ASHRAG (50-80-110 CFM) when the wall switch is turned on, or when the rest onthin ously at a pre-set lower level (0, 30-100 CFM, in 10 CFM) when the wall switch is turned on, or when the rest of high Low delay time returns the fan to the pre-set CFM level at <i>Forstyr: Motion Sensor</i> Module also activates a 20 minute delay of timer for the fan. <i>Forstyr: Condensation Sprevert</i> Module also activates a 20 minute delay of timer for the fan. <i>Forstyr: Condensation to prevent</i> Module also activates a 20 minute delay of timer for the fan. <i>Modules in the multi-speed functionality, the fan will kick up to be in the record. This module also activates a 20 minute delay of timer for the fan.           <i>Module also activates also activates a 20 minute delay of timer</i> </i>	Image: bit is the probability         Executive
In Play® modules prov N Play® modules prov Control of the second Control of the second Control of the second Air Volume (CFM) Noise (CFM) Noise (CFM) Noise (CFM) Speed (RPM) Current (amps) Power Rating (VHz)	Exercise           y <sup>m</sup> Moclules           we up to three additional features. Select from Multi-Speed with           FC-S15VK1: Multi-Speed with Time Delay           Alows up to based the proper CFM settings to satisfy ASHRAI (50-00-110 CFM) when the well switch is tured on, or when then a High/Low delay timer returns the fan to the pre-set CFM level at           FC-S15VK1: Motion Sensor           Mornadically activates when someone enters the room. Once the st fix module also activates a 20 minute delay of timer for the fan.           FV-SUSK1: Condensation to prevent mold and milders.           Statistic first intervent conditional for satisfying Califore conjunction with multi-speed functionality, the fan will kick up to bit in the room. This module also activates a 20 minute delay of timer for the fan.           Natistic first intervent for motist conditions and for satisfying Califore conjunction with multi-speed functionality. the fan will kick up to bit in the room. This module also activates a 20 minute delay of the intervent balance in the speed functionality in the fan will kick up to bit in the room. This module also activates a 20 minute delay of the intervent balance in the speed functionality in the fan will kick up to bit in the room. This module also activates a 20 minute delay of the intervent multi-speed functionality in the fan will kick up to bit in the room. This module also activates a 20 minute delay of the in the room. This module also activates a 20 minute delay of the in the room. This module also activates a 20 minute delay of the in the room. This module also activates a 20 minute delay of the in the room. This module also activates a 20 minute delay of the in the room. This module also activates a 20 minute delay of the in the ro	
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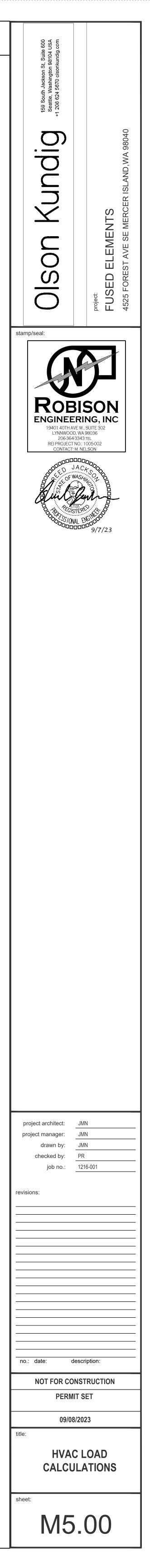






**HVAC LOAD CALCULATIONS** 

Supply Air Requirements Conting Heating	Project Information
Current Supply CFM         Supply CFM         Supply CFM         Supply CFM         Supply Temperature         Sensible Load (btub)         Supply CFM         Supply Supply CFM         Supply Supply Supply CFM         Supply Supply Supply Supply Supply Supply         Supply Supply Supply Supply         Supply Supply Supply         Supply Supply Supply         Supply Supply Supply         Supply Supply Supply         Supply Supply Supply         Supply Supply Supply         Supply Supply Supply         Supply Supply	Project Name:         FUSED ELEMENTS RESIDENCE           Project Location:         BELLEVUE, WA           Default Heating Temperature:         70° F         Heating Safety Factor (Room):         0%           Heating Safety Factor (Ventilation):         0%         0%         0%         0%
0         7,190         CV - Sum of Peaks         55° F         156,000         7,190         120         2%         20° F dT         75,700         3,560         120         3%           0         1,310         July         5:00 nm         28,300         1,310         30         2%         14,100         662         30         5%	Default Cooling Temperature:     75° F     Cooling Safety Factor (Room):     0%       Default Relative Humidity:     50%     Floor Slab Heat Loss Coefficient:     0.54
0 3,650 July 4:00 p.m. 79,100 3,650 40 1% 39,000 1,830 40 2%	Calculation Date: September 8, 2023, 8:38 a.m. Design Conditions OSA Low: 24* F Latitude: 48* 2
0 2,230 July 4:00 p.m. 48,300 2,230 50 2% 22,700 1,070 50 5%	OSA Daily Range: 18° F Elevation: 446° OSA High Dry Bulb OSA High Wet Bulb July 83° F 67° F
Ventilation Schedule           cation         Room Type         Ventilation Requirements         Area (ft <sup>2</sup> )         People         Ventilation CFM         Supply CFM         Ventilation %	Roof Types
ments Residence         6,440         9         120         7,190         2%           Floor         General         Direct         1,830         3         30         1,310         2%           loor         General         Direct         2,990         3         40         3,650         1%           Floor         General         Direct         1,620         3         50         2,230         2%	Roof Type         U-Value         ASHRAE Type         Color         Description           ROOF         0.026         5 Dark         5
	Roofs Location Type Area
Cooling Load Details - System (Btu/h / % Total) (See "Cooling Load Details - Room" for lighting, equipment, and people loads) Vertical Horizontal Ventilation Infiltration	Room Lower Floor
Peak         Roof         Wall         Glass         Vertical Partitions         Horizontal Partitions         Ventilation         Infiltration           ments Residence         July 3:00 p.m.         5,400         3%         5,080         3%         112,000         69%         538         0%         345         0%         1,020         1%         769         0%         1,880         1%         1,600         1%           Floor         July 5:00 p.m.         953         3%         693         2%         16,800         56%         538         2%         0         0%         198         19         192         1%         507         2%         494         2%	Wall Types
July         4:00 p.m.         2,200         3%         2,720         3%         59,000         73%         0         0%         345         0%         317         0%         256         0%         888         1%         718         1%           Floor         July         4:00 p.m.         2,240         4%         1,670         3%         35,900         72%         0         0%         396         1%         320         1%         484         1%         391         1%	Wall Type         U-Value         ASHRAE Type         Color         Description           BELOW GRADE WALL         0.056         9 Dark           WALL         0.056         9 Dark
Cooling Load Details - Room	Walls
ak Roof Wall Glass Vertical Horizontal Partitions Partitions Lighting Equipment People Infiltration Infiltration	Room Number         Length         Height         Area (Minus Doors and Glass)         Type         Facing Direction         On Perimeter           Lower Floor         39'-7"         12'         269 ft <sup>2</sup> _WALL         W         V         V           Lower Floor         16'-9"         12'         174 ft <sup>2</sup> _WALL         S         V         V
of 5,400 3% 5,080 3% 112,000 70% 538 0% 345 0% 17,600 11% 11,000 7% 0 0% 2,250 1% 1,800 1% 1,880 1% 1,600 1%	Main Floor         3*         10'         3 ft <sup>2</sup> _WALL         N           Main Floor         12'-1*         10'         121 ft <sup>2</sup> _WALL         N           Main Floor         4'-9*         10'         9 ft <sup>2</sup> _WALL         N
5:00 953 3% 693 2% 16,800 57% 538 2% 0 0% 4,990 17% 3,120 11% 0 0% 750 3% 600 2% 507 2% 494 2%	Main Floor         15'-9"         10'         95 ft <sup>2</sup> _WALL         N           Main Floor         48'-8"         10'         135 ft <sup>2</sup> _WALL         W
4:00       2,200       3% 2,720       3%       59,000       73%       0       0%       345       0%       8,150       10%       5,090       6%       0       0%       750       1%       600       1%       888       1%       718       1%         4:00       2,240       5%       1,670       3%       35,900       73%       0       0%       0       0%       4,430       9%       2,770       6%       0       0%       750       1%       600       1%       484       1%       391       1%	Main Floor         27         10'         98 ft <sup>2</sup> _WALL         W           Main Floor         35'-10"         10'         254 ft <sup>2</sup> _WALL         W           Main Floor         20'-1"         10'         134 ft <sup>2</sup> _WALL         S
2,240.5% 1,670.3% 35,900.73% 0 0% 0 0% 4,430 9% 2,770 6% 0 0% 750.2% 600.1% 484.1% 391.1%	Main Floor         32'-1"         10'         145 ft <sup>2</sup> _WALL         S           Main Floor         7         10'         70 ft <sup>2</sup> _WALL         E           Main Floor         27         10'         242 ft <sup>2</sup> _WALL         E
ed Elements Residence (Chase)/Dwg/dm_hvac-loads1.html 4/5	file:///F:/1216-001 Fused Elements Residence (Chase)/Dwg/dm_hvac-loads1.html
FUSED ELEMENTS RESIDENCE Heating Load Details - System and Room	9/8/23, 8:39 AM FUSED ELEMENTS RESIDENCE Walls
ocation Roof Wall Glass Slab Vertical Partitions Ventilation Infiltration	Room Number         Length         Height         Area (Minus Doors and Glass)         Type         Facing Direction         On Perimeter           Main Floor         20'-10"         10'         185 ft²         WALL         E           Main Floor         35'-7"         10'         133 ft²         WALL         E
ments Residence         4,470         5%         12,100         15%         26,500         32%         14,300         17%         3,990         5%         2,130         3%         5,870         7%         12,200         15%           Floor         756         5%         1,510         10%         2,650         17%         1,400         9%         3,990         26%         0         0%         1,470         9%         3,760         24%           loor         1,840         5%         6,810         17%         14,600         36%         8,130         20%         0         0%         1,470         9%         3,760         24%           Floor         1,840         5%         6,810         17%         14,600         36%         8,130         20%         0         0%         2,130         5%         1,960         5%         5,480         13%           Floor         1,870         7%         3,820         15%         9,290         37%         4,740         19%         0         0%         0%         0%         2,440         10%         2,980         12%	Main Floor         21'         10'         210 ft <sup>2</sup> WALL         E           Main Floor         7*         10'         5 ft <sup>2</sup> WALL         N
	Upper Floor         19         10'         130 ft <sup>2</sup> _WALL         N           Upper Floor         4'-11"         10'         14 ft <sup>2</sup> _WALL         N
Load Total Summary - System (Includes Ventilation and Plenum Loads) Cooling Heating	Upper Floor         13'-3"         10'         27 ft <sup>2</sup> WALL         W           Upper Floor         35'-8"         10'         140 ft <sup>2</sup> WALL         W           Upper Floor         46'-5"         10'         333 ft <sup>2</sup> WALL         S
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Upper Floor         27'-11"         10'         237 ft <sup>2</sup> WALL         E           Upper Floor         21'         10'         197 ft <sup>2</sup> WALL         E           Upper Floor         22'-6"         10'         163 ft <sup>2</sup> WALL         N
$\frac{1,830}{\hbar^2} 1,310 \text{ July} \frac{5:00}{p.m.}  29,800  28,500  1,290  2.5  2.4  0.1  736  527  0.72  662  15,500  4.6  0.36$	
$\frac{2,990}{\hbar^2} 3,650 \text{ July} \frac{4:00}{\text{p.m.}} = 81,000 - 79,400 - 1,570 - 6.8 - 6.6 - 0.1 - 442 - 541 - 1.22 - 1,830 - 40,900 - 12 - 0.61 - 1.620 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 - 1.22 -$	Partitions           Location         Type         Area         Low Temperature         High Temperature         U-Val           Room Lower Floor         Wall         156 ft <sup>2</sup> OSA Low         OSA High         0
Load Total Summary - Room	Room Lower Floor         Wall         262 ft <sup>2</sup> OSA Low         OSA High         O           Room Lower Floor         Wall         119 ft <sup>2</sup> OSA Low         OSA High         0           Room Lower Floor         Wall         112 ft <sup>2</sup> OSA Low         OSA High         0
(Excludes Ventilation and Plenum Loads) Cooling Heating Dtub Tons 2.1 CENT	Room Lower Floor         Wall         98 ft <sup>2</sup> OSA Low         OSA High         O           Room Lower Floor         Wall         165 ft <sup>2</sup> OSA Low         OSA High         0
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Room Lower Floor         Wall         155 ft <sup>2</sup> OSA Low         OSA High         O           Room Lower Floor         Wall         139 ft <sup>2</sup> OSA Low         OSA High         0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Room Lower Floor         Door         32 ft <sup>2</sup> OSA Low         OSA High           Room Main Floor         Horizontal         1,780 ft <sup>2</sup> (60% of Room)         OSA Low         OSA High         0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Door Type U-Value ASHRAE Type Color Description
	DOOR 0.3 9 Dark
	Room Number         Area         Type         Facing Direction           Lower Floor         27 ft²_DOOR         \$
	Main Floor         31 ft <sup>2</sup> _DOOR         N           Main Floor         32 ft <sup>2</sup> _DOOR         W           Main Floor         28 ft <sup>2</sup> _DOOR         E
	Main Floor         24 ft <sup>2</sup> _DOOR         E           Upper Floor         21 ft <sup>2</sup> _DOOR         S           Upper Floor         24 ft <sup>2</sup> _DOOR         E
Elements Residence (Chase)/Dwg/dm_hvac-loads1.html 5/5	file:///F:/1216-001 Fused Elements Residence (Chase)/Dwg/dm_hvac-loads1.html
	9/8/23, 8:39 AM FUSED ELEMENTS RESIDENCE
	Glass Type U-Value SHGC Description
	_GLASS 0.28 0.4 _SKYLIGHT 0.5 0.4
	Glass           Room Number         Area         Type         Facing Direction         Shaded           Lower Floor         206 ft <sup>2</sup> _GLASS         W
	Main Floor         38 ft <sup>2</sup> _GLASS         N           Main Floor         31 ft <sup>2</sup> _GLASS         N           Main Floor         352 ft <sup>2</sup> _GLASS         N
	Main Floor         172 ft <sup>2</sup> _GLASS         W           Main Floor         72 ft <sup>2</sup> _GLASS         W           Main Floor         67 ft <sup>2</sup> _GLASS         S
	Main Floor         176 ft <sup>2</sup> _GLASS         S           Main Floor         223 ft <sup>2</sup> _GLASS         E
	Upper Floor         56 ft <sup>2</sup> _SKYLIGHT         Up           Upper Floor         60 ft <sup>2</sup> _GLASS         N           Upper Floor         36 ft <sup>2</sup> _GLASS         N
	Upper Floor         106 ft <sup>2</sup> _GLASS         W           Upper Floor         216 ft <sup>2</sup> _GLASS         W           Upper Floor         110 ft <sup>2</sup> _GLASS         S
	Upper Floor         18 ft <sup>2</sup> _GLASS         E           Upper Floor         13 ft <sup>2</sup> _GLASS         E           Upper Floor         62 ft <sup>2</sup> _GLASS         N
	Room Information, Part 1
	Values in italics have been changed from the default           Number         Name         Area         Ceiling         Ventilation         Infiltration         Cooling         Heating         Rela
	Lower Floor         General         1,830 ft <sup>2</sup> 10' Direct         30 CFM         Same as cooling         30 0.25 AC / hour         77 CFM         Same as cooling         77 CFM         Same as cooling         77 CFM         Same as cooling         77 CFM         Same as cooling         77 CFM         70° F         70° F
	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
	Room Information, Part 2
	Values in italics have been changed from the default           Number         Lighting Load         Equipment Load         People         Glas           Sensible         Latent         Sensible btuh / Person         Latent btuh / Person         Zone T
	Lower Floor         0.8 watts / ft <sup>2</sup> 4,990         0.5 watts / ft <sup>2</sup> 3,120         0         3 people         250         200 B           Main Floor         0.8 watts / ft <sup>2</sup> 8,150         0.5 watts / ft <sup>2</sup> 5,090         0         3 people         250         200 B           Upper Floor         0.8 watts / ft <sup>2</sup> 4,430         0.5 watts / ft <sup>2</sup> 2,770         0         3 people         250         200 B
	file:///F:/1216-001 Fused Elements Residence (Chase)/Dwg/dm_hvac-loads1.html



AIR CONDITIONING UNIT	
ABOVE FINISHED FLOOR	
AUTHORITY HAVING JURISDICTION	
BRAKE HORSEPOWER BRITISH THERMAL UNIT PER	
HOUR	
COMMON	
COOLING COIL CONDENSATE DRAIN	
CUBIC FEET PER MINUTE	
CEILING, COOLING	
CLEANOUT	
COMBUSTION CONTINUE, CONTROL	
CONTRACTOR	
COEFFICIENT OF PERFORMANCE	
CLEAN OUT TO GRADE CHILLED WATER SUPPLY	
CHILLED WATER RETURN	
DIAMETER	
DRY BULB, DECIBEL DEGREE	
DIMENSION	
DISCHARGE	
ENTERING AIR TEMPERATURE EFFICIENCY	
ENGINE GENERATOR	
ELECTRIC	
EQUIVALENT EXHAUST	
EXTERIOR, EXTERNAL	
FAHRENHEIT	
FAN COIL UNIT	
FLOOR FEET PER MINUTE	
FEET PER SECOND	
GAS	
GALLONS GALLONS PER MINUTE	
GYPSUM WALLBOARD	
HEAD	
HORIZONTAL HORSEPOWER	
HEAT PUMP UNIT	
HEATING, VENTILATING, AND AIR	
CONDITIONING HOT WATER RETURN	
HOT WATER SUPPLY	
INDIRECT DRAIN, INSIDE	
DIAMETER INCH	
KILOWATT	
LONG, LENGTH	
POUND	
THOUSAND BTU PER HOUR MECHANICAL	
MINIMUM CIRCUIT AMPACITY	
MAXIMUM OVER CURRENT	
PROTECTION MOUNTED	
OUTSIDE DIMENSION OR	
DIAMETER, OVERFLOW DRAIN	
OPENING PUMP	
PRESSURE DROP, PUMPED DRAIN	
POINT OF CONNECTION	
PRESSURE REDUCING VALVE POUNDS PER SQUARE INCH	
GAUGE	
ROOF DRAIN	
REFERENCE REVOLUTIONS PER MINUTE	
SCHEDULE	
SQUARE FOOT	
SUDS RELIEF STAINLESS STEEL, SANITARY	
STAINLESS STEEL, SANITARY SEWER	
SQUARE	
TRAP PRIMER UNLESS OTHERWISE NOTED	
VENT	
VENT THRU ROOF	
WASTE, WATT, WIDE	

ACU AFF

AHJ

BHP

BTUH

CAP

CFM

CLG

COMB

CONT

COP

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CWS

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DIM

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FFF

EG ELEC

EQUIV

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FLR

FPM

FPS

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GPM

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<u>EQUIPMENT</u> TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN) <u>GENERAL</u> ARCHITECTURAL BACKGROUND (THIN LINE) NEW MECHANICAL WORK (HEAVY LINE) MATCHLINE OR PROPERTY LINE SECTION INDENTIFICATION (<u>DETAIL SIMILAR)</u> INDICATES DIRECTION OF CUTTING I ANF LETTER INDICATES SECTION (NO. INDICATES DETAIL) SHEET # WHERE SECTION IS DRAWN SHEET # WHERE SECTION IS TAKEN <u>PIPING</u> CONDENSATE DRAINAGE NATURAL GAS - STANDARD PRESSURE NATURAL GAS – MEDIUM PRESSURE WASTE (W) PUMPED WASTE (PW) RAIN LEADER (RL) OVERFLOW RAIN LEADER (OL) PUMPED RAIN LEADER (PRL) VENT (V) COLD WATER (CW) HOT WATER, POTABLE, 120°F HOT WATER CIRCULATING (HWC), POTABLE, 120°F HOT WATER, POTABLE, TEMPERATURE OTHER THAN 120°F HOT WATER CIRCULATING (HWC), POTABLE, TEMPERATURE OTHER THAN 120°F IRRIGATION PIPE CAP PIPE PLUG UNION FLANGE GATE VALVE OR BALL VALVE BALL VALVE PRESSURE REDUCING VALVE (PRV) BREAK IN PIPING OR DUCTWORK CHECK VALVE BALANCING OR PLUG VALVE BALANCING/MEASUING VALVE INDIRECT DRAIN, PIPE TO DRAIN GLOBE VALVE BUTTERFLY VALVE WYE STRAINER WYE STRAINER WITH CAPPED HOSE END BLOWDOWN VALVE AUTOMATIC CONTROL VALVE, 2-WAY AUTOMATIC CONTROL VALVE, 3-WAY RELIEF VALVE REDUCED PRESSURE BACKFLOW PREVENTER DOUBLE CHECK VALVE ASSEMBLY FLOOR DRAIN HOSE BIBB PIPE ALIGNMENT GUIDE FLEXIBLE CONNECTION IN PIPING PIPE SUPPORT PIPE ANCHOR PRESSURE GAGE THERMOMETER PRESSURE / TEMPERATURE TEST VALVE STATION OR ASSEMBLY PUMP

WASTE/VENT RISER CALLOUT CW/HW RISER CALLOUT

<u>GENERAL NOTES – MECHANICAL</u>

- 1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
- 2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC.) OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
- 3. CODES: COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
- 4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL DUCTWORK, DAMPERS, EQUIPMENT, PIPING, ETC. A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL. B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK. C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM. D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE
- OWNER. 5. MECHANICAL CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITHIN THE STRUCTURE.
- 6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL
- CONTRACTOR PRIOR TO BIDDING. 7. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, AND VTR DETAILS.
- 8. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
- 9. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS. 10. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR
- SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS. 11. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF
- MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT. 12. CABLE TRAYS: DUCTWORK AND PIPING INSTALLED ADJACENT TO
- ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" ABOVE AND TO THE SIDE OF CABLE TRAYS. 13. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT
- ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

- 1. IRRIGATION: COORDINATE WITH IRRIGATION CONTRACTOR FOR THEIR WATER SUPPLY REQUIREMENTS AND LOCATIONS.
- 2. UTILITIES: COORDINATE WITH SITE UTILITY CONTRACTOR AND CIVIL DRAWINGS FOR UTILITY CONNECTIONS AND EXTENSIONS.
- 3. ROOF DRAINAGE: COORDINATE WITH GENERAL CONTRACTOR FOR ROOF DRAIN AND OVERFLOWS, SCUPPER DRAINS, AND CONDENSATE DRAINS.
- 4. STORM DRAINAGE: VERIFY WITH GENERAL CONTRACTOR FOR STORM DRAINAGE PRIOR TO BIDDING.
- 5. PLUMBING FIXTURES: COORDINATE WITH ARCHITECTURAL AND OTHER TRADES EXACT LOCATION OF ALL PLUMBING FIXTURES.
- 6. PIPING: COORDINATE WITH STRUCTURAL FOR EXACT LOCATION OF ALL STRUCTURAL FRAMING AND FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL AND AT THE SITE PRIOR AND DURING THE CONSTRUCTION.
- 7. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
- 8. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, ETC. CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH HIS MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THESE REQUIREMENTS IN HIS BID.

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

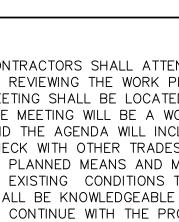
# **GENERAL NOTES**

<u>PIPING NOTES</u>

- 1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
- 2. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
- 3. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
- 4. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE. 5. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN
- STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 6. CONDENSATE DRAIN: PROVIDE A P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.

<u>PLUMBING NOTES</u>

- 1. CONNECTIONS: PROVIDE PLUMBING FIXTURE CONNECTIONS TO BUILDING WASTE, VENT, COLD WATER, AND HOT WATER SYSTEM IN ACCORDANCE WITH DRAWINGS, MANUFACTURER'S RECOMMENDATIONS, AND LOCAL CODES. CONNECT TO EACH FIXTURE, EQUIPMENT, ETC. WITH ALL ACCESSORIES, VALVES, VACUUM BREAKERS, REGULATORS, UNIONS, ETC. AS REQUIRED AND AS RECOMMENDED BY THE MANUFACTURERS. REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE ON PLANS.
- 2. HOT AND COLD: WATER PIPING CONNECTION TO EACH FIXTURE THE LEFT HAND SIDE.
- 3. VENT STACKS: COORDINATE VENT STACK WITH HVAC EQUIPMENT TO MAINTAIN MINIMUM 10' CLEARANCE FROM OUTSIDE AIR INTAKES. 4. CLEANOUTS: PROVIDE CLEANOUTS PER CURRENT UPC AND AS REQUIRED BY LOCAL JURISDICTIONS. CLEANOUTS SHALL BE LOCATED IN WALLS/FLOORS WHERE THEY ARE NOT HIGHLY VISIBLE. FLOOR CLEANOUTS IN CARPETED AREAS TO BE FITTED WITH CARPET INSERTS. LOCATIONS SHALL BE SUBMITTED TO ARCHITECT FOR DRAWINGS.
- 5. SUDS RELIEF: PROVIDE SUDS RELIEF IN ACCORDANCE WITH CURRENT UPC.
- 6. SHUT-OFFS: PROVIDE SHUT-OFF VALVES/STOPS AT HOT AND COLD WATER SUPPLY TO EACH FIXTURE. EXCEPTION: PROVIDE
- SCREWDRIVER STOPS AT BATH/SHOWERS. 7. TRAP ARMS: PROVIDE TRAP ARMS SUCH THAT THE MAXIMUM
- LENGTH WILL NOT EXCEED CODE REQUIREMENTS. 8. ADA INSULATION: AT PLUMBING PIPING EXPOSED UNDER LAVATORIES, INSULATE THE EXPOSED PIPING AND TRAPS WITH PRODUCT SPECIFICALLY DESIGNED FOR THIS APPLICATION MEETING ADA REQUIREMENTS. PROVIDE HANDI-LAV GUARD OR EQUIVALENT. OFFSET P-TRAPS TO CLEAR WHEELCHAIR ACCESS.
- 9. FREEZE PROTECTION: WATER PIPING SHALL BE INSTALLED ON THE WARM SIDE OF INSULATION. ROUTE NO WATER PIPING IN ATTIC SPACE. HEAT TAPING IS NOT ACCEPTABLE. 10. WATER HAMMER ARRESTERS: PROVIDE AT THE END OF HOT AND
- COLD WATER LINES SERVING TWO OR MORE FIXTURES: SIZE IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE (PDI) REQUIREMENTS. WATER HAMMER ARRESTORS ARE REQUIRED FOR QUICK CLOSING VALVES, SUCH AS LAUNDRY WASHERS, FLUSH VALVES (PUBLIC TOILETS), ETC. MODEL PPP MIL-D-82036 OR EQUAL. VERIFY SIZE BEFORE ORDERING.
- 11. TRAP PRIMERS: PROVIDE TRAP PRIMERS AND PIPING FOR DRAINS AND FLOOR SINKS. ARRANGE PIPING TO ACHIEVE EQUAL FLOW TO EACH DRAIN AND FLOOR SINK FOR TRAP PRIMERS SERVING MULTIPLE DRAINS AND FLOOR SINKS.





PRE-CON MEETING	ite 600 34 USA itg.com	
CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE F REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE IEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. HE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER ND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS HECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW F PLANNED MEANS AND METHODS, AND ON-SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE 0 EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING HALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED 0 CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE SSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO HANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE INDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS. HE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM IME INDICATED: MECHANICAL SHEET METAL 2 HOURS 2 HOURS 3 ERERAL CONTRACTOR ALL SESSIONS		/E SE MERCER ISLAND,WA 98040
APPLICABLE CODES		FOREST AVE
HESE DRAWINGS ARE BASED ON THE FOLLOWING CODES: -2018 INTERNATIONAL RESIDENTIAL CODE -2018 UNIFORM PLUMBING CODE -2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL PROVISIONS	stamp/seal: Stamp/seal:	4525
	HI B PECISTERED CONTUNE DOCUMENTION 9/7/23	
	project architect: JMN project manager: JMN drawn by: JMN checked by: PR job no.: 1216-001 revisions:	
DRAWING INDEX		
INCLUDED IN SET SHEETS WITH REVISIONS		
DWG DESCRIPTION P0.00 LEGEND, GENERAL NOTES, DRAWING INDEX	no.: date: description: NOT FOR CONSTRUCTION PERMIT SET 09/08/2023	
P0.01CALCULATIONS, SCHEDULÉSImage: Constraint of the second	title: LEGEND, GENERAI NOTES, DRAWING INDEX	
P4.00DETAILS & DIAGRAMSImage: Constraint of the second seco	sheet: P0.00	

CALCU	LATIONS
Robison Engineering, Inc.	Project Name: Fused Element

19401 40th Ave	W, Suite 302				Project	Number:	1216-001
Lynnwood, W							
					E	dit Date:	6/14/2023
SIZING IS PER	UPC						
WATER SU	PPLY PIPE SI	ZINGCA	LCUL	ATION F	ORM		
WATER PRES	SURE AT STREE	T:			70	PSI STA	ATIC PRESSURE
WATER METE TYPICALLY 3-6					5	PSI	
BACKFLOW P	REVENTER LOSS	6:			7	PSI	
FRICTION LOS	S: TREET TO BUILDIN	3.			5	PSI	
AVAILABLE PR	RESSURE AFTER	BACKFLC	DW:		53	PSI	
STATIC LIFT TO	HIGHEST FIXTU	RE:	25	FEET =	10.8	PSI	
REQUIRED MI	NIMUM PRESSUR	REAT					
FURTHEST PL	UMBING MANIFO	LD:			25	PSI	
PRESSURE AN	AILABLE TO						
OFFSET FRICT	ION LOSSES:				17.2	PSI	
PIPING SYSTE	M LENGTH FROM	N					
	URTHEST MANIF				225	FEET	
FITTING ALLOW	VANCE:				100	FEET	
MAXIMUM FRK	CTION LOSS FAC	TOR:			5.3	PSV100	FT
MAX HW & CW	ICTION LOSS FA VELOCITY 8 FPS ( VELOCITY 5 FPS (	SDR-11)			5.3	PSI/100	FT
	SUPPLY PIPE	SIZING SC	CHEDU	LE			
PIPE SIZE	FLOW, GPM	VELOCIT		FIXTUR	e units		PE MATERIAL
1/2"	2.0	3.6	-		.0		CPVC SDR 11
3/4"	5.0	4.6			.5		CPVC SDR 11
1"	10.0	5.50	-	-	3.0		CPVC SDR 11
1-1/4"	16.0	6.3	-		1.0		CPVC SDR 11
1-1/2"	25.0	7.0	<u></u>		0.0		CPVC SDR 11
2"	52.0	8.0	0	13	0.0		CPVC SDR 11

SERVICE	Ξ
WATER DISTRIBUTION PIP	
WATER DISTRIBUTION PIPI	NG, 3"&
WATER DISTRIBUTION PIPING WI	THIN RES
SANITARY SEWER & VENT F	PIPING, BE
SANITARY SEWER & VENT F	PIPING, AE
STORM DRAIN PIPING,	BELOW (
STORM DRAIN PIPING,	ABOVE (
CONDENSATE DR	AIN PIPIN
NOTES: (1)	
(2)	CONTRA AND TH
( 7)	PLASTIC
	HORIZON
	PROVIDE
	PVC PIP
(0)	3 COMF
(7)	TRAP AF
	ABS/PV
	OFFSETS
SERVICE	MA
SERVICE	
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER	MINERAL- JA
EXPOSED SANITARY DRAINS AND DOMESTIC WATER SUPPLIES AND STOPS FOR ADA FIXTURES	TRUEBRO
NOTES:	(1) FOR

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(2)	PIPI
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(3)	НΟΊ
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(5)	HEA

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	PIPE MATERIALS	SCHEDULE	
	MATERIAL	JOINT	NOTES
& LARGER	COPPER TYPE L	SOLDER	(1)(2)(3)
& SMALLER	PEX	COLD EXPANSION FITTINGS	(1)(2)(3)
ESIDENTIAL UNITS	PEX	COLD EXPANSION FITTINGS	(1)(2)
BELOW GRADE	PVC SCH 40	SOLVENT CEMENT	(1)(2)(3)(5)(6)
ABOVE GRADE	ABS SCH 40	SOLVENT CEMENT	(1)(2)(4)(5)(6)(7)(8)
V GRADE	PVC SCH 40	SOLVENT CEMENT	(1)(2)(3)
E GRADE	ABS SCH 40	SOLVENT CEMENT	(1)(2)(4)(7)(8)
PING	CPVC SCH 40	SOLVENT CEMENT	(1)(2)

MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.

RACTOR SHALL INDICATE THE TYPE OF PIPE MATERIALS INCLUDED IN THEIR BID. ALTERNATE PIPE MATERIALS SHALL BE SUBMITTED TO THE OWNER THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

C WRAP UNDERGROUND SUPPLY PIPING TO PREVENT CORROSION.

ONTAL OFFSETS IN DWELLING UNIT CEILINGS OR NOISE-SENSITIVE AREAS SHALL BE CAST IRON OR ACOUSTICALLY INSULATED.

E THERMAL EXPANSION COMPENSATION FOR ALL PLASTIC PIPING PER MANUFACTURER REQUIREMENTS.

PIPING SHALL NOT BE USED FOR RECEPTOR AND TRAP ARM WHERE WASTE TEMPERATURE CAN EXCEED 110°F. THIS INCLUDES PIPING AND RECEPTORS FOR MPARTMENT SINK, COMMERCIAL DISHWASHER, COMMERCIAL LAUNDRY SINK, AND CONDENSATE DRAIN FOR GAS FIRED EQUIPMENT.

ARM FOR WASTE RECEPTOR OF SODA DISPENSERS SHALL BE PVC. CAST IRON PIPING IS PROHIBITED FOR HIGH ACIDITY DRAINS (PH<3). PVC SHALL NOT BE USED IN PLENUM SPACES. PROVIDE SLIDE FITTINGS ON VERTICAL ABS/PVC RISERS EVERY TWO FLOORS, OR PROVIDE SUFFICIENT

SETS TO ACCOMMODATE THERMAL EXPANSION.

## PIPE INSULATION SCHEDULE

IATERIAL		PIPE INS	ULATION		VAPOR RETARDER REQUIRED	NOTES		
L-FIBER WITH	NOMINAL PIPE SIZE (IN.)	1/2 - 1	1-1/4	1-1/2	2 AND LARGER			
JACKET	INSULATION THICKNESS (IN.)	1	NO	(1)(2)(3)(4)(5)				
0 LAV-GUARD		N/	Ά			NO	P-TRAP AND SUPPLY COVERS	

R APPLICABLE CODES, REFER TO DWG PO.O.

(2) PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL PROVIDE CHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL

NOT BE PERMITTED.

IOT WATER AND HOT WATER CIRCULATION PIPING SHALL BE INSULATED PER 2015 UPC AND 2015 WSEC.

(4) PER 2015 UPC SECTION 312.6, NO WATER, SOIL OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF HE BUILDING, IN THE ATTIC, OR IN AN EXTERIOR WALL UNLESS ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPE FROM FREEZING. ALL HOT AND COLD WATER PIPES OUTSIDE THE CONDITIONED SPACE SHALL BE INSULATED TO

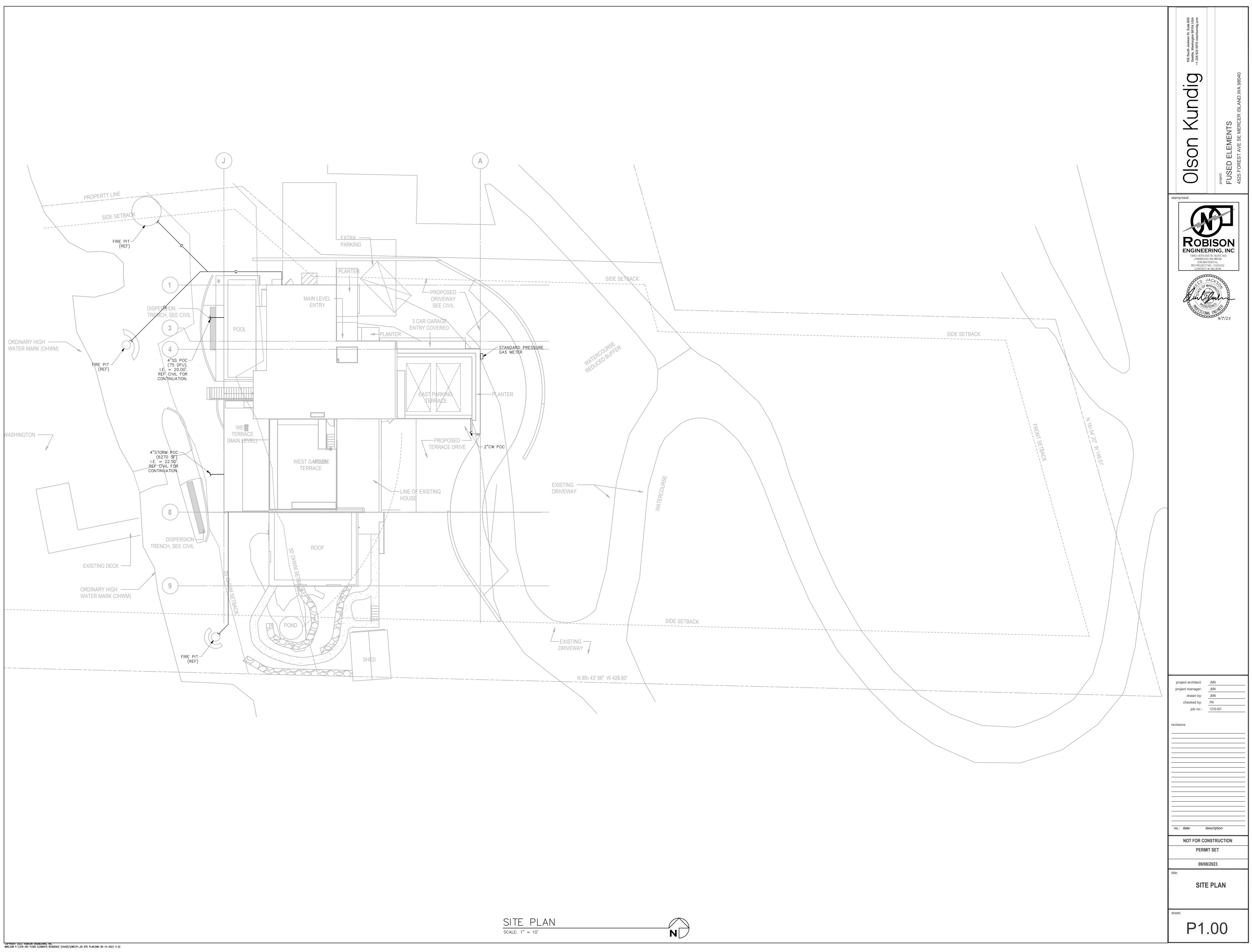
MINIMUM OF R-3. (5) HEAT TRACING SHALL BE PROVIDED FOR COLD WATER AND IRRIGATION WATER IN UNCONDITIONED SPACES. HEAT TRACING OF OUTDOOR PIPING SHALL INCLUDE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEM WHEN

OUTDOOR AIR TEMPERATURES ARE ABOVE 40°F.

Internet       GW       W       V       Output/Anternet       Output/Anternet       Output/Anternet         WATER CLOSET       1/2       -       3       2       WATER CLOSET       MATE       MATE       MATE         -       WATER CLOSET       1/2       -       3       2       WATER CLOSET       MATE       MATE       MATE         1       LAVATORY       1/2       1/2       LAVATORY       O       SHEM       MATE       MATE         1       LAVATORY       1/2       1/2       LAVATORY       O       SHEM       S					PI		G FIXTHRF C	CHEDIIIE	(NOTE 1				m St, Suite ton 98104 - sonkundig.	
			FIXTIIRF TYDE	SER'							COMMENITS		wth Jackso ୨, Washingl 24 5670 ol:	
		0. C—1					WATER CLOSET		WUDEL		CUMMENTS		159 Soo Seattle +1 206 62	
							SEAT			WHITE			ດ	
		-1	LAVATORY	1/2	1/2	2 1-1/2								-EMENTS
$ \frac{2}{2} \frac{1}{100 \times 1000 t} \frac{1}{102} \frac{1}{102} \frac{1}{2} \frac{1} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2}$		-1	BATH/SHOWER	1/2	1/2	2 1-1/2							Ĕ	
Image: Strate Code         Image:										· · · · · · · · · · · · · · · · · · ·			$\overline{\mathbf{y}}$	(0)
Image: Strate Code         Image:		-2	BATH/SHOWER	1/2	1/2	2 1-1/2							X	NT0
Image: Strate Code         Image:														EME
		1	SHOWER	1/2	1/2	2 1-1/2							0 0	
2         9         2         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7										N/A			$\ddot{\Box}$	project: FUSED
		2	STEAM SHOWER	1/2	1/2	2 1-1/2				· · · · · · · · · · · · · · · · · · ·				
$\frac{1}{2} \frac{1}{2} \frac{1}$												S	stamp/seal:	
$\begin{array}{ c c c c c } \hline \hline$							SHOWERHEAD			N/A				
Image: Second	$\frac{1}{2} \frac{1}{2} \frac{1}$	3	OUTDOOR SHOWER	1/2	1/2	2 1-1/2								
Image: state         Image: state<	Image: 1	1	SHOWER	1/2	1/2	2 1-1/2				· · · · · · · · · · · · · · · · · · ·			Rob	SON
Image: Since 1986         V/2	Market State         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O         O <t< td=""><td></td><td></td><td>,</td><td>/</td><td></td><td>TRIM KIT</td><td></td><td></td><td>CHROME</td><td></td><td></td><td>ENGINEEF 19401 40TH AVE LYNNWOOD, V 206-364-33</td><td><b>XING, INC</b> W., SUITE 302 WA 98036 43 TEL</td></t<>			,	/		TRIM KIT			CHROME			ENGINEEF 19401 40TH AVE LYNNWOOD, V 206-364-33	<b>XING, INC</b> W., SUITE 302 WA 98036 43 TEL
Image: Product in the image: Product in th	Labor 97 DX         17         17         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10												CONTACT: M.	NELSON
LANDER SNR         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2	Average out         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2 <th< td=""><td>1</td><td>KITCHEN SINK</td><td>1/2</td><td>1/2</td><td>2 1-1/2</td><td></td><td></td><td></td><td></td><td></td><td> <b> </b></td><td>STATED JA</td><td>CASON H</td></th<>	1	KITCHEN SINK	1/2	1/2	2 1-1/2						<b> </b>	STATED JA	CASON H
SWK         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2 <td>94%         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2<td></td><td>LAUNDRY SINK</td><td>1/2</td><td>1/2</td><td>2 1-1/2</td><td>SINK</td><td></td><td></td><td>STAINLESS STEEL</td><td></td><td></td><td>Lin Street</td><td>entra-</td></td>	94%         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2         1/2 <td></td> <td>LAUNDRY SINK</td> <td>1/2</td> <td>1/2</td> <td>2 1-1/2</td> <td>SINK</td> <td></td> <td></td> <td>STAINLESS STEEL</td> <td></td> <td></td> <td>Lin Street</td> <td>entra-</td>		LAUNDRY SINK	1/2	1/2	2 1-1/2	SINK			STAINLESS STEEL			Lin Street	entra-
0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	$\frac{1}{2} \frac{1}{2} \frac{1}$		SINK	1/2	1/2	2 1-1/2							ECIST SS/ONAL	
I       DE       DE <thde< th="">       DE       DE       D</thde<>	Image: Section 102         Image:	1	CLOTHES WASHER BOX	1/2	1/2	3 1-1/2						<b> </b>		
ROCF HYDRANT         3/4         D         L         L.K. SMITH         9900         V/A         SPLOSSAL WATE, 70,791           VARD HYDRANT         2/4         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	Sign Fridading         Zign Fridding <thzign fridading<="" th="">         Zign Frid</thzign>	1	ICE MAKER BOX	1/2	_				550007	WHITE	JOSAM WADE TIDN			
SOUDS INTERCEPTOR         -         -         2         -         ZURN         Z*180         N/A         DR JOSAM, WADE, JR, SM/TH           TECC DRAN         -         -         0.007122         JR, SM/TH         2000         MCREL         DR JOSAM, WADE, JR, SM/TH           FLOOP DRAN         -         -         0.007122         JR, SM/TH         2000         MCREL         DR JOSAM, WADE, ZINN           FLOOP DRAN         -         -         0.007122         JR, SM/TH         30011         SLAMULESS STEEL         DR JOSAM, WADE, ZINN           FLOOP CLEMON         -         -         AR SM/TH         4420         N/A         DR JOSAM, WADE, ZINN           WALL CLEMONT         -         -         -         AR SM/TH         4420         N/A         DR JOSAM, WADE, ZINN           1) CONTACTION STALL COMENN MAKE, MODEL AND FINISH MITH OWART PRICE TO ORDER VX.         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	Book integering         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I		ROOF HYDRANT	3/4	_			J.R. SMITH	5960	N/A OR .	JOSAM, WADE, ZURN			
TRENCH DRAN         -         -         (NOTE 2)         J.R. SWITH         2000         NICKEL         OR JOSAM, MA32, 200N           FLOOR DRAIN         -         -         (NOTE 2)         J.R. SWITH         2000         NICKEL         OR JOSAM, MA32, 200N           FLOOR DRAIN         -         -         (NOTE 2)         J.R. SWITH         2000         STANLESS STELL OR JOSAM, MA32, 200N           VALID DRAINUT         -         -         (NOTE 2)         J.R. SWITH         1900         V/A         OR JOSAM, MA32, 200N           VALID DRAINUT         -         -         -         NITH         1900         V/A         OR JOSAM, MA32, 200N           VALID DRAINUT         -         -         -         -         I.R. SWITH         4002         V/A         OR JOSAM, MA32, 200N           VALID RAINUT         -         -         -         -         I.R. SWITH         4002         V/A         OR JOSAM, MA32, 200N           VALID RAINUT         -         -         -         -         I.R. SWITH         4022         V/A         OR JOSAM, MA32, 200N           VALID RAINUT         -         -         -         -         I.R. SWITH         4022         V/A         OR JOSAM, MA32, 200N	Theory Devel         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>· · · · · · · · · · · · · · · · · · ·</td><td></td><td></td><td></td><td></td></t<>									· · · · · · · · · · · · · · · · · · ·				
FLOR SINK         -         -         (NOTE 2)         J.R. SMTH         3001         STANLESS STEL         00 30SAV, WADE, ZURN           WAL, CLEANOUT         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         <	Image: sector         Image: s		TRENCH DRAIN		-	(NOTE 2)		J.R. SMITH	2900	NICKEL OR .	JOSAM, WADE, ZURN			
NALL CLEANOUT       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       <	W.L. 623/001         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <t< td=""><td></td><td>FLOOR SINK</td><td>_</td><td>-</td><td>(NOTE 2)</td><td></td><td>J.R. SMITH</td><td>3001</td><td>STAINLESS STEEL OR</td><td>JOSAM, WADE, ZURN</td><td></td><td></td><td></td></t<>		FLOOR SINK	_	-	(NOTE 2)		J.R. SMITH	3001	STAINLESS STEEL OR	JOSAM, WADE, ZURN			
(1) CONTRACTOR SHALL CONFIRM MAKE, MODEL AND FINEH WITH OWNER PRICE TO ORDERING. (2) SIZE PER PLANS. WATER HEATER SCHEDULE - HYBRID FOUND SERVICE STORAGE, LECTTRCAL ENTROPY NO. SERVICE STORAGE, LECTTRCAL ENTROPY WH-1 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 3.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 4.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 4.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 4.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 4.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 4.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 4.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 A.O. SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON WH-2 HOT WATER BO 230V/1P 30 5.45 FOR SMITH HPTU-BON EDUIP SERVICE OVER SMITH BON SERVICE SINGLA AND SMITH HPTU-BON FOR SWITCH SERVICE SINGLA AND SMITH BON SERVICE SINGLA AND SMITH HPTU-BON FOR SWITCH SERVICE SINGLA AND SMITH BON SERVICE SINGLA AND SMITH HPTU-BON FOR SWITCH SERVICE SINGLA AND SMITH BON										· · · · · · · · · · · · · · · · · · ·				
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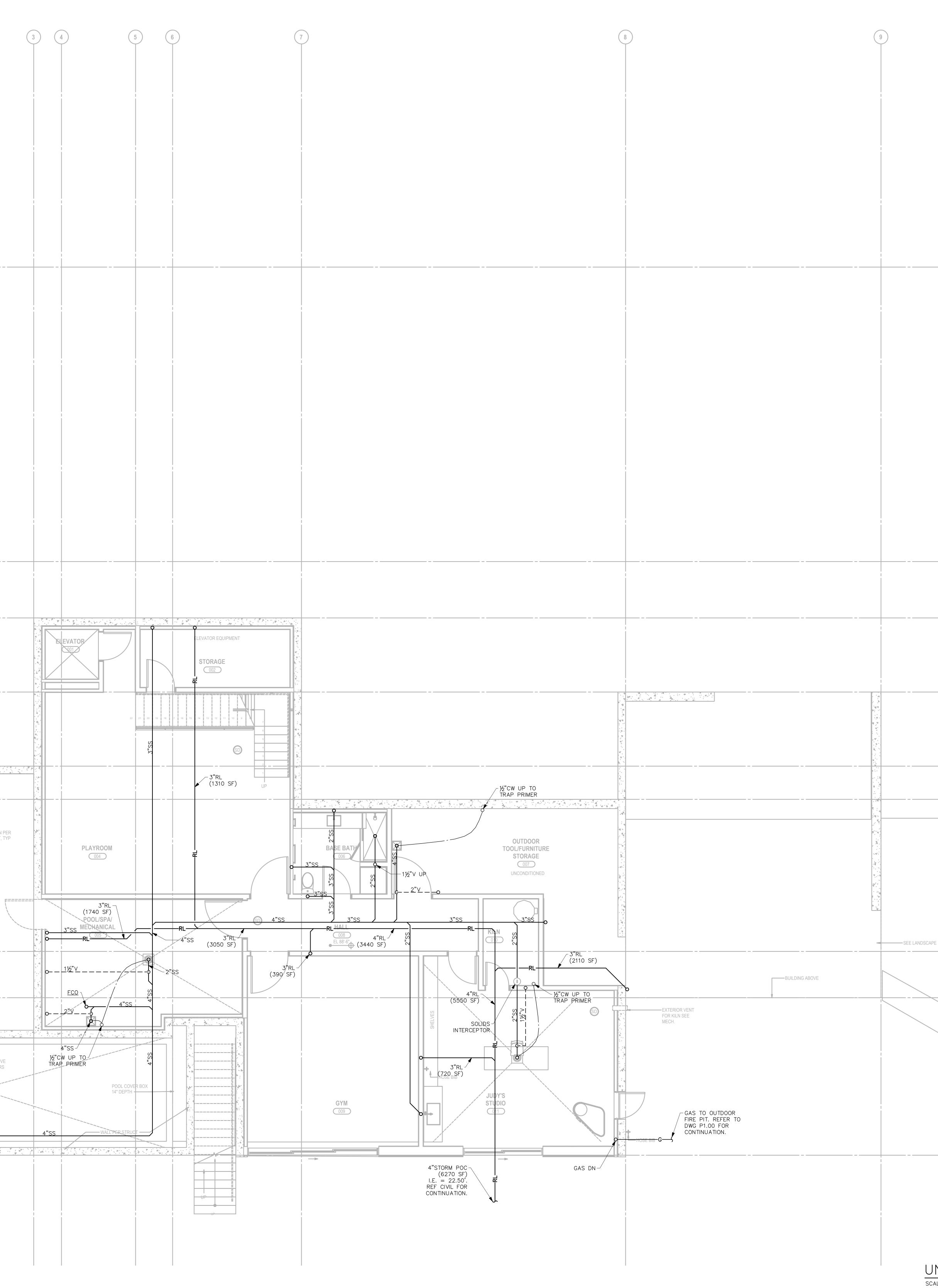
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WH-2	
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E SI HW	ZE (IN W	NCHES)		MANUF	ACTURER	MODEL	F	INISH		COMMENTS		59 South Ja Seattle, Waa 206 624 56	
_	3	2	WATER CLOSET SEAT					VHITE					07
/2	2	1-1/2	LAVATORY FAUCET					NHITE IROME			<b>    :</b>		
/2	2	1-1/2	BATHTUB TRIM KIT				V	VHITE IROME				Kundi	1ENTS SE MERCER ISLAND WA 98040
			VALVE					N/A N/A			╡┃│,	$\mathbf{v}$	
′2	2	1-1/2	BATHTUB				V	VHITE					
			TRIM KIT VALVE										) ELEMENTS
2	2	1-1/2	SHOWER ENCLOSURE				СН				╡┃│.	<u>Š</u>	SED E
			VALVE SHOWERHEAD					N/A N/A				$\bigcirc$	Project: FUSED
2	2	1-1/2	SHOWER ENCLOSURE					IROME			stamp/s	eal:	
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			TRIM KIT VALVE					IROME				LINGIINEER 19401 40TH AVE W LYNNWOOD, W 206-364-334 REI PROJECT NO.	V., SUITE 302 /A 98036 43 tel
2	2	1-1/2	SHOWERHEAD					, N/A ESS STEE					NELSON
2		1-1/2	FAUCET				CH	IROME			-	STATES	
	2		SINK FAUCET				CH	ESS STEE IROME ESS STEE				PECISIE SS/ONAI	RE RELEASE
2	2	1-1/2	SINK FAUCET				CH	ESS STEE	-				ENGINETIC 100000000 9/7/23
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	_	-		J.R.	SMITH SMITH	5509QT 5960		N/A N/A	OR JOSAM,	WADE, ZURN WADE, ZURN			
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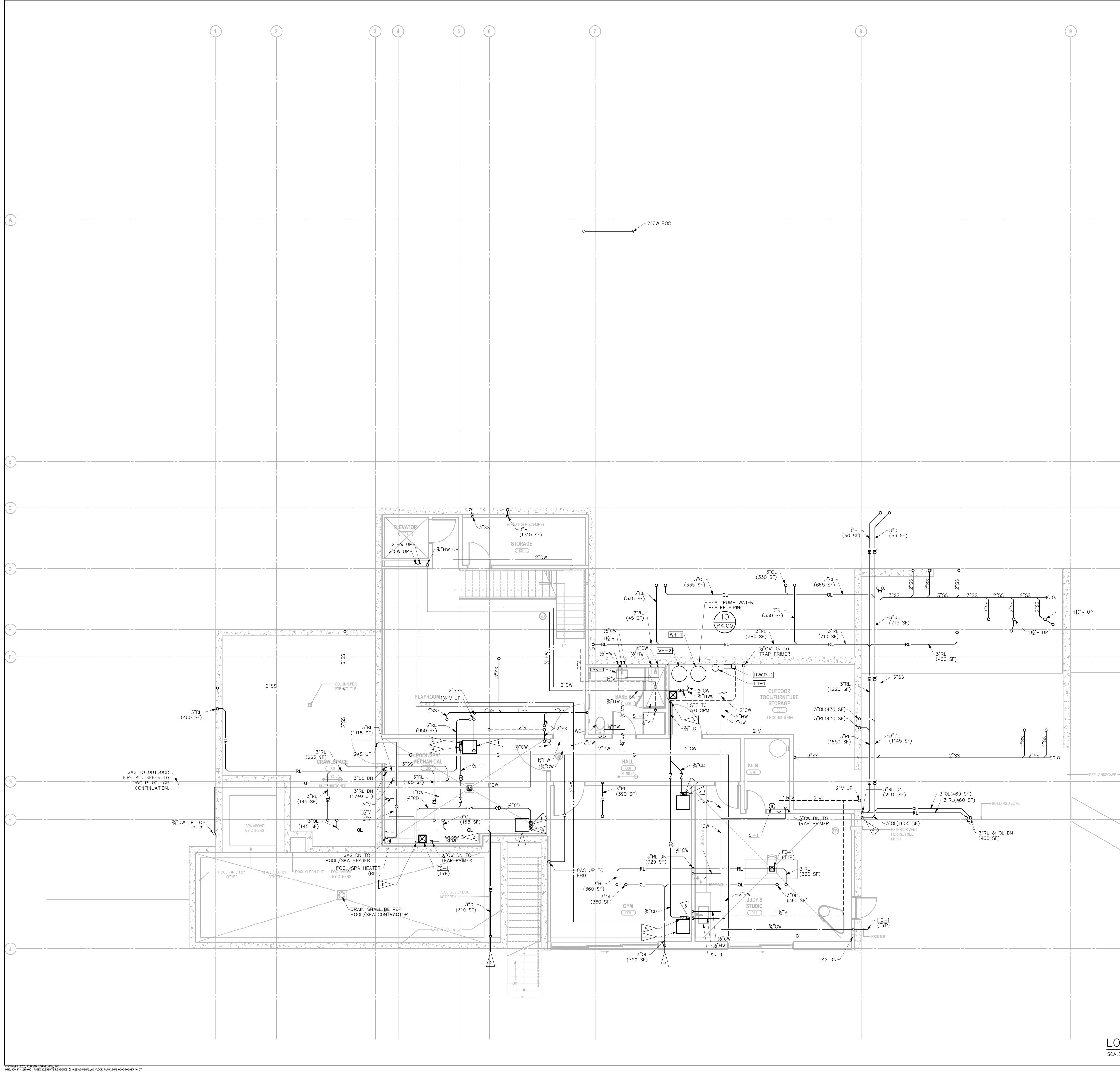


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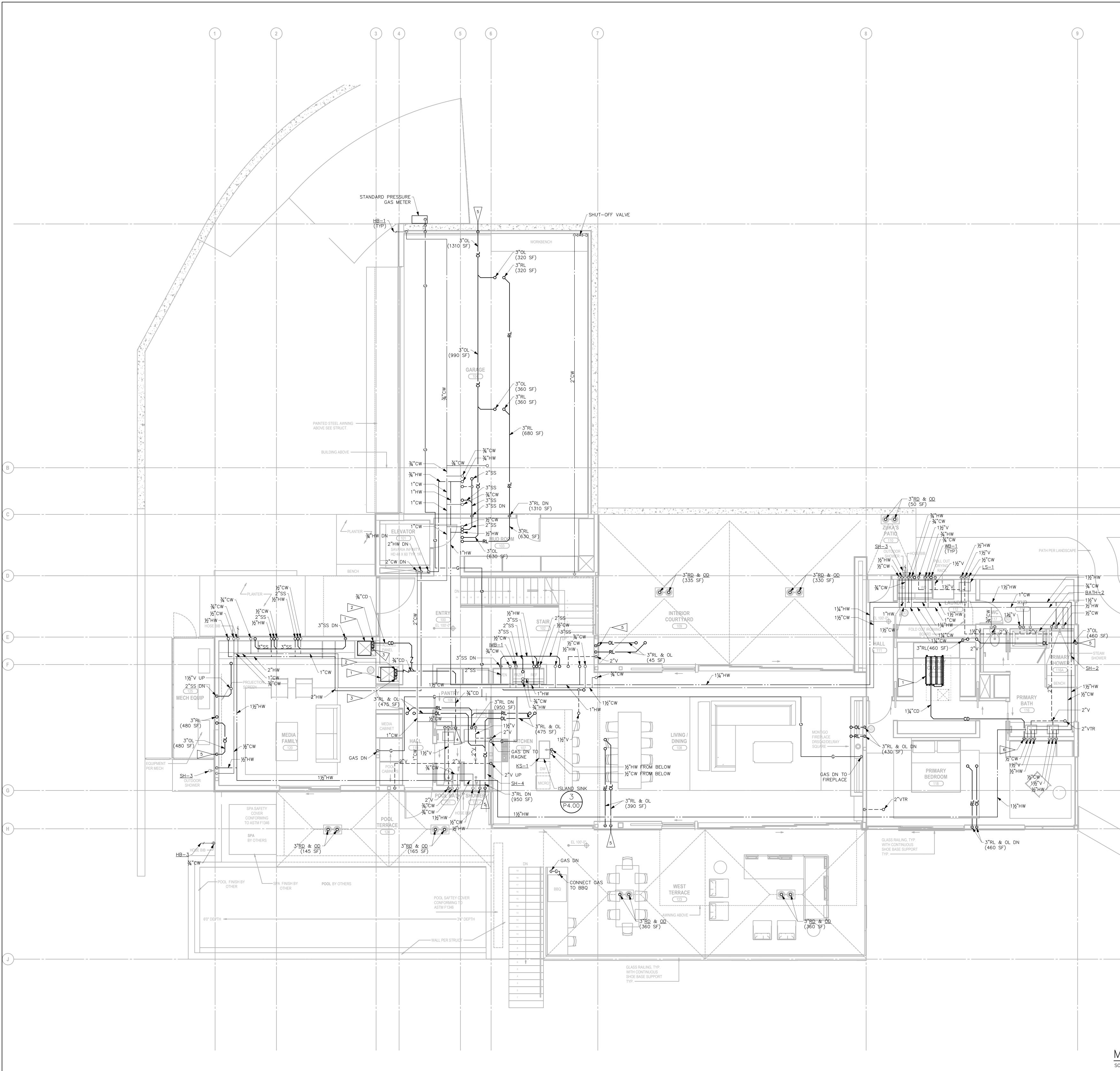
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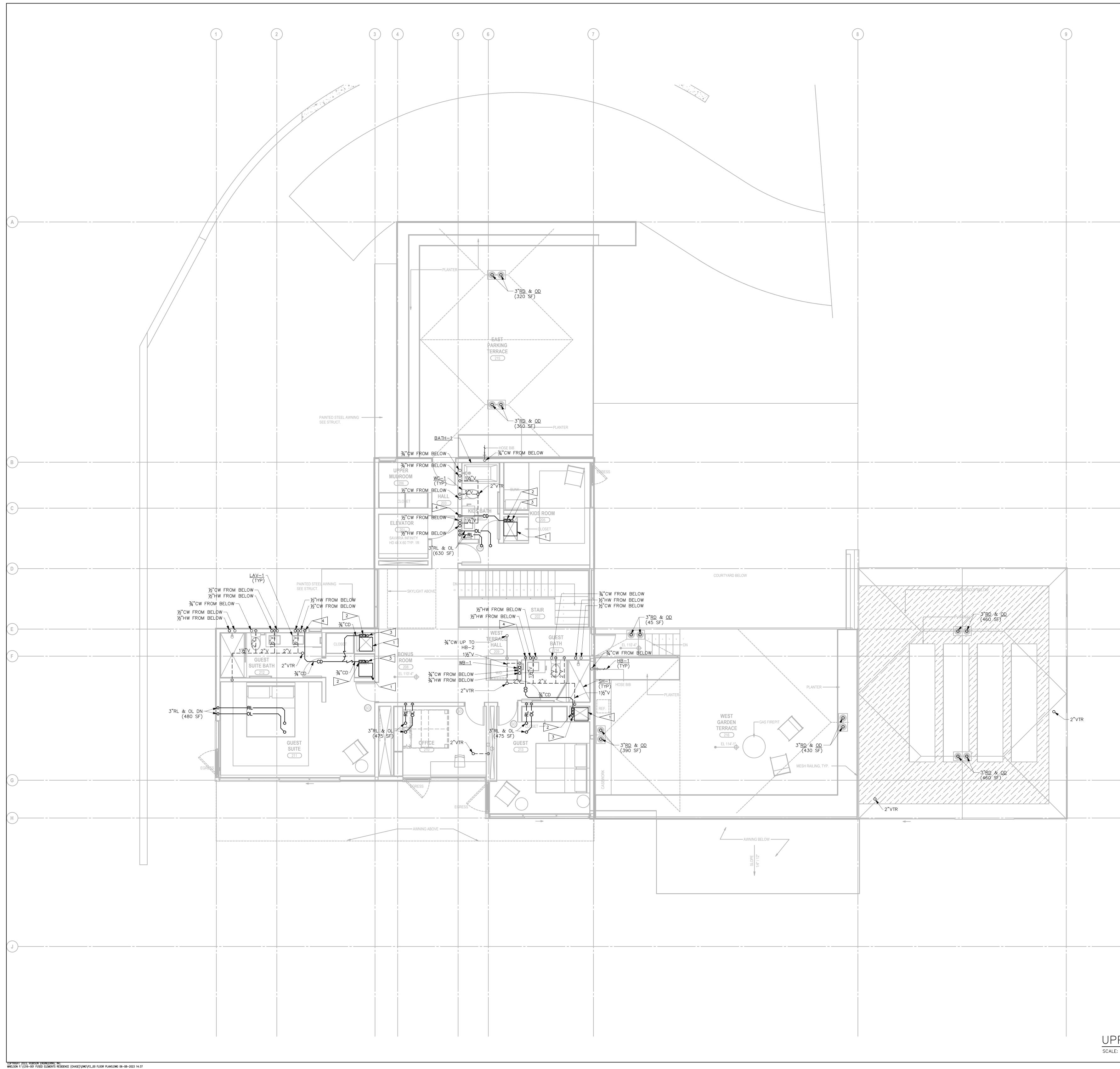
STORM DRAIN SIZING: STORM DRAIN PIPING SIZED PER 2018 UPC, CHAPTER 11, TABLES 1103.1 & 1103.2 FOR 1" PER HOUR RAINFALL RATE. HORIZONTAL PIPING SHALL BE SLOPED ½" PER LINEAR FOOT.	ion St, Suite 600 gton 98104 USA olsonkundig.com	
MAXIMUM ALLOWABLE MAXIMUM ALLOWABLE SIZE OF ROOF AREA ROOF AREA PIPE (HORIZONTAL PIPING) (VERTICAL PIPING) 3" 3,288 SF 8,800 SF 4" 7,520 SF 18,400 SF	159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	
WASTE PIPING SIZING:HORIZONTAL WASTE PIPING SHALL BE SLOPED AT ¼" PER LINEAR FOOT. PROVIDE CLEANOUTS PER CURRENT UPC AND AS REQUIRED BY LOCAL JURISDICTIONS. CLEANOUTS SHALL BE LOCATED IN WALLS/FLOORS WHERE THEY ARE NOT HIGHLY VISIBLE. FLOOR CLEANOUTS IN CARPETED AREAS SHALL BE FITTED WITH CARPET INSERTS. LOCATIONS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. NOTE: NOT ALL CLEANOUTS ARE SHOWN ON THE PLUMBING PLANS.Image: Provide the structure of the transmission of transmission	Olson Kundig	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
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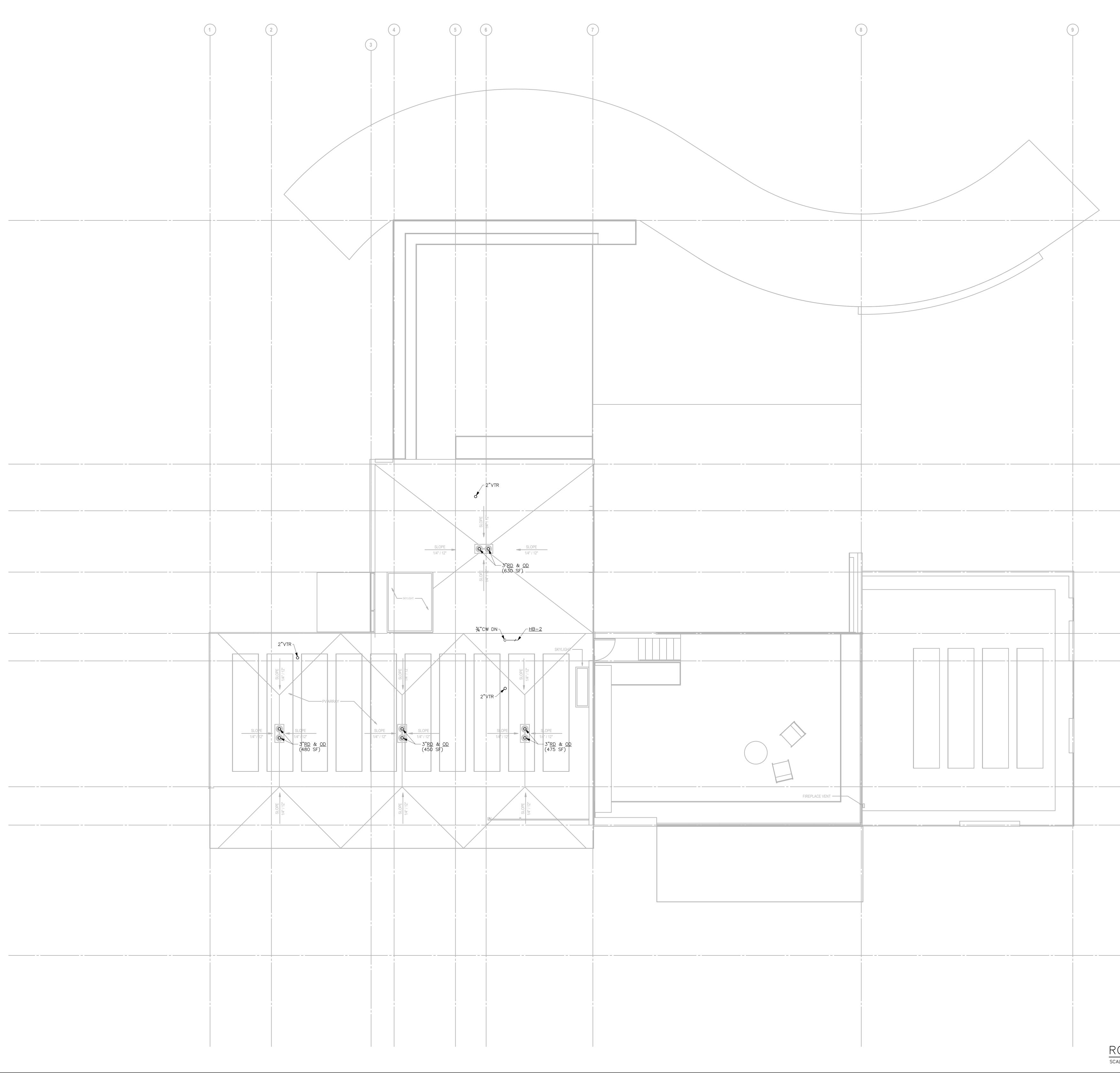
STORM DRAIN SIZING:         STORM DRAIN PIPING SIZED PER 2018 UPC, CHAPTER 11, TABLES 1103.1 & 1103.2 FOR 1" PER HOUR RAINFALL RATE. HORIZONTAL PIPING SHALL BE SLOPED ½" PER LINEAR FOOT.         SIZE OF       MAXIMUM ALLOWABLE ROOF AREA ROOF AREA PIPE (HORIZONTAL PIPING)       MAXIMUM ALLOWABLE ROOF AREA ROOF AREA ROOF AREA ROOF AREA ROOF STATE (VERTICAL PIPING)         3"       3,288 SF       8,800 SF         4"       7,520 SF       18,400 SF         FLAG NOTES:         1       HVAC EQUIPMENT (REF).         2       1"CW STUB FOR POOL/SPA EQUIPMENT.         3       DAYLIGHT OVERFLOW RAIN LEADER 6" ABOVE GRADE WITH A BRONZE OVERFLOW NOZZLE.         4       CONDENSATE PUMP (REF). CONDENSATE PUMP PROVIDED BY MECHANICAL CONTRACTOR. PIPING BY PLUMBING CONTRACTOR.         5       DISCHARGE ¾" SECONDARY CONDENSATE DRAIN TO FLOOR SINK WITH A MINIMUM 1" AIR GAP.         GAS PIPING NOTES:         FOR GAS PIPE SIZES, REFER TO DWG 4.00,	DISDN Kundig       158 South Jackson St. Suite 600         Seatte, Washington 98104 USA       1206 624 5670 oisonkundig.com         Ipolect:       Project         A525 FOREST AVE SE MERCER ISLAND, WA 98040
MASTE PIPING SIZING: WASTE PIPING SIZING: HORIZONTAL WASTE PIPING SHALL BE SLOPED AT WASTE PIPING SHALL BE SUCATED IN WALLS/FLOORS WHERE THEY ARE NOT HIGHLY VISIBLE. FLOOR CLEANOUTS IN CARPETED AREAS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. NOTE: NOT ALL CLEANOUTS ARE SHOWN ON THE PLUMBING PLANS.	stamp/seat:
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STORM DRAIN PIPING SIZED PER 2018 UPC, CHAPTER 11, TABLES 1103.1 & 1103.2 FOR 1" PER HOUR RAINFALL RATE. HORIZONTAL PIPING SHALL BE SLOPED ½" PER LINEAR FOOT. MAXIMUM ALLOWABLE MAXIMUM ALLOWABLE SIZE OF ROOF AREA ROOF AREA	159 South Jackson St, Suite 600 Seattle, Washington 98104 USA 1 206 624 5670 olsonkundig.com	
SIZE OF ROOF AREA ROOF AREA PIPE (HORIZONTAL PIPING) (VERTICAL PIPING) 3" 3,288 SF 8,800 SF 4" 7,520 SF 18,400 SF	159 Sout Seattle, - +1 206 624	140
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CONTRACTOR. 3 DISCHARGE ¾" SECONDARY CONDENSATE DRAIN TO FLOOR. 4 CONNECT ¾" CONDENSATE DRAIN TO TAILPIECE OF LAVATORY. REFER TO DWG 4.00, DETAIL 8.		SE MERCE
<ul> <li>OF LAVATORY. REFER TO DWG 4.00, DETAIL 8.</li> <li>DAYLIGHT OVERFLOW RAIN LEADER 6" ABOVE GRADE WITH A BRONZE OVERFLOW NOZZLE.</li> <li>CONNECT 1¼" CONDENSATE DRAIN TO TAILPIECE OF LAVATORY. REFER TO DWG 4.00, DETAIL 8.</li> </ul>	OISON Project: ELISED ELIENT	525 FOREST AVE
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	ROBISON ENGINEERING, IN 19401 40TH AVE W., SUITE 302 LYNNWOOD, WA 98036 206-364-3343 TEL REI PROJECT NO.: 1005-002	
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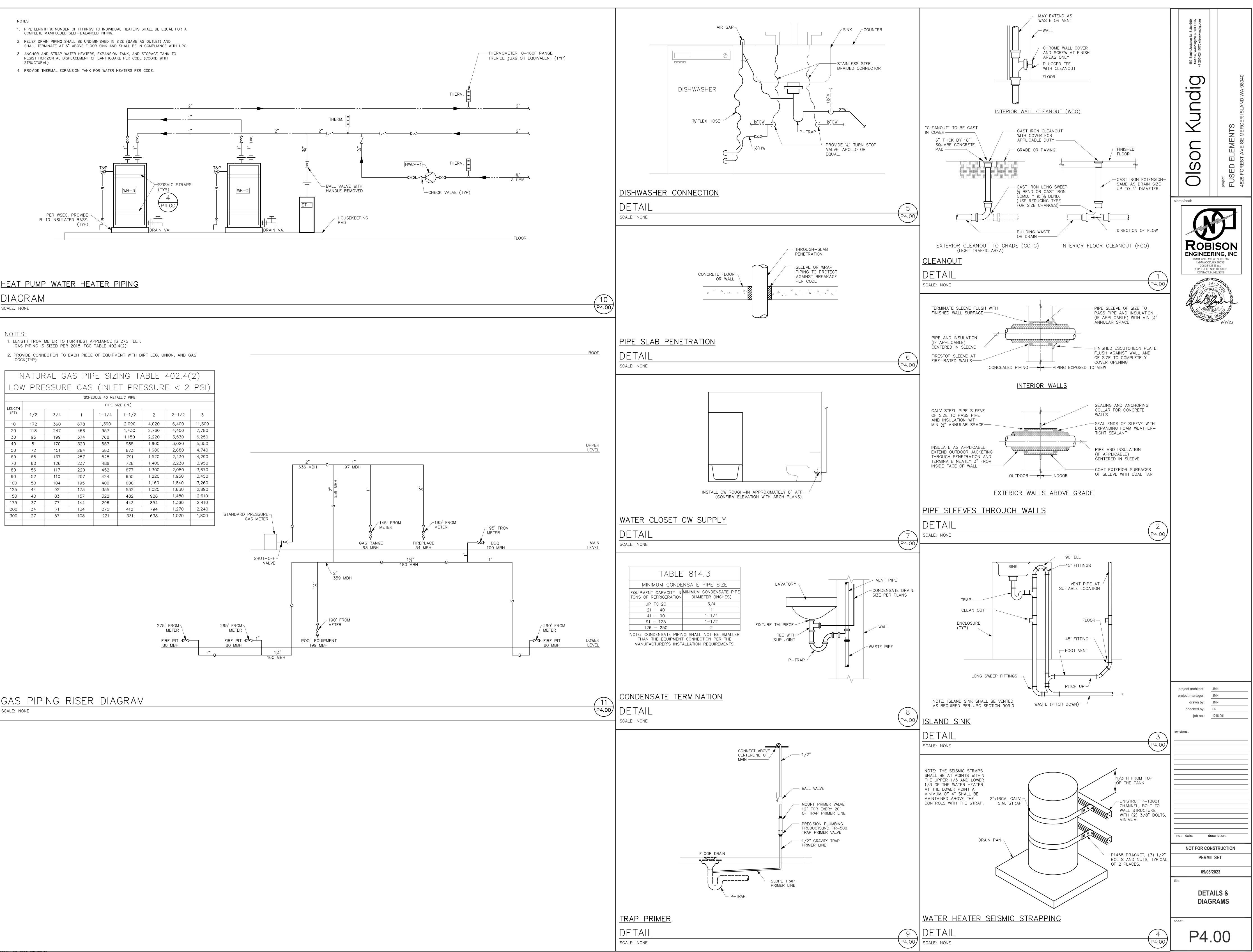


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SIZE ( PIPE 3"	(HORIZONTAL PIPING) 3,288 SF	MAXIMUM ALLOWABLE ROOF AREA (VERTICAL PIPING) 8,800 SF	159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	
4"	7,520 SF	18,400 SF		38040
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3	<ul> <li>DISCHARGE ¾" SECONDAR DRAIN TO FLOOR.</li> <li>CONNECT ¾" CONDENSATE OF LAVATORY. REFER TO</li> </ul>		on Kundi	D ELEMENTS REST AVE SE MERC
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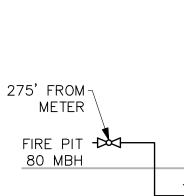
L COPYRIGHT 2023, ROBISON ENGINEERING, INC. MNELSON F:\1216-001 FUSED ELEMENTS RESIDENCE (CHASE)\DWG\P2\_00 FLOOR PLANS.DWG 06-08-2023 14:37

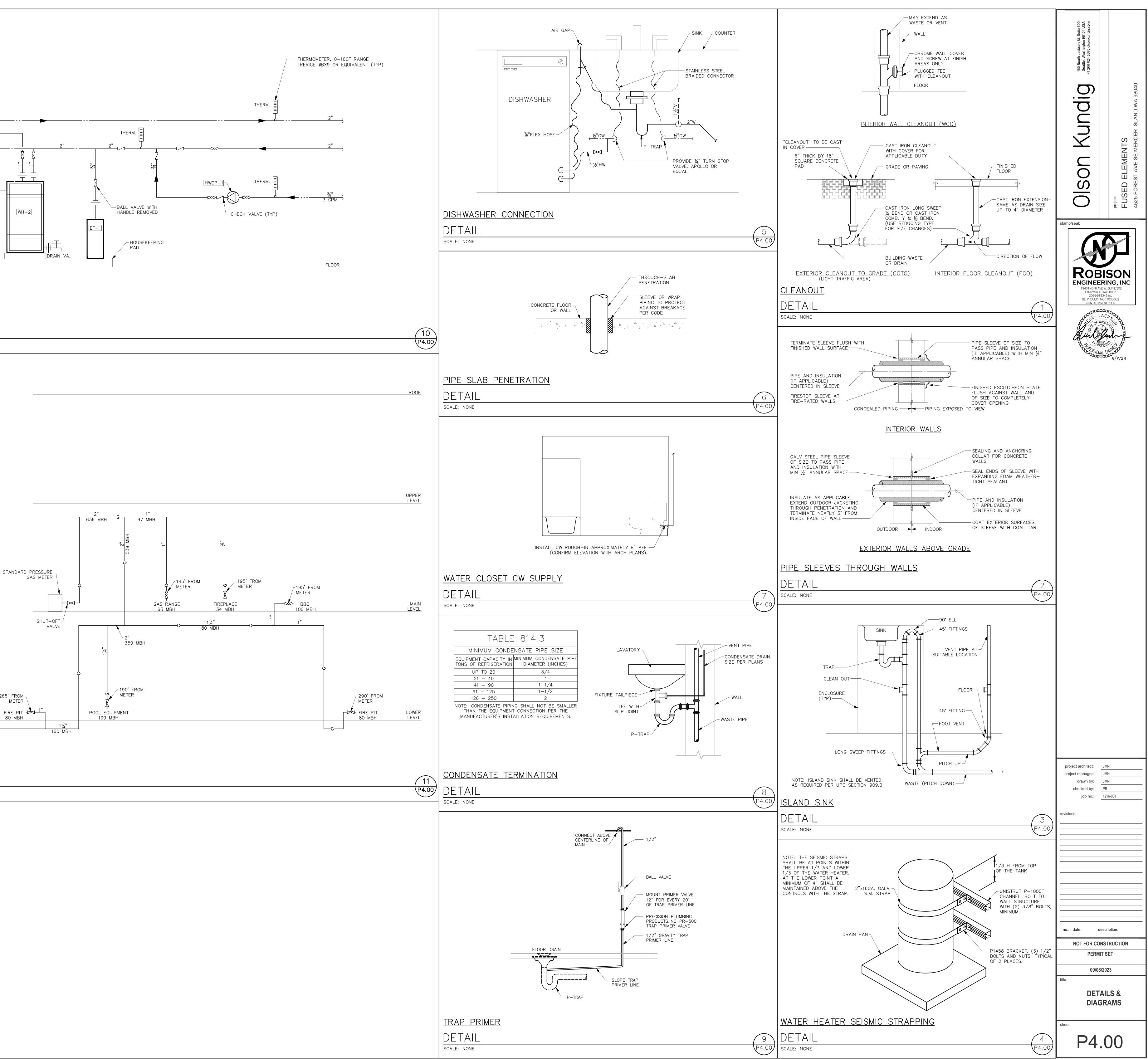
		DRAIN SIZING: RAIN PIPING SIZED PER 20 103.1 & 1103.2 FOR 1" P PRIZONTAL PIPING SHALL E OOT.	D18 UPC, CHAPTER 11, ER HOUR RAINFALL BE SLOPED ½" PER	5 t, Suite 600 on 98104 USA onkundig.com	
	SIZE OF PIPE 3" 4"	MAXIMUM ALLOWABLE ROOF AREA (HORIZONTAL PIPING) 3,288 SF 7,520 SF	MAXIMUM ALLOWABLE ROOF AREA (VERTICAL PIPING) 8,800 SF 18,400 SF	OISON Kundig <sup>159</sup> South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 otsonkundig.com	project: FUSED ELEMENTS 4525 FOREST AVE SE MERCER ISLAND,WA 98040
		A		stamp/seal:	
				REPROJECT NO. CONTACT: M.N PAGE AND	ING, INC A 98036 3 TEL 1 1005002 VELSON
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$\frac{\text{OOF PLAN}}{\text{ALE: } 1/4" = 1'-0"}$	١			sheet: P2.4	
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## HEAT PUMP WATER HEATER PIPING DIAGRAM

Ν	IATUF	ral Ga	AS PIF	PE SIZ	ING T	ABLE	402.4(	(2)
LOW	/ PRE	ISSURE	e gas	(INLE	t pre	SSUR	E < 2	PSI)
			SCHE	DULE 40 MET	ALLIC PIPE			
LENGTH -				PIPE S	IZE (IN.)			
(FT)	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3
10	172	360	678	1,390	2,090	4,020	6,400	11,300
20	118	247	466	957	1,430	2,760	4,400	7,780
30	95	199	374	768	1,150	2,220	3,530	6,250
40	81	170	320	657	985	1,900	3,020	5,350
50	72	151	284	583	873	1,680	2,680	4,740
60	65	137	257	528	791	1,520	2,430	4,290
70	60	126	237	486	728	1,400	2,230	3,950
80	56	117	220	452	677	1,300	2,080	3,670
90	52	110	207	424	635	1,220	1,950	3,450
100	50	104	195	400	600	1,160	1,840	3,260
125	44	92	173	355	532	1,020	1,630	2,890
150	40	83	157	322	482	928	1,480	2,610
175	37	77	144	296	443	854	1,360	2,410
200	34	71	134	275	412	794	1,270	2,240
300	27	57	108	221	331	638	1,020	1,800





## GAS PIPING RISER DIAGRAM SCALE: NONE

#### SYMBOLS <u>GENERAL</u> LIGHT LINE INDICATES NON-ELECTRICAL OR BAG (THIS IS NOT CONTRACTUAL DEFINITION OF WOR HEAVY LINE INDICATES NEW WORK (THIS IS NO CONTRACTUAL DEFINITION OF WORK) DETAIL IDENTIFICATION <u>SYMBOL</u> <u>NAME</u> 1 FLAG NOTE REVISION NOTE $\bigtriangleup$ $\sim$ REVISION DEFINITION, AREA ENCIRCLED CONTAIN CHANGES MADE SUBSEQUENT TO PREVIOUS ISS $\overline{ }$ <u>LIGHTING</u> $\left< L10 \right>$ , $\left< \frac{A}{2-32} \right>$ FIXTURE IDENTIFICATION SYMBOL (TYPE A, (2) LAMPS SHOWN) SEE SCHEDULE SEE LUMINAIRE FOR FIXTURE SYMBOLS <u>SWITCHES</u> \$a SWITCH, SINGLE POLE; WITH SWITCHING SUBSCR \$os OCCUPANCY SENSOR SWITCH, PROXIMITY INFRAI SWITCH, SINGLE POLE; WITH SWITCHING SUBSCR INDICATES WALLBOX DIMMER \$<sub>0S</sub> CEILING MOUNTED OCCUPANCY SENSOR \$<sub>AL</sub> CEILING MOUNTED AMBIENT LIGHT SENSOR \$<sub>DT</sub> WALL MOUNTED DUAL TECHNOLOGY OCCUPANT SWITCH, TIMER. SWITCH, TWO POLE. <u>RECEPTACLES</u> Φ SINGLE RECEPTACLE DUPLEX RECEPTACLE: WALL MOUNTED, +18" ψa CONTROLLED AND NON CONTROLLED DUPLEX R $\Theta$ DUPLEX RECEPTACLE – ABOVE COUNTER 🗭 GFCI DUPLEX GFCI ABOVE COUNTER 🛈 GFCI DUPLEX GFCI DUPLEX GFCI WITH WEATHERPROOF COVER **(** +42" DUPLEX RECEPTACLE, WITH HEIGHT ABOVE FINIS $\square$ CEILING MOUNTED DUPLEX RECEPTACLE ₿ QUAD RECEPTACLE: WALL MOUNTED, +18" AFF þ FLOOR BOX ONE DUPLEX RECEPTACLE FLOOR BOX ONE DUPLEX RECEPTACLE + ONE ଡ଼▼⊽ FLOOR BOX ONE DUPLEX RECEPTACLE + ONE $\bigcirc$ SPECIAL PURPOSE RECEPTACLE, AS NOTED **MISCELLANEOUS** J JUNCTION BOX: 4SQ MOUNTED JUNCTION BOX: 4SQ WALL MOUNTED JUNCTION BOX: 4SQ TRACK CONNECTION FOR LIGHTED MIRROR COORDINATE ELEVATION WITH ARCHITECT PRIOR TO ROUGH-(T)THERMOSTAT SIGNAL/COMMUNICATION $\nabla$ DATA OUTLET: WALL MOUNTED @ +18" AFF TELEPHONE/DATA OUTLET: WALL MOUNTED @ Ţ TELEVISION OUTLET: WALL MOUNTED @ +18" A <u>POWER</u> PANELBOARD $\leq$ $\Box$ <sup>WD</sup> NON-FUSED DISCONNECT SWITCH (WP = NEMA $\Box$ FUSED DISCONNECT SWITCH Ó MAU-1,5HP,480,3 MOTOR CONNECTION (EQUIPMENT NAME, HORSE INDICATED) INDICATED) Т TRANSFORMER, DRY TYPE, SHOWN TO SCALE Μ KW METER AND BASE FACP FIRE ALARM SYSTEM CONTROL PANEL Ρ FIRE ALARM SYSTEM PULL STATION $\square$ FIRE ALARM SYSTEM STROBE/SPEAKER (SD) FIRE ALARM PHOTOELECTRIC SMOKE DETE PART OF THE \_ FIRE ALARM COMBINATION PHOTOELECTRIC 8 DESIGN/BUILD CARBON MONOXIDE DETECTOR, AND SPEAK FIRE ÁLARM SYSTEM H FIXED HEAT DETECTOR CARBON MONOXIDE DETECTOR. ELECTRO-MAGNETIC DOOR HOLDER DSD DUCT SMOKE DETECTOR

	ABBREVIATIONS	
	A AMPERE	GENERAL
BACKGROUND /ORK)	AC ALTERNATING CURRENT, ABOVE COUNTER AFF ABOVE FINISHED FLOOR AIC AMPS INTERRUPTING CAPACITY AL ALUMINUM	1. PROVIE ELECTE COMPA
NOT	AMP AMPERE AWG AMERICAN WIRE GAUGE BKR BREAKER	2. PROVIE ELECTE
	BLDG BUILDING C COIL or CONDUIT CKT CIRCUIT	NOT N FOR A
	CO CONDUIT/RACEWAY ONLY CT CURRENT TRANSFORMER	3. THE CONDI CONDI BE BR
AINS DRAWING	Cu COPPER CW COOL WHITE D DIMMER	4. "REF"
SSUE	DED DEDICATED EC ELECTRICAL CONTRACTOR EF EXHAUST FAN	5. REFERI
) 32 WATT RE SCHEDULE	ELEC ELECTRICAL EMT ELECTRICAL METALLIC TUBING EQUIP EQUIPMENT	QUEST DIRECT NO WA
INE SCHEDOLL	EXIST EXISTING FAA FIRE ALARM ANNUNCIATOR	CONTR 6. WHERE
CRIPT	FACP FIRE ALARM CONTROL PANEL FLUOR FLUORESCENT GC GENERAL CONRACTOR	COMPL
RARED CRIPT "D"	GFCI GROUND FAULT CIRCUIT INTERRUPTER GND GROUND GRS GALVANIZED RIGID STEEL	7. COORD 8. REFER
	HID HIGH INTENSITY DISCHARGE HP HORSEPOWER IG ISOLATED GROUND	LOCAT COORD
IT SENSOR	KCMIL THOUSAND CIRCULAR MILLS KVA KILOVOLT AMPERES	CONTR PRIOR
	KW KILOWATT LTG LIGHTING LV LOW VOLTAGE	MATERIALS
	MFR MANUFACTURER MIN MINIMUM MLO MAIN LUGS ONLY	1. PROVIE WHERE
'AFF	N NEUTRAL NEC NATIONAL ELECTRICAL CODE (NFPA-70)	INSTAL INSTAL BUILDII
RECEPTACLE (SPLIT WIRED RECEPTACLE)	NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NTS NOT TO SCALE	SUPPO 2. EXPOS
	PNL PANEL POC POINT OF CONNECTION PT POTENTIAL TRANSFORMER	MECHA SECUR
	PVC POLYVINYL CLORIDE PWR POWER	3. OUTDO TO WE
NISHED FLOOR INDICATED	QTY QUANTITY RECEPT RECEPTACLE REF REFERENCE	4. CLEAR
FF	RI ROUGH-IN RM ROOM RO RACEWAY ONLY	ACCES 5. CONNE
E DATA	SHT SHEET SPEC SPECIFICATIONS SW SWITCH	FOR C
E DATA + ONE VOICE	SWBD SWITCHBOARD SWGR SWITCHGEAR	6. WIRING MINIMU THROU
	TYP TYPICAL UG UNDERGROUND UL UNDERWRITERS LABORATORIES	
	UON UNLESS OTHERWISE NOTED V VOLTS W WATTS	APF
TE LOCATION AND I-IN	WW WARM WHITE WP WEATHERPROOF W/ WITH	CODES
	W/O WITHOUT XFMR TRANSFORMER	● NATION ● COMPL
U.O.N.	XFR TRANSFER Z IMPEDANCE OR ZONE	
@ +18" AFF U.O.N. AFF U.O.N.	GENERAL REQU	REME
	1. DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GEI EQUIPMENT REQUIRED.	
1A 3R WHERE APPROPRIATE )	2. THE DRAWINGS SHALL NOT BE SCALED FOR EXAG 3. REFER TO ARCHITECTURAL DRAWINGS FOR DIMEN 4. REFER TO MANUFACTURER'S STANDARD INSTALLA	SIONS.
SEPOWER, VOLTAGE, AND PHASE	AND INSTALLATION REQUIREMENTS. 5. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES COMPLETE SYSTEM.	S, OFFSETS, AN
LOAD, VOLTAGE, AND PHASE		
	CONTRACTOR SUBSTIT	UTION
	1. PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR F ORDERING MATERIAL OR DOING WORK.	
	2. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTUR MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICA SPECIFICATION.	TION FOR THAT
	<ol> <li>ENGINEERING COSTS FOR REVISING MEP PLANS SHALL SUBSTITUTION PROPOSAL.</li> <li>CONTRACTOR TO COORDINATE WITH ENGINEER AND DE</li> </ol>	
ECTOR AND SPEAKER.	COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTI RESULTING FROM SUBSTITUTIONS OR REVISIONS.	HER COSTS ASS
C SMOKE DETECTOR,	PRE-CON MEETIN	IG NOT
AKER, GUESTROOM.	CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERIN	IG ANY EQUIPN
	WORK. THE MEETING SHALL BE LOCATED AT THE PRO MUTUALLY AGREED. THE MEETING WILL BE A WORKING BY THE ENGINEER AND THE AGENDA WILL INCLUDE A	SESSION. THE
	SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES F PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS A FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS	ND METHODS,A
	ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH	OF THE PROJE PROJECT THRC
	PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT	WILL BE ISSUE
	ISSUE CHANGE ORDERS. THE FOLLOWING TRADES SHALL BE REPRESENTED FOR	THE MINIMUM
	MECHANICAL SHEET METAL 4 HOURS PLUMBING/PIPING 4 HOURS	
	ELECTRICAL4 HOURSSPRINKLER2 HOURSGENERAL CONTRACTORALL SESSIONS	

## GENERAL NOTES

PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE GOVERNING ELECTRICAL CODE, LOCAL CODES, ORDINANCES AND REQUIREMENTS OF UTILITY COMPANIES FURNISHING SERVICES TO INSTALLATION.

PROVIDE ALL WORK AND ITEMS NECESSARY FOR COMPLETE AND FUNCTIONAL LECTRICAL SYSTEMS. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EVERY CONDUIT, BOX, CONDUCTOR OR SIMILAR ITEMS FOR A COMPLETE INSTALLATION.

THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND DETERMINE CONDITIONS WHICH MAY AFFECT BID. ANY ITEMS NOT FULLY UNDERSTOOD SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.

"REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, OR MECHANICAL).

REFERENCE ARCHITECTURAL DRAWING FOR EXACT LOCATION OF DEVICES. QUESTIONS CONCERNING THE LOCATION OF DEVICES AND EQUIPMENT SHALL BE DIRECTED TO THE ARCHITECT. FAILURE TO COORDINATE REQUIREMENTS SHALL IN NO WAY RESULT IN ADDITIONAL COMPENSATION BEING PROVIDED TO THE CONTRACTOR.

WHEREVER THE WORD "PROVIDE" IS USED, IT MEANS, "FURNISH AND INSTALL COMPLETE AND READY FOR USE."

COORDINATE LOCATION OF ELECTRICAL WITH OTHER TRADES.

REFER TO EQUIPMENT DRAWINGS FOR MECHANICAL CHARACTERISTICS (SIZE, OCATION, ETC.) OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED. COORDINATE INSTALLATION AND LOCATION OF ALL EQUIPMENT WITH MECHANICAL CONTRACTOR. VERIFY ALL FUSE RATINGS, WIRE SIZES AND DISCONNECT SIZES PRIOR TO INSTALLATION.

### ERIALS AND METHODS

PROVIDE RACEWAY AND WIRING ROUTED CONCEALED WITHIN BUILDING STRUCTURE WHERE POSSIBLE. WHERE RACEWAY CANNOT BE CONCEALED, IT SHALL BE INSTALLED PER PROJECT MANAGER'S DIRECTION. ALL CONDUIT SHALL BE NSTALLED IN NEAT SYMMETRICAL LINES HORIZONTAL OR PERPENDICULAR TO BUILDING COLUMNS AND ROOF LINES. CONDUITS SHALL BE GROUPED ON COMMON SUPPORTS WHEREVER POSSIBLE.

EXPOSED CONDUIT ROUTING: CONDUITS MAY BE ROUTED EXPOSED IN MECHANICAL AND ELECTRICAL ROOMS ONLY. EXPOSED CONDUITS SHALL BE SECURED A MINIMUM OF 6" ABOVE FLOOR.

OUTDOOR EXPOSED CONDUIT ROUTING: CONDUITS ROUTED ON ROOF OR EXPOSED TO WEATHER SHALL BE GRC, PVC OR LIQUID-TIGHT FLEX. PROVIDE WATER-TIGHT CONNECTIONS AND FITTINGS.

CLEARANCES: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET.

CONNECTIONS: PROVIDE GRS, METALLIC FLEX, OR LIQUIDTITE FLEX CONDUITS FOR CONNECTIONS TO MOTORS OR MOTORIZED EQUIPMENT.

WIRING: PROVIDE MINIMUM #12 AWG WIRE SIZE. IF CONDUIT IS TO BE USED MINIMUM IS TO BE 1/2". FLEXIBLE CONDUIT AND FLEXIBLE CABLE IS PERMISSIBLE THROUGHOUT THE BUILDING.

- CIRCUIT RUNS OVER 75' IN LENGTH. <u>SITE ELECTRICAL</u>
- AND DRAINAGE TRENCHES.

- STRAIGHT AS POSSIBLE TO MINIMIZE BENDS.

## <u>NEUTRALS</u>

- SHALL BE DEDICATED TO THE DIMMED LOAD.
- SPECIFICATIONS.

### <u>LIGHTING</u>

AND ACCESSORY ITEMS, UL LISTED FOR CONDITIONS OF USE.

LOW VOLTAGE LIGHTING

MINIMIZE VOLTAGE DROP.

LIGHTING CONTROL

- THEIR CAPABILITY TO FUNCTION INDEPENDENTLY.
- AN UNSWITCHED LEG OF THE DESIGNATED CIRCUIT.

PPLICABLE CODES		DRAWING INDE>					
ODES:							
ATIONAL ELECTRICAL CODE 2020 OMPLY WITH LOCAL JURISDICTION REQUIREMENTS			INCLUDED IN SET	INCLUDED IN SET	INCLUDED IN SET	INCLUDED IN SET	
ENTS			PERMIT SET 09/08/23				
CATION, TYPE, LAYOUT, AND	DWG	DESCRIPTION	DEF 09				
REMENT.	E000	COVER SHEET, LEGEND & NOTES	X				_
WINGS FOR EQUIPMENT CONNECTIONS	E100	ELECTRICAL SITE PLAN	X				
, AND MATERIALS NECESSARY FOR A	E200	ELECTRICAL FLOOR PLANS	X				1
	E201	ELECTRICAL FLOOR PLANS	X				
	E202	ELECTRICAL FLOOR PLANS	X				1
NS & REVISIONS	E300	ONE-LINE DIAGRAM AND SCHEDULES	X				1
OR REVIEW AND APPROVAL PRIOR TO							_
AND CATALOG DESIGNATIONS, THE THAT ITEM ARE CONSIDERED PART OF							
SSED IN THE COST ANALYSIS OF THE							-
SSOCIATED DESIGN AND PERMITTING ASSOCIATED WITH UNFORESEEN ISSUES							_
DTES							-
WITH THE ENGINEER FOR THE QUIPMENT OR PERFORMING ANY ON A DATE AND TIME TO BE THE MEETING WILL BE FACILITATED REVIEW OF THE PLANS AND DINATION ISSUES, REVIEW OF DS,AND ON-SITE INVESTIGATION OF LD AFFECT THE WORK. PERSONS PROJECT AND SHALL BE THE THROUGH TO COMPLETION. IF CHANNELS. CHANGES IN THE BID SSUED UNLESS PROCESSED THOUGH GINEER HAS NO AUTHORITY TO							
MUM TIME INDICATED:							

7. WIRING: PROVIDE MINIMUM #10 AWG COPPER CONDUCTOR SIZE IN 120V BRANCH

1. TRENCHING: COORDINATE ALL TRENCHING WORK WITH OTHER UTILITY LOCATIONS

2. UNDERGROUND CONDUITS: PROVIDE PVC, SCHEDULE 40, 3/4" MINIMUM. PROVIDE GRC CONDUIT TRANSITION ELBOW WHEN TURNING UP TO ABOVE GRADE.

3. DIRECT-BURIED CONDUITS: CONDUIT FOR BRANCH CIRCUITS OUTSIDE BUILDINGS NOT BENEATH DRIVEWAYS OR PARKING AREAS SHALL BE DIRECTLY BURIED WITHOUT CONCRETE ENCASEMENT. THE DEPTH TO THE TOP OF BURIED CONDUITS SHALL BE 36". PROVIDE MARKER TAPE 12" BELOW GRADE.

4. BELOW SLAB: CONDUIT ROUTED BELOW ON-GRADE FLOOR SLABS SHALL BE INSTALLED PRIOR TO FLOOR SLAB POUR. ROUTE CONDUITS BELOW SLAB AS

5. ALL CONDUITS PENETRATING THE BUILDING ENVELOPE BELOW GRADE SHALL FOLLOW WATERPROOFING REQUIREMENTS IN THE ARCHITECTURAL DRAWINGS.

1. AT CONTRACTORS OPTION, NEUTRALS MAY BE SHARED ON COMBINED HOMERUNS UNLESS THE CIRCUIT HAS A GFCI BREAKER, AN ISOLATED GROUND, OR IS FROM A PANEL WITH TVSS PROTECTION. ANY NEUTRAL DOWNSTREAM FROM A DIMMER

2. NEUTRAL WIRES SHOWN FOR TWO AND THREE POLE MECHANICAL AND KITCHEN EQUIPMENT MAY BE OMITTED UPON VERIFICATION THAT THEY ARE NOT REQUIRED EITHER FOR OPERATION OR CONTROL CIRCUITS PER MANUFACTURER'S

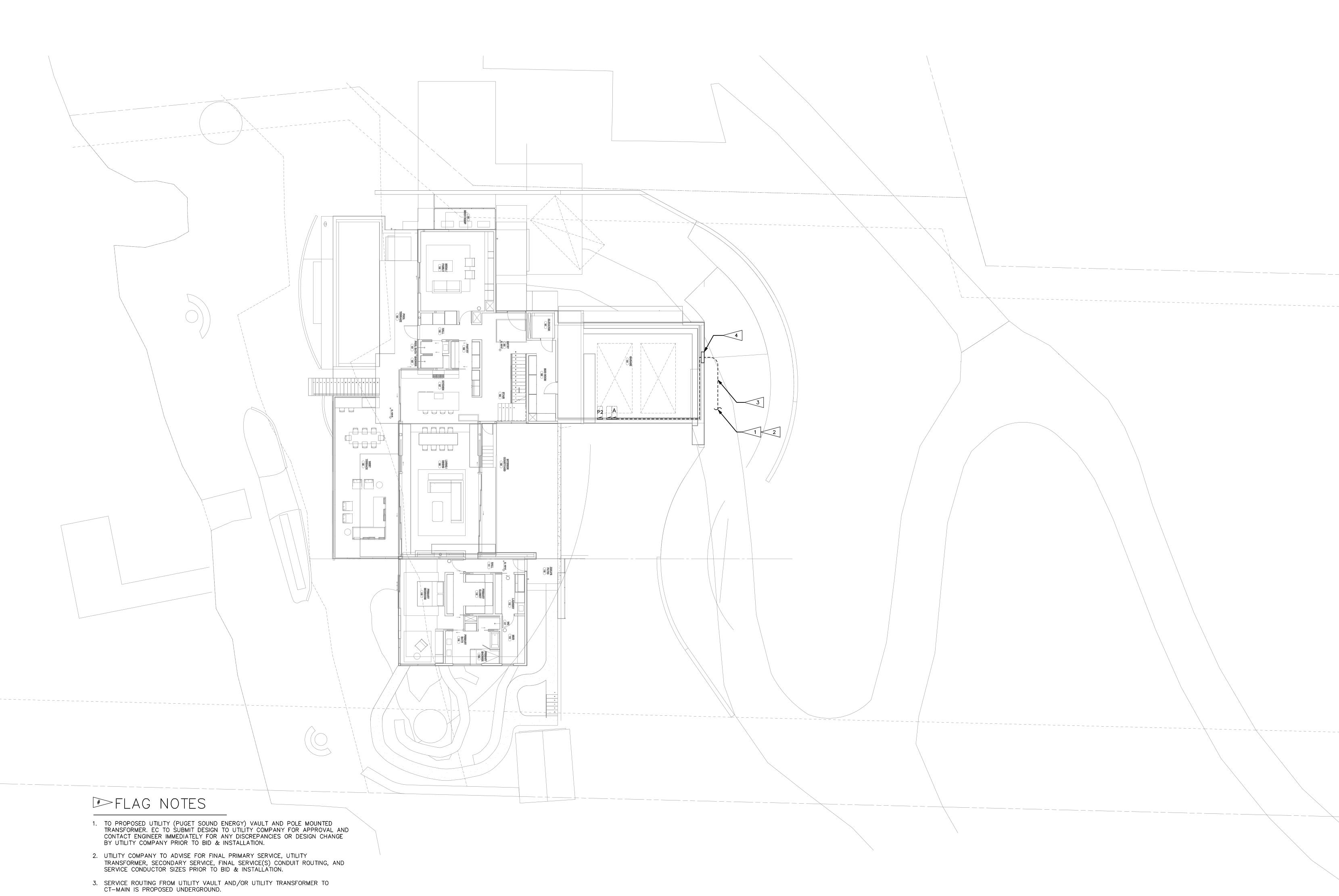
1. PROVIDE LIGHT FIXTURES WITH PROPER FITTING FLANGES, MOUNTING SUPPORTS.

1. PROVIDE LOW VOLTAGE TRANSFORMERS IN NEARBY ACCESSIBLE CEILING SPACE. 2. PROVIDE LOW VOLTAGE CONDUCTORS SIZED PER MANUFACTURER'S GUIDELINES TO

1. THE MAXIMUM LIGHTING POWER THAT MAY BE CONTROLLED FROM A SINGLE SWITCH OR AUTOMATIC CONTROL SHALL NOT EXCEED THAT WHICH IS PROVIDED BY A TWENTY AMPERE CIRCUIT LOADED TO NOT MORE THAN EIGHTY PERCENT. A MASTER CONTROL MAY BE INSTALLED PROVIDED THE INDIVIDUAL SWITCHES RETAIN

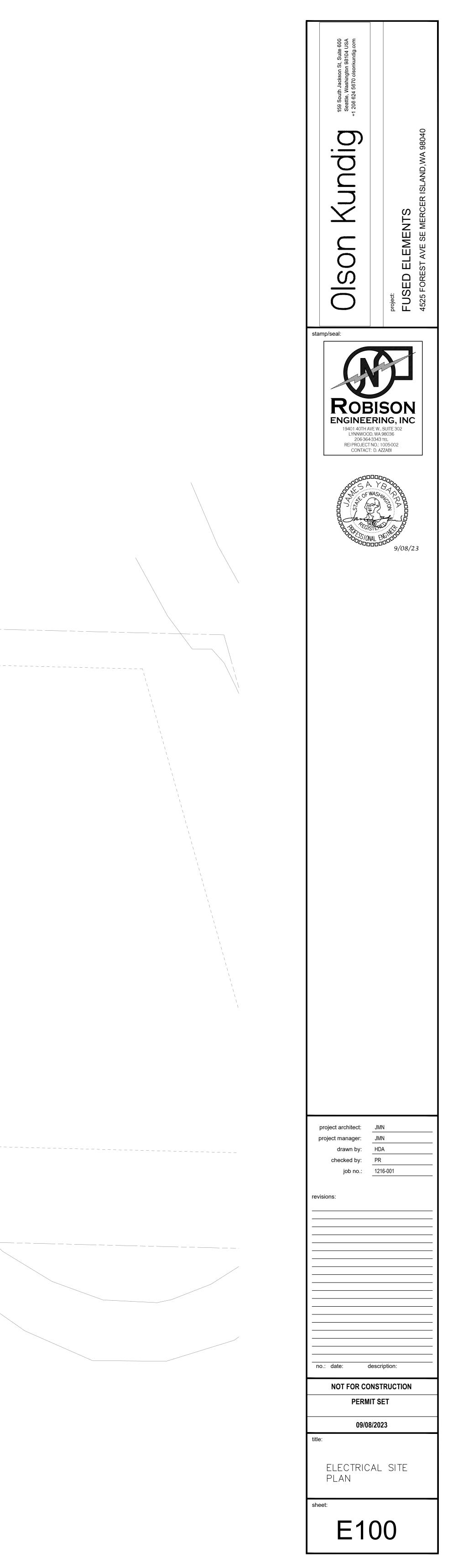
2. EMERGENCY FIXTURES: EMERGENCY BATTERY/CHARGER SHALL BE CONNECTED TO

Son Kundig 159 South Jackson St, Suite 600 Seattle, Washington 98104 USA +1 206 624 5670 olsonkundig.com	D ELEMENTS REST AVE SE MERCER ISLAND,WA 98040
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ENGINEE 19401 40TH A LYNNWOOI 206-364 REI PROJECT CONTACT	A AZARA
project architect: project manager: drawn by: checked by: job no.:	JMN JMN HDA PR 1216-001
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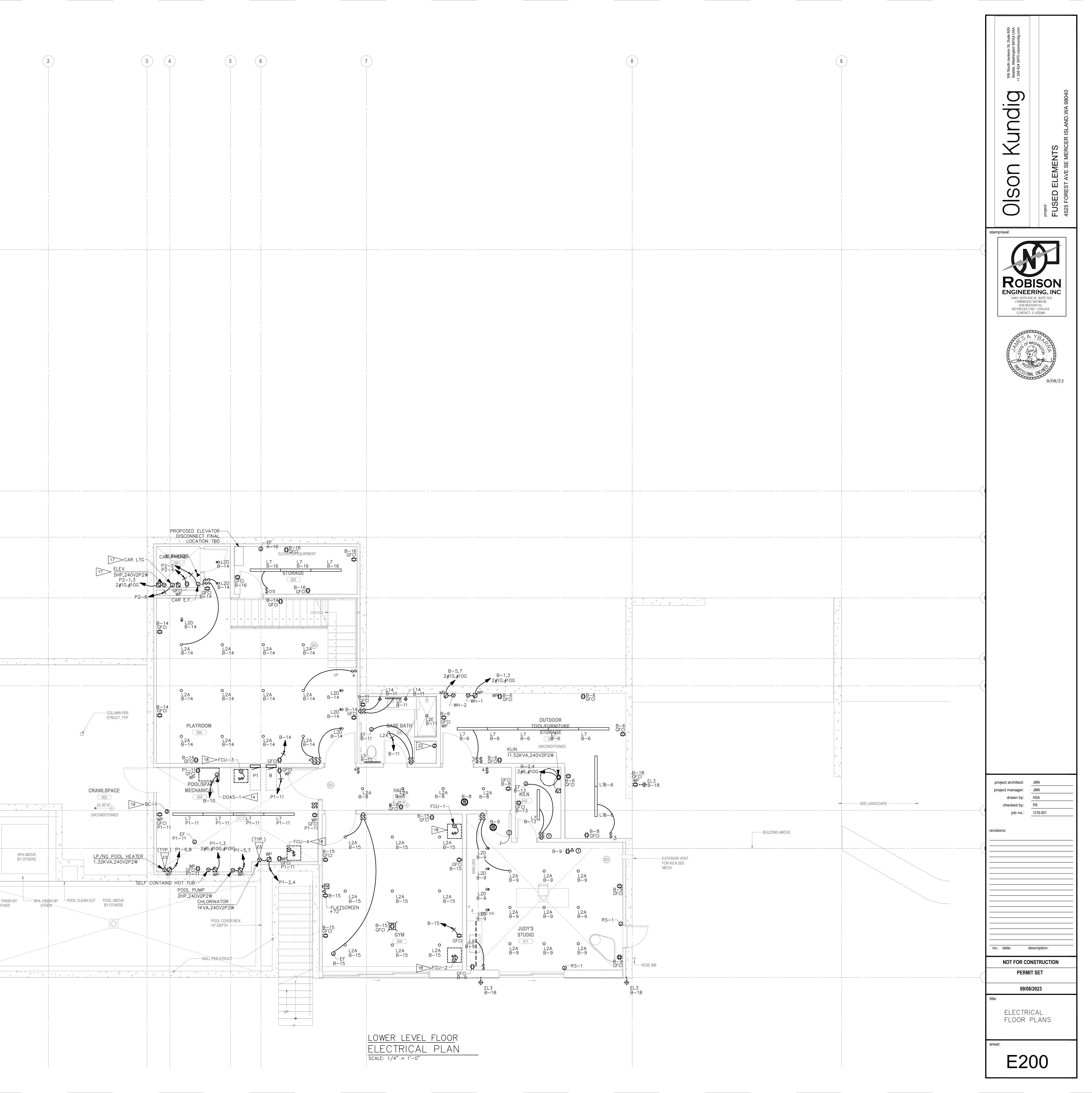


- 4. 600A 240/120V 1ø 3W NEMA 3R CT-MAIN SERVICE BOX.

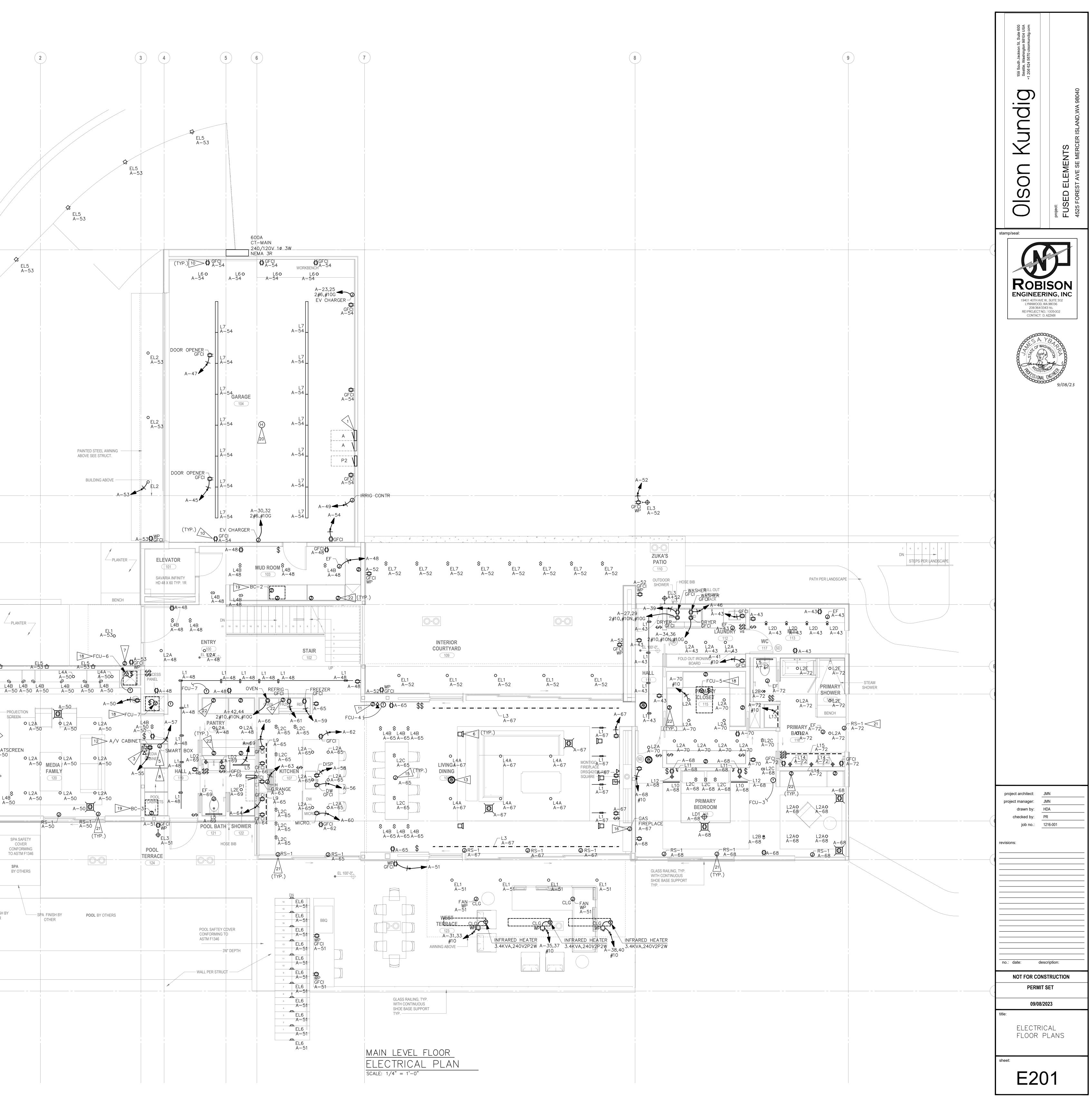
ELECTRICAL SITE PLAN scale: 1" = 10'



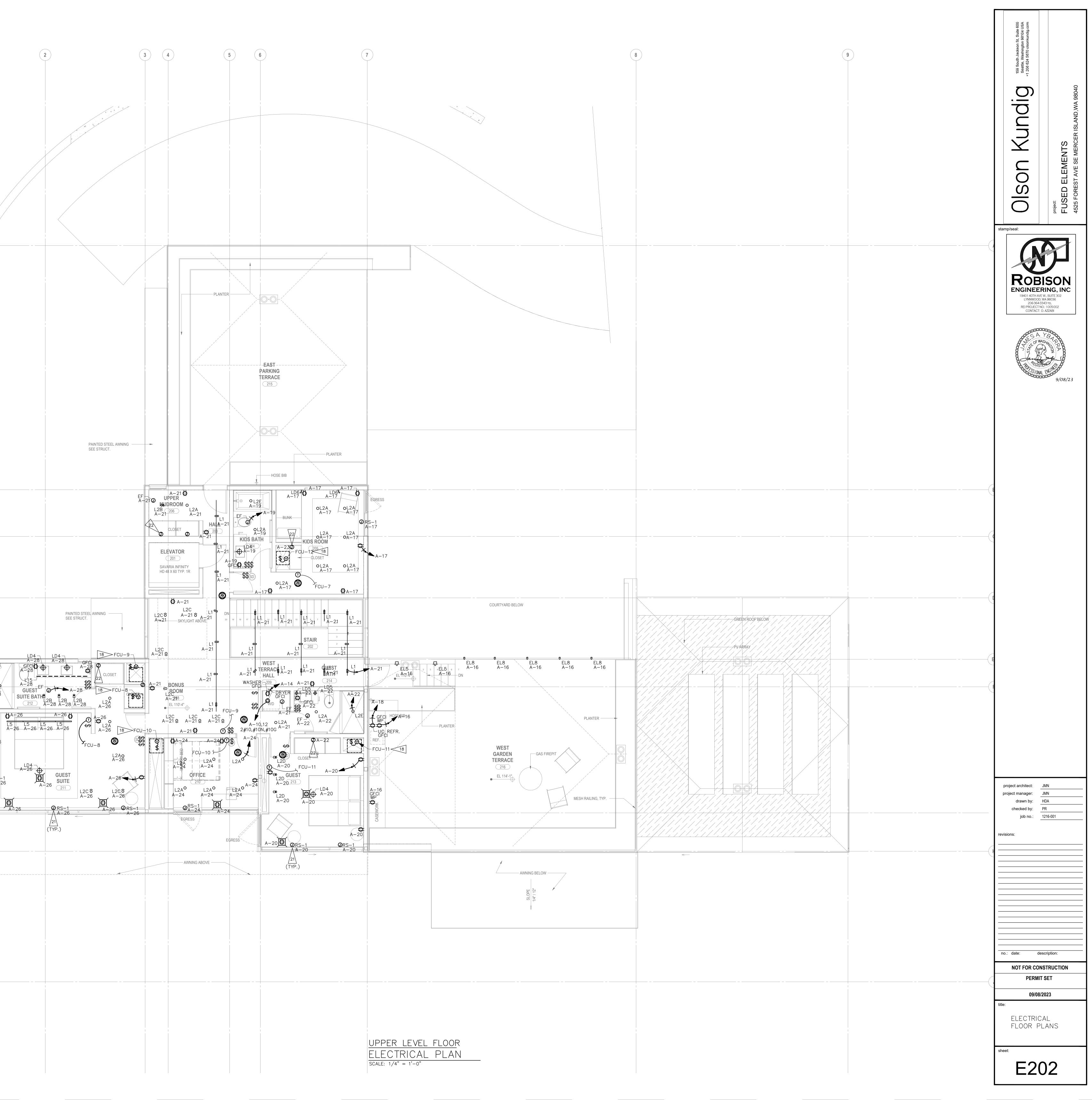
	STUB 1" CONDUIT FROM PANEL INTO ATTIC SPACE FOR FUTURE SOLAR PV ARRAY. • VERIFY EXACT LOCATION FOR HEAT PUMP AND GFCI RECEPTACLE.	
3	TWO RG6, TWO CAT6 OUTLETS. ONE RG6 FOR CABLE TV, ONE CAT6 FOR WIRELESS ACCESS POINT CONNECTION.	
5	STRUCTURED MEDIA PANEL. SIZE TO ACCOMMODATE CONTROL 4 OR EQUIVALENT WIRELESS ROUTER AND BAK PAK LITE.	
6 7	PREWIRE AUDIO SPEAKER LOCATION BACK TO A/V CABINET LOCATION WITH #12 AUDIO CABLE RATED FOR IN-WALL INSTALLATION. TYP. RING VIDEO DOOR BELL PRO ULTRA SLIM IN BLACK.	
8	RUN RG6 UP TO ATTIC FOR FUTURE SATELLITE. EC TO COORDINATE FINAL LOCATION WITH MECHANICAL DRAWINGS AND PROJECT MANAGER. SINGLE CIRCUIT APPLICATION OF HEATER REQUIRES SINGLE-POINT WIRING KIT ACCESSORY.	
	BRILLIANT BRI 2-GANG SWITCH.	
12	PROVIDE 5.1 PRECONFIGURED WALL PLATE FOR HOME THEATER SPEAKER RUNS TO TERMINATE. PROVIDE WIREDHOME SP10 DISTRIBUTION PANEL(OR SIMILAR) FOR UP TO TEN ROOMS TO BE TERMINATED AT THE A/V CABINET LOCATION. PROVIDE WALL MOUNTED IMPEDANCE MATCHING VOLUME CONTROL IN EACH ROOM EXCEPT HOME THEATER AREA.	
	PROVIDE IONIZATION SMOKE ALARM WITH AN ALARM SILENCER SWITCH. COORDINATE EXACT LOCATION OF ENERGY RECOVERY VENTILATOR WITH MECHANICAL DRAWINGS & PROJECT MANAGER PRIOR TO INSTALLATION. CAST JUNCTION BOX. EC TO FIELD DETERMINE FINAL LOCATION PRIOR TO BID AND INSTALLATION.	
16	COORDINATE WITH CONSTRUCTION MANAGER, MANUFACTURER AND	
$\langle$	COORDINATE FINAL LOCATION OF ELEVATOR EQUIPMENT WITH PROJECT MANAGER PRIOR TO INSTALLATION.	
	INDOOR UNIT POWERED FROM OUTDOOR UNIT. BRANCH BOX CONTROLLER POWERED FROM OUTDOOR HEAT PUMP UNIT. COORDINATE FINAL LOCATION WITH MECHANICAL DRAWING PRIOR TO	
20	INSTALLATION. HEAT DETECTORS AND HEAT ALARMS SHALL BE CONNECTED TO AN ALARM OR A SMOKE ALARM THAT IS INSTALLED IN THE DWELLING. ALARMS AND SMOKE ALARMS THAT ARE INSTALLED FOR THIS PURPOSE SHALL BE LOCATED IN A HALLWAY, ROOM, OR OTHER LOCATION THAT WILL PROVIDE OCCUPANT NOTIFICATION.	
22	COORDINATE EXACT LOCATION AND POWER REQUIREMENTS OF MOTORIZED SHADES POWER SUPPLY PER MANUFACTURER RECOMMENDATIONS AND PROJECT MANAGER PRIOR TO INSTALLATION. PROVIDE RECESSED JUNCTION BOX AT THIS LOCATION. CIRCUIT THE JUNCTION BOX THROUGH THE LIGHTING CONTROL PANEL PER THE ZONE(S) NOTED ON THE PLANS FOR ON/OFF DIMMING CONTROL. COORDINATE FIXTURE TYPE AND REMOTE DRIVER LOCATION WITH LIGHTING DESIGN D, ARCHITECTURAL DRAWINGS AND PROJECT MANAGER.(TYPICAL) COORDINATE FINAL LOCATION AND POWER REQUIREMENTS OF POOL EQUIPMENT PER MANUFACTURER RECOMMENDATION& PROJECT MANAGER PRIOR TO BID AND INSTALLATION (TYPICAL).	
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	C	
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PV ARRAY.	INTO ATTIC SPACE FOR FUTURE SOLAR	
2 VERIFY EXACT LOCATION FOR HI 3 TWO RG6, TWO CAT6 OUTLETS.	EAT PUMP AND GFCI RECEPTACLE.	1
CONNECTION.	E TO ACCOMMODATE CONTROL 4 OR	
PREWIRE AUDIO SPEAKER LOCAT	AND BAK PAK LITE. ION BACK TO A/V CABINET LOCATION	
RING VIDEO DOOR BELL PRO UL		
9 PROJECT MANAGER. SINGLE CIRC	TION WITH MECHANICAL DRAWINGS AND CUIT APPLICATION OF HEATER REQUIRES	
SINGLE-POINT WIRING KIT ACCES PROVIDE TAMPER RESISTANT RE		
RUNS TO TERMINATE. PROVIDE V	ALL PLATE FOR HOME THEATER SPEAKER WREDHOME SP10 DISTRIBUTION PANEL(OR S TO BE TERMINATED AT THE A/V	
CABINET LOCATION. PROVIDE WA	LL MOUNTED IMPEDANCE MATCHING M EXCEPT HOME THEATER AREA.	
COORDINATE EXACT LOCATION O	F ENERGY RECOVERY VENTILATOR WITH CT MANAGER PRIOR TO INSTALLATION.	
CAST JUNCTION BOX. EC TO FIE PRIOR TO BID AND INSTALLATION		
OWNER FOR GAS FIREPLACE POV SPECIFICATION. ADJUST WORK AS FUNCTIONING BUILD.	VER REQUIREMENTS AND	
17 COORDINATE FINAL LOCATION OF MANAGER PRIOR TO INSTALLATIO 18 INDOOR UNIT POWERED FROM OU	N.	
	RED FROM OUTDOOR HEAT PUMP UNIT. TH MECHANICAL DRAWING PRIOR TO	
HEAT DETECTORS AND HEAT ALA ALARM OR A SMOKE ALARM THA	ARMS SHALL BE CONNECTED TO AN AT IS INSTALLED IN THE DWELLING. IAT ARE INSTALLED FOR THIS PURPOSE	EL5
SHALL BE LOCATED IN A HALLW WILL PROVIDE OCCUPANT NOTIFIC	AY, ROOM, OR OTHER LOCATION THAT	A-53
SHADES POWER SUPPLY PER MA PROJECT MANAGER PRIOR TO INS	NUFACTURER RECOMMENDATIONS AND STALLATION.	
JUNCTION BOX THROUGH THE LIC NOTED ON THE PLANS FOR ON/O FIXTURE TYPE AND REMOTE DRIV	DX AT THIS LOCATION. CIRCUIT THE SHTING CONTROL PANEL PER THE ZONE(S) DFF DIMMING CONTROL. COORDINATE ER LOCATION WITH LIGHTING DESIGN D,	
ARCHITECTURAL DRAWINGS AND 23 COORDINATE FINAL LOCATION AN EQUIPMENT PER MANUFACTURER	PROJECT MANAGER.(TYPICAL) D POWER REQUIREMENTS OF POOL RECOMMENDATION& PROJECT MANAGER	
PRIOR TO BID AND INSTALLATION		A-53
		□ EL5 A-53
	B	
	C	
		□ EL5 A-53
	D	
	E	HOSE BIB <u>EL5</u> <u>A=53</u> <u>L4A</u>
	(F)	HP-3 11.04KVA,240V2P2W A-13,15 2#6,#10G HP-3 L4A A-500 L4B L4B L4B A-500 A-50 A
		HP-2
		HP-2 11.04KVA,240V2P2W MECH EQUIS A-9,11
		2#6,#10G
		11.04KVA,240V2P2W
		A-6,8 2#6,#10G
		PER MECH
	G	SHOWER
	H	
		POOL FINISH B OTHER
		6'0" DEPTH

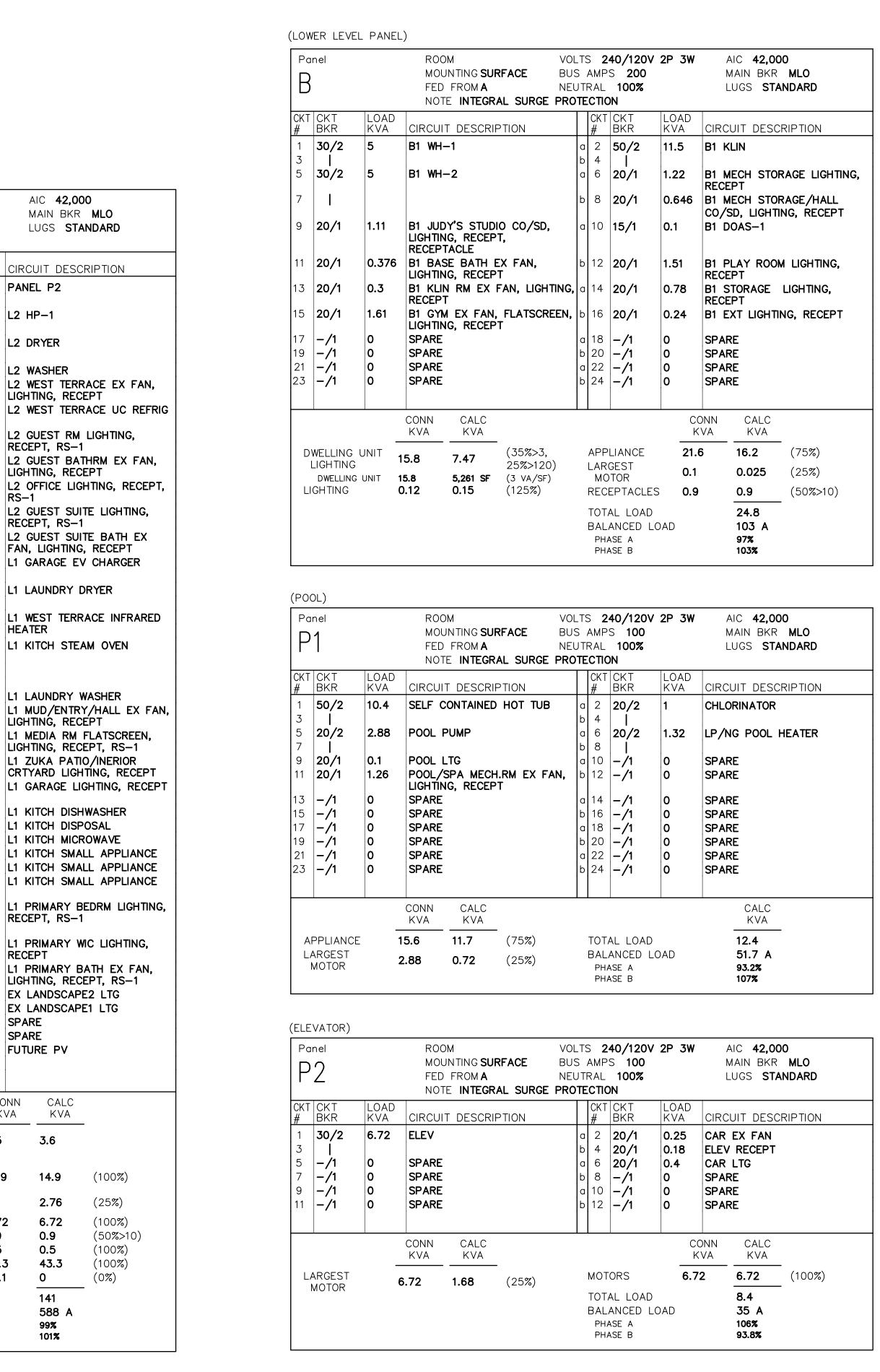


FLAG NOTES: >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>		
PV ARRAY. VERIFY EXACT LOCATION FOR HEAT PUMP AND GFCI RECEPTACLE. TWO RG6, TWO CAT6 OUTLETS.	1	
ONE RG6 FOR CABLE TV, ONE CAT6 FOR WIRELESS ACCESS POINT CONNECTION.		
5 STRUCTURED MEDIA PANEL. SIZE TO ACCOMMODATE CONTROL 4 OR EQUIVALENT WIRELESS ROUTER AND BAK PAK LITE.		
PREWIRE AUDIO SPEAKER LOCATION BACK TO A/V CABINET LOCATION WITH #12 AUDIO CABLE RATED FOR IN-WALL INSTALLATION. TYP. RING VIDEO DOOR BELL PRO ULTRA SLIM IN BLACK.		
RUN RG6 UP TO ATTIC FOR FUTURE SATELLITE. EC TO COORDINATE FINAL LOCATION WITH MECHANICAL DRAWINGS AND		
<ul> <li>PROJECT MANAGER. SINGLE CIRCUIT APPLICATION OF HEATER REQUIRES SINGLE-POINT WIRING KIT ACCESSORY.</li> <li>PROVIDE TAMPER RESISTANT RECEPTACLE.</li> </ul>		
<ul> <li>BRILLIANT BRI 2-GANG SWITCH.</li> <li>PROVIDE 5.1 PRECONFIGURED WALL PLATE FOR HOME THEATER SPEAKER</li> <li>RUNS TO TERMINATE. PROVIDE WIREDHOME SP10 DISTRIBUTION PANEL(OR</li> </ul>		
SIMILAR) FOR UP TO TEN ROOMS TO BE TERMINATED AT THE A/V CABINET LOCATION. PROVIDE WALL MOUNTED IMPEDANCE MATCHING VOLUME CONTROL IN EACH ROOM EXCEPT HOME THEATER AREA.		/
3 PROVIDE IONIZATION SMOKE ALARM WITH AN ALARM SILENCER SWITCH. 4 COORDINATE EXACT LOCATION OF ENERGY RECOVERY VENTILATOR WITH		
<ul> <li>MECHANICAL DRAWINGS &amp; PROJECT MANAGER PRIOR TO INSTALLATION.</li> <li>CAST JUNCTION BOX. EC TO FIELD DETERMINE FINAL LOCATION</li> <li>PRIOR TO BID AND INSTALLATION.</li> </ul>		
COORDINATE WITH CONSTRUCTION MANAGER, MANUFACTURER AND OWNER FOR GAS FIREPLACE POWER REQUIREMENTS AND SPECIFICATION. ADJUST WORK AS NECESSARY FOR A COMPLETE		
FUNCTIONING BUILD. COORDINATE FINAL LOCATION OF ELEVATOR EQUIPMENT WITH PROJECT MANAGER PRIOR TO INSTALLATION.		
8 INDOOR UNIT POWERED FROM OUTDOOR UNIT. 9 BRANCH BOX CONTROLLER POWERED FROM OUTDOOR HEAT PUMP UNIT.		
COORDINATE FINAL LOCATION WITH MECHANICAL DRAWING PRIOR TO INSTALLATION.		
ALARM OR A SMOKE ALARM THAT IS INSTALLED IN THE DWELLING. ALARM OR A SMOKE ALARM THAT IS INSTALLED IN THE DWELLING. ALARMS AND SMOKE ALARMS THAT ARE INSTALLED FOR THIS PURPOSE SHALL BE LOCATED IN A HALLWAY, ROOM, OR OTHER LOCATION THAT WILL PROVIDE OCCUPANT NOTIFICATION.		
COORDINATE EXACT LOCATION AND POWER REQUIREMENTS OF MOTORIZED SHADES POWER SUPPLY PER MANUFACTURER RECOMMENDATIONS AND		
PROJECT MANAGER PRIOR TO INSTALLATION. PROVIDE RECESSED JUNCTION BOX AT THIS LOCATION. CIRCUIT THE JUNCTION BOX THROUGH THE LIGHTING CONTROL PANEL PER THE ZONE(S)		
NOTED ON THE PLANS FOR ON/OFF DIMMING CONTROL. COORDINATE FIXTURE TYPE AND REMOTE DRIVER LOCATION WITH LIGHTING DESIGN D, ARCHITECTURAL DRAWINGS AND PROJECT MANAGER.(TYPICAL)		
COORDINATE FINAL LOCATION AND POWER REQUIREMENTS OF POOL EQUIPMENT PER MANUFACTURER RECOMMENDATION& PROJECT MANAGER PRIOR TO BID AND INSTALLATION (TYPICAL).		
		y
		28
		¢
	A-2	, 26
		S-1 -26
	EGRÈSS	L I



A			ROOM MOUNTING <b>SU</b> FED FROM <b>CT</b> NOTE <b>INTEGR</b>	RFACE BUS	S J TI	AMP RAL	40/120V S 600 100% DN	2P 3W	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRI	PTION		CKT #	CKT BKR	LOAD KVA	
1	200/2	29.4	PANEL B		a		100/2	7.55	F
3 5	 100/2	16.9	PANEL P1		b a	4 6	 60/2	11	
7 Э	 60/2	11	L2 HP-2		b a	8	     30/2	4.95	
1					b	12	Í		
3 5	60/2 	11	L2 HP-3		a b		20/1 20/1	1.5 0.558	L
7	20/1	1.08	L2 KIDS RM LIG	HTING, RECEPT,	a	18	20/1	0.6	L
9	20/1	0.322	RS-1 L2 KIDS BATHRN	I EX FAN,	Ь	20	20/1	0.876	L
21	20/1	1.7	LIGHTING, RECEP		a	22	, 20/1	0.348	R
3	50/2	7.7	FAN, LIGHTING, L1 GARAGE EV	ŔECEPT	b		20/1	0.854	L
5	1	/./							R
					a		20/1	1.73	L R
7	30/2	4.95	L1 LAUNDRY DR	YER	b		20/1	0.564	F
9 1	 20/2	3.4	L1 WEST TERRAG	CE INFRARED	a b	30 32	50/2 I	7.7	L
3	İ		HEATER		a		30/2	4.95	L
5 7	20/2 I	3.4	L1 WEST TERRAG	CE INFRARED		36 38	 20/2	3.4	L
9	20/1	1.5	L1 LAUNDRY WA		b	40	İ		H
1	20/1	1.5	L1 LAUNDRY SM APPLIANCE	ALL	a	42	30/2	4.5	L
3	20/1	1.43	L1 HALL/LAUNDI FAN, LIGHTING,		b	44			
5	20/1 20/1	1.5 1.5	L1 GARAGE DOO L1 GARAGE DOO	R OPENER		46 48	20/1	1.5	L
/ 9	20/1	0.36	LI GARAGE DOO					1.65	
					a		20/1	1.77	
51	20/1	1.25	L1 WEST TERRAG	PT	b		20/1	1.12	L C
3	20/1	0.584	L1 EXTERIOR LIG			54		1.78	L
5 7	20/1 20/1	0.5 0.36	L1 MEDIA RM A		b a		20/1 20/1	1.5 0.8	L
9	20/1	1.8	L1 KITCH FREEZ	ER	b	60	20/1	1.5	L
1 z	20/1	1.8	L1 KITCH REFRIC			62	20/1	1.5	L
3 5	20/1 20/1	0.58 1.11	L1 KITCH GAS R L1 KITCH LIGHT,	-		64 66		1.5 1.5	
7	20/1	1.53	RECEPT, RS-1 L1 LIVING FIREPI	_ACE,	b	68	20/1	1.83	L
			FLATSCREEN, LIC RECEPT, RS-1	•			,		R
9	20/1	0.362	L1 POOL BATH/ FAN, LIGHTING,		a	70	20/1	0.5	L
'1	20/2	2.9	EX POND PUMP		b	72	20/1	0.816	
3							20/1	0.4	E
'5 '7	20/1 20/1	1.5 0.5	EX DOCK POWER EX DOCK LTG	RWASH		76 78		0.4	E
7 '9	20/1 -/1	0.5	SPARE			78 80	-/1 -/1	0 0	S
31	-/1	0	SPARE		a	82	-/2	0	F
3	-/1	0	SPARE		b	84			
			CONN CALC KVA KVA		L	I			ON
	WELLING _IGHTING	UNIT		- (35%>3,			LLING UN	NIT <b>4.5</b>	5
L			10,522	25%>120) (3 va/sf)		R	ANGES	1	
	SMALL-A		Sr j			DR	CTRIC YER	14.	.9
LI	LAUNDRY GHTING		1.5 ).12 0.15	(125%)			GEST DTOR	11	
AF	PPLIANCE	E 6	58.7 51.5	(75%)		мот	ORS	6.7	
							ICONTINU TING	OUS 0.5 43	
							LING	43 33	
						тот	AL LOAD		
							ANCED L		
							ASE A		

C	[-MA]									
	TING SURFAC ROM UTILITY		BUS	TS <b>240/120V 2P</b> Amps <b>600</b> Tral <b>100%</b>	3W			AIC <b>42,000</b> Main BKR <b>6</b> Lugs <b>stand</b>		
СКТ	BREAKER				LOAD	KVA				
#	TRIP/POLES	CIRCUIT DESCRIP	TION		А	В	FEEDER RACEWAY AND CONDUCTORS			S
1	600/2	PANEL A			91.4	93.3	(2)3"C,2	2 <b>#</b> 350kcmil, <b>#</b> 35	Okcmil N <b>,#</b> 1G	
DWF	LLING UNIT	CONN KVA	CALC KVA	KVA BY PHASE	<b>91.4</b>	<b>93.3</b>		CONN KVA	CALC KVA	
LIGHTING UNIT LIGHTING DWELLING UNIT SMALL-APPLIANCE LAUNDRY LIGHTING APPLIANCE		DWELLING UNIT       31.6       10,522 SF       (3 VA/SF)         SMALL-APPLIANCE       6         LAUNDRY       4.5         GHTING       0.12       0.15       (125%)			COOKING RANGES ELECTRIC DRYER LARGEST MOTOR MOTORS RECEPTACLES NONCONTINUOUS HEATING COOLING		RYER DTOR ES	4.5 1 14.9 11 6.72 0.9 0.5 43.3 33.1	3.6 14.9 2.76 6.72 0.9 0.5 43.3 0	(100%) (25%) (100%) (50%>10) (100%) (100%) (0%)
						AL LOAI ANCED			141 588 A	



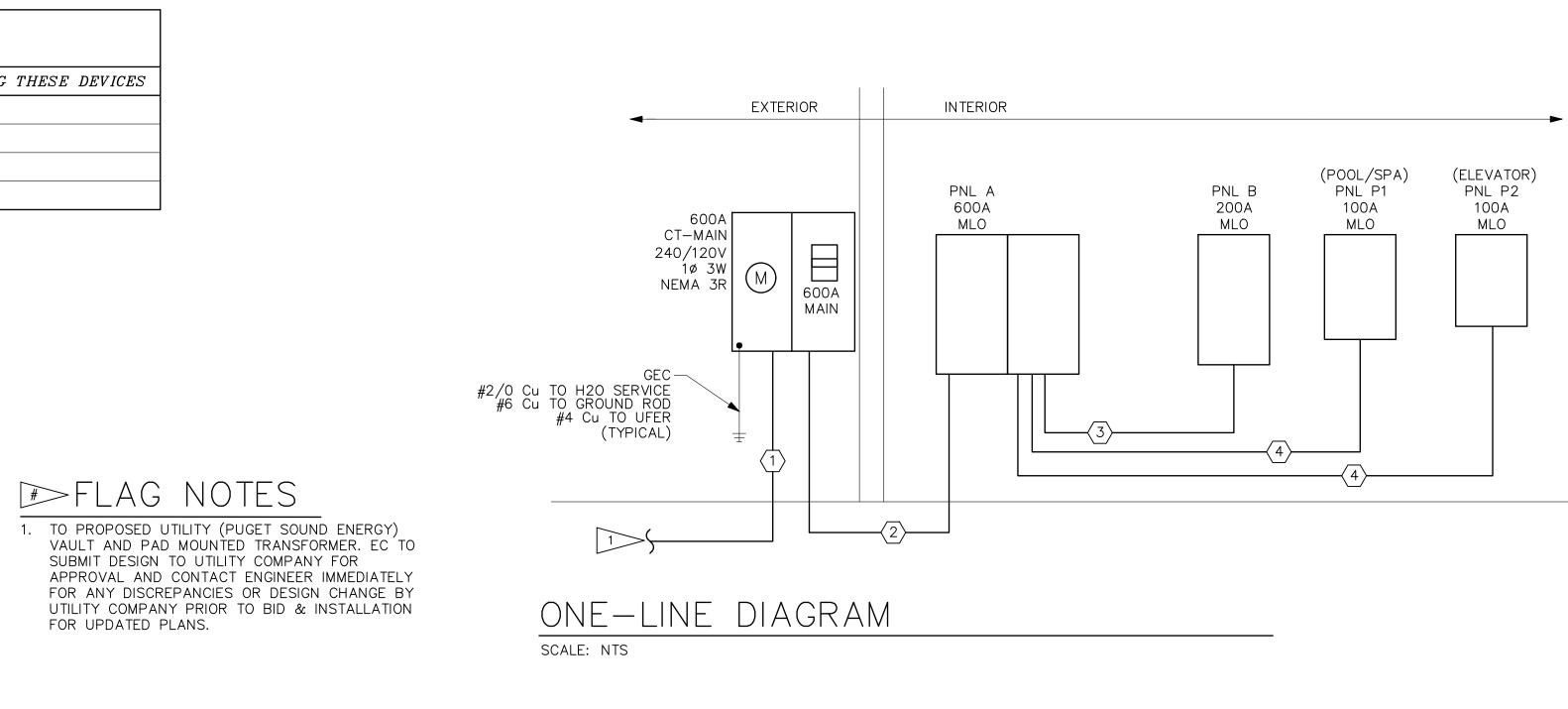
## FEEDER SCHEDULE

	ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING TH			
	$\langle 1 \rangle$	600	(2)3"C,2#350kcmil,#350kcmil N	CT-MAIN			
2 600		600	(2)3"C,2#350kcmil,#350kcmil N,#1G	А			
3 200		200	2"C,2#3/0,#3/0N,#6G	В			
4         100         2"C,2#1,#1N,#8G         P1, P2				P1, P2			
	SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/O AND ABOVE						

 $C \# Z \Pi R O G H$ , 75 C I / O

CALLOUT	SYMBOL	DESCRIPTION	TOTAL VA	VOLTS	NOTE 1
EL1	0	EXTERIOR WET LISTED CANOPY LIGHT	14	120V 1P 2W	
EL2	0	EXTERIOR RECESSED DOWNLIGHT	14	120V 1P 2W	
EL3	$\overline{\Phi}$	EXTERIOR SCONCE	20	120V 1P 2W	
EL5	Ĥ	EXTERIOR WALL RECESSED STEP LIGHT	14	120V 1P 2W	
EL6	<u>م</u>	EXTRIOR STEP LIGHT	14	120V 1P 2W	
EL7	\$	IN-GRADE COURTYARD LIGHT	14	120V 1P 2W	
EL8	÷	HANDRAIL STANCHION LIGHT	14	120V 1P 2W	
_1	⇔	LV TRACK MOUNTED MONOPOINT (W/VARIABLE OPTICS)	14	120V 1P 2W	
_2A	0	FIXED DOWNLIGHT	14	120V 1P 2W	
_2B	<b>0</b> >	ADJUSTABLE DOWNLIGHT NARROW DISTRIBUTION	14	120V 1P 2W	
_2C	ô	ADJUSTABLE DOWNLIGHT WIDE DISTRIBUTION	14	120V 1P 2W	
L2D	0>	WALL WASH	14	120V 1P 2W	
L2E	0	WET LOCATION LISTED	14	120V 1P 2W	
_3		UPLIGHT ON CANOPY	20	120V 1P 2W	
L4A	0	DOWNLIGHT+ADJUSTABLE MONOPOINT NARROW DIST	14	120V 1P 2W	
_4B	<u></u>	DOWNLIGHT+ADJUSTABLE MONOPOINT WIDE DIST.	14	120V 1P 2W	
L5		HIGH EFFICIENCY STRIP LIGHT IN COVE/NICHE	14	120V 1P 2W	
L6	0	FIXED DOWNLIGHT	14	120V 1P 2W	
L7		BACK OF HOUSE STRIPLIGHT	20	120V 1P 2W	
L8	•	LV TRACK MOUNTED SMALL MONOPOINT (W/VARIABLE	14	120V 1P 2W	
L9		OPTICS) UNDERCOUNTER LIGHT IN KITCHEN	20	120V 1P 2W	
_10		LINEAR LED NIGHT LIGHT	14	120V 1P 2W	
_11		BEDSIDE READING LIGHT	14	120V 1P 2W	
L12	<u>۲</u>	BEDSIDE SCONCE	20	120V 1P 2W	
L13	<u></u>	CASEWORK LIGHT	14	120V 1P 2W	
_14		MASTER BATH VANITY LIGHT	20	120V 1P 2W	
_15	<b></b>	BATH NIGHT LIGHT AT CASEWORK	20	120V 1P 2W	
_16		LINEAR LED CLOSED LIGHT	20	120V 1P 2W	
_17		FLUSH MOUNT JELLY JAR LIGHT	14	120V 1P 2W	
_D1		DECORATIVE FLUSH MOUNT IN MASTER BEDROOM	14	120V 11 2W	
_D1	<b>•</b>	SCONCE POWDER ROOM	20	120V 1P 2W	
_D2 _D3	<b>•</b>	DECORATIVE PENDANT FLUSH MOUNT IN BEDROOM	20	120V 1F 2W	
_D3	<b>•</b>	BATHROOM VANITY PENDANT	14	120V 1P 2W	
	<b></b>				
LD5	<b></b>	SCONCE SHARED BATHROOM	20	120V 1P 2W	
LD6	٤	KIDS NIGHT/READING LIGHT	14	120V 1P 2W	

NOT ALL USED CONFIRM FINAL MODEL/MAKE & QUANTITY PRIOR TO ORDERING



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