

**PROPERTY OWNER**  
SAURABH KHANDELWAL & VEENA SHANKARAN  
8460 SE 83RD ST MERCER ISLAND WA 98040

**ARCHITECT**  
MARLO BROWN ARCHITECTS LLC  
509 26TH AVE S SEATTLE WA 98144  
CONTACT: MARLO BROWN  
INFO@MARLOBROWN.COM  
C. 425.577.1824

**TAX LOT NUMBER**  
362570-0170

**LEGAL DESCRIPTION**  
ISLAND POINT # 3 TGV UND INT IN TRACT B AND AN UND INT IN COMMUNITY TRACT  
PLAT BLOCK:  
PLAT LOT: 17

**SCOPE OF WORK**  
REMODEL TO EXISTING SINGLE FAMILY RESIDENCE & ADDITION OF A NEW BEDROOM  
ABOVE EXISTING OFFICE

**BUILDING CODES**  
2018 INTERNATIONAL RESIDENTIAL CODE, 2018 INTERNATIONAL BUILDING CODE,  
2018 INTERNATIONAL EXISTING BUILDING CODE, WA STATE ENERGY CODE, 2018  
UNIFORM PLUMBING CODE, 2018 INTERNATIONAL MECHANICAL CODE, 2018  
INTERNATIONAL FUEL GAS CODE, 2018 INTERNATIONAL FIRE CODE, 2018 MERCER  
ISLAND CITY CODES & AMENDMENTS.

**ZONING RESTRICTIONS**

ZONE	R-15
LOT AREA	13,312 SF
NET LOT AREA	12,422 SF
NUMBER OF EXISTING DWELLINGS	1

**MAX LOT COVERAGE ALLOWED**

40%	5,324.8 SF
EXTG LOT COVERAGE HOUSE, GARAGE, EAVES, & GUTTERS	3,911 SF
EXTG LOT COVERAGE DRIVEWAY	568 SF
EXTG TOTAL LOT COVERAGE	4,479 SF
REMAINING AVAILABLE	845.8 SF

**MAX HARDSCAPE ALLOWED**

9%	1,198.8 SF
EXTG REAR YARD HARDSCAPE TO BE REMOVED	-859 SF
EXTG FRONT YARD HARDSCAPE	90 SF
EXTG TOTAL HARDSCAPE REMAINING	90 SF
AREA BORROWED FROM HARDSCAPE	845.8
REMAINING AVAILABLE	1,953.8 SF

**SETBACKS**  
FRONT YARD = 20 FT  
REAR YARD = 25 FT

VARIABLE SIDE YARD CALCULATION REQ.  
LARGEST CIRCLE = 106' DIAMETER x 17% = 18.02 TOTAL SF REQ. FOR SIDE YARD  
33% of 18.02 = 5.95 FT

SIDE YARD 1 = 5.95 FT  
SIDE YARD 2 = 6.04 FT  
SIDE YARD 3 = 6.04 FT

GARAGE ROOF NOT TALLER THAN 15 & 18 FT.

NON CONFORMING EAVES ON NORTH SIDE YARD SETBACK & REAR YARD SETBACK:  
THE PROPOSED STRUCTURAL WORK WILL NOT EXCEED ALTERATION TO 40% OR MORE  
OF EXISTING EXTERIOR WALLS. THE NON-CONFORMING AREA WILL NOT BE ENLARGED  
IN ANY WAY INCLUDING HEIGHT.

EXISTING LINEAR FEET OF ALL EXTERIOR WALLS = 310.27 FEET  
TOTAL LINEAR FEET TO BE ALTERED = 45.44 FEET  
40% OF 310.27 FT = 124.108 FT  
TOTAL ALTERATION WILL THEREFORE NOT EXCEED ALLOWED.

**GROSS FLOOR AREA**

40 %	5,324.8 SF
EXTG MAIN FLOOR HOUSE, GARAGE, MAIN FLOOR STAIR	2,933 SF
EXTG SECOND FLOOR	1,671 SF
EXTG TOTAL GROSS FLOOR AREA	4,604 SF
PROPOSED ADDITION	237 SF
PROPOSED GROSS FLOOR AREA NEW + EXISTING	4,841 SF

**HEIGHT LIMIT** 30 FT  
FORMULA: AVERAGE BUILDING ELEVATION = (Weighted Sum of the Mid-point  
Elevations) ÷ (Total Length of Wall Segments)

(A×a) through (X×x) added together = 84,774.515  
a through x segments = 310.27 linear feet

84,774.515 Weighted Sum of the Mid-point Elevation / 310.27 ft =  
273.22 AVERAGE GRADE

**ECA**  
SEISMIC GEOLOGICAL HAZARD AREA KZT 1.9  
INFEASIBLE FOR INFILTRATION  
WIND DESIGN EXPOSURE CATEGORY C

**EASEMENTS**  
10 FT UTILITY EASEMENT CENTERED ON WEST PROPERTY LINE  
5 FT UTILITY EASEMENT ALONG ROAD FRONTAGE

**FIRE CODE**  
CONSTRUCTION TYPE: VB  
ACCESS SLOPE DOES NOT EXCEED 10%  
FIRE ACCESS ROAD DOES NOT EXCEED 150 FT  
TURN AROUND: NONE PROVIDED BUT ACCESS IS WITHIN 150 FT OF ONE  
WIDTH OF EXISTING ACCESS ROAD IS 13 FT  
NO ACCESS GATES OR BOLLARDS PROPOSED  
HYDRANT FIRE FLOW 614 GPM AT 96 PSI. 825 REQUIRED; SEE BELOW FOR  
PROPOSED REMEDIATION OPTIONS.  
EXISTING SYSTEM IS 13D. ALTERNATIVE PATH PROPOSED FOR THE REMODEL/  
ADDITION. ADD NFPA 72 FIRE ALARM, ALARM MONITORS, 5/8" DRYWALL AT ALL  
CEILING & WALLS. ALL NEW INTERIOR DOORS TO BE SOLID CORE. PROVIDE FIRE-  
RETARDANT COATING AT NEW ATTIC. ADD NEW SPRINKLER HEADS TO ALL EXISTING  
BATHROOMS AND CLOSETS MISSING SPRINKLER HEADS & TO NEW ADDITION & NEW  
EXTERIOR DECK.

**CIVIL**  
NO INCREASE OF IMPERVIOUS SURFACE.  
REPLACED IMPERVIOUS = 237 SF.  
IMPERVIOUS BACKYARD PAVEMENT SLAB TO BE REMOVED = 859 SF

**TREE REQUIREMENTS**  
ADDITION LESS THAN 500 SF.

TREE #3 RETAINED IN A ROLLING 5-YEAR PERIOD. THE 5-YEAR ROLLING PERIOD BEGINS  
5-YEARS PRIOR TO THE DATE OF APPLICATION FOR A DEVELOPMENT APPROVAL THAT IS  
SUBJECT TO TREE RETENTION.

TREE #1 EXCEPTIONAL TREE WILL BE REMOVED. 6 REPLACEMENT TREES PROPOSED.  
TREE CREATES ANNUAL HAZARDOUS SITUATIONS IN HIGH WINDS WITH BRANCHES  
DAMAGING EXISTING GARAGE.

TREE #2 TREE WILL BE REMOVED. 3 REPLACEMENT TREES PROPOSED.  
TREE CREATES ANNUAL HAZARDOUS SITUATIONS IN HIGH WINDS WITH BRANCHES  
DAMAGING EXISTING GARAGE.

FOLLOWING ANY REMOVAL, NEWLY PLANTED REPLACEMENT TREES TO BE PLANTED  
BETWEEN OCT 1 & APRIL 1.

REPLACEMENT TREES TO BE PLANTED WITH THE BELOW:

- 1) LOCATION IN ORDER OF PRIORITY: ON SITE OR ADJACENT TO CRITICAL AREAS
- 2) PACIFIC NORTHWEST NATIVE TREE
- 3) CONIFEROUS TREES TO BE AT LEAST 6 FT TALL, DECIDUOUS AT LEAST 1.5" CALIPER.
- 4) MUST MAINTAIN HEALTH OF REPLACEMENT TREES FOR 5 YEARS AND IF IT DIES IN THAT TIME, REPLACE IT IN KIND.

**BALD EAGLES**  
IF EAGLES ARE OBSERVED ON SITE DURING CONSTRUCTION, CONTRACTOR TO SUBMIT  
A REPORT IN COORDINATION WITH OWNERS PREPARED BY A WILDLIFE BIOLOGIST THAT  
DEMONSTRATES THAT THE PROJECT WILL NOT HAVE A NEGATIVE IMPACT ON THE  
EAGLES. DEVELOPMENT WILL ALSO NEED TO BE CONSISTENT WITH THE REQUIREMENTS  
OF THE U.S. FISH AND WILDLIFE'S NATIONAL BALD EAGLE MANAGEMENT GUIDELINES  
(2007).

**SOLAR READINESS**  
275 SF RESERVED ON NEW ROOF AT ADDITION FOR SOLAR READINESS & SEE  
STRUCTURAL FOR ADDITIONAL LBS PER SF FOR PHOTOVOLTAIC SYSTEM GRAVITY LOAD  
TO BE APPLIED TO JOISTS, ROOF, ETC. IF ANY PANELS WILL BE ADDED TO OLD ROOF



1 VICINITY MAP

**HEATING SYSTEM**

**RESIDENTIAL ENERGY CREDIT CALCULATIONS**  
FUEL NORMALIZATION= SYSTEM TYPE 2 HEAT PUMP NORMALIZATION CREDITS = 1.0

ADDITIONAL REQUIREMENTS AND MODIFICATIONS CHOSEN PER SEC R406 TABLE  
R406.3: ADDITION LESS THAN 500 SF = 1.5 CREDITS REQUIRED

CREDIT 1.3=0.5: PRESCRIPTIVE COMPLIANCE WITH THE FOLLOWING MODIFICATIONS:  
VERTICAL FENESTRATION U= 0.28  
FLOOR R-38  
SLAB ON GRADE R-10 CONTINUOUS

CREDIT 2.2=01.0: REDUCE AIR LEAKAGE TO 2.0 AIR CHANGES ER HOUR MAXIMUM AT  
50 PASCALS AND SUPPLY HEAT RECOVERY VENT WITH EFFICIENCY OF 65.

MEET REQUIRED= 1.5 CREDITS

**CERTIFICATIONS & TESTS**  
A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER AND POSTED ON A  
WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, UTILITY ROOM, OR AN  
APPROVED LOCATION INSIDE THE BUILDING. WHEN LOCATED ON AN ELECTRICAL  
PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF HTE CIRCUIT  
DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE  
CERTIFICATE SHALL LIST PREDOMINANT R-VALUES, OF INSULATION INSTALLED IN OR  
ON CEILING/ROOF, WALLS, FOUNDATION, BELOW GRADE WALLS, AND DUCTS OUTSIDE  
CONDITIONED SPACES, U-FACTORS FOR FENESTRATION AND THE SHGC OF  
FENESTRATION, THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING  
ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING, AND THE RESULTS FROM  
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST. WHERE  
THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST  
THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES AND  
EFFICIENCIES OF HEATING, COOLING, WHOLE-HOUSE MECHANICAL VENTILATION, AND  
SERVICE WATER HEATING APPLIANCES. WHERE GAS-FIRED UNVENTED ROOM HEATER,  
ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE  
RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER,"  
"ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN  
EFFICIENCY SHALL OT BE LISTED FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC  
FURNACES, OR ELECTRIC BASEBOARD HEATERS. THE CODE OFFICIAL MAY REQUIRE  
THAT DOCUMENTATION FROM ANY REQUIRED TEST RESULTS INCLUDE AN ELECTRONIC  
RECORD OF THE TIME, DATE, AND LOCATION OF THE TEST. A DATE-STAMPED SMART  
PHONE PHOTO OR AIR LEAKAGE SOFTWARE MAY BE USED TO SATISFY THIS  
REQUIREMENT.

**PRESCRIPTIVE APPROACH** (SEE ABOVE CREDITS FOR MODIFICATIONS TO  
PRESCRIPTIVE APPROACH REQUIREMENTS)

FENESTRATION	U=0.30
SKYLIGHT	U=0.50
CEILING	R-49
VAULTED CEILING	R-38
WOOD FRAME WALL	R-21 int
FLOOR	R-30
BELOW GRADE WALL	R-10/15/21int+5TB
SLAB R-VALUE & DEPTH	10, 2FT

**AIR LEAKAGE TESTING**  
THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR  
LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE  
CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES w.g. (50 PASCALS).  
FOR THIS TEST ONLY, THE VOLUME OF THE HOME SHALL BE THE CONDITIONED FLOOR  
AREA IN FT SQUARED MULTIPLIED BY 8.5 FEET. WHERE REQUIRED BY THE CODE  
OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN  
REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING  
THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT  
ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL  
ENVELOPE. ONCE VISUAL INSPECTION HAS CONFIRMED SEALING (SEE TABLE  
R402.1.1). OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS  
SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST. SEE  
DETAILED CODE FOR EXCEPTIONS AND CONSIDERATIONS DURING TESTING.

**AIR LEAKAGE TESTING FENESTRATION**  
WINDOWS, SKYLIGHTS, AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION  
RATE OF NO MORE THAN 0.3 CFM PER SQ FT AND SWINGING DOORS NO MORE THAN  
0.5 CFM PER SQ FT WHEN TESTED IN ACCORDANCE WITH NFRC 400 OR AAMA/WDMA/  
CSA 101/L.S. 2/4440 BY AN ACCREDITED LABORATORY AND LISTED AND LABELED BY THE  
MANUFACTURER.  
EXCEPTIONS: FIELD-FABRICATED FENESTRATION PRODUCTS AND CUSTOM EXTERIOR  
FENESTRATION PRODUCTS MANUFACTURED BY A SMALL BUSINESS PROVIDED THEY  
MEET THE APPLICABLE PROVISIONS OF CHAPTER 23 OF THE INTERNATIONAL BUILDING  
CODE. ONCE VISUAL INSPECTION HAS CONFIRMED THE PRESENCE OF A GASKET,  
OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE  
PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

**AIR BARRIERS AND INSULATION INSTALLATION**  
FOR COMPONENT REQUIREMENTS OF THE MERCER RESIDENTIAL ENERGY CODE.

**DUCT INSULATION AND HOT WATER PIPE INSULATION AND SEALS**  
DUCTS SHALL BE INSULATED WITH R-8 OR R-10 IF IN-GROUND AND SHALL NOT  
DISPLACE REQUIRED EXTERIOR INSULATION AND HOT WATER PIPES WITH R-3. HOT  
WATER HEATER TO BE PLACED UPON A SURFACE WITH INCOMPRESSIBLE R-10.  
REFER TO SEATTLE RESIDENTIAL ENERGY CODE OR INTERNATIONAL MECHANICAL CODE  
AS APPROPRIATE FOR DETAILS RELATED TO SEALING OF DUCTS, AIR HANDLERS, AND  
FILTER BOXES.

**PROGRAMMABLE THERMOSTAT**  
EACH DWELLING UNIT IS REQ'D TO BE PROVIDED WITH AT LEAST 1 PROGRAMMABLE  
THERMOSTAT FOR EACH HEATING AND COOLING SYSTEM. WHERE PRIMARY HEATING  
SYSTEM IS A FORCED AIR FURNACE, AT LEAST ONE T-STAT PER DWELLING UNIT SHALL BE  
ENERGY STAR CERTIFIED AND CAPABLE OF CONTROLLING THE HEATING AND COOLING  
SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT  
DIFFERENT TIMES OF THE DAY. THE T-STAT SHALL ALLOW FOR AT A MINIMUM 5-2  
PROGRAMMABLE SCHEDULE (WEEKDAYS/WEEKENDS) AND BE CAPABLE OF  
PROVIDING AT LEAST TWO PROGRAMMABLE SET-BACK/SETUP PERIODS PER DAY. THIS T-  
STAT SHALL INCLUDE THE CAPABILITY TO SET BACK, SET UP, OR TEMPORARILY OPERATE  
THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEGREES F OR UP TO 85  
DEGREES . THE T-STAT SHALL INITIALLY BE PROGRAMMED BY THE MANUFACTURER WITH  
A HEATING TEMPERATURE SET POINT NO HIGHER THAN 70 DEGREES F AND A COOLING  
TEMPERATURE SET POINT LOWER THAN 78 DEGREES F. THE T-STAT AND/OR CONTROL  
SYSTEM SHALL HAVE AN ADJUSTABLE DEADBAND OF NOT LESS THAN 10 DEGREES F.  
EXCEPTIONS INCLUDE SYSTEMS CONTROLLED BY THE OCCUPANT SENSOR THAT IS  
CAPABLE OF SHUTTING THE SYSTEM OFF WHENNO OCCUPANT IS SENSED FOR A  
PERIOD OF UP TO 30 MINUTES, SYSTEMS CONTROLLED SOLELY BY A MANUALLY  
OPERATED TIMER CAPABLE OF OPERATING THE SYSTEM FOR NO MORE THAN 2 HOURS,  
AND DUCTLESS MINI-SPLIT HEAT PUMPS SYSTEMS THAT HAVE AN INTEGRAL  
PROPRIETARY THERMOSTAT.

**ATTIC ACCESS INSULATION**  
WEATHER STRIP AND INSULATE DOOR TO EQUIVALENT LEVEL OF INSULATION NEAR  
DOOR CEILING.

**HIGH EFFICACY LUMINAIRES**  
MINIMUM 90% OF ALL INTERIOR LUMINAIRES SHALL BE HIGH EFFICACY LUMINAIRES &  
ALL TO BE IC-RATED.

**VAPOR RETARDERS**  
WALL ASSEMBLIES IN THE BUILDING THERMAL ENVELOPE SHALL COMPLY WITH THE  
VAPOR RETARDER REQUIREMENTS OF SECTION R702.7 OF THE INTERNATIONAL  
RESIDENTIAL CODE OR SECTION 1405.3 OF THE INTERNATIONAL RESIDENTIAL  
BUILDING CODE, AS APPLICABLE.

**NEW SOURCE SPECIFIC VENTILATION LOCATIONS PER IMC TABLE 403.3:**  
BATHROOM & LAUNDRY & SPA FANS: MINIMUM 50CFM (INTERMITTENT)  
KITCHEN FANS: MINIMUM 100CFM (INTERMITTENT)  
\*SEE PLANS FOR ACTUAL SIZING. SOURCE SPECIFIC VENTILATION CONTROLLED BY  
MANUAL SWITCHES AND/OR TIMERS.

**MAKE UP AIR**  
PER SRC M1503.4 MAKEUP AIR REQUIRED WHEN KITCHEN EXHAUST HOOD SYSTEMS  
ARE CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM & SHALL BE MECHANICALLY OR  
NATURALLY PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE  
EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE QUIPPED WITH NOT LESS  
THAN ONE DAMPER. EACH DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY  
OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM  
OPERATES. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR, AND  
REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER  
DUCTS TO CONNECTED TO THE DAMPER BEING INSPECTED, SERVICED, REPAIRED, OR  
REPLACED.

**KITCHEN MAKE UP AIR**  
KITCHEN EXHAUST MAKEUP AIR SHALL BE DISCHARGED INTO SAME ROOM IN WHICH  
THE EXHAUST SYSTEM IS LOCATED OR INTO ROOMS OR DUCT SYSTEMS THAT  
COMMUNICATE THROGH ONE OR MORE PERMANENT OPENINGS WITH THE ROOM IN  
WHICH SUCH EXHAUST SYSTEM IS LOCATED. SUCH PERMANENT OPENINGS SHALL  
HAVE A NET CROSS-SECTIONAL AREA NOT LESS THAN THE REQUIRED AREA OF THE  
MAKEUP AIR SUPPLY OPENINGS.

**GENERAL NOTES**  
CONTACT ARCHITECT IMMEDIATELY CONCERNING ANY DISCREPANCIES IN THE  
DRAWINGS PRIOR TO PROCEEDING WITH WORK IN THE AFFECTED AREA.

**DO NOT SCALE DRAWINGS.**

**DIMENSIONS**  
DIMENSIONS ARE TO FACE OF CONCRETE AND FACE OF FRAMING UNLESS OTHERWISE  
NOTED. VERIFY ALL DIMENSIONS BEFORE BEGINNING WORK.

**CODES**  
ALL APPLICABLE CODES, ORDINANCES, AND MINIMUM STRUCTURAL REQUIREMENTS  
TAKE PRECEDENCE OVER ALL DRAWING NOTES, SPECIFICATIONS, AND SIZES.

**DRAFTSTOPPING & FIREBLOCKING**  
PROVIDE APPROVED DRAFTSTOPPING & FIRE BLOCKING IN CONCEALED SPACE  
BETWEEN CEILING AND FLOOR PER IBC.

PROVIDE SOLID WOOD BLOCKING FOR SUPPORT AT ALL WALL MOUNTED FIXTURES.

**FLASHING**  
FLASH ALL OPENINGS WITH MINIMUM 26 GAUGE GALVANIZED OR ALUMINUM.

**CAULK**  
CAULK ALL OPENINGS COMPLETELY.

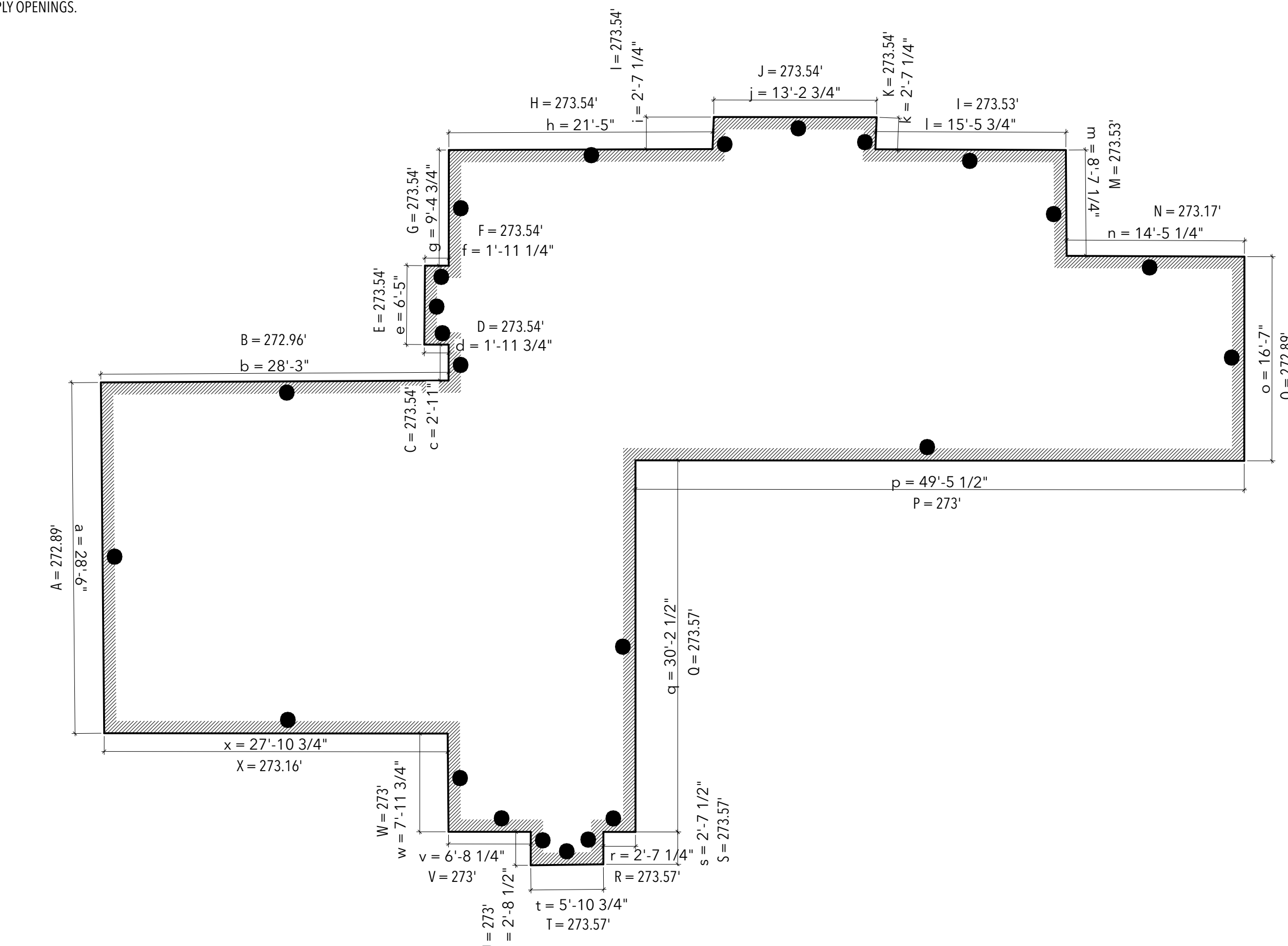
**PRESSURE TREATED WOOD**  
ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY TO BE PRESSURE TREATED.

**ROOF VENTING AT NEW ADDITION**  
PROVIDE 1 SQ FOOT OF VENTING PER 150 SQ FEET OF HEATED ROOF.  
237 SF HEATED ROOF/150 SQ FT=1.58 SF\* 144=227.52 SQ. IN. OF NET FREE  
VENTING. PROVIDE 15 LF @ 5 SQ.IN. PER FOOT OF EA VE VENTING & 13 LF OF RIDGE  
VENTING @ 18 SQ. IN. PER LF OF NET FREE VENTING.

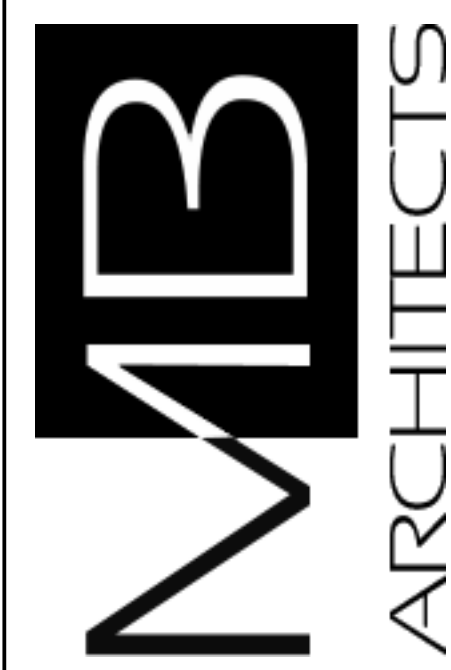
CROSS VENTILATION REQUIRED. LEAVE 1" AIRSPACE ABOVE INSULATION.



3 EXTERIOR ADDITION PERSPECTIVE

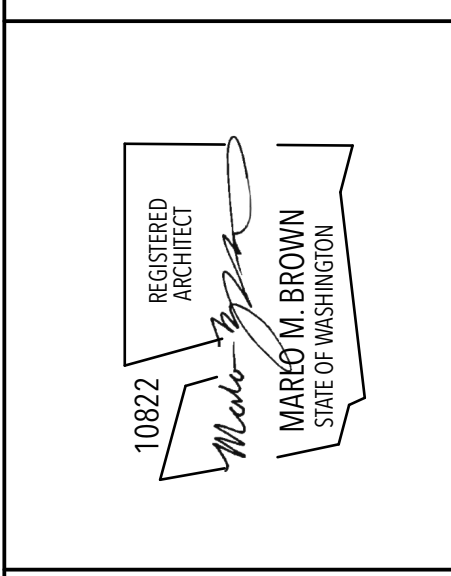


2 AVG HEIGHT DIAGRAM



**MARLO BROWN ARCHITECTS, LLC**  
509 26th AVE S  
SEATTLE, WA 98144  
info@marlobrown.com

**PROPERTY OWNERS**  
KHANDELWAL HANKARAN  
8460 SE 83RD ST MERCER  
ISLAND WA 98040



**KHANDELWAL HANKARAN HOUSE**  
PROJECT NOTES  
PERMIT 7.2.24

A1

BUILDING DEPT STAMPS

**BOUNDARY SURVEY NOTES**

1. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND LEICA VIVA TS15 SMART POLE TOTAL STATION/RTK GPS.
2. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090. SURVEY WAS COMPLETED BY A FIELD TRAVERSE.
3. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.
4. ENCROACHMENTS NOTED AS "IN" OR "OUT" ARE RELATIVE TO THE SUBJECT PROPERTY.
5. FENCE DIMENSIONS ARE GENERALLY TO THE CENTERLINE OF THE FENCE UNLESS OTHERWISE NOTED.
6. STRUCTURE LOCATIONS ARE MEASURED TO THE FINISHED FASCIA UNLESS OTHERWISE NOTED.
7. TREE LOCATIONS ARE MEASURED TO THE ESTIMATED CENTER OF THE TREE.
8. ALL DIMENSIONS ARE IN DECIMAL FEET.

**PROJECT INFORMATION**

SURVEYOR: PLOG ENGINEERING, PLLC  
P.O. BOX 412  
RAVENSDALE, WA 98051  
PH: (206) 420-7130

PROPERTY OWNER: SAURABH KHANDELWAL & VEENA SHANKARAN  
8460 SE 83RD ST  
MERCER ISLAND, WA 98040

TAX PARCEL NUMBER: 362570-0170

PROJECT ADDRESS: 8460 SE 83RD ST  
MERCER ISLAND, WA 98040

PARCEL AREA: 13,312 S.F. (0.306 ACRES ±)  
AS SURVEYED

**REFERENCE SURVEYS**

P1 - PLAT OF ISLAND POINT NO. 3, VOL. 82, PGS 71-72  
P1 - PLAT OF ISLAND POINT NO. 4, VOL. 96, PG 99

**BASIS OF BEARINGS**

PER THE PLAT OF ISLAND POINT NUMBER 3, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 67 OF PLATS, PAGE 86, RECORDS OF KING COUNTY WASHINGTON.

ACCEPTED THE BEARING OF N 4'49'04" W FOR SE 83RD ST BASED ON FOUND MONUMENTS IN CASE.

**VERTICAL DATUM & CONTOUR INTERVAL**

ELEVATIONS SHOWN ON THIS DRAWING ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED USING RTK GPS.

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR ± 1.0' FOR THIS PROJECT.

**LEGAL DESCRIPTION**

LOT 17 OF ISLAND POINT NUMBER 3, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 82 OF PLATS, PAGES 71-72, RECORDS OF KING COUNTY WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

**TOPOGRAPHIC SURVEY NOTES**

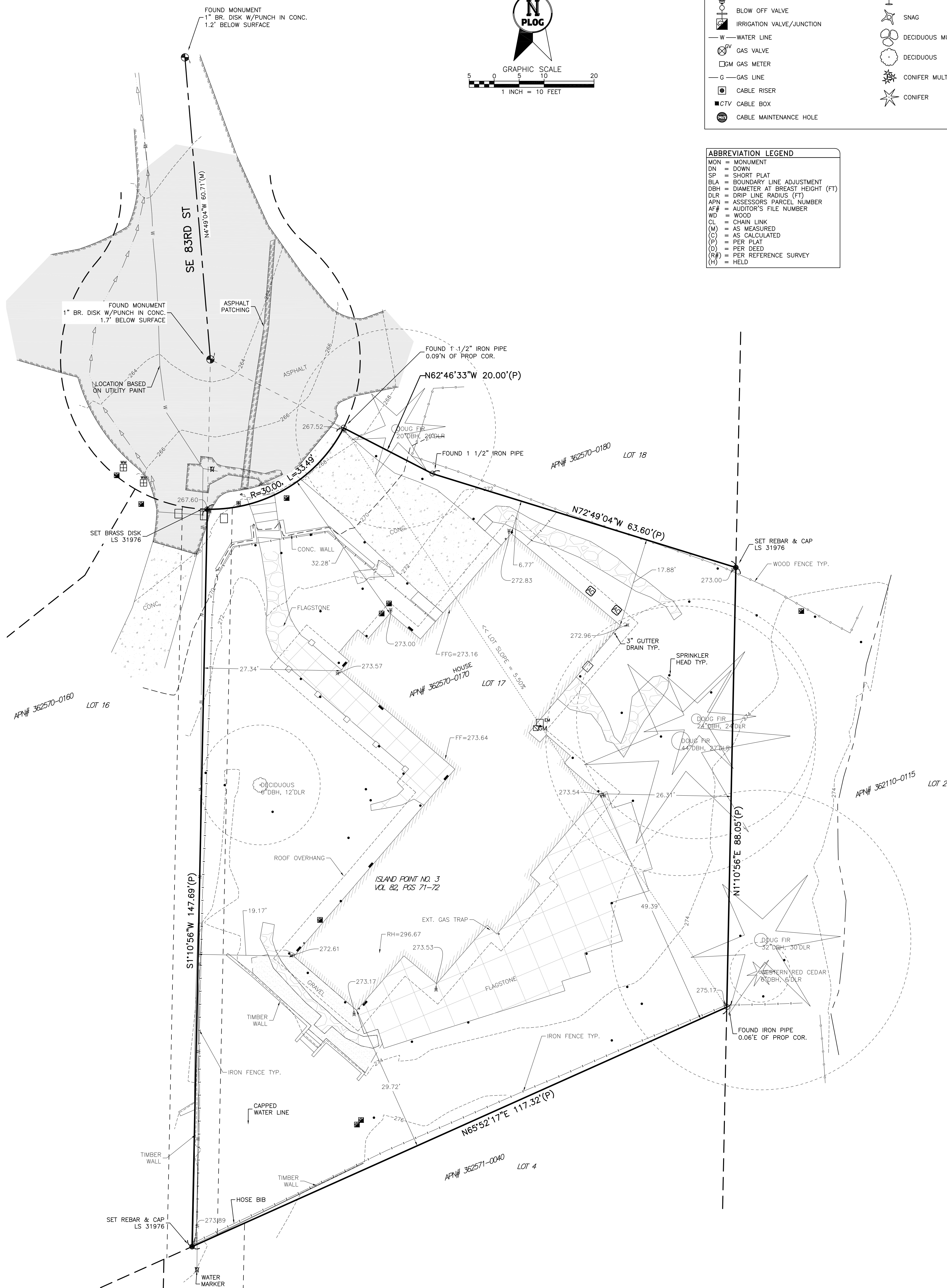
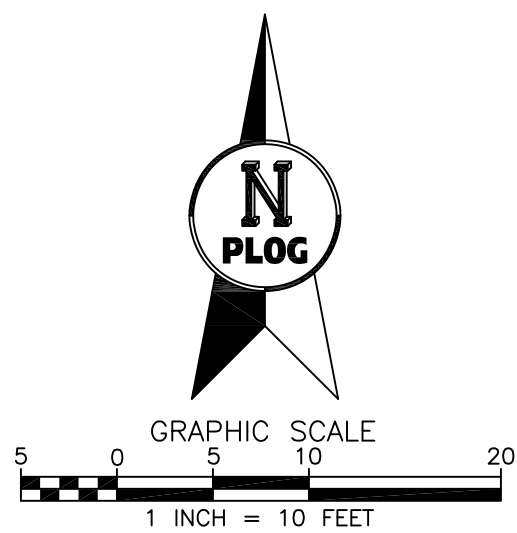
1. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS, UTILITY LOCATES BY THIRD PARTIES, AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
2. CONTOURS SHOWN ARE BASED ON A FIELD SURVEY.
3. TREE IDENTIFICATION WAS PERFORMED BY SURVEY FIELD PERSONNEL AND SHOULD BE CONSIDERED A BEST GUESS. AN ARBORIST SHOULD BE RELIED UPON FOR MORE ACCURATE AND DETAILED IDENTIFICATION OF TREE SPECIES AND HEALTH.

**SYMBOL LEGEND**

- MONUMENT AS NOTED
- SECTION CORNER
- QUARTER SECTION CORNER
- FOUND REBAR AS NOTED
- SET REBAR AND CAP LS 31976
- FOUND SURFACE MARKER/DISK
- SET SURFACE MARKER/DISK LS 31976
- SEWER MAINTENANCE HOLE
- SEWER CLEAN OUT
- SEWER LINE
- STORM DRAIN MAINTENANCE HOLE
- CATCH BASIN (TYPE 2)
- CATCH BASIN (TYPE 1)
- STORM DRAIN CLEAN OUT
- ROUND YARD DRAIN
- SQUARE YARD DRAIN
- STORM DRAIN LINE
- WATER MAINTENANCE HOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOW OFF VALVE
- IRRIGATION VALVE/JUNCTION
- WATER LINE
- GAS VALVE
- GAS METER
- GAS LINE
- CABLE RISER
- CTV CABLE BOX
- CABLE MAINTENANCE HOLE
- FIBER OPTIC MAINTENANCE HOLE
- TELEPHONE MAINTENANCE HOLE
- TRAFFIC SIGNAL MAINTENANCE HOLE
- PAD MOUNTED TRANSFORMER
- HAND HOLE
- A/C COMPRESSOR
- YARD LIGHT
- POWER POLE
- GUY WIRE
- STREET LIGHT
- OVERHEAD UTILITIES (GENERAL/MIXED)
- OVERHEAD ELECTRICAL
- OVERHEAD CABLE
- OVERHEAD TELEPHONE
- UNDERGROUND UTILITIES (GENERAL/MIXED)
- UNDERGROUND ELECTRICAL
- UNDERGROUND CABLE
- UNDERGROUND TELEPHONE
- UNDERGROUND FIBER OPTIC
- BOLLARD
- MAILBOX
- SIGN
- WETLAND FLAG
- SNAG
- DECIDUOUS MULTI-TRUNK
- DECIDUOUS
- CONIFER MULTI-TRUNK
- CONIFER

**ABBREVIATION LEGEND**

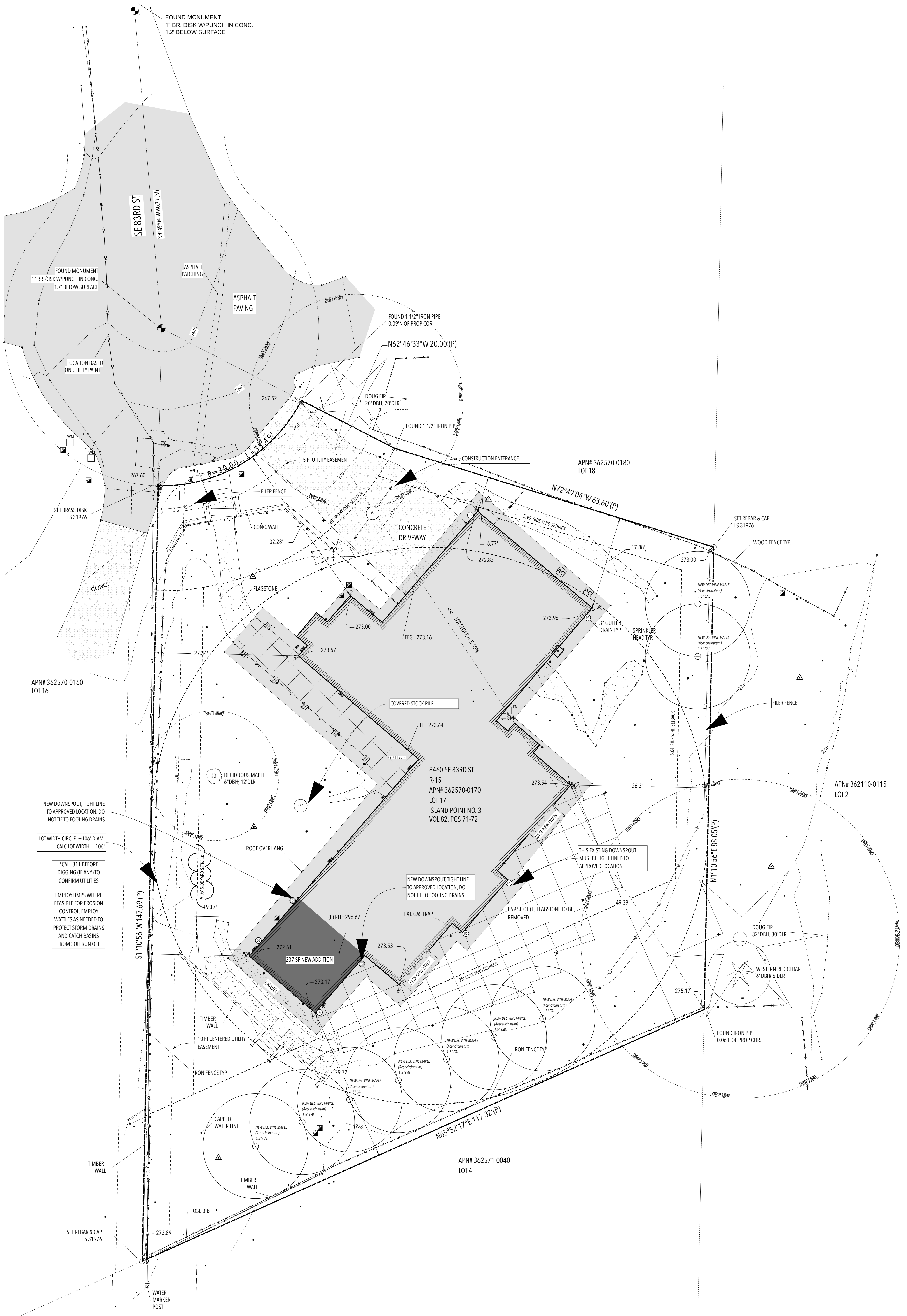
- MON = MONUMENT
- DN = DOWN
- SP = SHORT PLAT
- BLA = BOUNDARY LINE ADJUSTMENT
- DBH = DIAMETER AT BREAST HEIGHT (FT)
- DLR = DRIP LINE RADIUS (FT)
- APN = ASSESSOR'S PARCEL NUMBER
- AF# = AUDITOR'S FILE NUMBER
- WD = WOOD
- CL = CHAIN LINK
- (M) = AS MEASURED
- (C) = AS CALCULATED
- (P) = PER PLAT
- (D) = PER DEED
- (R#) = PER REFERENCE SURVEY
- (H) = HELD



**PLOG ENGINEERING**  
Surveyors & Civil Engineers  
P.O. Box 412  
Ravensdale, WA 98051  
(206) 420-7130  
www.PlogEngineering.com

NE1/4, NE1/4, SEC 36, TWP 24N, RNG 4E, W.M.  
**BOUNDARY & TOPOGRAPHIC SURVEY**  
SAURABH KHANDELWAL  
8460 SE 83RD ST  
MERCER ISLAND, WA 98040

PROJECT NO.:	REVISION DATE	REVISION NO.:	SHEET
094-22	06/23/2022	0	1 OF 1



1 SITE PLAN  
SCALE: 1/8" = 1'-0"

BUILDING DEPARTMENT

**A3**

**KHANDELWAL HANKARAN HOUSE**

SITE PLAN  
PERMIT 7.2.24

10822 REGISTERED ARCHITECT

*Marlo Brown*

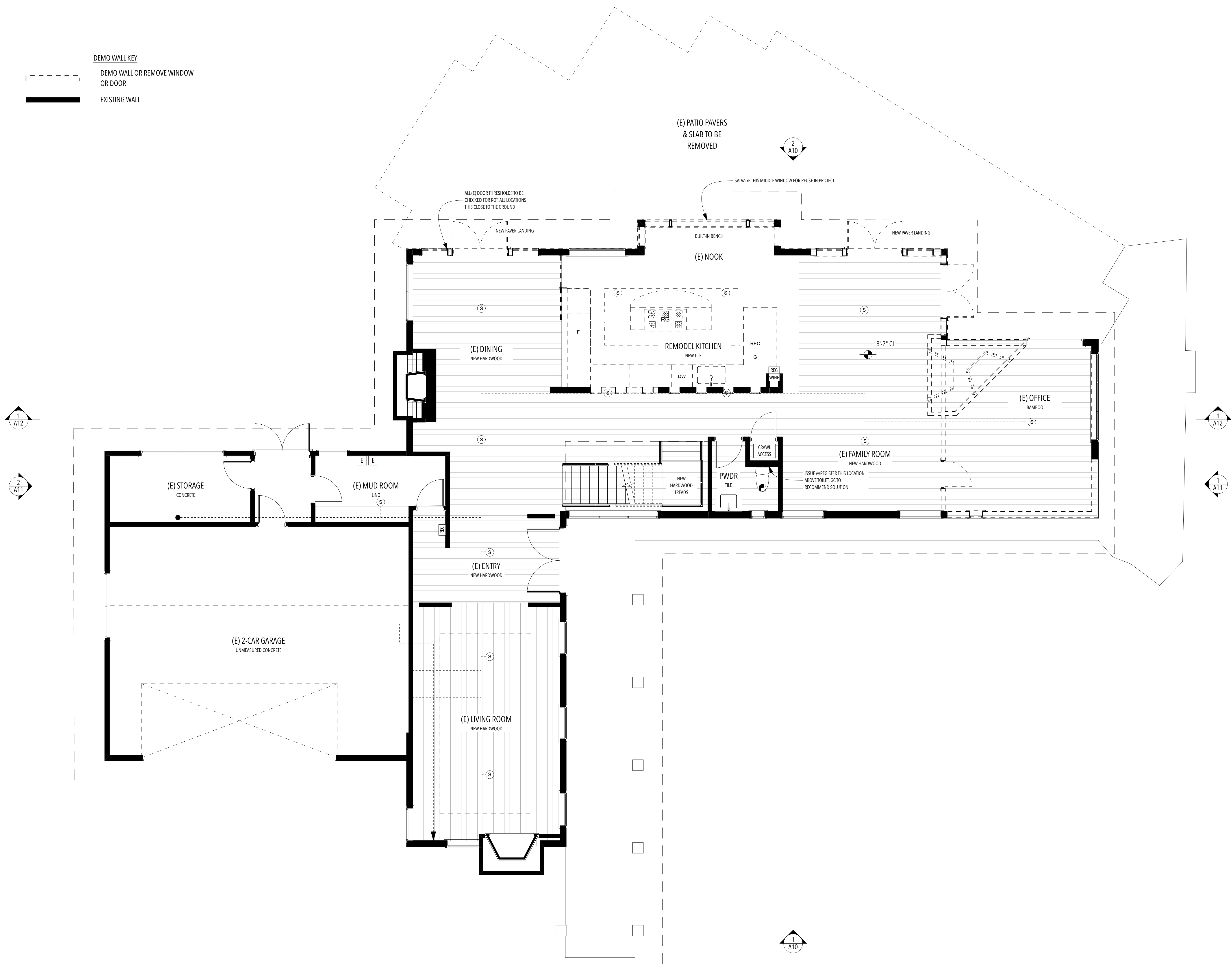
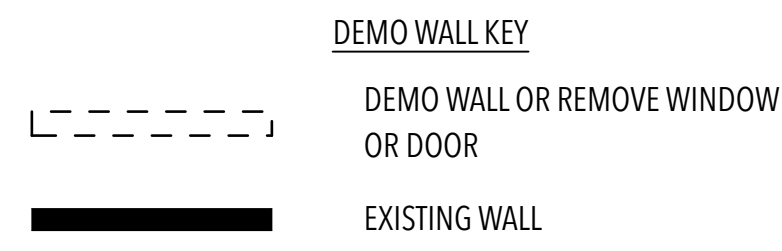
MARLO M. BROWN  
STATE OF WASHINGTON

**MARLO BROWN ARCHITECTS, LLC**  
509 26th AVE S  
SEATTLE, WA 98144  
info@marlobrown.com

**PROPERTY OWNERS**  
KHANDELWAL HANKARAN  
8460 SE 83RD ST MERCER  
ISLAND WA 98040

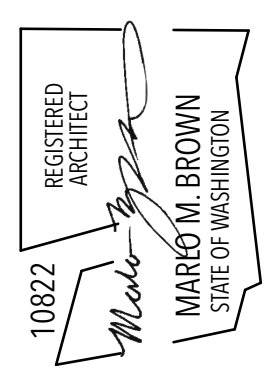






**MARLO BROWN ARCHITECTS, LLC**  
 509 26th AVE S  
 SEATTLE, WA 98144  
 info@marlobrown.com

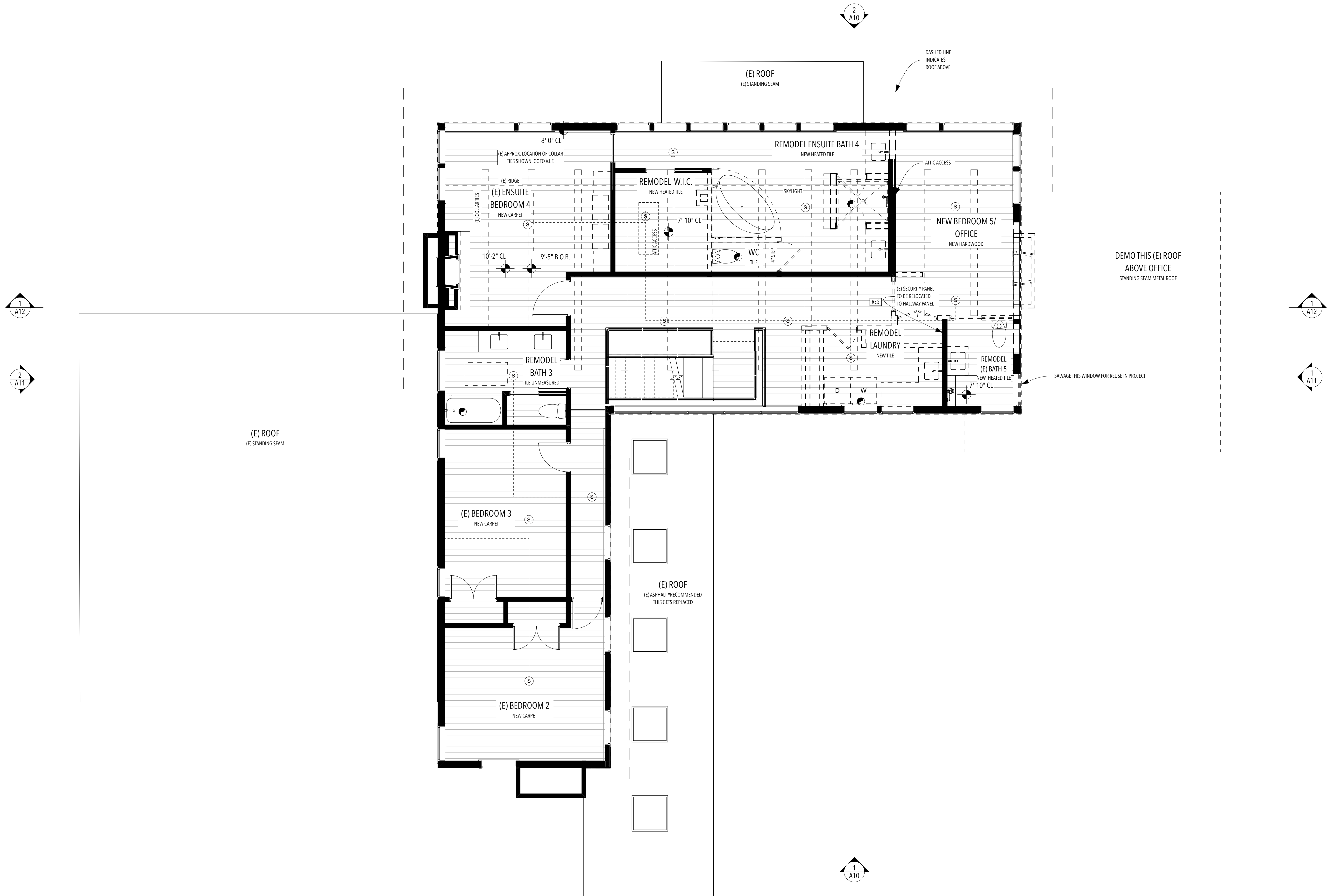
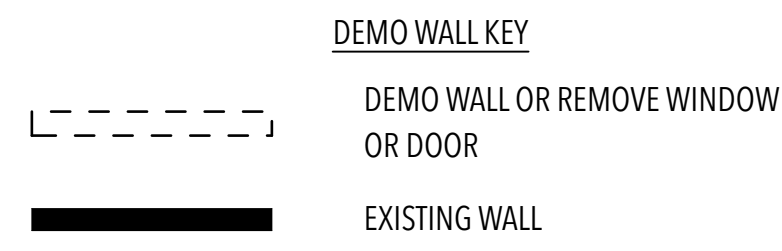
**PROPERTY OWNERS**  
 KHANDELWAL HANKARAN  
 8460 SE 63RD ST MERCER  
 ISLAND WA 98040



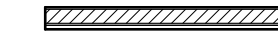
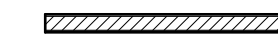
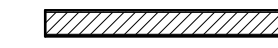




**KHANDELWAL HANKARAN HOUSE**  
 FIRST FLOOR DEMO  
 PERMIT 7.2.24









**A5**

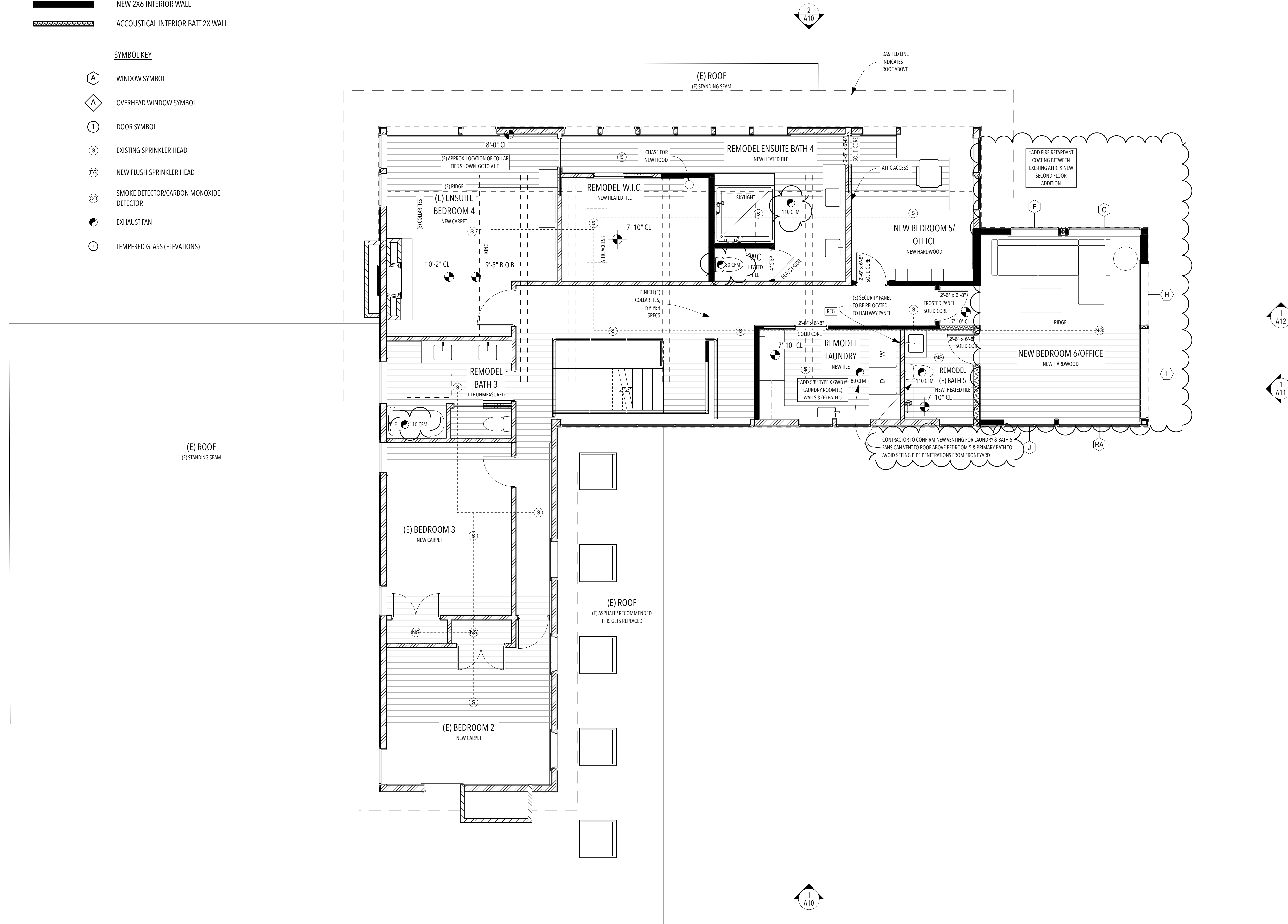
BUILDING DEPT STAMPS



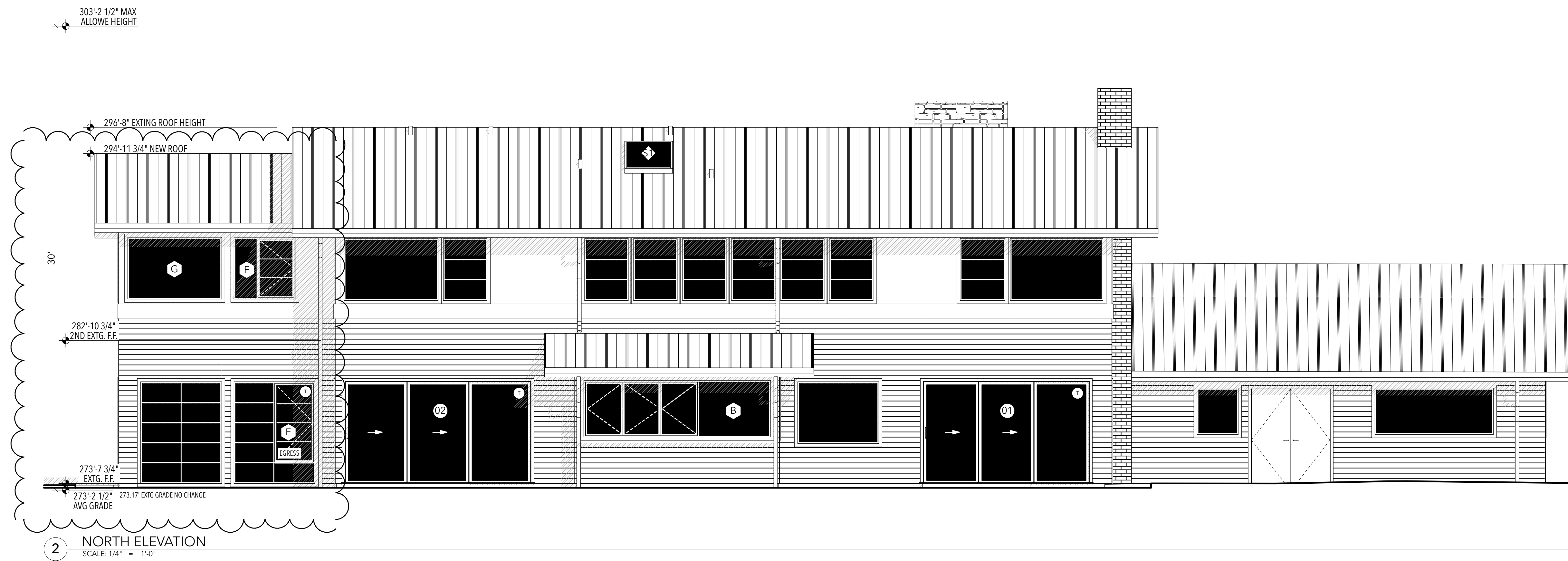


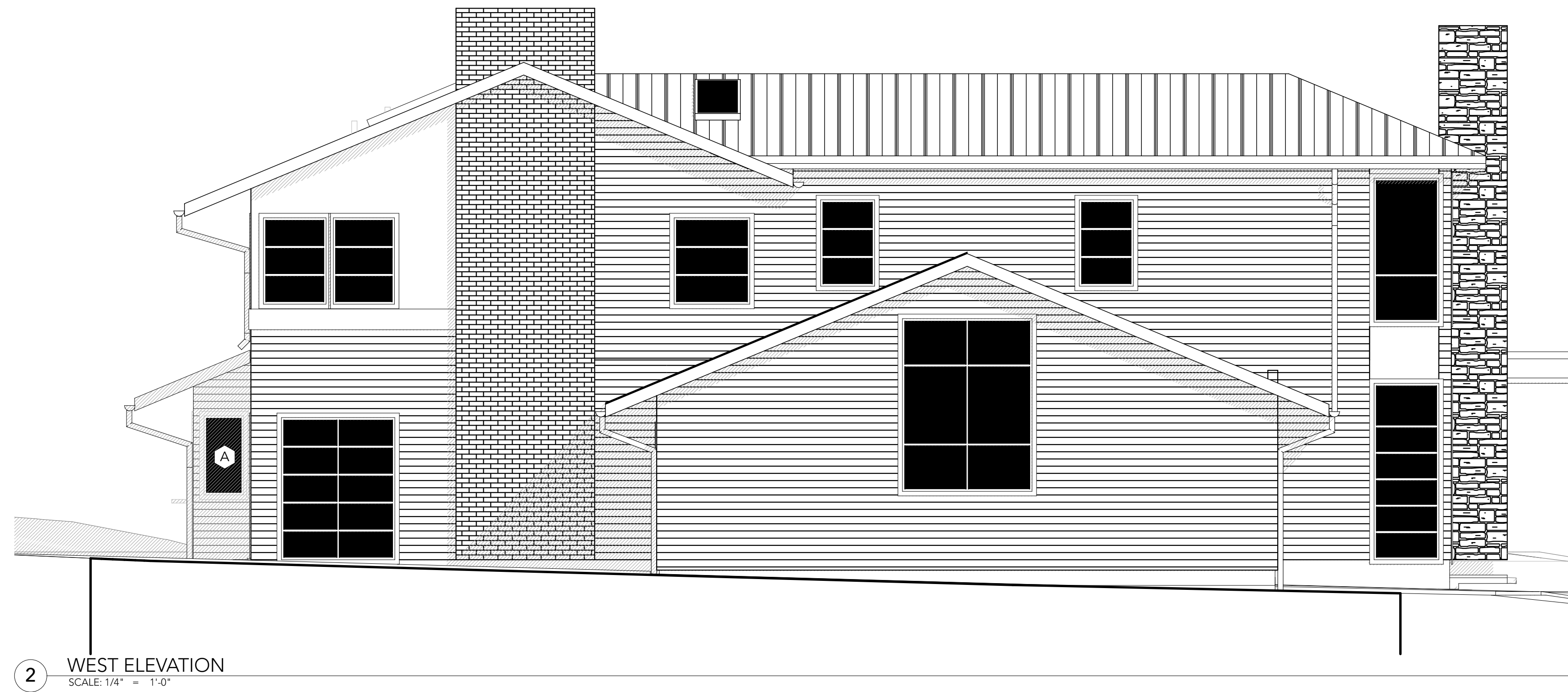
- WALL KEY**
-  EXISTING 2X EXTERIOR WALL
  -  EXISTING 2X4 INTERIOR WALL
  -  EXISTING 2X6 INTERIOR WALL
  -  NEW 2X6 EXTERIOR WALL
  -  NEW 2X4 INTERIOR WALL
  -  NEW 2X6 INTERIOR WALL
  -  ACCOUSTICAL INTERIOR BATT 2X WALL

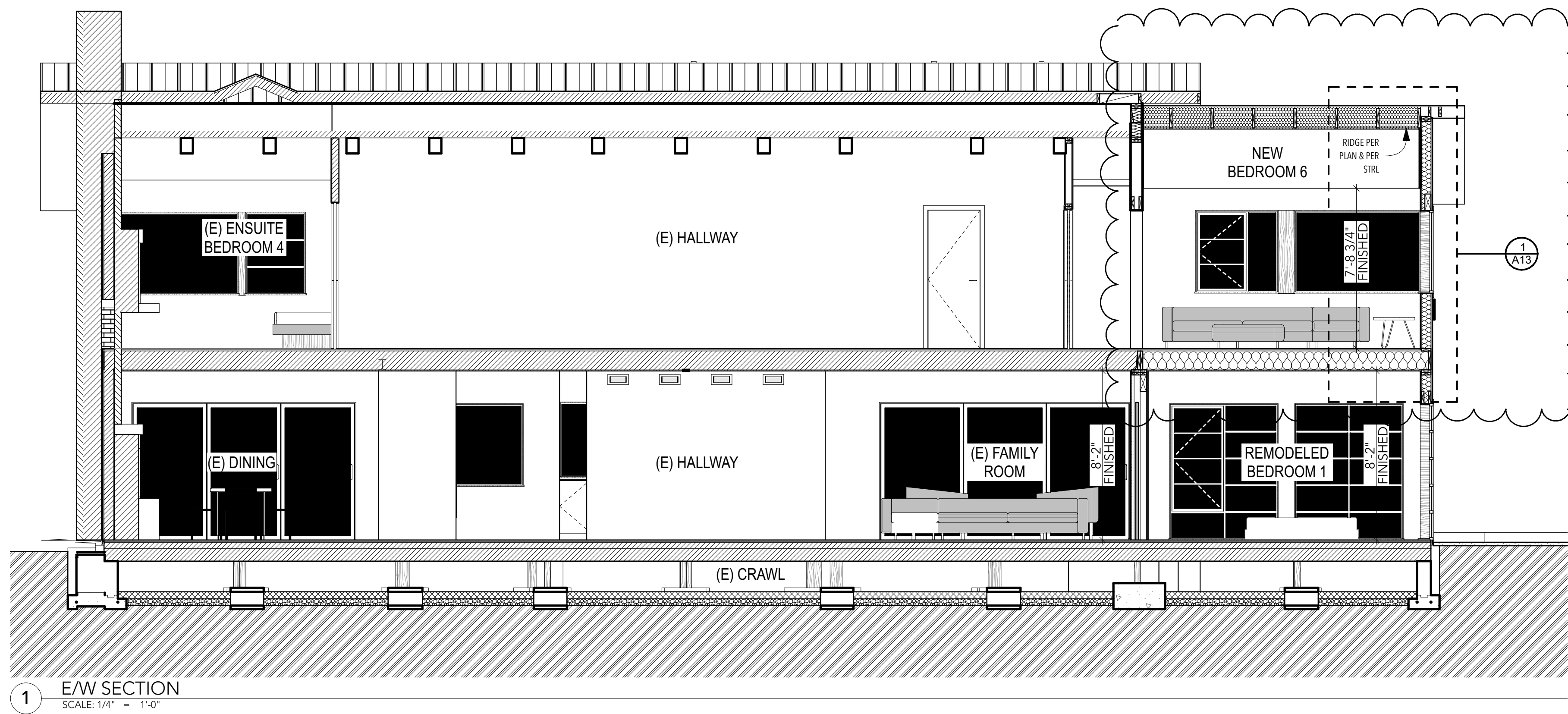
- SYMBOL KEY**
-  WINDOW SYMBOL
  -  OVERHEAD WINDOW SYMBOL
  -  DOOR SYMBOL
  -  EXISTING SPRINKLER HEAD
  -  NEW FLUSH SPRINKLER HEAD
  -  SMOKE DETECTOR/CARBON MONOXIDE DETECTOR
  -  EXHAUST FAN
  -  TEMPERED GLASS (ELEVATIONS)











1 E/W SECTION  
SCALE: 1/4" = 1'-0"

2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Single Family – New & Additions (effective February 1, 2021)

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

Project Information	Contact Information
SAURABH KHANDELWAL & VEENA SHANKARAN 8460 SE 83RD ST MERCER ISLAND, WA 98040	MARLO BROWN ARCHITECTS LLC 509 26TH AVE S SEATTLE, WA 98144

**Instructions:** This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative: **Marlo Brown** Digitally signed by Marlo Brown Date: 2024.02.20 13:04:17 -0800 Date: 02/20/2024

All Climate Zones (Table R402.1.1)		
	R-Value <sup>a</sup>	U-Factor <sup>a</sup>
Fenestration U-Factor <sup>b</sup>	n/a	0.30
Skylight U-Factor <sup>b</sup>	n/a	0.50
Glazed Fenestration SHGC <sup>b,c</sup>	n/a	n/a
Ceiling <sup>a</sup>	49 <sup>i</sup>	0.026
Wood Frame Wall <sup>b,h</sup>	21 int	0.056
Floor	30	0.029
Below Grade Wall <sup>c,h</sup>	10/15/21 int + TB	0.042
Slab <sup>d,i</sup> R-Value & Depth	10, 2 ft	n/a

<sup>a</sup> R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity that 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.

<sup>b</sup> The fenestration U-factor column excludes skylights.

<sup>c</sup> "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.

<sup>d</sup> R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.

<sup>e</sup> For single rafter- or joist-vented ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.

<sup>f</sup> 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.

<sup>g</sup> For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.

<sup>h</sup> Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Single Family – New & Additions (effective February 1, 2021)

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.

- Small Dwelling Unit: 3 credits**  
Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
- Medium Dwelling Unit: 6 credits**  
All dwelling units that are not included in #1 or #3
- Large Dwelling Unit: 7 credits**  
Dwelling units exceeding 5,000 sf of conditioned floor area
- Additions less than 500 square feet: 1.5 credits**  
All other additions shall meet 1-3 above

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

Summary of Table R406.2			
Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option	User Notes
1	Combustion heating minimum NAECA <sup>b</sup>	0.0	<input checked="" type="checkbox"/> Existing system
2	Heat pump <sup>c</sup>	1.0	<input type="checkbox"/>
3	Electric resistance heat only - furnace or zonal	-1.0	<input type="checkbox"/>
4	DHP with zonal electric resistance per option 3.4	0.5	<input type="checkbox"/>
5	All other heating systems	-1.0	<input type="checkbox"/>

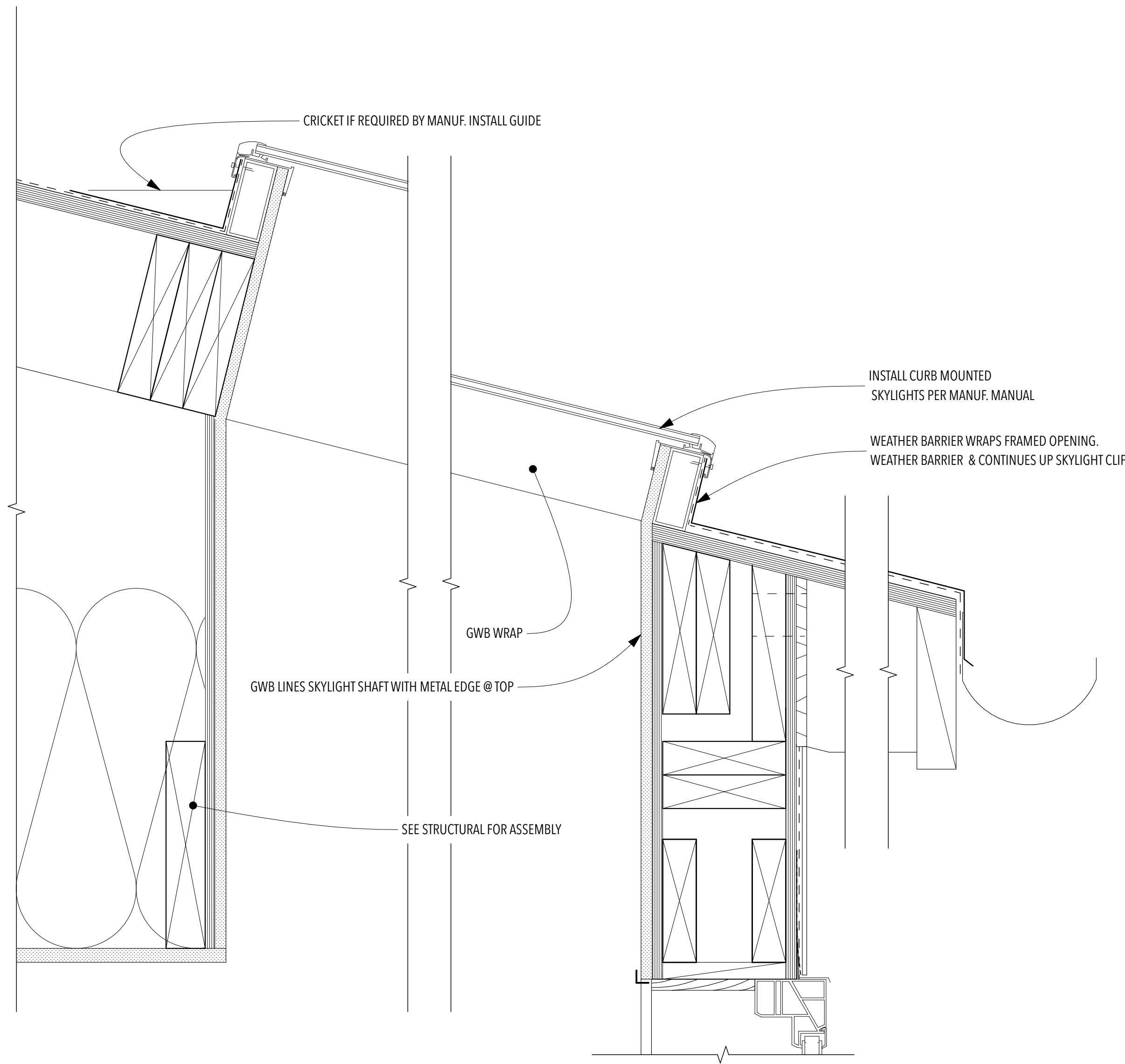
Energy Options	Energy Credit Option Descriptions	Credits - select ONE energy option from each category <sup>a</sup>	User Notes
1.1	Efficient Building Envelope	0.5	<input type="checkbox"/>
1.2	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.3	Efficient Building Envelope	0.5	<input checked="" type="checkbox"/>
1.4	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.5	Efficient Building Envelope	2.0	<input type="checkbox"/>
1.6	Efficient Building Envelope	3.0	<input type="checkbox"/>
1.7	Efficient Building Envelope	0.5	<input type="checkbox"/>
2.1	Air Leakage Control and Efficient Ventilation	0.5	<input type="checkbox"/>
2.2	Air Leakage Control and Efficient Ventilation	1.0	<input checked="" type="checkbox"/>
2.3	Air Leakage Control and Efficient Ventilation	1.5	<input type="checkbox"/>
2.4	Air Leakage Control and Efficient Ventilation	2.0	<input type="checkbox"/>
3.1*	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.2	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.3*	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.4	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.5	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.6*	High Efficiency HVAC	2.0	<input type="checkbox"/>
4.1	High Efficiency HVAC Distribution System	0.5	<input type="checkbox"/>
4.2	High Efficiency HVAC Distribution System	1.0	<input type="checkbox"/>

2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Single Family – New & Additions (effective February 1, 2021)

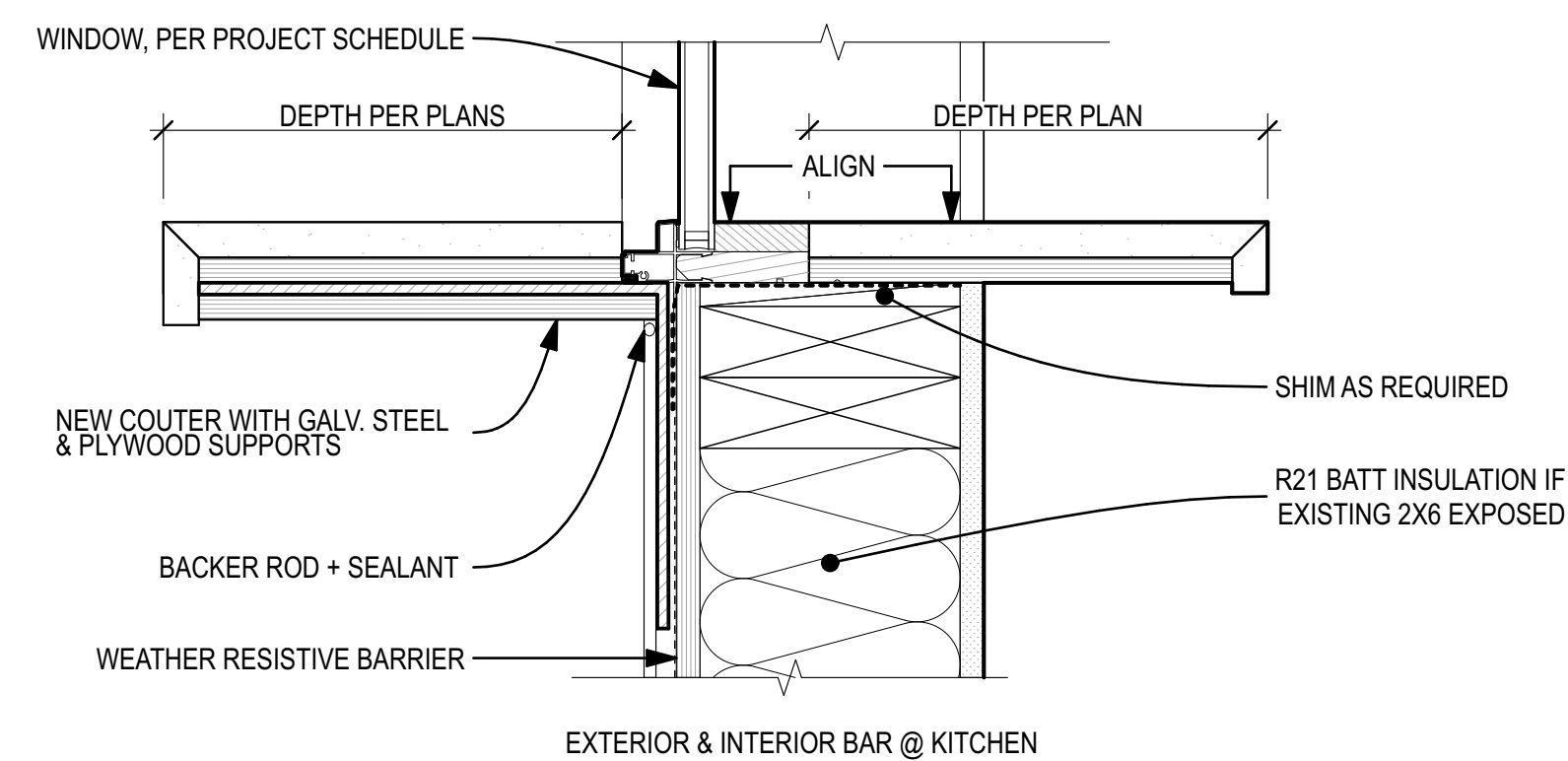
Summary of Table R406.2 (cont.)			
Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category <sup>a</sup>	User Notes
5.1 <sup>d</sup>	Efficient Water Heating	0.5	<input type="checkbox"/>
5.2	Efficient Water Heating	0.5	<input type="checkbox"/>
5.3	Efficient Water Heating	1.0	<input type="checkbox"/>
5.4	Efficient Water Heating	1.5	<input type="checkbox"/>
5.5	Efficient Water Heating	2.0	<input type="checkbox"/>
5.6	Efficient Water Heating	2.5	<input type="checkbox"/>
6.1*	Renewable Electric Energy (3 credits max)	1.0	<input type="checkbox"/>
7.1	Appliance Package	0.5	<input type="checkbox"/>
<b>Total Credits</b>		<b>1.5</b>	<b>CLEAR FORM</b>

- An alternative heating source sized at a maximum of 0.5 W/sf (equivalent of heated floor area or 500 W, whichever is bigger), may be installed in the dwelling unit.
- Equipment listed in Table C403.3.2(4) or C403.3.2(5)
- Equipment listed in Table C403.3.2(1) or C403.3.2(2)
- You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
- 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max. See the complete Table R406.2 for all requirements and option descriptions.

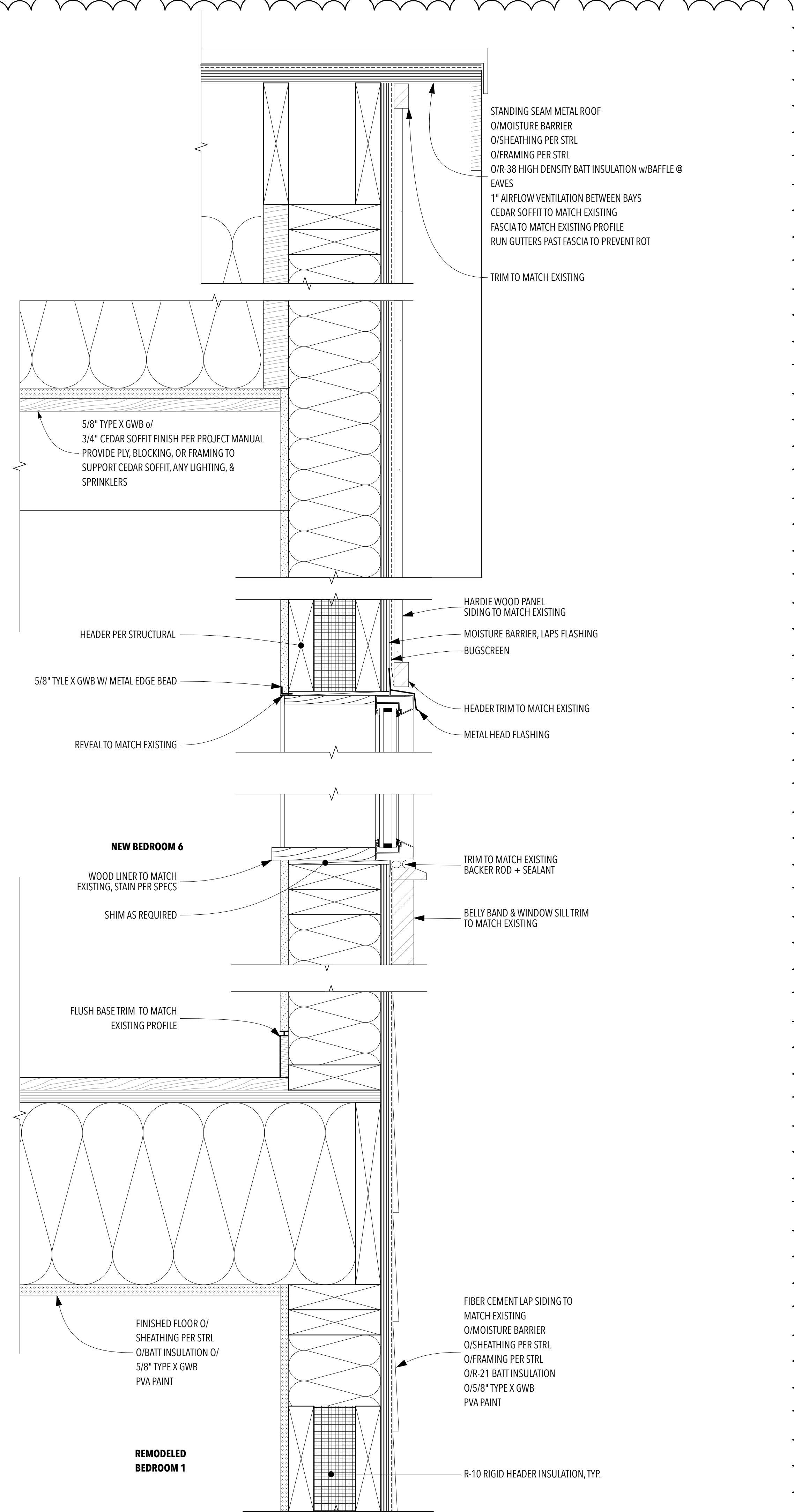
Please print only pages 1 through 3 of this worksheet for submission to your building official.



3 TYP. SKYLIGHT DETAIL  
SCALE: 3" = 1'-0"



2 TYP. WINDOW DETAIL  
SCALE: 3" = 1'-0"



1 EXTERIOR DECK SECTION  
SCALE: 3" = 1'-0"

WINDOW SCHEDULE									
ID	QTY	R.O. SIZE		SILL HT (+/-) VERIFY	TYPE *	NOTES	U	AREA	UA Value
		WIDTH	HEIGHT						
A	1	1'-10"	3'-8"	3'	F		0.21	7	1.47
B	1	12'-1"	3'-8"	3'	F/Bi		0.28	44	12.32
C	1	1'-10"	3'-8"	3'	F		0.21	7	1.47
D	1	7'-6"	6'-7"		F/C	TEMPERED	0.28	49	13.72
E	1	5'-3"	6'-7"		F/C	TEMPERED, EGRESS	0.28	35	9.8
F	1	4'	4'	2'-8"	F/C		0.28	16	4.48
G	1	6'-1"	4'	2'-8"	F		0.21	24	5.04
H	1	5'-2 1/4"	4'	2'-8"	F		0.21	21	4.41
I	1	7'-6 3/4"	4'	2'-8"	F		0.21	30	6.3
J	1	4'-3"	4'	2'-8"	F		0.28	17	4.76
RA	1	6'-11"	4'	2'-8"	F	REUSED	0.30	28	8.4
RB	1	2'-10"	2'-8"	4'	A	REUSED/TEMPERED/OBSC.	0.30	8	2.4
							285 ft <sup>2</sup>	74.57	

EXTERIOR DOOR SCHEDULE											
ID	QTY	R.O. SIZE (+/-)		PANELS		LEAF LEFT	LEAF RIGHT	NOTES	U	UA	AREA
		W	H	LEFT	RIGHT						
01	1	10'-10"	6'-7 3/4"	3	0	3'-6 3/4"	3'-6 3/4"	LOCKABLE, TEMPERED	0.28	20.16	72
02	1	12'-1 1/2"	6'-7 3/4"	3	0	4'	4'	LOCKABLE, TEMPERED	0.28	22.68	81
							42.84	153			

SKYLIGHT SCHEDULE							
ID	QTY	WIDTH	HEIGHT	NOTES	U	UA	AREA
S1	1	36"	54"	TEMPERED	.48	6.72	14

**WINDOW & DOOR NOTES:**

- ALL WINDOW DIMENSIONS ARE TO ROUGH OPENING.  
ALL DOOR DIMENSIONS ARE DOOR PANEL DIMENSIONS EXCEPT BI-FOLD DOORS
- ALL NEW GLAZING AND DOOR U-VALUES PER WASHINGTON STATE ENERGY CODE TABLE R402.1.1 "INSULATION & FENESTRATION REQUIREMENTS FOR GROUP R OCCUPANCY CLIMATE ZONE 4C", 2018 EDITION.  
-ALL WINDOW, DOOR, AND OVERHEAD GLAZING TO BE NFRC CERTIFIED PER MANUFACTURER.

3. VERIFY ALL ROUGH OPENINGS IN FIELD PRIOR TO ORDERING.

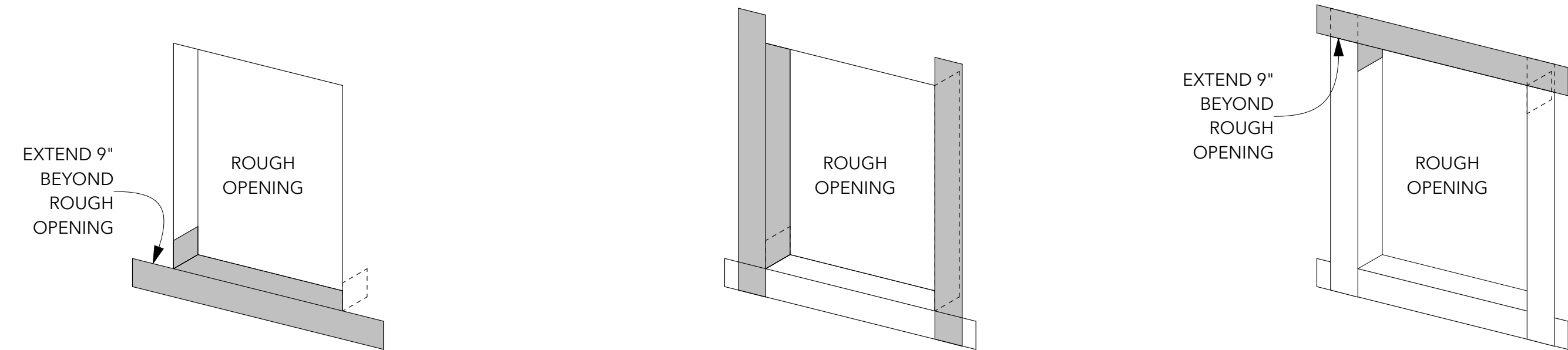
4. PROVIDE TEMPERED GLASS WHERE REQUIRED BY IRC R308.  
(AT LOCATIONS INCLUDING, BUT NOT LIMITED TO THOSE MARKED TEMPERED IN THE SCHEDULE & ELEVATIONS)

\* WINDOW TYPE CODES FOR REFERENCE: (VERIFY OPERATION W/ ELEVATIONS)  
F = FIXED, C = CASEMENT, Bi = BIFOLD

ALL NEW VERTICAL GLAZING: TOTAL AREA = 452 SF TOTAL UA = 124.13 AVERAGE U-VALUE = .27

**WINDOW & DOOR TRIM NOTES:**

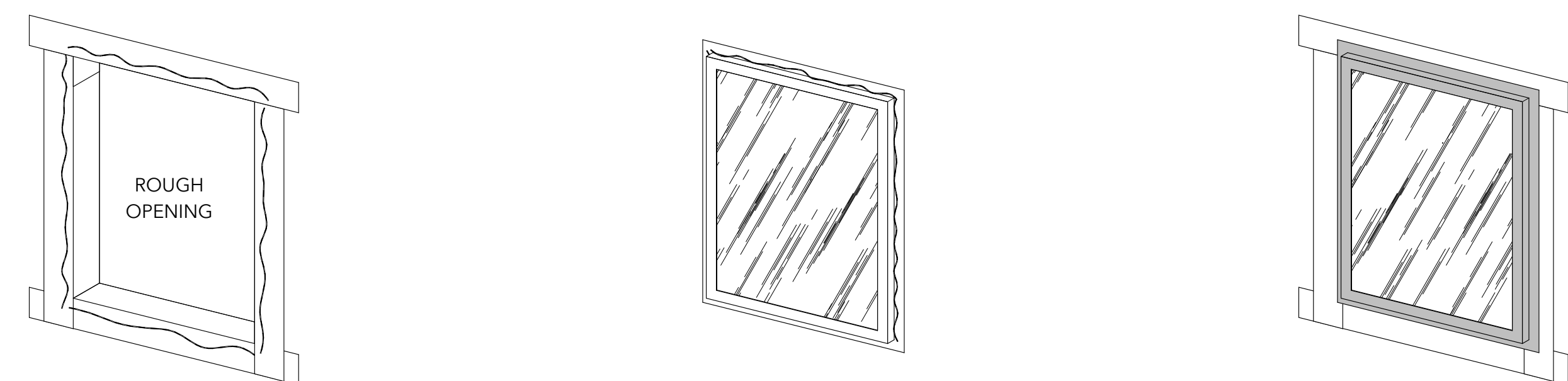
- BASEBOARD & TRIM REVEALS TO MATCH EXISTING, FINISH PER SPECIFICATIONS



**STEP 1**  
APPLY SILL FLASHING.  
PARTIALLY PULL RELEASE PAPER.

**STEP 2**  
APPLY SIDE FLASHING

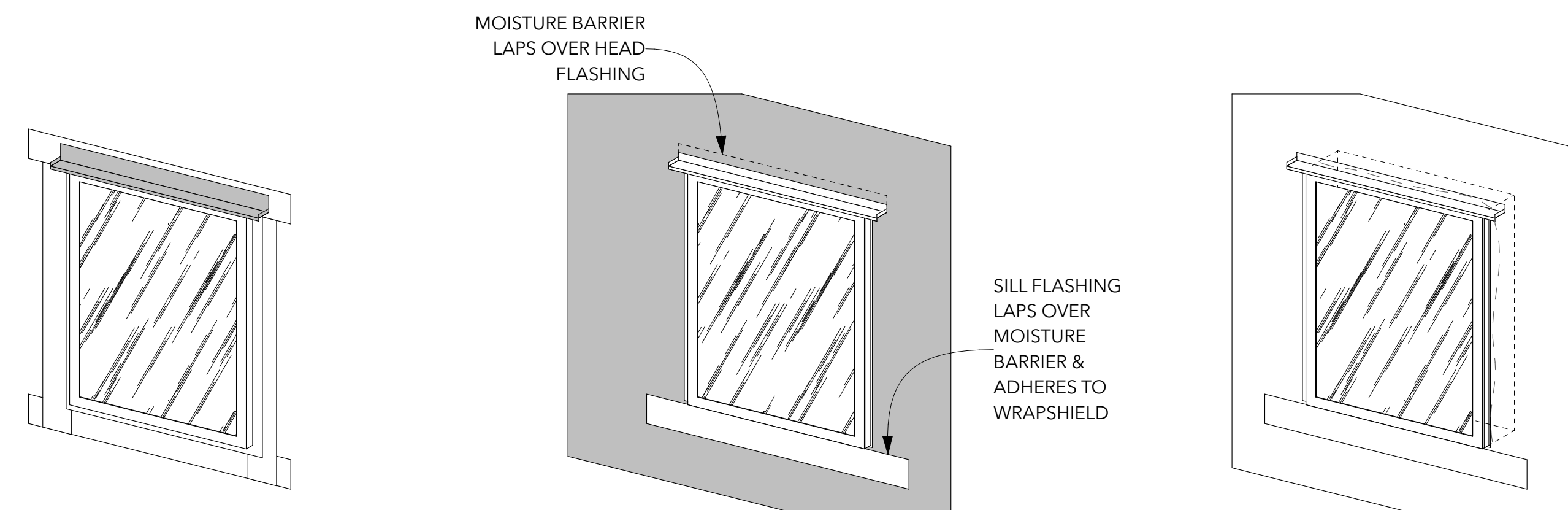
**STEP 3**  
APPLY HEAD FLASHING



**STEP 4**  
APPLY VAPROLIQUI-FLASH TO OPENING

**STEP 5**  
APPLY VAPROLIQUI-FLASH TO HEAD/JAMBS OF WINDOW

**STEP 6**  
INSTALL WINDOW



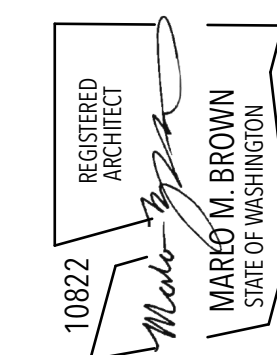
**STEP 7**  
METAL HEAD FLASHING, SET IN DOW 758 SEALANT AND FORM FOLDED UP END DAMS

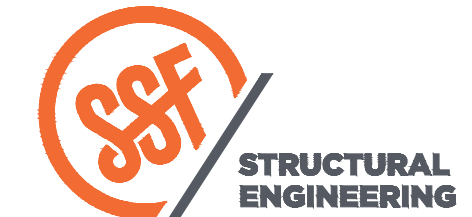
**STEP 8**  
SEAL EDGE OF WRAPSHIELD TO WINDOW FLANGE & METAL FLASHING W/ DOW 758 SEALANT

**STEP 9**  
APPLY DOW 758 SEALANT & BACKER ROD TO INTERIOR PRIOR TO APPLICATION OF LINER & STOOL

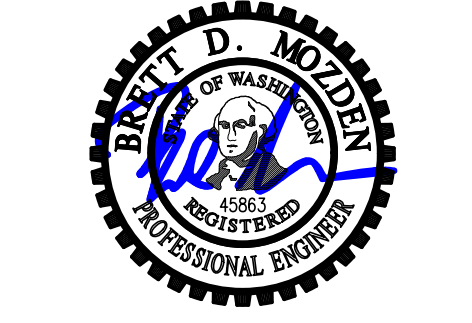
**WINDOW FLASHING ASSEMBLY**

NOT TO SCALE





**STRUCTURAL ENGINEERING**  
 SEATTLE  
 2124 Third Avenue, Suite 100  
 Seattle, WA 98121  
 TACOMA  
 934 Broadway, Suite 100  
 Tacoma, WA 98402  
 CENTRAL WASHINGTON  
 414 N Pearl Street, Suite 8  
 Ellensburg, WA 98926  
 206.443.6272  
 sseengineering.com  
 Copyright 2024 Swenson Sky Fagot - All Rights Reserved



DESIGN:	LAN
DRAWN:	NHD
CHECKED:	BDM
APPROVED:	BDM

REVISIONS:		
1	Permit Revisions	Jun. 5, 2024
2	Framing Updates	Jun. 17, 2024
3	Framing Updates	Jun. 28, 2024

PROJECT TITLE:

**Khandelwal Shankaran House**  
 8460 SE 83rd St  
 Mercer Island, WA 98040

ARCHITECT:  
**Marlo Brown Architects, LLC**  
 509 26th Ave S  
 Seattle, WA 98144

ISSUE:  
**PERMIT**

**General Structural Notes**

SCALE:  
 DATE: February 13, 2024  
 PROJECT NO: 11712-2022-01  
 SHEET NO:

**S1.1**

**General Structural Notes**

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

**CRITERIA**

- ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2018 EDITION).
- DESIGN LOADING CRITERIA:  
 RESIDENTIAL – ONE AND TWO-FAMILY DWELLINGS  
 FLOOR LIVE LOAD . . . . . 40 PSF  
 MISCELLANEOUS LOADS  
 DECKS . . . . . 1.5 x AREA SERVED  
 ENVIRONMENTAL LOADS  
 SNOW . . . . . Ce=1.0, Is=1.0, Ct=1.1, Cs=1.0, Pg=25 PSF, Pf=20 PSF  
 WIND . . . . . Gcpi=0.18, 110 MPH, RISK CATEGORY II, EXPOSURE "C"  
 EARTHQUAKE . . . ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE  
 LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS  
 SITE CLASS=D (DEFAULT), Ss=1.466, Sds=0.98, S1=0.505, Sd1=0.86, Cs=0.150, SDC D, Ie=1.0, R=6.5
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. ANY DISCREPANCIES FOUND among the DRAWINGS, THE SPECIFICATION, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK.
- PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS AND DETAILS. VERTICAL DIMENSION CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTION, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
- CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".
- CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.
- DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ALL TYPICAL NOTES AND DETAILS SHOWN ON DRAWINGS SHALL APPLY, UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE PLANS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO TYPICAL DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED OR REQUEST ADDITIONAL INFORMATION. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.
- ALL STRUCTURAL SYSTEMS, WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERRECTED, SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

**QUALITY ASSURANCE**

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

EXPANSION BOLTS AND THREADED EXPANSION INSERTS PER MANUFACTURER  
 EPOXY GROUTED INSTALLATIONS PER MANUFACTURER

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

**GEOTECHNICAL**

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

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

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

ALLOWABLE SOIL PRESSURE. . . . . 1500 PSF

**RENOVATION**

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

**CONCRETE**

- CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3,000 PSI AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. REQUIRED CONCRETE STRENGTH IS BASED ON THE DURABILITY REQUIREMENTS OF SECTION 1904 OF THE IBC. DESIGN STRENGTH IS f'c = 2,500 PSI.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, FY = 60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, FY = 40,000 PSI. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, FY = 60,000 PSI.
- DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315R-18 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT #5 AND SMALLER 40 BAR DIAMETERS OR 2' -0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 40 BAR DIAMETERS OR 2' -0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-14, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

- CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:  
 FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . 3"  
 FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER) . . . . . 2"  
 FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER) . . . 1-1/2"  
 COLUMN TIES OR SPIRALS AND BEAM STIRRUPS . . . . . 1-1/2"  
 SLABS AND WALLS (INT. FACE) . . . GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"
- CONCRETE WALL REINFORCING—PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE:  

6" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
8" WALLS	#4 @ 12 HORIZ.	#4 @ 18 VERTICAL	1 CURTAIN
10" WALLS	#4 @ 18 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS
12" WALLS	#4 @ 16 HORIZ.	#4 @ 18 VERTICAL	2 CURTAINS
- CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST-IN-PLACE AND PRECAST.
- EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) INTO CONCRETE SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-36" HIGH STRENGTH EPOXY AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY AND INSTALLED IN STRICT CONFORMANCE WITH ICC-ES REPORT NO. ESR-4057. MINIMUM BASE MATERIAL TEMPERATURE IS 40 DEGREES, F. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED. PERIODIC SPECIAL INSPECTION OF INSTALLATION IS REQUIRED TO VERIFY ANCHOR OR EMBEDDED BAR TYPE AND DIMENSIONS, LOCATION, ADHESIVE IDENTIFICATION AND EXPIRATION, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR HORIZONTAL AND OVERHEAD INSTALLATIONS.

**ANCHORAGE**

- EXPANSION BOLTS INTO CONCRETE SHALL BE "STRONG-BOLT 2" WEDGE ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY AND INSTALLED IN STRICT CONFORMANCE TO ICC-ES REPORT NUMBER ESR-3037, INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. PERIODIC SPECIAL INSPECTION IS REQUIRED TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, ANCHOR LOCATION, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS.
- EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) INTO CONCRETE SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-36" HIGH STRENGTH EPOXY AS MANUFACTURED BY THE SIMPSON STRONG, TIE COMPANY. INSTALL IN STRICT CONFORMANCE WITH ICC-ES REPORT NO. ESR-4057. MINIMUM BASE MATERIAL TEMPERATURE IS 40 DEGREES, F. RODS SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED. PERIODIC SPECIAL INSPECTION OF INSTALLATION IS REQUIRED TO VERIFY ANCHOR OR EMBEDDED BAR TYPE AND DIMENSIONS, LOCATION, ADHESIVE IDENTIFICATION AND EXPIRATION, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR EMBEDMENT, AND ADHERENCE TO THE INSTALLATION INSTRUCTIONS. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR HORIZONTAL AND OVERHEAD INSTALLATIONS.

**WOOD**

JOISTS AND BEAMS	(2X & 3X MEMBERS)	DOUG-FIR NO. 2	MINIMUM BASE VALUE, Fb = 900 PSI
	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 1	MINIMUM BASE VALUE, Fb = 1000 PSI
BEAMS	(INCL. 6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1	MINIMUM BASE VALUE, Fb = 1350 PSI
POSTS	(4X MEMBERS)	DOUGLAS FIR-LARCH NO. 2	MINIMUM BASE VALUE, Fc = 1350 PSI
	(6X AND LARGER)	DOUGLAS FIR-LARCH NO. 1	MINIMUM BASE VALUE, Fc = 1000 PSI
STUDS, PLATES & MISC. FRAMING:		DOUGLAS FIR-LARCH NO. 2	

- GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA CERTIFICATE OF PERFORMANCE. ALL SIMPLE SPAN BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2,400 PSI, Fv =265 PSI. ALL CANTILEVERED BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI.
- MANUFACTURED LUMBER, PSL, LVL, AND LSL SHOWN ON PLAN ARE BASED PRODUCTS MANUFACTURED BY THE MEYERHAEUSER CORPORATION IN ACCORDANCE WITH ICC-ES REPORT ESR-1387. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PSL (2.2E WS)	Fb = 2900 PSI, E = 2200 KSI, Fv = 290 PSI
LVL (2.0E-2600FB WS)	Fb = 2600 PSI, E = 2000 KSI, Fv = 285 PSI
LSL (1.55E)	Fb = 2325 PSI, E = 1550 KSI, Fv = 310 PSI

ALTERNATE MANUFACTURED LUMBER MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE MANUFACTURER'S PRODUCTS SHALL BE COMPATIBLE WITH THE JOIST HANGERS AND OTHER HARDWARE SPECIFIED ON PLANS, OR ALTERNATE HANGERS AND HARDWARE SHALL SUBMITTED FOR REVIEW AND APPROVAL. SUBSTITUTED ITEMS SHALL HAVE ICC-ES REPORT APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES.

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

- PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS 1 OR PS 2.

ROOF SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 32/16.  
 FLOOR SHEATHING SHALL BE 3/4" (NOMINAL) WITH SPAN RATING 48/24.  
 WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING 24/0.

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

REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

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

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

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

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

- TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2021. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER FOR MAXIMUM LOAD CARRYING CAPACITY. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

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

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

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

- WOOD FASTENERS
  - NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
6d	2"	0.113"
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"
16d BOX	3-1/2"	0.135"

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

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

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

- NOTCHES AND HOLES IN WOOD FRAMING:

- NOTCHES ON THE ENDS OF SOLID SAWN JOISTS AND RAFTERS SHALL NOT EXCEED ONE-FOURTH THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF SOLID SAWN JOISTS SHALL NOT EXCEED ONE-SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. HOLES BORED IN SOLID SAWN JOISTS AND RAFTERS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE JOIST.

- IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

- NOTCHES AND HOLES IN MANUFACTURED LUMBER AND PREFABRICATED PLYWOOD WEB JOISTS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS UNLESS OTHERWISE NOTED.

- WOOD FRAMING NOTES—THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:

- ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE, THE AITC "TIMBER CONSTRUCTION MANUAL" AND THE AWC "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO IBC TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.

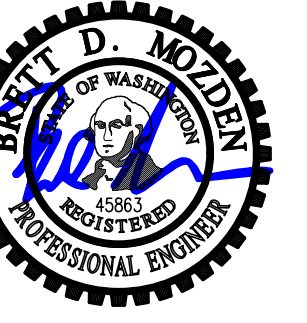
- WALL FRAMING: REFER ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16" O.C. UNO. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. TWO 2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS NOT OTHERWISE NOTED. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10' -0" IN HEIGHT.

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

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

- FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING BETWEEN RAFTERS AND JOISTS AT ALL BEARING POINTS WITH A MINIMUM OF (3) 16d TOE NAILS EACH END. TOE-NAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI JOIST BEAMS TOGETHER WITH TWO ROWS 16d @ 12" ON-CENTER.

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

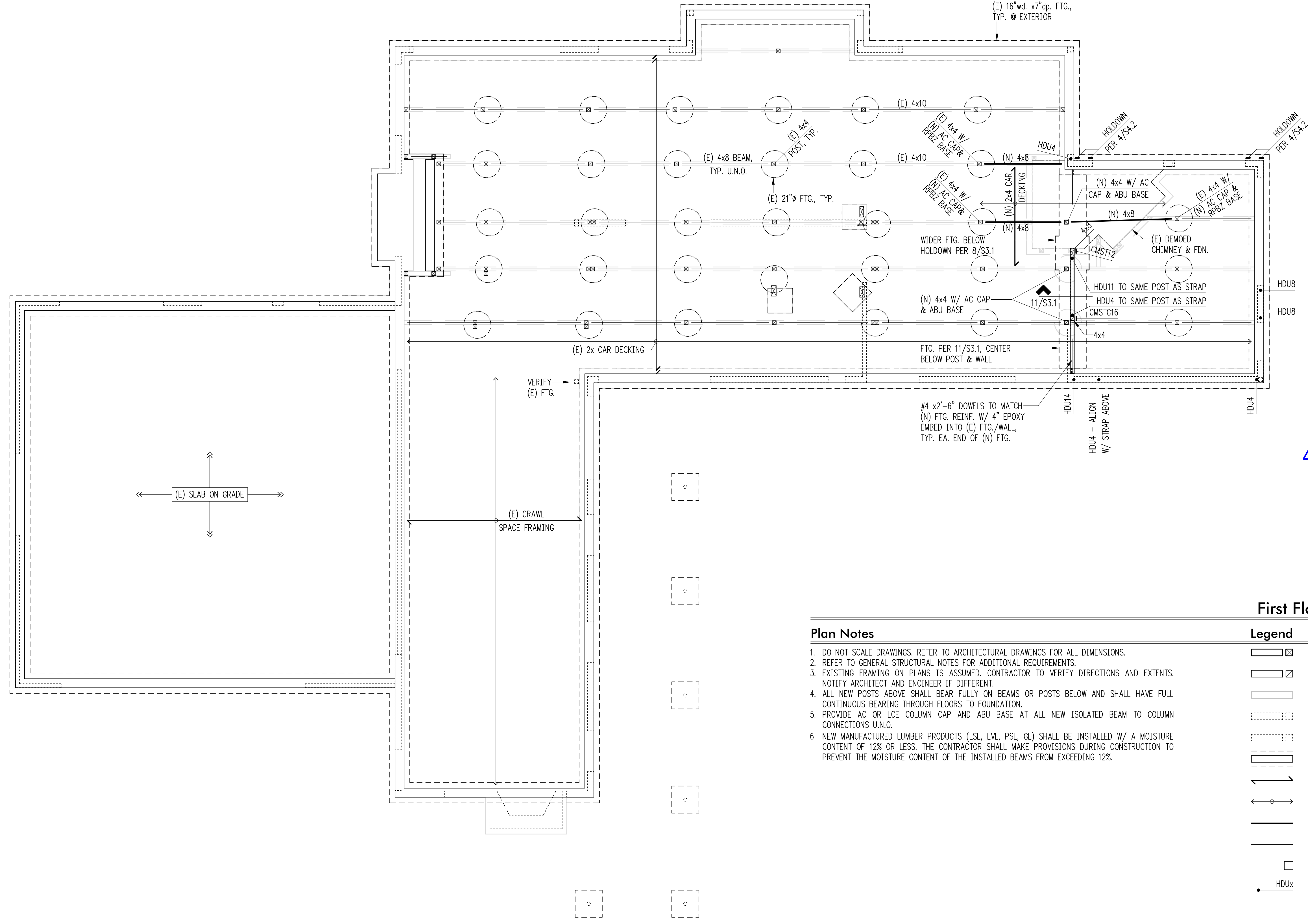


DESIGN: LAN  
 DRAWN: NHD  
 CHECKED: BDM  
 APPROVED: BDM

REVISIONS:

1	Permit Revisions	Jun. 5, 2024
2	Framing Updates	Jun. 17, 2024
3	Framing Updates	Jun. 28, 2024

DPD:



**First Floor Framing/Foundation Plan**

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

**Plan Notes**

- DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
- REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
- EXISTING FRAMING ON PLANS IS ASSUMED. CONTRACTOR TO VERIFY DIRECTIONS AND EXTENTS. NOTIFY ARCHITECT AND ENGINEER IF DIFFERENT.
- ALL NEW POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
- PROVIDE AC OR LCE COLUMN CAP AND ABU BASE AT ALL NEW ISOLATED BEAM TO COLUMN CONNECTIONS U.N.O.
- NEW MANUFACTURED LUMBER PRODUCTS (LSL, LVL, PSL, GL) SHALL BE INSTALLED W/ A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF THE INSTALLED BEAMS FROM EXCEEDING 12%.

**Legend**

- NEW STRUCTURAL WALL OR POST BELOW
- EXISTING WALL OR POST BELOW
- NON-STRUCTURAL WALL BELOW
- NEW STRUCTURAL WALL OR POST ABOVE
- EXISTING STRUCTURAL WALL OR POST ABOVE
- EXISTING STEM WALL & FOOTING
- SPAN DIRECTION
- EXTENT OF JOISTS
- NEW HEADER/BEAM PER PLAN
- EXISTING HEADER/BEAM
- HANGER
- HDUx  
 HOLDOWN PER 12/S3.1 INTO (E) CONCRETE, U.N.O.  
 HOLDOWN PER 8/S3.1 INTO (N) CONCRETE, U.N.O.

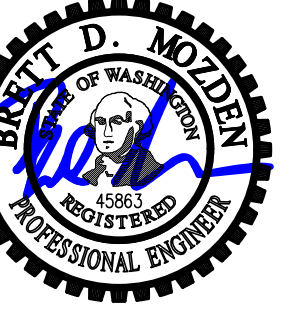
PROJECT TITLE:  
**Khandelwal Shankaran House**  
 8460 SE 83rd St  
 Mercer Island, WA 98040

ARCHITECT:  
**Marlo Brown Architects, LLC**  
 509 26th Ave S  
 Seattle, WA 98144

ISSUE:  
**PERMIT**

SHEET TITLE:  
**First Floor Framing/ Foundation Plan**

SCALE: 1/4" = 1'-0" U.N.O.  
 DATE: February 13, 2024  
 PROJECT NO: 11712-2022-01  
 SHEET NO:

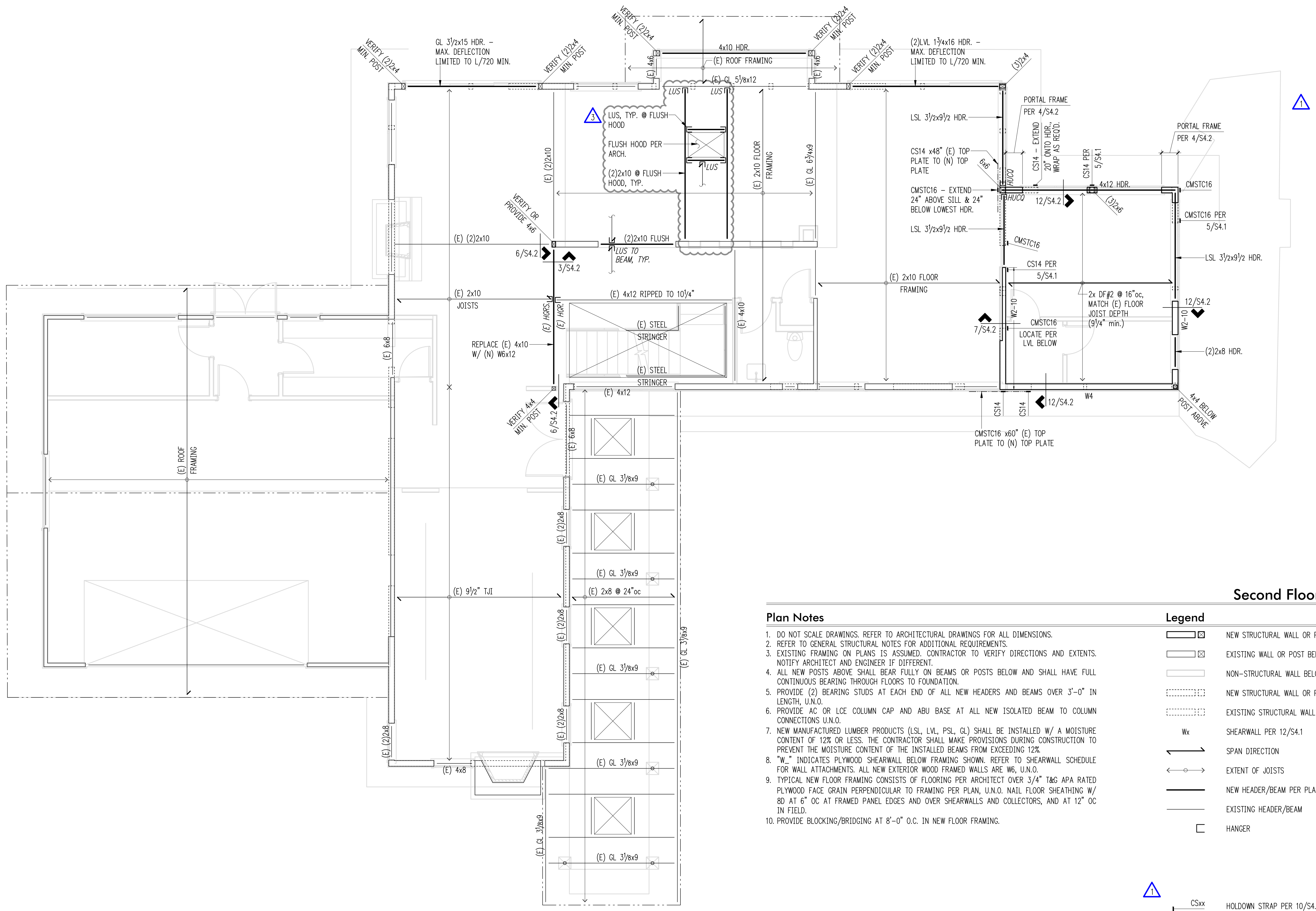


DESIGN: LAN  
 DRAWN: NHD  
 CHECKED: BDM  
 APPROVED: BDM

REVISIONS:

1	Permit Revisions	Jun. 5, 2024
2	Framing Updates	Jun. 17, 2024
3	Framing Updates	Jun. 28, 2024

DPD:



### Second Floor Framing Plan

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



#### Plan Notes

- DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
- REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
- EXISTING FRAMING ON PLANS IS ASSUMED. CONTRACTOR TO VERIFY DIRECTIONS AND EXTENTS. NOTIFY ARCHITECT AND ENGINEER IF DIFFERENT.
- ALL NEW POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
- PROVIDE (2) BEARING STUDS AT EACH END OF ALL NEW HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.N.O.
- PROVIDE AC OR LCE COLUMN CAP AND ABU BASE AT ALL NEW ISOLATED BEAM TO COLUMN CONNECTIONS U.N.O.
- NEW MANUFACTURED LUMBER PRODUCTS (LSL, LVL, PSL, GL) SHALL BE INSTALLED W/ A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF THE INSTALLED BEAMS FROM EXCEEDING 12%.
- "W\_" INDICATES PLYWOOD SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS. ALL NEW EXTERIOR WOOD FRAMED WALLS ARE W6, U.N.O.
- TYPICAL NEW FLOOR FRAMING CONSISTS OF FLOORING PER ARCHITECT OVER 3/4" T&G APA RATED PLYWOOD FACE GRAIN PERPENDICULAR TO FRAMING PER PLAN, U.N.O. NAIL FLOOR SHEATHING W/ 8D AT 6" OC AT FRAMED PANEL EDGES AND OVER SHEARWALLS AND COLLECTORS, AND AT 12" OC IN FIELD.
- PROVIDE BLOCKING/BRIDGING AT 8'-0" O.C. IN NEW FLOOR FRAMING.

#### Legend

- NEW STRUCTURAL WALL OR POST BELOW
- EXISTING WALL OR POST BELOW
- NON-STRUCTURAL WALL BELOW
- NEW STRUCTURAL WALL OR POST ABOVE
- EXISTING STRUCTURAL WALL OR POST ABOVE
- Wx SHEARWALL PER 12/S4.1
- SPAN DIRECTION
- EXTENT OF JOISTS
- NEW HEADER/BEAM PER PLAN
- EXISTING HEADER/BEAM
- HANGER
- CSxx HOLDOWN STRAP PER 10/S4.1

PROJECT TITLE:  
**Khandelwal Shankaran House**  
 8460 SE 83rd St  
 Mercer Island, WA 98040

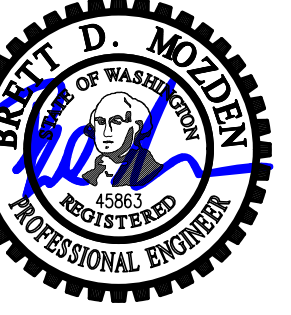
ARCHITECT:  
**Marlo Brown Architects, LLC**  
 509 26th Ave S  
 Seattle, WA 98144

ISSUE:  
**PERMIT**

SHEET TITLE:  
**Second Floor Framing Plan**

SCALE: 1/4" = 1'-0" U.N.O.  
 DATE: February 13, 2024  
 PROJECT NO: 11712-2022-01  
 SHEET NO:

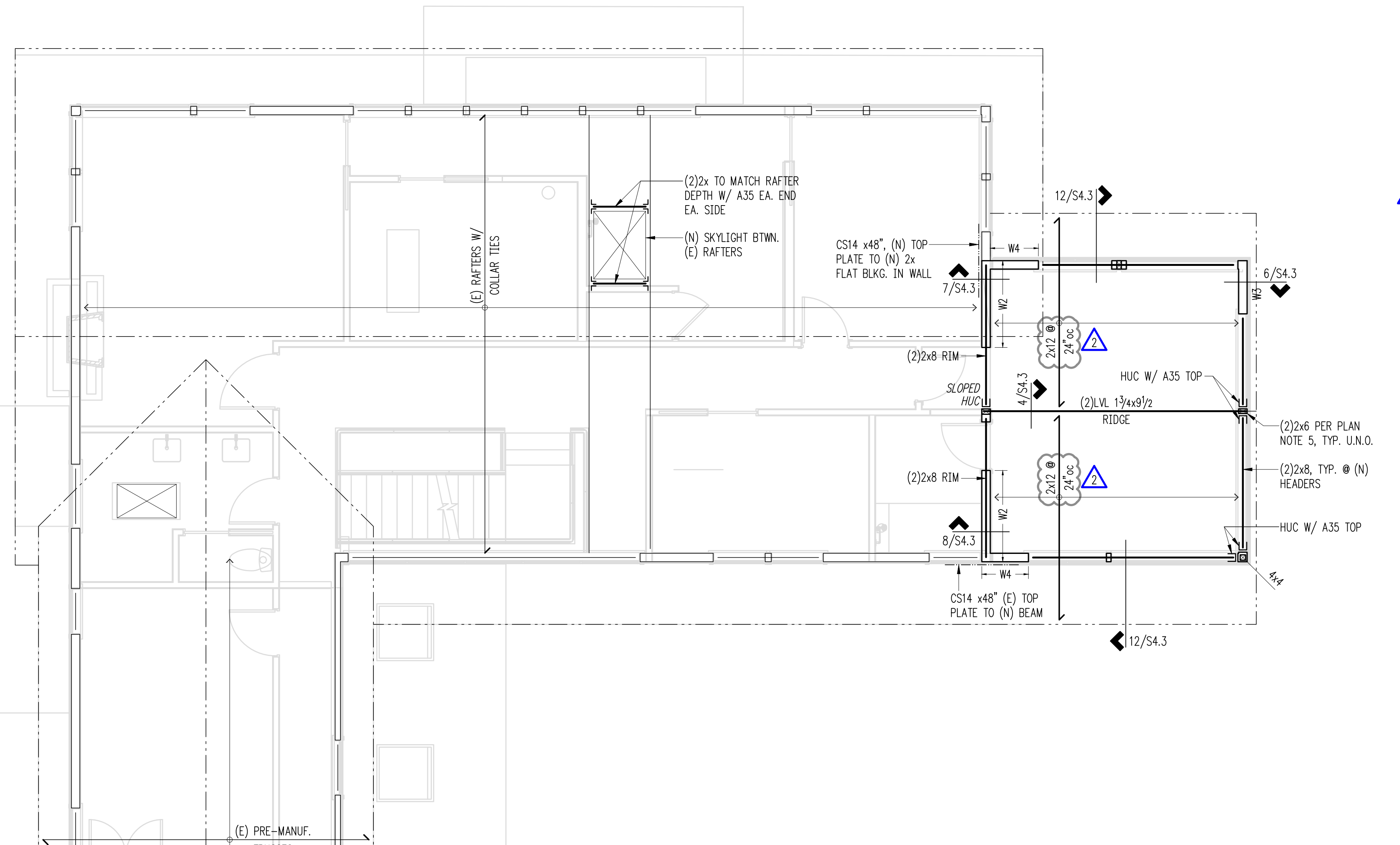
**S2.2**



DESIGN:	LAN
DRAWN:	NHD
CHECKED:	BDM
APPROVED:	BDM

REVISIONS:		
1	Permit Revisions	Jun. 5, 2024
2	Framing Updates	Jun. 17, 2024
3	Framing Updates	Jun. 28, 2024

DPD:



**Roof Framing Plan**  
 Scale: 1/4" = 1'-0"

**Plan Notes**

- DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
- REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
- EXISTING FRAMING ON PLANS IS ASSUMED. CONTRACTOR TO VERIFY DIRECTIONS AND EXTENTS. NOTIFY ARCHITECT AND ENGINEER IF DIFFERENT.
- ALL NEW POSTS ABOVE SHALL BEAR FULLY ON BEAMS OR POSTS BELOW AND SHALL HAVE FULL CONTINUOUS BEARING THROUGH FLOORS TO FOUNDATION.
- PROVIDE (2) BEARING STUDS AT EACH END OF ALL NEW HEADERS AND BEAMS OVER 3'-0" IN LENGTH, U.N.O.
- PROVIDE AC OR LCE COLUMN CAP AND ABU BASE AT ALL NEW ISOLATED BEAM TO COLUMN CONNECTIONS U.N.O.
- NEW MANUFACTURED LUMBER PRODUCTS (LSL, LVL, PSL, GL) SHALL BE INSTALLED W/ A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCTION TO PREVENT THE MOISTURE CONTENT OF THE INSTALLED BEAMS FROM EXCEEDING 12%.
- PROVIDE H1 AT ENDS OF ALL NEW RAFTERS, U.N.O.
- "W\_" INDICATES PLYWOOD SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE FOR WALL ATTACHMENTS. ALL NEW EXTERIOR WOOD FRAMED WALLS ARE W6, U.N.O.
- TYPICAL NEW ROOF FRAMING CONSISTS OF ROOFING PER ARCHITECTURAL DRAWINGS OVER 1/2" CDX APA RATED SHEATHING (EXPOSURE 1), FACE GRAIN PERPENDICULAR TO FRAMING PER PLAN, U.N.O. NAIL ROOF SHEATHING WITH 8D AT 6" O.C. AT ALL FRAMED PANEL EDGES AND OVER SHEARWALLS AND COLLECTORS, AND AT 12" O.C. FIELD.

**Legend**

- NEW STRUCTURAL WALL OR POST BELOW
- EXISTING WALL OR POST BELOW
- NON-STRUCTURAL WALL BELOW
- Wx SHEARWALL PER 12/S4.1
- SPAN DIRECTION
- EXTENT OF JOISTS
- NEW HEADER/BEAM PER PLAN
- EXISTING HEADER/BEAM
- HANGER

PROJECT TITLE:  
**Khandelwal Shankaran House**  
 8460 SE 83rd St  
 Mercer Island, WA 98040

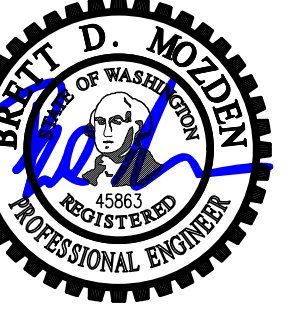
ARCHITECT:  
**Marlo Brown Architects, LLC**  
 509 26th Ave S  
 Seattle, WA 98144

ISSUE:  
**PERMIT**

SHEET TITLE:  
**Roof Framing Plan**

SCALE: 1/4" = 1'-0" U.N.O.  
 DATE: February 13, 2024  
 PROJECT NO: 11712-2022-01  
 SHEET NO:

**S2.3**



DESIGN: LAN  
 DRAWN: NHD  
 CHECKED: BDM  
 APPROVED: BDM

1

2

3

4

5

6

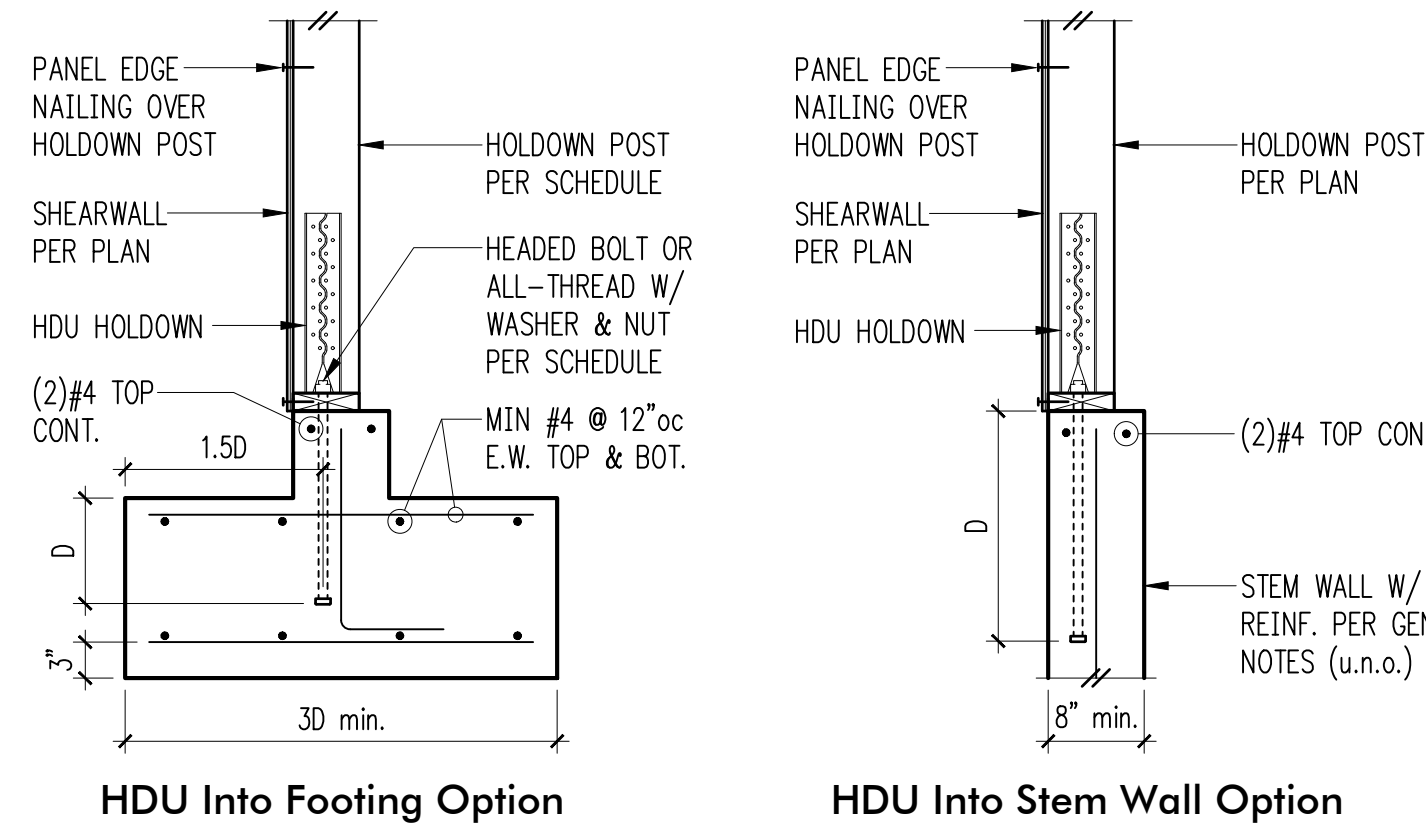
8

9

10

11

12



**Holdown Schedule**

Plan Mark	Screws	Anchor Bolt	Min. A.B. Embed (D)	Stem Wall	Footing	Holdown Post ①
						if 2x4 if 2x6
HDU2-SDS2.5	(6)SDS 1/4"x2 1/2"	5/8"φ	12"	4"		(2) 2x4 (2) 2x6
HDU4-SDS2.5	(10)SDS 1/4"x2 1/2"	5/8"φ	18"	6"		4x4 4x6
HDU5-SDS2.5	(14)SDS 1/4"x2 1/2"	5/8"φ	SB9/8x24	7"		4x4 4x6
HDU8-SDS2.5	(20)SDS 1/4"x2 1/2"	7/8"φ	SSTB28	8"		4x6 6x6
HDU11-SDS2.5	(30)SDS 1/4"x2 1/2"	1"φ	SB1x30	10"		4x8 6x6
HDU14-SDS2.5	(36)SDS 1/4"x2 1/2"	1"φ	N/A	12"		4x8 6x6

① MINIMUM SIZE OF POST AT END OF WALL UNLESS OTHERWISE NOTED ON FRAMING PLANS.

REVISIONS:

1	Permit Revisions	Jun. 5, 2024
2	Framing Updates	Jun. 17, 2024
3	Framing Updates	Jun. 28, 2024

DPD:

PROJECT TITLE:  
**Khandelwal Shankaran House**  
 8460 SE 83rd St  
 Mercer Island, WA 98040

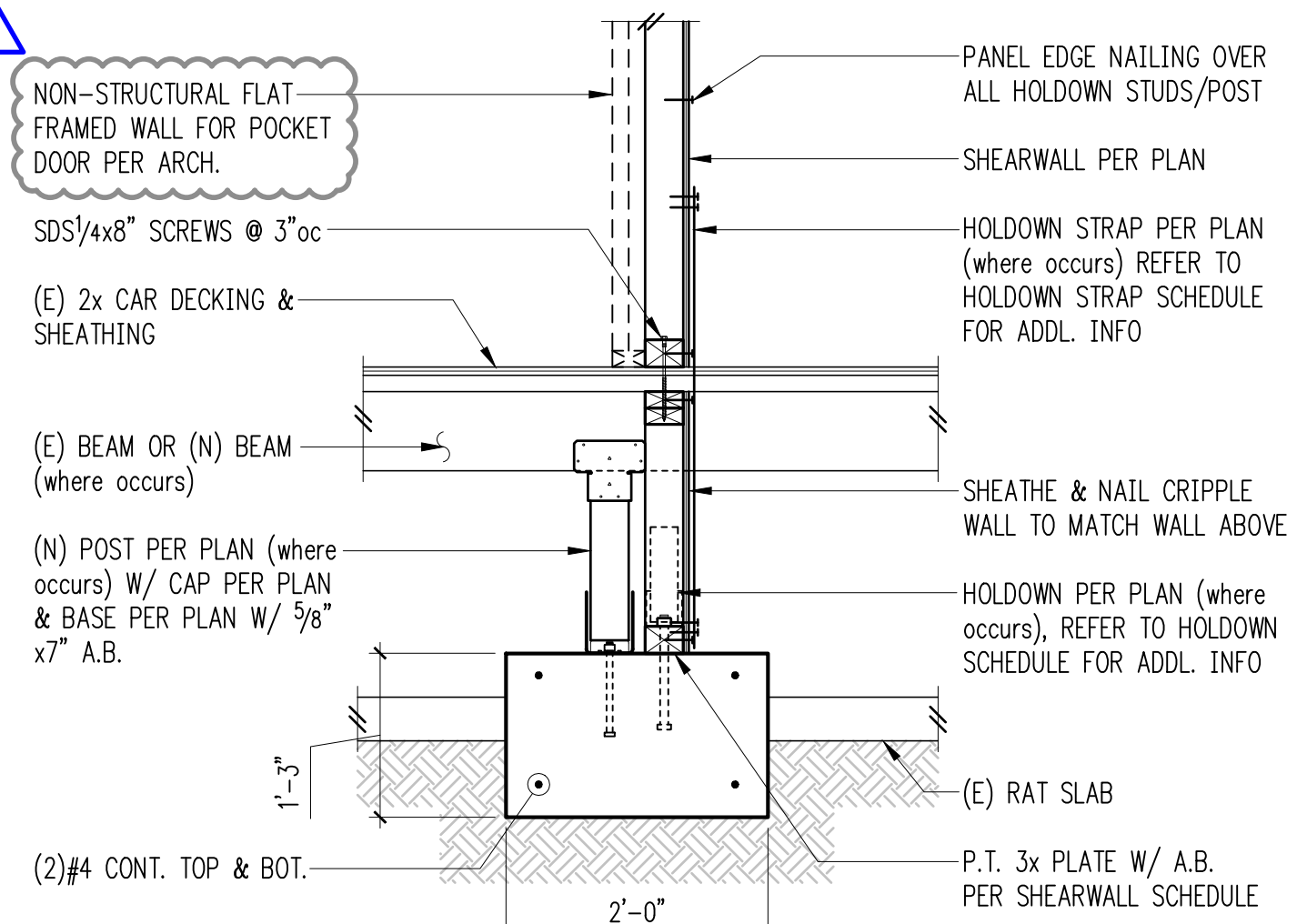
ARCHITECT:  
**Marlo Brown Architects, LLC**  
 509 26th Ave S  
 Seattle, WA 98144

ISSUE:  
**PERMIT**

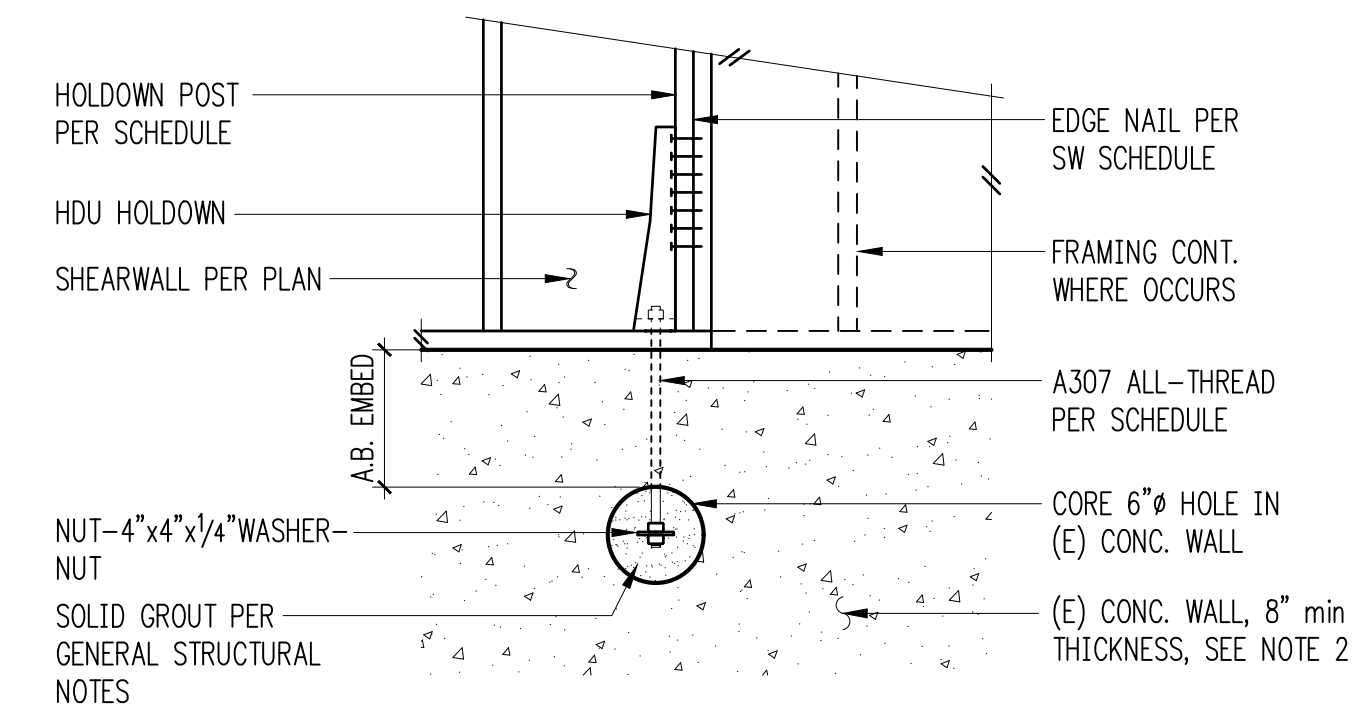
SHEET TITLE:  
**Foundation Details**

SCALE: 3/4" = 1'-0" U.N.O.  
 DATE: February 13, 2024  
 PROJECT NO: 11712-2022-01  
 SHEET NO:

**S3.1**



- ALL FASTENERS INTO PRESSURE TREATED WOOD SHALL BE GALV. OR STAINLESS STEEL PER GENERAL NOTES
- REFER SHEARWALL SCHEDULE FOR ADDITIONAL RIM & SILL PLATE SIZE REQUIREMENTS



**Holdown Schedule**

Plan Mark	Screws	Anchor Bolt	A.B. Embed	Holdown Post ①
				if 2x4 if 2x6
HDU4	(10)SDS 1/4"x2 1/2"	5/8"φ	12"	4x4 4x6
HDU8	(20)SDS 1/4"x2 1/2"	7/8"φ	22"	4x6 4x6
HDU11	(30)SDS 1/4"x2 1/2"	1"φ	24"	4x6 4x6
HDU14	(36)SDS 1/4"x2 1/2"	1"φ	36"	4x8 6x6

① MINIMUM SIZE OF POST AT END OF WALL UNLESS OTHERWISE NOTED ON FRAMING PLANS.  
 ② FIELD VERIFY CONCRETE WALL THICKNESS. ENGINEER TO BE NOTIFIED IF EXISTING WALL THICKNESS IS LESS THAN 8".

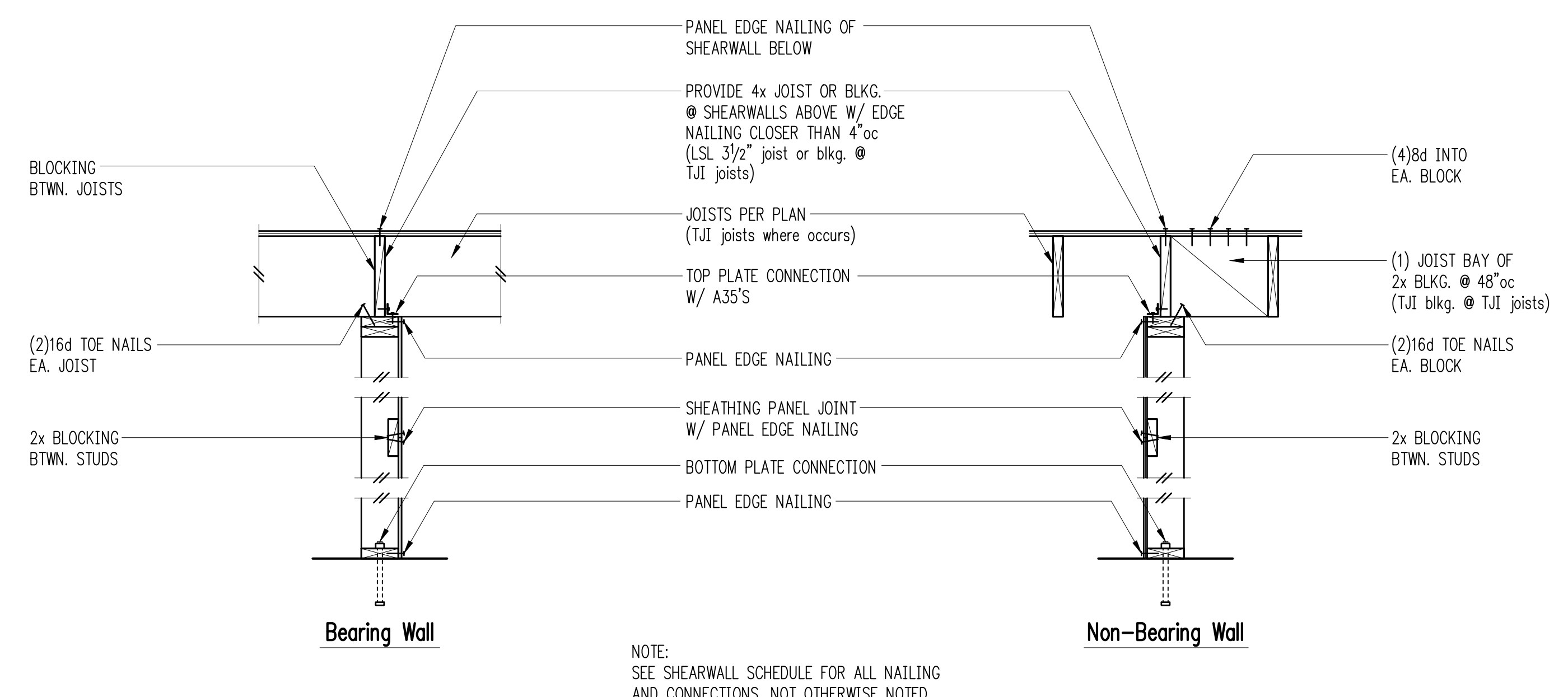
**Typical HDU Holdown at Existing Concrete Wall**

	A	B	C
PLAN VIEW			
SECTION			
# OF WOOD BMS (LVL)	2-1 3/4"	3-1 3/4"	4-1 3/4"
SDW22 SCREW SIZE	0.220x3	0.220x5	0.220x6
# OF SDW22 SCREWS	2	2	2
SPACING OF SDW22 SCREWS	12"OC	12"OC	12"OC

NOTES:  
- MIN. SCREW END DISTANCE = 6"

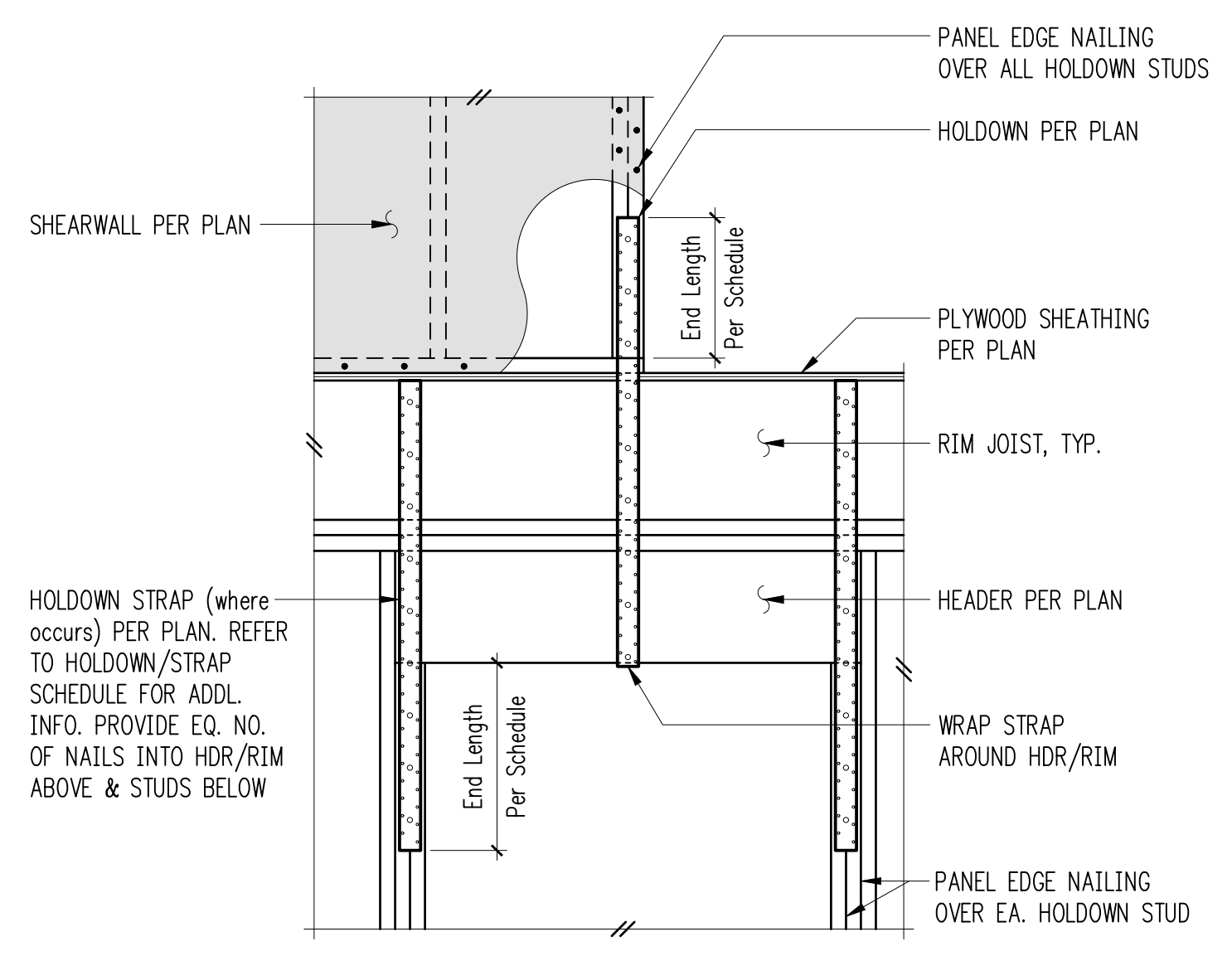
NOTE: MAY USE SDS 1/4"  
@ CONTRACTORS OPTION

Sistering Schedule for Multi Beams (SDWS) 2

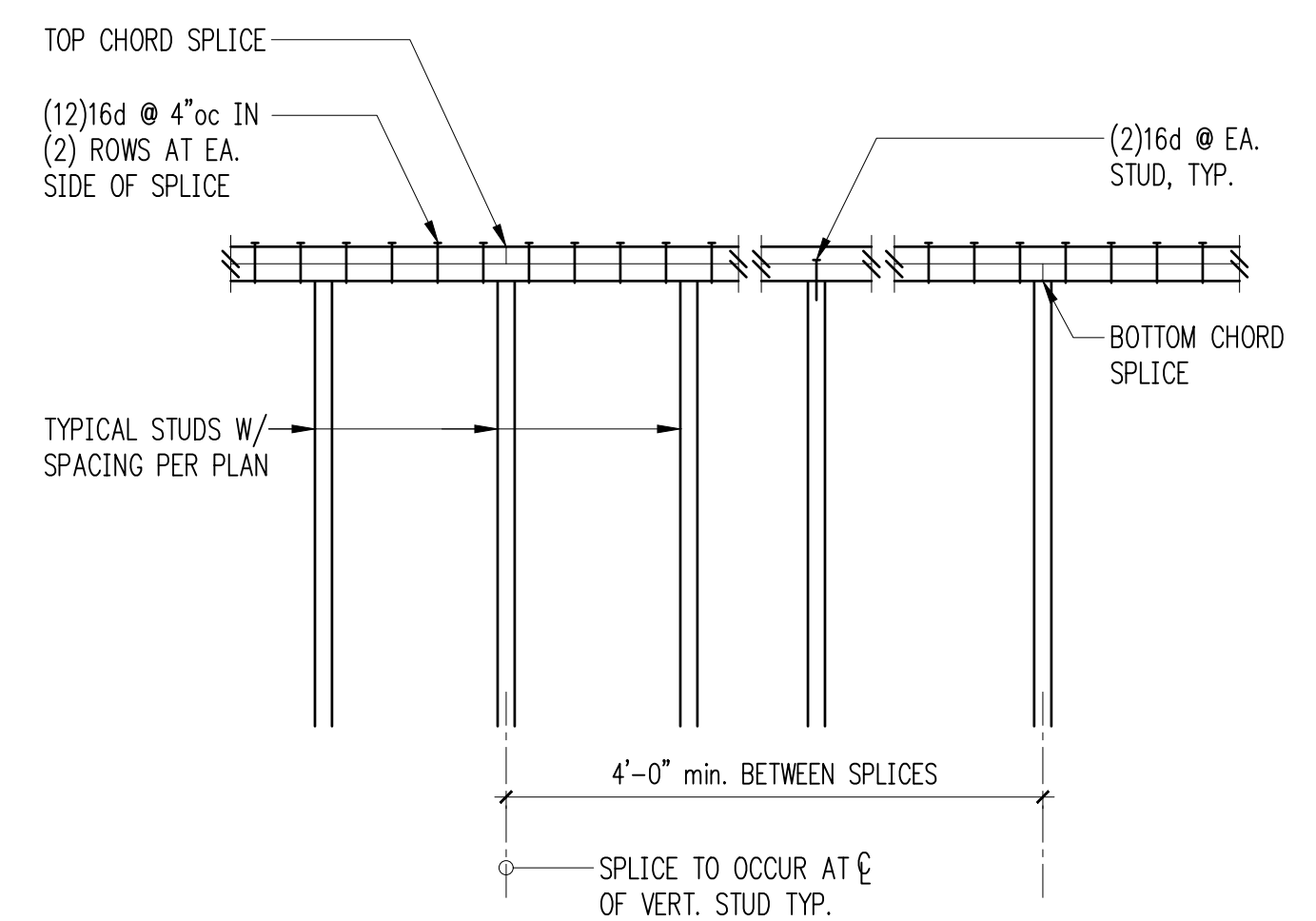


NOTE:  
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, NOT OTHERWISE NOTED

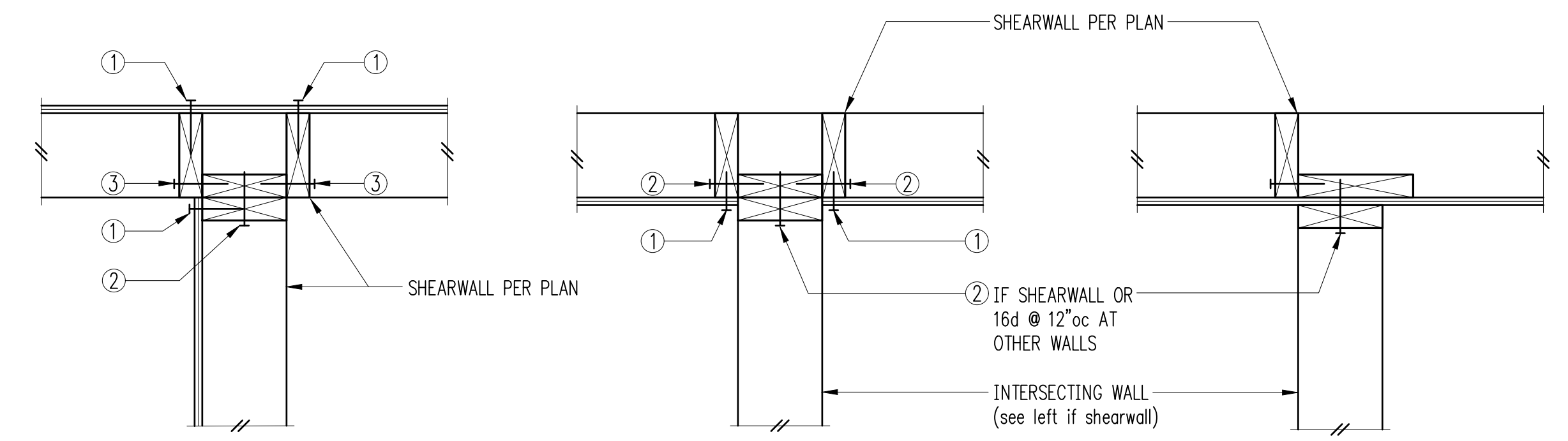
Typical Shearwall Construction 4



Typical Strap over Beam 5

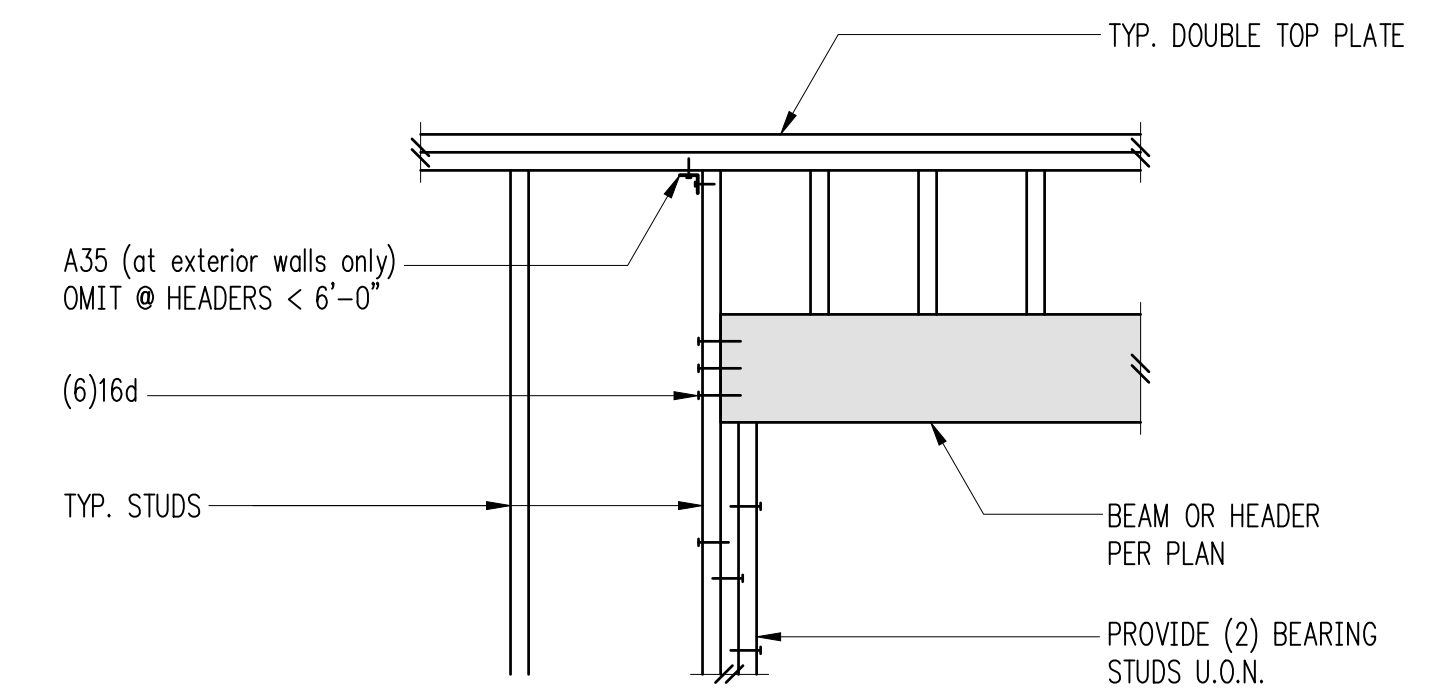


Typical Top Plate Splice 6

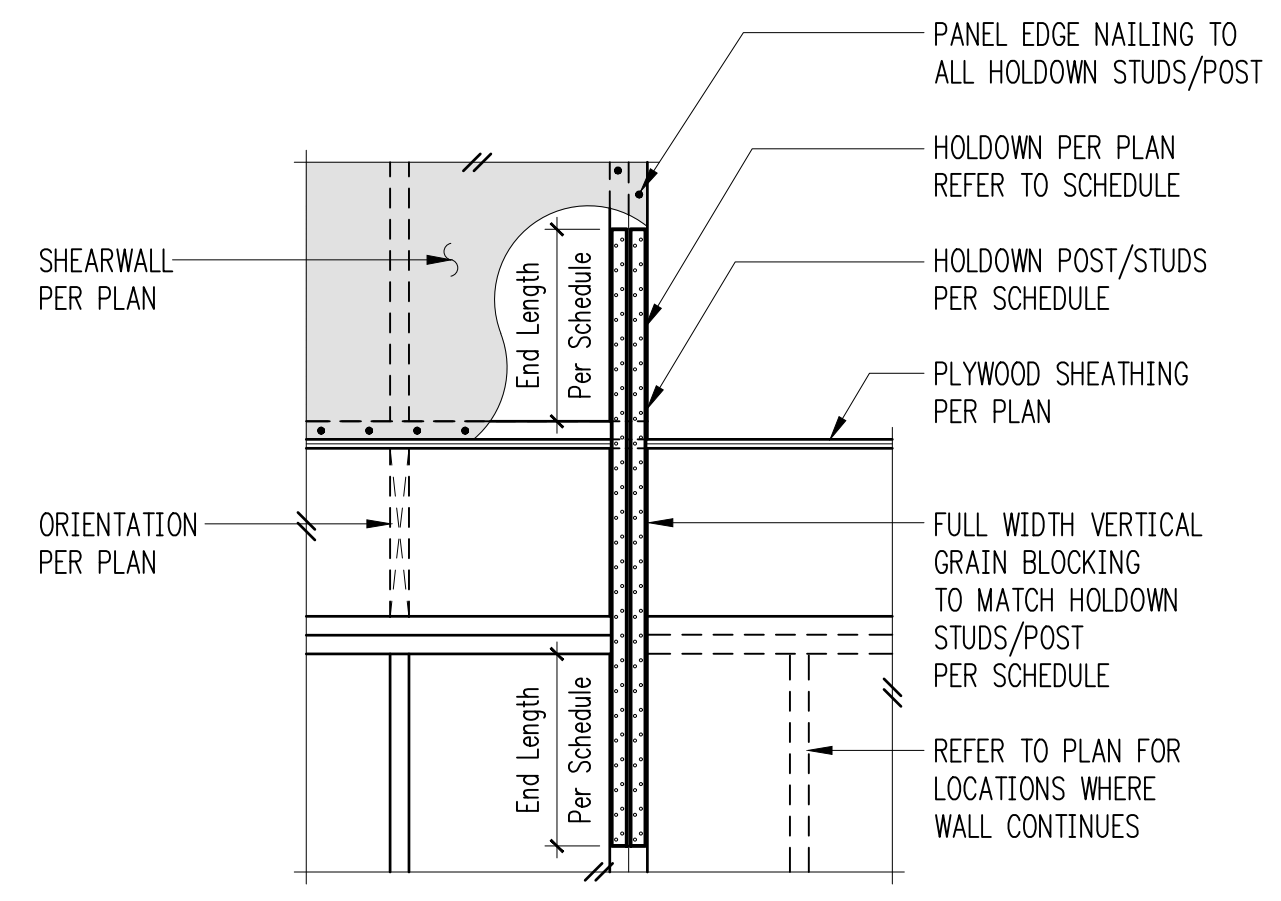


- ① PLYWOOD PANEL EDGE NAILING PER SHEARWALL SCHEDULE
- ② BASE PLATE NAILING PER SHEARWALL SCHEDULE
- ③ 16d @ 8"oc

Typical Shearwall Intersections 8



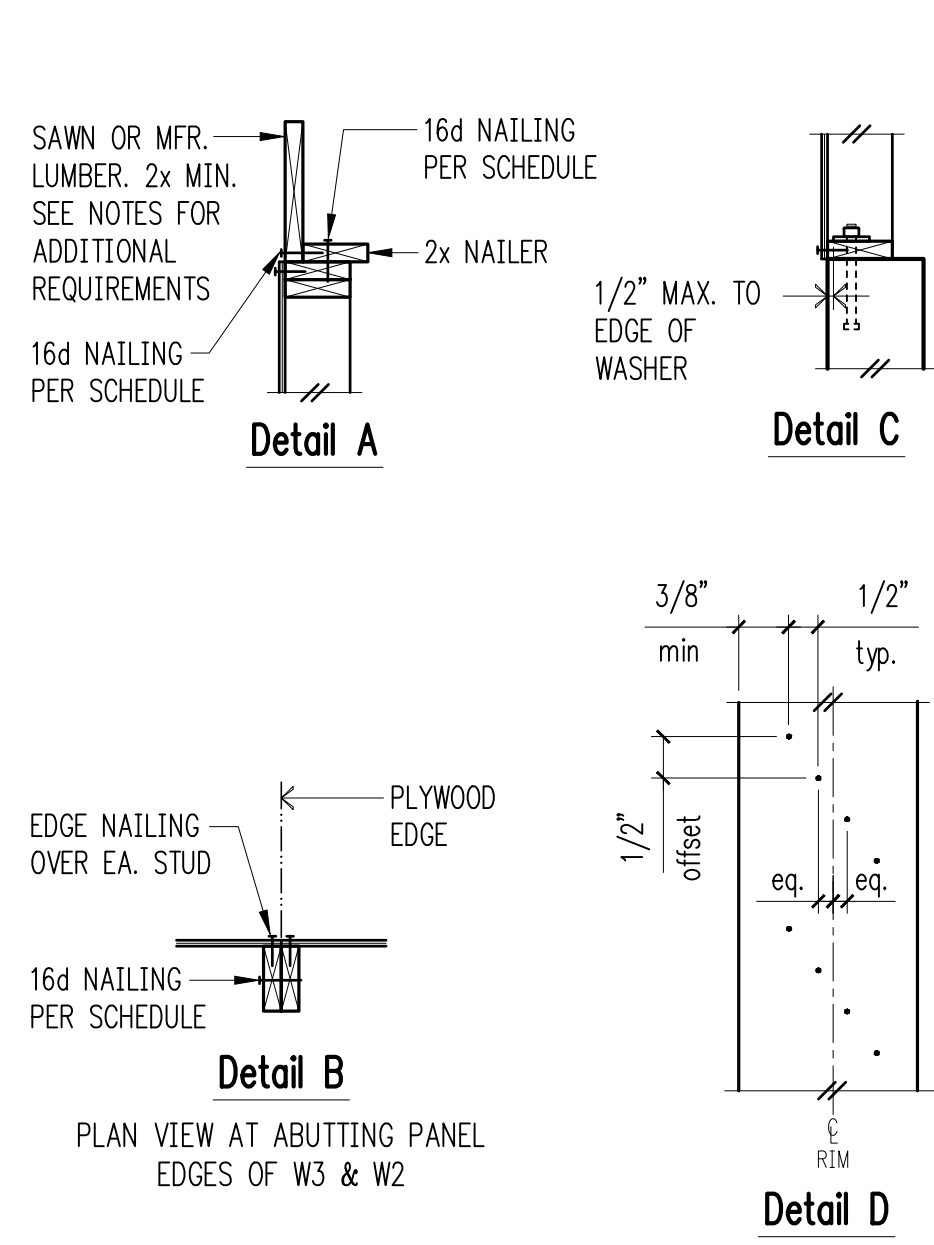
Typical Header Support w/2 Bearing Studs 9



**Holdown Strap Schedule**

Plan Mark	End Length	#Nails Ea. End Length	Holdown Studs/Post	
			if 2x4	if 2x6
CS14	1'-7"	(18) 8d	(2) 2x4	(2) 2x6
CMSTC16	1'-8"	(25) 12d	4x4	4x6
CMST12	2'-9"	(25) 0.162" x 2 1/2"	4x8	6x6

Typical Holdown Schedule 10

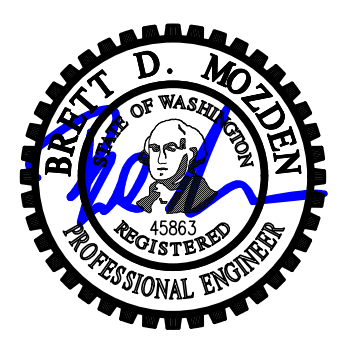


**Shearwall Schedule** ①②③④⑤⑥⑦

Mark	Sheathing	Panel Edge Nailing	Top Plate Connection		Base Plate Connection	
			if TJI	if Wood	at Wood	at Concrete
W6	15/32" CDX PLYWOOD	8d @ 6"oc	16d @ 6"oc	A35 @ 24"oc	16d @ 6"oc	5/8" A.B. @ 48"oc
W4	15/32" CDX PLYWOOD	8d @ 4"oc	16d @ 4"oc	A35 @ 16"oc	(2)rows 16d @ 6"oc	5/8" A.B. @ 32"oc
W3	15/32" CDX PLYWOOD	8d @ 3"oc	(2)rows 16d @ 4"oc	A35 @ 12"oc	(2)rows 16d @ 6"oc	5/8" A.B. @ 24"oc
W2	15/32" CDX PLYWOOD	8d @ 2"oc	(2)rows 16d @ 4"oc	A35 @ 9"oc	(2)rows 16d @ 4"oc	5/8" A.B. @ 16"oc
W2-10	15/32" CDX PLYWOOD	10d @ 2"oc	n/a	A35 @ 6"oc	(3)rows 16d @ 4"oc	5/8" A.B. @ 12"oc

- ① BLOCK PANEL EDGES WITH 2x MIN. LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d @ 12"oc.
- ② 8d NAILS SHALL BE 0.131" x 2 1/2" (common) - 16d NAILS SHALL BE 0.135" x 3 1/2" (box) - 10d NAILS SHALL BE 0.148" x 3" (common).
- ③ EMBED ANCHOR BOLTS AT LEAST 7". DRILLED AND EPOXIED THREADED ROD MAY BE SUBSTITUTED FOR ANCHOR BOLTS WITH 6" EMBEDMENT. TITEN HD SCREW ANCHORS MAY BE SUBSTITUTED FOR ANCHOR BOLTS W/ 4" EMBEDMENT. ALL BOLTS SHALL HAVE 3" x 3" x 1/4" MIN. PLATE WASHERS. PLATE WASHERS SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE WITH SHEATHING. SEE DETAIL C.
- ④ 3x STUDS OR DOUBLE STUDS NAILED TOGETHER W/ BASE PLATE NAILING ARE REQUIRED AT ABUTTING PANEL EDGES OF W3 AND W2. SEE DETAIL B. WHERE 3x STUDS ARE USED FOR W2, STAGGER NAILS AT ADJOINING PANEL EDGES.
- ⑤ 3x FOUNDATION SILL PLATES ARE REQUIRED FOR W2-10. 3x STUDS ARE REQUIRED AT ABUTTING PANEL EDGES AND PANEL JOINTS. SHALL BE OFFSET EACH SIDE OF WALL. STAGGER NAILS AT ADJOINING PANEL EDGES. 3x STUD, MIN., REQUIRED AT END OF SHEARWALL.
- ⑥ TWO STUDS MINIMUM ARE REQUIRED AT EACH END OF ALL SINGLE-SIDED SHEARWALLS. ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING. SEE PLANS AND HOLDOWN SCHEDULE FOR ALTERNATE REQUIREMENTS.
- ⑦ ALL EXTERIOR WALLS SHALL BE W6, UNLESS NOTED OTHERWISE.
- ⑧ LTP4's (HORIZONTAL ORIENTATION) W/ 8d COMMON MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
- ⑨ A 2x NAILER ATTACHED W/ BASE PLATE NAILING PER DETAIL A MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.
- ⑩ AT MULTI-ROW NAILING, MINIMUM OFFSET BETWEEN ROWS AND ROW SPACING 1/2", SEE DETAIL D.
- ⑪ LVL RIMS PERMITTED AT SINGLE SIDED SHEAR WALLS ONLY.
- ⑫ PROVIDE (3) ROWS 16d @ 6"oc AT LVL RIMS.
- ⑬ MINIMUM RIM OR JOIST 3/2" WIDE BELOW SHEARWALL.

Shearwall Schedule 12



DESIGN: LAN  
DRAWN: NHD  
CHECKED: BDM  
APPROVED: BDM

- REVISIONS:
- 1 Permit Revisions Jun. 5, 2024
  - 2 Framing Updates Jun. 17, 2024
  - 3 Framing Updates Jun. 28, 2024

DPD:

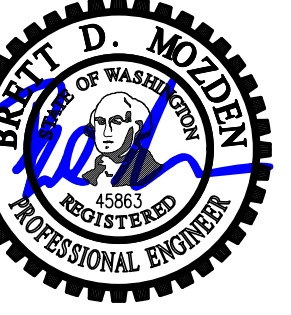
PROJECT TITLE:  
**Khandelwal Shankaran House**  
8460 SE 83rd St  
Mercer Island, WA 98040

ARCHITECT:  
**Marlo Brown Architects, LLC**  
509 26th Ave S  
Seattle, WA 98144

ISSUE:  
**PERMIT**  
SHEET TITLE:

**Typical Wood Framing Details**  
SCALE: 3/4" = 1'-0" U.N.O.  
DATE: February 13, 2024  
PROJECT NO: 11712-2022-01  
SHEET NO:





DESIGN: LAN  
 DRAWN: NHD  
 CHECKED: BDM  
 APPROVED: BDM

REVISIONS:

1	Permit Revisions	Jun. 5, 2024
2	Framing Updates	Jun. 17, 2024
3	Framing Updates	Jun. 28, 2024

DPD:

PROJECT TITLE:  
**Khandelwal Shankaran House**  
 8460 SE 83rd St  
 Mercer Island, WA 98040

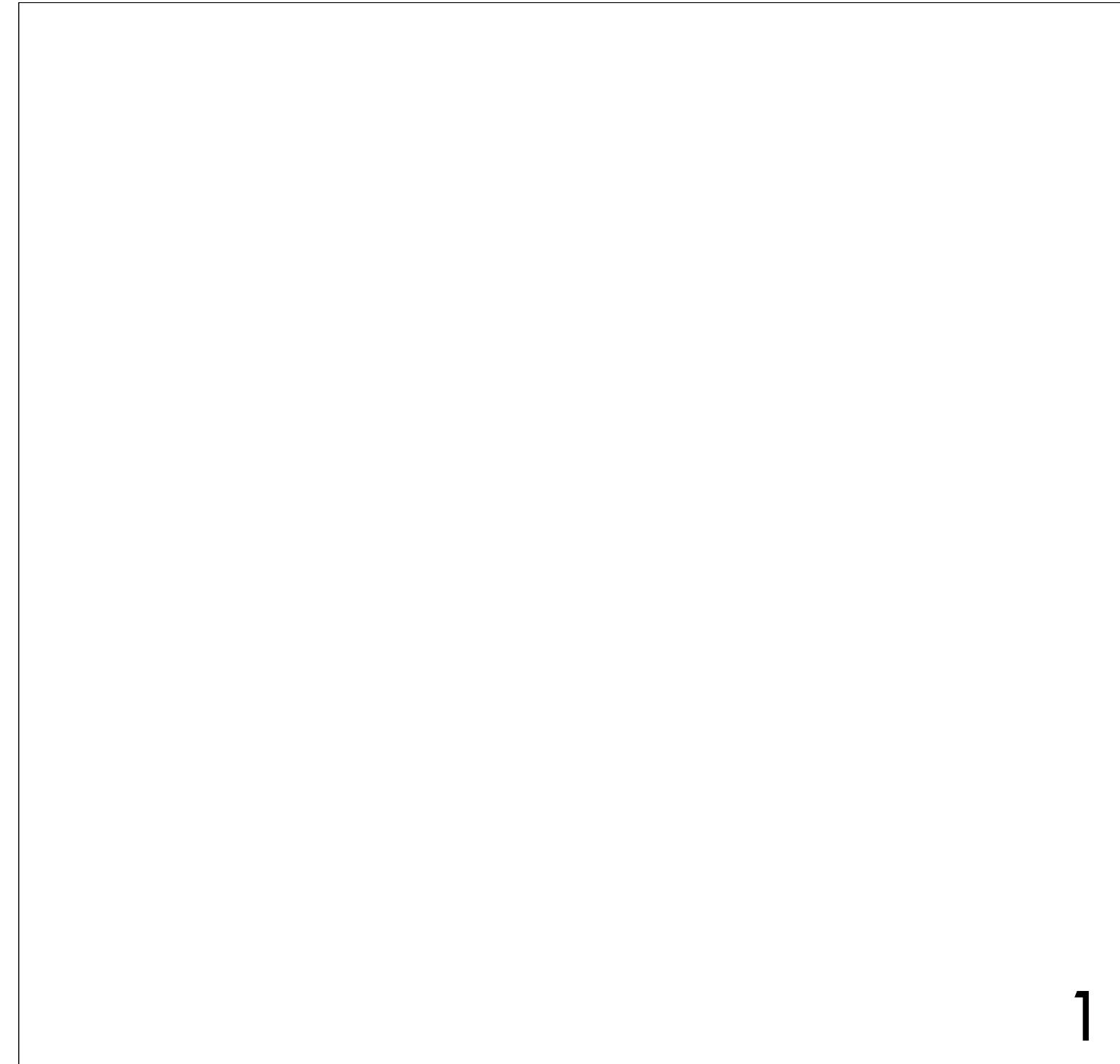
ARCHITECT:  
**Marlo Brown Architects, LLC**  
 509 26th Ave S  
 Seattle, WA 98144

ISSUE:  
**PERMIT**

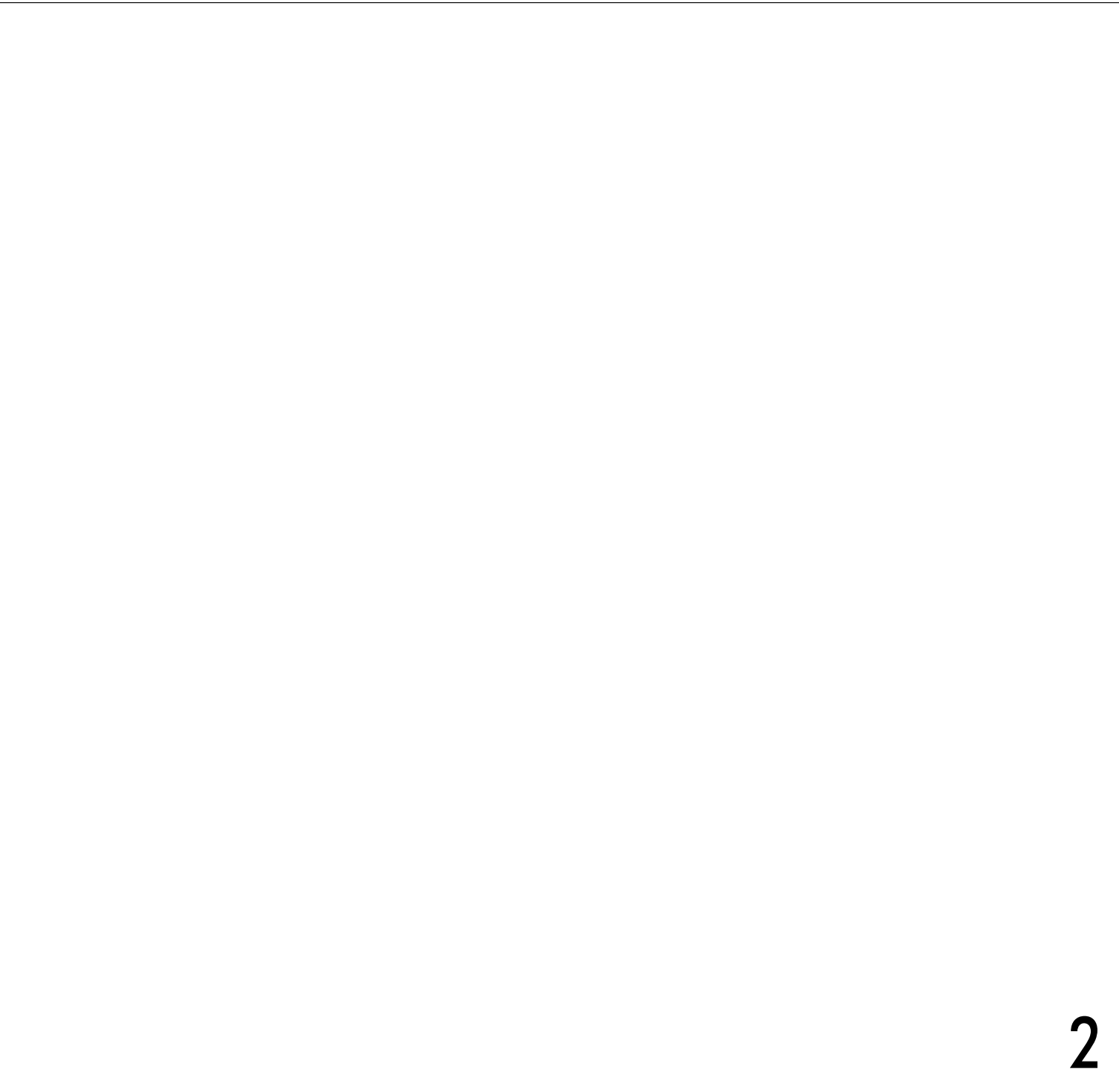
SHEET TITLE:  
**Wood Framing Details**

SCALE: 3/4" = 1'-0" U.N.O.  
 DATE: February 13, 2024  
 PROJECT NO: 11712-2022-01  
 SHEET NO:

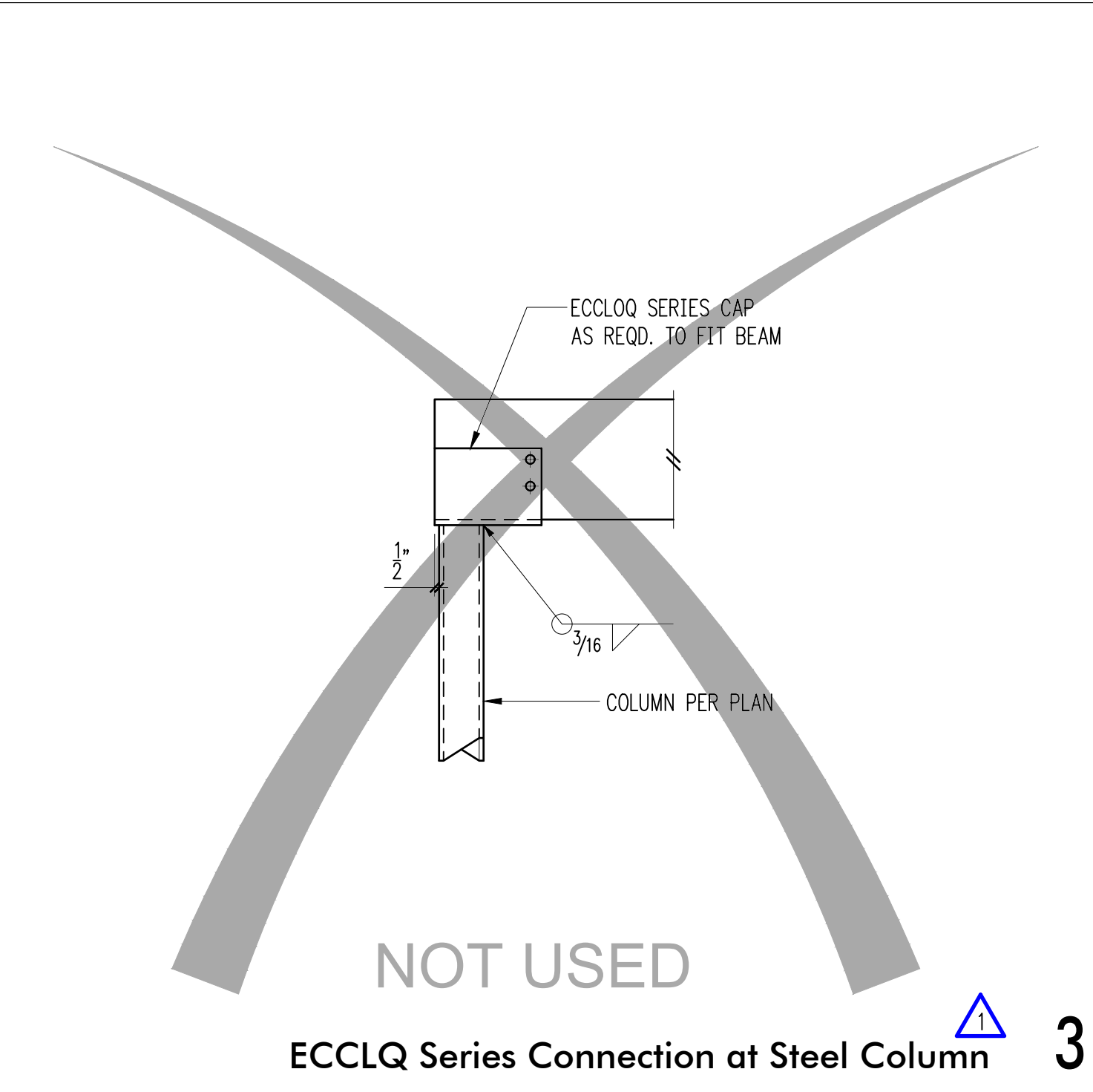
**S4.3**



1

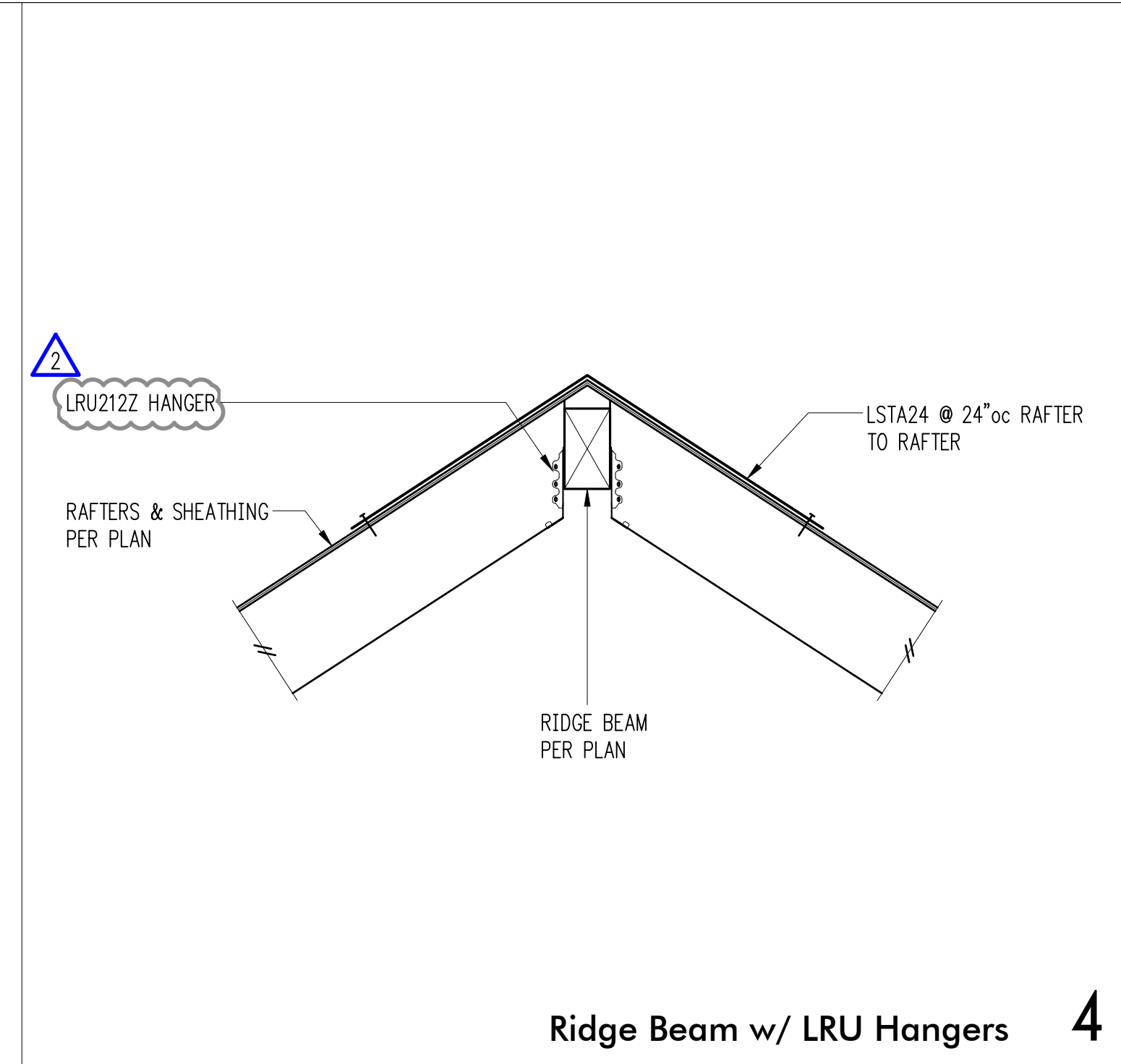


2

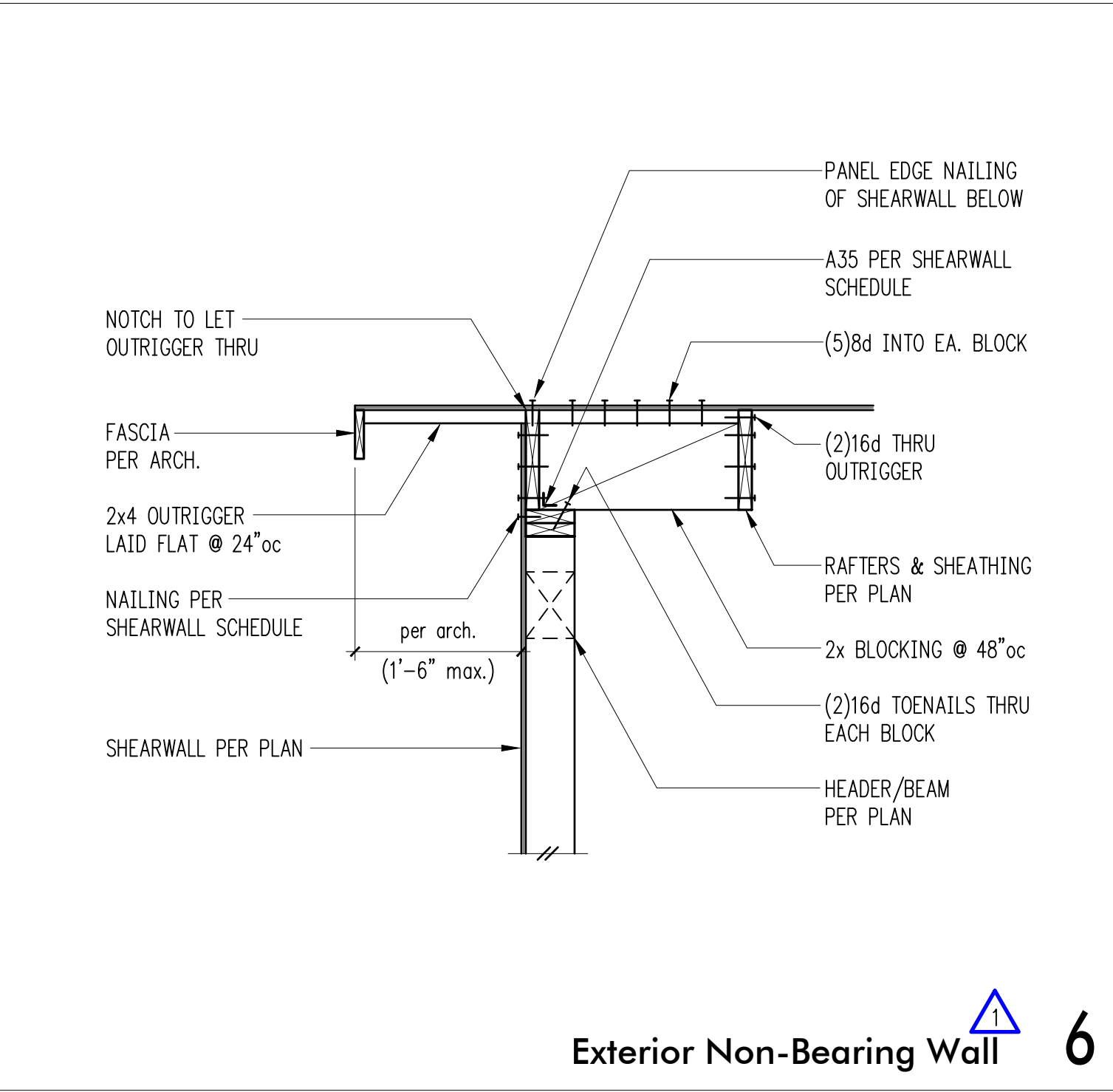


NOT USED

ECLCQ Series Connection at Steel Column 3

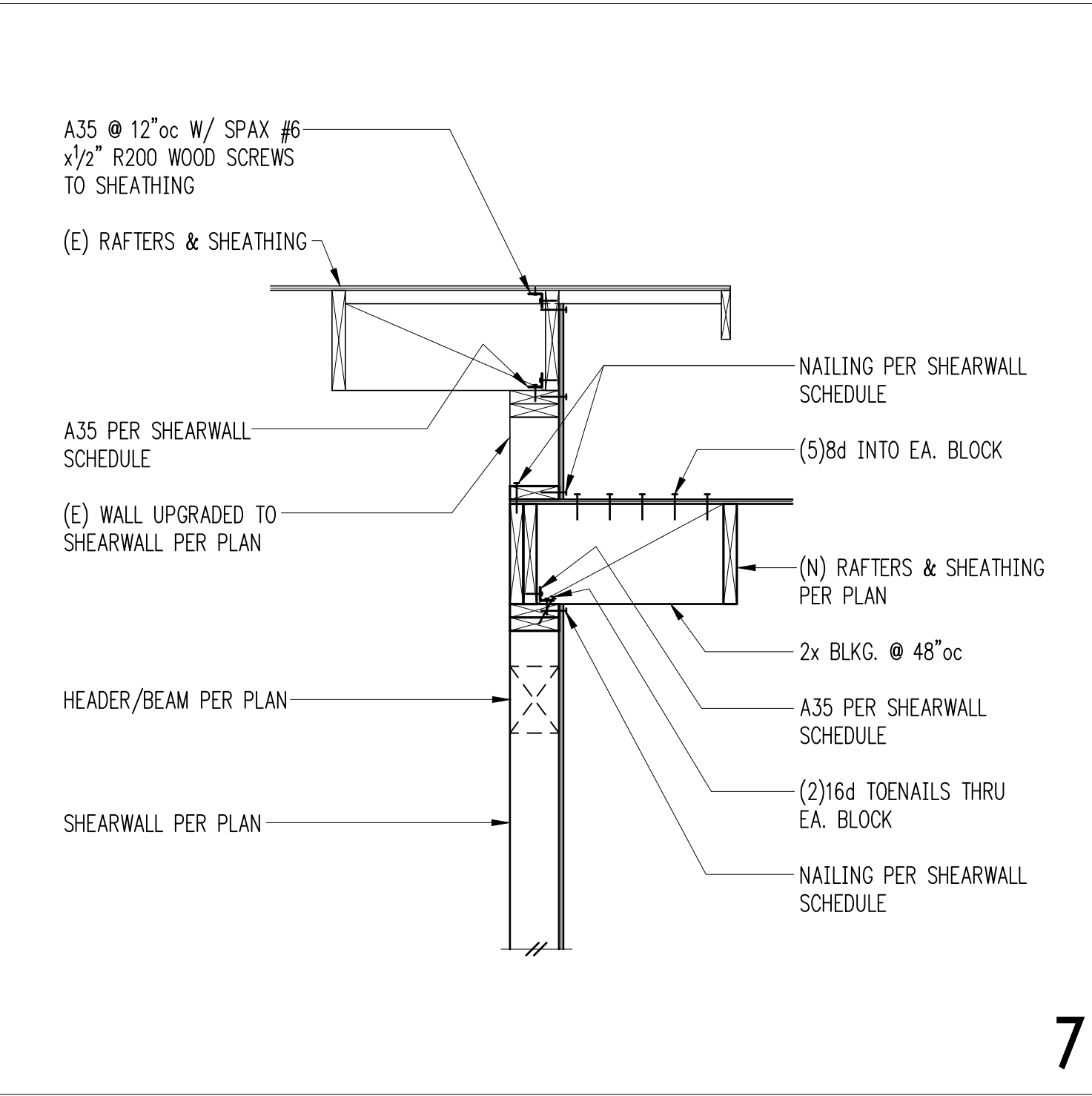


Ridge Beam w/ LRU Hangers 4



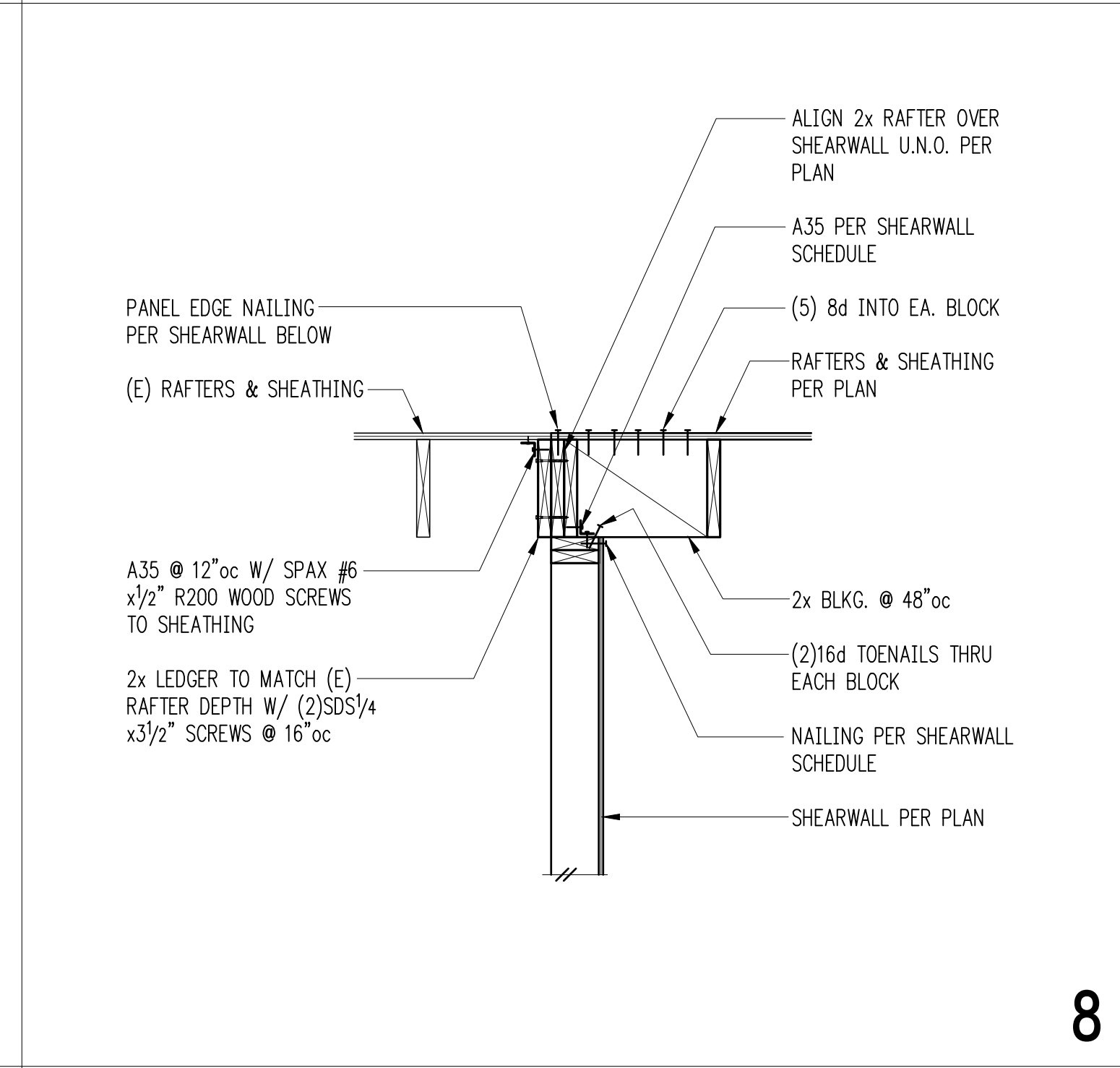
5

Exterior Non-Bearing Wall 6



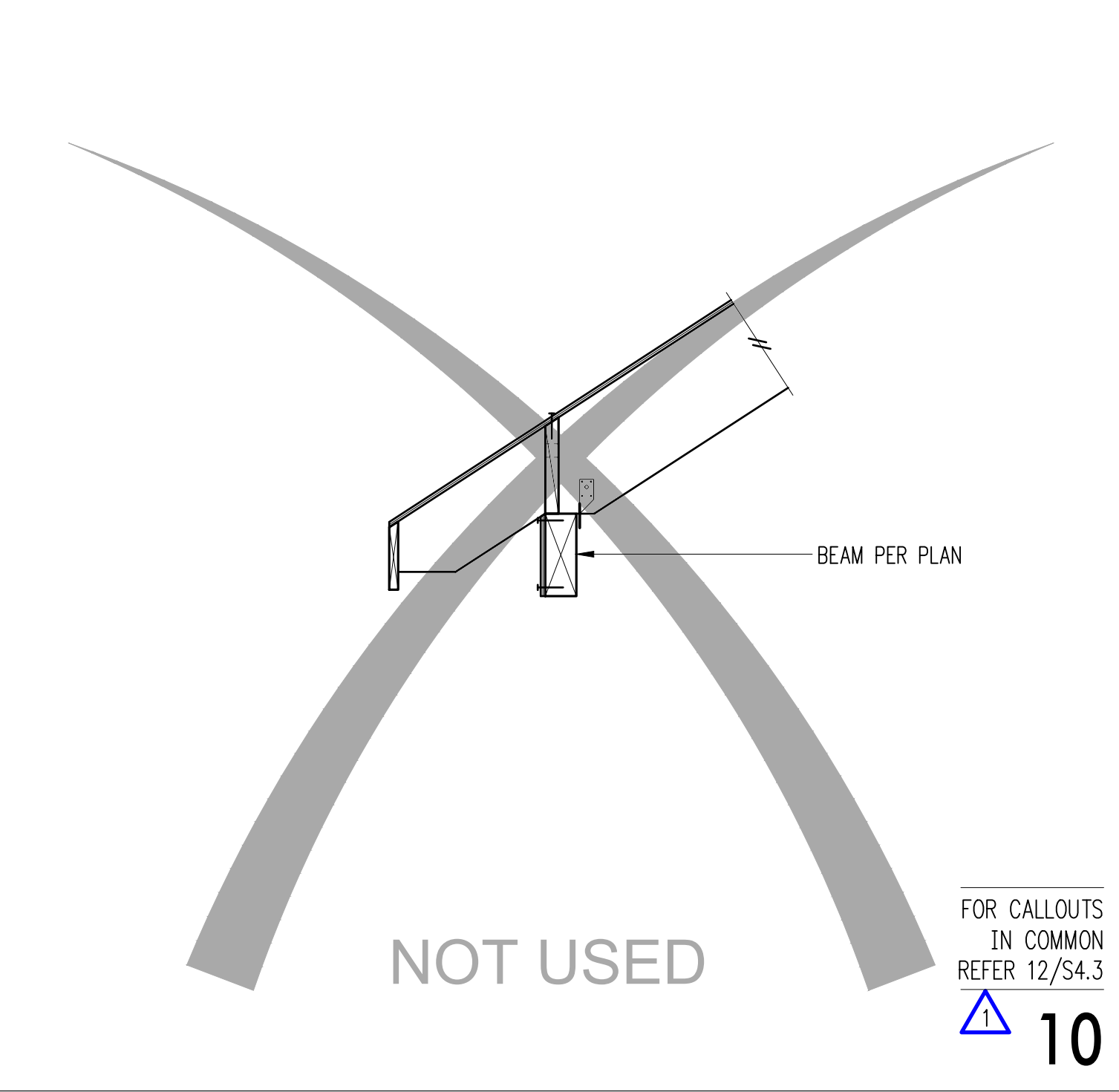
7

Interior Shearwall Parallel 11

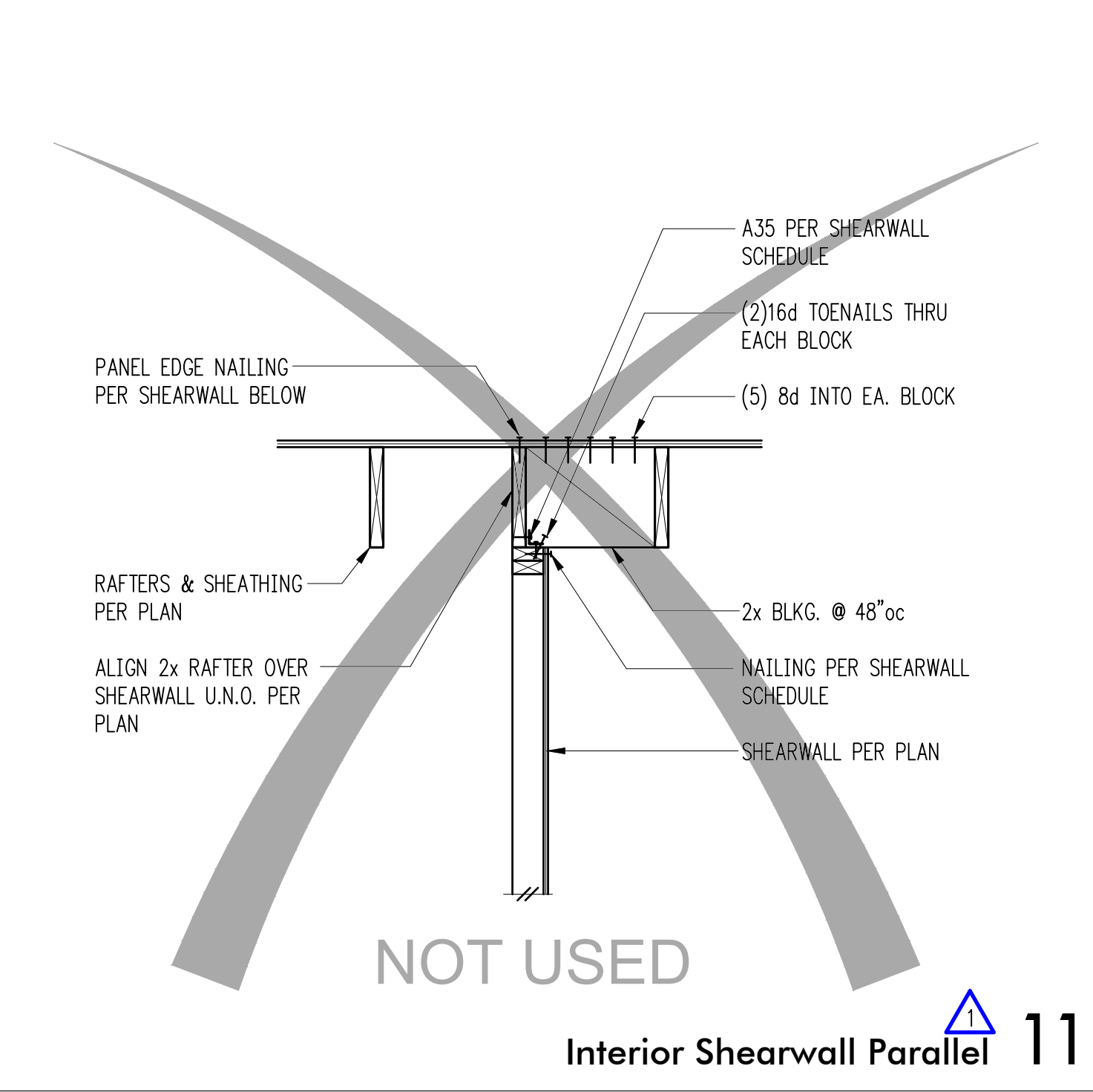


8

Exterior Bearing Wall 12

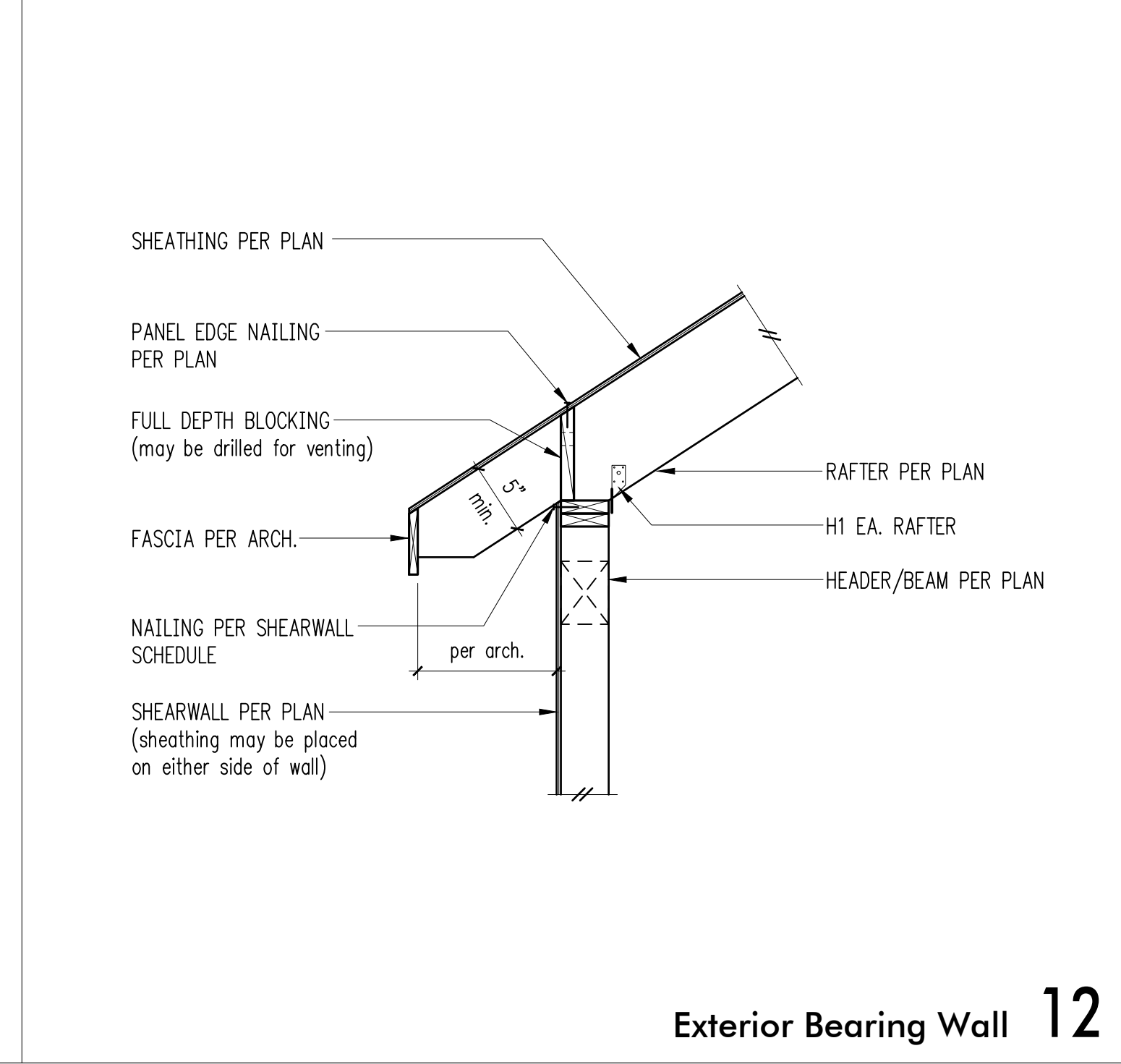


9



NOT USED

Interior Shearwall Parallel 11



Exterior Bearing Wall 12

FOR CALLOUTS IN COMMON REFER 12/S4.3

10