ENERGY REQ'S:

NEW CONDITIONED AREAS: SEE REQUIREMENTS ON SHEET A0.2

EXISTING CONDITIONED AREAS: IF EXISTING CAVITIES ARE EXPOSED, THE FOLLOWING INSULATION IS REQUIRED.

WALLS	R-21 (2x6 WALLS) R-15 (2x4 WALLS)
FLOORS	R-30 FULL DEPTH + 1" AIR GAP (VAULTED)
ROOFS/CEILINGS	R-49 (FLAT)
WINDOWS AND DOORS	U-FACTOR ≤ 0.30
HVAC SYSTEMS (IF REPLACED)	SYSTEM MUST MEET CURRENT ENERGY CODE REQ'S AND DUCTS TESTED (R403)
HOT WATER SYSTEM	NEW WATER HEATING EQUIPMENT MUST MEET CURRENT ENERGY CODE REQ'S (R403.5)
LIGHT FIXTURES	90% OF ALL LAMPS MUST BE HIGH EFFICACY (R404.1)

LEGAL DESCRIPTION

LOTS 3 AND 4, TONJA ESTATES, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 77 OF PLATS, PAGE 64, IN KING COUNTY, WASHINGTON,

EXCEPT THAT PORTION OF SAID LOT 3, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 3;

THENCE SOUTH 01° 35' 04" WEST ALONG THE EASTERLY LINE OF LOT 3 A DISTANCE OF 75.31 FEET;

THENCE NORTH 10° 03' 02" WEST A DISTANCE OF 74.73 FEET;

THENCE NORTH 76° 21' 57" WEST A DISTANCE OF 10.15 FEET, MORE OR LESS, TO THE NORTH LINE OF SAID LOT 3;

THENCE SOUTH 88° 24' 56" EAST ALONG SAID NORTH LINE 25.00 FEET TO THE POINT OF BEGINNING, AND THE END OF THIS EXCEPTION;

TOGETHER WITH AN UNDIVIDED 1/7TH INTEREST IN LOT 1 OF SAID PLAT; AND

TOGETHER WITH AN UNDIVIDED 1/2 INTEREST IN TRACT A OF SAID PLAT;

(ALSO KNOWN AS THE ROSA LINE REVISION, CITY OF MERCER ISLAND FILE NO. 94-0467, RECORDED UNDER RECORDING NUMBER 9606139004).

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

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A1.0	SITE PLAN
A2.0	LOWER FLOOR PLAN
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A2.1	MAIN FLOOR PLAN
A2.2D	UPPER FLOOR DEMO PLAN
A2.2	UPPER FLOOR PLAN
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SD-2	STRUCTURAL DETAILS
SD-3	STRUCTURAL DETAILS
SD-4	STRUCTURAL DETAILS
SD.01	FOUNDATION DETAILS

PROJECT DATA

PARCEL #:	866140-0040
SITE ADDRESS:	5330 BUTTERWORTH RD. MERCER ISLAND, WA 98040
OWNER:	ROGER & NANCY MACPHERSON
DESIGNER & BUILDER:	MACPHERSON CONSTRUCTION & DESIGN, LLC CONTACT: ROGER MACPHERSON 21626 SE 28TH STREET, SAMMAMISH, WA 98075-7125 P: (425) 391-3333 F: (425) 557-2841
STRUCTURAL ENGINEEER:	MULHERN & KULP RESIDENTIAL STRUCTURAL ENGINEERING CONTACT: RICKY J. ZABEL, PM 7220 TRADE STREET, SUITE 350 SAN DIEGO, CA 92121 P: (619) 650-0010 x166
GEOTECH ENGINEER:	COBALT GEOSCIENCES, LLC CONTACT: PHIL HABERMAN, PE, LG, LEG P: (206) 331-1097 www.cobaltgeo.com

JURISDICTION/CODES

LEAD AGENCY:	CITY OF MERCER ISLAND DEVELOPMENT SERVICES - BUILDING & PLANNING 9611 SE 36th ST, MERCER ISLAND, WA 98040 PH: 206.275.7605
BUILDING CODE:	2021 (IRC) MERCER ISLAND MUNICIPAL CODE - CH. 19
ENERGY CODE:	2021 WASHINGTON STATE ENERGY CODE (WSEC)
SEISMIC DESIGN CATEGORY:	D
BASIC WIND SPEED:	110 MPH
MINIMUM SNOW LOAD:	25 LB/SF

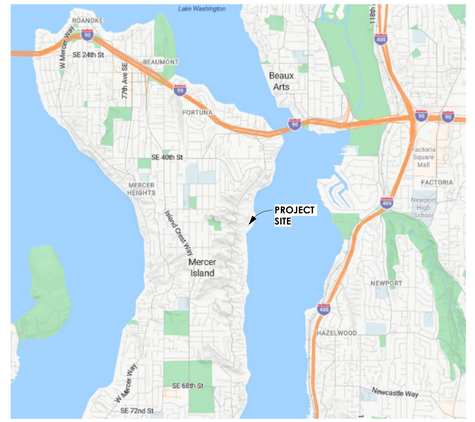
BUILDING DATA

DESCRIPTION: PARTIAL DEMOLITION OF AN EXISTING 2-STORY HOUSE. REMODEL OF EXISTING HOUSE, NEW AND REPLACEMENT OF EXISTING HVAC SYSTEM, NEW ELECTRICAL, PLUMBING AS NECESSARY FOR REMODEL SCOPE. NO EXPANSION OF EXISTING FOOTPRINT.

REFER TO SITE PLAN A1.0 FOR FLOOR AREA CALCS.

SEPARATE TI PERMITS TO BE OBTAINED FOR ANY MODIFICATION TO THE FIRE ALARM SYSTEM AND/OR FIRE SPRINKLER SYSTEM.

VICINITY MAP



SCALE THIS DRAWING, IN FEET

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

MacPherson
Construction & Design
22605 SE 56th St Suite 140, Issaquah, WA 98029
PH. 425.391.3333 FAX 425.557.2841

BUTTERWORTH - HOUSE 1

5330 BUTTERWORTH RD.
MERCER ISLAND, WA 98040
PARCEL #: 866140-0040

COVER SHEET

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1

SHEET NUMBER

A0.0

1/2/2025 7:31:58 AM

ABBREVIATIONS

&	AND	KIT	KITCHEN
∠	ANGLE	LAM	LAMINATE
@	AT	LAV	LAVATORY
℄	CENTERLINE	LF	LINEAR FEET
Ø	DIAMETER	LT	LIGHT
⊥	PERPENDICULAR	MNFR	MANUFACTURER
#	POUND OR NUMBER	MATL	MATERIAL
(E)	EXISTING	MAX	MAXIMUM
ADD'L	ADDITIONAL	MECH	MECHANICAL
A.D	AREA DRAIN	MEMB	MEMBRANE
ADJ	ADJUSTABLE/ADJACENT	MTL	METAL
ALUM	ALUMINUM	MIN	MINIMUM
APPROX	APPROXIMATE	MIR	MIRROR
ARCH	ARCHITECTURAL	MISC	MISCELLANEOUS
ASPH	ASPHALT	MO	MASONRY OPENING
AB	ANCHOR BOLT	MTD	MOUNTED
ALT	ALTERNATE	MUL	MULLION
BD	BOARD	N	NORTH
BLDG	BUILDING	NO	NUMBER
BLKG	BLOCKING	NOM	NOMINAL
BM	BEAM	NTS	NOT TO SCALE
BOT	BOTTOM	OH	OVERHEAD
BOW	BOTTOM OF WALL	OA	OVERALL
BSMT	BASEMENT	OBS	OBSCURE
CAB	CABINET	OC	ON CENTER
CB	CATCH BASIN	OD	OUTSIDE DIAMETER
CEM	CEMENT	OPNG	OPENING
CER	CERAMIC	OPP	OPPOSITE
CI	CAST IRON	PL	PLATE
CJ	CONSTRUCTION JOINT	PLAS	PLASTER
CLG	CEILING	PLYWD	PLYWOOD
CL	CLOSET	PR	PAIR
CLR	CLEAR	PT	PAINT
COL	COLUMN	PVMT	PAVEMENT
CONC	CONCRETE	PROJ	PROJECTOR, PROJECTION
CONN	CONNECTION	QT	QUARRY TILE
CT	CERAMIC TILE	RE	REFER TO
CTR	CENTER	R	RISER OR RADIUS
CMU	CONCRETE MASONRY UNIT	RD	ROOF DRAIN
DBL	DOUBLE	REF	REFRIGERATOR
DEPT	DEPARTMENT	REINF	REINFORCED
DET	DETAIL	REQD	REQUIRED
DIA	DIAMETER	RM	ROOM
DIM	DIMENSION	RO	ROUGH OPENING
DN	DOWN	REV	REVISED OR REVISION
DR	DOOR	S	SOUTH
DS	DOWNSPOUT	SC	SOLID CORE
DWG	DRAWING	SCHED	SCHEDULE
E	EAST	SF	SQUARE FEET
EA	EACH	SD	SMOKE DETECTOR
EJ	EXPANSION JOINT	SECT	SECTION
ELEC	ELECTRICAL	SH	SHELF
ELEV	ELEVATOR/ELEVATION	SHWR	SHOWER
ENCL	ENCLOSURE	SHT	SHEET
EQ	EQUAL	SIM	SIMILAR
EQUIP	EQUIPMENT	SPEC	SPECIFICATION
(E)	EXISTING	SQ	SQUARE
EXP	EXPANSION	SST	STAINLESS STEEL
EXT	EXTERIOR	SS	SERVICE SINK
FA	FIRE ALARM	STD	STANDARD
FD	FLOOR DRAIN	STL	STEEL
FNDN	FOUNDATION	STOR	STORAGE
FIN	FINISH	STRUCT	STRUCTURE OR STRUCTURAL
FLR	FLOOR	SUSP	SUSPENDED
FLASH	FLASHING	SYM	SYMMETRICAL
FOC	FACE OF CONCRETE	T	TREAD
FOF	FACE OF FINISH	TEL	TELEPHONE
FOS	FACE OF STUDS	TER	TERRAZZO
FT	FOOT OR FEET	T&G	TONGUE & GROOVE
FTG	FOOTING	TO	TOP OF
FURR	FURRING	TOW	TOP OF WALL
GA	GAUGE	TV	TELEVISION
GALV	GALVANIZED	TYP	TYPICAL
GL	GLASS	UNF	UNFINISHED
GND	GROUND	UNO	UNLESS NOTED OTHERWISE
GR	GRADE	VEST	VESTIBULE
GWB	GYPSUM WALL BOARD	W	WEST
GLU-LAM	GLUE LAMINATED	W/	WITH
GSF	GROSS SQUARE FEET	WC	WALLCOVERING
HB	HOSE BIBB	WD	WOOD
HC	HOLLOW CORE	W/O	WITHOUT
HDWD	HARDWOOD	WP	WATERPROOF
HDW	HARDWARE	WSCT	WAINSCOT
HM	HOLLOW METAL	WT	WEIGHT
HORIZ	HORIZONTAL	W/D	WASHER/DRYER
HT	HEIGHT	W/H	WATER HEATER
HVAC	HEATING, VENTILATION & AIR CONDITIONING		
ID	INSIDE DIAMETER		
INSUL	INSULATION		
INT	INTERIOR		
JT	JOINT		

GENERAL NOTES

GENERAL:

THESE DRAWINGS ARE THE PROPERTY OF MacPherson Construction & Design AND MAY BE REPRODUCED ONLY WITH THE WRITTEN PERMISSION OF MacPherson Construction & Design. AUTHORIZED REPRODUCTIONS MUST BEAR THE NAME OF MacPherson Construction & Design. THESE DRAWINGS ARE FULLY PROTECTED BY FEDERAL AND STATE COPYRIGHT LAWS.

CODES:
ALL CONSTRUCTION SHALL CONFORM TO THE THE LATEST ADOPTED VERSION OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) AS AMENDED BY THE STATE OF WASHINGTON AND BE IN ACCORDANCE WITH ALL WASHINGTON STATE LAWS, REGULATIONS AND VARIOUS CODES IMPOSED BY LOCAL AUTHORITIES. ENERGY CODE REQUIREMENTS SHALL CONFORM TO THE THE LATEST ADOPTED VERSION OF THE WASHINGTON STATE ENERGY CODE (WSEC).

DO NOT SCALE DRAWINGS OR DETAILS - USE DIMENSIONS SHOWN.
- DIMENSIONS SHOWN ON THE PLANS ARE TO FACE OF FRAMING OR CONCRETE, OR TO THE CENTERLINE OF COLUMNS UNLESS NOTED OTHERWISE.
- CHECK DETAILS FOR LOCATION OF ALL ITEMS NOT DIMENSIONED ON THE PLANS.
- DOORS AND CASED OPENINGS WITHOUT DIMENSIONS ARE TO BE 4½" FROM FACE OF ADJACENT WALL OR CENTERED BETWEEN WALLS, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH THE WORK. ANY CONFLICTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT. VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF EACH PORTION OF THE WORK.

THE CONTRACTOR SHALL COORDINATE THE LOCATION OF MECHANICAL WORK, ELECTRICAL WORK, AND OTHER SUBCONTRACTOR WORK TO ENSURE COMPLIANCE WITH THE DRAWINGS, SPECIFICATIONS AND ALL CODES. CONTACT THE ARCHITECT FOR RESOLUTION OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL COORDINATE FRAMING LAYOUT WITH MECHANICAL, PLUMBING AND ELECTRICAL SUB-CONTRACTORS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBER SIZES PRIOR TO CONSTRUCTION. INFORM THE ARCHITECT OF ANY DISCREPANCIES IN THE DRAWINGS OR INCNOSISTENCIES WITH THE CODES PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL COORDINATE ALL CHANGES WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

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

ATTICS:

- ACCESS: PROVIDE READILY ACCESSIBLE ATTIC ACCESS, MINIMUM 22" X 30" WITH MINIMUM 30" UNOBSTRUCTED HEADROOM IN ATTIC. IRC R807.1.
- DRAFT STOPS: INSTALL WHERE REQUIRED, PER IRC R302.12.
- VENTILATION: PROVIDE ATTIC VENTILATION USING CONTINUOUS RIDGE VENT AND VENTED BIRDBLOCKING, TYPICAL. AT CLOSED SOFFITS PROVIDE CONTINUOUS 21/4" VENT SLOT. *(SEE DETAIL)* THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED, EXCEPT THAT THE AREA MAY BE 1/300, PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVES OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVES OR CORNICE VENTS. IRC R806.

SEE INSULATION REQUIREMENTS FOR ROOFS IN THE ENERGY SECTION.

BATHROOMS:

ALL TUB AND SHOWER STALLS SHALL HAVE FIREBLOCKING BETWEEN STUDS.

HINGED SHOWER DOORS SHALL OPEN OUTWARD.

ALL GLAZING USED FOR DOORS OR ENCLOSURES IN BATHROOMS SHALL BE SAFETY GLAZING. GLAZING IN ANY PORTION OF A BUILDING WALL ENCLOSING A SHOWER OR BATHTUB WHERE THE BOTTOM EXPOSED EDGE IS LESS THAN 60 INCHES ABOVE THE STANDING SURFACE AND DRAIN INLET SHALL BE SAFETY GLAZING. IRC R308.4.

SHOWER STALL WALLS SHALL BE FINISHED WITH A NONABSORBENT SURFACE TO A MINIMUM OF HEIGHT OF 72 INCHES ABOVE THE FLOOR. IRC R307.2. RUN CEMENT BACKER BOARD TO CEILING, TYPICAL.

WATERCLOSETS SHALL HAVE MIN. 30" CLEAR WIDTH AND MIN. 21" FRONT CLEARANCE. IRC R307.1.

SEE ENERGY SECTION BELOW FOR WATER FLOW REQUIREMENTS.

CEILING HEIGHTS:

HABITABLE SPACE SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0". NOT MORE THAN 50% OF REQUIRED FLOOR AREA OF A SPACE IS PERMITTED TO HAVE A SLOPED CEILING LESS THAN 7'-0" IN HEIGHT WITH NO PORTION LOWER THAN 5'-0". BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6'-8" OVER AND IN FRONT OF THE FIXTURES. IRC R305.

CLEARING & GRADING (T.E.S.C.MEASURES)

ALL CLEARING AND GRADING MUST BE IN ACCORDANCE WITH LOCAL JURISDICTION CLEARING AND GRADING EROSION CONTROL STANDARDS, DEVELOPMENT STANDARDS, LAND USE CODE, PERMIT CONDITIONS, AND ALL OTHER APPLICABLE CODES, ORDINANCES AND STANDARDS. THE DESIGN ELEMENTS WITH THESE PLANS HAVE BEEN REVIEWED TO THESE REQUIREMENTS. ANY VARIANCE FROM THE ADOPTED EROSION CONTROL STANDARDS IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE LOCAL JURISDICTION PRIOR TO CONSTRUCTION.

A COPY OF THE APPROVED PLANS MUST BE ON-SITE WHENEVER CONSTRUCTION IS IN PROGRESS. THE APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER REQUIRED OR RELATED PERMITS PRIOR TO BEGINNING CONSTRUCTION.

ALL LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD, THEREFORE, BE CONSIDERED ONLY APPROXIMATE AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS AND TO DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN WHICH MAY BE AFFECTED BY THE WORK.

FINAL SITE DRAINAGE MUST DIRECT DRAINAGE AWAY FROM ALL BUILDING STRUCTURES AT A MINIMUM SLOPE OF 6 INCHES WITHIN THE FIRST 10 FEET. IRC R401.3.

CRAWL SPACES:

- ACCESS: THROUGH FLOOR ACCESS SHALL BE A MINIMUM OF 18 x 24 INCHES. PROVIDE 18" MINIMUM. IRC R408.4.
- FRAMING: ALL WOOD IN CONTACT WITH CONCRETE, CMU OR WITHIN 8" OF SOILS SHALL BE PRESSURE TREATED WOOD IN COMPLIANCE WITH IRC R317.1. ALL METAL FRAMING CONNECTORS AND FASTENERS USED WITH PRESSURE TREATED LUMBER SHALL BE CERTIFIED FOR USE WITH THE TREATED MATERIAL. IRC 317.3.
- VENTILATION: UNDER-FLOOR AREAS SHALL BE VENTILATED BY AN APPROVED MECHANICAL MEANS OR BY OPENINGS THROUGH EXTERIOR FOUNDATION WALLS. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQ. FT. FOR EACH 150 SQ. FT. OF UNDER-FLOOR SPACE AREA. THE REQUIRED AREA OF SUCH OPENINGS SHALL BE APPROXIMATELY EQUALLY DISTRIBUTED ALONG THE LENGTH OF AT LEAST TWO OPPOSITE SIDES. ONE VENTILATING OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER. IRC R408.
- VAPOR BARRIER: MIN. 10 MIL POLYETHYLENE (OR EQUIVALENT) SHALL BE INSTALLED IN ALL CRAWL SPACES. JOINTS LAPPED 12", EXTEND UP FOUNDATION WALL AND SECURE TO SILL PLATE WHEREVER PRACTICAL.

SEE INSULATION REQUIREMENTS FOR WALLS IN THE ENERGY SECTION.

DECKS & EXTERIOR STAIRWAYS:

WOODEN STRUCTURAL SUPPORTS AND MEMBERS THAT ARE EXPOSED TO WEATHER WITHOUT PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING THAT WOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE MEMBER SURFACE SHALL BE PRESSURE TREATED OR CEDAR LUMBER. IRC R317.1

ALL METAL FRAMING CONNECTORS AND FASTENERS USED WITH PRESSURE TREATED LUMBER SHALL BE CERTIFIED FOR USE WITH THE TREATED MATERIAL. IRC 317.3.

ENERGY:

ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ADOPTED VERSION OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) AND THE WASHINGTON STATE ENERGY CODE (WSEC). VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH WORK.

METHOD OF COMPLIANCE - PRESCRIPTIVE METHOD FOR GROUP R OCCUPANCY, CLIMATE ZONE 4C (WSEC) TABLE R301.1

ALL INSULATION MATERIALS, INCLUDING FACING AND VAPOR BARRIERS, SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY RATING NOT TO EXCEED 450.

INSULATION VALUES BELOW PER (WSEC) TABLE R402.1.1. VALUES MAY CHANGE BASED ON PROJECT-SPECIFIC ENERGY CREDIT OPTIONS - REFER TO PLAN NOTES.

- WALLS: (R-20+5 CONTINUOUS OR R-13+10 CONTINUOUS) AT EXTERIOR WALLS
- ROOF & CEILING: (R-49) IN ATTIC AND CEILING SPACES, (R-38) FOR SINGLE RAFTER - OR JOIST-VAULTED CEILINGS. MAINTAIN A 1" MIN. AIR GAP BETWEEN TOP OF INSULATION AND BOTTOM OF SHEATHING FOR VENTING (WAC 51-50-1203). VENTING MUST OCCUR IN EACH JOIST SPACE. WHERE CONTINUOUS VENTING WITHIN A JOIST SPACE IS INTERRUPTED BY A HEADER (I.E., SKYLIGHT OR AT HIP END), PROVIDE (2) 1½" VENTING HOLES AT THE TOP OF THE RAFTER AT THE HEADER TO ALLOW FOR CONTINUAL THROUGH-VENTING INTO THE NEXT JOIST SPACE. AT VENTED CEILINGS/ATTICS INSTALL BAFFLES AT EAVE AND/OR SOFFIT VENTS TO MAINTAIN 1" MIN. OF VENTILATION ABOVE INSULATION. EXTEND BAFFLES 6" VERTICALLY ABOVE BATT INSULATION AND 12" VERTICALLY ABOVE LOOSE-FILL INSULATION. WEATHERSTRIP AND INSULATE ATTIC ACCESS DOORS AND PANELS TO THE R-VALUE OF THE SURROUNDING SURFACES.
- FLOORS: (R-38 - ENERGY CREDIT 1.2) WEATHERSTRIP AND INSULATE CRAWL SPACE ACCESS DOORS AND PANELS TO THE R-VALUE OF THE SURROUNDING SURFACES. WSEC R402.2.7
- SLAB ON GRADE: (R-10) AT THE PERIMETER AND UNDER ENTIRE SLAB, INCLUDING BELOW GRADE SLABS (WSEC R402.2.9)
- SLAB BELOW GRADE: (R-10) AT THE PERIMETER AND UNDER ENTIRE SLAB, INCLUDING BELOW GRADE SLABS (WSEC R402.2.9.1)
- VAPOR BARRIERS: VAPOR RETARDERS SHALL BE INSTALLED ON THE WARM SIDE (IN WINTER) OF INSULATION. FLOORS SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE HALL HAVE MIN. 4 MIL POLYETHYLENE OR KRAFT FACED MATERIAL. ROOF/CEILING ASSEMBLIES WHERE THE VENTILATION SPACE ABOVE THE INSULATION IS LESS THAN AN AVERAGE OF 12 INCHES SHALL BE PROVIDED WITH A VAPOR RETARDER. WALLS SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE SHALL HAVE A VAPOR RETARDER INSTALLED. FACED BATT INSULATION SHALL BE FACE STAPLED. A GROUND COVER OF MIN. 6 MIL BLACK POLYETHYLENE SHALL BE LAID OVER THE GROUND WITHIN CRAWL SPACES W/ JOINTS LAPPED MIN. 12". WSEC 502.1.6
- CAULKING & SEALANTS: EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES; OPENINGS BETWEEN WALLS AND FOUNDATION; OPENINGS BETWEEN ROOF AND WALL PANELS, OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH WALLS, FLOORS & ROOFS; AND ALL OTHER OPENINGS IN THE EXTERIOR BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED OR WEATHERSTRIPPED. IRC R702.7 & R703
- WINDOWS AND DOORS: WINDOWS & GLAZED DOORS SHALL HAVE A MAXIMUM U-FACTOR OF .25 AND SKYLIGHTS SHALL HAVE A MAXIMUM U-FACTOR OF .50. U-FACTORS SHALL BE IN ACCORDANCE WITH WSEC SECTION R303
- DUCTWORK: INSULATE HEATING DUCTS IN UNCONDITIONED SPACES TO R-8 MINIMUM. DUCTWORK SEAMS & JOINTS SHALL BE TAPED, SEALED AND FASTENED WITH A MINIMUM NUMBER OF FASTENERS. (IRC) N1103.2 & M1601.3
- PIPING: INSULATE NON-CIRCULATING HOT AND COLD WATER PIPES IN UNCONDITIONED SPACES TO R-3 MINIMUM. (IRC) P2603
- WATER FLOW: FLOW RATES FOR PLUMBING FIXTURES SHALL COMPLY WITH WAC 51-56 SECTION 402. TOILETS @ 1.6 GALLONS PER FLUSH MAXIMUM; SHOWERS, TUBS AND LAVATORIES @ 2.5 GPM, MAXIMUM.
- HVAC SYSTEM SIZING: HEATING AND COOLING EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES. (WSEC) CHAPTER R403.6

EGRESS:

BASEMENTS, HABITABLE ATTICS, AND ALL SLEEPING ROOMS SHALL HAVE AN EMERGENCY ESCAPE OPENING WITH A MINIMUM NET CLEAR OPENING OF 5.7 sf. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24" & MINIMUM NET CLEAR OPENING WIDTH OF 20" AND A FINISHED SILL HEIGHT NOT MORE THAN 44" ABOVE THE FLOOR. ALL EMERGENCY ESCAPE OPENINGS SHALL FULLY COMPLY WITH IRC R310 & R311.

EVERY EXTERIOR EXIT DOOR SHALL HAVE A LANDING ON EACH SIDE. MAXIMUM STEP AT THRESHOLD SHALL BE 1½". IRC R311.3.

EXTERIOR FINISHES:

- WALLS: EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING AS DESCRIBED IN IRC SECTION 703.8. THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN SUCH A MANNER AS TO PREVENT THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER-RESISTIVE BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED BY IRC SECTION 703.2.
- UNDERLAYMENT: APPLY TWO (2) LAYERS OF 60 MIN. BUILDING PAPER OVER SHEATHING PRIOR TO INSTALLATION OF WINDOWS, WRAP INTO OPENINGS. AFTER INSTALLATION OF WINDOWS, APPLY SELF-ADHESIVE 'BLUESKIN' PER MANUFACTURER'S INSTRUCTIONS.
- FLASHING: INSTALL FLASHINGS IN ACCORDANCE WITH IRC R703.8. VERTICAL LEG OF FLASHING SHALL BE 4" MIN. 'KICK-OUT' FLASHING TO GUTTERS SHALL EXTEND 3" MIN. BEYOND WALL.
- ADHERED STONE VENEER: USE PRESSURE-TREATED SHEATHING BEHIND ADHERED STONE VENEER, TYP. APPLY ADHERED STONE VENEER OVER UNDERLAYMENT PER MANUFACTURER'S RECOMMENDATION. DO NOT BACKFILL OR POUR CONCRETE AGAINST STONE VENEER.
- CEMENT STUCCO: APPLY IN ACCORDANCE WITH IRC R703.6, OVER UNDERLAYMENT. PROVIDE FOR DRAINAGE ACCORDING TO MANUFACTURER'S RECOMMENDATION. DO NOT BACKFILL OR POUR CONCRETE AGAINST STUCCO.
- EXTERIOR INSULATION & FINISH SYSTEM (EIFS): INSTALL OVER UNDERLAYMENT IN ACCORDANCE WITH IRC R703.9.
- FIBER CEMENT SIDING: INSTALL OVER UNDERLAYMENT IN ACCORDANCE WITH IRC R703.10.
- WOOD SHINGLES: INSTALL OVER UNDERLAYMENT IN ACCORDANCE WITH IRC R703.5.
- WOOD SIDING: INSTALL OVER UNDERLAYMENT IN ACCORDANCE WITH IRC R703.3.

FIRE PROTECTION:

PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM AND AT A CENTRAL LOCATION IN CORRIDOR OR AREA ACCESSING SLEEPING AREA AS WELL AS ONE ON EACH STORY. SMOKE ALARMS ARE TO RECEIVE PRIMARY POWER FROM BUILDING WIRING WITH A BATTERY BACKUP. SMOKE DETECTORS SHOULD SOUND AN ALARM AUDIBLE IN ALL SLEEPING ROOMS. IRC R314.

A HEAT DETECTOR OR HEAT ALARM SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS. HEAT DETECTORS AND HEAT ALARMS SHALL BE INSTALLED IN A CENTRAL LOCATION AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

ALL HEAT DETECTORS, SMOKE ALARMS, AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH THEIR USE. SMOKE DETECTOR POWER SOURCES TO BE INSTALLED IN ACCORDANCE WITH NFPA 72 & IRC R314. ALL ALARM DEVICES SHALL BE INTERCONNECTED PER IRC R314.4.

AUTOMATIC FIRE SPRINKLERS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA AND LOCAL FIRE DEPARTMENT REQUIREMENTS.

INSTALL FIREBLOCKING TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE (IRC R302.11)

INSTALL DRAFTSTOPPING PER IRC R302.12.

FIREPLACES:

MASONRY FIREPLACES, BARBECUES, SMOKE CHAMBERS & FIREPLACE CHIMNEYS SHALL BE CONSTRUCTED OF MASONRY OR REINFORCED CONCRETE IN ACCORDANCE WITH IRC CHAPTER 10.

FACTORY-BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED, LABELED, & INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING, & TESTED IN ACCORDANCE WITH UL 127. IRC R1004.

FACTORY-BUILT FIREPLACES SHALL BE VENTED IN ACCORDANCE WITH IRC G2425.

FACTORY-BUILT FIREPLACES OR WOOD STOVES SHALL BEAR THE STAMP OF THE TESTING LAB & BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. MANUFACTURER'S INSTRUCTIONS SHALL BE ON SITE AT TIME OF INSPECTION.

GARAGES:

DOORS BETWEEN GARAGE AND DWELLING SHALL SOLID WOOD DOORS NOT LESS THAN 1 3/8" THICK OR 20-MIN FIRE RATED, EQUIPPED WITH A SELF-CLOSING DEVICE. THERE SHALL BE NO OPENINGS BETWEEN GARAGE AND ROOMS USED FOR SLEEPING PURPOSES. IRC R302.5.1

THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN ½" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. GARAGES BENEATH HABITABLE ROOMS SHALL BE SEPARATED FROM ALL HABITABLE ROOMS ABOVE BY NOT LESS THAN 5/8" TYPE X GYPSUM BOARD OR EQUIVALENT. WHERE THE SEPARATION IS A FLOOR/CEILING ASSEMBLY, THE STRUCTURE SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED BY NOT LESS THAN ½" GYPSUM BOARD OR EQUIVALENT. GARAGES LOCATED LESS THAN 3 FEET FROM A DWELLING UNIT ON THE SAME LOT SHALL BE PROTECTED BY NOT LESS THAN 1/2 " GYPSUM BOARD APPLIED TO THE INTERIOR SIDE OF EXTERIOR WALLS THAT ARE WITHIN THIS AREA. OPENINGS IN THESE WALLS SHALL BE REGULATED BY SECTION IRC R302.6. THIS PROVISION DOES NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT WALL.

GARAGE FLOOR SHALL BE SMOOTH TROWLED CONCRETE AND SLOPE TOWARD THE VEHICLE DOORWAY OR A FLOOR DRAIN. GARAGE SLAB SHALL RECEIVE CONCRETE SEALER.

GAS FIRED HEATING AND/OR COOLING EQUIPMENT LOCATED IN GARAGE SHALL BE INSTALLED A MINIMUM OF 6" ABOVE THE FLOOR AND WITH PILOTS AND BURNERS AT LEAST 18" ABOVE THE FLOOR LEVEL. IRC G2408.2 & IRC G2408.3.

APPLIANCES LOCATED WITHIN A GARAGE OR CARPORT SHALL BE PROTECTED FROM IMPACT BY AUTOMOBILES. IRC M1505.4 & RCW 19.27.031

DUCT PENETRATIONS BETWEEN THE GARAGE AND OCCUPIED AREAS SHALL BE MINIMUM 26 GA. STEEL IN ACCORDANCE WITH IRC R302.5.2.

GAS APPLIANCES:

HEATING SYSTEM SHALL BE CAPABLE OF MAINTAINING 70°F AT 3 FEET ABOVE FLOOR IN HABITABLE ROOMS WHEN OUTSIDE TEMP. IS AS SHOWN IN (WSEC) SECTION 302.

FUEL BURNING EQUIPMENT LOCATED WITHIN THE BUILDING ENVELOPE SHALL OBTAIN COMBUSTION AIR FROM OUTDOORS PER (IRC) G2407.6. *DO NOT USE CRAWL SPACE AIR!*

EVERY APPLIANCE DESIGNED TO BE VENTED SHALL BE CONNECTED TO A VENTING SYSTEM PER (IRC) G2407.

PROVIDE READILY ACCESSIBLE AUTOMATIC OR MANUAL SHUT-OFF SWITCH & THERMOSTAT. PROVIDE AT LEAST ONE THERMOSTAT FOR REGULATING SPACE TEMPERATURES FOR EACH HEATING/COOLING UNIT.

GAS APPLIANCES CONT....

GAS APPLIANCES SHALL BE INSTALLED AND SECURELY FASTENED IN PLACE IN ACCORDANCE WITH (IRC) G2404 & (IRC) M1307.2.

PROVIDE CLEARANCE FROM COMBUSTIBLE MATERIALS PER (IRC) G2408.5.

SEE GARAGE SECTION ABOVE FOR ADDITIONAL REQUIREMENTS FOR GAS APPLIANCES LOCATED IN GARAGES.

SEE FIREPLACES SECTION ABOVE FOR ADDITIONAL INFORMATION REGARDING GAS FIREPLACES.

GLAZING:

ALL GLASS AND GLAZING IS TO BE IN COMPLIANCE WITH (IRC) R308 AND THE WASHINGTON STATE SAFETY GLASS LAW.

GLAZING IN HAZARDOUS LOCATIONS SUCH AS GLASS ON DOORS, GLAZING WITHIN 24" ON EITHER SIDE OF A DOOR OPENING, OPENINGS WITHIN 60" VERTICAL AND 60" HORIZONTAL OF THE BOTTOM LANDING OF A STAIRWAY, STORM DOORS, RAILINGS, SHOWER DOORS, SLIDING GLASS DOORS AND TUB ENCLOSURES SHALL BE SAFETY GLAZING MATERIAL. (IRC) R308.4.

ALL EXTERIOR WALL GLAZING SHALL COMPLY WITH THE LATEST EDITION OF THE WASHINGTON STATE ENERGY CODE (WSEC)

SKYLIGHTS SHALL BE HERMETICALLY SEALED INSULATED, HEAT STRENGTHENED OR FULLY TEMPERED GLASS. SKYLIGHTS SHALL MEET THE REQUIREMENTS OF (IRC) R308.6

GLASS BLOCK SHALL BE 3" MINIMUM. THE MORTARED SURFACES SHALL BE TREATED FOR MORTAR BONDING. (IRC) R610.

POOLS:

WHERE APPLICABLE, OUTDOOR POOLS SHALL BE PROVIDED WITH A MIN. 48" HIGH BARRIER WHICH ALLOWS MAX. 4" SPHERE TO PASS THROUGH. SWING GATE OUTWARDS FROM POOL. IF LATCH IS LESS THAN 54" HIGH IT MUST BE ON POOL SIDE & MIN. 3" BELOW TOP OF GATE (ISPSC 2015).

ROOFING:

APPLY ROOFING IN ACCORDANCE WITH (IRC) R905.

BALCONIES, LANDINGS, EXTERIOR STAIRWAYS, OCCUPIED ROOFS AND SIMILAR SURFACES EXPOSED TO THE WEATHER AND SEALED UNDERNEATH SHALL BE WATERPROOFED AND SLOPED A MINIMUM OF 1/4" PER 12" (2% SLOPE) FOR DRAINAGE.

SOILS:

UNLESS A SOILS REPORT BY A SOILS ENGINEER IS PROVIDED AND ATTACHED THIS OFFICE ASSUMES NO RESPONSIBILITY AS TO THE PHYSICAL CHARACTERISTICS OF THE SOIL FOUNDATION DESIGN IS BASED ON AN ASSUMED AVERAGE SOIL BEARING OF 1,500 PSF. ALL FOOTINGS SHALL BE CAST ON UNDISTURBED FIRM NATURAL SOIL OR COMPACTED SOIL OF 1,500 PSF BEARING CAPACITY AT LEAST 1'-6" BELOW LOWEST ADJACENT GRADE, FREE OF ORGANIC MATERIALS. FOOTING EXCAVATION SHALL BE FREE OF LOOSE SOILS, DEBRIS, AND FREE WATER AT ALL TIMES. THIS OFFICE TAKES NO RESPONSIBILITY IN VERIFYING THE ACCURACY OF ENGINEERING DATA SUPPLIED BY OTHERS.

STAIRS:

THE MINIMUM WIDTH FOR STAIRS SHALL BE 36". (IRC) R311.7.1.

THE MINIMUM HEADROOM FOR STAIRS SHALL BE 6'-8" MEASURED VERTICALLY FROM A PLANE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM. (IRC) R311.7.2.

THE MINIMUM TREAD DEPTH SHALL BE 10" (IRC) R311.7.5.2 AND THE MAXIMUM RISER HEIGHT SHALL BE 73/4" (IRC) R311.7.5.1.

CIRCULAR AND SPIRAL STAIRWAYS SHALL COMPLY WITH (IRC) R311.7.10.1.

HANDRAIL SHALL BE INSTALLED TO COMPLY WITH (IRC) R311.7.8.

INSTALL FIRE BLOCKING BETWEEN STAIR STRINGERS. COVER WALLS AND SOFFITS OF USABLE SPACE UNDER STAIR WITH ½" GYPSUM BOARD. (IRC) R302.11.

GUARDRAILS: ANY WALKING SURFACE 30" OR MORE ABOVE GRADE OR ADJACENT SURFACE SHALL HAVE GUARDRAILNOT LESS THAN 36" HIGH AND DESIGNED TO PREVENT A SPHERE LARGER THAN 4" IN DIAMETER TO PASS THROUGH. (IRC) R312.

VENTILATION & LIGHTING:

INSTALL WHOLE HOUSE VENTILATION SYSTEM AND INSTALL AN INTEGRATED EXHA

WASHINGTON STATE UNIVERSITY
Energy Program

Permit#	2405-053
Address or Lot & Block	
5330 BUTTERWORTH RD.	
City	Mercer Island
Zip	98040

These requirements apply to all the IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Instructions: This single-family project uses the requirements of the Prescriptive Path below to incorporate the minimum values listed. Based on the conditioned floor area of the structure, the number of required additional credits must be selected by the permit applicant.

Provide all information from the following tables in building permit drawings: Table R402.1.2 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and R406.3 Energy Credits.

Authorized Representative Signature		Date	12/5/2024

All Climate Zones Table 402.1.3			
		R-Value [a]	U-Factor [a]
Fenestration U-Factor [b,i]		n/a	0.30
Skylight U-Factor [b]		n/a	0.50
Ceiling [e]		60	n/a
Wood Frame Wall [e,j]		20+5 or 13+10	n/a
Floor		30	n/a
Below Grade Wall [c,h]		10/15/21 int + 5TB	n/a
Slab [d,f] R-Value & Depth		10, 4 ft	n/a
a	R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table		
b	The fenestration *U*-factor column excludes skylights.		
c	"10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.		
d	R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.		
e	For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.		
f	R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.		
g	For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.		
h	Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78 percent of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.		
i	The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "R13+10" means R-13 cavity insulation plus R-10 continuous insulation		
j	A maximum U-factor of 0.32 shall apply to vertical fenestration products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section R301.2.1.2 of the International Residential Code.		

2021 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective March 15, 2024)

Each dwelling unit ***in a residential building*** shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

1. Small Dwelling Unit: ..... **5.0 credits**
   Dwelling units less than 1500 square feet in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building greater than 500 square feet of heated floor area but less than 1500 square feet.
2. Medium Dwelling Unit: ..... **8.0 credits**
   All dwelling units that are not included in #1, #3 or #4
3. Large Dwelling Unit: ..... **9.0 credits**
   Dwelling units exceeding 5000 square feet of conditioned floor area.
4. Dwelling units serving Group R-2 occupancies: ..... **6.5 credits**
   Section R401.1 and residential building Section R202 for Group R-2.
5. Additions 150 square feet to 500 square feet: ..... **2.0 credits**

The drawings included with the building permit application shall identify which options have been selected and the point value of each option, regardless of whether separate mechanical, plumbing, electrical, or other permits are utilized for the project

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Table R406.2 ENERGY EQUALIZATION CREDITS			
System Type	Description of Primary Heating Source	Credits - select ONE system type	
1	For combustion heating equipment meeting minimum federal efficiency standards for the equipment listed in Table C403.3.2(5) or C403.3.2(6)	0	☐
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) and supplemental heating provided by electric resistance or a combustion furnace meeting minimum standards listed in Table C403.3.2(5)b found in the 2021 WSEC- COMMERCIAL ENERGY CODE	1.5	☐
3	For heating system based on electric resistance only (either forced air or Zonal)	0.5	☐
4[c]	For heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) or C403.3.2(9) 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	3.0	☒
5	For heating system based on electric resistance with: 1. Inverter-driven ductless mini-split heat pump system installed in the largest zone in the dwelling, or 2. With 2kW or less total installed heating capacity per dwelling	2.0	☐

a. See Section R401.1 and residential building in Section R202 for Group R-2 scope.
b. The gas back-up furnace will operate as fan-only when the heat pump is operating. The heat pump shall operate at all temperatures above 38°F (3.3°C) (or lower). Below that "changeover" temperature, the heat pump would not operate to provide space heating. The gas furnace provides heating below 38°F (3.3°C) (or lower).
c. Additional points for the HVAC system are included in Table R406.3.

2021 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective March 15, 2024)

Summary of Table R406.3				
Options	*Energy Credit Option Descriptions*	*Credits – limited to one energy option from each category [d]*		*Comments:*
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☒	U Value 0.25
1.3	Efficient Building Envelope	1.5	☐	
1.4	Efficient Building Envelope	2.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.3	Air Leakage Control and Efficient Ventilation	2.0	☐	
3.1[a]	High Efficiency HVAC	1.0	☐	
3.2[a]	High Efficiency HVAC	0.5	☐	
3.3[a,c,d]	High Efficiency HVAC	0.5	☐	
3.4[a,d]	High Efficiency HVAC	1.5	☐	
3.5[d]	High Efficiency HVAC	1.5	☐	
3.6[a]	High Efficiency HVAC	1.0	☒	Centrally ducted air source cold climate heat pump, min 10 HPSF
3.7[a,d,e]	High Efficiency HVAC	2.0	☐	
3.8[a,d]	High Efficiency HVAC	1.0	☐	
3.9	High Efficiency HVAC	1.5	☐	
3.10[f]	High Efficiency HVAC	2.5	☐	
3.11[c]	High Efficiency HVAC	0.5	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
5.1	Efficient Water Heating	0.5	☐	
5.2	Efficient Water Heating	0.5	☐	
5.3	Efficient Water Heating	0.5	☐	
5.4	Efficient Water Heating	1.0	☒	Energy Star rated gas or propoane water heater, min UEF 0.91
5.5	Efficient Water Heating	1.5	☐	
5.6	Efficient Water Heating	2.0	☐	
5.7	Efficient Water Heating	2.5	☐	
5.8	Efficient Water Heating	2.5	☐	
6.1	Renewable Electric Energy (4.5 credits max)	0.5-4.5	3.0	Solar panels
7.1	Appliance Package	0.5	☐	
		Total Credits	9.0	Calculate Total

a. An alternative heating source sized at a maximum of 0.5 Watts/ft2 (equivalent) of heated floor area or 500 Watts, whichever is bigger, may be installed in the dwelling unit.
b. See Section R401.1 and residential building in Section R202 for Group R-2 scope.
c. Option 3.11 can only be taken with Options 3.1 and 3.3. To qualify to claim Option 3.11 with 3.3, the system shall be a 1-2 speed heat pump system. Variable capacity heat pumps are ineligible from claiming this option.
d. This option may only be claimed if serving System Type 4 or 5 from Table R406.2.
e. Primary living areas include living, dining, kitchen, family rooms, and similar areas.
f. Option 3.10 may only be taken with Efficient Water Heating Options 5.1 or 5.2. Equipment sizing for space heating shall be calculated as provided in Section R403.7 with increased capacity to provide a minimum of 75 percent of peak hot water demand or shall be sized in accordance with approved manufacturer's specifications or guidance. Supplementary heat for water heating system shall be in accordance with Section R403.5.7.

SCALE THIS DRAWING, IN FEET

MacPherson
Construction & Design
22605 SE 56th St Suite 140, Issaquah, WA 98029
PH. 425.391.3333 FAX 425.557.2841

BUTTERWORTH - HOUSE 1

5330 BUTTERWORTH RD.
MERCER ISLAND, WA 98040
PARCEL #: 866140-0040

ENERGY COMPLIANCE

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1
12/9/24	2	DAN	PERMIT RESPONSE 2

SHEET NUMBER

A0.2

1/2/2025 7:31:59 AM

ALTA/NSPS LAND TITLE SURVEY

LOCATED IN THE S.E. 1/4, OF THE N.E. 1/4, OF SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., KING COUNTY, WASHINGTON

SCHEDULE B, PART 2, EXCEPTIONS:

(PER CHICAGO TITLE COMPANY OF WASHINGTON, COMMITMENT NO. 0246999-ETU
COMMITMENT – THIRD, DATED JANUARY 11, 2024)

SPECIAL EXCEPTIONS:

1. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:

GRANTED TO: MERCER ISLAND SEWER DISTRICT, A MUNICIPAL CORPORATION
PURPOSE: SEWER PIPELINE AND ALL NECESSARY APPURTENANCES
RECORDING DATE: JUNE 19, 1964
RECORDING NO.: 5750958
RECORDING DATE: JULY 8, 1964
RECORDING NO.: 5758750
AFFECTS: A PORTION OF SHORELANDS LYING WITHIN STRIP OF LAND 10 FEET IN WIDTH

(EASEMENT(S) ARE DEPICTED HEREON IN AN APPROXIMATE LOCATION, WITHIN THE SHORELANDS)

2. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SHOWN IN THE DOCUMENT:

RECORDING DATE: APRIL 23, 1965
RECORDING NO.: 5870467
PURPOSE: STORM DRAINAGE AND UTILITIES
AFFECTS: WESTERLY 10 FEET OF LOT 3, TRACT A, AND OTHER PROPERTY ADJOINING BUTTERWORTH ROAD

(EASEMENT(S) ARE DEPICTED HEREON)

3. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:

GRANTED TO: CITY OF MERCER ISLAND
PURPOSE: UNDERGROUND STORM DRAIN RECORDING
DATE: APRIL 23, 1965
RECORDING NO.: 5870467
AFFECTS: THE NORTH 10 FEET OF LOT 1 AND ALL OF TRACT A

(EASEMENT(S) ARE DEPICTED HEREON)

4. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:

GRANTED TO: MERCER ISLAND SEWER DISTRICT, A MUNICIPAL CORPORATION
PURPOSE: UNDERGROUND RIGID CONDUITS
RECORDING DATE: MAY 12, 1965
RECORDING NO.: 5878038
AFFECTS: PORTION OF TRACT A

(EASEMENT IS DEPICTED HEREON)

5. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SHOWN IN THE DOCUMENT

RECORDING DATE: SEPTEMBER 11, 1996
RECORDING NO.: 9609110173
PURPOSE: INGRESS AND EGRESS
AFFECTS: PORTION OF LOT 4 DESCRIBED AS FOLLOWS:
BEGINNING AT THE MOST WESTERLY CORNER OF SAID LOT 4, THEN SOUTH 22°26'49" EAST ALONG THE WESTERLY LINE OF SAID LOT 4 A DISTANCE OF 23.56 FEET; THENCE SOUTH 73°10'02" EAST ALONG THE SOUTHERLY LINE OF SAID LOT 4 A DISTANCE OF 35.00 FEET; THENCE NORTH 5°05'50" WEST A DISTANCE OF 53.14 FEET TO THE POINT OF BEGINNING.

(EASEMENT IS DEPICTED HEREON)

6. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:

GRANTED TO: CITY OF MERCER ISLAND
PURPOSE: PUBLIC STORM DRAINAGE
RECORDING DATE: DECEMBER 29, 2000
RECORDING NO.: 20001229000271
AFFECTS: SOUTHEASTERLY PORTION OF SAID PREMISES

(EASEMENT IS DEPICTED HEREON, SEE NOTE)

7. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SHOWN IN THE DOCUMENT

RECORDING DATE: AUGUST 15, 2002
RECORDING NO.: 20020815001275
PURPOSE: UTILITIES TOGETHER WITH MAINTENANCE THEREOF
AFFECTS: SOUTHERLY PORTION OF SAID PREMISES

(EASEMENT(S) ARE DEPICTED HEREON)

8. COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS, IF ANY, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH ON MERCER ISLAND BOUNDARY LINE REVISION NO. M.I. 92-09-43:

RECORDING NO: 9212299014

(EASEMENT IS DEPICTED HEREON)

9. COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS, IF ANY, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH ON THE BOUNDARY LINE ADJUSTMENT NO. 94-0467:

RECORDING NO: 9606139004

(EASEMENT(S) ARE DEPICTED HEREON)

10. EXCEPTIONS AND RESERVATIONS CONTAINED IN DEED WHEREBY THE GRANTOR EXCEPTS AND RESERVES ALL OIL, GASES, COAL, ORES, MINERALS, FOSSILS, ETC., AND THE RIGHT OF ENTRY FOR OPENING, DEVELOPING AND WORKING THE SAME AND PROVIDING THAT SUCH RIGHTS SHALL NOT BE EXERCISED UNTIL PROVISION HAS BEEN MADE FOR FULL PAYMENT OF ALL DAMAGES SUSTAINED BY REASON OF SUCH ENTRY

GRANTOR: STATE OF WASHINGTON
RECORDING NO.: 1579699

RIGHT OF THE STATE OF WASHINGTON OR ITS SUCCESSORS, SUBJECT TO PAYMENT OF COMPENSATION, TO ACQUIRE RIGHTS OF WAY FOR PRIVATE RAILROADS, SKID ROADS, FLUMES, CANALS, WATER COURSES OR OTHER EASEMENTS FOR TRANSPORTING AND MOVING TIMBER, STONE, MINERALS AND OTHER PRODUCTS FROM THIS AND OTHER LAND, AS RESERVED IN ABOVE-REFERENCED DEED.

AFFECTS: SECOND CLASS SHORELANDS

11. COVENANTS, CONDITIONS, RESTRICTIONS, LIABILITY FOR ASSESSMENTS, AND EASEMENTS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, SOURCE OF INCOME, GENDER, GENDER IDENTITY, GENDER EXPRESSION, MEDICAL CONDITION OR GENETIC INFORMATION, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH IN THE DOCUMENT

RECORDING DATE: APRIL 23, 1965
RECORDING NO.: 5870467

(EASEMENTS ARE DEPICTED HEREON)

12. AGREEMENT, AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: DECEMBER 8, 1955
RECORDING NO.: 4644177
REGARDING: ESTABLISHING THE NORTH BOUNDARY LINE OF SECOND CLASS SHORELANDS ADJOINING LOT 1

(AGREEMENT NOTE IS DEPICTED HEREON)

SCHEDULE B, PART 2, EXCEPTIONS (CONTINUED):

13. AGREEMENT, AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: AUGUST 4, 1977
RECORDING NO.: 7708040644
REGARDING: THE BUILDING AND MAINTENANCE OF A DOCK ON THE SECOND CLASS SHORELANDS

(AGREEMENT NOTE IS DEPICTED HEREON)

14. AGREEMENT TO REMOVE AND REPLACE ENCROACHMENTS WITHIN PUBLIC RIGHT-OF-WAY, AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: NOVEMBER 25, 1997
RECORDING NO.: 9711251057

(IT IS UNCLEAR FROM THE DOCUMENT IF ANY ENCROACHMENTS HAVE BEEN OR WILL BE REMOVED UPON CITY NOTICE)

15. ANY QUESTION THAT MAY ARISE DUE TO SHIFTING AND CHANGING IN THE COURSE, BOUNDARIES OR HIGH WATER LINE OF LAKE WASHINGTON.

16. RIGHTS OF THE STATE OF WASHINGTON IN AND TO THAT PORTION, IF ANY, OF THE LAND WHICH LIES BELOW THE LINE OF ORDINARY HIGH WATER OF LAKE WASHINGTON.

17. ANY PROHIBITION OR LIMITATION OF USE, OCCUPANCY OR IMPROVEMENT OF THE LAND RESULTING FROM THE RIGHTS OF THE PUBLIC OR RIPARIAN OWNERS TO USE ANY PORTION WHICH IS NOW OR WAS FORMERLY COVERED BY WATER.

18. PARAMOUNT RIGHTS AND EASEMENTS IN FAVOR OF THE UNITED STATES FOR COMMERCE, NAVIGATION, FISHERIES AND THE PRODUCTION OF POWER.

19. RESERVATIONS AND EXCEPTIONS IN UNITED STATES PATENTS OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF; INDIAN TREATY OR ABORIGINAL RIGHTS.

24. ANY RIGHTS, INTERESTS OR CLAIMS WHICH MAY EXIST OR ARISE BY REASON OF THE FOLLOWING MATTERS DISCLOSED BY AN INSPECTION AND BY SURVEY PREPARED BY M.W. MARSHALL DATED OCTOBER 5, 1992, UNDER JOB NO. 1260-E:

A) QUESTION OF THE LOCATION OF A HEDGE AND A CHAIN LINK FENCE ALONG A PORTION OF THE NORTH BOUNDARY LINE THAT DO NOT CONFORM TO THE PROPERTY LINE;

B) QUESTION OF THE LOCATION OF PLANTINGS ALONG THE WEST LINE OF THE PROPERTY THAT DO NOT CONFORM TO THE PROPERTY LINE;

C) QUESTION OF THE LOCATION OF PLANTINGS AND VEGETATION ALONG THE SOUTH LINE OF THE PROPERTY THAT DO NOT CONFORM TO THE PROPERTY LINE.

NOTES:

1. MONUMENTS VISITED ON 03/15/2024.

2. THIS SURVEY WAS PERFORMED ON THE GROUND BETWEEN THE DATES OF 02/12/24 AND 03/15/2024 UNDER THE GUIDELINES OF THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS AS ADOPTED BY ALTA AND NSPS.

3. NO EVIDENCE OF CEMETARIES, BURIAL GROUNDS OR LAKES BORDER OR RUN THROUGH THESE PREMISES. AN EXISTING STREAM WITH SMALL MAN-MADE PONDS BORDERS THE SOUTHERN BOUNDARY HEREON AND IS DEPICTED.

4. UTILITIES LOCATED AND MAPPED BY DIRECT FIELD OBSERVATIONS AND UTILITY COMPANY MARKED LOCATIONS. UTILITIES LOCATED AND MARKED THE WEEK OF MARCH 11, 2024 BY MT. VIEW LOCATING SERVICES.

5. NO EVIDENCE OF ANY RECENT EARTH WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WERE OBSERVED DURING THIS SURVEY.

6. NO PROPOSED CHANGES IN STREET RIGHT-OF-WAY LINES OR EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED DURING THIS SURVEY.

7. NO WETLANDS MARKERS WERE FOUND DURING THIS SURVEY.

8. THE REVISED PROPERTY AREA AS SHOWN ON THE ROSA LINE REVISION (RLR) EQUALS 83,107 SQ. FT., EXCLUSIVE OF EASEMENT FOR INGRESS & EGRESS. OUR CACULATED AREA EQUALS 83,106 SQ. FT. THESE AREAS ARE TO THE ROCK SEAWALL (HIGH WATER LINE) AS DEPICTED ON THE REVISION.
AS-BUILT LOCATIONS OF THE CURRENT ROCK SEAWALL DIFFER SLIGHTLY FROM THE 1996 REVISION. PROPERTY AREAS TO THE APPROXIMATE CURRENT FACE OF SEAWALL ARE AS FOLLOWS: 83,640 SQ. FT. (INCLUDING EASEMENT) AND 83,320 SQ. FT. EXCLUDING EASEMENT.

9. THE SEAWALL LOCATION WAS SURVEYED AND MEASURED ON FEB. 12, 2024. IT WAS MEASURED AT THE APPROXIMATE FACE (WATER SIDE) OF 2-MAN OR LARGER ROCKS AT POINTS OF ANGLE OR END POINTS. THESE MEASURED POINTS ARE ARBITRARY AS ROCK FACES ARE NOT ALIGNED IN CONTINUOUSLY STRAIGHT SECTIONS AND CONTAIN UNEVEN SURFACES. THE FACE OF SEAWALL IS SUBJECT TO CHANGE DUE TO NATURAL CAUSES. ACTUAL OWNERSHIP LINES EXTEND TO THE LIMITS OF SECOND CLASS SHORELANDS ADJOINING. NO ATTEMPT WAS MADE TO SURVEY THESE LIMITS.

REFERENCE SURVEYS:

1. PLAT OF TONJA ESTATES, VOL. 77, PAGE 64, KING COUNTY, WA.
2. ROSA LINE REVISION, CITY OF MERCER ISLAND FILE NO. 94-0467, REC. NO. 9606139004
3. FELTIS-EYRING BOUNDARY LINE REVISION, MERCER ISLAND FILE NO. M.I. 92-09-43, REC. NO. 9212299014

LEGEND:

⊗	FOUND CONCRETE MONUMENT IN CASE W/ 3/8" BRASS PLUG & PUNCH
●	SET 1/2" REBAR & CAP "CASCADE LS 37540"
○	FOUND REBAR & CAP OR IRON PIPE & CAP AS DESCRIBED
⊠	SET OR FOUND NAIL & WASHER AS DESCRIBED
CB	CATCH BASIN
AD	AREA DRAIN
SS	SANITARY SEWER MANHOLE
GV	GAS VALVE
GM	GAS METER
FH	FIRE HYDRANT
WV	WATER VALVE
WM	WATER METER
WH	WATER HOT BOX
WF	WATER FAUCET
TR	TELEPHONE OR COMM RISER
PT	POWER TRANSFORMER
PV	POWER VAULT
EB	ELECTRIC BOX
UP	UTILITY POLE
GA	GUY ANCHOR
MB	MAIL BOX
	CONIFER TREE
	LEYLAND CYPRESS IN ROW
	DECIDUOUS TREE
E	OVERHEAD ELECTRICAL AND/OR COMM LINES
UE	UNDERGROUND ELECTRICAL LINES
G	UNDERGROUND GAS MAIN
T	UNDERGROUND COMM LINES
S	SANITARY SEWER MAIN
W	UNDERGROUND WATER MAIN
	IRON FENCE ON CONC. FOOTING
X	CHAIN LINK FENCE
	ROCKERY
(P)	PLAT OF TONJA ESTATES
(RLR)	ROSA LINE REVISION REC. NO. 9606139004
CLF	CHAIN LINK FENCE
G	GATE
CP	CONCRETE PILLAR
EA	EDGE OF PAVEMENT
EC	EXTRUDED CURB
APP	APPLE
CW	COTTONWOOD
MAG	MAGNOLIA
SPR	SPRUCE
K	KATSURA
C	CEDAR
F	FIR
PE	PAULOWNIA/EMPRESS
CC	CHINESE CATALPA
DT	DECIDUOUS TREE
M	MAPLE
JS	JAPANESE STEWARTIA
P	PINE
L	LAUREL
J	JUNIPER
B	BIRCH
PC	PHOTINIA CV.
26.30	SPOT ELEVATION
A	PROPERTY CORNER NOTE
1	EXCEPTION REFERENCE NO. PER SCHEDULE B
	AREAS OF GRAVEL
	AREAS OF STONE PAVERS
	AREAS OF CONCRETE
	AREAS OF CONCRETE PAVERS

ALTA/NSPS LAND TITLE SURVEY CERTIFICATION

TO ROGER MACPHERSON RESIDENTIAL TRUST AND NANCY MACPHERSON RESIDENTIAL TRUST AND TO CHICAGO TITLE COMPANY OF WASHINGTON:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 4 AND 5 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MARCH 15, 2024.

DATE OF PLAT MAP: 03/21/24
NAME: Jeffrey Allen Otterson
REGISTRATION NO. 37540

JEFFREY ALLEN OTTERSON · STATE OF WASHINGTON · 37540 · REGISTERED PROFESSIONAL LAND SURVEYOR · 03/21/24

SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF IN ROGER MACPHERSON RESIDENTIAL TRUST AND NANCY MACPHERSON RESIDENTIAL TRUST Mar. 2024

Jeffrey Allen Otterson
P.L.S. CERTIFICATE NO. 37540

JEFFREY ALLEN OTTERSON · STATE OF WASHINGTON · 37540 · REGISTERED PROFESSIONAL LAND SURVEYOR

ALTA/NSPS LAND TITLE SURVEY
FOR: MACPHERSON RESIDENTIAL TRUST
5330 BUTTERWORTH ROAD
MERCER ISLAND, WA 98040

CASCADE LAND SURVEYING
Complete Land Surveying Services
16009 AP TUBBS RD E. BUCKLEY, WA 98321
PHONE: (253) 820-4016
Email: jeff@cascadels.com

DRAWN BY: JAO | CHECKED BY: JAO | SHEET: 1 of 2 | DATE: Thu., Mar. 21, 2024
JOB NO.: 2024-003 | SCALE: N/A

GRAPHIC SCALE 1"=20'

20 0 20

BASIS OF BEARINGS:

THE CENTERLINE OF BUTTERWORTH ROAD, BEING NORTH 20°10'45" EAST PER THE PLAT OF TONJA ESTATES, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 77 OF PLATS, PAGE 64, IN KING COUNTY, WASHINGTON.

VERTICAL DATUM:

NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

BENCHMARK:

LAKE WASHINGTON WATER SURFACE ELEVATION PER U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT, WATER MANAGEMENT. ELEVATION = 17.17 NAVD 88 ON MARCH 1, 2024 AT 10:30 A.M.

CONTOUR INTERVAL:

2 FEET

LEGAL DESCRIPTION:

(PER CHICAGO TITLE COMPANY OF WASHINGTON COMMITMENT NO. 0246999-ETU, THIRD, DATED JANUARY 11, 2024)

LOTS 3 AND 4, TONJA ESTATES, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 77 OF PLATS, PAGE 64, IN KING COUNTY, WASHINGTON,

EXCEPT THAT PORTION OF SAID LOT 3, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 3;

THENCE SOUTH 01°35'04" WEST ALONG THE EASTERLY LINE OF LOT 3 A DISTANCE OF 75.31 FEET;

THENCE NORTH 10°03'02" WEST A DISTANCE OF 74.73 FEET;

THENCE NORTH 76°21'57" WEST A DISTANCE OF 10.15 FEET, MORE OR LESS, TO THE NORTH LINE OF SAID LOT 3;

THENCE SOUTH 88°24'56" EAST ALONG SAID NORTH LINE 25.00 FEET TO THE POINT OF BEGINNING, AND THE END OF THIS EXCEPTION;

TOGETHER WITH AN UNDIVIDED 1/7TH INTEREST IN LOT 1 OF SAID PLAT; AND

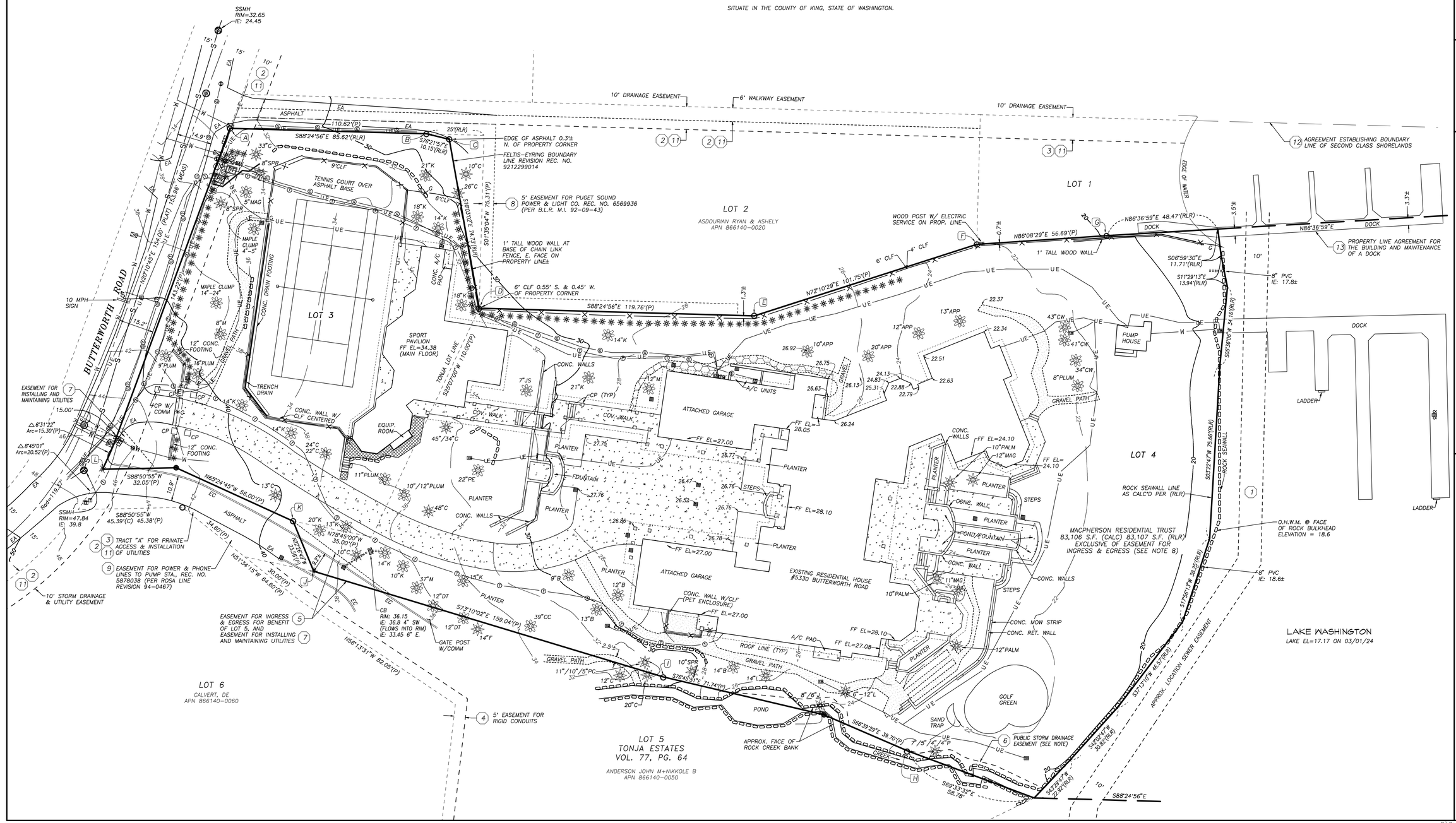
TOGETHER WITH AN UNDIVIDED 1/2 INTEREST IN TRACT A OF SAID PLAT;

(ALSO KNOWN AS THE ROSA LINE REVISION, CITY OF MERCER ISLAND FILE NO. 94-0467, RECORDED UNDER RECORDING NUMBER 9606139004).

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

FOUND/SET PROPERTY CORNER LEGEND:

- (A) FOUND 3/4" IRON PIPE & CAP "LS 20764" S49°E 0.09'
- (B) FOUND 3/4" IRON PIPE & CAP W/TACK "LS 20764" S38°W 0.09'
- (C) FOUND 1/2" REBAR & CAP "TERRANE 15025 56664 52088 57176"
- (D) FOUND 3/4" IRON PIPE & CAP W/TACK "LS 20764" S26°W 0.16'
- (E) FOUND 1/2" REBAR & CAP "TERRANE 15025 56664 52088 57176"
- (F) FOUND 3/4" IRON PIPE & CAP W/TACK "LS 20764" S51°E 0.08'
- (G) FOUND 3/4" IRON PIPE & CAP W/TACK "LS 20764" S4°W 0.17'
- (H) FOUND 3/4" IRON PIPE & CAP W/TACK "LS 20764" S34°W 0.41'
- (I) FOUND 3/4" IRON PIPE & CAP W/TACK "LS 20764" S22°W 0.22'
- (J) FOUND MAG NAIL & WASHER "37427" N49°E 0.09'
- (K) FOUND 1/2" REBAR & CAP "TRIAD ASSOC 19620 22335 21402 18094"
- (L) SET MAG NAIL & I.D. WASHER "LS 37540"



SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF ROGER MACPHERSON RESIDENTIAL TRUST AND NANCY MACPHERSON RESIDENTIAL TRUST IN MAY, 2024

Jeffrey Allen Peterson
P.L.S. CERTIFICATE NO. 37540

JEFFREY ALLEN PETERSON 37540 REGISTERED PROFESSIONAL LAND SURVEYOR STATE OF WASHINGTON

ALTA/NSPS LAND TITLE SURVEY

FOR: MACPHERSON RESIDENTIAL TRUST
5330 BUTTERWORTH ROAD
MERCER ISLAND, WA 98040

CASCADE LAND SURVEYING
Complete Land Surveying Services
16009 AP TUBBS RD E, BUCKLEY, WA 98321
PHONE: (253) 820-4016
Email: jeff@cascadels.com

DRAWN BY: JAO | CHECKED BY: JAO | SCALE: 1"=20' | SHEET: 2 OF 2 | DATE: Thu, Mar. 21, 2024

JOB NO.: 2024-003

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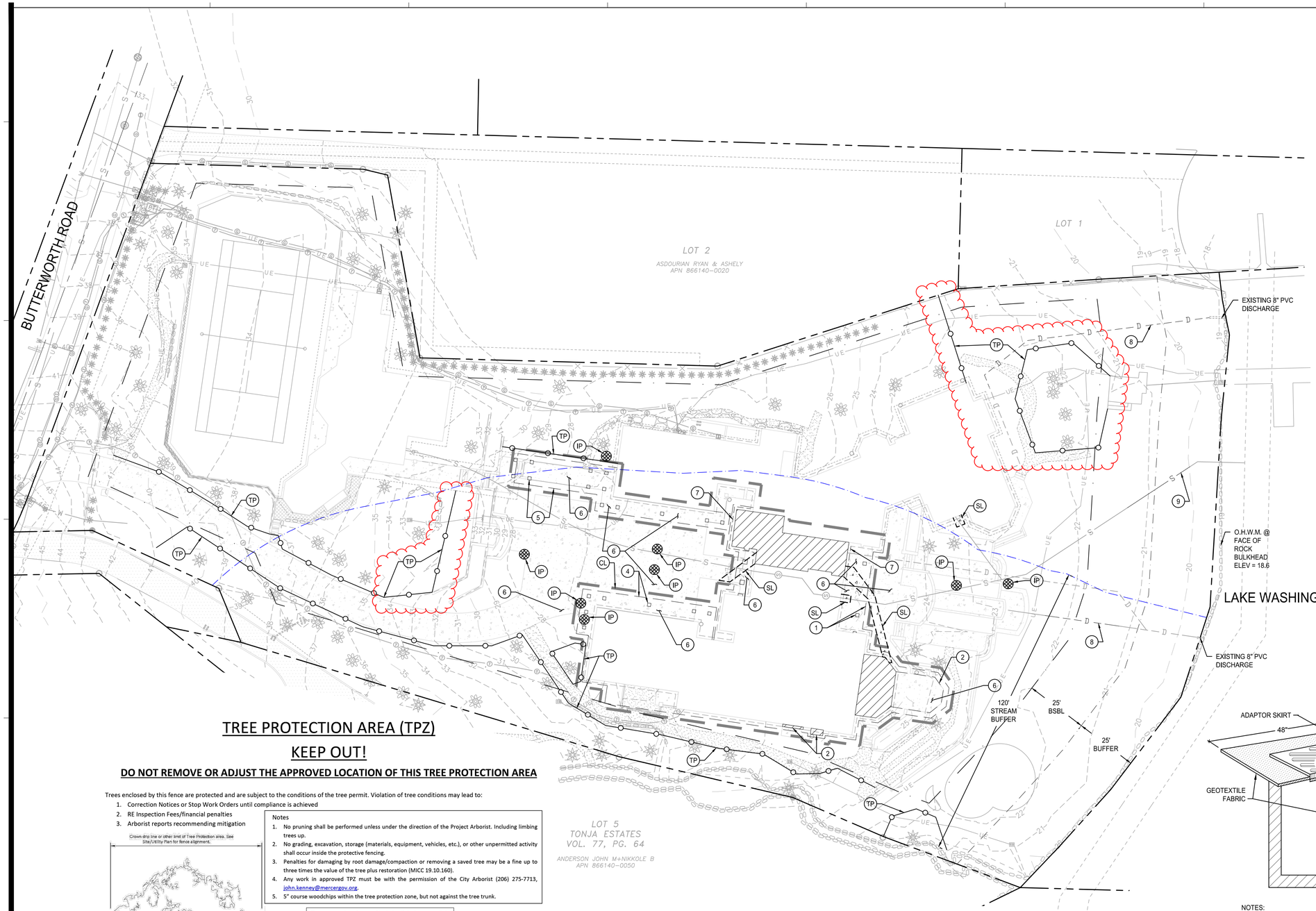


LEGEND

- RIGHT-OF-WAY / PROPERTY LINE
- PROPOSED PROPERTY LINE
- CL — CLEARING / PROJECT LIMITS
- REMOVE PORTION OF EXISTING STRUCTURE
- REMOVE EXISTING CONCRETE
- TP — TREE PROTECTION FENCE (1 / C1-0)
- IP — INLET PROTECTION (2 / C1-0)
- SL — SAWCUT LINE
- EXISTING TREE TO REMAIN
- 100 — EXISTING MAJOR CONTOURS
- 101 — EXISTING MINOR CONTOURS

KEYNOTES

1. REMOVE EXISTING COLUMNS AND ROOF, TYP.
2. REMOVE EXISTING PERGOLA ROOF AND COLUMNS
3. REMOVE EXISTING FIREPLACE AND CHIMNEY
4. REMOVE EXISTING COLUMNS, TRELLIS, AND ROOF, TYP.
5. DEMO EXISTING TRELLIS AND COLUMNS
6. PROTECT EXISTING CONCRETE
7. REMOVE EXISTING FOOTING DRAIN
8. REMOVE EXISTING 8" PVC STORM DRAIN
9. REMOVE EXISTING 6" PVC SEWER LINE

TREE PROTECTION AREA (TPZ)

KEEP OUT!

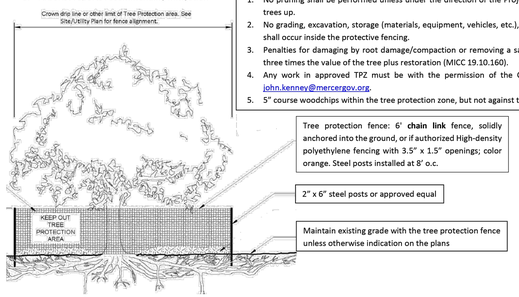
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

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

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

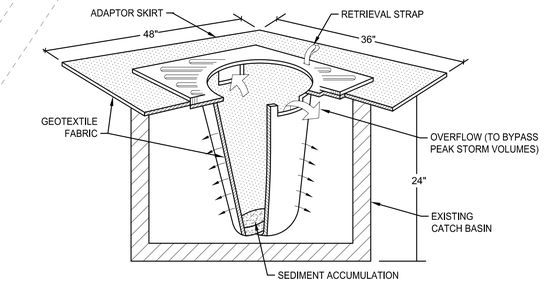
Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kenney@mercergov.org.
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

1 COMI TREE PROTECTION FENCE
NOT TO SCALE



NOTES:
1. FILTERS SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN 1/3 FULL.
2. INSTALL INLET PROTECTION IN ALL NEW STORM STRUCTURES THAT WILL COLLECT STORMWATER AS THEY ARE INSTALLED.

2 INLET PROTECTION
NOT TO SCALE

N

20 10 0 20 40
SCALE IN FEET

Know what's below. Call before you dig.

PLOTTED: 12/30/2024 8:58:39 AM FILE: 24004-SHEMO.DWG LAST SAVED BY: JOHNBABB

BUTTERWORTH ROAD REMODEL

5330 BUTTERWORTH ROAD
MERCER ISLAND, WA 98040

PERMIT SET

ETHOS CIVIL
Engineering Entitlement Project Management
ethoscivil.com info@ethoscivil.com 253.414.1989

12/30/2024

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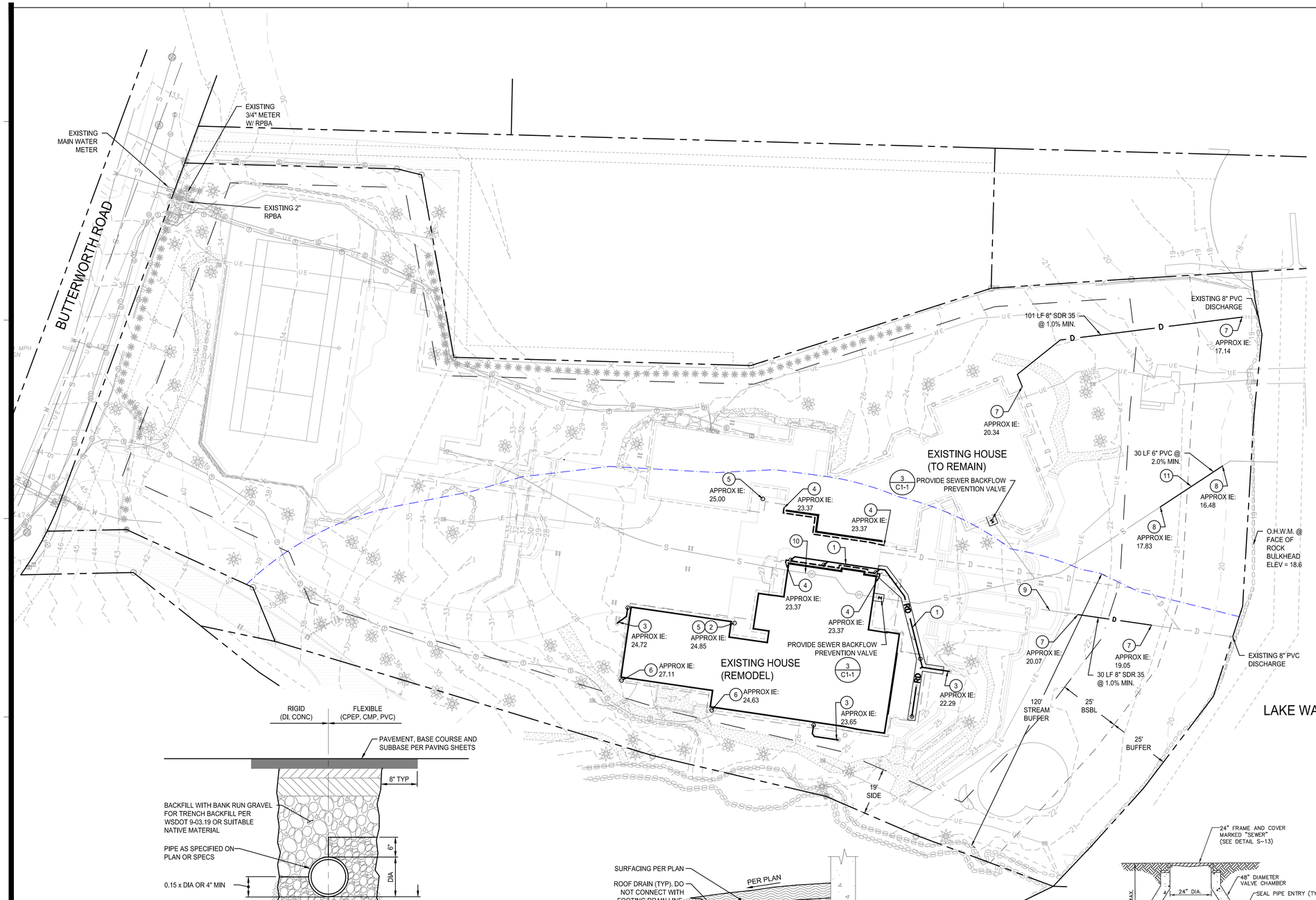
DESIGNED	JTB
CHECKED	ABE
DRAWN	JTB
CHECKED	ABE

#	DATE	DESCRIPTION
1	10/1/24	PERMIT RESPONSE #1
2	12/30/24	PERMIT RESPONSE #2

24004
5/30/2024

DEMO AND TESC PLAN

C1-0

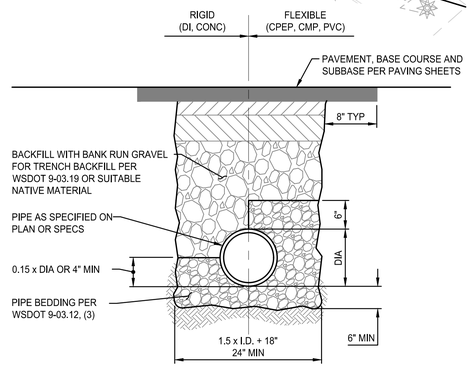


LEGEND

- RIGHT-OF-WAY/PROPERTY LINE
- PROPOSED BUILDING OUTLINE, REFER TO ARCHITECTURE PLAN
- BUILDING OVERHANG, REFER TO ARCHITECTURE PLAN
- PROPOSED CONCRETE REPLACEMENT, REPLACE IN-KIND WITH REMOVED EXISTING CONCRETE.
- RD — ROOF DRAIN LINE (1 / C1-1)
- FOOTING DRAIN (2 / C1-1)

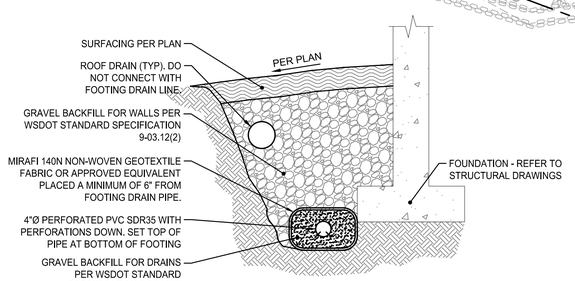
KEYNOTES

1. 4" SDR 35 PVC @ 2.0% MIN.
2. DOWNSPOUT, TYP. (1 / C1-1)
3. CONNECT TO EXISTING DRAIN LINE TO REMAIN WITH 4" SDR 35 PVC @ 2.0% MIN.
4. CONNECT TO EXISTING FOOTING DRAIN.
5. CONNECT TO EXISTING DRYWELL IN SAME LOCATION.
6. CONNECT TO EXISTING DRAIN LINE IN SAME LOCATION.
7. REPLACE 8" SDR 35 DRAINAGE PIPE. PROVIDE CONSISTENT POSITIVE SLOPE FROM POINT TO POINT (1.0% MINUMUM).
8. REPLACE 6" PVC SEWER LINE. PROVIDE CONSISTENT POSITIVE SLOPE FROM POINT TO POINT (2.0% MINUMUM).
9. PRIOR TO INSTALLATION OF ALL ROOF DRAIN LINES, CONTRACTOR SHALL PROVIDE VIDEO INSPECTION OF STORM LINE UPSTREAM OF THE REPLACED SECTION OF PIPE AND PROVIDE TO THE ENGINEER FOR REVIEW. DOCUMENT EXISTING PIPE ROUTING UPSTREAM OF REPLACED SECTION OF PIPE.
10. PROTECT EXISTING SEWER LINE AND STRUCTURES IN PLACE.
11. CONTRACTOR SHALL PROVIDE VIDEO INSPECTION OF SEWER LINE DOWNSTREAM OF THE REPLACED SECTION OF PIPE AND PROVIDE TO THE ENGINEER FOR REVIEW. DOCUMENT EXISTING PIPE ROUTING DOWNSTREAM OF REPLACED SECTION OF PIPE.

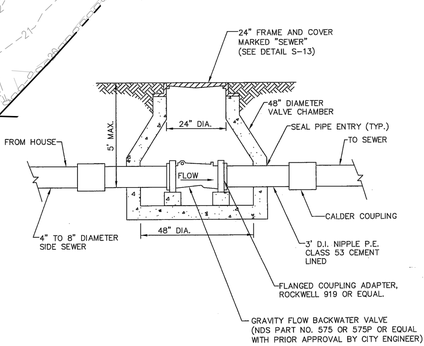


NOTES:
1. BACKFILL MATERIAL SHALL NOT HAVE ROCKS OR PARTICLES LARGER THAN 1" WITHIN 12" OF THE PIPE. BACKFILL MATERIAL SHALL BE PLACED IN 8" MAXIMUM LOOSE LIFTS AND COMPACTED TO 95% MAXIMUM DRY DENSITY PER MODIFIED PROCTOR TEST (ASTM D-1557).
2. CONSTRUCT ALL STORM AND ROOF DRAINS IN CONFORMANCE WITH THIS DETAIL UNLESS NOTED OTHERWISE ON THE PLANS.
3. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES.
4. IF ORGANIC MATERIAL IS ENCOUNTERED DURING UTILITY EXCAVATION, OVEREXCAVATE TRENCH TO INCREASE PIPE BEDDING DEPTH TO 18" OR MORE AS REQUIRED TO COMPACT BEDDING TO FIRM AND UNYIELDING CONDITION.

1 TRENCH SECTION
NOT TO SCALE



2 FOOTING DRAIN
NOT TO SCALE



3 COMI SEWER BACK WATER VALVE ASSEMBLY (S-26)
NOT TO SCALE

N

20 10 0 20 40
SCALE IN FEET

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

PLOTTED: 12/30/2024 8:58:51 AM BY: E:\24004-BHUTTN_DWG\LAST SAVED BY: JOHNBABB

BUTTERWORTH ROAD REMODEL

5330 BUTTERWORTH ROAD
MERCER ISLAND, WA 98040

PERMIT SET

ETHOS CIVIL
Engineering Entitlement Project Management
ethoscivil.com info@ethoscivil.com 253.414.1989

12/30/2024

ANDREW E. BABB — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

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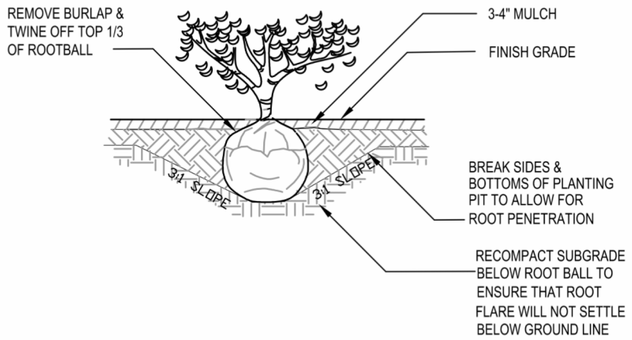
DESIGNED JTB
CHECKED ABE
DRAWN JTB
CHECKED ABE

#	DATE	DESCRIPTION
1	10/1/24	PERMIT RESPONSE #1
2	12/30/24	PERMIT RESPONSE #2

24004
5/30/2024

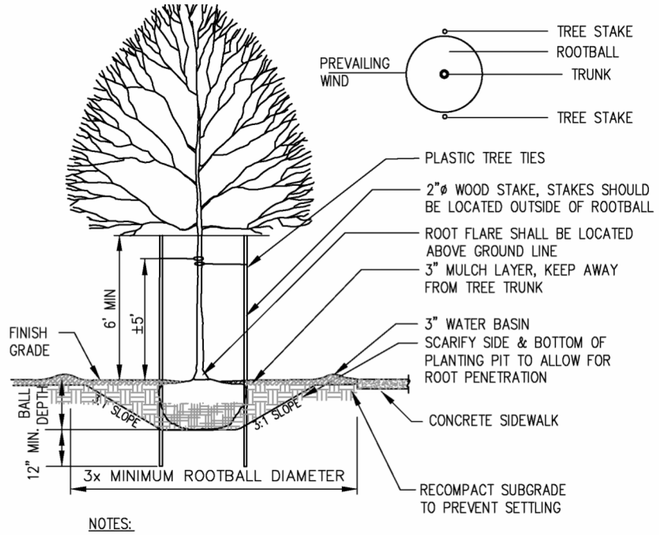
SITE PLAN

C1-1



1 TYPICAL SHRUB PLANTING DETAIL

NTS



NOTES:

1. TREE PIT SHALL NOT BE LESS THAN (3) TIMES ROOT BALL DIA.
2. CUT ALL TIES AND FOLD BACK BURLAP FROM UPPER 1/3 OF ROOT BALL
3. REMOVE ALL PLASTIC AND TWINE
4. TREE STAKES PERPENDICULAR TO THE PREVAILING WIND
5. PLANT TREES 2" HIGHER THAN DEPTH GROWN IN NURSERY

2 TYPICAL DECIDUOUS TREE PLANTING DETAIL

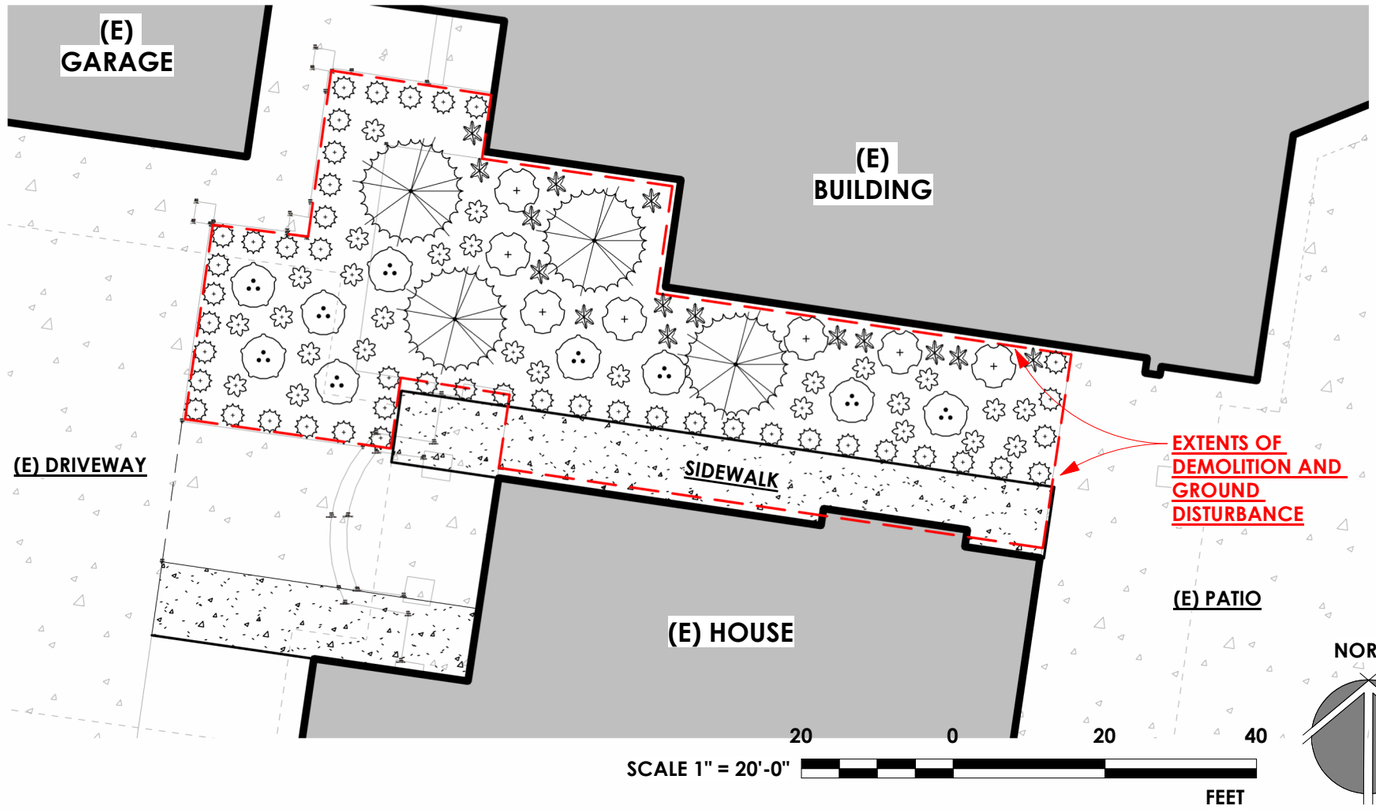
NTS

GENERAL NOTES

1. CONTRACTOR SHALL MAINTAIN AND WATER ALL PLANT MATERIAL FOR 1 YEAR OR UNTIL FINAL INSPECTION AND ACCEPTANCE BY OWNER.
2. ALL PLANTING AREAS TO BE CLEARED OF ALL CONSTRUCTION MATERIAL, ROCKS AND STICKS LARGER THAN 2" DIAMETER.
3. 6" MIN. DEPTH OF TOPSOIL IN LANDSCAPE AREA.
4. 2" DEPTH, 3' DIAMETER BARK RING AROUND BASE OF TREES LOCATED IN LAWN AREAS.
5. ALL PLANT MATERIAL SHALL BE FERTILIZED PER MANUFACTURERS SPECIFICATIONS.

PLANT SCHEDULE

	BOTANICAL - COMMON NAME	SIZE	QTY
TREES			
	Acer circinatum / Vine Maple	7' Ht.	4
SHRUBS			
	Pieris japonica / Japanese Pieris	5 gal.	7
	Hydrangea arborescens / Ruby Smooth Hydrangea	5 gal.	9
	Pennisetum alopecuroides / Little Bunny Fountain Grass	1 gal.	27
	Prunus laurocerasus / Otto Luyken English Laurel	5 gal.	46
	Polystichum munitum - Western Sword Fern	1 gal.	15



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PH. 425.391.3333 FAX 425.557.2841

BUTTERWORTH ROAD

5330 BUTTERWORTH RD.
MERCER ISLAND, WA 98040
PARCEL #: 866140-0040

LANDSCAPE PLAN

DATE	REV.	BY	DESCRIPTION
12/10/24		DAN	PERMIT RESPONSE 2

SHEET NUMBER

L1.0

12/10/2024 9:20:15 AM

DEMOLITION NOTES

REMOVAL OF EXISTING STRUCTURES:

ANY EXISTING STRUCTURE IDENTIFIED ON THE PLAN FOR DEMOLITION, IS TO BE COMPLETELY DEMOLISHED DOWN TO THE FOUNDATION. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL WALLS, ROOFING, FLOORS, FIXTURES, AND UTILITIES WITHIN THE DESIGNATED DEMOLITION AREA. ALL DEBRIS, INCLUDING CONSTRUCTION MATERIALS, WASTE, AND HAZARDOUS SUBSTANCES, MUST BE PROPERLY REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS AND ENVIRONMENTAL GUIDELINES.

PROTECTION OF ADJACENT STRUCTURES AND AREAS:

PRIOR TO DEMOLITION, ENSURE THAT ALL ADJACENT STRUCTURES AND AREAS NOT DESIGNATED FOR DEMOLITION ARE ADEQUATELY PROTECTED TO PREVENT ANY DAMAGE. ERECT TEMPORARY BARRIERS AND SAFETY FENCING AS NEEDED TO SECURE THE DEMOLITION SITE AND PROTECT WORKERS.

UTILITY DISCONNECTIONS AND SAFETY MEASURES:

ALL UTILITIES (ELECTRICAL, GAS, WATER, SEWAGE, ETC.) MUST BE SAFELY DISCONNECTED OR CAPPED OFF BEFORE THE COMMENCEMENT OF DEMOLITION WORK. FOLLOW ALL SAFETY PROTOCOLS AND GUIDELINES AS PER OSHA AND LOCAL SAFETY STANDARDS TO ENSURE A SAFE DEMOLITION PROCESS.

SITE RESTORATION:

UPON COMPLETION OF DEMOLITION, THE SITE MUST BE CLEARED OF ALL DEBRIS AND WASTE MATERIALS. THE SITE MUST BE GRADED AS NECESSARY AND RESTORED TO MATCH THE EXISTING SURROUNDINGS, INCLUDING ANY LANDSCAPING FEATURES. THIS INCLUDES ENSURING PROPER DRAINAGE AND PREVENTING EROSION BY STABILIZING THE SOIL.

HARDSCAPE

DESCRIPTION: THE SOLID, HARD, ELEMENTS OR STRUCTURES THAT ARE INCORPORATED INTO LANDSCAPING. THE HARDSCAPE INCLUDES, BUT IS NOT LIMITED TO, STRUCTURES, PAVED AREAS, STAIRS, WALKWAYS, DECKS, PATIOS, ROCKERIES AND RETAINING WALLS, AND SIMILAR CONSTRUCTED ELEMENTS THAT DO NOT HAVE A ROOF. **BUILDINGS, ROOFS AND DRIVEWAY EXCLUDED.**

NET LOT AREA	82,425 SF
ALLOWED HARDSCAPE (9%)	7,418 SF
EXISTING HARDSCAPE	
TENNIS COURT	6,227 SF
PATIOS	1,506 SF
WALKWAYS & STAIRS	4,221 SF
TOTAL:	11,954 SF
REMOVED HARDSCAPE	735 SF
NEW HARDSCAPE	230 SF
E.TOTAL PROJECT HARDSCAPE	11,449 SF 13.9%

LOT COVERAGE

DESCRIPTION: TOTAL SQUARE FOOTAGE OF FLOOR AREA, BOUNDED BY THE EXTERIOR FACES OF THE BUILDING. (PER KING COUNTY ASSESSOR'S)

GROSS LOT AREA	82,425 SF
NET LOT AREA	82,425 SF
ALLOWED LOT COVERAGE (40%)	32,970 SF
EXISTING LOT COVERAGE	
MAIN STRUCTURE ROOF AREA	13,798 SF
ACCESSORY BUILDING ROOF AREA SQUARE FEET	4,633 SF
VEHICULAR USE (DRIVEWAY, PAVED ACCESS EASEMENTS, & PARKING	5,245 SF
COVERED PATIOS AND COVERED DECKS	345 SF
TOTAL:	24,021 SF
REMOVED LOT COVERAGE	8,671 SF
NEW LOT COVERAGE	
MAIN STRUCTURE ROOF AREA	5,468 SF
COVERED PATIOS	295
TOTAL:	5,763 SF
TOTAL PROJECT LOT COVERAGE:	21,113 SF 25.6%

GROSS FLOOR AREA

DESCRIPTION: TOTAL SQUARE FOOTAGE OF FLOOR AREA, BOUNDED BY THE EXTERIOR FACES OF THE BUILDING. (PER KING COUNTY ASSESSOR'S)

EXISTING FLOOR AREA:	
BASEMENT	*760 SF
MAIN	8,410 SF
UPPER	3,010 SF
GARAGE	2,160 SF
SPORTS PAVILION	2,480 SF
MODIFIER (12-16' = 150%)	0 SF
MODIFIER (>16' = 200%)	1,450 SF
TOTAL:	17,510 SF
REMOVED FLOOR AREA:	
MAIN	1,050 SF
UPPER	555 SF
MODIFIER (12-16' = 150%)	0 SF
MODIFIER (>16' = 200%)	1,450 SF
TOTAL:	3,055 SF
NEW/ADDITION FLOOR AREA:	
UPPER	1,418 SF
MODIFIER (12-16' = 150%)	685 SF
MODIFIER (>16' = 200%)	260 SF
TOTAL:	2,363 SF
TOTAL PROPOSED AREA:	**16,818 SF
FLOOR AREA ALLOWED	12,000 SF

*BASEMENT NOT INCLUDED IN TOTALS
**492 SF DECREASE FROM EXISTING NON-CONFORMING STRUCTURE

PROJECT NARRATIVE

GENERAL DESCRIPTION: THIS PROJECT PROPOSES TO REMODEL AN EXISTING 12,180 SF SINGLE FAMILY RESIDENCE BY REMOVING A PORTION OF THE EXISTING HOUSE AND EXPANDING OVER THE EXISTING GARAGE.

DEMOLITION: INCLUDES REMOVING THE MIDDLE PORTION OF THE HOUSE, SEVERAL TRELLISES, COLUMNS AND ROOF OVERHANGS, A PERGOLA OFF THE BACK PATIO AND A FIREPLACE CHIMNEY.

NEW CONSTRUCTION: LIMITED TO THE SOUTHERLY PORTION OF THE HOUSE WHICH WILL INCLUDE REMOVAL OF EXISTING INTERIOR WALLS, WINDOW/DOOR OPENINGS, AND AN EXPANSION ON THE UPPER FLOOR OVER THE EXISTING GARAGE. **NO PROPOSED EXPANSION OF THE EXISTING HOUSE FOOTPRINT.**

GRADING

DEFINITION: APPROXIMATE VOLUME OF CUT/FILL OUTSIDE OF BUILDING FOOTPRINT

NO SIGNIFICANT PROPOSED GRADING

LOT ZONING (MICC 19.02.020)

LOT ZONING:	R-15
TOTAL LOT AREA:	82,425 sf (PER SURVEY)
MAX LOT COVERAGE: (IMPERVIOUS SURFACES)	40% (<15% LOT SLOPE) = 32,970 SF MAX
GROSS FLOOR AREA:	12,000 SF OR 40% LOT AREA (WHICHEVER IS LESS)
MAX BUILDING HEIGHT:	30' (FROM AVG. BLDG. ELEV.) 30' MAX TO PLATE ON DOWNHILL SLOPE
LOT SLOPE:	5.4% (46.0' (HIGH) - 19.0' (LOW) / 496' (DISTANCE))

SETBACKS/YARDS

FRONT YARD:	20'-0" MIN
SHORELINE:	25'-0" BUFFER FROM OHWM 25'-0" SETBACK
SIDE YARD LOT WIDTH > 90'	26'-6" COMBINED (156' WIDE x 17%) 8'-9" MIN. SIDE YARD (33% COMBINED) 7'-6" MIN. VARIABLE SIDE YARD (ROOF > 18') 10'-0" MIN. VARIABLE SIDE YARD (WALL FACADE > 25')

TREE RETENTION (MICC 19.10.060)

THE FOLLOWING TREES SHALL BE PRIORITIZED FOR RETENTION:
A. EXCEPTIONAL TREES;
B. TREES WITH A DIAMETER OF MORE THAN 24 INCHES;
C. TREES THAT HAVE A GREATER LIKELIHOOD OF LONGEVITY; AND
D. TREES THAT ARE PART OF A HEALTHY GROVE.

60' STREAM BUFFER AND 10' SETBACK

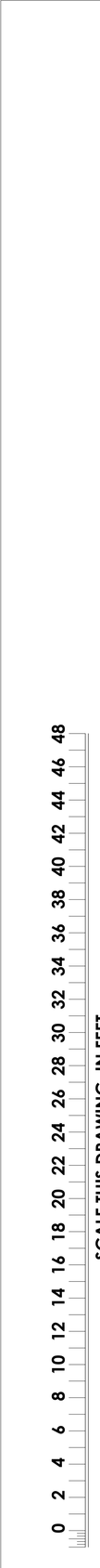
PROPOSAL:
ALL TREES ON SITE ARE TO BE PROTECTED AND RETAINED

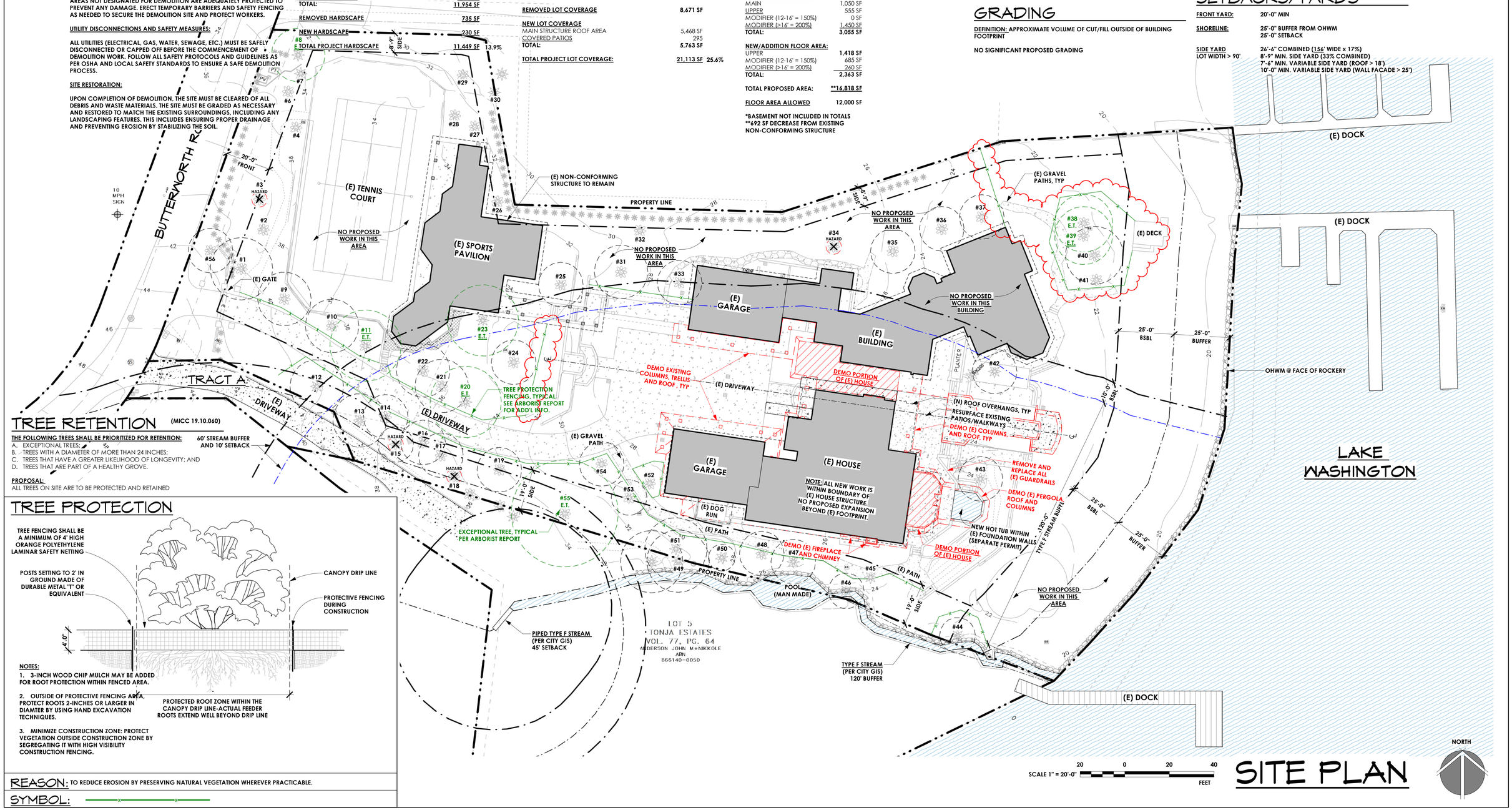
TREE PROTECTION

NOTES:
1. 3-INCH WOOD CHIP MULCH MAY BE ADDED FOR ROOT PROTECTION WITHIN FENCED AREA.
2. OUTSIDE OF PROTECTIVE FENCING AREA, PROTECT ROOTS 2-INCHES OR LARGER IN DIAMTER BY USING HAND EXCAVATION TECHNIQUES.
3. MINIMIZE CONSTRUCTION ZONE: PROTECT VEGETATION OUTSIDE CONSTRUCTION ZONE BY SEGREGATING IT WITH HIGH VISIBILITY CONSTRUCTION FENCING.

REASON: TO REDUCE EROSION BY PRESERVING NATURAL VEGETATION WHEREVER PRACTICABLE.

SYMBOL:





SITE PLAN

SCALE 1" = 20'-0" (20 0 20 40 FEET)

NORTH

MacPherson
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BUTTERWORTH ROAD

5330 BUTTERWORTH RD.
MERCER ISLAND, WA 98040
PARCEL #: 866140-0040

SITE PLAN-REMODEL1

DATE	REV.	BY	DESCRIPTION
12/10/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1
12/10/24	2	DAN	PERMIT RESPONSE 2
Date 3	3		PERMIT RESPONSE 2

SHEET NUMBER
A1.0

12/27/2024 3:44:06 PM

BEAM SIZE	MIN. END POST
4 X 12 D.F.#2	4 X 4 D.F. #2/OR (2) 2 X 4 STUDS STITCHED @ 12"O.C.W/(2) 8d. NAILS
6 X 10 D.F.#1	4 X 6(6 X 6)D.F.#2
6 X 12 D.F.#1	
3 1/8 G.L.B.	4 X 4 D.F.#2
5 1/8 G.L.B.	4 X 6(6 X 6) D.F.#2
6 3/4 G.L.B.	4 X 8(8 X 8) D.F.#2

NOTE: ALL SIMPLE SPAN GLU-LAMINATED BEAMS (G.L.B.) ARE TO BE 24F-V4 GRADE OR BETTER (Fv =165 p.s.i., Fb = 2400 p.s.i., AND E= 1,800,000 p.s.i.) ALL CONTINUOUS G.L.B.'S AND ALL CANTILEVER G.L.B.'S ARE TO BE 24F-V6 GRADE OR BETTER (Fv =165 p.s.i., Fb = 2400 p.s.i., and E = 1,800,000 p.s.i.).

footing schedule

18	WOOD POST ON 18"ϕ X 12" THK. CONC. FTG. W/2-#4 BARS E.W.
24	WOOD POST ON 24"ϕ X 12" THK. CONC. FTG. W/2-#4 BARS E.W.
24x24	WOOD POST ON 24"X24"X12" THK. CONC. FTG. W/ 3-#4 BARS E.W.
30x30	WOOD POST ON 30"X30"X12" THK. CONC. FTG. W/ 4-#4 BARS E.W.

ALL WOOD POSTS TO BE 4X4 (4X6 AT BEAM BUTT JOINTS) UNLESS NOTED OTHERWISE (U.N.O). ALL RECTANGULAR FTGS. NOT SHOWN ON FOOTING SCHEDULE TO BE 12" THK. W/#4 BARS AT 6" O.C. EACH WAY U.N.O.

FOUNDATION PLAN & MAIN FLOOR FRAMING PLAN

1/4" = 1'-0"

PROVIDE 1/2" AIRSPACE BETWEEN CONCRETE AND ALL NON-PRESSURE TREATED WOOD.

MAIN FLOOR JOISTS (F.J.) TO BE 1-1/2" x 9-1/2" TJI/15 @ 16" O.C. (UNLESS NOTED OTHERWISE). PLAN INDICATES FLOOR FRAMING DIRECTION.

ALL BEAMS TO BE 5 1/8"x15" G.L.B. (UNLESS NOTED OTHERWISE). SEE GENERAL NOTES, DIVISION #6, FOR LUMBER GRADING, SPECIES AND DESIGN VALUES.

BLOCK OVER ALL SUPPORTS.* (SEE NOTE AT LOWER LEFT CORNER)

EXTERIOR FOOTINGS TO BE INTRENCHED 18" MIN. BELOW FINISHED GRADE, AND BEAR ON UNDISTURBED SOIL. STEP FOOTINGS AS SITE CONDITIONS REQUIRE.

ANCHOR BOLTS TO BE 5/8"d. X 1'-0" @ 48" O.C.(UNLESS NOTED OTHERWISE).

PROVIDE 4"d. PERFORATED PERIMETER DRAIN IN 6" GRANULAR FILL AT BOTTOM OF FOOTINGS.

PROVIDE 4"d. ROOF TIGHT LINE DRAIN CONNECTING TO DOWNSPOUTS. SEE ROOF FRAMING PLAN FOR DOWNSPOUT LOCATIONS.

ALL WOOD POSTS TO BE P.T. 4 X 4-OR PROVIDE SEPARATION AT CONCRETE (UNLESS NOTED OTHERWISE). PROVIDE 4 X 6 POSTS AT BEAM BUTT JOINTS.

BACKFILL AT EXTERIOR WALLS MAY REQUIRE COMPACTION IN THE PRESENCE OF A LICENSED ENGINEER. (FIELD VERIFY).

SHADING ON PLAN INDICATES CHANGE IN FLOOR ELEVATION.

PROVIDE 'NERVASTRAL' WATERPROOFING MEMBRANE BETWEEN CONCRETE SLAB AND WOOD FRAMING WHERE NEEDED.

USE 'BRACED' OR 'UNBRACED' RETAINING WALL DETAILS AND SCHEDULES WHEN FOUNDATION WALL HEIGHTS EXCEED 3'-6" . FIELD VERIFY ACTUAL WALL HEIGHTS.

MAIN FLOOR FRAMING TO BE IN PLACE PRIOR TO BACKFILLING FOR 'BRACED' RETAINING WALLS. 'UNBRACED' RETAINING WALLS ARE TO BE BACKFILLED PRIOR TO FRAMING FLOOR SYSTEM.

NOTE:
SEE SHEET #5 FOR "TJI" NOTES AND DETAILS.

DEMOLITION/RENOVATION NOTES

- FRAMING AND FOUNDATION PLANS HAVE BEEN DESIGNED TO BE STRUCTURALLY SOUND UPON COMPLETION OF THE WORK. THE MEANS AND METHODS OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR (UNLESS SPECIFICALLY NOTED ON PLANS).
- DURING DEMOLITION AND CONSTRUCTION, IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE TEMPORARY SHORING/BRACING OF EXISTING ELEMENTS INTENDED TO REMAIN.
- THE STRUCTURAL PLANS HAVE BEEN PREPARED WITH EXISTING FRAMING/FOUNDATION ASSUMPTIONS AS NOTED ON THE PLANS. IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO CONTACT MK STRUCTURAL ENGINEERING IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS DEPICTED ON THE CONSTRUCTION DOCUMENTS.

NOTE:
SEE STEEL FRAME NOTES ON SHEET S-1. CONCRETE CONTRACTOR TO PROVIDE 3/4" PLYWOOD TEMPLATES FOR ACCURATELY LOCATING ANCHOR BOLTS @ STEEL FRAMES. ALL ANCHOR BOLTS @ STEEL FRAME TO BE A-307 STEEL, 5/8"ϕ x 0'-0" x 12". SEE DETAILS (4/S-2) (6/S-2) (8/S-2) & (15/S-2).

NOTE:
SEE SHEET #5 FOR TYPICAL FRAMING DETAILS AND NOTES TO FRAMING DETAILS FOR TJI ENGINEERED WOOD I-JOISTS. SEE MANUFACTURERS RECOMMENDATIONS FOR JOB SITE STORAGE AND INSTALLATION. PROVIDE SIMPSON STRONG-TIE CONNECTORS MANUFACTURED FOR USE WITH TJI ENGINEERED PRODUCTS, AND PROVIDE ALL MANUFACTURERS RECOMMENDED FASTENERS.

NOTE TO DRAWINGS:
PROVIDE 1/2" WONDERBOARD ON TOP OF 3/4" PLYWOOD SUBFLOOR AT ALL AREAS TO RECEIVE THIN-SET TILE FINISH FLOORING. SEE FLOOR PLANS FOR TILE LOCATIONS.

FLOOR FRAMING @ MARBLE INSET
FLOOR JOISTS ARE TO BE 9 1/2" TJI/15 @ 12" O.C. BELOW AREAS THAT ARE TO RECEIVE THIN SET MARBLE FINISH FLOOR. LOWER FLOOR FRAMING 1 1/4" BELOW STANDARD ELEVATION & PROVIDE 2 LAYERS OF 3/4" T&G PLYWOOD SUBFLOORING. SOLID BLOCK ALL EDGES OF THE FIRST LAYER & STAGGER THE PANEL EDGES OF THE SECOND LAYER. PROVIDE 1 LAYER OF 1/2" 'WONDERBOARD' ON TOP OF SUBFLOORING TO RECEIVE THIN SET MARBLE. (TYPICAL @ HATCHED AREA OF PLAN)

NOTE:
PROVIDE CONTINUOUS 1 3/4" MICRO-LAM RIM JOIST AT ALL EXTERIOR WALLS (U.N.O.)

* TJI BLOCKING NOTES

PROVIDE TJI BLOCKING (MINIMUM) OVER ALL SUPPORTS.

SUPPORTS WITH ONE BEARING WALL ABOVE:
PROVIDE 'TIMBERSTRAND' LSL BLOCKING (U.N.O.)

SUPPORTS WITH TWO BEARING WALLS ABOVE:
PROVIDE DOUBLE 'TIMBERSTRAND' LSL BLK'G (U.N.O.)

SUPPORTS WITH POINT LOAD ABOVE:
PROVIDE DOUBLE 'TIMBERSTRAND' LSL BLOCKING OR 2 X 4/ 2 X 6 SQUASH BLOCKS (U.N.O.)

BLUE LINES INDICATES PLANE OF DEMOLITION TO RIGHT OF LINE

EXTEND CONT. BARS IN NEW STEM WALL & GRADE BM & EPOXY SET (4" MIN.) INTO ADJACENT EXISTING FND. UTILIZING SIMPSON SET ADHESIVE OR APPROVED ALT. (TYP.) SEE A/R-1.0

EXISTING FIREPLACE WALL

AREA OF EXISTING STRUCTURE TO BE DEMOLISHED

PROVIDE NEW GRADE BM AND STEM WALL PER 1/R-1.0 AS REQ'D UNDER NEW EXT. WALL ABOVE (TYP. U.N.O.)

FASTEN SOLE OF NEW INFILL WALL ABOVE TO EXISTING CONC. w/ 1/2"ϕ SIMPSON TITEN HD ANCHORS @6'-0" o.c. (MAX.) (2 MIN. PER PLATE)

NO LOAD ADDED TO EXISTING GRADE BM, LOAD ONLY REDISTRIBUTED. THERFORE EXISTING GRADE BM IS ADEQUATE BY INSPECTION

PROVIDE NEW 6" STEM WALL TO EXISTING GRADE BEAM BELOW PER 2/R-1.0 AS REQ'D UNDER NEW EXT. WALL ABOVE (TYP. U.N.O.)

PROVIDE NEW 4x4 P.T. POST FROM UNDERSIDE OF EXISTING BM TO NEW GRADE BM BELOW

NOTE THAT THE EXISTING SHEAR WALL ALONG THE DEMOLITION PLANE IS TO REMAIN AND NEW SHEATHED WALLS ARE TO BE ADDED. WITH THE SIGNIFICANT ROOF AREA (PLAN RIGHT) TRIBUTARY TO THIS WALL LINE REMOVED AND ADDITIONAL WALLS ADDED THE DEMAND CAPACITY RATIO IS REDUCING. THEREFORE, PER THE EXCEPTION TO SECTION 805.3 OF THE 2021 WASHINGTON STATE EXISTING BUILDING CODE, THE ORIGINAL LATERAL FORCE RESISTING SYSTEM IS PERMITTED TO REMAIN UNALTERED.

SEE PLANS FOR "LOT 1" RENOVATION FOR REMODEL OF EXISTING STRUCTURE TO REMAIN AT SOUTH SIDE OF LOT

SEE REMODEL PLANS FOR PROPOSED SCOPE OF WORK IN THIS AREA

[FOR STRUCTURAL DETAILS SEE R-1.0 (LAST PAGE OF PLANS)]

NOTE: SEE SHEET #12 FOR FLOOR FRAMING ABOVE LOWER LEVEL (TYP.)

FOUNDATION + MAIN FLOOR STRUCTURAL PLAN

LOVELESS EFFERT & GOLPHENEE INC. ARCHITECTS

ROSA RESIDENCE

SHEET NO. 2 OF 17

EXPIRES 7-29-26
PILE FOUND. ONLY

NOTE TO DRAWINGS:
PROVIDE 1/2" WONDERBOARD ON TOP OF 3/4" PLYWOOD SUBFLOOR AT ALL AREAS TO RECEIVE THIN-SET TILE FINISH FLOORING. SEE FLOOR PLANS FOR TILE LOCATIONS.

AREA SUMMARY

LOWER FLOOR	745	SQ. FT.
MAIN FLOOR	8515	SQ. FT.
UPPER FLOOR	3057	SQ. FT.
TOTAL FINISHED	12315	SQ. FT.
COVERED PAVILION (TOTAL FINISHED)	2532	SQ. FT.
GARAGES	2330	SQ.FT.
DECKS (WATER PROOF)	66	SQ. FT.
MECHANICAL (10 H.P. INCLUDED IN LOWER FLOOR S.F.)		

MAIN FLOOR PLAN 1/4" = 1' - 0"

TYPICAL PLATE HEIGHT TO BE 10'-0"(U.N.O.) NON-STANDARD PLATE LOCATIONS ARE NOTED ON THE MAIN FLOOR PLAN, THE UPPER FLOOR PLAN, THE UPPER FLOOR FRAMING PLAN, THE UPPER FLOOR CEILING FRAMING PLAN AND THE ROOF FRAMING PLAN.

VENT EXHAUST FANS, COOKTOP AND THE DRYER TO THE EXTERIOR. EXHAUST FAN CAPACITIES NOTED ON PLANS ARE MINIMUM REQUIREMENTS.

WINDOWS TO BE BY 'EAGLE', CLAD CASEMENTS AND CLAD FIXED UNITS. SEE WINDOW SCHEDULE, SHT'S #19 FOR WINDOW MANUFACTURER ROUGH OPENINGS & SIZES. VERIFY ALL ROUGH OPENINGS WITH THE MANUFACTURER. PROVIDE "MODERN DIVIDED LITES" AS SHOWN ON THE ELEVATIONS.

ALL GLAZING SUBJECT TO HUMAN IMPACT WITHIN 12" OF DOORS AND 18" OF FLOORS SHALL BE SAFETY GLAZING. ALL GLAZING IN FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE SHALL BE SAFETY GLASS.

SEE "GENERAL NOTES", DIVISION #6, FOR LUMBER GRADING, SPECIES AND ALLOWABLE DESIGN VALUES.

FIRE BLOCK ALL PLUMBING PENETRATIONS. FIRE BLOCK AT 10'-0" INTERVALS (VERTICAL AND HORIZONTAL) IN WALLS.

TYPICAL WALL STUDS TO BE 2 X 6 @ 16" o.c. AT EXTERIOR INSULATED WALLS (U.N.O.). INTERIOR WALLS ARE TYPICALLY 2 X 4 STUDS @ 16" o.c.(U.N.O.) SEE SHEETS #5, #7 AND #12 FOR NON-STANDARD STUD LOCATIONS.

VERIFY MASONRY FIREPLACES WITH MASONRY CONTRACTOR. PROVIDE A MINIMUM OF 2" CLEAR FROM COMBUSTIBLE MATERIALS.

PROVIDE PAINTED EXTERIOR SOFFIT-BOARD AT ALL EXPOSED SOFFITS, TYPICAL. (U.N.O.)

SEE NOTES TO DRAWINGS ON SHEET #11 FOR ADDITIONAL NOTES AND SPECIFICATIONS TO THE PLANS.

EXISTING HOUSE TO BE DEMOLISHED

EXISTING FIREPLACE WALL

EXISTING HOUSE TO BE DEMOLISHED

NO CHANGES PROPOSED (THIS SIDE OF FIREPLACE WALL) WILL BE USED AS UNCONDITIONED STORAGE SPACE

IN-FILL WALL PER STRUCTURAL NOTES

EXPOSED WALLS TO RECEIVE WEATHER RESISTANT BARRIER WITH PLYWOOD SIDING (T1-11 OR EQUIV.)

EXISTING HOUSE TO REMAIN SEE BUILDING PLANS FOR REMODEL SCOPE OF WORK

NOTE:
SEE FRAMING PLANS SHT'S #5, #7 & #8 FOR ALL BEAM AND HEADER CALL-OUTS.

MAIN FLOOR ARCHITECTURAL PLAN

LOVELESS EFFERT & GOLPHENEE INC. ARCHITECTS
10717 NE 202nd St. • Suite 205 • Bothell, WA 98077
(425) 806-2061

ROSA RESIDENCE

JOSEPH B. EFFERT
REGISTERED ARCHITECT
STATE OF WASHINGTON

1996

4-30-96 W

8-9-96 W

SHEET NO. 4 OF 27

LOVELESS EIFFERT & GOLPHENEE INC ARCHITECTS
1417 NW 70th Place • Suite 215 • Ballard • WA 98107
(206) 297-1111

ROSA RESIDENCE

UPPER FLOOR FRAMING PLAN & MAIN FLOOR CEILING FRAMING PLAN 1/4"=1'-0"

ALL BEAMS AND HEADERS TO BE 4 X 10 (UNLESS NOTED OTHERWISE).

FLOOR JOISTS (F.J.) TO BE 11 7/8"TJI/25 JOISTS @ 16" O.C. (U.N.O.). PLAN INDICATES FLOOR JOIST DIRECTION.

PROVIDE BLOCKING OVER ALL SUPPORTS. SEE TJI BLOCKING NOTES ON THIS SHEET. PROVIDE 2X CRIPPLES, WEB SUPPORTS AND BACKERS AS REQUIRED BY MFR. SEETJI DETAILS THIS SHEET.

SUPPORT ALL BEAMS WITH POST OF EQUAL WIDTH. SEE BEAM SIZE/ MIN. END POST SCHEDULE THIS SHEET.

VERIFY MASONRY ROUGH OPENING WITH MASONRY CONTRACTOR. PROVIDE MIN. OF 2" CLEAR @ FIREPLACE (TYP.).

TYPICAL PLATE HEIGHT TO BE 10'-0". (U.N.O.) NON-STANDARD PLATE LOCATIONS ARE NOTED ON THE FRAMING PLANS AND FLOOR PLANS.

ALL FRAMING HARDWARE TO BE BY 'SIMPSON' OR EQUAL. PROVIDE ALL MANUFACTURER'S RECOMMENDED FASTENERS.

SEE GENERAL NOTES, DIVISION #6 FOR LUMBER GRADING, SPECIES AND ALLOWABLE DESIGN VALUES.

FIRE BLOCK ALL PLUMBING PENETRATIONS. FIRE BLOCK AT 10'-0" INTERVALS(VERTICAL AND HORIZONTAL) IN WALLS.

WALL STUDS TO BE 2 X 6 @ 16" O.C. AT ALL EXTERIOR INSULATED WALLS(UNLESS NOTED OTHERWISE). INTERIOR WALLS ARE TYPICALLY 2 X 4 STUDS @ 16" O.C.(UNLESS NOTED OTHERWISE).

CEILING JOISTS ARE TYPICALLY 2 X 6 @ 24" O.C.(UNLESS NOTED OTHERWISE).

DARKENED WALLS INDICATE BEARING.

TJI® JOIST RESIDENTIAL FLOOR DETAILS

LOAD BEARING CANTILEVER DETAILS

Proper detail selection for each specific application must be determined from tables on page 9.

Roof Truss Span

TJI® joists may be cantilevered up to a maximum of 2'-0" unless otherwise noted on load, but may require reinforcement. **Consult tables on page 9 to determine required reinforcement** and details at right for methods of reinforcement.

NOTE:
- Use CDX plywood reinforcement or other 3/4" exterior grade 40/24 span rated sheathing must match the full depth of the TJI® joist. Install with face grain horizontal. Reinforcing member must bear fully on the wall plate.
- Other cantilever conditions may be possible. Contact your Trus Joist MacMillan representative for assistance.

Web stiffeners required each side at "E1." See detail "K" on page 7.

E / E1 — 3/4" closure; 2'-0" max.

E2 — 4'-0" length of 3/4" reinforcing. Attach reinforcement to joist top and bottom flanges with 10d nails at 6" o.c. 2'-0" Max.

E3 — 4'-0" length of 3/4" reinforcing on both sides. Attach reinforcement to joist top and bottom flanges with 10d nails at 6" o.c. stagger nails to avoid splitting. 2'-0" Max.

E4 — 6'-0" length of TJI® joist reinforcing and filler block. Attach TJI® joist reinforcement to joist with 10d nails at 6" o.c. (clinched). Use 2 rows with 9-1/2" and 11-7/8" joists.) Attach TJI® joist reinforcement to joist with 10d nails at 6" o.c. (clinched). Use 3 rows with 14" TJI® joists.) 2'-0" Max.

NON-LOAD BEARING CANTILEVER DETAILS

F1 — Blocking panel; Rim joist nailed to the side of the TJI® joist with wood backer. Nail rim joist to backer with 8d nails at 6" o.c. Nail the TJI® joist to backer with 2 rows 10d nails at 6" o.c. and clinch.

F2 — 3/4" closure; 1/3 adjacent span (max.) Example: 4'-0" (Uniform loads only.) TJI® joists must be protected from extended exposure to the weather. TJI® joists may be cantilevered up to 1/3 the adjacent span if not supporting concentrated loads on the cantilever.

REFER TO PAGES 6 AND 7 FOR GENERAL NOTES FOR DETAILS.

NAILING OF SHEATHING TO TOP FLANGE

Nail Size	Closest O.C. Spacing Per Row: TJI®/15 DF and TJI®/25 DF joists	TJI®/25 DS and TJI®/35 joists
8d box/.099 dia	2"	2"
8d common	3"	2"
10d/.128d box	3"	2"

- Maximum spacing of nails is: 18" o.c. for TJI®/15 DF and TJI®/25 DF joists. 24" o.c. for TJI®/25 DS joists.
- If more than 1 row of nails is used, the rows must be offset at least 1/2".
- 14 ga. staples may be substituted for 8d nails if minimum penetration of 1" into the TJI® joists is achieved.

TJI® JOIST RESIDENTIAL FLOOR DETAILS

MICRO=LAM® LVL or Parallam® PSL beam. When using multiple member beam see page 20 for connection.

H1 — Top mount hanger; Face mount hanger; Web stiffeners are required if the sides of the hanger do not laterally support the TJI® joist or flat top flange. See detail "K."

H2 — Backer block required where hanger load exceeds 250 pounds. Backer block, install tight to top flange. Use 10-10d nails, clinched when possible.* Filler block. Nail with 10-10d nails, clinched. *Backer block required where hanger load exceeds 250 pounds

H3 — Bearing plate. Flush plate with inside face of wall.

J — Solid block post loads from above to bearing plate below. Multiple stud or post may be used to support. See page 21 for information on Parallam® PSL columns. 2x4 min. "squash" blocks

K — WEB STIFFENER ATTACHMENT. Plywood web stiffener each side: TJI®/15 DF Joists: 1/2" x 2-5/16" minimum; TJI®/25 DF Joists: 3/8" x 2-5/16" minimum; TJI®/35 DF Joists: 1" x 2-5/16" minimum. Snug fit; Tight fit

THESE CONDITIONS ARE NOT PERMITTED

DO NOT cut holes too close to supports — Refer to hole charts on page 17 for minimum distance from bearing wall.

DO NOT split the flange — Use 8d nails, 1½" minimum from end of flange. 10d or 12d box nails may also be used.

DO NOT bevel cut joist beyond inside face of wall.

Birdsmouth cut must not overhang inside face of plate. TJI® joist flange must bear fully on the plate. See detail "R12" on page 13.

NAILING REQUIREMENTS

- Use 2-8d (or 10d or 12d box) nails (1 each side).
- 1½" minimum from end to avoid splitting.
- Nail TJI® joist blocking panels or TJI® rim joist to bearing plate with 8d nails at 6" on center. When used for shear transfer, nail to bearing plate with same nailing as the blocking.
- Nail TJI® joist to MICRO=LAM® LVL rim joist, 3¼" rim joist or closure to TJI® joist with 2 8d nails, one each at top and bottom flange. Use 16d nails with TJI®/35 DF rim joists.
- Nail TJI® joist to Parallam® blocks as details "A2" "B2" and "J" to TJI® joist top and bottom flanges with 1-8d nail.

WEB STIFFENER REQUIREMENTS

- Web stiffeners are required if the sides of the hanger do not laterally support the TJI® joist top flange. Web stiffeners are also required for TJI®/25 DF and TJI®/35 DF joists per note 7 under floor span charts.

FILLER AND BACKER BLOCK SIZES

	3½" at 1.75" TJI®/15 DF	3½" at 1.75" TJI®/25 DF	3½" at 1.75" TJI®/35 DF	3½" at 1.75" TJI®/35 DF
Filler Block* (Used 1½")	1¾" net	2x6	2x6	3/4 x ¾" plywood
Outdoor Deck (Used 1½")	2x6	2x6	2x10	3/4 x ¾" plywood
Filler Block* (Used 1½" & 1¾")	¾" & ¾"	¾" & ¾"	1" net	1" net

*Filler and backer block length should accommodate required nailing without splitting

NOTE:

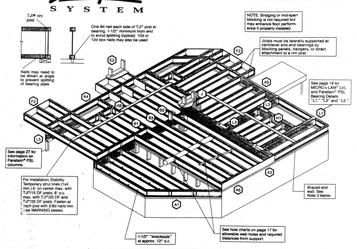
SEE SHEET #5 FOR TYPICAL FRAMING DETAILS AND NOTES TO FRAMING DETAILS FOR TJI ENGINEERED WOOD I-JOISTS. SEE MANUFACTURERS RECOMMENDATIONS FOR JOB SITE STORAGE AND INSTALLATION. PROVIDE SIMPSON STRONG-TIE CONNECTORS MANUFACTURED FOR USE WITH TJI ENGINEERED PRODUCTS, AND PROVIDE ALL MANUFACTURERS RECOMMENDED FASTENERS.

NOTE TO DRAWINGS:

PROVIDE 1/2" WONDERBOARD ON TOP OF 3/4" PLYWOOD SUBFLOOR AT ALL AREAS TO RECEIVE THIN-SET TILE FINISH FLOORING. SEE FLOOR PLANS FOR TILE LOCATIONS.

TJI® JOIST RESIDENTIAL FLOOR FRAMING

TYPICAL Silent Floor FRAMING SYSTEM



WARNING

JOISTS ARE UNSTABLE UNTIL BRACED LATERALLY

DO NOT allow workers to walk on joists until braced. INJURY MAY RESULT. See Notes 1, 2 & 3 below.

BRACING INCLUDES
- BLOCKING
- HANGERS
- STRUT LINES
- SHEATHING

DO NOT stack building materials on unsheathed joists. Stack only over beams or walls. See Note 4 below.

WARNING NOTES:

Lack of concern for proper bracing during construction can result in serious accidents. Under normal conditions if the following guidelines are observed, accidents will be avoided.

1. All blocking, hangers and rim joists at the end supports of the TJI® joists must be completely installed and properly nailed.
2. Lateral strength, like a braced end wall or shear wall, is required to be provided near the ends of the bay. This can always be accomplished by a temporary or permanent deck (sheathing) nailed to the first 4 feet of joists at the end of the bay.
3. Temporary strut lines of 1 x 4 (min.) must be nailed to a braced end wall or sheathed area as in note 2 and to each joist. Without this bracing, bucking sideways or roll over may occur when subjected to construction loads — like a worker and one layer of unnailed sheathing.
4. Sheathing must be totally attached to each TJI® joist before additional loads can be placed on the system.
5. Ends of cantilevers require strut lines on the first bay back from the end.
6. The flanges must remain straight within a tolerance of 1½" from the true alignment.

TJI® JOIST RESIDENTIAL FLOOR DETAILS

A1 — Blocking panel

A2 — 2x4 min. "squash" blocks; 3/4" min. post. See detail "A6" for additional information.

A3 — Use only for single story applications or second story of two-story applications. 9-1/2" AND 11-7/8" TJI® JOISTS ONLY. 3/4" min. post. See detail "A6" for additional information.

A4 — TJI® rim joist. NOTE: Must have 1-3/4" minimum joist bearing at ends.

A5 — 9-1/2" AND 11-7/8" TJI® JOISTS ONLY WHEN USING DOUBLE 3/4" RIM JOIST. Double 3/4" or MICRO=LAM® LVL rim joist. See detail "A6" for additional information.

A6 — Blocking panels used for bracing. See General Notes below. 3/4" rim joist. Allowed with TJI®/15 DF joists only unless used with 2x4 min. "squash" blocks as shown in detail "A2."

B1 — Load bearing or shear wall above (must stack over wall below). Blocking panel. NOTE: Web stiffeners may be required for TJI®/25 DF and TJI®/35 DF joists. See note 7 under Floor Span Charts.

B2 — Load bearing wall above (must stack over wall below). Blocking panels may be used in lieu of rim joist shown above or below. See detail "B1". 2x4 min. "squash" blocks. NOTE: Web stiffeners may be required for TJI®/25 DF and TJI®/35 DF joists. See note 7 under Floor Span Charts.

B3 — Blocking panels may be required with shear walls above or below. See detail "B1". NOTE: Web stiffeners may be required for TJI®/25 DF and TJI®/35 DF joists. See note 7 under Floor Span Charts. INTERMEDIATE BEARING - NO LOAD BEARING WALL ABOVE.

GENERAL NOTES

MINIMUM BEARING LENGTH
- 1¾" minimum bearing is required at joist ends.
- 3½" minimum bearing is required when joists are continuous over the support.

BLOCKING PANELS OR RIM JOISTS
- For single-story applications and second story of two-story applications, use details "A1", "A2", "A3", "A4" or "A5."
- For upper floor of two-story applications, use details "A1", "A2", "A4" or "A5."
- Assumes 1000 plf vertical load transfer for each layer of ¾" rim joist or each 2000 plf vertical load transfer for each TJI® blocking panel or rim joist.
- Assumes 5145 plf vertical load transfer for each 1¾" MICRO=LAM® LVL used as rim joist or blocking.

¾" RIM JOIST, REINFORCEMENT OR CLOSURE
- ¾" rim joist, reinforcement or closure refers to ¾" CDX plywood or 3/4" OSB sheathing. Grade stamp must indicate it is cut to match the full depth of the joist. Install with face grain horizontal.
- Rim joist and cantilever reinforcement must bear fully on the wall plate.
- Bracing complying with the code shall be carried to the foundation. When ¾" rim joist is used, blocking panels cut from TJI® joists or MICRO=LAM® LVL must be installed over each support. Use a TJI® joist for every 20' of bearing wall length to carry wall bracing as required to the foundation. See detail "A6".
- Check local codes for acceptance of details: "A2", "A3", "A5" and "A6". May not be applicable in seismic zones 3 and 4.

DEMOLITION/RENOVATION NOTES

- FRAMING AND FOUNDATION PLANS HAVE BEEN DESIGNED TO BE STRUCTURALLY SOUND UPON COMPLETION OF THE WORK. THE MEANS AND METHODS OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR (UNLESS SPECIFICALLY NOTED ON PLANS).
- DURING DEMOLITION AND CONSTRUCTION, IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE TEMPORARY SHORING/BRACING OF EXISTING ELEMENTS INTENDED TO REMAIN.
- THE STRUCTURAL PLANS HAVE BEEN PREPARED WITH EXISTING FRAMING/FOUNDATION ASSUMPTIONS AS NOTED ON THE PLANS. IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO CONTACT MK STRUCTURAL ENGINEERING IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS DEPICTED ON THE CONSTRUCTION DOCUMENTS.

BLUE LINES INDICATES PLANE OF DEMOLITION TO RIGHT OF LINE

INFILL OPENINGS IN EXISTING WALLS AT DEMOLITION PLANE WITH NEW 2x6 @16"o.c. WALLS SHEATHED WITH 7/16 OSB OR 15/32" PLYWOOD FASTENED WITH 2 1/2"x0.131" NAILS @6"o.c. AT PANEL EDGES AND 12"o.c. IN THE FIELD. ALSO SHEATH EXISTING WALLS THAT WILL BECOME EXTERIOR PER THE SPECIFICATION ABOVE (TYP.)

AREA OF EXISTING STRUCTURE TO BE DEMOLISHED

SEE 3 & 4/R-1.0 FOR SHEAR TRANSFER DETAILS AT NEW WALLS & CUT BACK JOISTS AS REQ'D (TYP. THIS LEVEL)

FASTEN NEW END STUD TO EXISTING MASONRY CHIMNEY w/ 1/4"x2 3/4" SIMPSON TITEN HD ANCHORS @ 8"o.c. VERT. STAGGERED (TYP.)

NOTE THAT THE EXISTING SHEAR WALL ALONG THE DEMOLITION PLANE IS TO REMAIN AND NEW SHEATHED WALLS ARE TO BE ADDED. WITH THE SIGNIFICANT ROOF AREA (PLAN RIGHT) TRIBUTARY TO THIS WALL LINE REMOVED AND ADDITIONAL WALLS ADDED THE DEMAND CAPACITY RATIO IS REDUCING. THEREFORE, PER THE EXCEPTION TO SECTION 805.3 OF THE 2021 WASHINGTON STATE EXISTING BUILDING CODE, THE ORIGINAL LATERAL FORCE RESISTING SYSTEM IS PERMITTED TO REMAIN UNALTERED.

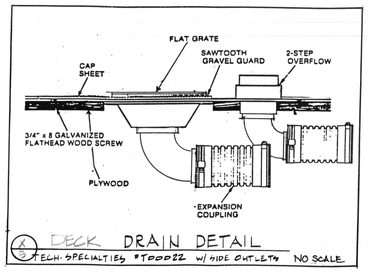
FASTEN NEW END STUD TO EXISTING FRAMING w/ 3"x0.131" NAILS @6"o.c. VERT. STAGGERED (TYP.)

CUT BACK EXISTING FLOOR JOISTS AS REQUIRED AT DEMOLITION PLANE & PROVIDE NEW 11 7/8" OSB OR LSL RIM BOARDS @ ALL NEW REXTERIOR WALLS. REFER TO DETAIL 3 & 4/R-1.0 FOR FASTENING (TYP.)

SEE PLANS FOR "LOT 1" RENOVATION FOR REMODEL OF EXISTING STRUCTURE TO REMAIN AT SOUTH SIDE OF LOT

FOR STRUCTURAL DETAILS SEE R-1.0 (LAST PAGE OF PLANS)

PROVIDE TECH-SPECIALTIES #TD0022 2" DECK DRAINS WITH SIDE OUTLETS & 2" ø DRAIN PIPES THRU 2x6 FRAME WALLS (TYPICAL) SEE DETAIL X / SHT. #5



DECK DRAIN DETAIL
TECH SPECIALTIES #TD0022 w/ SIDE OUTLETS NO SCALE

NOTE:

PROVIDE CONTINUOUS 1 3/4" MICRO-LAM RIM JOIST AT ALL EXTERIOR WALLS (U.N.O.)

UPPER FLOOR STRUCTURAL PLAN

NOTE: ALL SIMPLE SPAN GLU-LAMINATED BEAMS (G.L.B.) ARE TO BE 24F-V4 GRADE OR BETTER (Fv =165 p.s.i., Fb = 2400 p.s.i., AND E= 1,600,000 p.s.i.) . ALL CONTINUOUS G.L.B.'S AND ALL CANTILEVER G.L.B.'S ARE TO BE 24F-V8 GRADE OR BETTER (Fv =165 p.s.i., Fb = 2400 p.s.i., and E = 1,600,000 p.s.i.) .

BEAM SIZE	MIN. END POST
4 X 12 D.F.#2	4 X 4 D.F. #2/OR (2) 2 X 4 STUDS STITCHED @ 12"O.C.W/(2) 8d. NAILS
6 X 10 D.F.#1	4 X 6(6 X 6)D.F.#2
6 X 12 D.F.#1	
3 1/8 G.L.B.	4 X 4 D.F.#2
5 1/8 G.L.B.	4 X 6(6 X 6) D.F.#2
6 3/4 G.L.B.	4 X 8(8 X 8) D.F.#2

TJI BLOCKING NOTES

PROVIDE TJI BLOCKING (MINIMUM) OVER ALL SUPPORTS.

SUPPORTS WITH ONE BEARING WALL ABOVE:

PROVIDE 'TIMBERSTRAND' LSL BLOCKING (U.N.O.)

SUPPORTS WITH TWO BEARING WALLS ABOVE:

PROVIDE DOUBLE 'TIMBERSTRAND' LSL BLK'G (U.N.O.)

SUPPORTS WITH POINT LOAD ABOVE:

PROVIDE DOUBLE 'TIMBERSTRAND' LSL BLOCKING OR 2 X 4/ 2 X 6 SQUASH BLOCKS (U.N.O.)

JOSEPH M. EIFFERT

SHEET NO. 5 OF 27

UPPER FLOOR PLAN 1/4"=1' - 0"

TYPICAL PLATE HEIGHT TO BE 8'-1" (U.N.O.) NON-STANDARD PLATE LOCATIONS ARE NOTED ON THE MAIN FLOOR PLAN, THE UPPER FLOOR PLAN, THE UPPER FLOOR FRAMING PLAN, THE UPPER FLOOR CEILING FRAMING PLAN AND THE ROOF FRAMING PLAN.

VENT EXHAUST FANS TO THE EXTERIOR. EXHAUST FAN CAPACITIES NOTED ON PLANS ARE MINIMUM REQUIREMENTS.

WINDOWS TO BE BY 'EAGLE', CLAD CASEMENTS AND CLAD FIXED UNITS. SIZES SHOWN ARE ROUGH OPENING WIDTH X HEIGHT. SEE WINDOW SCHEDULE, SHEET #19 FOR WINDOW MANUFACTURER ROUGH OPENINGS & SIZES. VERIFY ALL ROUGH OPENINGS WITH THE MANUFACTURER. ALL GLAZING SUBJECT TO HUMAN IMPACT WITHIN 12" OF DOORS AND 18" OF FLOORS SHALL BE SAFETY GLAZING. PROVIDE 'MODERN DIVIDED LITES' AS SHOWN ON THE ELEVATIONS.

ALL GLAZING IN FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE SHALL BE SAFETY GLASS.

SEE 'GENERAL NOTES', DIVISION #6, FOR LUMBER GRADING, SPECIES AND ALLOWABLE DESIGN VALUES.

FIRE BLOCK ALL PLUMBING PENETRATIONS. FIRE BLOCK AT 10'-0" INTERVALS (VERTICAL AND HORIZONTAL) IN WALLS.

TYPICAL WALL STUDS TO BE 2 X 6 @ 16" o.c. AT EXTERIOR INSULATED WALLS (U.N.O.). INTERIOR WALLS ARE TYPICALLY 2 X 4 STUDS @ 16" o.c.(U.N.O.) SEE SHEETS #5, #7, AND #12 FOR NON-STANDARD STUD LOCATIONS.

VERIFY MASONRY ROUGH OPENING WITH MASONRY CONTRACTOR. PROVIDE MINIMUM OF 2" CLEAR FROM COMBUSTIBLE MATERIALS.

SEE NOTES TO DRAWINGS ON SHEET #11 FOR ADDITIONAL NOTES AND SPECIFICATIONS TO THE PLANS.

AREA SUMMARY

LOWER FLOOR	703	SQ. FT.
MAIN FLOOR	8515	SQ. FT.
UPPER FLOOR	3051	SQ. FT.
TOTAL FINISHED	12,395	SQ. FT.
SPORT PAVILION (TOTAL FINISHED)	1542	SQ. FT.
GARAGE	2236	SQ.FT.
DECKS (WATERPROOF)	96	SQ. FT.
MECHANICAL (104 S.F. INCLUDED IN LOWER FLOOR S.F.)		

NOTE TO DRAWINGS

PROVIDE 1/2" WONDERBOARD ON TOP OF 3/4" PLYWOOD SUBFLOOR AT ALL AREAS TO RECEIVE THIN-SET TILE FINISH FLOORING. SEE FLOOR PLANS FOR TILE LOCATIONS.

EXISTING HOUSE TO BE DEMOLISHED

EXISTING HOUSE TO REMAIN SEE BUILDING PLANS FOR REMODEL SCOPE OF WORK

IN-FILL WALL PER STRUCTURAL NOTES

EXPOSED WALLS TO RECEIVE WEATHER RESISTANT BARRIER WITH PLYWOOD SIDING (T1-11 OR EQUIV.)

NO CHANGES PROPOSED (THIS SIDE OF FIREPLACE WALL) WILL BE USED AS UNCONDITIONED STORAGE SPACE

NOTE:
SEE FRAMING PLANS SHT'S #5, #7 & #8 FOR ALL BEAM AND HEADER CALL-OUTS.

UPPER FLOOR ARCHITECTURAL PLAN

LOVELESS EFFERTZ & GOLPHENEE INC ARCHITECTS
14711 NE 29th Pl • Suite 215 • Bellevue, WA 98007
(425) 885-3011 • (425) 885-3013

ROSA RESIDENCE

REGISTERED ARCHITECT JOSEPH M. EFFERTZ STATE OF WASHINGTON

1941

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4-26-07 PLAN REVISIONS

8-9-07 PLAN REVISIONS

#93-136

SHEET NO.
6
OF 27

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

SEE GENERAL NOTES, DIVISON 6 FOR LUMBER GRADING, SPECIES AND ALLOWABLE DESIGN VALUES

SOLID BLOCK OVER ALL SUPPORTS.

ALL RAFTERS TO BE 2 x 8 @ 24" O.C. (STICKS NOT SHOWN ON PLAN) ALL NON-STANDARD RAFTERS ARE SHOWN AND NOTED ON PLAN.

ROOF PITCH 4 : 12 (U.N.O.) SEE SHEET #13 FOR SPECIAL ROOF CONSTRUCTION AT 2 : 12 ROOF PITCH.

DARKENED WALLS ARE LOAD BEARING.

TYPICAL ROOF OVERHANGS TO BE 2 '-0 " (UNLESS NOTED OTHERWISE).

SHADED AREAS INDICATE CALIFORNIA OVER FRAMING.

PROVIDE CONTINUOUS METAL GUTTER ON 2 x10 CEDAR FASCIA BOARD.

DEEP CUT NON-STANDARD RAFTER SEATS TO MATCH 2X8 STANDARD RAFTERS AS REQUIRED.

PROVIDE 18.76 SQ. FT. OF ATTIC VENTILATION FOR ROOF AT MAIN LEVEL (NOT INCLUDING GARAGES) , 50% AT EAVES AND 50% AT MIN. OF 36" ABOVE EAVES.

PROVIDE 24.05 SQ. FT. OF ATTIC VENTILATION FOR ROOF AT UPPER LEVEL, 50% AT EAVES AND 50% AT MIN. OF 36" ABOVE EAVES.

ROOF SHEATHING TO BE 1/2" CDX PLYWOOD SHEATHING.

ROOFING TO BE CONCRETE TILE.

ALL EXTERIOR SOFFIT MATERIAL TO BE EXTERIOR SOFFIT BOARD.

PROVIDE 2 X 6 COLLAR TIES @ 48" O.C. , 1/3 BELOW RIDGE HEIGHT.

UNBRACED LENGTH OF MIN. 2-2 X 6 STRUTS SHALL NOT EXCEED 8'-0" AND THE MIN. SLOPE SHALL NOT BE LESS THAN 45 DEGREES FROM THE HORIZONTAL.

BRACING OF STRUTS SHALL CONSIST OF MIN. 2 X 6 RUNNING FROM THE MID-POINT OF ROOF POST/BRACE TO AN ADJACENT ROOF RAFTER. THE LENGTH OF THIS BRACE SHALL NOT EXCEED 6'-0" AND SHALL BE ATTACHED AT EACH END WITH MIN. OF (3) 10 d NAILS.

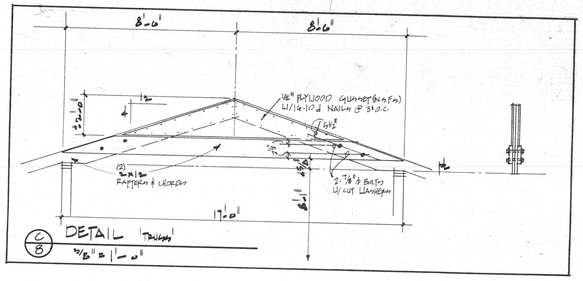
4 X 4 POST/BRACE MAX. UNBRACED LENGTH = 8'-0"
2 X POST/BRACE MAX. UNBRACED LENGTH = 6'-0"
2-2 X POST/BRACE MAX. UNBRACED LENGTH = 8'-0"

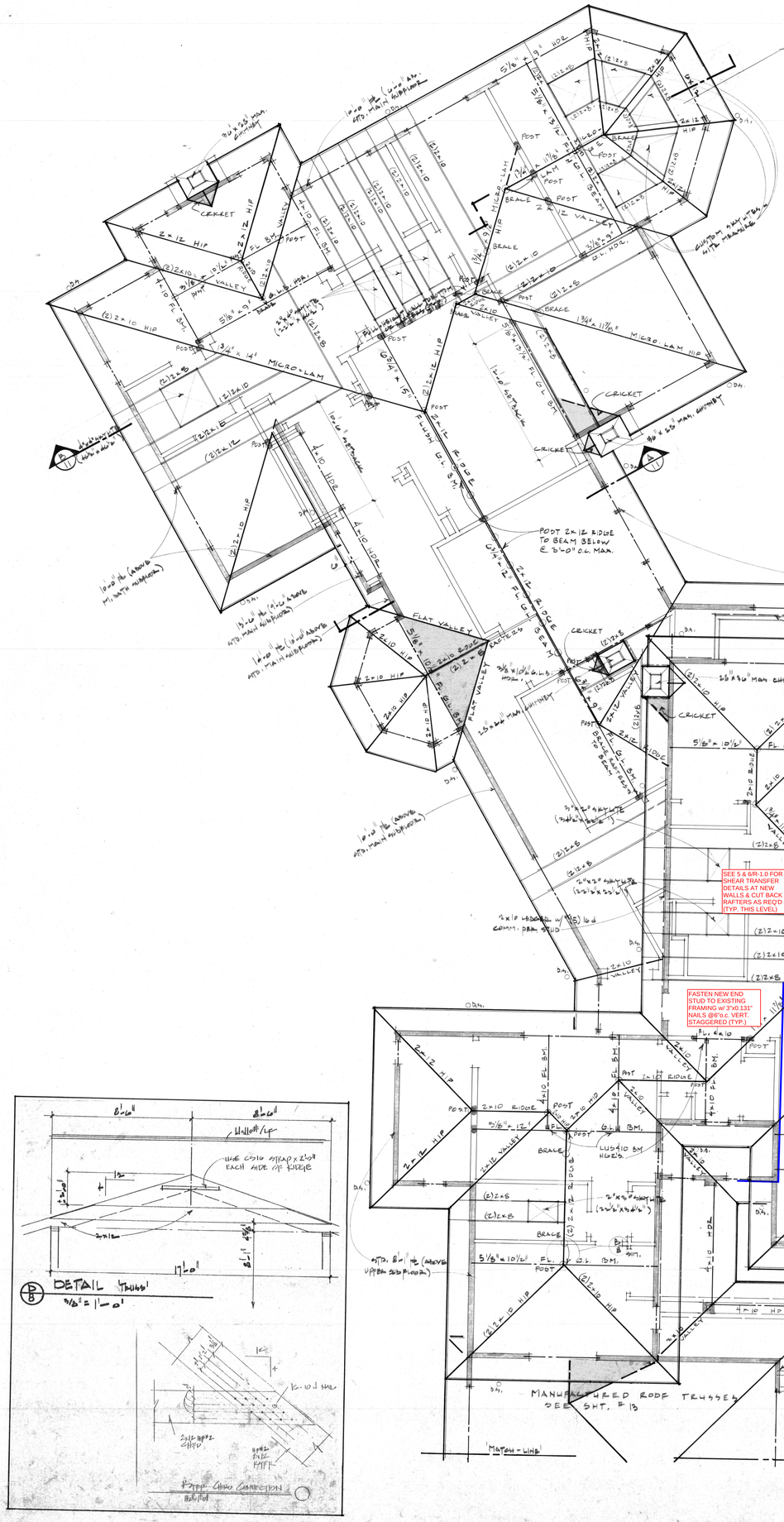
PROVIDE H-1 HURRICANE ANCHOR AT EACH RAFTER OR TRUSS (24" O.C. TYPICAL).

NOTE: USE 1X6 SHINGLE MOULD WITH METAL RAKE FLASHING ON ALL RAKES AND GABLE ENDS. (TYP.)

SKYLIGHTS BY " EAGLE ". SIZES SHOWN ARE SKYLIGHT CALL-OUTS, WITH INSIDE CURB ROUGH OPENING WIDTH X HEIGHT.

NOTE: PROVIDE 1 X 6 SHINGLE MOULD WITH METAL RAKE FLASHING ON ALL RAKES AND GABLE ENDS. (TYPICAL)





DEMOLITION/RENOVATION NOTES

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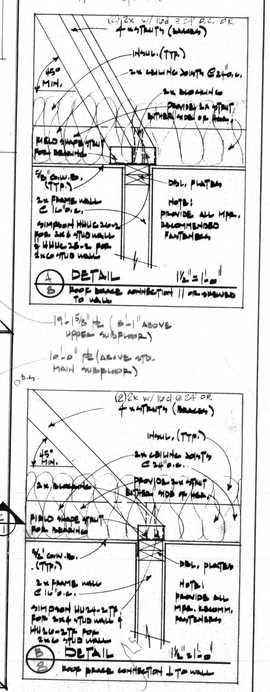
ROOF PLAN STRUCTURAL



LOVELESS EFFERT & GOLPHENEE INC ARCHITECTS

ROSA RESIDENCE

REGISTERED ARCHITECT JOSEPH D. EFFERT STATE OF WASHINGTON

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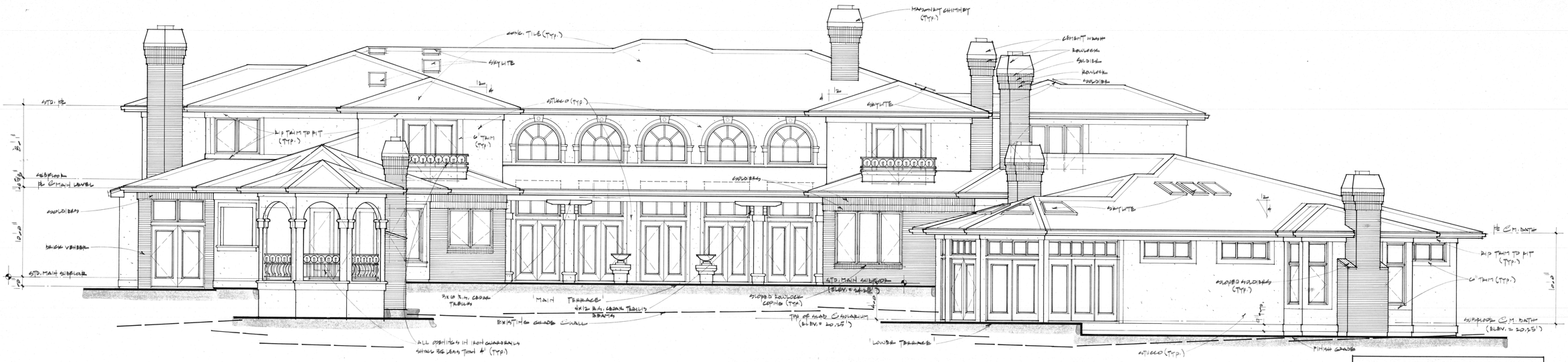
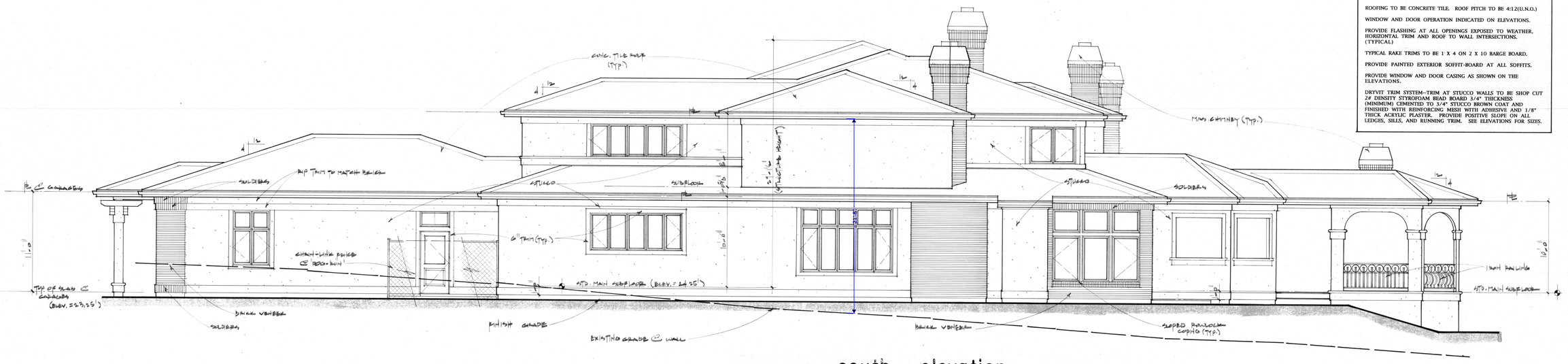
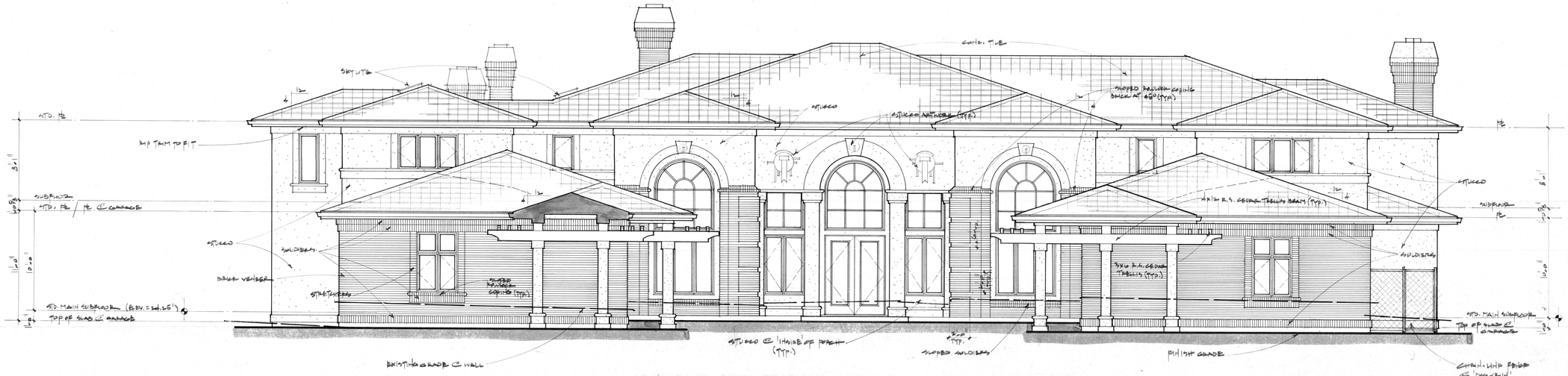
4300 DRAWING NO.
#92-1336
SHEET NO. 8 OF 27



east elevation 1/4"=1'-0"



south elevation 1/4"=1'-0"



west elevation 1/4"=1'-0"

ELEVATIONS GENERAL NOTES

SIDING TO BE BRICK VENEER WITH 1"AIRSPACE, OR 3/4" EXTERIOR STUCCO WITH WIRE LATH AND 'DRYVIT' FINISH (UNLESS NOTED OTHERWISE). PROVIDE 1" CORBEL AT ALL BRICK QUOINS, WINDOW AND DOOR SURROUNDS, AND ALL RUNNING TRIMS (U.N.O.).

PROVIDE CONTINUOUS METAL GUTTER ON 2X10 CEDAR FASCIA.

TOP OF CHIMNEY TO BE 2'-0" ABOVE HIGHEST POINT WITHIN 10'-0".

ROOFING TO BE CONCRETE TILE. ROOF PITCH TO BE 4:12(U.N.O.)

WINDOW AND DOOR OPERATION INDICATED ON ELEVATIONS.

PROVIDE FLASHING AT ALL OPENINGS EXPOSED TO WEATHER, HORIZONTAL TRIM AND ROOF TO WALL INTERSECTIONS. (TYPICAL)

TYPICAL RAKE TRIMS TO BE 1 X 4 ON 2 X 10 BARGE BOARD.

PROVIDE PAINTED EXTERIOR SOFFIT-BOARD AT ALL SOFFITS.

PROVIDE WINDOW AND DOOR CASING AS SHOWN ON THE ELEVATIONS.

DRYVIT TRIM SYSTEM--TRIM AT STUCCO WALLS TO BE SHOP CUT 2# DENSITY STYROFOAM BEAD BOARD 3/4" THICKNESS (MINIMUM) CEMENTED TO 3/4" STUCCO BROWN COAT AND FINISHED WITH REINFORCING MESH WITH ADHESIVE AND 1/8" THICK ACRYLIC PLASTER. PROVIDE POSITIVE SLOPE ON ALL LEDGES, SILLS, AND RUNNING TRIM. SEE ELEVATIONS FOR SIZES.

LOVELESS EIFFERT & GOLPHENEE INC ARCHITECTS

ROSA RESIDENCE

REGISTERED ARCHITECT JOSEPH M. EIFFERT STATE OF WASHINGTON 4309

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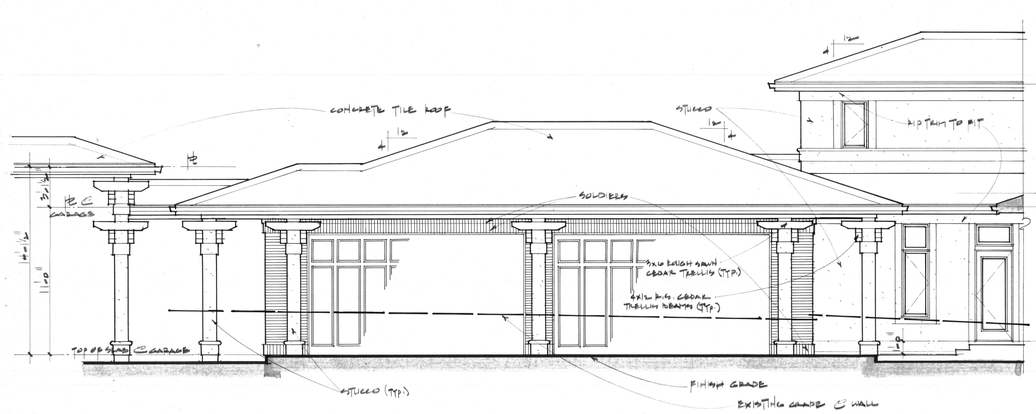
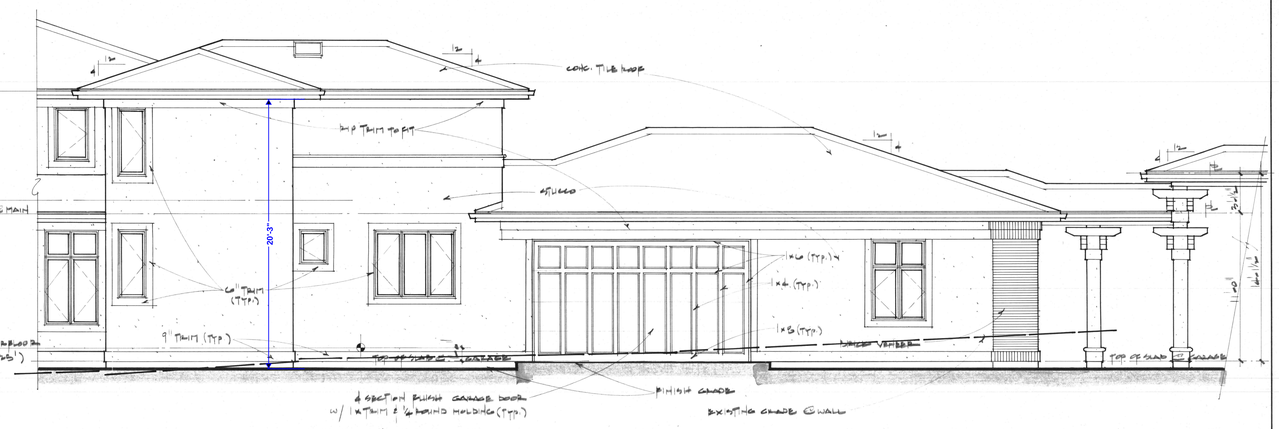
DATE: 12-30-94
93-136

SHEET NO. 9 OF 27



partial south elevation 1/4"=1'-0"

(NORTH GARAGE WING)



partial north elevation 1/4"=1'-0"

(NORTH GARAGE WING)

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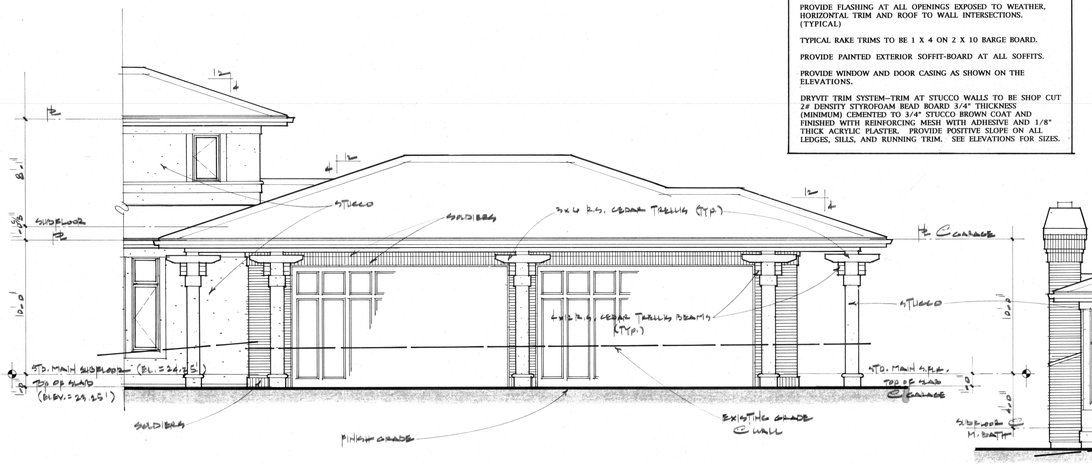
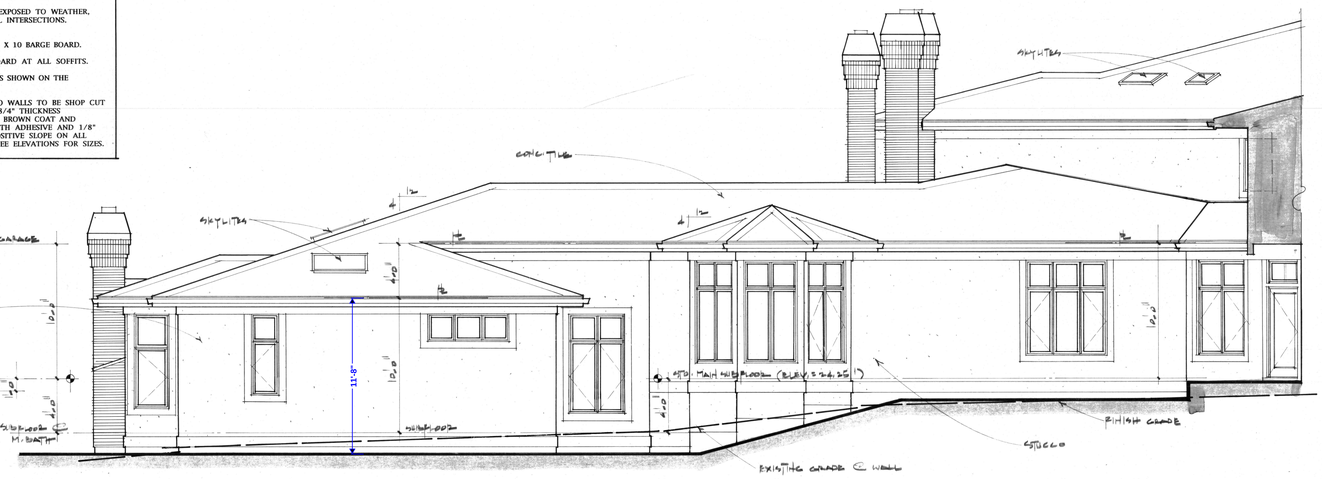


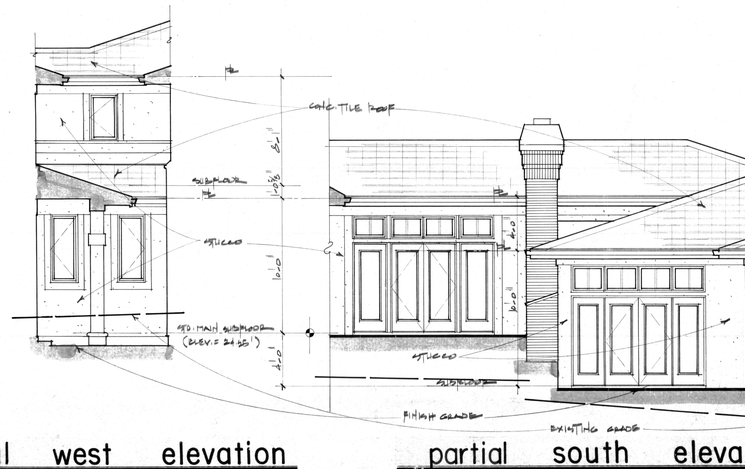
partial north elevation 1/4"=1'-0"

(SOUTH GARAGE WING)



partial north elevation 1/4"=1'-0"

(MASTER BEDROOM & BATH WING)

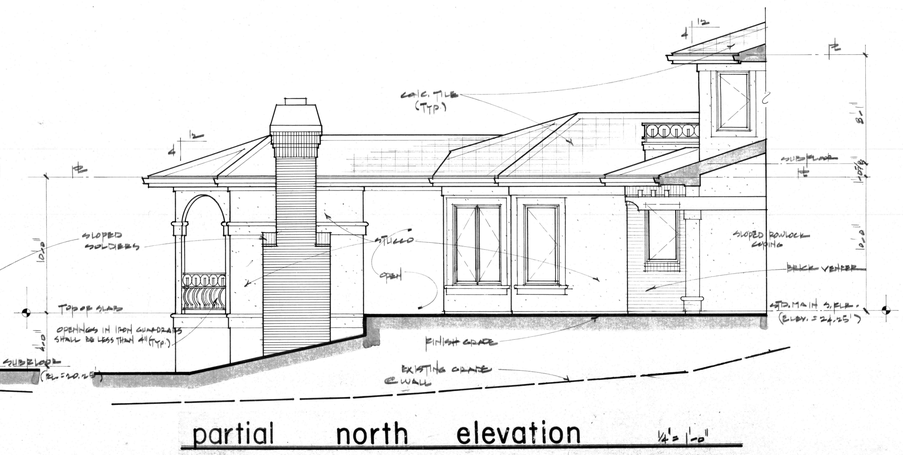


partial west elevation 1/4"=1'-0"

(BETWEEN N. GARAGE & MAIN TRUSS)

partial south elevation 1/4"=1'-0"

(MASTER BEDROOM WING)



partial north elevation 1/4"=1'-0"

LOVELESS EFFERTS & GOLPHENEE INC ARCHITECTS
KITSAP OFFICE: (360) 698-3000 • Suite 215 • Bellevue, WA 98007

ROSA RESIDENCE

4300 REGISTERED ARCHITECT JOSEPH H. EFFERT STATE OF WASHINGTON

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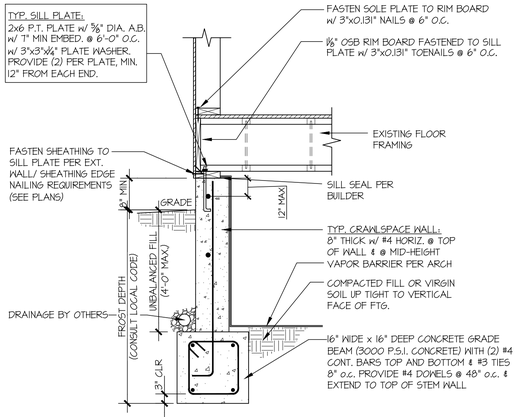
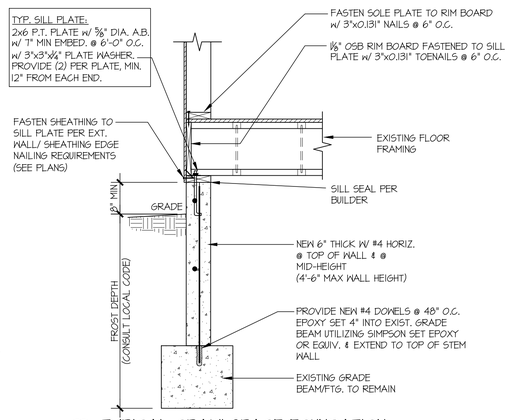
93-136

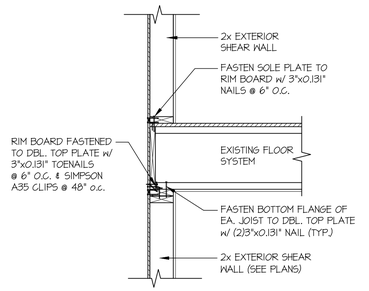
SHEET NO. 10 OF 17



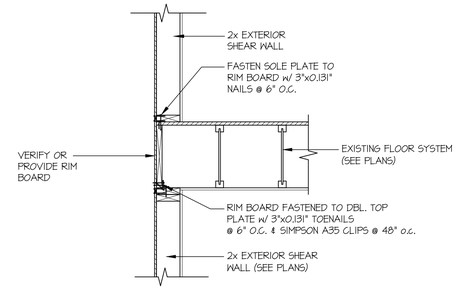
1 TYPICAL CRAWLSPACE FOUNDATION
SCALE: 3/4"=1'-0"



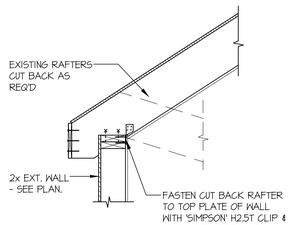
2 TYPICAL CRAWLSPACE FOUNDATION
SCALE: 3/4"=1'-0"



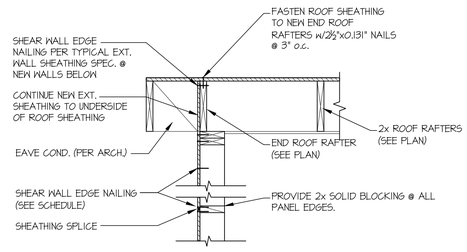
3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL
SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



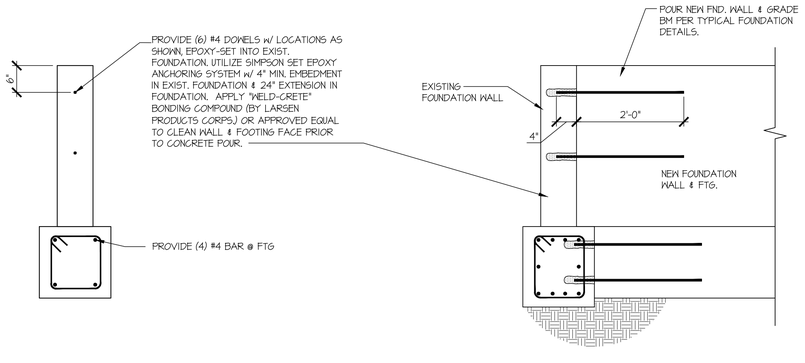
4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL
SCALE: 3/4"=1'-0" PARALLEL FRAMING



5 TYPICAL SHEAR TRANSFER DETAIL @ ROOF
SCALE: 3/4"=1'-0" CATHEDRAL CLG.



6 TYPICAL BALLOON FRAMED GABLE END BRACING DETAIL
SCALE: 3/4"=1'-0"



A TYPICAL FOUNDATION RETROFIT DETAIL
SCALE: 3/4"=1'-0"

seal:

RICHARD ZABEL STATE OF WASHINGTON 21031615 REGISTERED PROFESSIONAL ENGINEER

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MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 295, San Diego, CA 92121
p 619-650-0010 ▸ mulhernkulp.com

M&K project number: 306-24003

project mgr: RJZ
drawn by: RJD
issue date: 04-24-24

REVISIONS:

date:	initial:
10/22/24 ARCH REVISIONS	RJD

MacPherson Construction

RETROFIT DETAILS

5330 Butterworth Rd
House 1
Mercer Island, Washington

sheet: R-1.0

GENERAL DEMO NOTES

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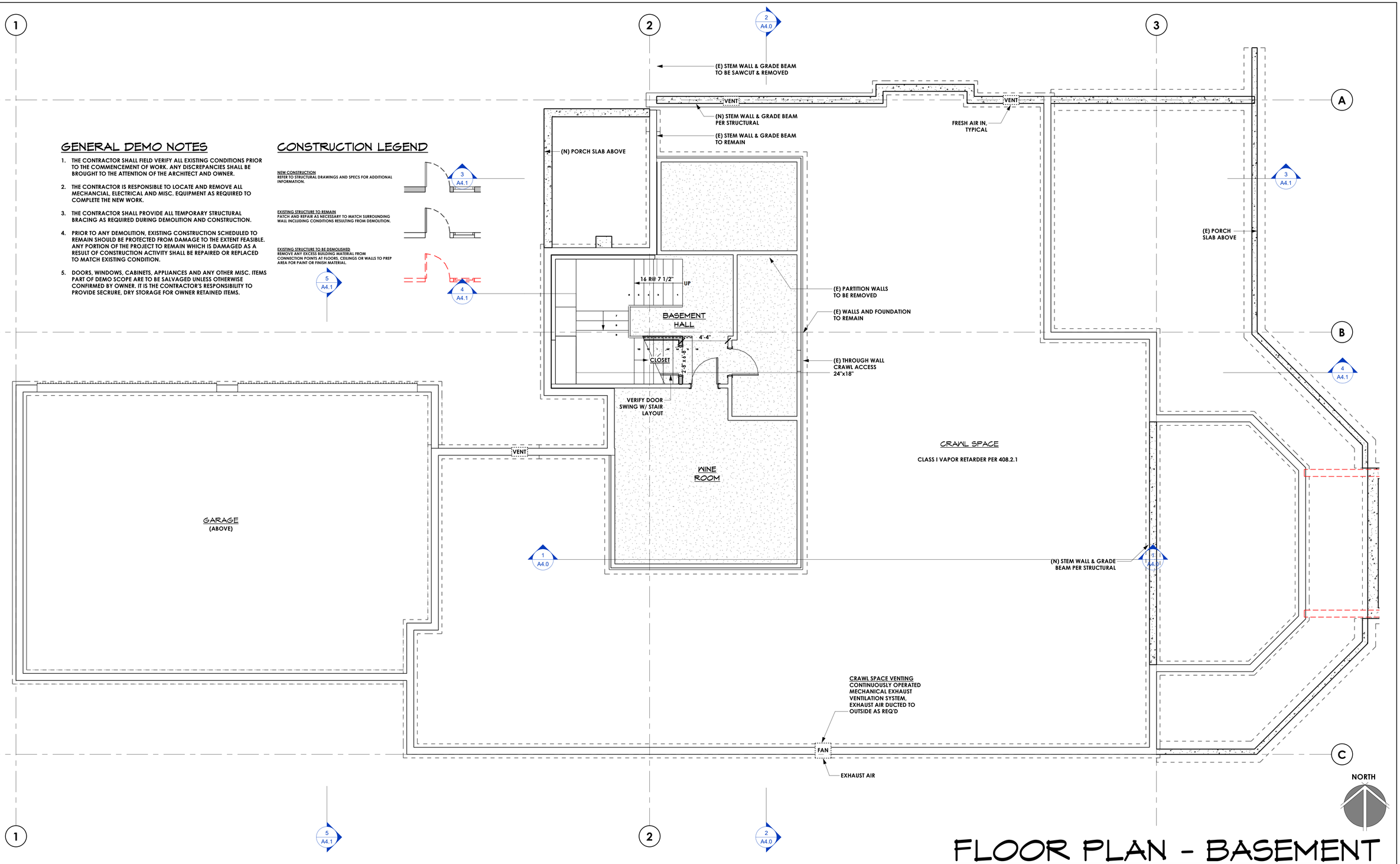
CONSTRUCTION LEGEND

NEW CONSTRUCTION
REFER TO STRUCTURAL DRAWINGS AND SPECS FOR ADDITIONAL INFORMATION.

EXISTING STRUCTURE TO REMAIN
PATCH AND REPAIR AS NECESSARY TO MATCH SURROUNDING WALL INCLUDING CONDITIONS RESULTING FROM DEMOLITION.

EXISTING STRUCTURE TO BE DEMOLISHED
REMOVE ANY EXCESS BUILDING MATERIAL FROM CONNECTION POINTS AT FLOORS, CEILINGS OR WALLS TO PREP AREA FOR PAINT OR FINISH MATERIAL.



FLOOR PLAN - BASEMENT

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

SCALE THIS DRAWING, IN FEET

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

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Construction & Design
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PH. 425.391.3333 FAX 425.557.2841

BUTTERWORTH - HOUSE 1

5330 BUTTERWORTH RD.
MERCER ISLAND, WA 98040
PARCEL #: 866140-0040

FLOOR PLAN - LOWER

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1

SHEET NUMBER

A2.0

1/2/2025 7:32:00 AM

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DEMO EXISTING

NOTE: ALL EXISTING EXTERIOR WALLS TO REMAIN, EXCEPT THOSE DEMOLISHED AND NEW IN-FILL WALL AT GREAT ROOM & FOYER

DEMO (E) FOUNDATION WALLS PER STRUCTURAL PLANS.

DEMO EXISTING COLUMNS, AND ROOF OVERHANG, TYP

DEMO (E) STAIRS TO UPPER FLOOR

UP

DEMO (E) BRICK SIDING

DEMO EXISTING COLUMNS, AND ROOF OVERHANG, TYP

DEMO (E) BRICK SIDING

DEMO (E) WALLS, COLUMNS, COUNTERS & CABS, TYP

DEMO (E) PERGOLA ROOF AND COLUMNS

DEMO (E) BRICK SIDING

DEMO EXISTING FIREPLACE AND CHIMNEY

DEMO BUMP OUT AND FOUNDATION

NEW FLX RING WALL SIDING PER ELEVS.

NORTH

SCALE THIS DRAWING, IN FEET

DEMO PLAN - MAIN

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

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BUTTERWORTH - HOUSE 1

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MERCER ISLAND, WA 98040
PARCEL #: 866140-0040

DEMO PLAN - MAIN

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1

SHEET NUMBER

A2.1D

1/2/2025 7:32:01 AM

NOTE:
FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES AND STRUCTURAL DRAWINGS

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EXISTING STRUCTURE TO BE DEMOLISHED
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MECHANICAL NOTES:

- PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
- PROVIDE DUCTED COMBUSTION AIR FOR GAS BURNERS, AS REQ'D.
- PROVIDE THERMAL EXPANSION TANK AT WATER HEATER, AS REQ'D.
- STRAP WATER HEATER TO FRAMING TOP & BOTTOM, AS REQ'D.
- PROVIDE PRESSURE RELIEF LINE PLUMBED DIRECT TO OUTSIDE OR APPROVED DRAIN LOCATION.
- IF RANGE HOOD IS GREATER THAN 400 CFM AN AUTOMATIC MECHANICAL DAMPER SHALL BE INTEGRATED INTO THE WHOLE HOUSE FAN SYSTEM TO PROVIDE MAKEUP AIR AT THE SAME RATE AS THE EXHAUST FAN.

ENERGY CODE REQUIREMENTS:
PROVIDE AIR SOURCE HEAT PUMP WITH MIN. HPSF = 10
PROVIDE HIGH EFFICIENCY GAS WATER HEATER WITH MIN. UEF = .91

NOTE: ALL EXISTING EXTERIOR WALLS TO REMAIN, EXCEPT THOSE DEMOLISHED AND NEW IN-FILL WALL AT GREAT ROOM & FOYER

NEW FIN WALL
NEW IN-FILL WALL
EDGE OF (N) ROOF
OVHD 17'-0" x 9'-0"
OVHD 17'-0" x 9'-0"
CANT'D FLOOR ABOVE
EDGE OF DECK ABOVE
INSTALL FIREPLACE AND VENTING PER MNFR. RECS.
NICHE
DIRECT-VENT GAS FIREPLACE
FOYER
GREAT ROOM
DN (2R)
STEP
EDGE OF (N) ROOF
PICT 2'-6" x 9'-0"
PIVOT 5'-0" x 9'-0"
PICT 2'-6" x 9'-0"
SLIDER 18'-0" x 10'-0"
EDGE OF (E) PATIO
PICT 3'-0" x 6'-6"
(N) OPEN RISER STAIR W/ STEEL MONO STRINGER
18 R@ 7 3/8"
UP
BRIDGE ABOVE
CLG. 16'+ (260 SF)
16 R@ 7 1/2"
(E) STAIRS TO BASEMENT TO REMAIN
DN
ALIGN
PICT 6'-0" x 6'-6"
SINK
CSMT 2'-6" x 5'-0"
PICT 5'-0" x 5'-0"
CLOSET SW 2'-8" x 8'-0"
UTILITY
PWDR 9'-0" CLG.
FULL HT. WALL W NICHE
SHELVES
REF (UC)
BAR
DINING
WINE (UC)
A/H
MECH.
3'-0" x 8'-0"
LOCKER BENCH
MUD
LOCKER BENCH
PROVIDE HEAT DETECTOR PER R314.2.3
20-MIN RATED DOOR W/ SELF-LATCHING AND CLOSING DEVICE
4-CAR GARAGE
11'-0" CLG.
EXTERIOR WALL ABOVE
PROVIDE FIRE SEPARATION PER IRC R302.6
5/8" TYPE X BETWEEN GARAGE AND HABITABLE SPACE ABOVE
1/2" BETWEEN GARAGE AND HABITABLE SPACE ON WALLS
HALL
BARN 4'-0" x 8'-0"
DBL SW - FG - SG 6'-0" x 8'-0"
SHELVES
30" REF.
OVENS
30" MICRO W/ DRAWER
SHELVES & CABS.
BUTLER PANTRY
REF./FRZ.
12'-8" VERIFY
KITCHEN
SINK
SLIDER 12'-6" x 8'-6"
COVERED PATIO
EDGE OF DECK ABOVE
GAS GRILL (UNCOVERED)
48" GAS COOKTOP
UPPER CABS.
W/H
ENERGY STAR RATED GAS WATER HEATER, MIN UEF 0.91
MEDIA EQUIP.
THEATER ROOM
RAISE (E) SUNKEN FLOOR TO MAIN LEVEL
SCREEN
A/H
OFFICE
EQ
EQ
BUILT-IN DESK
SHELVES
SHELVES
SW 2'-8" x 8'-0"
H/P
H/P
CENTRALLY DUCTED AIR SOURCE COLD CLIMATE HEAT PUMPS, MIN 10 HPSF
CENTRALLY DUCTED AIR SOURCE COLD CLIMATE HEAT PUMPS, MIN 10 HPSF
PICT 2'-0" x 4'-0"
PICT 2'-0" x 4'-0"
PICT 2'-0" x 4'-0"
CSMT 2'-8" x 5'-0"
PICT 5'-4" x 5'-0"
PICT 5'-0" x 5'-0"
NEW FURRING WALL SIDING PER ELEVS.
DEMO (E) ROOF
NORTH
SCALE THIS DRAWING, IN FEET

FLOOR PLAN - MAIN

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

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BUTTERWORTH - HOUSE 1
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MERCER ISLAND, WA 98040
PARCEL #: 866140-0040
FLOOR PLAN - MAIN

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1
12/9/24	2	DAN	PERMIT RESPONSE 2

SHEET NUMBER
A2.1

1/2/2025 7:32:03 AM

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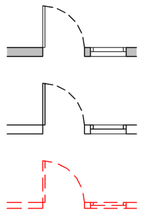
3. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY STRUCTURAL BRACING AS REQUIRED DURING DEMOLITION AND CONSTRUCTION.
4. PRIOR TO ANY DEMOLITION, EXISTING CONSTRUCTION SCHEDULED TO REMAIN SHOULD BE PROTECTED FROM DAMAGE TO THE EXTENT FEASIBLE. ANY PORTION OF THE PROJECT TO REMAIN WHICH IS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING CONDITION.
5. DOORS, WINDOWS, CABINETS, APPLIANCES AND ANY OTHER MISC. ITEMS PART OF DEMO SCOPE ARE TO BE SALVAGED UNLESS OTHERWISE CONFIRMED BY OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SECRURE, DRY STORAGE FOR OWNER RETAINED ITEMS.

CONSTRUCTION LEGEND

NEW CONSTRUCTION
REFER TO STRUCTURAL DRAWINGS AND SPECS FOR ADDITIONAL INFORMATION.

EXISTING STRUCTURE TO REMAIN
PATCH AND REPAIR AS NECESSARY TO MATCH SURROUNDING WALL INCLUDING CONDITIONS RESULTING FROM DEMOLITION.

EXISTING STRUCTURE TO BE DEMOLISHED
REMOVE ANY EXCESS BUILDING MATERIAL FROM CONNECTION POINTS AT FLOORS, CEILINGS OR WALLS TO PREP AREA FOR PAINT OR FINISH MATERIAL.



DEMO
(E) BRIDGE

EXISTING EXTERIOR WALLS TO BE SALVAGED IF POSSIBLE

NORTH

DEMO PLAN - UPPER

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

SCALE THIS DRAWING, IN FEET

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BUTTERWORTH - HOUSE 1

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PARCEL #: 866140-0040

DEMO PLAN - UPPER

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1

SHEET NUMBER

A2.2D

1/2/2025 7:32:04 AM

GENERAL DEMO NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND OWNER.
2. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND REMOVE ALL MECHANCIAL, ELECTRICAL AND MISC. EQUIPMENT AS REQUIRED TO COMPLETE THE NEW WORK.
3. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY STRUCTURAL BRACING AS REQUIRED DURING DEMOLITION AND CONSTRUCTION.
4. PRIOR TO ANY DEMOLITION, EXISTING CONSTRUCTION SCHEDULED TO REMAIN SHOULD BE PROTECTED FROM DAMAGE TO THE EXTENT FEASIBLE. ANY PORTION OF THE PROJECT TO REMAIN WHICH IS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING CONDITION.
5. DOORS, WINDOWS, CABINETS, APPLIANCES AND ANY OTHER MISC. ITEMS PART OF DEMO SCOPE ARE TO BE SALVAGED UNLESS OTHERWISE CONFIRMED BY OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SECRURE, DRY STORAGE FOR OWNER RETAINED ITEMS.

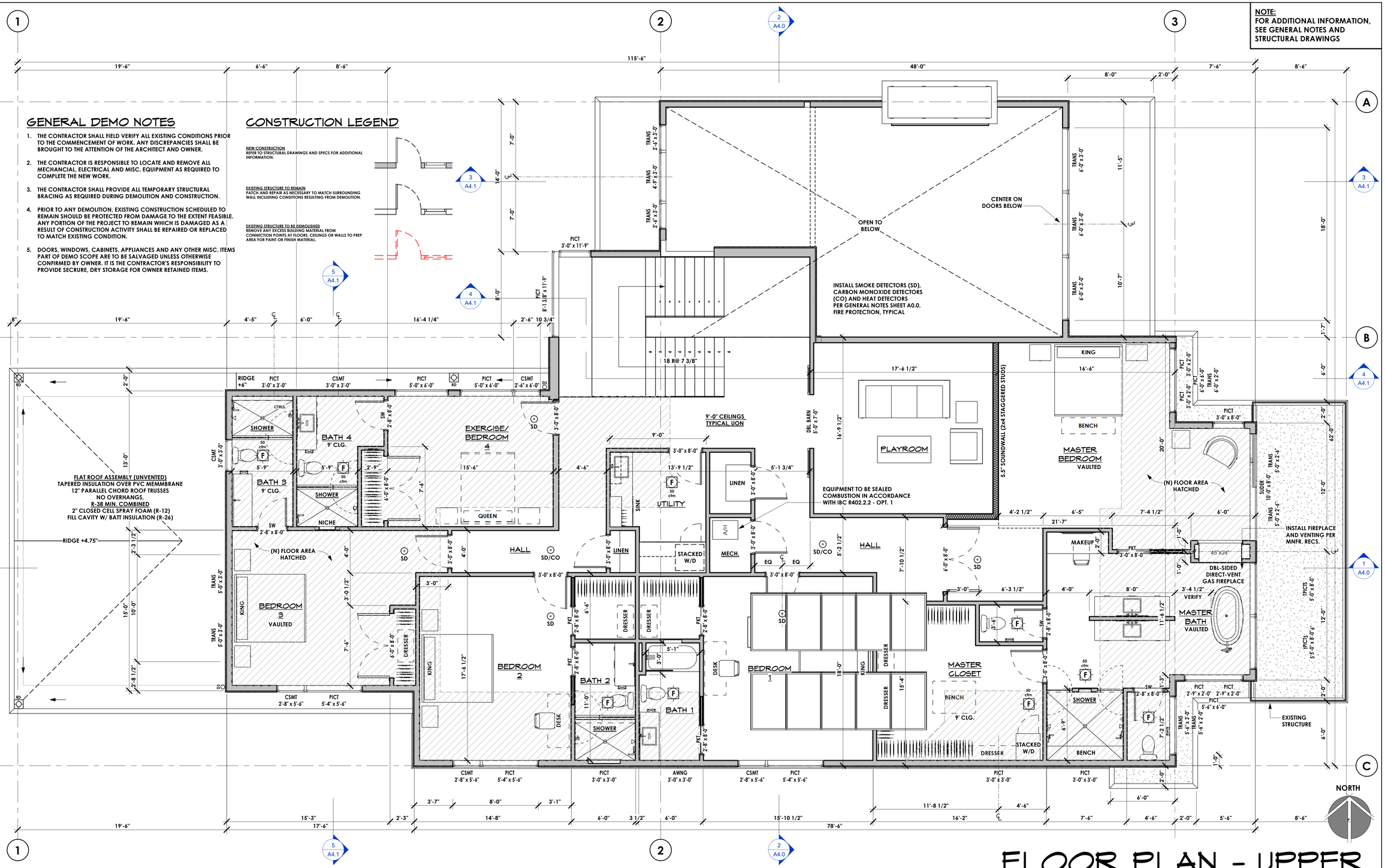
CONSTRUCTION LEGEND

NEW CONSTRUCTION
REFER TO STRUCTURAL DRAWINGS AND SPECS FOR ADDITIONAL INFORMATION.

EXISTING STRUCTURE TO REMAIN
PATCH AND REPAIR AS NECESSARY TO MATCH SURROUNDING WALL INCLUDING CONDITIONS RESULTING FROM DEMOLITION.

EXISTING STRUCTURE TO BE DEMOLISHED
REMOVE ANY EXCESS BUILDING MATERIAL FROM CONNECTION POINTS AT FLOORS, CEILINGS OR WALLS TO PREP AREA FOR PAINT OR FINISH MATERIAL.

NOTE:
FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES AND STRUCTURAL DRAWINGS



FLOOR PLAN - UPPER

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

SCALE THIS DRAWING, IN FEET

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PARCEL #: 866140-0040

FLOOR PLAN - UPPER

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1

SHEET NUMBER
A2.2

1/2/2025 7:32:06 AM

NOTE:
FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES AND STRUCTURAL DRAWINGS

ROOF NOTES:

1. TYPICAL ROOF SLOPE: 2/12, UNLESS NOTED OTHERWISE.
2. TYPICAL EAVE OVERHANG: 1'-6"
3. TYPICAL GABLE OVERHANG: 1'-0"
4. TYPICAL GUTTER: 5" K-LINE, PRE-FINISHED W/ MATCHING LEADERS. TIGHT-LINE TO STORM SEWER.
5. TYPICAL EAVE: VENTILATION SHALL BE PROVIDED BY A CONTINUOUS EAVE VENT SLOT - OR- VENTED BIRD BLOCKS WITH (3) 2" HOLES PER BLOCK AND 1/4" MESH SCREENING, TYP.
6. TYPICAL RIDGE: VENTILATION SHALL BE PROVIDED BY A CONTINUOUS 2" WIDE SPACE IN ROOF SHEATHING AT EACH RIDGE. ROOFER TO INSTALL AN APPROVED RIDGE VENT PRODUCT, PER ROOFING MANUFACTURER'S RECOMMENDATION.
7. FOR ADDITIONAL INFORMATION SEE SOFFIT DETAILS ON A5.0.
8. PROVIDE SUPPLEMENTAL VENTING AS NECESSARY TO MEET ROOF VENTING REQUIREMENTS USING INDIVIDUAL VENT CAPS .

1 2 3 — A B C

2 A4.0 — 5 A4.1 — 4 A4.1 — 3 A4.1 — 1 A4.0

1'-0" — 3'-0" — 2" / 12" SHED ROOF — 2" / 12" CRICKET — 2" / 12" SHED ROOF

FLAT ROOF ASSEMBLY (UNVENTED)
TAPERED INSULATION OVER PVC MEMMBRANE
12" PARALLEL CHORD ROOF TRUSSES
NO OVERHANGS.
R-38 MIN. COMBINED ABOVE HEATED SPACE
2" CLOSED CELL SPRAY FOAM (R-12)
FILL CAVITY W/ BATT INSULATION (R-26)

TO INTERNAL DRAIN — RD — DS

2'-8" — 1'-0" — 2'-0" — 2'-0" — 3'-0" — 1'-0" — 3'-0" — 2'-0"

SEE A2.2

SHED ROOF

GABLE ROOF ASSEMBLY (VENTED)
PREMANUFACTURED ROOF TRUSSES
W/ 2x4 OVERHANGS.
R-49 MIN. COMBINED ABOVE HEATED SPACE
BLOWN-IN CELLULOSE INSULATION (R-49)

2" / 12" — A/H — 2" / 12"

BEARING LINE FOR SHED ROOF CAN ADJUST DEPENDING ON EXISTING STRUCTURE

SOLAR PANEL ARRAY
9 PANELS (3,600 kWH) = 3 ENERGY CREDITS TOTAL
BASED ON 400 kWH PER PANEL
FINAL LAYOUT & LOCATION TBD
PANEL WEIGHT: 50 LBS. EA
MUST COMPLY WITH IRC SECTION R324

2 1/4" / 12"

SHED ROOF ASSEMBLY (UNVENTED)
12" PARALLEL CHORD ROOF TRUSSES
W/ 2x6 OVERHANGS.
R-38 MIN. COMBINED ABOVE HEATED SPACE
2" CLOSED CELL SPRAY FOAM (R-12)
FILL CAVITY W/ BATT INSULATION (R-26)

2'-0" — 1'-0" — 3'-0" — 1'-0" — 2'-0" — 1'-0" — 2'-0"

NORTH

ROOF

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

SCALE THIS DRAWING, IN FEET
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

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ROOF PLAN

DATE	REV.	BY	DESCRIPTION
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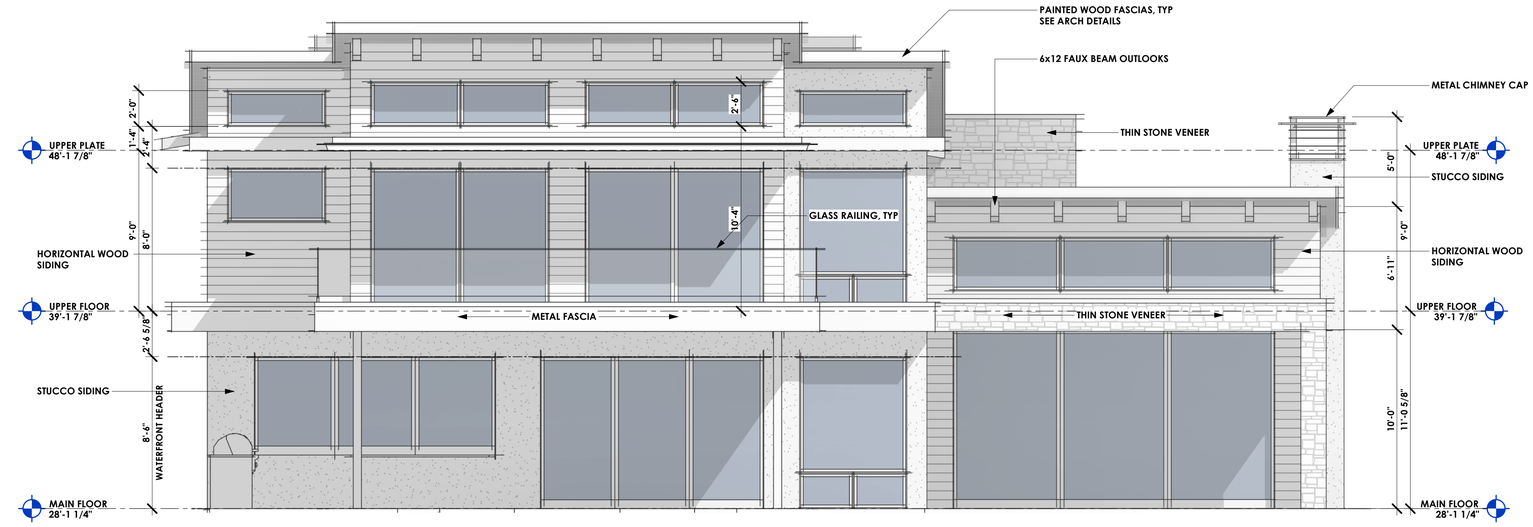
12/9/24	2	DAN	PERMIT RESPONSE 2

SHEET NUMBER

A2.3

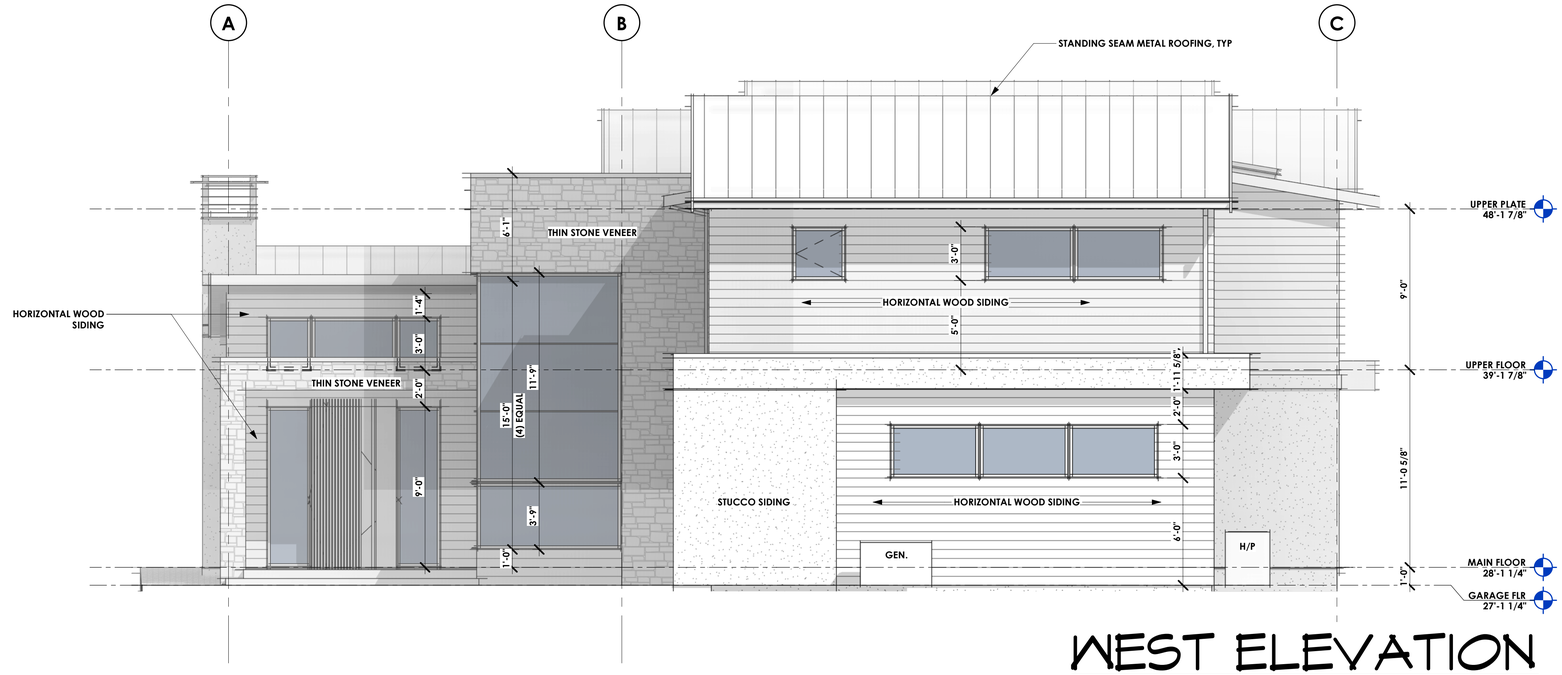
1/2/2025 7:32:07 AM

NOTE:
FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES AND STRUCTURAL DRAWINGS



EAST ELEVATION

1/4" = 1'-0"



WEST ELEVATION

1/4" = 1'-0"

SCALE THIS DRAWING, IN FEET

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PARCEL #: 866140-0040

EXTERIOR ELEVATIONS

DATE	REV.	BY	DESCRIPTION
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A3.0

1/2/2025 7:32:11 AM

NOTE:
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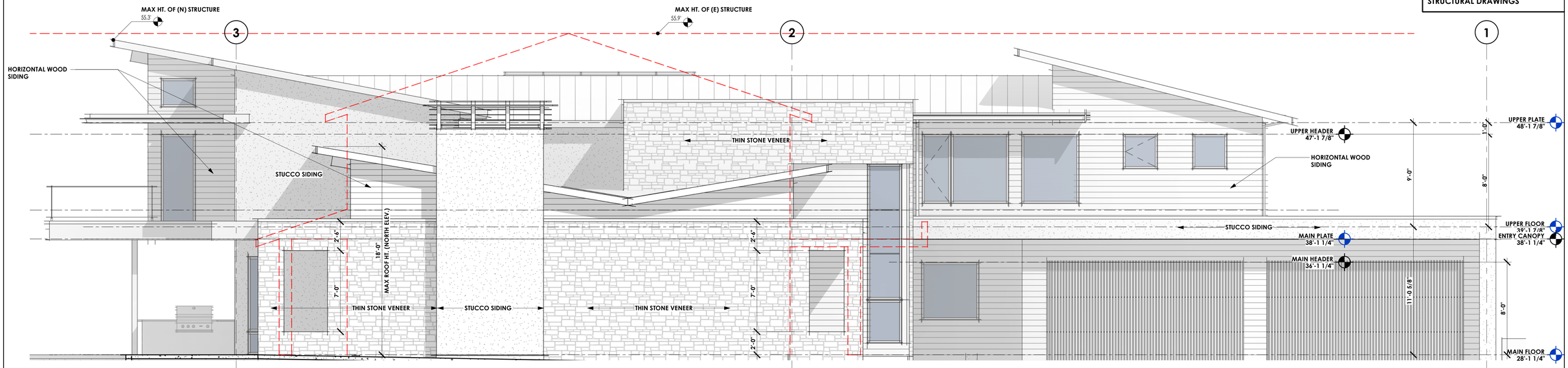

NORTH ELEVATION

1/4" = 1'-0"

SOUTH ELEVATION

1/4" = 1'-0"

SCALE THIS DRAWING, IN FEET

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

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EXTERIOR ELEVATIONS

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL

SHEET NUMBER

A3.1

1/2/2025 7:32:15 AM

NOTE:
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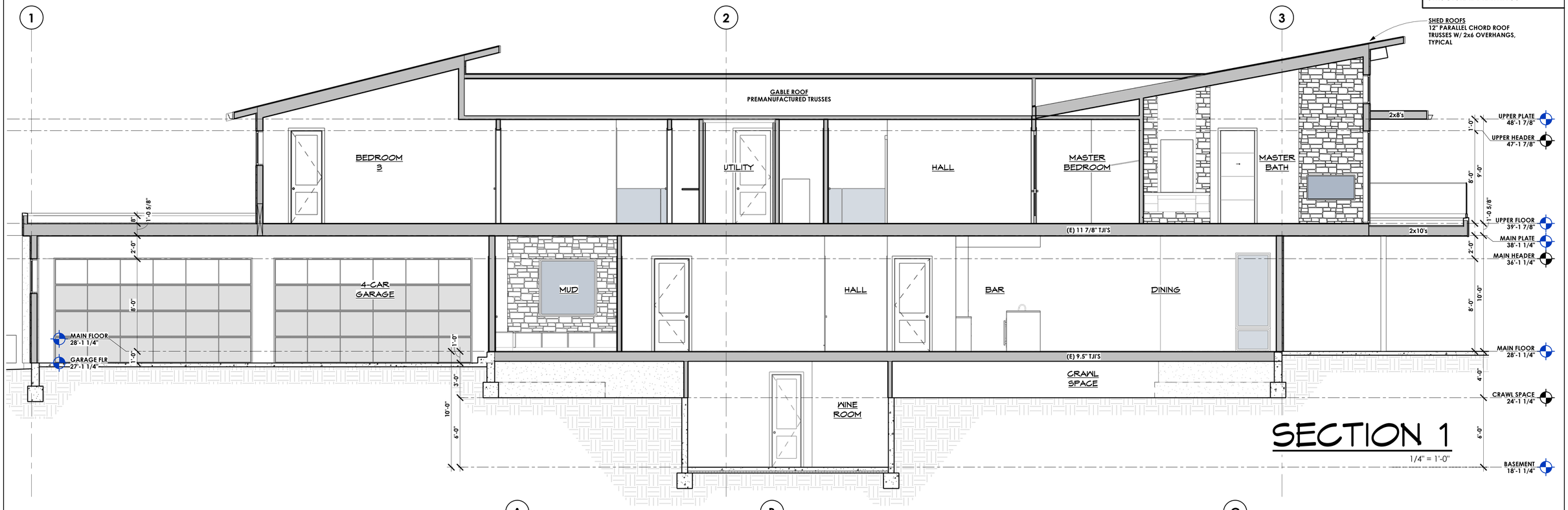
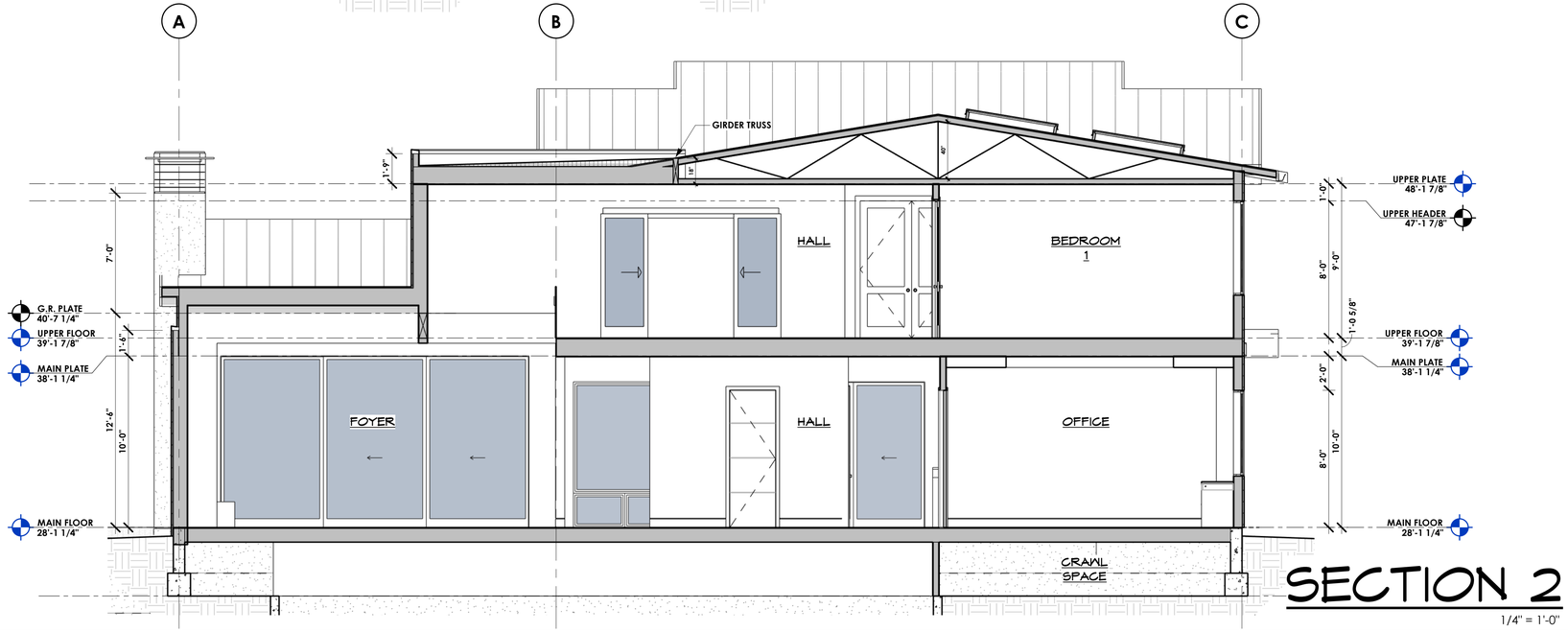


SECTION 1

1/4" = 1'-0"



SECTION 2

1/4" = 1'-0"

SCALE THIS DRAWING, IN FEET

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BUTTERWORTH - HOUSE 1

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BUILDING SECTIONS

DATE	REV.	BY	DESCRIPTION
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A4.0

1/2/2025 7:32:16 AM

NOTE:
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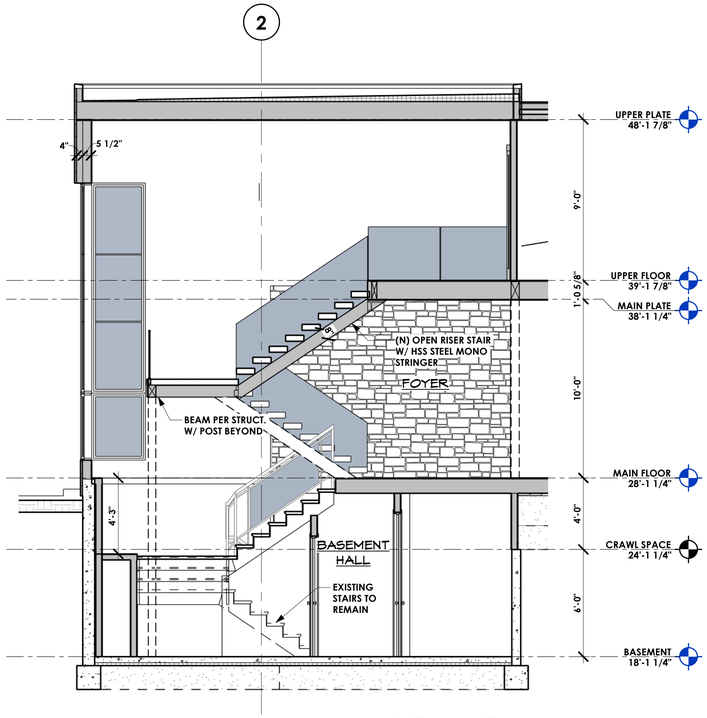
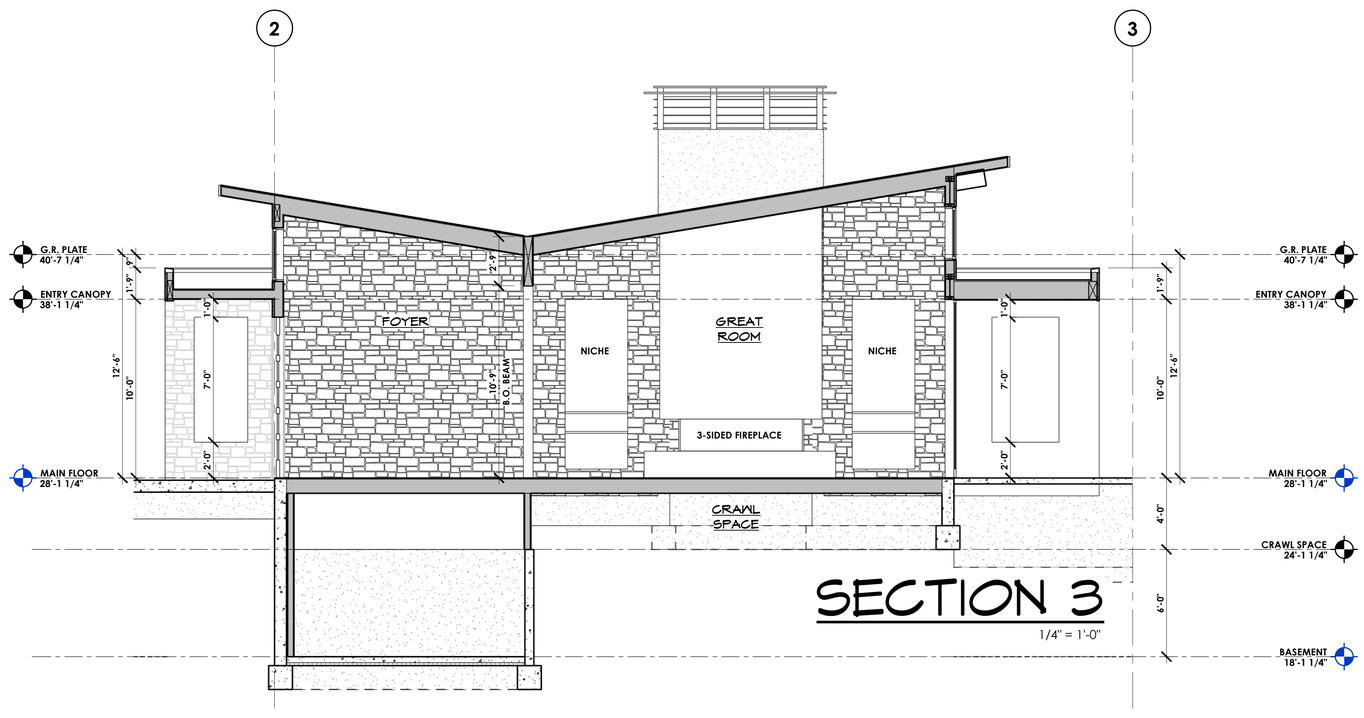


SECTION 4

1/4" = 1'-0"



SECTION 3

1/4" = 1'-0"

SECTION 5

1/4" = 1'-0"

SCALE THIS DRAWING, IN FEET

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PARCEL #: 866140-0040

BUILDING SECTIONS

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL

SHEET NUMBER

A4.1

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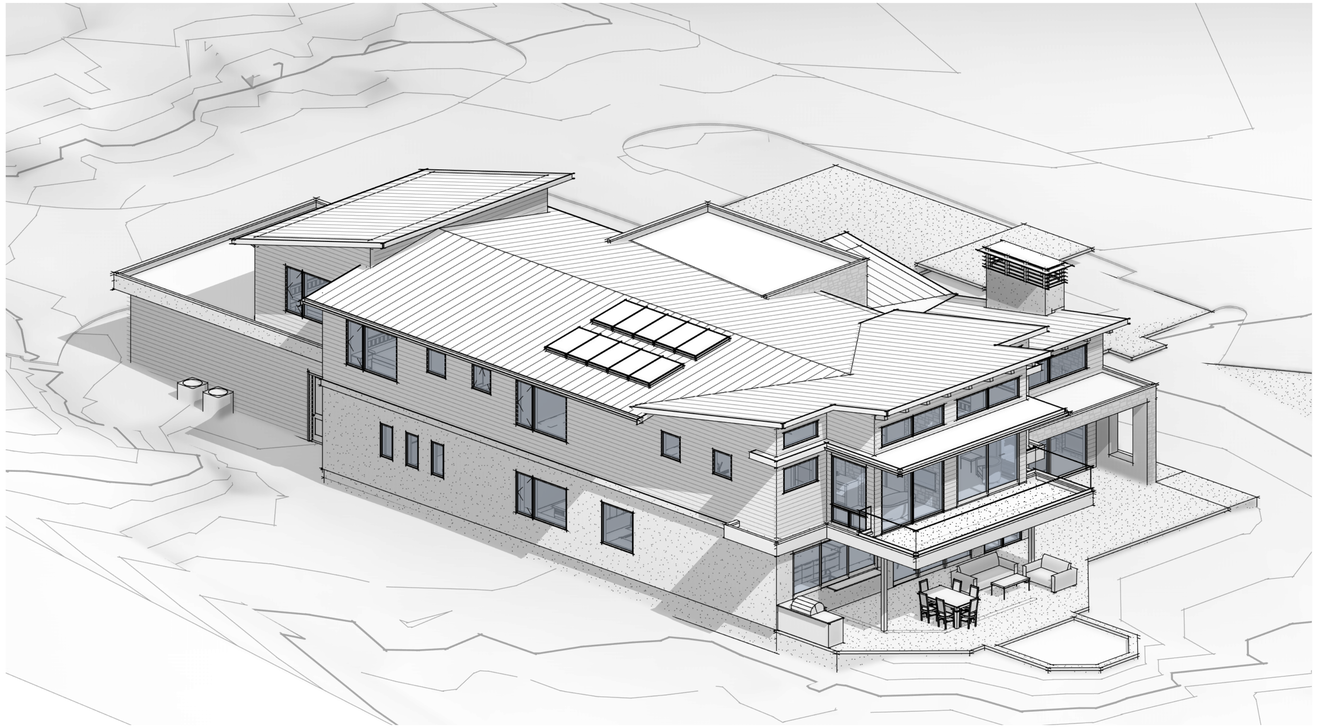

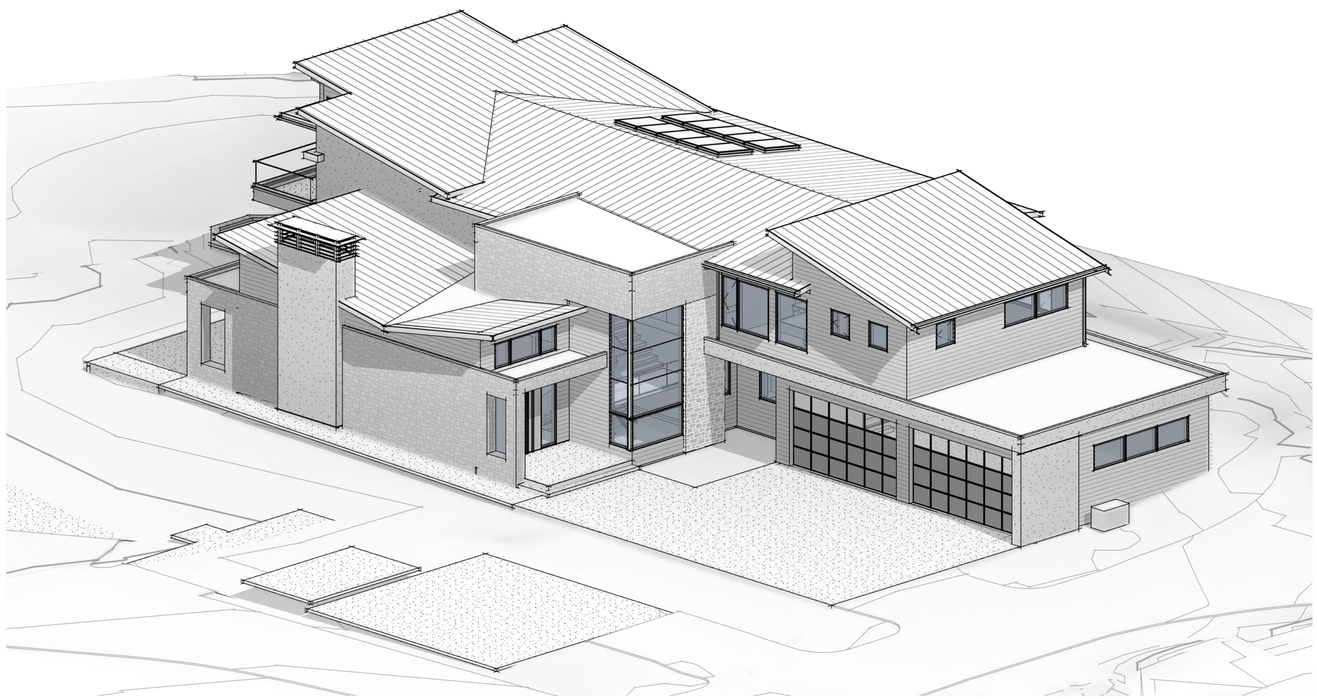

SCALE THIS DRAWING, IN FEET

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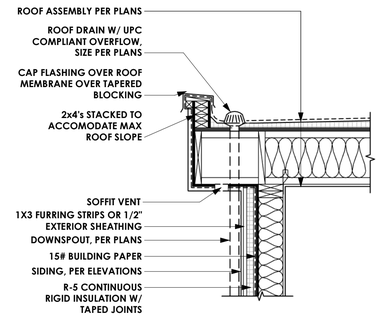
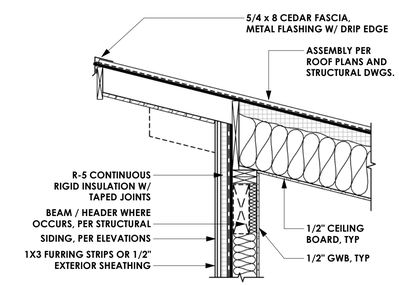
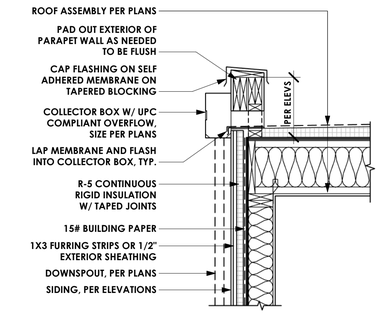


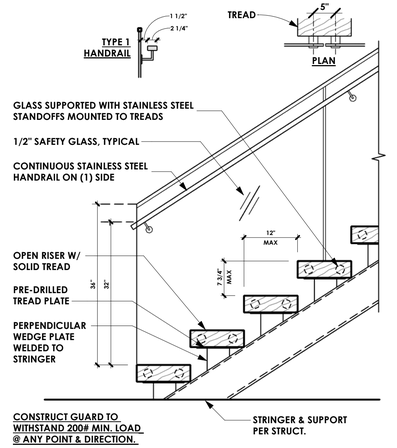
6 FLAT ROOF - OVERHANG UNVENTED SCALE: 3/4" = 1'-0"



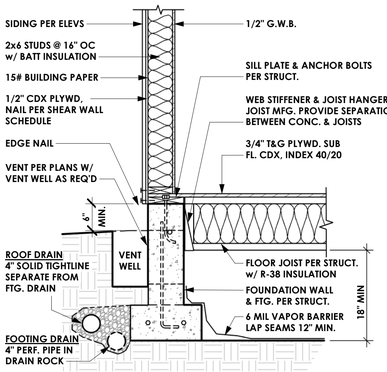
5 SLOPED ROOF - UNVENTED SCALE: 3/4" = 1'-0"



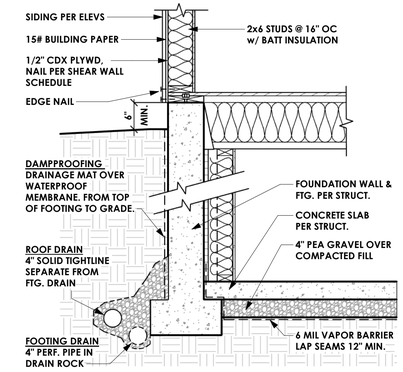
4 FLAT ROOF - NO OVERHANG UNVENTED SCALE: 3/4" = 1'-0"



3 TYP OPEN RISER STAIR SCALE: 3/4" = 1'-0"



2 TYP FOUNDATION @ CRAWL SPACE SCALE: 3/4" = 1'-0"



1 TYP FOUNDATION @ BASEMENT (HEATED) SCALE: 3/4" = 1'-0"

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PARCEL #: 866140-0040

ARCHITECTURAL DETAILS

DATE	REV.	BY	DESCRIPTION
6/11/24		DAN	PERMIT SUBMITTAL
10/31/24	1	DAN	PERMIT RESPONSE 1

SHEET NUMBER

A5.0

1/2/2025 7:32:24 AM

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 10- TONS/PILE MINIMUM (SAFE LOAD).
  - 4" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILING CONTRACTOR SHALL CONFIRM THE PILES, ARE ADEQUATE BY TESTING A MINIMUM 3% OF PILES (1 MINIMUM). TEST PILES MUST BE TESTED TO 200% OF THE DESIGN CAPACITY IN ACCORDANCE WITH ASTM STANDARD D 1143-81 FOR PILES UNDER STATIC AXIAL COMPRESSIVE LOAD. USE OF THE QUICK LOAD TEST METHOD IN THE STANDARD IS THE MINIMUM REQUIRED.
- PILES SHALL BE DRIVEN TO REFUSAL (15-30' ANTICIPATED) WITH A MINIMUM 850-LB HYDRAULIC HAMMER AND REFUSAL OF 16 SECONDS PER INCH FOR 3 CONSECUTIVE INCHES. FOR A 2000-LB HYDRAULIC HAMMER REFUSAL IS 4 SECONDS PER INCH FOR 3 CONSECUTIVE INCHES. GEOTECH TO COORDINATE THE DRIVING CRITERIA BASED ON THE ACTUAL HAMMER SIZE SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.

BASEMENT SLAB

4" CONC. SLAB ON 10 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GARAGE SLAB

4" CONC. SLAB ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

PORCH SLAB

4" CONC. SLAB ON GRADE ON 10 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GENERAL STRUCTURAL NOTES

FOUNDATION

- DESIGN IS BASED ON 2021 INTERNATIONAL RESIDENTIAL CODE & 2021 INTERNATIONAL EXISTING BUILDING CODE
- DESIGN LOADS:
  - SOIL: 1500 PSF ALLOWABLE BEARING PRESSURE
  - GEOTECH TO VERIFY
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  - f'c = 3,000 psi:* ..... FOUNDATION WALLS
  - 3,000 psi:* ..... FOOTINGS
  - 3,000 PSI: ..... GRADE BEAMS
  - 2,500 psi: ..... INTERIOR SLABS ON GRADE
  - 3,500 psi:* ..... GARAGE & EXT. SLABS ON GRADE
  - fy = 60,000 psi

  * ALL CONCRETE HAS BEEN DESIGNED FOR 2500 PSI, ANYTHING GREATER THAN THIS SPECIFICATION IS FOR WEATHERING ONLY.
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL PRESSURE OF 55 PCF AT-REST, 35 PCF ACTIVE & 7H SEISMIC SURCHARGE.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN.; BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH ⅝" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x ¼" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN ½" OF EXTERIOR EDGE OF SILL PLATE) PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON HTT5 TENSION TIE
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

MEANS & METHODS NOTES

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN, DETAIL, AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW, UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO MK FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION.

TRUSSES SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES OR GIRDER TRUSSES DOES NOT EXCEED THE FOLLOWING:

A. ROOF TRUSSES:
   1/4" DEAD LOAD
B. FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS:
   1/8" DEAD LOAD
C. FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS:
   LIMIT ABSOLUTE TRUSS DEFLECTION TO 3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)

LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):

ROOF TRUSS TOP CHORD :	10
ROOF TRUSS BOT. CHORD :	7
FLOOR (JOISTS) :	10
DECK (JOISTS) :	10
TILE FLOORS :	10

LIVE LOAD (PSF):

ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
RESIDENTIAL WOOD DECKS/ROOFTOP DECK:	60
GARAGE :	50

SNOW LOAD:

GROUND SNOW LOAD (Pg) (PSF) :	25
ROOF SNOW LOAD (Pf) (PSF) :	25
SNOW EXPOSURE FACTOR (Ce) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (Ct) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD: (IBC 1609)

SPEED (Vult) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (Iw) :	1.0
EXPOSURE CATEGORY :	C
INTERNAL PRESSURE COEFF. (GCpi) :	±0.18
TOPOGRAPHIC FACTOR (Kzt) :	1.0

SEISMIC LOAD: (IBC 1613)

SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (Ie) :	1.0

MAPPED SPECTRAL RESPONSE :
Ss: 1.437 S1: 0.443

SITE CLASS : D

SPECTRAL RESPONSE COEFF. :
Sds: 1.150 Sd1: 0.598

SEISMIC DESIGN CATEGORY: D

BASIC SEISMIC-FORCE-RESISTING SYS :
LIGHT FRAMED WALLS w/ WOOD STRUCTURAL PANELS & ORDINARY STEEL MOMENT FRAMES

ULTIMATE BASE SHEAR:
TRANS: 28k LONG: 28k

SEISMIC RESPONSE COEFF. (Cs) :
TRANS: 0.117 LONG: 0.117

RESPONSE MODIFICATION FACTOR (R) :
WOOD STRUCTURAL PANELS:
TRANS: 6.5 LONG: 6.5
STEEL MOMENT FRAME:
TRANS: 3.5 LONG: N/A

PROCEDURE USED:
EQUIVALENT LATERAL FORCE

DEMOLITION/RENOVATION NOTES

- FRAMING AND FOUNDATION PLANS HAVE BEEN DESIGNED TO BE STRUCTURALLY SOUND UPON COMPLETION OF THE WORK. THE MEANS AND METHODS OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR (UNLESS SPECIFICALLY NOTED ON PLANS).
- DURING DEMOLITION AND CONSTRUCTION, IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE TEMPORARY SHORING/BRACING OF EXISTING ELEMENTS INTENDED TO REMAIN.
- THE STRUCTURAL PLANS HAVE BEEN PREPARED WITH EXISTING FRAMING/FOUNDATION ASSUMPTIONS AS NOTED ON THE PLANS. IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO CONTACT MK STRUCTURAL ENGINEERING IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS DEPICTED ON THE CONSTRUCTION DOCUMENTS.

LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM:
100 MPH WIND SPEED, EXP. C
(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1)
RISK CAT. 2 & SEISMIC CAT. D2.

100 MPH WIND IN 2021 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2021 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2021 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS
(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

3" o.c. EDGE NAILING
(WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

1. LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c.
2. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)3½"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF JOINT (TYP. U.N.O)
3. ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
4. ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- AREA OF OVERFRAMING
- JL METAL HANGER
- ✳ INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDDOWN.

GENERAL STRUCTURAL NOTES

DESIGN PARAMETERS

- DESIGN IS BASED ON 2021 INTERNATIONAL RESIDENTIAL CODE & 2021 INTERNATIONAL EXISTING BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x "STUD" GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x6 HEM FIR (HF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL SHEATHING AND LEDGERS ARE TO BE DIRECTLY APPLIED AND FASTENED TO FRAMING. DO NOT PROVIDE CONTINUOUS INSULATION BETWEEN FRAMING AND SHEATHING/LEDGERS
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
  - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O. & SOLID WOOD COLUMNS SHALL BE SPRUCE PINE FIR (SPF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUG FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - LSL MEMBERS - Fb=2325 PSI; Fv=310 PSI; E=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.O)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc⊥=2500 PSI; E=1.8x10^6 PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- TRUSS SHOP DWGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROPOSED CONSTRUCTION SHALL BE SUBMITTED TO BUILDING DESIGNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY IN ACCORDANCE WITH TPI-1 2.3.2.3 & 2.3.4.3.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.
- BUILDER RESPONSIBLE TO DETERMINE CORROSION-RESISTANCE REQUIREMENTS AND COMPATIBILITY OF HARDWARE, FASTENERS AND CONNECTORS FOR ENVIRONMENTAL EXPOSURE AND IN CONTACT W/ PRESERVATIVE-TREATED WOOD OF ACTUAL FINAL CONDITIONS AND SOURCED MATERIALS. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORD. IN THE ABSENCE OF MANUFACTURER'S RECOMMENDATIONS, NOT LESS THAN ASTM A653, TYPE G185 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.

FLOOR FRAMING

- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, U.N.O. (EXCLUDES STONE/MARBLE OR WET BED CONSTRUCTED FLOORS - CONTACT MK FOR EXCLUDED DESIGNS).
- ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- 2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2x JOIST HANGERS (U.N.O. ON PLANS):
  - SINGLE PLY: SIMPSON LUS210
  - DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED 'STURD-I-FLOOR' 24" O.C. EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 ½" x 0.131" NAILS @ 6"o.c. @ PANEL EDGES & @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE. U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS w/ ½" LONG NAILS.

ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (4) 3"x0.131" TOENAILS (MIN.) & (1) 'SIMPSON' H2.5T CLIP @ ALL BEARING POINTS. PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT 2-PLY GIRDER TRUSSES, (2) 'SIMPSON' H2.5T CLIPS AT 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) 'SIMPSON' H2.5T CLIP, PROVIDE (2) 'SIMPSON' H2.5T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" x 0.131" NAILS @ 6"o.c. AT PANEL EDGES & @ 6" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW w/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON ST6 CLIPS AT 24" o.c. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

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M&K project number: 306-24003

project mgr: RJZ
drawn by: RJD
issue date: 04-24-24

REVISIONS:

date:	initial:
10/22/24 ARCH REVISIONS	RJD

MacPherson Construction

STRUCTURAL NOTES

5330 BUTTERWORTH RD
HOUSE 1
MERCER ISLAND, WASHINGTON

sheet: S-0.0

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON HTT5 TENSION TIE
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

DEMOLITION/RENOVATION NOTES

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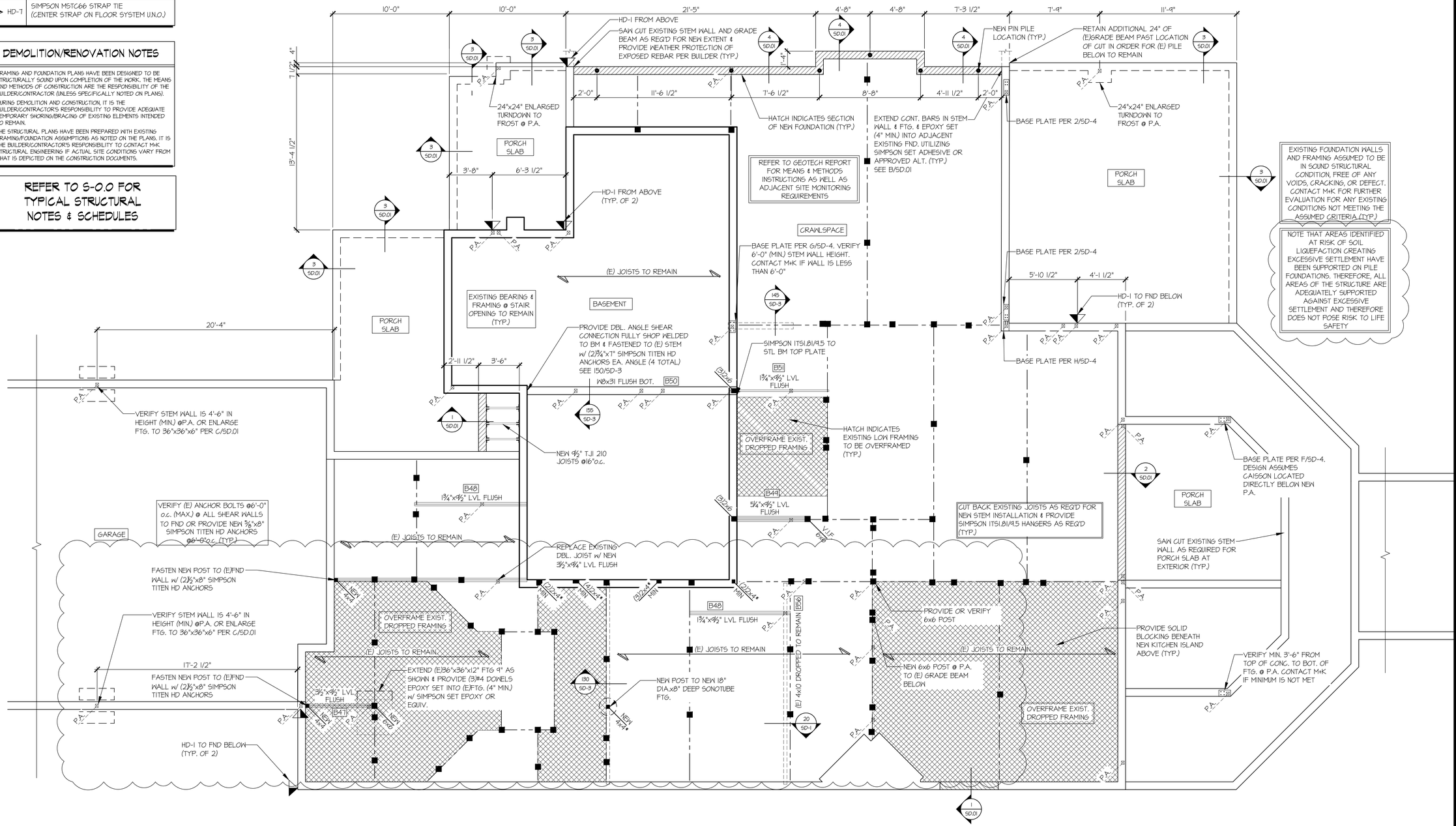
REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES



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

seal:

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MacPherson Construction

FOUNDATION PLAN

5330 BUTTERWORTH RD
HOUSE 1
MERCER ISLAND, WASHINGTON

sheet: S-1.0

HOLD-DOWN SCHEDULE

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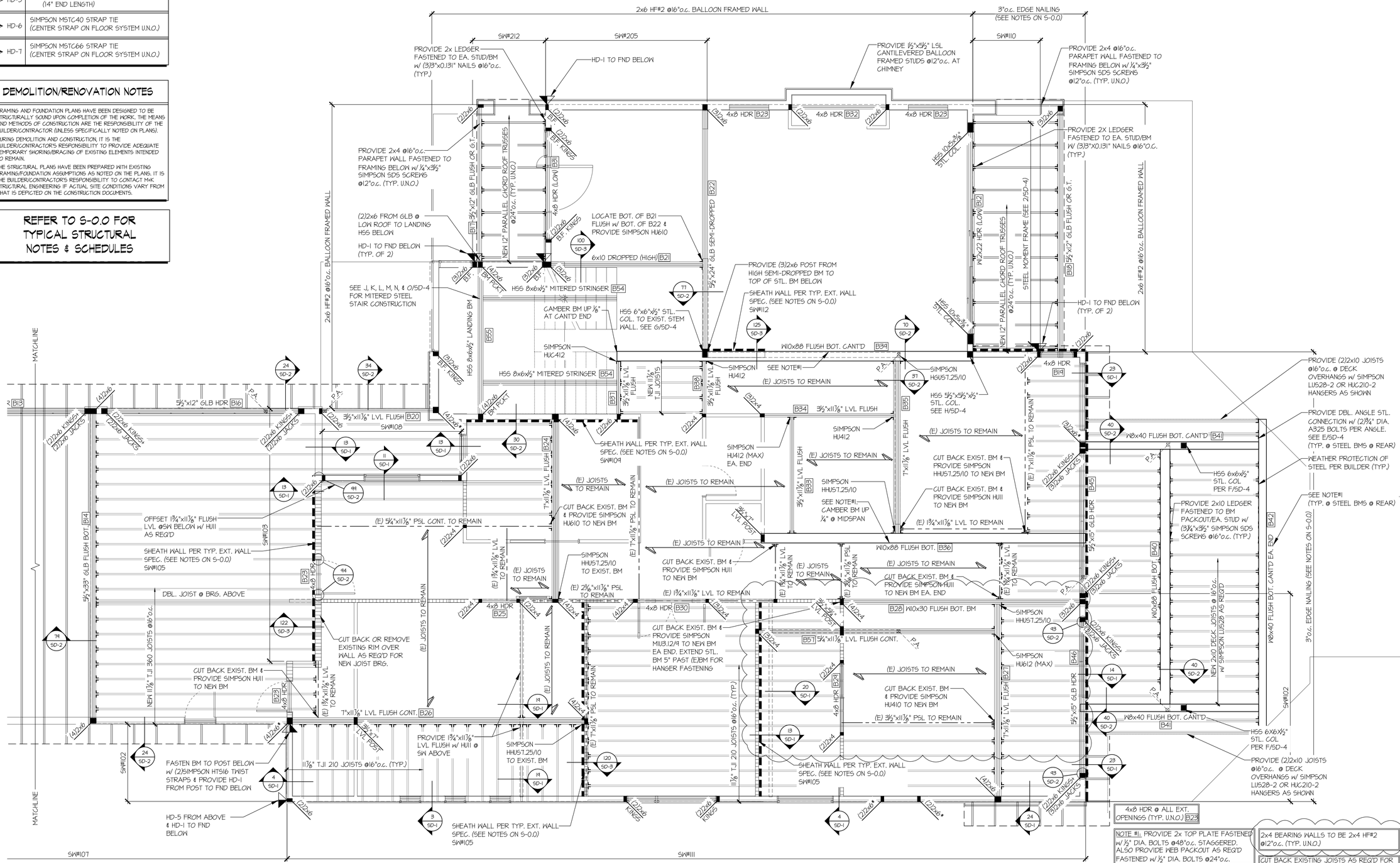

PARTIAL UPPER FLOOR FRAMING PLAN
SCALE: 1/4"=1'-0"

4x8 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B23

NOTE #1: PROVIDE 2x TOP PLATE FASTENED W/ ½" DIA. BOLTS @48"o.c. STAGGERED. ALSO PROVIDE WEB PACKOUT AS REQ'D FASTENED W/ ½" DIA. BOLTS @24"o.c.

FASTEN STEEL BEAMS TO WOOD FRAMING BELOW PER D/SD-2 (TYP.)

VERIFY EXISTING EXTERIOR SHEATHING MEETS REQUIREMENTS PER PLAN & S-0.0 OR PROVIDE NEW SHEATHING & NAILING

2x4 BEARING WALLS TO BE 2x4 HF#2 @12"o.c. (TYP. U.N.O.)

CUT BACK EXISTING JOISTS AS REQ'D FOR NEW BEAM INSTALLATION & PROVIDE SIMPSON MIU1.81/11 HANGERS AS REQ'D (TYP.)

UPSET STEEL BMS ½" AS REQ'D TO HIDE CAP PLATES @ FINISHED SPACES (TYP.)

seal:

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MacPherson Construction

UPPER FLOOR FRMG PLAN

5330 BUTTERWORTH RD
HOUSE 1
MERCER ISLAND, WASHINGTON

sheet: **S-2.0**

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
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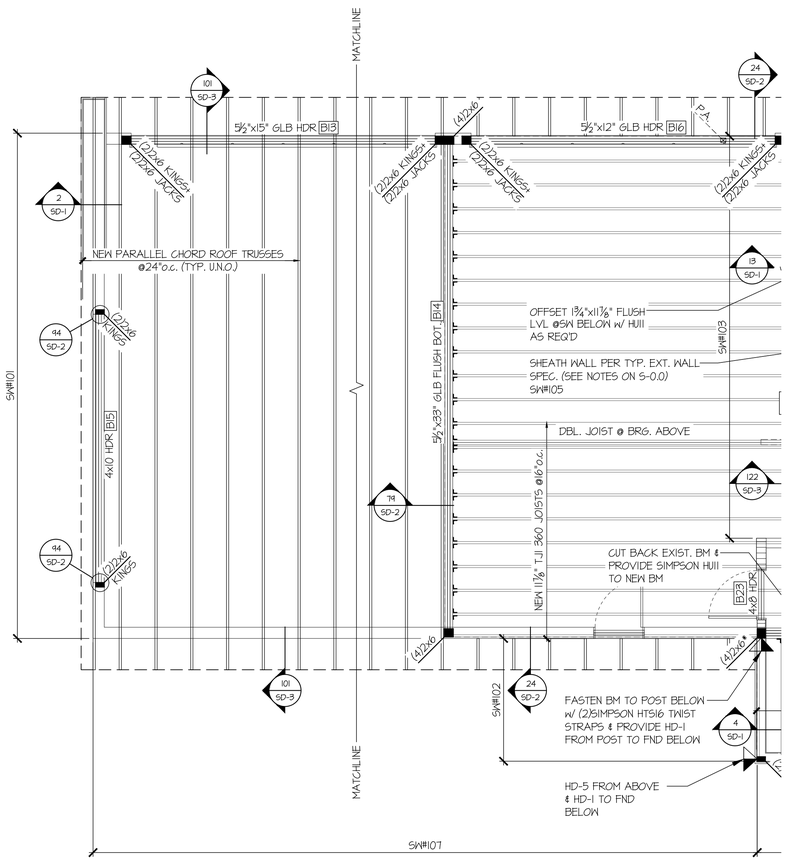
REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES



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

4x8 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B23

NOTE #1: PROVIDE 2x TOP PLATE FASTENED w/ ½" DIA. BOLTS @48"o.c. STAGGERED. ALSO PROVIDE WEB PACKOUT AS REQ'D FASTENED w/ ½" DIA. BOLTS @24"o.c.

FASTEN STEEL BEAMS TO WOOD FRAMING BELOW PER D/SD-2 (TYP.)

VERIFY EXISTING EXTERIOR SHEATHING MEETS REQUIREMENTS PER PLAN & S-0.0 OR PROVIDE NEW SHEATHING & NAILING

2x4 BEARING WALLS TO BE 2x4 HF#2 @12"o.c. (TYP. U.N.O.)

CUT BACK EXISTING JOISTS AS REQ'D FOR NEW BEAM INSTALLATION & PROVIDE SIMPSON MIU1.81/11 HANGERS AS REQ'D (TYP.)

UPSET STEEL BMS ½" AS REQ'D TO HIDE CAP PLATES @ FINISHED SPACES (TYP.)

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MacPherson Construction

Upper Floor Frmg Plan

5330 Butterworth Rd
House 1
Mercer Island, Washington

sheet: S-2.1

HOLD-DOWN SCHEDULE

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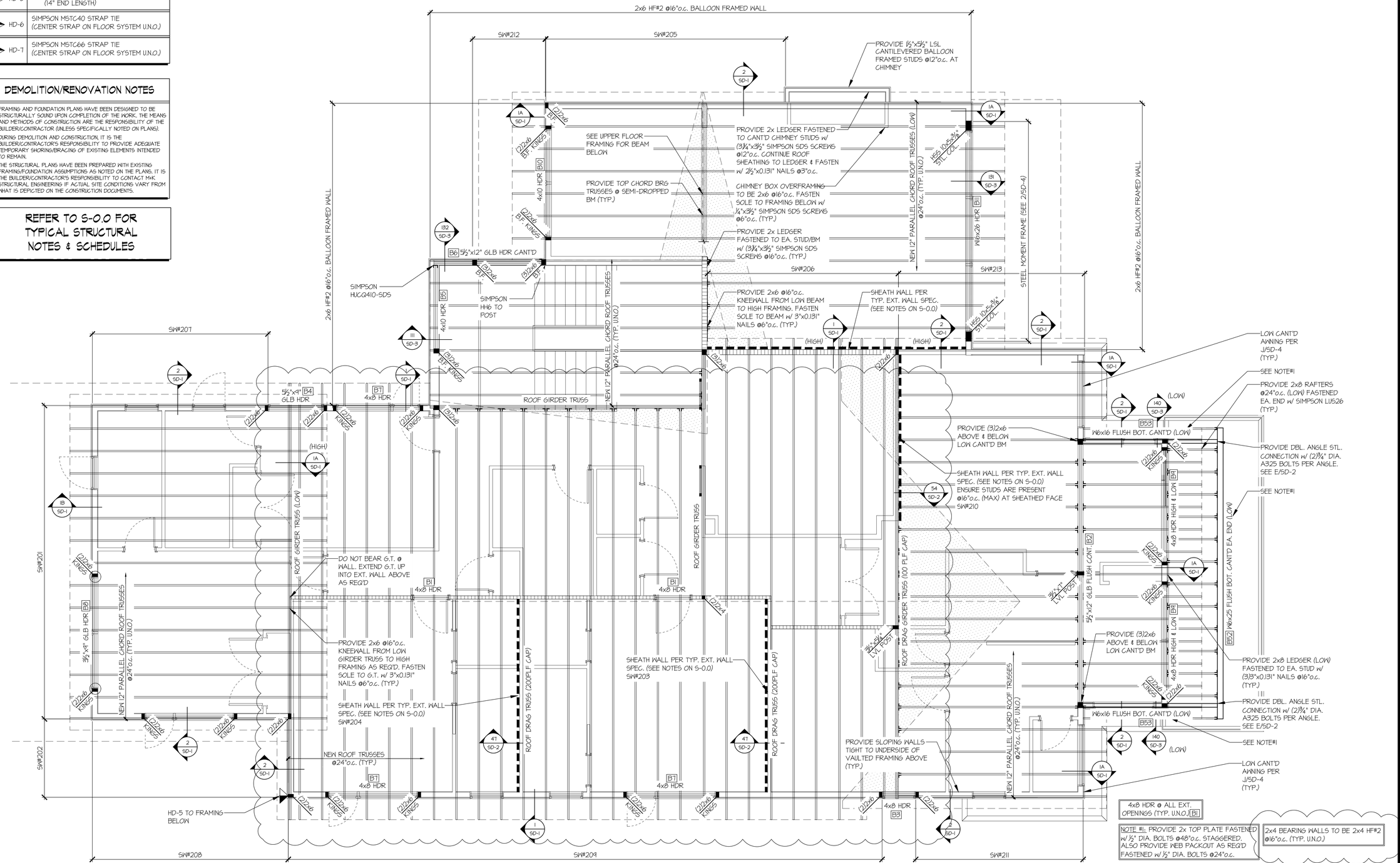
- THE STRUCTURAL PLANS HAVE BEEN PREPARED WITH EXISTING FRAMING/FOUNDATION ASSUMPTIONS AS NOTED ON THE PLANS. IT IS THE BUILDER/CONTRACTOR'S RESPONSIBILITY TO CONTACT MHK STRUCTURAL ENGINEERING IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS DEPICTED ON THE CONSTRUCTION DOCUMENTS.

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES



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

seal:
RICHARD ZABEL STATE OF WASHINGTON 21031615 REGISTERED PROFESSIONAL ENGINEER

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RESIDENTIAL STRUCTURAL ENGINEERING
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M&K project number: 306-24003

project mgr:	RJZ
drawn by:	RJD
issue date:	04-24-24

REVISIONS:

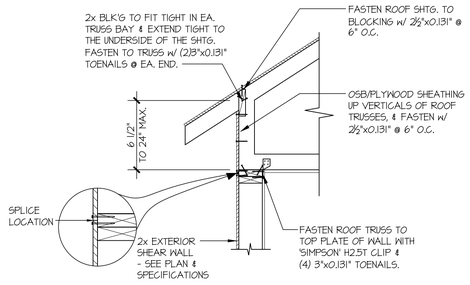
date:	initial:
10/22/24 ARCH REVISIONS	RJD

MacPherson Construction

ROOF FRAMING PLAN

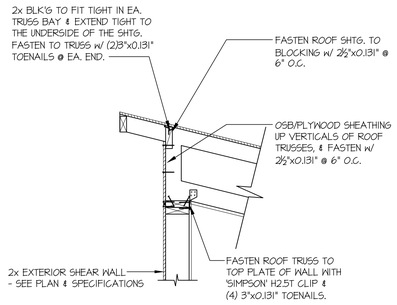
5330 BUTTERWORTH RD
HOUSE 1
MERCER ISLAND, WASHINGTON

sheet: S-3.0



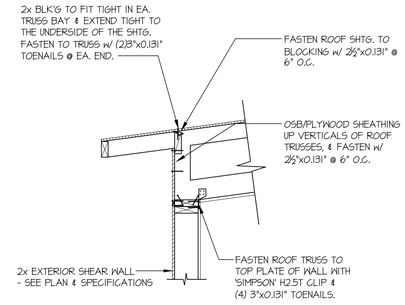
TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS

1 SCALE: 3/4"=1'-0" HEEL HEIGHT UP TO 24" MAX.



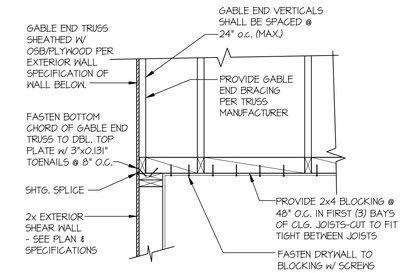
TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS

1A SCALE: 3/4"=1'-0"



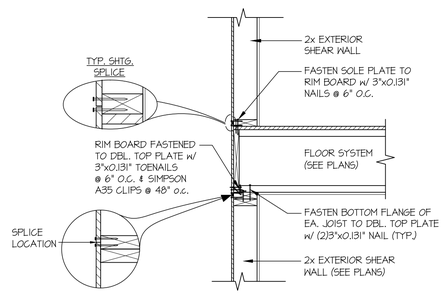
TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS

1B SCALE: 3/4"=1'-0"



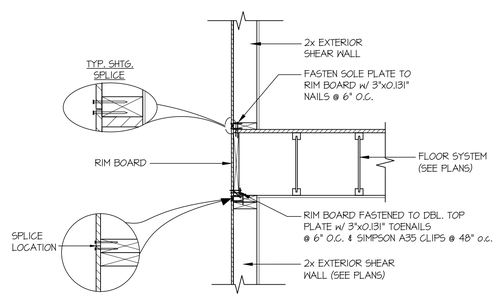
TYPICAL GABLE END DETAIL

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



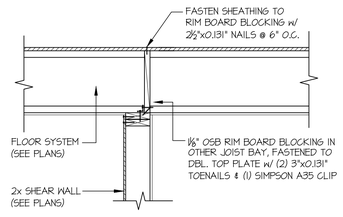
TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

3 SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



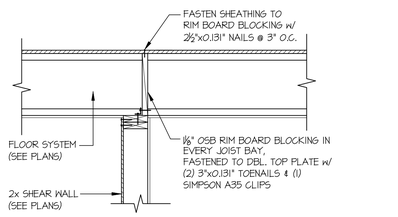
TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

4 SCALE: 3/4"=1'-0" PARALLEL FRAMING



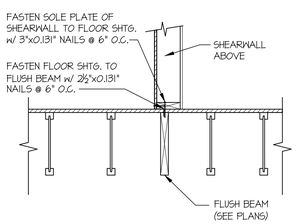
SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

13 SCALE: 3/4"=1'-0"



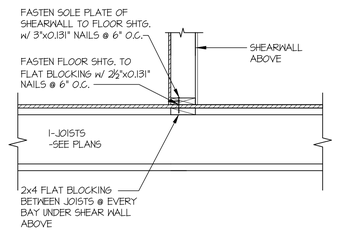
SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

14 SCALE: 3/4"=1'-0"



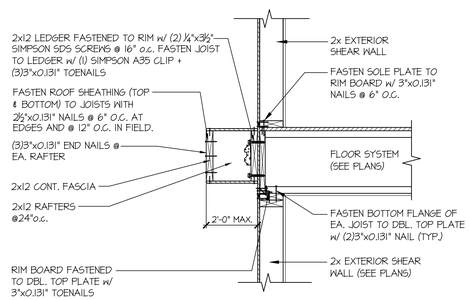
SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE

19 SCALE: 3/4"=1'-0" PARALLEL FRAMING



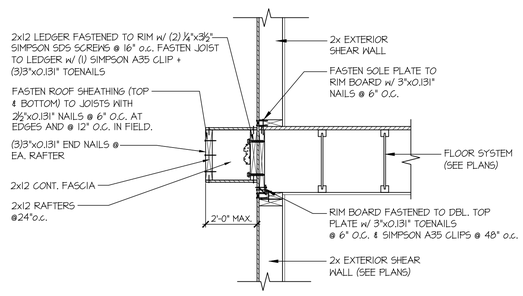
SHEAR TRANSFER DETAIL @ INT. SHEARWALL ABOVE

20 SCALE: 3/4"=1'-0"



TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

23 SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

24 SCALE: 3/4"=1'-0" PARALLEL FRAMING

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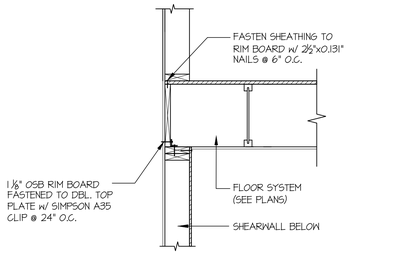
10/22/24 ARCH REVISIONS	RJD

MacPherson Construction

Structural Details

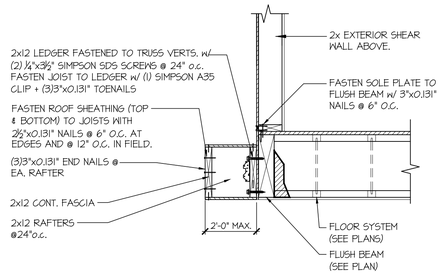
5330 Butterworth Rd
House 1
Mercer Island, Washington

sheet: SD-1



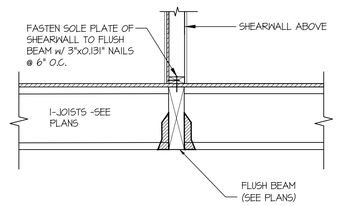
30 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0" — EDGE OF FRAMING



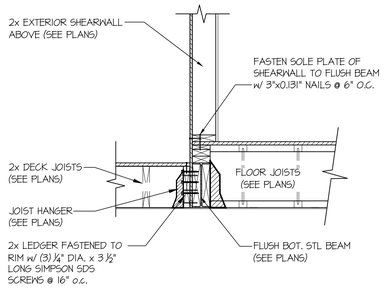
34 TYPICAL SHEAR TRANSFER DETAIL @ EXTERIOR WALL ABOVE FLUSH BEAM

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



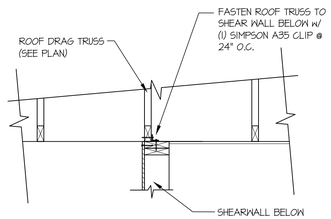
37 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0" — PERPENDICULAR FRAMING



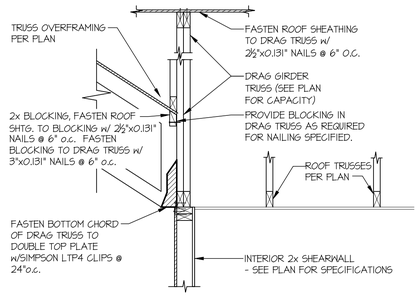
40 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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



47 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW

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



54 SHEAR TRANSFER DETAIL AT INTERIOR SHEARWALL BELOW

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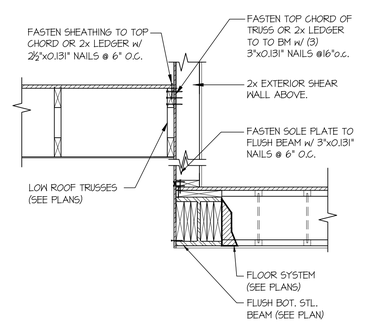
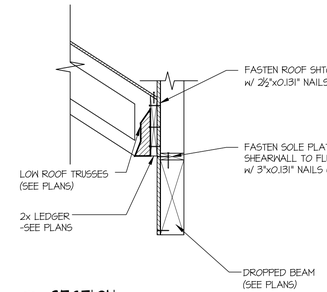


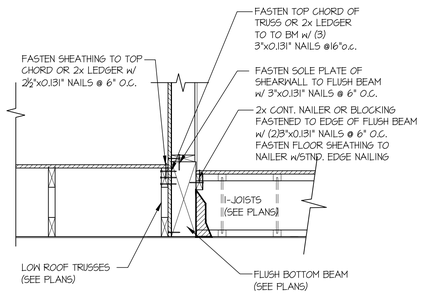
70 TYPICAL SHEAR TRANSFER DETAIL @ EXTERIOR WALL ABOVE FLUSH BEAM

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



77 SECTION

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



79 SECTION

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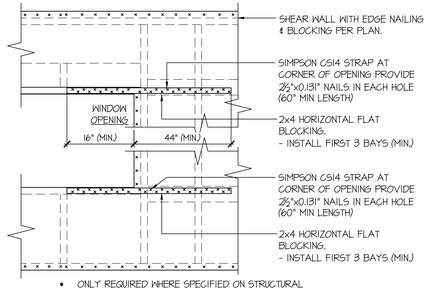
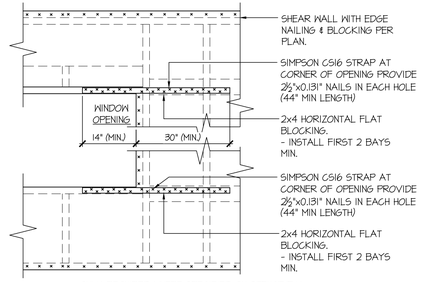


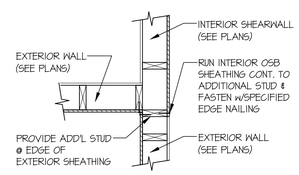
93 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

SCALE: NTS



94 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

SCALE: NTS



99 SHEAR TRANSFER DETAIL @ INTERSECTING INT. SHEARWALL

SCALE: 3/4"=1'-0" — SHTG. OPPOSITE FACES

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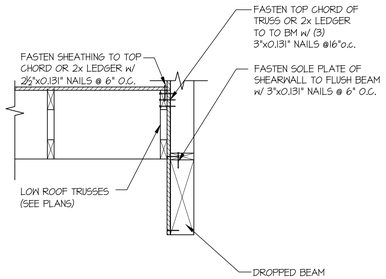
10/22/24 ARCH REVISIONS	RJD

MacPherson Construction

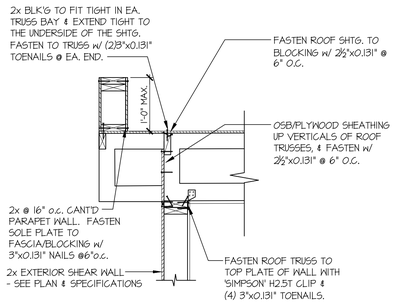
Structural Details

5330 Butterworth Rd
House 1
Mercer Island, Washington

sheet: SD-2



100 SECTION
SCALE: 3/4"=1'-0"



101 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS
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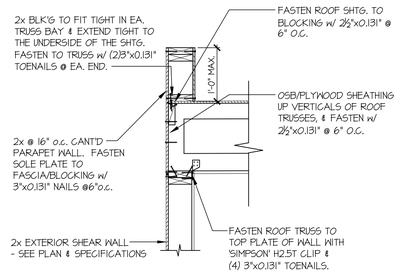

111 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS
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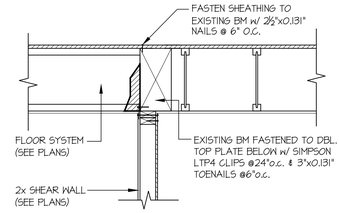
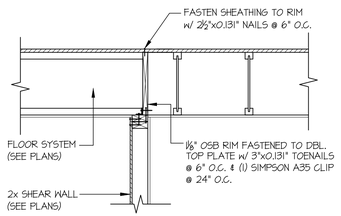
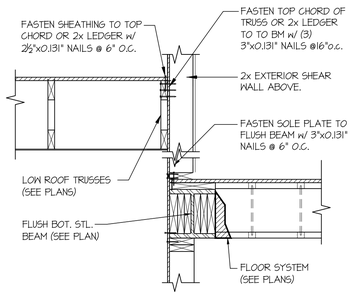


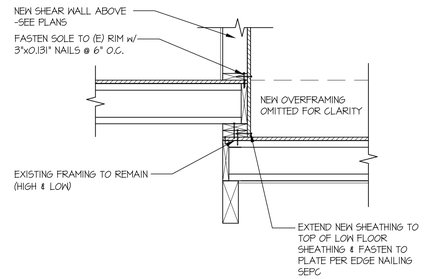
20 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL
SCALE: 3/4"=1'-0"



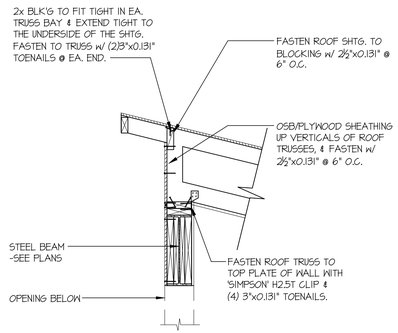
22 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL
SCALE: 3/4"=1'-0"



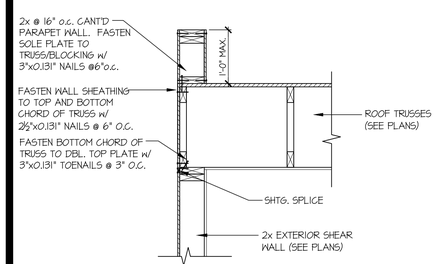
25 SECTION
SCALE: 3/4"=1'-0"



30 SECTION
SCALE: 3/4"=1'-0"



131 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS
SCALE: 3/4"=1'-0"



132 SECTION
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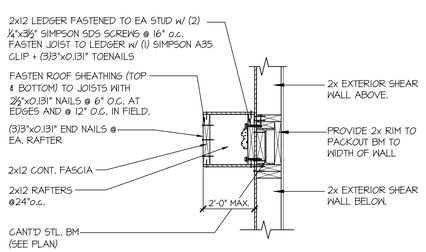

140 SECTION
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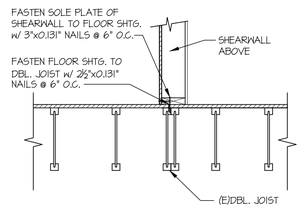
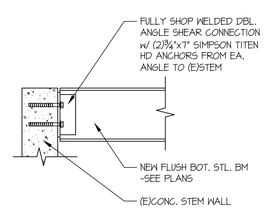
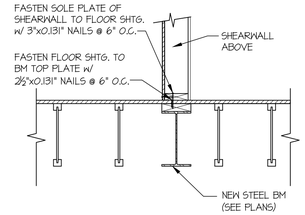


145 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE
SCALE: 3/4"=1'-0" PARALLEL FRAMING



150 DOUBLE ANGLE STEEL CONNECTION
SCALE: 3/4"=1'-0"



155 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE
SCALE: 3/4"=1'-0" PARALLEL FRAMING

seal:
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STATE OF WASHINGTON
21031615
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House 1
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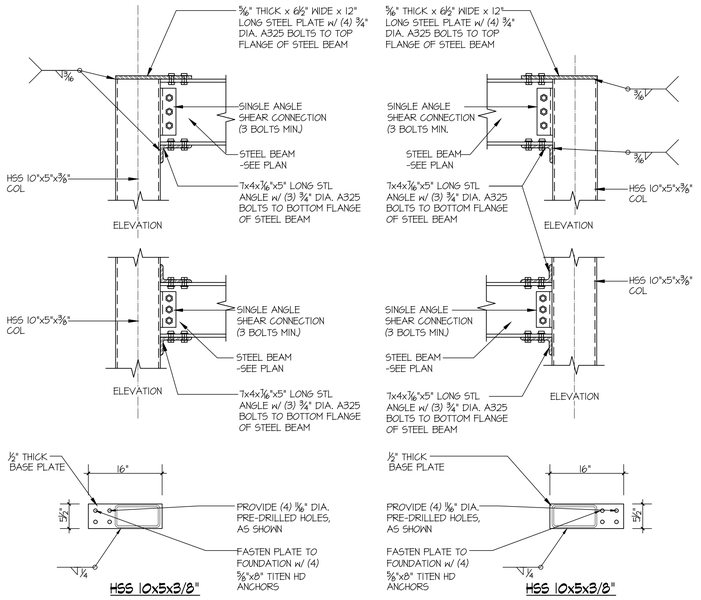
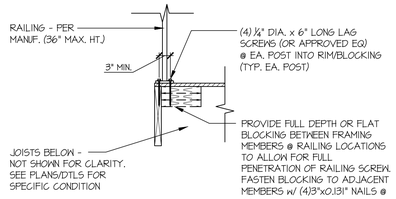
sheet: SD-3



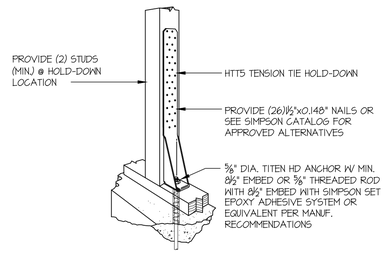
2 TYPICAL MOMENT CONNECTION DETAILS

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



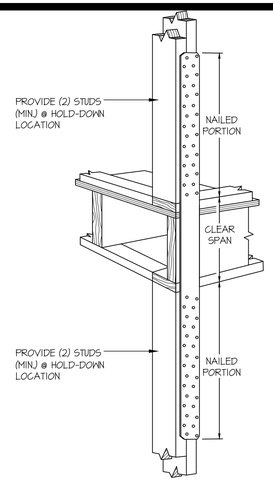
A TYP. RAILING CONNECTION

SCALE: 3/4"=1'-0" WOOD FRMG BELOW



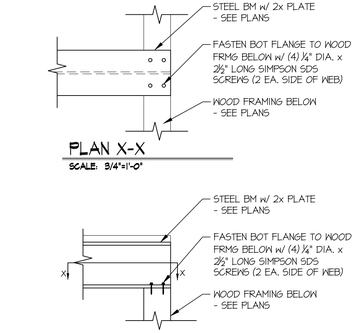
B TYPICAL HOLD-DOWN

NOT TO SCALE SIMPSON HTT5 SHOWN



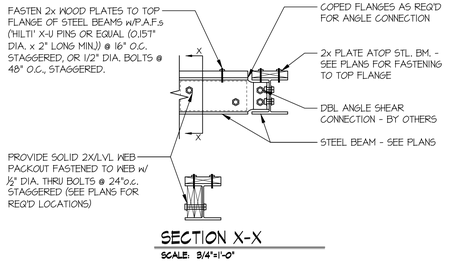
C TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE SIMPSON STRAP HD @ FLOOR FRAMING



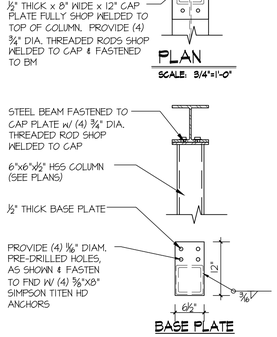
D STL BM TO WOOD FRMG CONNECTION

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



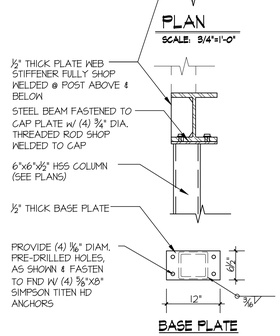
E DOUBLE ANGLE STEEL CONNECTION

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



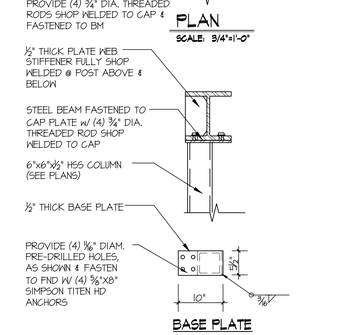
F STL COL CONNECTION

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



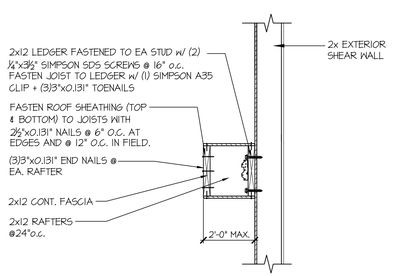
G STL COL CONNECTION

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



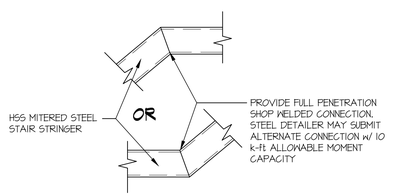
H STL COL CONNECTION

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



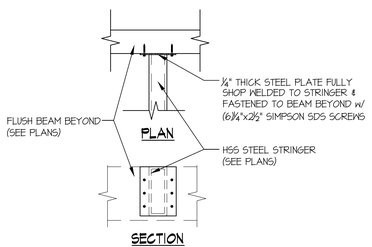
J TYPICAL AWNING DETAIL

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



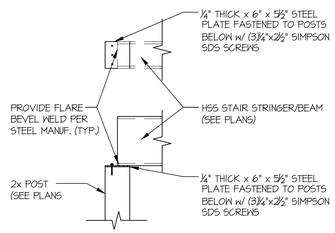
K SECTION

SCALE: N.T.S.



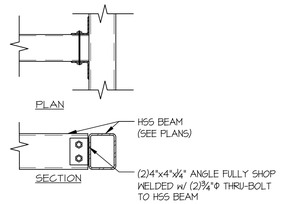
L STL STRINGER TO WOOD BEAM

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



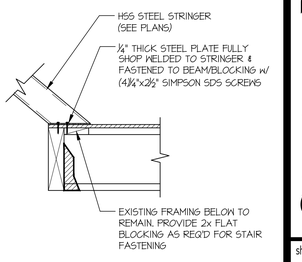
M STL STRINGER TO WOOD POST

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



N STL BEAM TO STL BEAM CONN.

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



O SECTION

SCALE: N.T.S.

seal:
RICHARD ZABEL STATE OF WASHINGTON 21031615 REGISTERED PROFESSIONAL ENGINEER
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p 619-650-0010 ▸ mulhernkulp.com

M&K project number: 306-24003

project mgr: RJZ
drawn by: RJD
issue date: 04-24-24

REVISIONS:

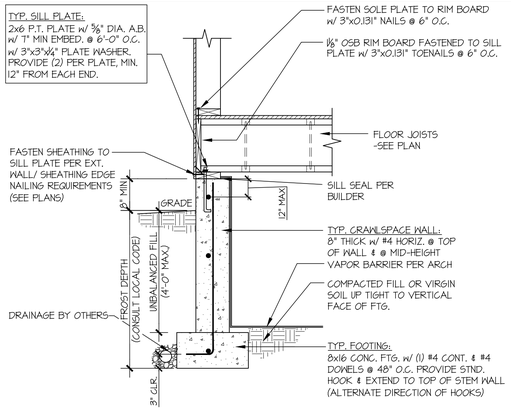
date:	initial:
10/22/24 ARCH REVISIONS	RJD

MacPherson Construction

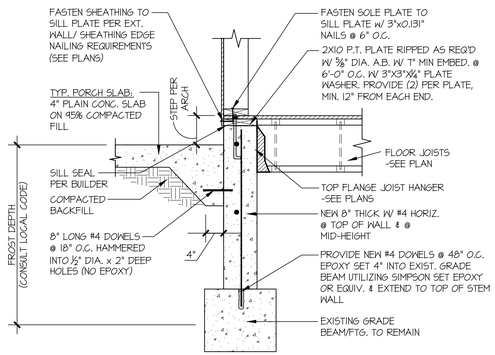
STRUCTURAL DETAILS

5330 BUTTERWORTH RD
HOUSE 1
MERCER ISLAND, WASHINGTON

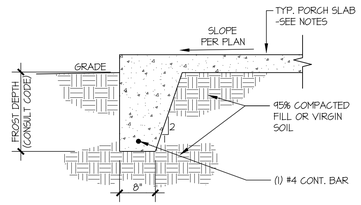
sheet: SD-4



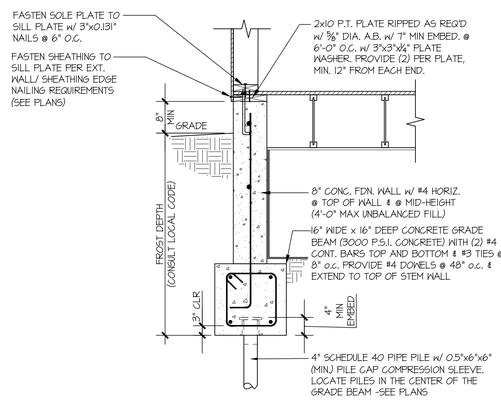
1 TYPICAL CRAWLSPACE FOUNDATION
SCALE: 3/4"=1'-0"



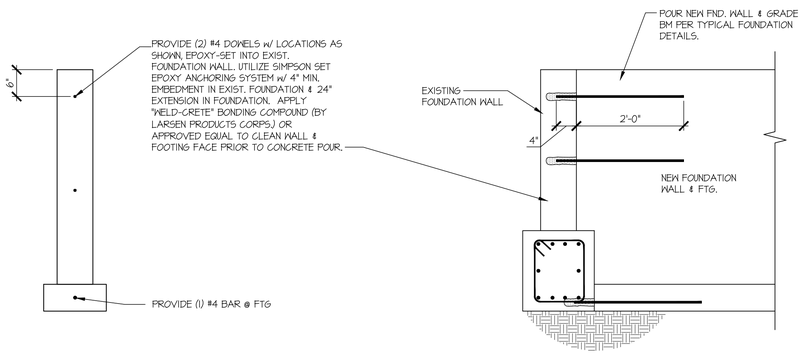
2 TYPICAL CRAWLSPACE FOUNDATION @ PORCH SLAB
SCALE: 3/4"=1'-0"



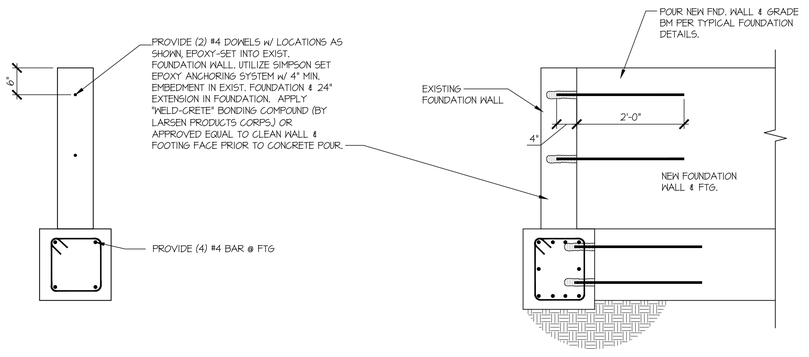
3 TYPICAL FOOTING @ PORCH SLAB
SCALE: 3/4"=1'-0"



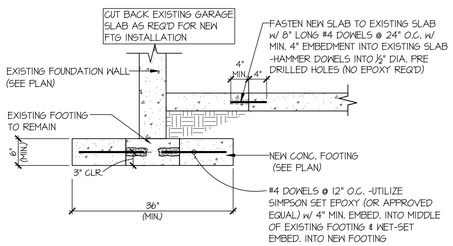
4 TYPICAL EXT. FOUNDATION
SCALE: 3/4"=1'-0"



A TYPICAL FOUNDATION RETROFIT DETAIL
SCALE: 3/4"=1'-0"



B TYPICAL FOUNDATION RETROFIT DETAIL
SCALE: 3/4"=1'-0"



C NEW FOOTING RETROFIT
SCALE: 3/4"=1'-0"

seal:

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MacPherson Construction

Foundation Details

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sheet:
SD.01