CITY OF MERCER ISLAND
DEVELOPMENT SERVICES GROUP

9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org

INSPECTION REQUESTS:
online: MyBuildingPermit.com
voicemail: (206) 275-7730

NOTE: ALL RECORDS AND DRAWINGS ARE SUBJECT TO PUBLIC DISCLOSURE AS REQUIRED BY RCW 42.56

TO BE COMPLETED BY APPLICANT

CONTACT INFORMATION:
Applicant is to complete the following information.

Applicant Contact information *prior* to permit issuance:

Name: JUDY TUCKER, AIA
Address: 1800 Westlake Ave N, Ste 205, Seattle, 98109
Phone: (206) 372-9796
Email: FORMPLUSFUNCTIONARCH@GMAIL.COM

Applicant Contact information *post* permit issuance:

Name: JUDY TUCKER, AIA
Address: 1800 Westlake Ave N, Ste 205, Seattle, 98109
Phone: (206) 372-9796
Email: FORMPLUSFUNCTIONARCH@GMAIL.COM

REQUIRED SPECIAL INSPECTIONS / STRUCTURAL OBSERVATIONS:
It is the Engineer of Record's responsibility to specify all required Special Inspections or Structural Observation (check items below). The owner is responsible for hiring an approved private Special Inspector for the checked inspections noted below. All Special Inspectors (except Geotechnical) must be WABO certified.
When Special Inspection or Structural Observation is required, the report shall be submitted to the City Building Inspector prior to the City Inspection. **Note: Inspection by the City Inspector is required in addition to the Special Inspection or Structural Observation indicated below. Do not cover or conceal any work prior to the City inspection.**

STRUCTURAL OBSERVATION BY ENGINEER OF RECORD (EOR):
Engineer of Record: BEN MCCANN Company: CT ENGINEERING, INC. Phone: (206) 285-4512
- [x] General Conformance to Construction Documents
- [ ] Other:

SOILS / GEOTECHNICAL:
Special Inspector: DAVE MATTHEWS Company: ZIPPER GEO ASSOC. Phone: (425) 582-9928
- [ ] Erosion control measures
- [ ] Shoring installation and monitoring
- [ ] Observe and monitor excavation
- [ ] Verification of soil bearing
- [ ] Other:
- [ ] Subsurface drainage placement
- [ ] Verify fill material and compaction
- [ ] Rockery installation
- [ ] Pile placement (auger cast/driven pile)
- [ ] Other:

REINFORCED CONCRETE:
Special Inspector: Company: Phone:
- [ ] Concrete strength
- [ ] Reinforcing steel and concrete placement
- [ ] Shotcrete placement
- [ ] Other:
- [ ] Retaining wall construction
- [ ] Prestressed / Precast construction
- [ ] Other:
- [ ] Other:

STRUCTURAL STEEL: *(AISC 360, Chapter N)*
Special Inspector: Company: Phone:
- [ ] Fabrication and shop welds
- [ ] Structural steel erection, field welds and bolting
- [ ] Other:
- [ ] Moment Frame construction
- [ ] Other:
- [ ] Other:

STRUCTURAL MASONRY:
Special Inspector: Company: Phone:
- [ ] Mortar strength
- [ ] Masonry unit strength
- [ ] Other:
- [ ] Other:
- [ ] Glass unit masonry installation
- [ ] Wall panel and veneer installation
- [ ] Other:
- [ ] Other:

WOOD:
Special Inspector / Engineer of Record: Company: Phone:
- [ ] Lateral resisting system construction
- [ ] Other:
- [ ] High strength diaphragm construction
- [ ] Other:

OTHER SPECIAL INSPECTIONS:
Special Inspector: Company: Phone:
- [ ] Epoxy grout installations
- [ ] Expansion anchor installations
- [ ] Other post installed anchors
- [ ] Alternative construction methods:
- [ ] Alternative construction materials:
- [ ] Stucco installation
- [ ] Infiltration System
- [ ] Exterior Insulation Finish System (EIFS) installation
- [ ] Other:
- [ ] Other:

DEFERRED SUBMITTALS:
The Applicant is required to select all deferred submittals / shop drawings for submittal to the City for review and approval prior to item fabrication / construction.

- [ ] Connector plate wood trusses
- [ ] Metal joist / metal trusses
- [ ] Premanufactured structures (stairs, etc.)
- [ ] Precast concrete elements
- [ ] Other:
- [ ] Post tension layout
- [ ] Exterior cladding
- [ ] Window wall / curtain wall construction
- [ ] Other:
- [ ] Other:

TO BE COMPLETED BY APPLICANT

ENERGY CODE COMPLIANCE INFORMATION:
Indicate where the following information is located in the drawing set. Alternatively, incorporate or include the Residential Energy Code Prescriptive Compliance (RECPC) Form into the drawing set.

	Sheet:
[x] Building envelope: *WSEC Table 402.1.1* (include U-factors, insulation and moisture control)	A1.0
[x] Whole house ventilation: *IRC Section M1507 WA Amended* (include ventilation option and duct sizing if applicable)	A1.0
[x] Energy Credit Information: *WSEC Table 406.2* (include specific, written requirements)	A1.0
[ ] RECPC Form Information: (if incorporated within drawing set) http://www.mercergov.org/files/2012ResidentialEnergyCalcForm.pdf	
[x] Air Leakage Testing. *IRC Section R402.4.1.2 WA Amendments*	
[x] Provide air leakage test report verifying air leakage rate does not to exceed 5 air changes per hour.	
[x] Duct Leakage Testing. *WSEC R403.3.2*	
[x] Postconstruction Test. *WSEC R403.2.2.1*	
[x] Rough-in Test. *WSEC R403.2.2.3*	

FILE NAME: *DSG CVR 2016 24x36.PDF*

TO BE COMPLETED BY DSG

PROJECT ALERTS:
Construction of the project shall be from ***approved plans only***. No deviation from the approved project plans is allowed without prior approval from the City of Mercer Island. Approved plans must be kept on site and maintained in good condition.

- [x] Refer to "Conditions of Permit Approval" provided at permit issuance for required construction rules and regulations, including:
  - Site Considerations
  - Hours of Work
  - Construction Vehicle Parking Restrictions
  - Acess Road Requirements
  - ROW restrictions
  - Drainage Requirements
  - Sewer Requirements
  - Water Service Requirements
  - Additional Fire Code Requirements
  - Planning Requirements
  - Noise Abatement Certification
  - Tree Requirements
- [ ] Refer to "Preconstruction Meeting Checklist" provided at the preconstruction meeting for development related requirements.
- [x] Temporary site address with minimum 6" high numbers visible from the street must be installed.
- [x] Erosion control measures must be as shown on approved project drawings. All erosion control is to be in place and inspected prior to the start of any site work.
- [x] A City of Mercer Island Business License is required for all subcontractors. Call (206) 275-7783 for more information.

TREE PROTECTION REQUIREMENTS:
- [x] Tree protection as shown on approved drawings shall be installed at tree dripline prior to start of any site work and must remain in place throughout the project.
- [x] No trees shall be cut without a City of Mercer Island tree permit.
- [ ] Replacement trees must be a minimum of six feet tall at installation. They must be planted and approved prior to final inspection.
  - [ ] For this project, N/A trees are authorized to be removed and replaced with N/A trees.
- [ ] This project appears to be within a protected eagle nest area. Contact Federal Fish and Wildlife at (360) 534-9304 or visit their website at http://www.fws.gov/pacific/eagle

FIRE PROTECTION REQUIREMENTS:
Separate Permits are required for ALL fire protection systems. For more information, see http://www.mercergov.org/Page.asp?NavID=2614

- [x] Fire Sprinkler SEPARATE PERMIT REQUIRED
  - [x] NFPA 13D Internal sounders must activate with waterflow
    - [ ] Plus
  - [ ] NFPA 13R
  - [ ] NFPA 13
- [ ] Approved Fire Code Alternatives:
  - [ ] FCA1
  - [ ] FCA2
  - [ ] FCA3
  - [ ] FCA4
- [ ] Monitored Household
- [ ] Fire Alarm per NFPA 72
- [ ] Monitored Sprinkler Water Flow Alarm
- [ ] Other:

WATER SUPPLY REQUIREMENTS:
- [ ] Fire sprinkler design calculations must be provided prior to determining water supply system requirements.
- [x] Water Supply system upgrade required
  - [ ] City Installation.
  - [x] Applicant Installation.
    Required Service Line Size: 1" (water main to meter) Required Supply Line Size: 1-1/4" (water main to house) Required Meter Size: 1"
- [x] Abandonment of existing service and meter required at main.
- [x] Pressure reducing valve required if pressure exceeds 80 psi.
- [x] Reduced pressure backflow assembly (RPBA) required for all lots with waterfront or non-city water supply (private wells or lake irrigation).
- [ ] Additional water supply requirements:

DRAINAGE REQUIREMENTS:
- [ ] On site detention system required.
- [ ] On site infiltration system required.
- [ ] As-built Utility drawings required.
  - [ ] Full Size drawings required.
- [ ] Direct discharge into the lake.
- [x] No Storm Water permit required.
- [ ] Connection to public storm drainage conveyance system req'd.
- [ ] Other:

SIDE SEWER REQUIREMENTS:
- [x] Side sewer requires a backflow preventer when connecting to the lake line or when the elevation of the lowest plumbing fixture is lower than the elevation of the upstream manhole rim or when side sewer is shared with one or more properties.
- [ ] Video tape of existing sewer required (see standard details)
- [ ] New connection. [ ] Connect to existing. Disconnect permit required. [ ] Reconnect permit required.
- [ ] Other:

Note: When side sewer is to be connected to the lake line you will need to schedule three (3) days in advance with the City of Mercer Island Maintenance Department at (206) 275-7800.

APPROVED CODE ALTERNATIVES:
Code alternatives must be Inspected. Refer to the Inspection Checklist

- [ ] CA1:
- [ ] CA2:

SURVEY REQUIREMENTS (The following survey information must be submitted when checked):
Surveyor shall verify points chosen for height calculations and point verification shall be submitted at the time of City foundation Inspection. A property survey may be required to verify setbacks and in some cases buildings must be surveyed onto the lot. The City reserves the right to request an impervious area survey at any time prior to issuance of Certificate of Occupancy.

Surveyor: Phone:
- [ ] Building height survey
- [ ] Building setback survey
- [ ] Impervious surface survey
- [ ] Other:

- [ ] **MAXIMUM 40 PERCENT ALTERATION INSPECTION:** *MICC 19.01.050(D)(1)(b)(i)*
  A Building Inspection prior to demolition is required for all legally nonconforming single family dwelling to ensure no more than 40 percent of the dwelling's exterior walls are structurally altered. Contact the Building Inspector at (206) 275-7730.
  - [ ] Civil / Drainage
  - [ ] LUP / Setback requirements

GEOTECHNICAL INFORMATION:
Land clearing, grading, filling and foundation work within geologic hazard areas is **NOT PERMITTED** between October 1 and April 1 without an approved Seasonal Development Limitation Waiver.

- [ ] Geotechnical Report provided. All construction must comply with the recommendations of the Geotechnical Report. A copy of report and other geotechnical information must be kept on site at all times.

Geotechnical Engineer *Phone*

SEASONAL DEVELOPMENT LIMITATION RESTRICTION:
- [ ] Applies (Geologic Hazard area). Grading not permitted between October 1 through April 1.
  - [ ] Waiver approved. Grading and excavation permitted subject to all conditions noted in Seasonal Development Limitation Waiver Permit.

Permit number *Approved by* *Date*

TO BE COMPLETED BY DSG

REQUIRED CONSTRUCTION INSPECTIONS:
It is the applicant's responsibility to contact DSG to schedule ALL inspections appropriate for the project. Request inspections online at www.MyBuildingPermit.com or by calling the Inspection Hotline at (206) 275-7730. Allow at least 24 hours (48 hours for Reinforcing steel) in advance of desired inspection. Be specific as to type of inspection.

Inspector shall initial and date appropriate inspection *only* if approved. Note: ***Items marked with an "•" require a separate permit.*** It is the applicants responsibility to apply for and obtain all City of Mercer Island permits.

INSPECTIONS: (Listed in order of typical sequencing)

Inspector | Date | Approved

- [ ] Pre-construction Meeting to Review Conditions of Permit Approval.
- [ ] • Tree protection
- [ ] Erosion control
- [ ] • Sewer disconnect and cap. If applicable, separate side-sewer permit required
- [ ] • Right-of-way use or work / easement, material delivery, etc. If applicable, separate ROW permit required
- [ ] Land clearing, grading and demolition
- [ ] Temporary power
- [ ] Pilings / Shoring / Shotcrete. If applicable, provide survey letter (property line); Geotechnical Engineer / Special Inspector reports of inspections (pile and shoring installation, etc.)
- [ ] Footings, setbacks, UFER ground. If applicable, provide survey letter (building height and setbacks); Special Inspector reports of inspections (soil bearing capacity, compaction, earthwork, pile installation, etc.)
- [ ] Foundation walls / concrete columns
- [ ] Roof and footing drains
- [ ] Foundation damproofing
- [ ] • Storm drainage, including (but not limited to):
  - Connections to storm main in ROW
  - Detention systems
  - Infiltration systems
  - Catch basins including oil-water separator tees
  - Area drains
  - Conveyance piping / cleanouts
  - Storm drain in ROW
  - Control structures / manholes
  - Pump systems
  - Retaining wall drainage
- [ ] • Water Service
- [ ] Water Supply
- [ ] Water as-built drawings
- [ ] • Side sewer installation, including (but not limited to):
  - Connections to side sewer main
  - Connections to existing side sewer
  - Back-flow valves
  - Grinder pump systems
  - Sewer manholes
- [ ] Driveway / Access road
- [ ] Underslab electrical / mechanical / plumbing
- [ ] Underslab insulation / vapor barrier / reinforcing
- [ ] Underfloor framing
- [ ] Nailing-Roof sheathing. If applicable, provide Special Inspection letter for lateral wood inspection.
- [ ] Nailing-Exterior wall and Shearwall. If applicable, provide Special Inspection letter for lateral wood inspection.
- [ ] Rough hydronic installation
- [ ] Rough electric installation
- [ ] • Rough fire alarm (wiring inspection)
- [ ] Rough plumbing installation (DWV, water)
- [ ] Rough mechanical
- [ ] Gas Piping
- [ ] • Rough fire sprinkler / hydrostatic and flow (bucket) test
- [ ] Framing and glazing. If applicable, provide Special Inspection letter for lateral wood inspection, welding epoxy anchors, etc.
- [ ] Masonry construction (fireplace / walls / veneer / etc.)
- [ ] Insulation installation
- [ ] Stucco (paper and lath)
- [ ] Shower pan (or tub)
- [ ] Miscellaneous
- [ ] Code Alternative CA1:
- [ ] Code Alternative CA2:
- [ ] Impact Fees Paid (If applicable)

- [ ] **Final Inspection:** Tree Restoration — [ ] TT
- [ ] **Final Inspection:** Fire protection, including (but not limited to): — [ ] TF
  - Sprinkler
  - Access Road
  - Fire Code Alternatives (see below)
    - [ ] FCA1:
    - [ ] FCA2:
  - Fuel Tank Installation
  - Fire Extinguishing System
  - Fire Alarm System
    - [ ] FCA3:
    - [ ] FCA4:
- [ ] **Final Inspection:** Water supply protection, including (but not limited to) backflow devices for: — [ ] TW
  - Waterfront property
  - Fire / lawn sprinkler
  - Well water on property
  - Boiler
- [ ] **Final Inspection:** Site and utility: includes landscape, utilities and ROW. Site restoration complete and as-built drawings ready for submittal. — [ ] TS
- [ ] **Final Inspection:** Building, including electrical / mechanical / plumbing. If applicable, provide closeout (summary) letters from Engineer, Special Inspectors, Geotechnical Engineer, and exterior wall cladding inspectors (EIFS). — [ ] TB

90 DAY TEMPORARY CERTIFICATE OF OCCUPANCY (TCO):
Applicant option. Additional fees will be required and must be approved prior to occupancy. TCO requires tree plantings be completed.

Approved *Start Date* *End Date*

ADDITIONAL REQUIRED CITY INSPECTIONS:
Call the appropriate contact to arrange the inspection.

Required Inspection(s):	Contact:	Phone:	Scheduling:

TO BE COMPLETED BY DSG

IMPACT FEES:
If applicable.

- [ ] Impact fees apply and are due ***prior*** to Final Inspection or on _____, whichever occurs first.

Date

PLAN REVIEW APPROVALS:
Not all review disciplines may be required to review the documents.

[x] JH	[x] MM	[x] KN	[ ] N/A	[x] JH
Building	*Planning*	*Engineering*	*Tree*	*Fire*

REVISED: *JULY 2019*

SF

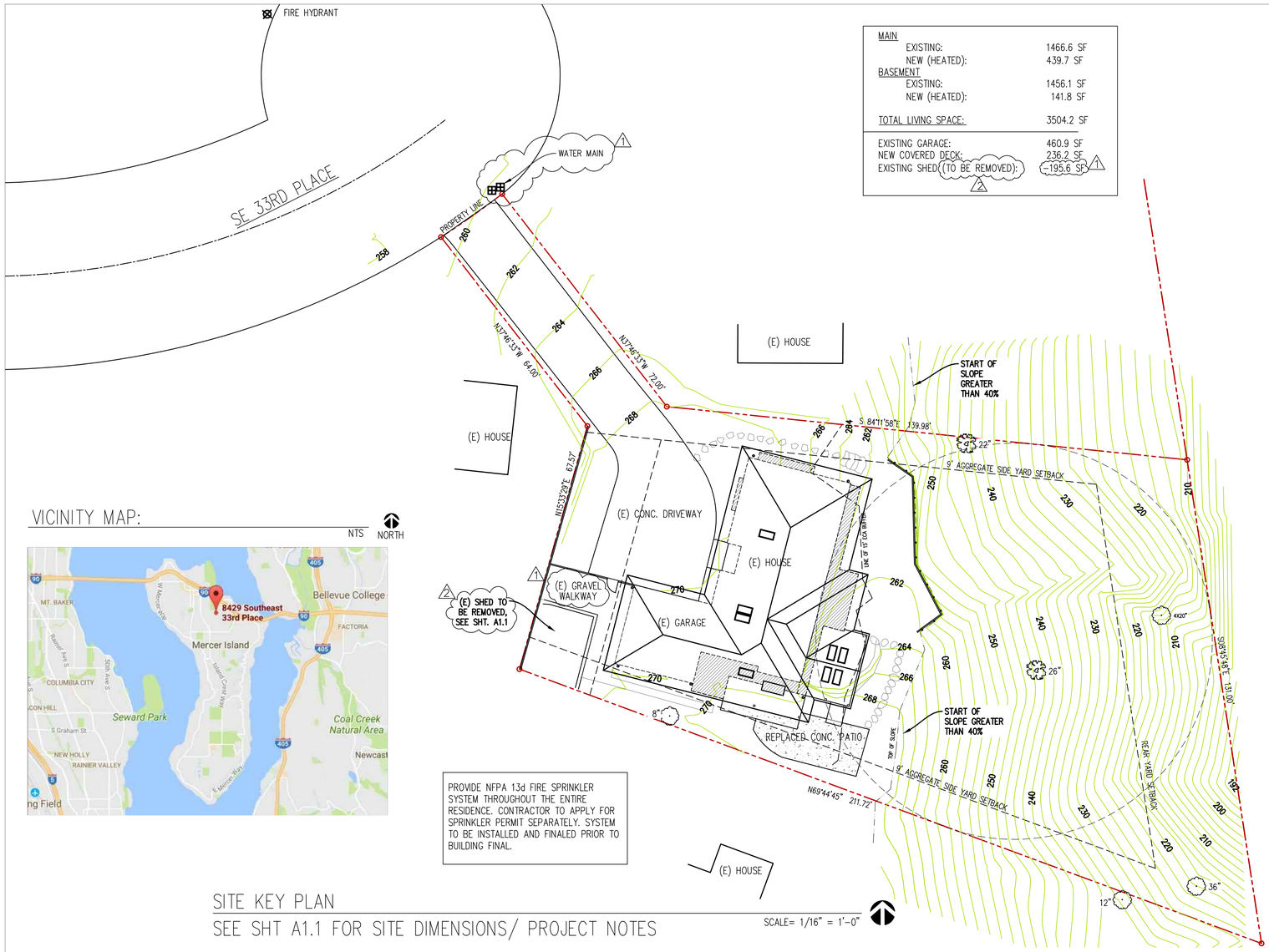
PERMIT NUMBER 2203-085

CERTIFICATE OF OCCUPANCY
Issued after all required inspections have been performed and approved.
Date
Approved

PROJECT NAME: PIPER REMODEL
PROJECT ADDRESS: 8429 SE 33RD PL, 98040

APPROVED DRAWINGS MUST BE KEPT ON THE BUILDING SITE AT ALL TIMES

REVIEWED FOR CODE COMPLIANCE
7/29/22 *Date*
JHA *Approved*



MAIN	
EXISTING:	1466.6 SF
NEW (HEATED):	439.7 SF
BASEMENT	
EXISTING:	1456.1 SF
NEW (HEATED):	141.8 SF
TOTAL LIVING SPACE:	3504.2 SF
EXISTING GARAGE:	460.9 SF
NEW COVERED DECK:	236.2 SF
EXISTING SHED (TO BE REMOVED):	-195.6 SF (1) (2)

PROVIDE NFPA 13d FIRE SPRINKLER SYSTEM THROUGHOUT THE ENTIRE RESIDENCE. CONTRACTOR TO APPLY FOR SPRINKLER PERMIT SEPARATELY. SYSTEM TO BE INSTALLED AND FINALED PRIOR TO BUILDING FINAL.

VICINITY MAP:

NTS NORTH

SITE KEY PLAN

SEE SHT A1.1 FOR SITE DIMENSIONS/ PROJECT NOTES

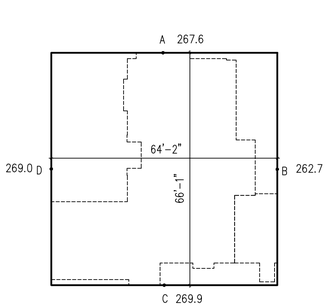
SCALE= 1/16" = 1'-0"

CODE NOTES:

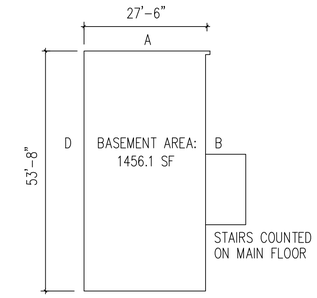
- OPENINGS SHALL BE CAULKED, OR WEATHER STRIPPED.
- SEAL TEARS AND JOINTS IN INSULATION WITH TAPE.
- MOISTURE CONTROL TO BE PROVIDED PER WA STATE ENERGY CODE.
- HOT WATER HEATERS SHALL COMPLY WITH THE NATIONAL APPLIANCE ENERGY CONSERVATION ACT. (EXISTING WH TO REMAIN)
- PROVIDE SEISMIC STRAP FOR WATER HEATER. (VERIFY EXISTING OR PROVIDE NEW)
- SERVICE WATER PIPES IN UNHEATED SPACES SHALL BE INSULATED PER WA STATE ENERGY CODE.
- ALL NAILING PER IRC
- PROVIDE SMOKE DETECTORS PER IRC – IN EACH SLEEPING ROOM, OUTSIDE EACH SEPARATE SLEEPING AREA AND ON EACH STORY OF THE HOUSE. CONTRACTOR TO VERIFY SD'S ARE PROPERLY INSTALLED IN THE EXISTING HOUSE.
- SMOKE DETECTORS SHALL BE POWERED BY THE BUILDING WIRING WITH A BATTERY BACKUP.
- CARBON MONOXIDE ALARMS TO BE INSTALLED PER IRC– OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BEDROOMS. CONTRACTOR TO VERIFY.
- (1) HEAT DETECTOR TO BE INSTALLED PER IRC– IN CENTRAL LOCATION OF THE (E) ATTACHED GARAGE.
- PROVIDE FIRE BLOCKING, DRAFTSTOPS AND FIRESTOPS PER THE IRC.
- PROVIDE APPROVED SECURITY AND LOCKING DEVICES AT NEW DOORS AND WINDOWS PER IRC.

GENERAL NOTES:

1. ALL WORK UNDER THIS CONTRACT SHALL COMPLY WITH THE CURRENT EDITIONS OF THE INTERNATIONAL RESIDENTIAL CODE (2018), WASHINGTON STATE ENERGY CODE (2018), WASHINGTON STATE VENTILATION AND INDOOR AIR QUALITY CODE, UNIFORM PLUMBING CODE, NATIONAL ELECTRIC CODE, AND WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES REGULATIONS.
2. GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL EXISTING AND NEW UTILITIES AND SITE CONDITIONS BEFORE AND DURING CONSTRUCTION. INFORM ARCHITECT OF VARIATIONS BETWEEN CONTRACT DOCUMENTS AND EXISTING CONDITIONS.
3. DO NOT SCALE DRAWINGS; VERIFY ALL DIMENSIONS ON THE JOB.
4. DIMENSIONS ARE TO FACE OF FOUNDATION WALLS AND FACE OF ROUGH FRAMING, UNLESS NOTED OTHERWISE. FOR DIMENSIONS TO EXIST. STRUCTURE – ASSUME FACE OF (E) FINISHED SURFACE.
5. FLOOR-TO-FLOOR DIMENSIONS FROM TOP OF SUBFLOOR TO TOP PLATES, UNLESS NOTED OTHERWISE.
6. PROVIDE SOLID BLOCKING BEHIND ALL WALL HUNG FIXTURES AND ACCESSORIES.



ENCLOSING RECTANGLE DIAGRAM NTS NORTH



BASEMENT FLOOR AREA EXEMPTION NTS NORTH

PROJECT DIRECTORY:

OWNER: KEVIN & SUZETTE PIPER
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

ARCHITECT: FORM + FUNCTION ARCHITECTURE
1800 WESTLAKE AVE N., SUITE 205
SEATTLE, WA 98109
(206) 372-9796
CONTACT: JUDY TUCKER, AIA

STRUCTURAL ENGINEERING:
CT ENGINEERING INC.
180 NICKERSON ST SUITE 302
SEATTLE, WA 98109
(206) 285-4512
CONTACT: BEN McCANN

GEOTECHNICAL ENGINEERING:
ZIPPER GEO ASSOC.
19019 36TH AVE W, STE E
LYNNWOOD, WA 98036
(425) 582-9928
CONTACT: DAVE MATTHEWS

SURVEYOR: APEX ENGINEERING
2601 S 35TH ST, STW 200
TACOMA, WA 98409
(253) 473-4494
CONTACT: KURT PARCHER

TABLE OF CONTENTS:

PROJECT NOTES:

PROJECT DESCRIPTION:	REMODEL MAIN FLOOR KITCHEN, MOVE STAIRS TO NEW REAR YARD ADDITION, NEW REAR YARD COVERED DECK, NEW SIDE YARD MUDROOM ADDITION TO CONNECT HOUSE TO GARAGE, NEW GUEST BATH, NEW MAIN FLOOR MASTER SUITE, NEW ROOF.
KING COUNTY ASSESSOR PARCEL NUMBER:	6666800250
PROJECT ADDRESS:	8429 SE 33RD PL MERCER ISLAND, WA 98040
LEGAL DESCRIPTION:	PARKRIDGE ADD, LOT 25
ZONING:	SF 9.6
CONSTRUCTION TYPE:	TYPE V B
ENVIRONMENTAL CRITICAL AREAS:	LANDSLIDE HAZARD, EROSION CONTROL
LOT AREA:	19,302 SF (0.44 ACRES)
SETBACKS:	FRONT YARD: 20' MIN REAR YARD: 25' MIN SIDE YARD: 5' MIN, 18' COMBINED (17% OF LOT WIDTH: 106'-3")
LOT SLOPE:	BASED ON LOT SLOPE. LOW ELEVATION = 192.0' HIGHEST ELEVATION = 270.0' (270.0-192.0)/ 163.7' LOT SLOPE LINE= 47.6% SLOPE 30% - 50% LOT SLOPE ALLOWS FOR 30% LOT COVERAGE 30% OF 19,302 SF=5,790.6 SF

LOT COVERAGE:	
EXIST ROOF =	2659.6 SF
NEW ROOF =	196.6 SF
EXIST. DRIVEWAY =	2310.3 SF
NEW COVERED PATIO/ DECK =	413.4 SF (1)
EXIST. SHED ROOF =	289.5 SF (1)
EXIST. SHED ROOF TO BE REMOVED =	-289.5 SF (2)
TOTAL LOT COVERAGE=	5579.9 SF (28.9%) (2)
ALLOWABLE LOT COVERAGE:	5790.6 SF (30%)

IMPERVIOUS SURFACE: SEE SHEET A2.2 FOR IMPERVIOUS SURFACE CALCULATIONS & SITE PLAN DIAGRAM (1) (2)

HARDSCAPE SURFACE:	
EXIST UNCOVERED PATIOS =	533.3 SF
EXIST WALKWAYS =	100.0 SF
(1) EXIST. ROCKERIES/RETAINING WALLS =	75.0 SF
EXIST. GRAVEL WALKWAY =	370.9 SF
NEW UNCOVERED PATIOS =	490.9 SF
(1) EXIST. CONC. PATIO (TO BE REMOVED) =	-533.3 SF
(1) TOTAL HARDSCAPE AREA=	1036.8 SF (5.3%)
ALLOWABLE HARDSCAPE:	1737.2 SF (9%)

(1) SEE SHEET A2.3 FOR TOTAL NEW HARD SURFACE CALCULATIONS

(1) GROSS FLOOR AREA:	
BASEMENT=	899.24 SF
EXISTING MAIN FLOOR=	1466.6 SF
NEW MAIN FLR=	439.7 SF
EXISTING GARAGE=	460.9 SF
MAIN FLOOR COVERED DECK=	236.2 SF
TOTAL GROSS FLOOR AREA=	3502.6 SF (18%) (2)
40% OF 19,302=7,720.8 SF ALLOWED	

BASEMENT FLOOR AREA EXEMPTION CALCULATION: 1456.1 (BSMT SF) X 61.7% (BELOW GRADE %) = 899.24 SF

WALL SEGMENT	LENGTH X	COVERAGE =	RESULT
A	27.1	50.6	15.2
B	53.7	7	3.8
C	27.1	100	27.1
D	53.7	100	53.7
TOTALS	161.6		99.8

BUILDING HEIGHT: MAX 30' ABE (AVERAGE BUILDING ELEVATION):
(MID POINT ELEVATION X LENGTH OF WALL) / TOTAL LENGTH OF WALL SEGMENTS
(60,044.25) / 229= 262.2' ABE

BUILDING HEIGHT: AVERAGE GRADE= (Aa)+(Bb)+(Cc)+(Dd)/a+b+c+d =
A=267.6 a=64.2
B=262.7 b=66.1
C=269.9 c=64.2
D=269.0 d=66.1
(267.6X64.2)+(262.7X66.1)+(269.9X64.2)+(269.0X66.1)/64.2+66.1+64.2+66.1= 267.3'
AVERAGE EXISTING GRADE= 267.3', ALLOWABLE HT = 297.3'

NO.	REVISION DATE
1	CITY CORRECTIONS DATED 6/9/2022
2	CITY CORRECTIONS DATED 7/26/2022

FORM + FUNCTION ARCHITECTURE
1800 WESTLAKE AVE. N. #205 SEATTLE, WA 98109
206.372.9796

6850 REGISTERED ARCHITECT JUDITH A. TUCKER STATE OF WASHINGTON

REVIEWED FOR CODE COMPLIANCE July 29, 2022 SITE COPY

PIPER REMODEL
8429 SE 33RD PL
MERCER ISLAND, WA 98040

PROJECT NO. 1212

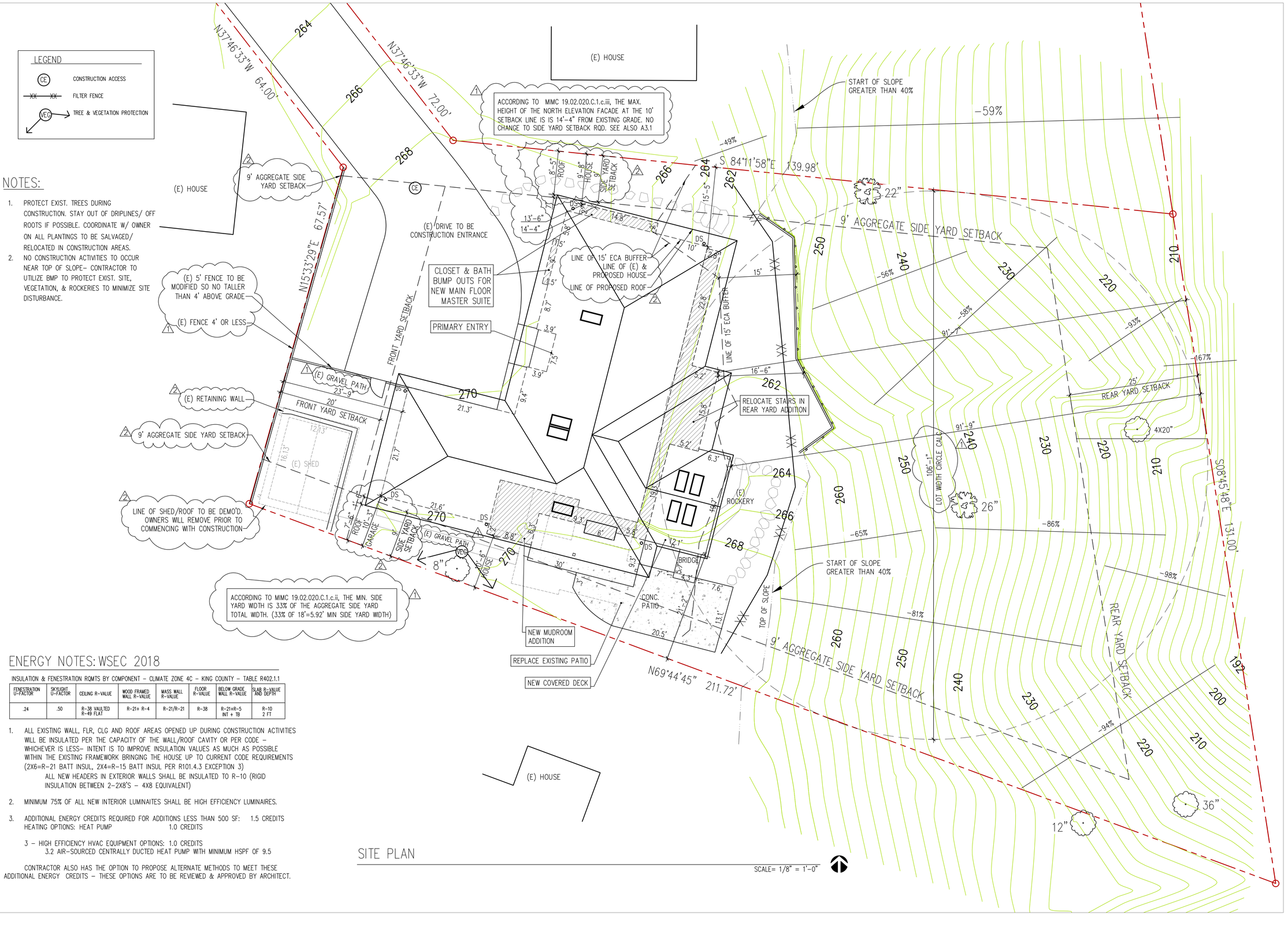
DATE 3/29/22

DRAWN BY JT SD

CHECKED BY JT

SHEET TITLE
SITE PLAN
PROJ INFO

SHEET NO.
A1.0



ENERGY NOTES: WSEC 2018

INSULATION & FENESTRATION RQMTS BY COMPONENT – CLIMATE ZONE 4C – KING COUNTY – TABLE R402.1.1

FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING R-VALUE	WOOD FRAMED WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BELOW GRADE WALL R-VALUE	SLAB R-VALUE AND DEPTH
.24	.50	R-38 VAULTED R-49 FLAT	R-21+ R-4	R-21/R-21	R-38	R-21+R-5 INT + TB	R-10 2 FT

1. ALL EXISTING WALL, FLR, CLG AND ROOF AREAS OPENED UP DURING CONSTRUCTION ACTIVITIES WILL BE INSULATED PER THE CAPACITY OF THE WALL/ROOF CAVITY OR PER CODE – WHICHEVER IS LESS– INTENT IS TO IMPROVE INSULATION VALUES AS MUCH AS POSSIBLE WITHIN THE EXISTING FRAMEWORK BRINGING THE HOUSE UP TO CURRENT CODE REQUIREMENTS (2X6=R–21 BATT INSUL, 2X4=R–15 BATT INSUL PER R101.4.3 EXCEPTION 3)
   ALL NEW HEADERS IN EXTERIOR WALLS SHALL BE INSULATED TO R–10 (RIGID INSULATION BETWEEN 2–2X8'S – 4X8 EQUIVALENT)
2. MINIMUM 75% OF ALL NEW INTERIOR LUMINAITES SHALL BE HIGH EFFICIENCY LUMINAIRES.
3. ADDITIONAL ENERGY CREDITS REQUIRED FOR ADDITIONS LESS THAN 500 SF: 1.5 CREDITS
   HEATING OPTIONS: HEAT PUMP 1.0 CREDITS
   3 – HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS: 1.0 CREDITS
   3.2 AIR–SOURCED CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 9.5

CONTRACTOR ALSO HAS THE OPTION TO PROPOSE ALTERNATE METHODS TO MEET THESE ADDITIONAL ENERGY CREDITS – THESE OPTIONS ARE TO BE REVIEWED & APPROVED BY ARCHITECT.

SITE PLAN

SCALE= 1/8" = 1'-0"

NO.	REVISION DATE
1	CITY CORRECTIONS DATED 6/9/2022
2	CITY CORRECTIONS DATED 7/26/2022

FORM + FUNCTION ARCHITECTURE
1800 WESTLAKE AVE. N. #205 SEATTLE, WA 98109
206.372.9796

6850 REGISTERED ARCHITECT JUDITH A. TUCKER STATE OF WASHINGTON

REVIEWED FOR CODE COMPLIANCE July 29, 2022 SITE COPY

PIPER REMODEL
8429 SE 33RD PL
MERCER ISLAND, WA
98040

PROJECT NO. 1212

DATE 3/4/22
DRAWN BY JT SD
CHECKED BY JT

SHEET TITLE
SITE PLAN
TEMP. EROSION & SEDIMENT CONTROL

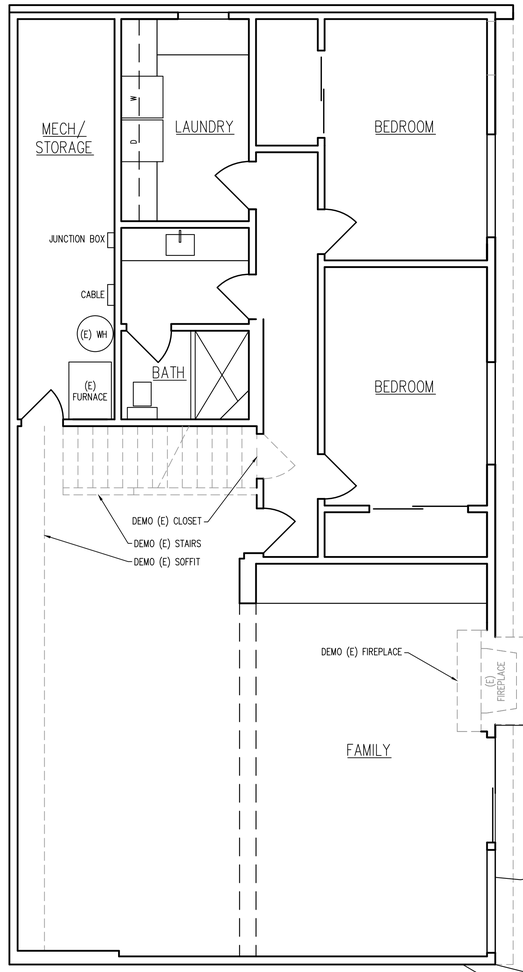
SHEET NO. A1.1

LEGEND

EXISTING TO REMAIN

EXISTING TO BE DEMOLISHED

NEW WALLS



EXISTING BASEMENT DEMO PLAN

VERIFY ALL DIMENSIONS TO EXISTING ELEMENTS

1/4"=1'-0"

NO.	REVISION DATE
1	CITY CORRECTIONS DATED 6/9/2022

FORM + FUNCTION
ARCHITECTURE
1800 WESTLAKE AVE. N. #205 SEATTLE, WA 98109
206.372.9796

6850 REGISTERED ARCHITECT
JUDITH A. TUCKER
STATE OF WASHINGTON

REVIEWED FOR CODE COMPLIANCE
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CITY OF MERCER ISLAND

PIPER REMODEL
8429 SE 33RD PL
MERCER ISLAND, WA
98040

PROJECT NO. 1212

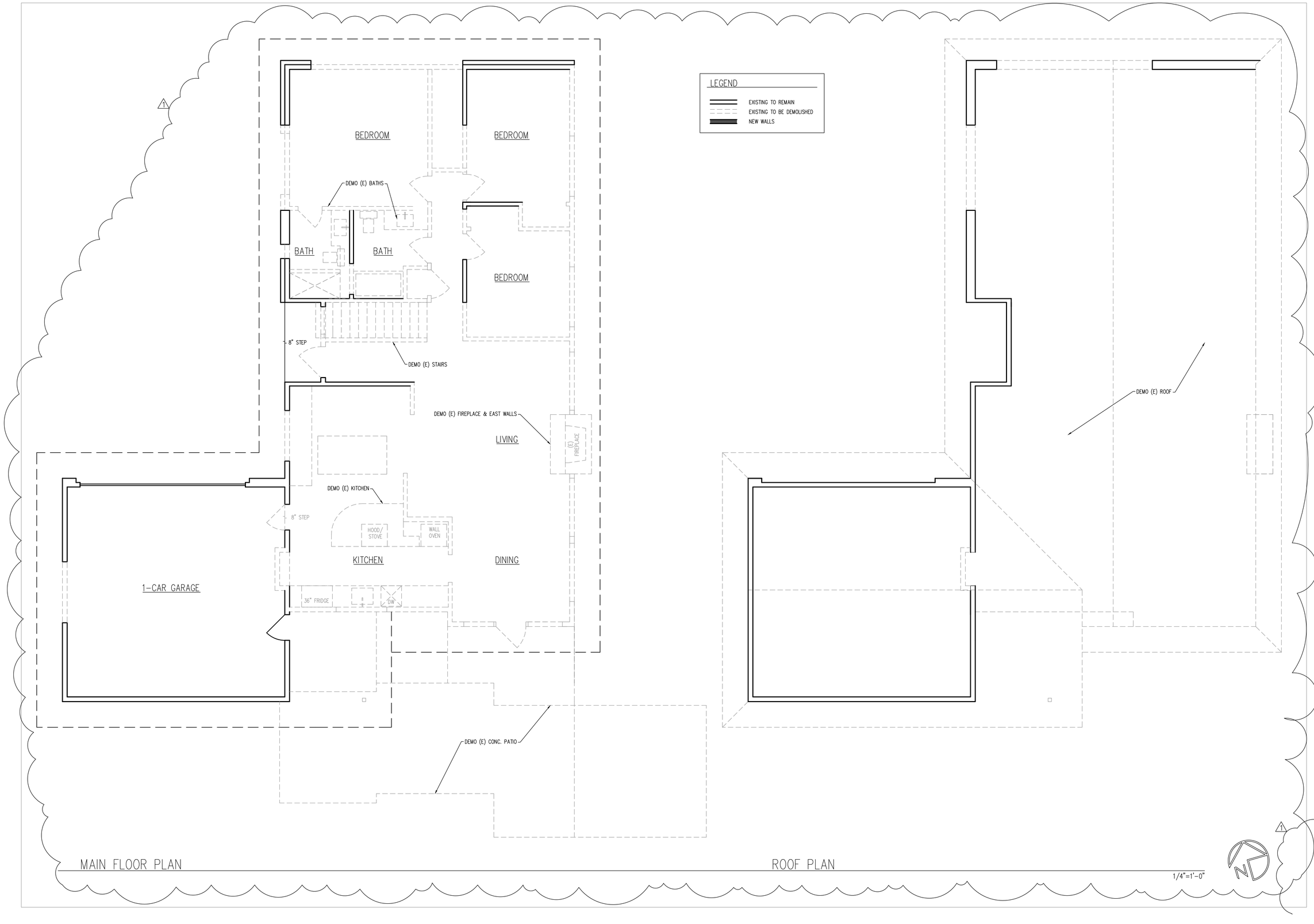
DATE 6/1/22

DRAWN BY JT SM

CHECKED BY JT

SHEET TITLE
EXISTING BSMT PLAN W/ DEMO

SHEET NO.
A2.0



NO.	REVISION DATE
1	CITY CORRECTIONS DATED 6/9/2022

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98040

PROJECT NO. 1212

DATE 6/1/22

DRAWN BY JT SM

CHECKED BY JT

SHEET TITLE
EXIST. MAIN FLR & ROOF PLAN W/ DEMO

SHEET NO.
A2.1

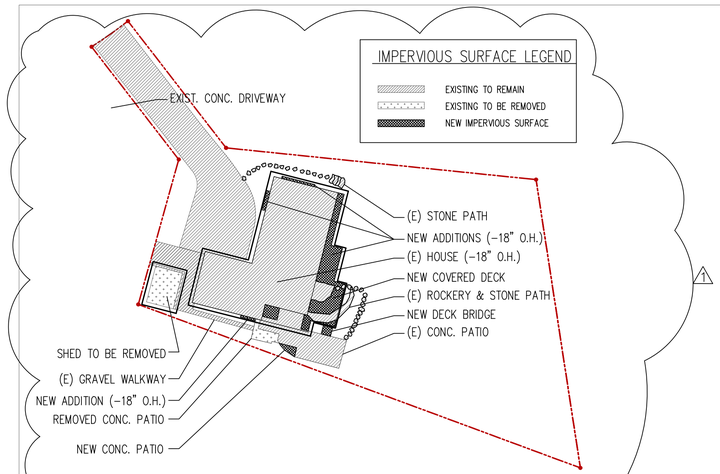


DIAGRAM OF EXISTING/ NEW IMPERVIOUS SURFACE

NTS NORTH

EXISTING IMPERVIOUS SURFACE:	EXIST. CONC. DRIVEWAY =	2310.3 SF
	EXISTING HOUSE (–18" O.H.) =	2273.8 SF
	EXISTING SHED =	195.6 SF
	EXIST. CONC. PATIO =	542.4 SF
	EXIST. GRAVEL WALKWAY =	405.8 SF
	EXIST. RETAINING WALL/ STONE PATH =	175.0 SF
REMOVED IMPERVIOUS SURFACE:	CONC. PATIO =	–65.5 SF
	EXISTING SHED =	–195.6 SF
	TOTAL=	5641.8 SF
NEW IMPERVIOUS SURFACE:	NEW HOUSE ADDITION/ DECK (–18" OH)=	382.4 SF
	NEW DECK BRIDGE =	19.7 SF
	NEW CONC. PATIO =	57.8 SF
	TOTAL=	459.9 SF
TOTAL EXISTING & NEW IMPERVIOUS SURFACE=		6101.7 SF (31.6%)
NET INCREASE OF IMPERVIOUS SURFACE=		459.9–261 = 198.9 SF
ALLOWABLE IMPERVIOUS SURFACE=		6755.7 SF (35%)

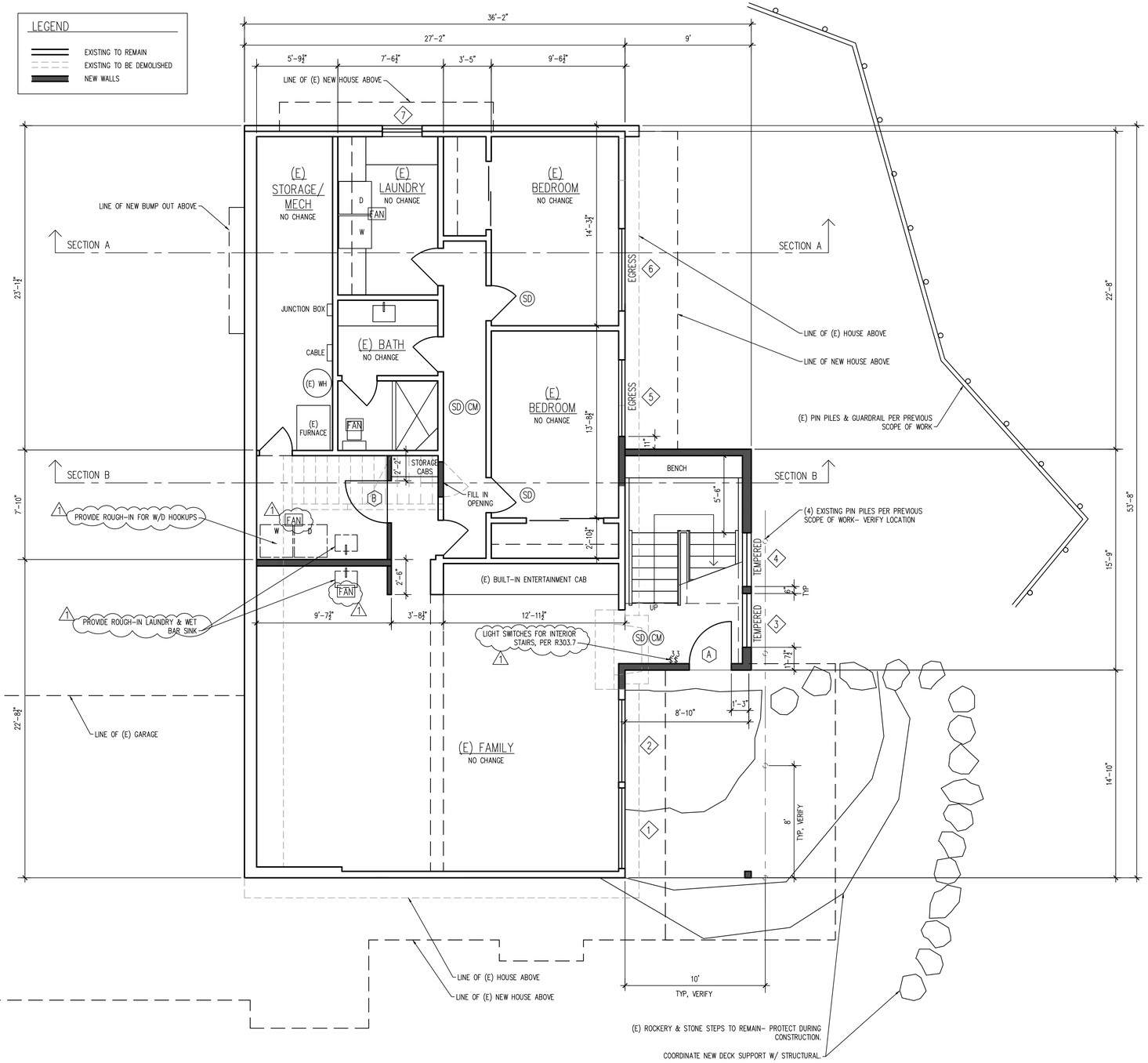
TOTAL NEW IMPERVIOUS SURFACE IS UNDER THE 500 SF THRESHOLD, THEREFORE, FULL DRAINAGE PLAN & REPORT BY A CIVIL ENGINEER IS NOT REQUIRED.

STAIR NOTES:

–	WIDTH	MIN. 36" CLEAR
–	TREAD DEPTH	10" CLEAR (ALLOW FOR 1" OVERHANG – 11" TOTAL)
–	RISER HEIGHT	7 1/2" +/– VERIFY W/ EXISTING GRADE/ FLOOR HEIGHTS (MAX. HT. 7.75")
–	HANDRAIL	MIN. 34", MAX 38" ABOVE TREAD NOSINGS
–	HANDRAIL GRASP	MIN. 1–1/4", MAX. 2"
–	HANDRAIL PROJECTION	MAX. 4–1/2" FROM EACH SIDE OF STAIRWAY INTO REQUIRED WIDTH. MIN. 1–1/2" BETWEEN THE WALL
–	GUARDRAIL	MAX OPENING 4" PER SRC R312.1.3 MIN. UNIFORMLY DISTRIBUTED LIVE LOADS (LBS PER SF) 200LB CONCENTRATED LOAD ON THE TOP RAIL & 50 PSF ON GUARDRAIL INFILL COMPONENTS PER SRC R301.5– SEE STRUCTURAL FOR DETAILS

NOTES:

1. CONTRACTOR WILL APPLY FOR PLUMBING, MECHANICAL, ELECTRICAL PERMITS SEPARATELY. CONTRACTOR TO REVIEW EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
2. ALL WALLS THAT HAVE FINISHES REMOVED WILL BE SUBJECT TO CURRENT CODE RQMTS – INCLUDES PLUMBING/MECHANICAL/ELECTRICAL/INSULATION.
3. WHOLE HOUSE FAN SHALL BE LOCATED/ASSOCIATED WITH THE MAIN FLOOR GUEST BATH FAN, THIS FAN TO BE EQUIPPED WITH CONTROLS CAPABLE OF MANUAL AND AUTOMATIC OPERATION, SUCH AS A CLOCK TIMER AND SHALL BE DESIGNED TO RUN CONTINUOUSLY PER SRC M1507.3.3.
   - 3.1. IN PROPOSED FAMILY ROOM WET BAR & LAUNDRY AREA ON MAIN FLOOR– INSTALL PANASONIC WHISPERQUIET FAN SIZED PER SPACE. (75 C.F.M., 1.0 SONES OR BETTER). FANS SHALL TERMINATE HORIZONTALLY TO THE EXTERIOR OF THE HOUSE.
   - 3.2. CONTRACTOR TO VERIFY EXISTING BASEMENT BATH & LAUNDRY TO HAVE EXHAUST FANS AS REQUIRED BY CODE. (TERMINATING HORIZONTALLY TO THE EXTERIOR OF THE HOUSE.)
4. DOOR JAMBS SHALL BE 3 ½" TYPICAL, UNLESS NOTED OTHERWISE.
5. SEE SHTS A3.0 & A3.2 FOR WINDOW & DOOR SCHEDULES AND ELEVATIONS (A3.0 & A3.1) FOR ADDITIONAL INFORMATION.



BASEMENT PLAN

VERIFY ALL DIMENSIONS TO EXISTING ELEMENTS

1/4"=1'–0"

NO.	REVISION DATE
1	CITY CORRECTIONS DATED 6/9/2022
2	CITY CORRECTIONS DATED 7/26/2022

FORM + FUNCTION ARCHITECTURE
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206.372.9796

6850 REGISTERED ARCHITECT JUDITH A. TUCKER STATE OF WASHINGTON

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PIPER REMODEL
8429 SE 33RD PL
MERCER ISLAND, WA
98040

PROJECT NO. 1212

DATE 3/4/22

DRAWN BY JT SM

CHECKED BY JT

SHEET TITLE BASEMENT PLAN

SHEET NO. A2.2

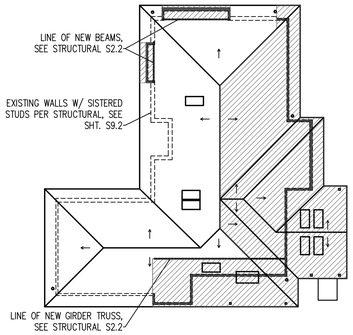


DIAGRAM OF NEW/REPLACED HARD SURFACE FOR STRUCTURES BASED ON SUPPORTED ROOF AREA BY NEW WALLS

NTS NORTH

NEW/REPLACED HARD SURFACE:

NORTH BAY =	47.82 SF
WEST BAY =	28.38 SF
SOUTH/EAST ADDITION =	1493.38 SF
NEW CONCRETE PATIO =	369.90 SF
TOTAL=	1939.48 SF

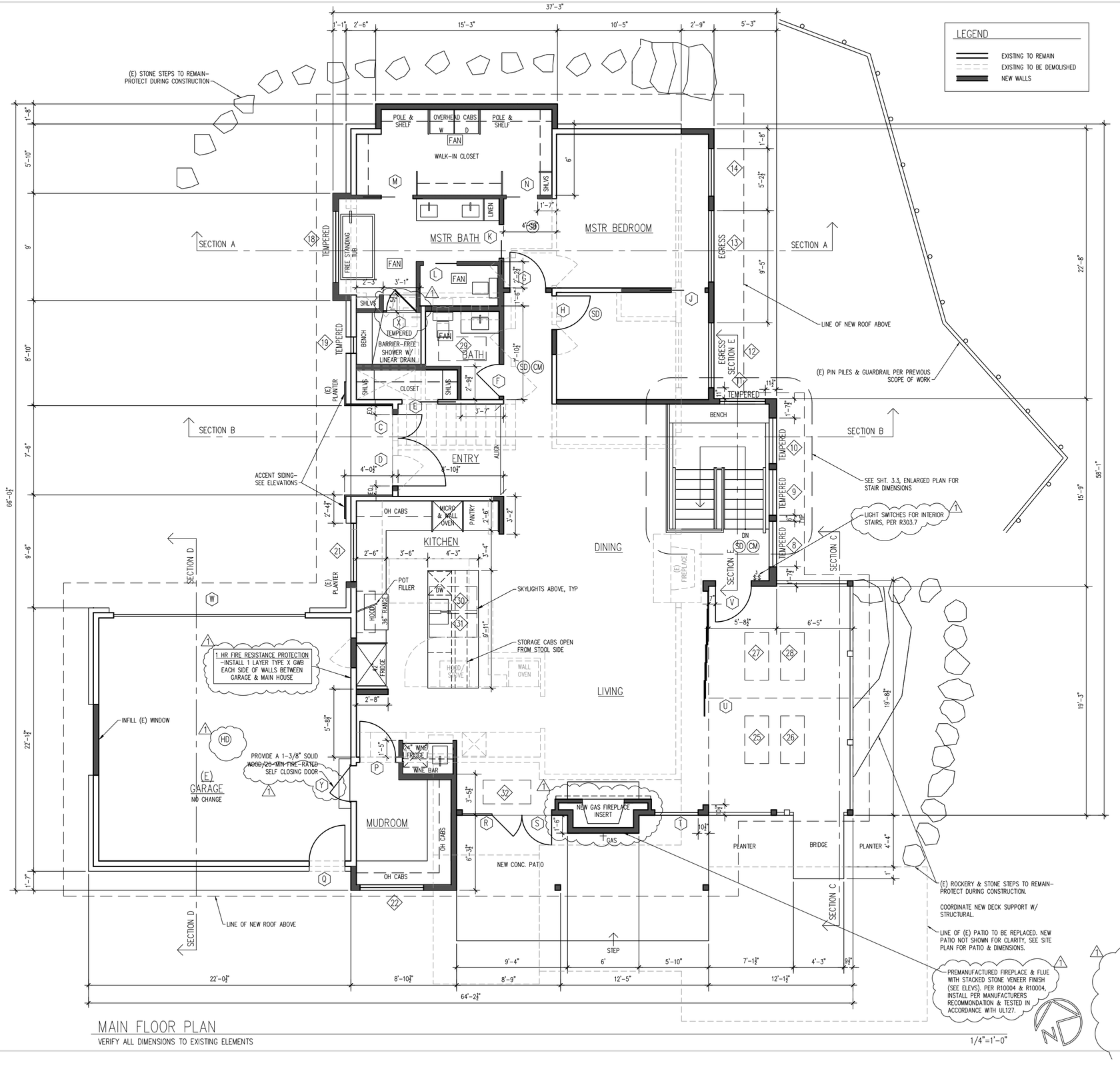
TOTAL NEW/REPLACED HARD SURFACE IS UNDER THE 2000 SF THRESHOLD, THEREFORE, FULL DRAINAGE PLAN & REPORT BY A CIVIL ENGINEER IS NOT REQUIRED.

STAIR NOTES:

– WIDTH	MIN. 36" CLEAR
– TREAD DEPTH	10" CLEAR (ALLOW FOR 1" OVERHANG – 11" TOTAL)
– RISER HEIGHT	7 1/2" +/– VERIFY W/ EXISTING GRADE/ FLOOR HEIGHTS (MAX. HT. 7.75")
– HANDRAIL	MIN. 34", MAX 38" ABOVE TREAD NOSINGS
– HANDRAIL GRASP	MIN. 1–1/4", MAX. 2"
– HANDRAIL PROJECTION	MAX. 4–1/2" FROM EACH SIDE OF STAIRWAY INTO REQUIRED WIDTH. MIN. 1–1/2" BETWEEN THE WALL
– GUARDRAIL	MAX OPENING 4" PER SRC R312.1.3
	MIN. UNIFORMLY DISTRIBUTED LIVE LOADS (LBS PER SF) 200LB CONCENTRATED LOAD ON THE TOP RAIL & 50 PSF ON GUARDRAIL INFILL COMPONENTS PER SRC R301.5– SEE STRUCTURAL FOR DETAILS

NOTES:

1. CONTRACTOR WILL APPLY FOR PLUMBING, MECHANICAL, ELECTRICAL PERMITS SEPARATELY. CONTRACTOR TO REVIEW EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
2. ALL WALLS THAT HAVE FINISHES REMOVED WILL BE SUBJECT TO CURRENT CODE RQMTS – INCLUDES PLUMBING/MECHANICAL/ELECTRICAL/INSULATION.
3. WHOLE HOUSE FAN SHALL BE LOCATED/ASSOCIATED WITH THE MAIN FLOOR GUEST BATH, THIS FAN TO BE EQUIPPED WITH CONTROLS CAPABLE OF MANUAL AND AUTOMATIC OPERATION, SUCH AS A CLOCK TIMER AND SHALL BE DESIGNED TO RUN CONTINUOUSLY PER SRC M1507.3.3.
   - 3.1. IN NEW MASTER BATH & CLOSET– INSTALL PANASONIC WHISPERQUIET FAN SIZED PER SPACE. (75 C.F.M., 1.0 SONES OR BETTER). FAN SHALL TERMINATE VERTICALLY TO THE EXTERIOR OF THE HOUSE.
   - 3.2. NEW KITCHEN HOOD ON MAIN FLOOR TO BE SELECTED– MIN 100 C.F.M., 1.5 SONES OR BETTER. FANS SHALL TERMINATE HORIZONTALLY TO THE EXTERIOR OF THE HOUSE.
4. DOOR JAMBS SHALL BE 3 ½" TYPICAL, UNLESS NOTED OTHERWISE.
5. SEE SHTS A3.0 & A3.2 FOR WINDOW & DOOR SCHEDULES AND ELEVATIONS (A3.0 & A3.1) FOR ADDITIONAL INFORMATION.
6. PROVIDE BLOCKING FOR FUTURE GRAB BARS IN BOTH MAIN FLOOR BATHROOMS.



MAIN FLOOR PLAN

VERIFY ALL DIMENSIONS TO EXISTING ELEMENTS

1/4"=1'–0"

NO.	REVISION DATE
1	CITY CORRECTIONS DATED 6/9/2022

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1800 WESTLAKE AVE. N. #205 SEATTLE, WA 98109
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98040

PROJECT NO. 1212

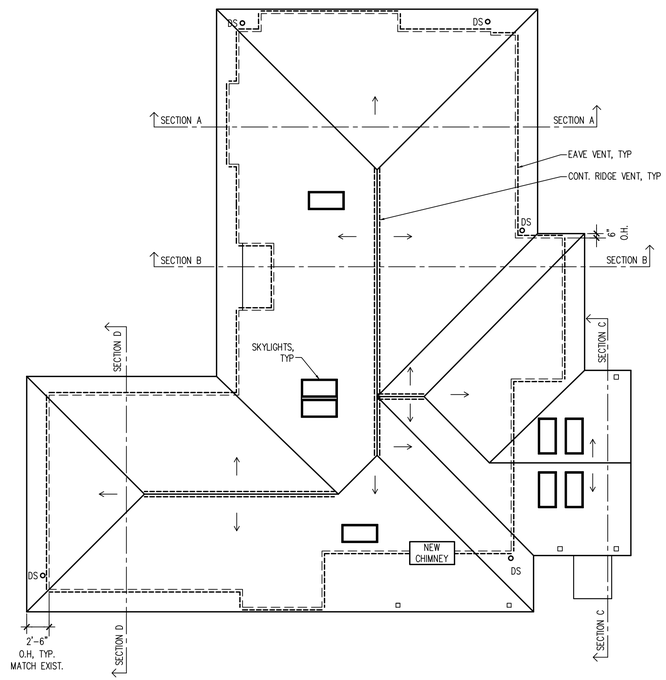
DATE 3/29/22

DRAWN BY JT SM

CHECKED BY JT

SHEET TITLE
MAIN FLR PLAN

SHEET NO.
A2.3



ROOF PLAN

CONNECT ALL NEW GUTTERS/ DOWNSPOUTS TO EXISTING SITE DRAINAGE SYSTEM 1/8"=1'-0"

ROOF VENTILATION NOTES:

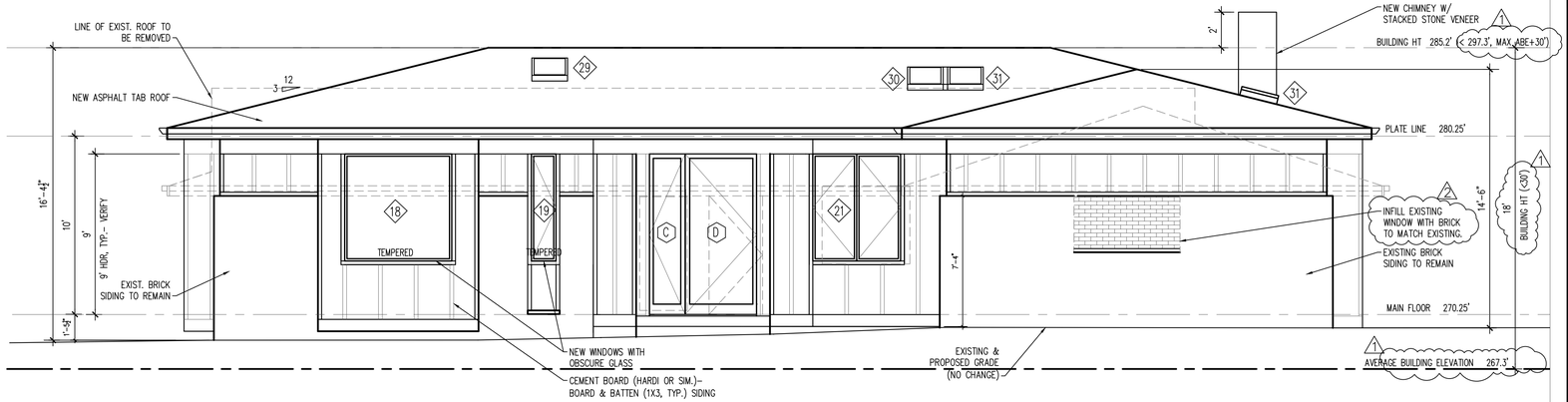
CONTRACTOR TO PROVIDE NEW VENTING TO MEET CODE REQUIREMENTS PER IRC R806.2 (SEE NOTES ON ROOF PLAN FOR PROPOSED VENTILATION SOLUTIONS):

1 SQ.FT. OF VENTING PER 300 SQ.FT. OF AREA TO BE VENTED (1/150 REDUCED TO 1/300 PROVIDED THAT AT LEAST 40% AND NOT MORE THAN 50% OF THE RQD VENTING PROVIDED IN THE UPPER PORTION OF THE SPACE – MIN 3' ABOVE EAVE LINE.

1" AIR SPACE REQUIRED ABOVE ROOF INSULATION
EAVE/SOFFIT VENTS – (3) 2" DIAMETER VENTS PER RAFTER BAY 9 SQ IN. +/– PER BAY MIN.

HOUSE/GARAGE: 2396.5 SF/300= 8.0 SF (1152.0 SQ IN) RQD
RIDGE:
REQUIRED: 576.0 SQ IN RQD (32.0 LF)
PROPOSED: 1056.5 SQ IN (58.7 LF)
SOFFIT:
REQUIRED: 576.0 SQ IN RQD (64 RAFTER BAYS)
PROPOSED: 1053.0 SQ IN (117.0 RAFTER BAYS)

PROPOSED VENTILATION MEETS/EXCEEDS CODE RQMT FOR 1/300
FOR UNIQUE SITUATIONS THAT ARISE DURING CONSTRUCTION COORDINATE VENTILATION (& INSULATION) RQMTS WITH ARCHITECT



WEST ELEVATION

SEE SHT. A3.2 FOR DOOR SCHEDULE 1/4"=1'-0"

WINDOW SCHEDULE– BASEMENT & MAIN FLOOR

MARK	WINDOW SIZE	OPERATION	MATERIAL	MFGR	GLAZING	U-VALUE	NOTES
1	5'-9" x 4'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON
2	5'-10" x 4'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON
3	3'-10" x 4'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TEMPERED MULLED WITH #8
4	3'-10" x 4'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TEMPERED MULLED WITH #9
5	5'-6" x 4'-2"	CSMT	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.28 MIN	ARGON, EGRESS
6	5'-6" x 4'-2"	CSMT	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.28 MIN	ARGON, EGRESS
7	3'-0" x 2'-4"	AWNING	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.28 MIN	ARGON, (E) OPENING
8	3'-10" x 10'-8"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TEMPERED MULLED WITH #3
9	3'-10" x 10'-8"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TEMPERED MULLED WITH #4
10	3'-10" x 10'-8"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TEMPERED
11	3'-10" x 10'-8"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TEMPERED
12	5'-6" x 6'-2"	CSMT	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.28 MIN	ARGON, EGRESS
13	6'-0" x 6'-2"	CSMT	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.28 MIN	ARGON, EGRESS
14	4'-0" x 6'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON
15	3'-0" x 2'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TRANSOM
16	3'-0" x 2'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TRANSOM
17	3'-0" x 2'-2"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TRANSOM
18	6'-0" x 6'-0"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, OBSCURE	0.27 MIN	ARGON, TEMPERED SANDBLASTED
19	1'-4" x 6'-0"	CSMT	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, OBSCURE	0.28 MIN	ARGON, TEMPERED SANDBLASTED
20	6'-0" x 1'-9"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TRANSOM
21	4'-11" x 6'-0"	CSMT	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.28 MIN	ARGON
22	5'-4" x 1'-6"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON
23	7'-6" x 1'-9"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TRANSOM
24	3'-0" x 1'-9"	FIXED	THERMAL BREAK WOOD CLAD	MARVIN SIGNATURE MODERN	LOW-E, CLR	0.27 MIN	ARGON, TRANSOM

LEGEND
- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- NEW WALLS

WINDOW SCHEDULE– ROOF

MARK	WINDOW SIZE	OPERATION	MATERIAL	MFGR	GLAZING	U-VALUE	NOTES
25	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
26	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
27	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
28	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
29	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
30	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
31	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON
32	2'-0" x 4'-0"	SKYLIGHT	ALUMINUM	VELUX	LOW-E, CLR	0.50	ARGON

WINDOW GENERAL NOTES:

1. ALL WINDOWS TO BE NFRC CERTIFIED.
2. CONTRACTOR TO CONFIRM ROUGH OPENING REQUIREMENT W/ MNF'R
3. WINDOW MFGR TO BE MARVIN SIGNATURE MODERN (VELUX FOR SKYLIGHTS). SCHEDULE ASSUMES ALUMINUM (EBONY FINISH) W/ LOW E 272 GLASS–ARGON. SUBSTITUTIONS ARE ACCEPTABLE AS LONG AS WINDOWS MEET THE ENERGY CODE REQMTS LISTED ON SHEET A1.0
4. ALL EXTERIOR WINDOW OPENINGS TO BE WRAPPED W/ VIDAFLEX FOR APPROVED EQUAL PEAL & STICK MEMBRANE AND METAL FLASHINGS PER NORTHWEST WALL AND CEILING BUREAU STANDARD DETAILS.
5. INSTALL TEMPERED/SAFETY GLAZING AS REQUIRED PER IRC R308 AND NOTED ABOVE.

NO.	REVISION DATE
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FORM + FUNCTION ARCHITECTURE
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DATE 3/4/22
DRAWN BY JT SM
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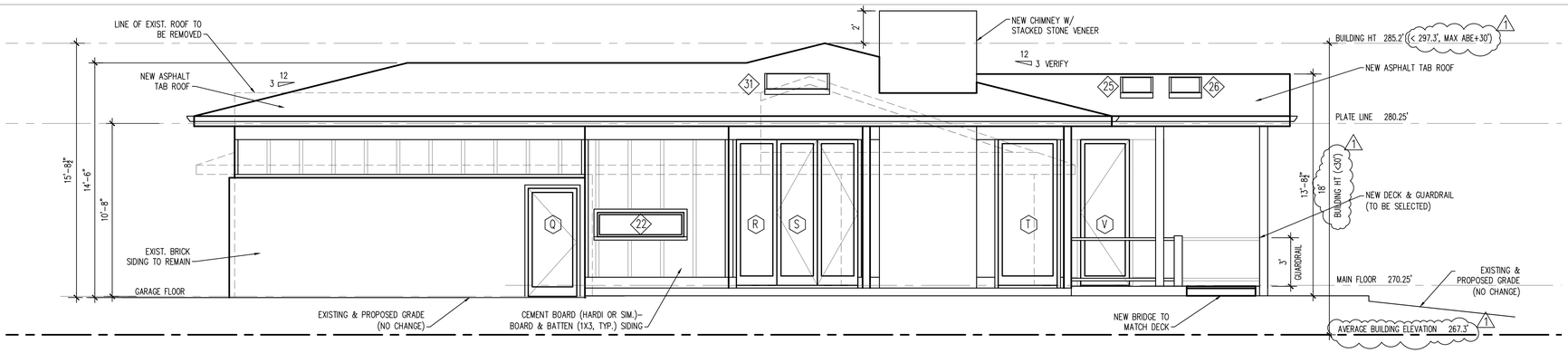
SHEET TITLE
EXTERIOR ELEV
ROOF PLAN
WINDOW SCHEDULE

SHEET NO.
A3.0



SOUTH ELEVATION

SEE SHT. A3.0 FOR WINDOW SCHEDULE, A3.2 FOR DOOR SCHEDULE

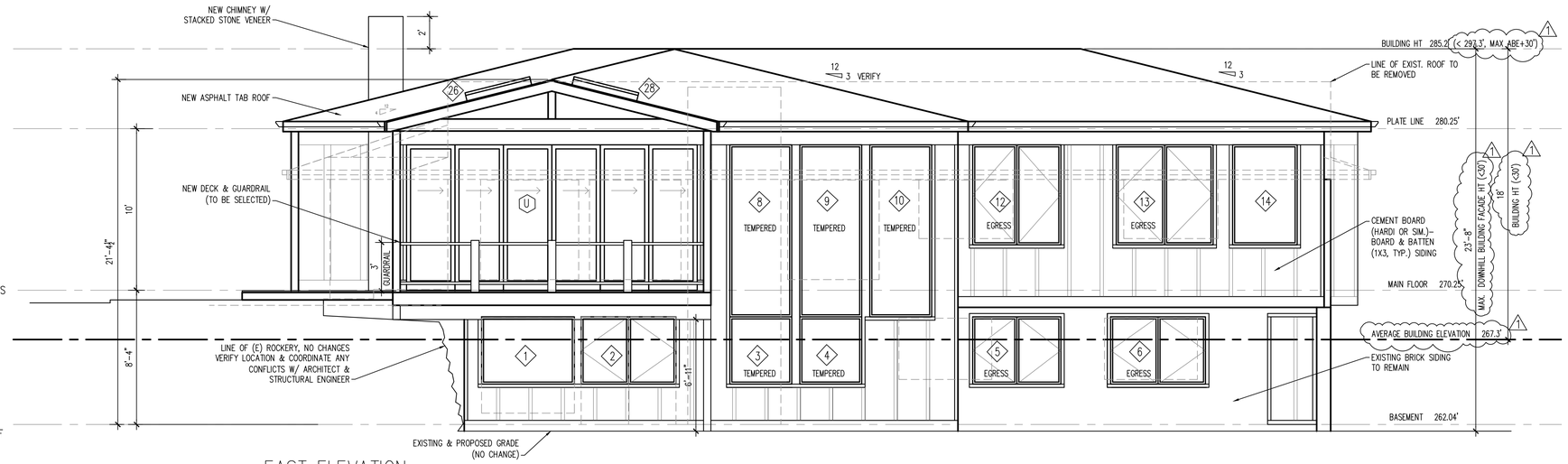
1/4"=1'–0"

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- NEW WALLS

STAIR NOTES:

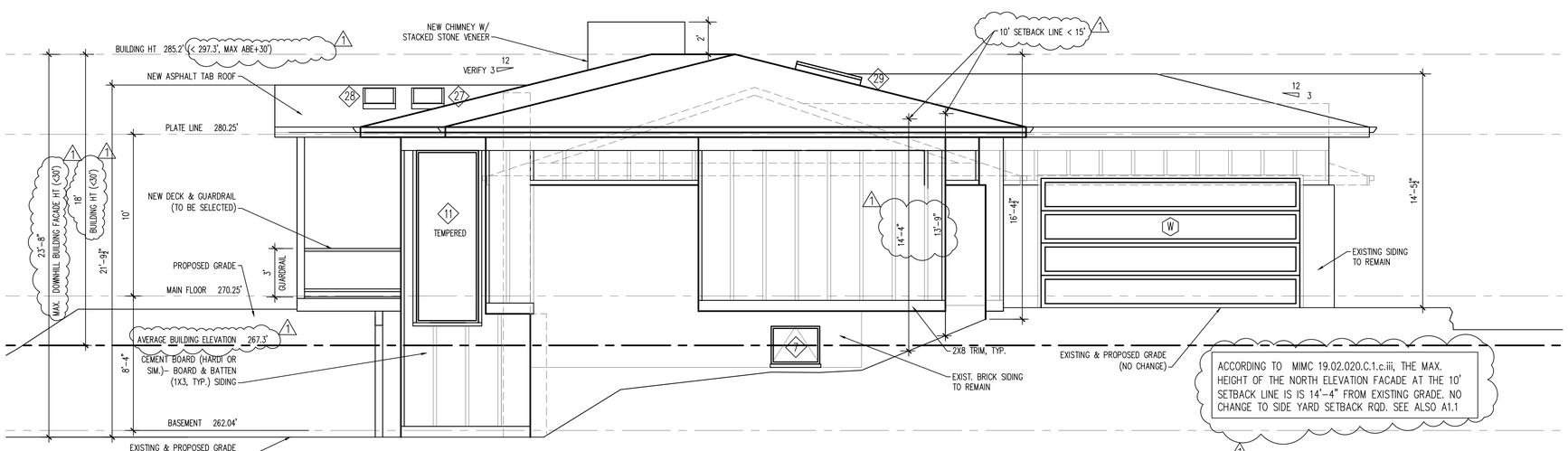
–	WIDTH	MIN. 36" CLEAR
–	TREAD DEPTH	10" CLEAR (ALLOW FOR 1" OVERHANG – 11" TOTAL)
–	RISER HEIGHT	7 1/2" +/– VERIFY W/ EXISTING GRADE/ FLOOR HEIGHTS (MAX. HT. 7.75")
–	HANDRAIL	MIN. 34", MAX 38" ABOVE TREAD NOSINGS
–	HANDRAIL GRASP	MIN. 1–1/4", MAX. 2"
–	HANDRAIL PROJECTION	MAX. 4–1/2" FROM EACH SIDE OF STAIRWAY INTO REQUIRED WIDTH. MIN. 1–1/2" BETWEEN THE WALL
–	GUARDRAIL	MAX OPENING 4" PER SRC R312.1.3 MIN. UNIFORMLY DISTRIBUTED LIVE LOADS (LBS PER SF) 200LB CONCENTRATED LOAD ON THE TOP RAIL & 50 PSF ON GUARDRAIL INFILL COMPONENTS PER SRC R301.5–SEE STRUCTURAL FOR DETAILS



EAST ELEVATION

SEE SHT. A3.0 FOR WINDOW SCHEDULE, A3.2 FOR DOOR SCHEDULE

1/4"=1'–0"



NORTH ELEVATION

SEE SHT. A3.0 FOR WINDOW SCHEDULE, A3.2 FOR DOOR SCHEDULE

1/4"=1'–0"

NO.	REVISION DATE
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FORM + FUNCTION ARCHITECTURE
1800 WESTLAKE AVE. N. #205 SEATTLE, WA 98109
206.372.9796

6850 REGISTERED ARCHITECT
JUDITH A. TUCKER
STATE OF WASHINGTON

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

PIPER REMODEL
8429 SE 33RD PL
MERCER ISLAND, WA
98040

PROJECT NO. 1212

DATE 3/4/22

DRAWN BY JT SM

CHECKED BY JT

SHEET TITLE
ELEVATIONS

SHEET NO.
A3.1

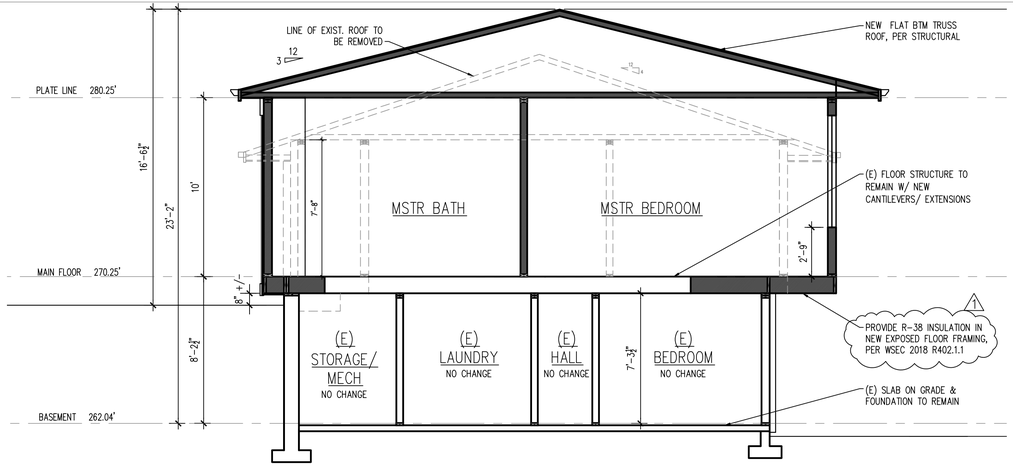
DOOR SCHEDULE– BASEMENT & MAIN FLOOR

MARK	DOOR SIZE W X H	OPERATION	MATERIAL	GLAZING	U–VALUE	NOTES
A	3'–0" x 6'–8"	SWING	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL KEYED LOCK & DEADBOLT (MATCH HOUSE KEY)
B	3'–0" x 6'–8"	SWING	SC WOOD	NA	NA	PRIVACY LATCH
C	2'–0" x 9'–0"	SWING/ FRENCH DR	SC WOOD OR GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.20 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL– COORD. ASTRIGAL OPTIONS W/ ARCHITECT
D	4'–0" x 9'–0"	SWING/ FRENCH DR	SC WOOD OR GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.20 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL KEYED LOCK & DEADBOLT (MATCH HOUSE KEY)
E	3'–0" x 6'–8"	POCKET	SC WOOD	NA	NA	
F	2'–8" x 6'–8"	SWING	SC WOOD	NA	NA	PRIVACY LATCH
G	3'–0" x 6'–8"	SWING	SC WOOD	NA	NA	PRIVACY LATCH
H	2'–10" x 6'–8"	SWING	SC WOOD	NA	NA	PRIVACY LATCH
I	NOT USED FOR CLARITY					
J	2'–10" x 6'–8"	POCKET	SC WOOD	NA	NA	PRIVACY LATCH
K	2'–10" x 6'–8"	POCKET	SC WOOD	NA	NA	PRIVACY LATCH
L	2'–10" x 6'–8"	POCKET	SC WOOD	NA	NA	PRIVACY LATCH
M	2'–8" x 6'–8"	POCKET	SC WOOD	NA	NA	PRIVACY LATCH
N	2'–8" x 6'–8"	POCKET	SC WOOD	NA	NA	
O	NOT USED FOR CLARITY					
P	3'–0" x 6'–8"	SWING	SC WOOD	NA	NA	
Q	3'–0" x 6'–8"	SWING	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL
R	2'–6" x 9'–0"	FIXED/ FRENCH DR	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL
S	(2) 2'–6" x 9'–0"	SWING/ FRENCH DR	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL
T	3'–8" x 9'–0"	FIXED/ FRENCH DR	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL
U	(6) 3'–0" x 9'–0"	SLIDER/ FRENCH DR	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL
V	3'–0" x 9'–0"	SWING/ FRENCH DR	GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL KEYED LOCK & DEADBOLT (MATCH HOUSE KEY)
W	16'–0" x 8'–0"	GARAGE	OBSCURE GLASS/ SC WOOD	LOW E/ARGON TEMPERED	0.30 MIN	THRESHOLD BY MFGR W/ WEATHERSTRIPPING FOR TIGHT SEAL
X	2'–6" x 6'–0"	SHOWER	GLASS	NA	NA	TEMPERED GLASS (1)
Y	3'–0" x 6'–8"	SWING	SC WOOD	NA	NA	20 MIN RATED DR ON CLOSER ALUMINUM THRESHOLD BY PEMCO OR EQUAL SMOKE GASKETING FOR A TIGHT SEAL KEYED LOCK & DEADBOLT (MATCH HOUSE KEY)

DOOR GENERAL NOTES:

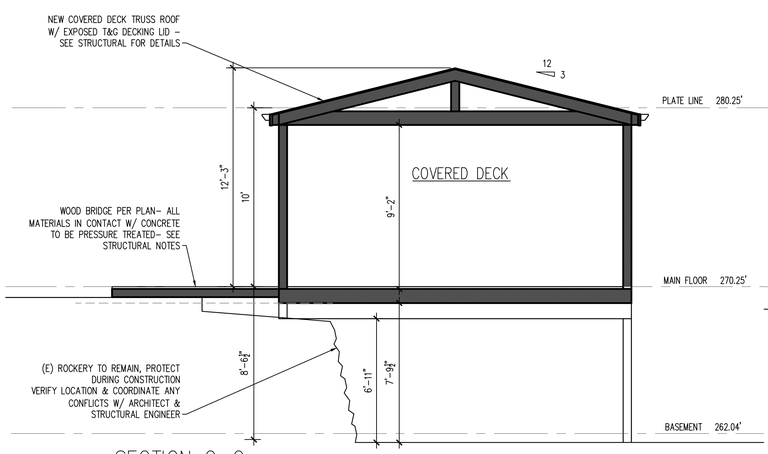
1. ALL DOORS TO BE NFRC CERTIFIED.
2. CONTRACTOR TO CONFIRM ROUGH OPENING REQUIREMENT W/ MNF'R
3. ALL INTERIOR & EXTERIOR DOORS BY LOEWEN OR SIMPSON OR EQUIVALENT.
4. SET EXTERIOR DOORS IN DOOR PAN PER NORTHWEST WALL & CLG BUREAU STANDARD DETAILS
5. ALL EXT. DOOR OPENINGS TO BE WRAPPED W/ VIDAFLEX F OR APPROVED EQUAL PEEL & STICK OR METAL FLASHINGS PER THE NORTHWEST WALL & CLG BUREAU STANDARD DETAILS
6. ALL U–VALUES PROVIDED FOR DOORS ARE PRESCRIPTIVE VALUES (MINIMUMS TO BE USED) UNTIL SPECIFIC MANUFACTIRERS/DOOR MODELS ARE SELECTED.
7. ALL HARDWARE TO BE LEVER TYPE– FINISH TO BE SELECTED.

LEGEND
- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- NEW WALLS



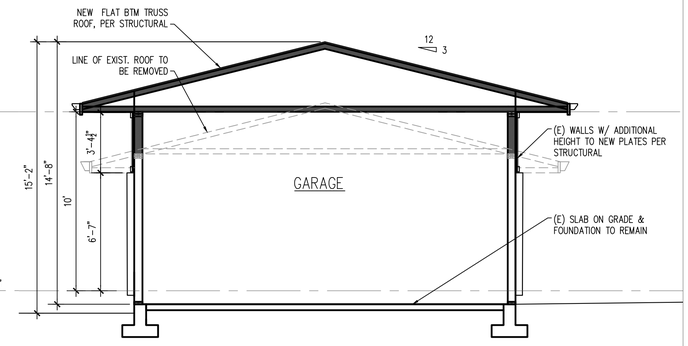
SECTION A–A

VERIFY ALL DIMENSIONS TO EXISTING ELEMENTS 1/4"=1'–0"



SECTION C–C

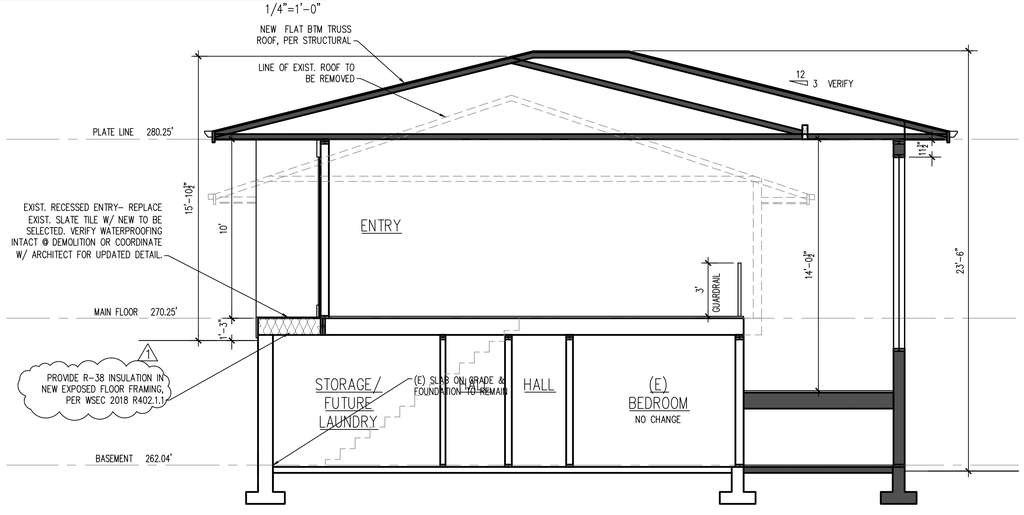
1/4"=1'–0"



SECTION D–D

1/4"=1'–0"

SEE SHT A3.3 FOR TYPICAL WALL SECTION W/ ADDITIONAL DETAIL



SECTION B–B

VERIFY ALL DIMENSIONS TO EXISTING ELEMENTS 1/4"=1'–0"

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1800 WESTLAKE AVE. N. #205 SEATTLE, WA 98109
206.372.9796

6850 REGISTERED ARCHITECT JUDITH A. TUCKER STATE OF WASHINGTON

MERCER ISLAND REVIEWED FOR CODE COMPLIANCE July 29, 2022 SITE COPY

PIPER REMODEL
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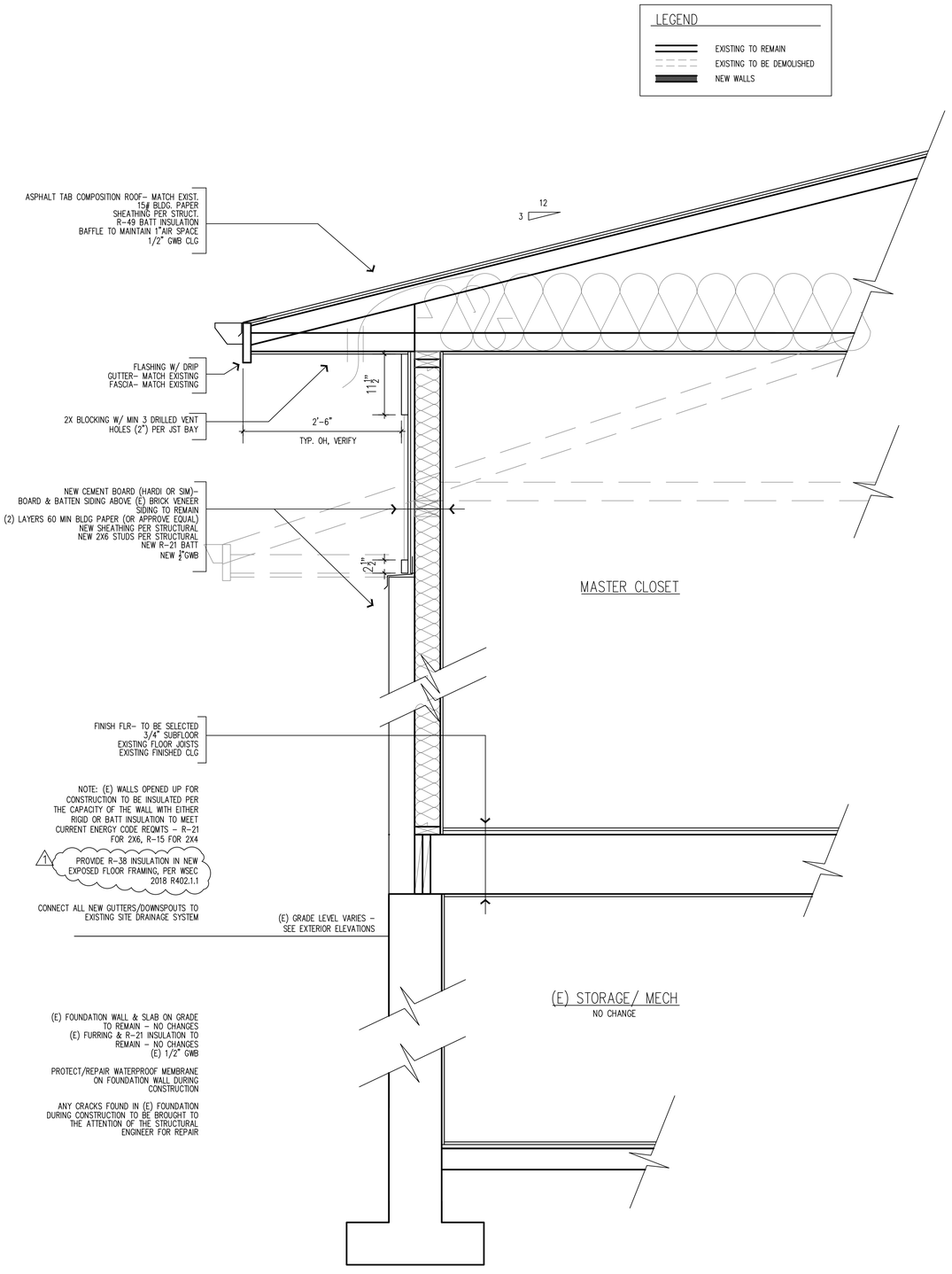
CHECKED BY JT

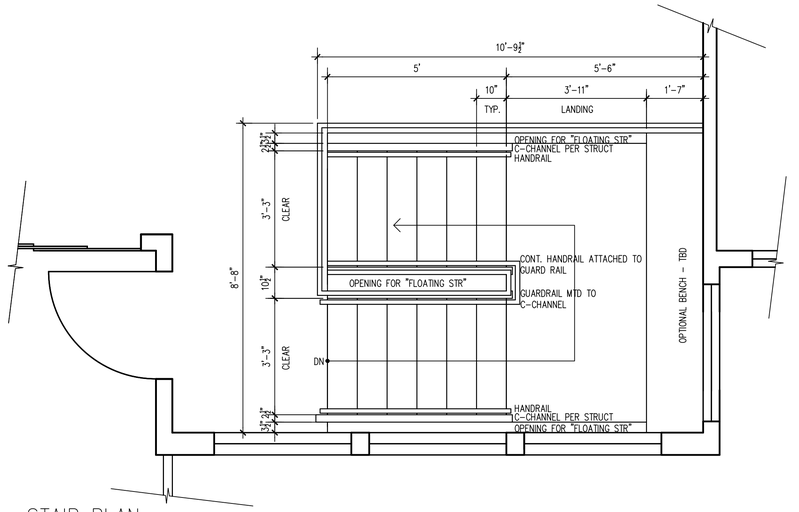
SHEET TITLE
SECTIONS
DOOR SCHEDULE

SHEET NO. A3.2



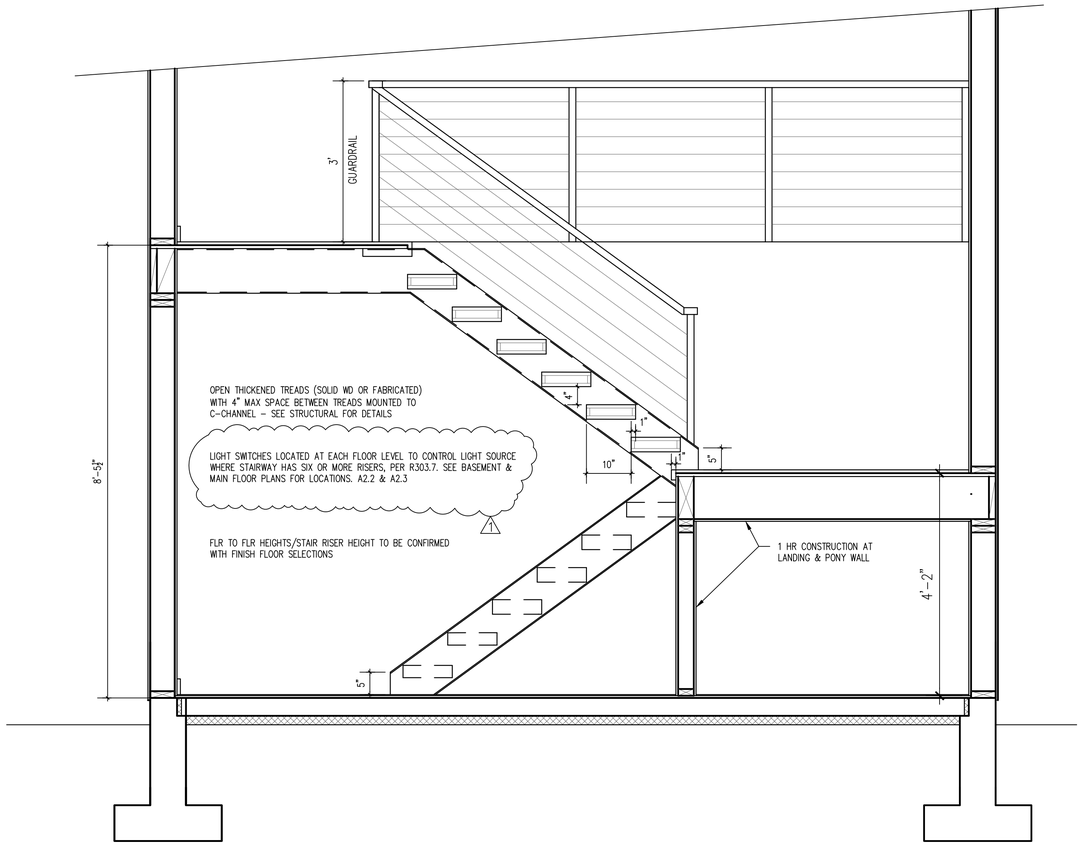
TYP WALL DETAIL

1"=1'–0"



STAIR PLAN

1/2"=1'–0"



SECTION E–E: NEW STAIR ADDITION

3/4"=1'–0"

NO.	REVISION DATE
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6850 REGISTERED ARCHITECT
JUDITH A. TUCKER
STATE OF WASHINGTON

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY
CITY OF MERCER ISLAND, WASHINGTON

PIPER REMODEL
8429 SE 33RD PL
MERCER ISLAND, WA
98040

PROJECT NO. 1212

DATE 3/4/22

DRAWN BY JT SM

CHECKED BY JT

SHEET TITLE
SECTION E–E
STAIR PLAN
TYP. WALL DETAIL

SHEET NO.
A3.3

STRUCTURAL NOTES

01000 - GENERAL REQUIREMENTS
THE STRUCTURAL NOTES SUPPLEMENT THE PLANS AND SPECIFICATIONS. ANY DISCREPANCY FOUND BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, SITE CONDITIONS, AND ARCHITECTURAL PLANS SHALL BE REPORTED TO THE ARCHITECT WHO SHALL CORRECT THE DISCREPANCY IN WRITING. ANY WORK COMPLETED AFTER DISCOVERY OF THE DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK. REFER TO ARCHITECTURAL PLANS FOR OPENINGS, ARCHITECTURAL TREATMENTS, AND DIMENSIONS NOT SHOWN. CONSULT MECHANICAL PLANS FOR DUCTS AND PIPES ETC. NOT SHOWN.

THE CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT REQUIRED FOR TEMPORARY CONSTRUCTION LOADS AND FOR STRUCTURAL COMPONENTS AS REQUIRED DURING ERECTION. BACKFILL BEHIND WALLS SHALL NOT BE PLACED UNTIL THE WALLS ARE PROPERLY SUPPORTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK INCLUDING BUT NOT LIMITED TO EXCAVATION, SHORING, AND OTHER WORK WITH ALL UTILITIES AND ADJACENT PROPERTIES. CALL THE UTILITY LOCATE SERVICE PRIOR TO ANY WORK AT 1-800-424-5555.

01001 - CODE REQUIREMENTS
ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE AS ADOPTED BY SEATTLE, WASHINGTON.

01100 - DESIGN LOADS
DEAD LOADS:
ACTUAL WEIGHT OF MATERIALS OF CONSTRUCTION AND PERMANENT EQUIPMENT.

FLOOR LIVE LOADS:
FLOORS (RESIDENTIAL) 40 PSF
DECKS 60 PSF

ROOF LIVE LOADS:
ROOF 20 PSF

SNOW LOAD DESIGN DATA:
Pg = 20 PSF, Pf = 20 PSF, Ce = 0.9, Is = 1.0, Ct = 1.0, 25 PSF UNIFORM

WIND DESIGN DATA:

BASIC WIND SPEED	100 MPH (3-SECOND GUST)
WIND IMPORTANCE FACTOR	Iw = 1.0
WIND EXPOSURE	EXPOSURE B
TOPOGRAPHICAL FACTOR	Kzt = 1.3
INTERNAL PRESSURE COEFFICIENT	GCpi = +/- 0.18
COMPONENT/CLADDING WIND PRESSURE	P(C) = 25 PSF

EARTHQUAKE DESIGN DATA:

SEISMIC IMPORTANCE FACTOR	Ie = 1.0	
OCCUPANCY CATEGORY	II	
SPECTRAL RESPONSE ACCELERATIONS	Ss = 1.401	S1 = 0.487
SITE CLASS	D	
SPECTRAL RESPONSE COEFFICIENTS	SDS = 0.934	SD1 = 0.584
SEISMIC DESIGN CATEGORY	D	

(E-W) EQUIVELENT LATERAL FORCE - BEARING WALL SYSTEM W/LIGHT FRAMED WOOD WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE — R = 6.5 — Cs = 0.14
T = 0.189 (LESS THAN 1.5*Ts) THEREFORE NO SITE RESPONSE ANALYSIS REQUIRED PER ASCE 7-17 SECTION 11.4.8 EXCEPTION #2.

(N-S) COMBINATION OF FRAMING SYSTEMS — R = 3.5 — Cs = 0.27
IN THE SAME DIRECTION (ASCE 7-16 12.2.3) R = 6.5 WOOD FRAMED SHEAR WALLS, R = 3.5 ORDINARY MOMENT FRAME. GOVERNING R VALUE THIS DIRECTION = 3.5.

01200 - GEOTECNICAL INVESTIGATION
FOUNDATION DESIGN BASED ON REPORT NO. 2537.01 DATED JANUARY 28, 2022, AND SUPPLEMENTAL REPORT DATED FEBRUARY 28, 2022 PREPARED BY ZIPPER GEO.. ALL SITE PREPARATION AND FOUNDATION CONSTRUCTION TO BE PERFORMED PER REPORT. ALL PILE DRIVING TO BE INSPECTED BY A CERTIFIED INSPECTOR WITH LOG CONFIRMING EACH PILE DRIVEN IN ACCORDANCE WITH SOILS REPORT REFUSAL CRITERIA. FILLS TO BE COMPACTED TO 95% MODIFIED PROCTOR PER ASTM D-1557, AND INSTALLED IN LIFTS NO GREATER THEN 10 INCHES. A MINIMUM OF 12 INCHES OF SOIL UNDER NEW INTERIOR AND EXTERIOR SLABS ON GRADE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR PER ASTM D-1557.

ALL FOUNDATIONS SHALL BE FOUNDED ON PIPE PILE OR BY ON AT LEAST MEDIUM DENSE / STIFF NATIVE SOILS OR ABOVE PROPERLY COMPACTED STRUCTURAL FILL OR CDF WITH 100 PSI COMPRESSIVE STRENGTH PLACED ABOVE ADEQUATE NATIVE SOILS PER THE DISCRESSION OF THE GEOTECHNICAL ENGINEER. WHERE FOUNDATIONS ARE FOUNDED ATOP CONDITIONS DESCRIBED ABOVE, AN ALLOWABLE NET BEARING CAPACITY OF 2000 PSF HAS BEEN USED FOR DESIGN.

GEOTECHNICAL DESIGN PARAMETERS HAVE BEEN COORDINATED WITH ZIPPER GEO AS LISTED BELOW

DESIGN PARAMETERS ARE AS FOLLOWS:

PASSIVE EARTH PRESSURE	400 PCF (ULTIMATE)
COEFFICIENT OF FRICTION	0.5 (ULTIMATE)
SOIL PROFILE	SITE CLASS D

ALL FOUNDATION INSTALLLATIONS SHALL BE SUBJECT TO APPROVAL OF THE GEOTECHNICAL ENGINEER.

PIPE PILE:
INSTALLATION REQUIREMENTS:
TWO AND THREE INCH DIAMETER PIPE PILE SHALL CONSIST OF PIPE PER ASTM A53 GRADE B AND BE DRIVEN AT LEAST 10 FEET INTO COMPETENT SOIL. PIPE PILE REACHING THE FOLLOWING PENETRATION RATES MAY BE ASSIGNED THE FOLLOWING COMPRESSIVE CAPACITIES. PIPE PILE SHALL BE INSTALLED USING A HYDRAULIC IMPACT HAMMER CARRIED ON LOADS THAT ALLOW THE HAMMER TO SIT ON THE TOP OF THE PILE DURING DRIVING. IF ALTERNATE DRIVING MEATHODS ARE USED, COORDINATE REQUIRED LOAD TESTS WITH GEOTECHNICAL ENGINEER. GEOTECHNICAL SPECAIL INSPECTOR SHALL BE CONTINOUSLY PRESENT DURING PIPE PILE INSTALLATION.
(F.D.R. - FINAL DRIVING RATE):

PILE DIAMETER	F.D.R. 90 LB. PERCUSSION DRIVER	F.D.R. 650 LB PERCUSSION DRIVER	ALLOWABLE COMP. CAPACITY
2 INCH (X-STRONG) SCHEDULE 80	60 SEC/INCH	NA	3 TONS (6,000 LB)
3 INCH (STANDARD) SCHEDULE 40	NA	15 SEC/INCH	6 TONS (12,000 LB)
(E) 4 INCH	NA	NA	10 TONS (20,000 LB)

FIELD TESTING REQUIREMENTS:
LOAD TESTS ARE NOT REQUIRED FOR TWO OR THREE INCH DIAMETER PIPE PILES THAT ARE DRIVEN IN ACCORDANCE WITH THE RECOMMENDATIONS PRESENTED IN JANUARY 28, 2022 REPORT PREPARED BY ZIPPER GEO, AND PROVIDED THAT A ZGA REPRESENTATIVE OBSERVES INSTALLATION OF THE PILES AND VERIFIES THAT REFUSAL HAS BEEN ACHIEVED.

01300 - SHOP DRAWING SUBMITTAL PROCESS
SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION. IF SHOP DRAWINGS DIFFER FROM THE APPROVED DESIGN DRAWINGS, NEW DESIGN DRAWINGS BEARING THE SEAL AND SIGNATURE OF A LICENSED STATE OF WASHINGTON STRUCTURAL ENGINEER SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS TO THE BUILDING OFFICIAL FOR APPROVAL PRIOR TO FABRICATION.

SHOP DRAWINGS ARE REQUIRED FOR STRUCTURAL STEEL AND PROPRIETARY GUARD COMPONENT.

01400 - INSPECTIONS AND SPECIAL INSPECTIONS
THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL INSPECTIONS REQUIRED BY THE LOCAL BUILDING DEPARTMENT.

SPECIAL INSPECTIONS ARE NOT REQUIRED FOR GROUP R-3 OCCUPANCIES UNLESS OTHERWISE REQUIRED BY THE BUILDING OFFICIAL.

01600 - QUALITY ASSURANCE REQUIREMENTS
THE QUALITY ASSURANCE PLAN SHALL BE TO VERIFY THAT THE SPECIAL INSPECTIONS NOTED IN SECTION 01400 AND THE STRUCTURAL OBSERVATION NOTED IN SECTION 01500 HAVE BEEN COMPLETED AND THAT SUPPORTING DOCUMENTATION NOTED IN SUCH SECTIONS HAS BEEN PROVIDED.

QUALITY ASSURANCE PLAN IS NOT REQUIRED FOR STRUCTURES OF LIGHT WOOD FRAMING WITH DESIGN SPECTRAL RESPONSE AT SHORT PERIODS, SDS, NOT EXCEEDING 0.50g.

QUALITY ASSURANCE PLAN IS NOT REQUIRED FOR WIND EXPOSURE B WHERE BASIC WIND SPEED IS LESS THAN 120 MPH.

SUMMARY: A QUALITY ASSURANCE PLAN IS NOT REQUIRED BY CODE FOR THIS STRUCTURE.

2

01700 - EXECUTION REQUIREMENTS
INSTALLATION OF ALL STRUCTURAL COMPONENTS SHALL BE AS REQUIRED PER ALL LOCAL CODES.

02000: SITE CONSTRUCTION
ALL SITE CONSTRUCTION SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS AS NOTED IN THE GEOTECHNICAL ENGINEERING REPORT (SEE SECTION 01200) AND IN SUBSEQUENT DIRECTIVES.

02100 - EXCAVATION SUPPORT AND PROTECTION
EXCAVATION FOR FOUNDATIONS SHALL BE PER PLAN DOWN TO UNDISTURBED NATIVE MATERIAL PER THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH LEAN CONCRETE OR PER GEOTECHNICAL RECOMMENDATIONS AT THE CONTRACTOR'S EXPENSE.

EXCAVATION SLOPES SHALL BE SAFE AND SHALL NOT BE GREATER THAN THE LIMITS SPECIFIED BY LOCAL, STATE, AND NATIONAL SAFETY REGULATIONS.

INSTALLATION OF CONSTRUCTION SHORING, IF REQUIRED, SHALL BE PER THE SHORING DRAWINGS, NOTES, AND SPECIFICATIONS.

02200 - BACKFILL AND COMPACTION
BACKFILL SHALL NOT BE PLACED UNTIL THE REMOVAL OF FORMWORK AND OF ANY DEBRIS. BACKFILL BEHIND ALL WALLS SHALL NOT BE PLACED UNTIL THE WALLS ARE PROPERLY SUPPORTED. ALL BACKFILL MATERIAL AND PLACEMENT PROCEDURES SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS.

03000 - CAST-IN-PLACE CONCRETE
CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE STANDARD ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

CEMENT AND CONCRETE SHALL CONFORM TO IBC SECTION 1903. ADMIXTURES SHALL BE APPROVED BY THE ENGINEER OF RECORD AND SHALL COMPLY WITH ACI 318-14
SECTION 3.6. CONCRETE EXPOSED TO FREEZING AND THAWING SHALL HAVE AN AIR ENTRAINING ADMIXTURE CONFORMING TO IBC SECTION 1904.2. THE USE OF WATER SOLUBLE CHLORIDE ION SHALL NOT BE USED.

CONCRETE MIX DESIGNS SHALL MEET THE FOLLOWING REQUIREMENTS:
(1) 28 DAY MAX. STRENGTH f'c [PSI] (2) MAX. WATER / CEMENT RATIO (3) MAX. SLUMP [IN] (4) AIR ENTRAINMENT [%] (5) SPECIAL INSPECTION REQUIRED (6) MIN. 90 LB SACKS OF CEMENT (7) LOCATION AND APPLICATION.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
3000	0.45	4+/-1	5+/-1	NO		EXTERIOR SLAB ON GRADE
3000	0.41	4+/-1	0+/-1	NO		INTERIOR SLAB ON GRADE
3000	0.50	5+/-1	0+/-1	NO		FOOTINGS AND GRADE BEAMS
3000	0.45	5+/-1	5+/-1	NO		STEMS
3000	0.50	5+/-1	5+/-1	NO		ALL OTHER CONCRETE

SPECIAL INSPECTION IS NOT REQUIRED AS THE DESIGN IS BASED ON f'c = 2500 PSI.

CHAMFER ALL EXPOSED CORNERS PER THE ARCHITECTURAL PLANS OR 3/4 INCH IF NOT SPECIFIED BY THE ARCHITECT.

03100 - REINFORCING STEEL
REINFORCING STEEL DETAILING, FABRICATION, AND PLACEMENT SHALL BE PER ACI 318-14. REINFORCING STEEL SHALL MEET THE FOLLOWING REQUIREMENTS:

ASTM A-615 DEFORMED BARS GRADE 40 (fy=40 KSI) FOR #3 BARS ONLY
ASTM A-615 DEFORMED BARS GRADE 60 (fy=60 KSI) FOR #4 BARS AND LARGER
ASTM A-706 DEFORMED BARS GRADE 60 (fy=60 KSI) FOR ALL WELDABLE BARS
ASTM A-1064 SMOOTH BAR (fy=60 KSI) FOR WELDED WIRE FABRIC

REINFORCING FOR SLABS ON GRADE SHALL BE 6X6 W1.4XW1.4 WELDED WIRE FABRIC OR FIBER MESH UNLESS NOTED OTHERWISE. PROVIDE LAP SPLICES PER THE LAP SPLICE SCHEDULE ON SHEET S6.0. REINFORCING STEEL AT ALL WALLS, SLABS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS ELSE CORNER BARS SHALL BE PROVIDED.

COVER REQUIREMENTS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH
ALL BAR SIZES . . . . 3"
FORMED SURFACE EXPOSED TO EARTH OR WEATHER
#6 AND LARGER . . . . 2"
#5 AND SMALLER . . . . 1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
WALLS AND JOISTS
#14 AND #18 BARS . . . . 1 1/2"
#11 BARS AND SMALLER . . . . 3/4"
SLABS AND JOISTS
#14 AND #18 BARS . . . . 1 1/2"
#11 BARS AND SMALLER . . . . 1"
BEAMS, COLUMNS
PRIMARY REINFORCEMENT . . . . . . 1 1/2"
TIES, STIRRUPS, AND SPIRALS . . . 1 1/2"

REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN PLACE PRIOR TO CONCRETE PLACEMENT. REINFORCING STEEL SHALL NOT BE FIELD BENT EXCEPT AS NOTED IN THE DESIGN DRAWINGS. WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD EXCEPT AS NOTED ON THE DESIGN DRAWINGS.

03200 - CONCRETE WALL REINFORCING
PLACE TWO HORIZONTAL #5 BARS AT EACH FLOOR LEVEL OR TOP OF WALL ELEVATION. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCEMENT AT EACH WALL CORNER AND INTERSECTION. PROVIDE TWO VERTICAL #5 BARS AT EACH WALL CORNER AND INTERSECTION. AT ALL WALL OPENINGS PROVIDE TWO #5 BARS OVER, UNDER, AND AT THE SIDES OF THE OPENINGS. EXTEND THE HORIZONTAL BARS THE LAP SPLICE DISTANCE PAST THE OPENING OR EXTEND AS FAR AS POSSIBLE AND HOOK. PROVIDE ONE #5 BAR BY 4'-0" LONG DIAGONALLY AT EACH CORNER OF THE WALL OPENING. ALL CONCRETE SHALL BE PLACED AND CONSOLIDATED WALLS SHALL BE REINFORCED PER SCHEDULE BELOW U.N.O.:

WALL THICKNESS	HORIZONTAL	VERTICAL	LOCATION
6"	#4 AT 14"OC	#5 AT 18"OC	CENTERLINE
8"	#4 AT 10"OC	#5 AT 15"OC	CENTERLINE
10"	#4 AT 16"OC	#5 AT 18"OC	EACH FACE
12"	#4 AT 12"OC	#5 AT 18"OC	EACH FACE

EPOXY ALL HORIZONTAL STEEL INTO EXISTING FOUNDATION WITH FOUR INCH EMBEDMENT. RE: NOTES SECTION 08100 FOR EPOXY TYPE.

05000 - STRUCTURAL STEEL
DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "AISC 360-10 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS". MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING U.N.O.:

STRUCTURAL W SHAPE	ASTM A-992	Fy = 50 KSI
S, M, AND C SHAPES	ASTM A-36	Fy = 36 KSI
STEEL ANGLES	ASTM A-36	Fy = 36 KSI
PLATE MATERIAL	ASTM A-36	Fy = 36 KSI
STRUCTURAL PIPE	ASTM A-53 GRADE B	Fy = 35 KSI
STRUCTURAL HSS	ASTM A-500 GRADE B	Fy = 46 KSI
ANCHOR RODS	ASTM F1554	Fy = 36 KSI
WOOD CONNECTION BOLTS	ASTM A-307 GRADE A	
WELDING ELECTRODES	E7018	

ALL WELDING SHALL CONFORM TO THE AWS D1.4 "STRUCTURAL WELDING CODE". ALL WELDING SHALL BE PERFORMED BY A WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO) AND AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS. ALL COMPLETE PENETRATION (CP) WELDS SHALL BE ULTRASONICALLY TESTED. ALL FILLET WELDS SHALL BE VISUALLY INSPECTED RE: S1.1.

STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A-123. ALL FIELD WELDS EXPOSED TO WEATHER SHALL BE COATED WITH BRUSH APPLIED ZINC-RICH PAINT COMPLYING WITH ASTM A-780.

ALL STRUCTURAL STEEL TO RECEIVE ONE COAT OF PAINT (PRIME COAT). PROVIDE A MINIMUM FRY-FILM THICKNESS OF ONE MIL. PREPARE SURFACE TO MEET REQUIREMENTS OF SSPC-SP2. TOUCHUPS OF ABRASIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. UNO. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION RELATING TO FINISH PAINT OR OTHER FINISH REQUIREMENTS.

06000 - WOOD FRAMING NOTES
FRAMING CONNECTORS, ACCESSORIES, AND FASTENERS AS NOTED IN THE PLANS AND DETAILS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MY BE USED WITH PRIOR APPROVED BY ENGINEER OF RECORD. INSTALL ALL HARDWARE PER MANUFACTURERS SPECIFICATIONS. WHERE STRAPS CONNECT TWO MEMBERS TOGETHER, PLACE HALF OF THE REQUIRED FASTENERS INTO EACH MEMBER. PROVIDE SOILD BLOCKING AT ALL BEARING POINTS. SEE SECTION 06100 FOR FASTENER REQUIREMENTS AT TREATED LUMBER. TYPICAL NAILING NOT SHOWN PER PLAN, DETAIL, OR SCHEDULE SHALL CONFORM TO FASTENING SCHEDULE PER IBC TABLE 2304.10.1 OR TO THE FASTENING SCHEDULE ON SHEET S9.0.

NAILS SHALL BE COMMON UNLESS NOTED OTHERWISE COMMON NAIL DIMENSIONS ARE AS FOLLOWS:

NAIL SIZE	DIAMETER	LENGTH
8d	0.131"	2 1/2"
10d	0.148"	3"
12d	0.148"	3 1/4"
16d	0.162"	3 1/2"

UNLESS NOTED OTHERWISE PER SHEARWALL SCHEDULE OR PLANS. ANCHOR BOLTS AT SILL PLATES SHALL BE 5/8 INCH DIAMETER WITH 7 INCHES MINIMUM EMBEDMENT INTO CONCRETE AND SHALL BE SPACED NOT MORE THAN 4 FEET APART. THERE SHALL BE A MINIMUM OF TWO BOLTS PER SILL PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES NOR LESS THAN 4 1/2 INCHES FROM EACH END OF THE PIECE. A 3"x3"x1/4" PLATE WASHER SHALL BE PROVIDED FOR ALL ANCHOR BOLTS (COUNTERSINK PLATE WASHERS SHALL NOT BE ALLOWED).

06100 - ROUGH FRAMING
SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU (WCLIB) "GRADING AND DRESSING RULES" NO. 17 LATEST EDITION. SAWN LUMBER SHALL BE S4S AND SURFACED DRIED, 19 PERCENT MAXIMUM MOISTURE CONTENT. PROTECT LUMBER FROM WEATHER AND PROVIDE FURTHER DRYING OF ASSEMBLED FRAMING TO MINIMIZE WOOD SHRINKAGE POTENTIAL. ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED U.N.O. PER PLAN. LUMBER SPECIES, GRADE, AND PROPERTIES FOR EACH USE/LOCATION SHALL BE AS FOLLOWS U.N.O. PER PLAN/SCHEDULE:

USE/LOCATION	SPECIES	GRADE	Fb (PSI)	Fv (PSI)	Fcp (PSI)	Fc (PSI)	E (PSI)
WALL STUDS/BLOCKING							
2X, 3X 4" WIDE	HEM-FIR	STUD	675	150	405	800	1.2E6
2X, 3X 6" & WIDER	HEM-FIR	NO. 2	850	150	405	1300	1.3E6
WALL PLATES							
2X4, 3X4	HEM-FIR	STUD	675	150	405	800	1.2E6
2X6, 3X6	HEM-FIR	NO. 2	850	150	405	1300	1.3E6
JOISTS							
2X, 3X	HEM-FIR	NO. 2	850	150	405	1300	1.3E6
LEDGERS							
2X, 3X	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
4X	DOUGLAS FIR-LARCH	NO. 1	1000	180	625	1500	1.7E6
BEAMS AND POSTS							
4X	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
6X	DOUGLAS FIR-LARCH	NO. 1	1200	170	625	1000	1.6E6

06200 - PRESERVATIVE TREATED WOOD PRODUCTS
PRESERVATIVE TREATED WOOD SHALL BE REQUIRED FOR ALL WOOD THAT FORMS THE STRUCTURAL SUPPORT OF THE BUILDING, BALCONIES PORCHES, OR SIMILAR PERMANENT BUILDING APPURTENANCES THAT ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING TO PREVENT MOISTURE OR WATER ACCUMULATION AT THE SURFACE OR AT JOINTS BETWEEN MEMBERS.

ALL WOOD INSTALLED ABOVE GROUND AND RESTING ON AN EXTERIOR CONCRETE OR MASONRY FOUNDATION WALL LESS THAN 8 INCHES FROM EXPOSED EARTH.

POSTS OR COLUMNS SUPPORTING PERMANENT STRUCTURES AND SUPPORTED BY A CONCRETE SLAB OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH. EXCEPT;

1. IF LOCATED IN BASEMENTS ON A CONCRETE PIER OR METAL PEDESTAL 1 INCH ABOVE THE SLAB AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.
2. IF IN AN ENCLOSED CRAWL SPACE OR AN UNEXCAVATED AREA WITHIN THE BUILDING PERIPHERY AND SUPPORTED BY A CONCRETE PIER OR PEDESTAL MORE THAN 8 INCHES FROM EXPOSED GROUND AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.
3. SLEEPERS AND SILLS ON A CONCRETE SLAB ON GRADE THAT DOES NOT HAVE AN IMPERVIOUS MOISTURE BARRIER SEPARATION WITH EXPOSED EARTH.
4. LEDGERS AND FURRING ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR CONCRETE OR MASONRY WALLS BELOW GRADE.

PRESERVATIVE TREATMENT SHALL BE PER AMERICAN WOOD PRESERVERS' ASSOCIATION (AWPA) SPECIFICATION C2 AND C9 OR APPLICABLE STANDARDS.

ALL FASTENERS (NAILS, BOLTS, ANCHOR BOLTS, PLATES, HANGERS, ETC.) IN CONTACT WITH TREATED LUMBER SHALL BE CORROSION RESISTANT G-185 HOT DIPPED GALVANIZED PER ASTM A153 OR STAINLESS STEEL.

06300 - JOIST AND BEAM HANGERS
JOIST AND BEAM HANGERS AS NOTED IN THE PLANS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MAY BE USED WITH PRIOR APPROVAL BY ENGINEER OF RECORD. JOIST AND BEAM HANGERS SHALL BE INSTALLED PER MANUFACTURERS' SPECIFICATIONS AND SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE PER PLANS OR DETAILS:

MEMBER SIZE	HANGER
SAWN LUMBER	LUS OR HUS SERIES TO MATCH LUMBER SIZE WHERE NOT NOTED SPECIFICALLY BELOW

GLUED LAMINATED BEAMS (H = BEAM DEPTH TYPICAL) (DF CAPACITY / HF CAPACITY)

3 1/8"	LGU3.25-SDS W/(16) SDS 1/4x2 1/2" FACE, (12) SDS 1/4x2 1/2" JOIST	(6720 / 4840)
3 1/2"	HGU3.63-SDS W/(36) SDS 1/4x2 1/2" FACE, (24) SDS 1/4x2 1/2" JOIST	(14145 / 10185)
5 1/8"	HGU5.25-SDS W/(36) SDS 1/4x2 1/2" FACE, (24) SDS 1/4x2 1/2" JOIST	(14145 / 10185)
5 1/4"	HHGU5.50-SDS W/(44) SDS 1/4x2 1/2" FACE, (28) SDS 1/4x2 1/2" JOIST	(17845 / 12850)
5 1/2"	HHGU5.62-SDS W/(44) SDS 1/4x2 1/2" FACE, (28) SDS 1/4x2 1/2" JOIST	(17845 / 12850)
6 3/4"	HHGU7.00-SDS W/(44) SDS 1/4x2 1/2" FACE, (28) SDS 1/4x2 1/2" JOIST	(17845 / 12850)
8 3/4"	HHGU9.00-SDS W/(44) SDS 1/4x2 1/2" FACE, (28) SDS 1/4x2 1/2" JOIST	(17845 / 12850)
10 3/4"	HHGU11.00-SDS W/(44) SDS 1/4x2 1/2" FACE, (28) SDS 1/4x2 1/2" JOIST	(18480 / 13305)

LSL

1 1/2" x 11 7/8"	MIU1.56/11 W/(20) 16d FACE, (2) 10d x 1 1/2" JOIST	(2880)
(2) 1 3/4" x 11 7/8"	HHUS410 W/(30) 16d FACE, (10) 16d JOIST	(5635)
3 1/2" x 11 7/8"	HHUS410 W/(30) 16d JOIST	(5635)

PROVIDE HUC HANGER FOR BEAM SIZE SPECIFIED FOR END OF BEAM CONDITIONS.

06400 - SHRINKAGE OF WOOD FRAMING
SHRINKAGE IN WOOD FRAMING IS DUE TO LOSS OF MOISTURE CONTENT AND TO COMPRESSION OF ASSEMBLIES OF WOOD COMPONENTS. PLUMBING, ELECTRICAL, AND MECHANICAL SYSTEMS AS WELL AS EXTERIOR FINISHES SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 1/4 INCH PER FLOOR WOOD SHRINKAGE. THE USE OF KILN DRIED LUMBER AND PROVIDING A DRYING PROCESS TO THE FRAMING MEMBERS PRIOR TO APPLICATION OF FINISHES WILL HELP CONTROL BUT WILL NOT ELIMINATE SHRINKAGE.

06500 - WOOD SHEATHING
STRUCTURAL WOOD SHEATHING PANELS SHALL HAVE APA GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. WOOD SHEATHING PANELS SHALL BE C-D INT APA WITH EXTERIOR GLUE (CDX). ORIENTED STRAND BOARD (OSB) PANELS SHALL BE EXPOSURE 1. PANELS SHALL HAVE THE FOLLOWING THICKNESS, SPAN RATING, AND FASTENING UNLESS NOTED OTHERWISE PER PLAN:

		EDGE NAILS	FIELD NAILS
ROOF:	5/8" 40/20 C-D APA CDX	8d AT 6"	8d AT 12"
FLOOR:	3/4" 48/24 C-D T&G	10d AT 6"	10d AT 12"
SHEARWALL:	7/16" C-D EXTERIOR GLUE	SEE SCHEDULE SHEET S1.1	
EXTERIOR WALL:	7/16" D-D EXTERIOR GLUE	10d AT 6"	10d AT 12"

ALL ROOF SHEATHING PANELS SHALL BE INSTALLED FACE GRAIN PERPENDICULAR TO SUPPORTS AND IN A STAGGERED PATTERN UNLESS NOTED OTHERWISE PER PLAN. BLOCKING AT INTERMEDIATE FLOOR AND ROOF SHEATHING JOINTS SHALL NOT BE REQUIRED UNLESS NOTED OTHERWISE PER PLAN. SHEARWALL SHEATHING SHALL BE BLOCKED AT ALL EDGES WITH 2X OR 3X FRAMING PER SHEARWALL SCHEDULE.

06610 - SHOP FABRICATED METAL PLATE CONNECTED WOOD TRUSSES
PREMANUFACTURED METAL-PLATE-CONNECTED WOOD TRUSSES SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH IBC SECTION 2303.4 TRUSSES, AND THE TRUSS PLATE INSTITUTE ANSI/TPI 1-2007 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION". A TRUSS SUBMITTAL PACKAGE SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION PER THE REQUIREMENTS OF IBC 2303.4.2. THE TRUSS DESIGN DRAWINGS SHALL BEAR THE STAMP AND SEAL OF A REGISTERED STATE OF WASHINGTON PROFESSIONAL ENGINEER.

DESIGN FOR THE SPANS, LOADS, SHAPES, BEARING POINTS, INTERSECTIONS, HIPS AND VALLEYS, OVER-FRAMING, BLOCKING PANELS AND ALL CONDITIONS SHOWN ON THE PLANS. THE DESIGN LOADS AND DEFLECTION CRITERIA SHALL BE AS FOLLOWS:

TOP CHORD LOADS

TOP CHORD LIVE LOAD	25 PSF
TOP CHORD DEAD LOAD	10 PSF
TOP CHORD GROSS WIND UPLIFT	
OVERHANGS AT CORNERS	44.8 PSF
CORNERS	32.0 PSF
OVERHANG AT EDGE	44.8 PSF
EDGES	32.0 PSF
FIELD	22.3 PSF
TOP CHORD NET WIND PRESSURE ABOVE PRESSURES LESS	10.0 PSF

BOTTOM CHORD LOADS
BOTTOM CHORD DEAD LOAD 5 PSF

DEFLECTION LIMITATIONS
LIVE LOAD DEFLECTION L/720
TOTAL LOAD DEFLECTION L/480

PROVIDE ALL TRUSS-TO-TRUSS CONNECTION DETAILS INCLUDING BLOCKING PANELS AND REQUIRED MATERIALS. PROVIDE EACH TRUSS WITH THE STRUCTURAL BUILDING COMPONENT (SBCA) TAGS FOR BEARING LOCATIONS, PERMANENT BRACING LOCATIONS ETC.. THE TRUSS DESIGNER SHALL SPECIFY ALL PERMANENT BRACING LOCATIONS & TRUSS REACTIONS ON THE TRUSS DESIGN DRAWINGS.

STORE, INSTALL & BRACE TRUSSES IN ACCORDANCE WITH WTCA/TPI (SBCA) BUILDING COMPONENT SAFETY INFORMATION (BCSI) "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL-PLATED-WOOD TRUSSES" & BCSI B1 THROUGH B11 QUICK REFERENCES. THE CONTRACTOR SHALL INSTALL ALL TEMPORARY BRACING; SEE BCSI-2 FOR TYPICAL TEMPORARY BRACING REQUIREMENTS.

THE CONTRACTOR SHALL INSTALL ALL PERMANENT BRACING AS INDICATED ON THE TRUSS DESIGN DRAWINGS AND PLANS. REFERENCE BCSI-B3 FOR TYPICAL PERMANENT BRACING REQUIREMENTS U.N.O.

MINIMUM BEARING FOR TRUSSES SHALL BE 3 1/2". SECURE TRUSSES TO TOP PLATE WITH (2) 0.148" DIAMETER x 3" TOE NAILED, ONE EACH SIDE. AS A MINIMUM PROVIDE H2.5A HURRICANE CLIP AT EACH SUPPORT OF TRUSS.

06620 - STRUCTURAL GLUED LAMINATED TIMBER
GLUED-LAMINATED MEMBERS SHALL HAVE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) IDENTIFICATION MARK. EXPOSED MEMBERS SHALL RECEIVE ONE COAT OF END SEALER APPLIED IMMEDIATELY AFTER TRIMMING IN EITHER SHOP OR FIELD. DESIGN MATERIAL PROPERTIES SHALL BE AS FOLLOWS:

USE	COMBINATION SYMBOL	SPECIES	CAMBER
SIMPLE SPAN BEAM	24F-V4	DF/DF	STANDARD
CONTINUOUS BEAM	24F-V8	DF/DF	ZERO
CANTILEVER BEAM	24F-V8	DF/DF	ZERO

UNEXPOSED GLUED-LAMINATED TIMBER SHALL BE INDUSTRIAL GRADE. TYPICAL, UNLESS NOTED OTHERWISE. EXPOSED GLUED LAMINATED TIMBER SHALL BE APPEARANCE CLASS PER ARCHITECT.

06630 - STRUCTURAL COMPOSITE LUMBER (SCL)
STRUCTURAL COMPOSITE LUMBER SHALL CONFORM TO ALL PERTINENT PROVISIONS OF ASTM D5456 AND SHALL BE THE SIZE AND TYPE SHOWN ON THE DRAWINGS AS MANUFACTURED BY ILEVEL TRUS JOIST OR APPROVED EQUAL. STORAGE, ERECTION, AND INSTALLATION SHALL BE PER MANUFACTURER SPECIFICATIONS. ALL MEMBERS SHALL NOT HAVE NOTCHES OR DRILLED HOLES WITHOUT PRIOR ENGINEER OF RECORD APPROVAL.
ALLAOWABLE DESIGN MATERIAL PROPERTIES SHALL BE AS FOLLOWS (ALL UNITS ARE IN PSI):

ORIENTATION	Fb	Fv	Fc(perp)	Fc	E
TIMBERSTRAND LAMINATED STRAND LUMBER (LSL)					
COLUMN	1700	400	680	1400	1.3E6
PLANK	1900	150	435	1400	1.3E6
BEAM	2325	310	800	2050	1.55E6
RIM	2325	310	800	2050	1.55E6
MICROLAM LAMINATED VENEER LUMBER (LVL)					
BEAM	2600	NA	NA	2500	1.9E6
PARALLAM PARALLEL STRAND LUMBER (PSL)					
COLUMN	2400	NA	NA	2500	1.8E6
BEAM	2900	290	750	2900	2.0E6

08100 - EPOXY ADHESIVE ANCHORS
CONCRETE
EPOXY SPECIFIED IN THE DRAWINGS SHALL BE SIMPSON STRONG-TIE SET-XP EPOXY ADHESIVE. ANCHOR ROD, THREADED ROD, OR REINFORCING DIAMETER AND EMBEDMENT PER PLAN. INSTALLATION PER ESR-2508.

08200 - EXPANSION ANCHORS
CONCRETE
EXPANSION ANCHORS SPECIFIED IN THE DRAWINGS SHALL BE SIMPSON STRONG-TIE STRONG-BOLT WEDGE ANCHOR. ANCHOR DIAMETER AND EMBEDMENT PER PLAN. INSTALLATION PER SECTION 4.3 OF ESR-1771.

08300 - SCREW ANCHORS
CONCRETE
SCREW ANCHORS SPECIFIED IN THE DRAWINGS SHALL BE SIMPSON STRONG-TIE TITEN HD. ANCHOR DIAMETER AND EMBEDMENT PER PLAN. INSTALLATION PER ESR-2713.

5

STRUCTURAL DRAWING LIST

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)
www.ctengineering.com

CRAIG F. ROBERTS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
03/25/22

No.	REVISION	DATE

JOB #: 21162
ENG: BJM
CAD: JMA
SCALE: 3/4" = 1'-0"

KEY ISSUE DATES:
SD: SD
DD: DD
CD: CD
PERMIT: 03.25.2022
OTHER: BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY
CITY OF MERCER ISLAND WASHINGTON

Structural Notes

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S1.0

6/14/2022 4:16:44 PM
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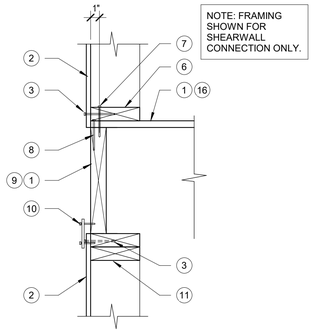
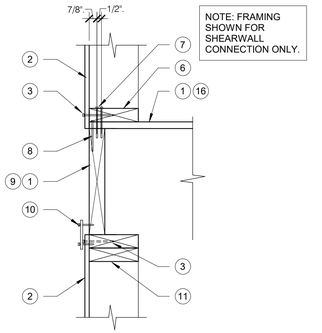


(1 ROW OF PLATE NAILING)

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

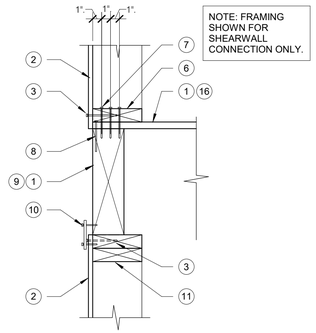
1 TYP. EXT./ ELEV. / STAIR WALL SHEAR CONN.



(2 ROWS OF PLATE NAILING)

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

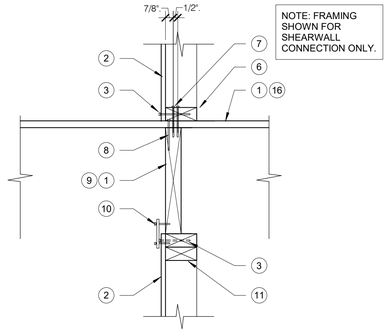
2 TYP. EXT./ ELEV. / STAIR WALL SHEAR CONN.



(3 ROWS OF PLATE NAILING)

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

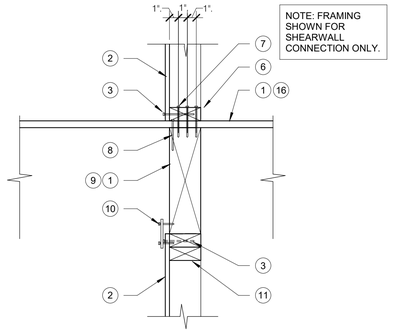
3 TYP. EXT./ ELEV. / STAIR WALL SHEAR CONN.



(2 ROWS OF PLATE NAILING)

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

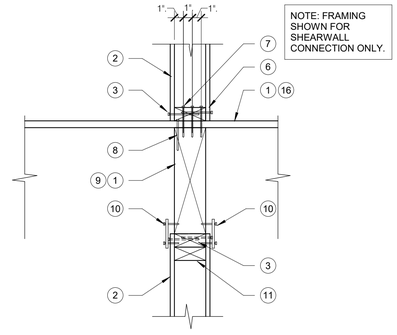
6 TYP. EXT./ ELEV. / STAIR WALL SHEAR CONN.



(3 ROWS OF PLATE NAILING)

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

7 TYP. EXT./ ELEV. / STAIR WALL SHEAR CONN.



(3 ROWS OF PLATE NAILING)

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

8 TYP. EXT./ ELEV. / STAIR WALL SHEAR CONN.

SCALE: NONE

11 BOTTOM PLATE NAILING PATTERN

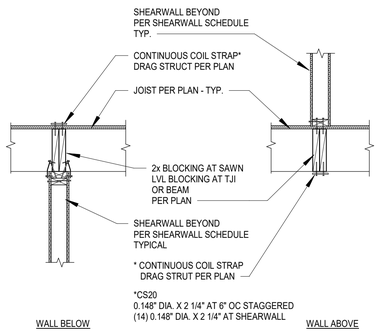
NOTE: PLATE WASHER SHALL EXTEND WITHIN 1/2" OF EDGE OF BOTTOM PLATE ON SIDE(S) WITH SHEATHING. PROVIDE STAGGERED/OFFSET PLACEMENT AS SHOWN ELSE OVESIZE PLATE WASHERS AS REQUIRED.

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

12 ANCHOR BOLT PLACEMENT DETAILS

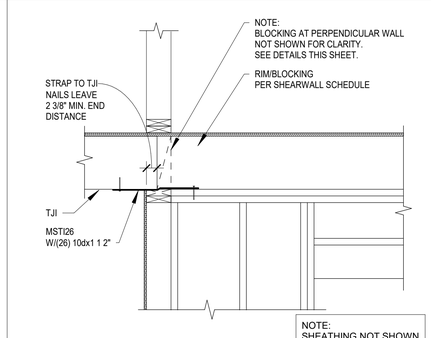
SCALE: 3/4" = 1'-0"

13 TYP. SHEARWLL ANCHOR BOLT TO CONCRETE



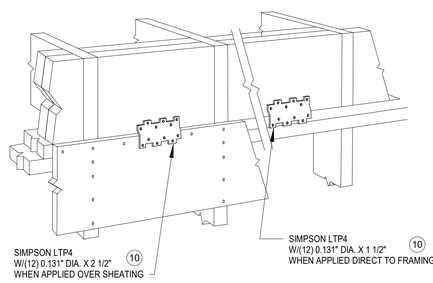
SCALE: 3/4" = 1'-0"

16 DRAG STRUT DETAILS



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

17 TYPICAL SHEARWALL STRAP



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

18 TYPICAL SIMPSON LTP4 AT INTERIOR SHEARWALL

SHEARWALL SCHEDULE - 7/16" APA RATED SHEATHING W/ HEM-FIR STUDS AND HEM-FIR PLATES

WALL TYPE	SHEATHING (2)	PANEL EDGE NAILING (3)	FIELD NAILING (4)	BOTTOM PLATE NAILING (7)		RIM OR BLOCKING TO TOP PLATE CONN. (10)			FRAMING AT ADJOINING PANEL EDGES (5)	FOUNDATION SILL PLATE (12)	ANCHOR BOLT SPACING 5/8" DIA. 7" EMBED (13)
				ROWS	SPACING	0.148"x3.25" TOENAIL	LTP4 DIRECT TO FRAMING	A35 ONLY			
P6TN	7/16" SHT. ONE SIDE	6" O.C.	12" O.C.	(1)	4" O.C.	4" O.C.	N/A	N/A	2x	2x	48" O.C.
P6	7/16" SHT. ONE SIDE	6" O.C.	12" O.C.	(1)	4" O.C.	N/A	24" O.C.	16" O.C.	2x	2x	48" O.C.
P4	7/16" SHT. ONE SIDE	4" O.C.	12" O.C.	(2)	6" O.C.	N/A	16" O.C.	12" O.C.	(2)2x OR 3x	2x	32" O.C.
P3	7/16" SHT. ONE SIDE	3" O.C.	12" O.C.	(2)	4" O.C.	N/A	12" O.C.	10" O.C.	(2)2x OR 3x	2x	24" O.C.
P2	7/16" SHT. ONE SIDE	2" O.C.	12" O.C.	(3)	6" O.C.	N/A	10" O.C.	10" O.C.	(2)2x OR 3x	2x	18" O.C.
2P4	7/16" SHT. BOTH SIDES	4" O.C.	12" O.C.	(3)	5" O.C.	N/A	10" O.C.	10" O.C.	(2)2x OR 3x	2x	16" O.C.
2P3	7/16" SHT. BOTH SIDES	3" O.C.	12" O.C.	(3)	4" O.C.	N/A	8" O.C.	8" O.C.	(2)2x OR 3x	2x	12" O.C.
2P2	7/16" SHT. BOTH SIDES	2" O.C.	12" O.C.	(3)	3" O.C.	N/A	6" O.C.	6" O.C.	(2)2x OR 3x	2x	8" O.C.

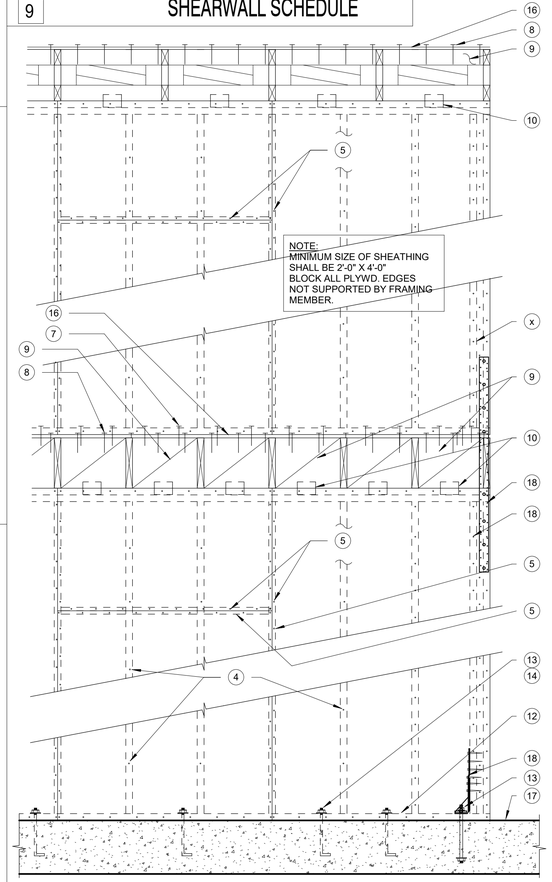
(#) REFERS TO KEYNOTES IN DETAIL 19 THIS SHEET

SHEARWALL SCHEDULE NOTES :

1. STUDS SHALL NOT BE SPACED MORE THAN 16" O.C..
2. RE: S1.0 SECTION 06100 "ROUGH FRAMING" FOR REQUIRED WALL STUD AND PLATE SPECIES AND GRADE.
3. RE: S1.0 SECTION 06160 "WOOD SHEATHING" FOR REQUIRED SHEAR WALL SHEATHING, THICKNESS AND GRADE. ALL SHEAR WALL PANELS SHALL BE APPLIED DIRECTLY TO FRAMING.
4. SHEATHING PANELS MAY BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY WITH ALL PANEL EDGES BACKED/BLOCKED WITH 2" NOMINAL OR WIDER FRAMING. SEE NOTE 5.
5. FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN 3" NOMINAL AND NAILS SHALL BE STAGGERED FOR ALL SHEARWALL MARKS EXCEPT "P6".
6. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" NOMINAL OR THICKER AND NAILS SHALL BE STAGGERED.
7. NAILS FOR PLYWOOD AND OSB PANEL EDGE AND FIELD NAILING SHALL BE 8D COMMON (0.131" X 2 1/2").
8. NAILS FOR BOTTOM PLATE FRAMING SHALL BE 12D COMMON (0.148" X 3.25").
9. FLOOR DIAPHRAGM NAILING SHALL BE PLACED BETWEEN THE SPACING CALLED OUT FOR BOTTOM PLATE NAILING. DO NOT OVER NAIL THE BLOCKING.
10. ANCHOR BOLTS SHALL BE GALVANIZED 5/8" DIAMETER A-307 AND SHALL BE SECURED IN PLACE PRIOR TO CONCRETE POUR. WET STICKING OF ANCHOR BOLTS IS NOT ALLOWED.
11. GALVANIZED 3" X 3" X 0.229" (MIN.) PLATE WASHERS ARE REQUIRED AT EACH ANCHOR BOLT - SEE 8 THIS SHEET FOR PLACEMENT REQUIREMENTS. RECESSING PLATE WASHERS IN PLATES IS NOT ALLOWED.
12. LTP4 FRAMING PLATES SHALL BE INSTALLED WITH 12-8D X 1 1/2" (0.131" X 2 1/2") NAILS. RE: DETAILS 1, 2, 3 & 6/S1.1.
13. A35 FRAMING ANGLES SHALL BE INSTALLED WITH 12-8D X 1 1/2" (0.131" X 1 1/2") NAILS. RE: DETAILS 1, 2 & 3/S1.1.
14. ALL NAILS INTO PRESSURE TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED CONFORMING TO ASTM 153 OR STAINLESS STEEL.
15. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED.
16. WHERE BOTTOM PLATE NAILING SPECIFIES A SPACING OF 4 INCHES OR LESS NAILS SHALL BE INSTALLED IN TWO ROWS OFFSET 1/2 INCH AND STAGGERED.
17. GALVANIZED EXPANSION ANCHORS OF SIMILAR. DIAMETER AND EMBEDMENT ALLOWED AT INTERIOR BEARING AND PARTY WALLS.
18. 2-2X'S IN LIEU OF 3X'S AT PANEL EDGES ACCEPTABLE PROVIDED STUDS ARE ATTACHED PER 10/S1.2 SIM. AND BOTTOM PLATE NAILING.
19. WHERE BUILDING OFFICIALS ALLOW, OSB SHEATHING MAY BE APPLIED OVER 1/2" OR 3/8" GYPSUM WALL BOARD PROVIDED SHEATHING IS NAILED WITH 10D NAILS (0.148" DIA X 3" LONG)

SCALE: NONE

9 SHEARWALL SCHEDULE



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

19 TYPICAL SHEARWALL NOMENCLATURE (ELEVATION)

(1) SHEARWALL TYPE W1
SHEATHING: 7/16" CD-CC SHEATHING
APPLIED DIRECTLY TO FRAMING
NAILING:
USE LENGTH DIA.
BOTTOM PLATE/FRAMING 3 1/4" X 0.148"
PANEL EDGE NAILING 2 3/8" X 0.148"

SPECIAL INSPECTION: PER JURISDICTION
STUD SPACING: 16"O.C. MAX.
STUDS AND PLATE: HEM-FIR #2 OR BETTER
FLOOR THICKNESS: 23/32"
ROOF THICKNESS: X
ANCHOR BOLT: 5/8" DIA., 7" EMBED.
RIM/BLOCKING: 0.148" DIA. NAILS AT 4" O.C./SG=0.50
VERTICAL LOAD TRANSFER CAPACITY3300 LB./FT.
LATERAL LOAD TRANSFER CAPACITY (1.25") 600 LB./FT.
LATERAL LOAD TRANSFER CAPACITY (3.50") 1200 LB./FT.

RIM, BLOCKING
BOTTOM PLATE NAILING NO. PIECES/THICKNESS
(CLOSEST SPACING)
(1) ROWS 0.148" DIA. AT 4" O.C.(1) / 1.25"
(2) ROWS 0.148" DIA. AT 4" O.C.(1) / 1.75"
(3) ROWS 0.148" DIA. AT 4" O.C.(1) / 3.50"

APPROVED RIM PRODUCTS:
TRUS JOIST ER-4979 TIMBERSTRAND LSL 2.0E, PARALLAM PSL 2.0E
TJ-STRAND, MICROLAM LVL RIM BOARD

SUBSTITUTIONS TO ABOVE REQUIRE ENGINEER OF RECORD APPROVAL PRIOR TO INSTALLATION. SUBMIT DOCUMENTATION BY A CODE APPROVED AGENCY, CONFIRMING THE REQUIRED CAPACITIES AND MINIMUM NAIL SPACING FOR THE CONDITIONS DESCRIBED.

(2) (2) WALL SHEATHING:
SHEATHING PANELS MAY BE INSTALLED EITHER VERTICALLY OR HORIZONTALLY. ALL PANEL EDGES SHALL BE FASTENED TO STUDS OR BLOCKING.

(3) (3) PANEL EDGE NAILING:
NAILING AT ALL OUTER EDGES OF SHEATHING PANELS IN SHEARWALLS SHALL BE FASTENED PER THE SHEARWALL SCHEDULE.

(4) (4) FIELD NAILING:
WITHIN THE FIELD OF THE PANEL, AT FRAMING MEMBERS, THE PANELS ARE LESS CLOSELY FASTENED.

(5) (5) FRAMING AT ADJOINING PANEL EDGES:
WHERE TWO PIECES OF PLYWOOD JOIN ON A FRAMING MEMBER, THE PANEL EDGE NAILING FROM EACH PANEL IS TO BE STAGGERED. SOME WALLS REQUIRE 3 INCH NOMINAL FRAMING MEMBER (EITHER A STUD OR BLOCKING) AT ADJOINING PANEL EDGES (SEE SHEARWALL SCHEDULE FOR WALL TYPES REQUIRING 3 INCH NOMINAL FRAMING MEMBERS AT ADJOINING PANEL EDGES). DOUBLED STUDS ARE GENERALLY NOT ACCEPTABLE FOR THIS APPLICATION. WHERE A SINGLE PANEL EDGE LANDS ON A FRAMING MEMBER, A 2 INCH NOMINAL FRAMING MEMBER SHALL BE ACCEPTABLE (AT ENDS OF WALLS FOR EXAMPLE). BLOCK ALL PLYWOOD EDGES NOT SUPPORTED BY FRAMING MEMBERS AND NAIL W/PANEL EDGE NAILING.

(6) (6) BOTTOM PLATE:

(7) (7) BOTTOM PLATE NAILING:
LOCATE THE NAILING THROUGH THE BOTTOM PLATE SO AS TO FULLY PENETRATE THE SOLID BLOCKING OR CONTINUOUS RIM BENEATH THE FLOOR SHEATHING, SPACED AS PER THE SHEARWALL SCHEDULE.

(8) (8) ROOF DIAPHRAGM BOUNDAY EDGE NAILING:
FLOOR DIAPHRAGM NAILING SHALL BE INSTALLED BETWEEN THE SPACING SHOWN FOR BOTTOM PLATE NAILING. LOCATE ADJOINING PANEL EDGES OF FLOOR SHEATHING AWAY FROM SHEARWALLS. FIELD NAILING OF FLOOR SHEATHING MAY BE OMITTED AT SHEARWALL BOTTOM PLATE NAILING. RE: NOTES 06500

(9) (9) TRUSS BLOCKING PANEL:
JOIN ADJACENT TRUSS BLOCKING PANEL WITH FACE NAILING AS SPECIFIED ABOVE. SHIM WITH FULL HEIGHT SHIMS, ADJUST FACE NAIL LENGTHS. REFER TO PLANS FOR ADDITIONAL SEISMIC CONNECTIONS AT THE FLOOR OR ROOF LEVEL.

(10) (10) TRUSS BLOCKING PANEL TO TOP PLATE CONNECTION:
THE CONTINUOUS TRUSS BLOCKING PANEL THAT IS PART OF THE SHEARWALL ASSEMBLY SHALL BE CONNECTED TO THE DOUBLE TOP PLATE OR FOUNDATION SILL PLATE WITH APPROVED CONNECTORS AND SPACED PER THE SHEARWALL SCHEDULE.

(11) (11) DOUBLE TOP PLATE:
LAP AND SPLICE - SEE PLANS FOR ADDITIONAL SEISMIC CONNECTIONS AT THE FLOOR OR ROOF LEVEL.

(12) (12) FOUNDATION SILL PLATE:
ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED. THE FOUNDATION SILL PLATE SHALL BE EITHER 2 INCH NOMINAL OR 3 INCH NOMINAL DEPENDING ON THE SHEARWALL SCHEDULE.

(13) (13) ANCHOR BOLTS:
FULL DIAMETER ANCHOR BOLTS, ASTM A-307 SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE. MINIMUM EMBEDMENT IS 7 INCHES. MIN. (2) BOLTS PER PIECE OF PLATE, W/(1) BOLT NOT MORE THAN 12" FROM END OF PIECE.

(14) (14) PLATE WASHERS:
PLATE WASHERS SHALL BE REQUIRED FOR FOUNDATION SILL PLATE CONNECTIONS, 3" X 3" X 1/4" MINIMUM. DO NOT RECESS BOLTS IN SILL PLATE UNLESS SPECIFICALLY DETAILED ELSEWHERE.

(15) (15) SQUASH BLOCKS:
IN THE FLOOR CAVITY OF PLATFORM FRAMING POST LOADS SHALL BE PROVIDED WITH ADDITIONAL STIFFENERS EQUAL TO THE POST SIZE FROM ABOVE THAT CONTINUES THROUGH THE FLOOR.

(16) (16) DIAPHRAGM:
SEE (1) FOR SHEARWALL, FLOOR AND ROOF DIAPHRAGM THICKNESS.

(17) (17) CONCRETE BASE:
CONCRETE FOUNDATION OR BASE.

(18) (18) HOLDOWN:
SEE SHEET S1.2 FOR HOLDOWN DETAILS AND ADDITIONAL STUDS REQUIRED.

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DD:	DD
CD:	03.25.2022
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Shearwall Schedule and Details

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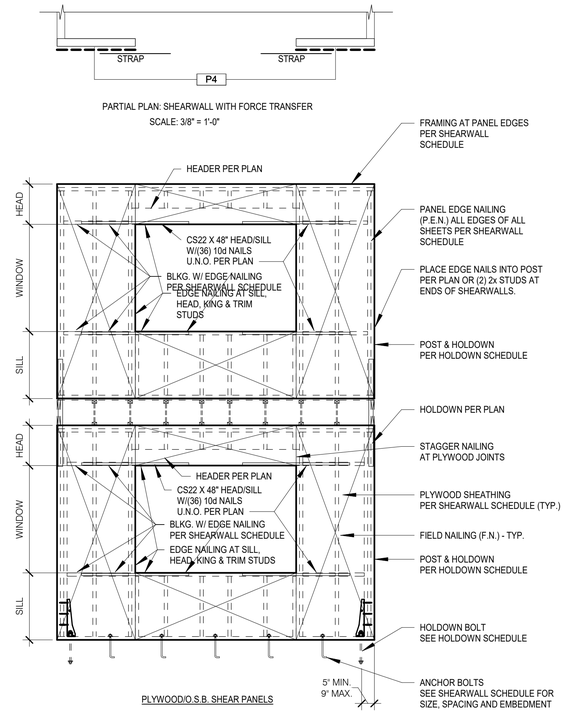


PARTIAL PLAN: SHEARWALL WITH FORCE TRANSFER

SCALE: 3/8" = 1'-0"

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

8 TYPICAL DETAIL FOR SHEARWALL W/ FORCE TRANSFER AROUND WINDOW OPENINGS

HOLDOWN & FASTENER SCHEDULE (HF STUDS)

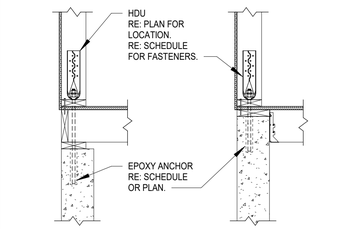
LOAD	MARK	HARDWARE TYPE	WOOD MEMBER/POST		FASTENER	ROD DIAMETER	ANCHOR		EMBEDMENT		STEM (MINIMUM)	DETAIL
			2X4 WALL	2X6 WALL			STEM	THICKENED FOOTING	GRADE BEAM	THICKENED SLAB		
1705	HD1	CS16	2X4	2X6	(28) 8d	N.A.	N.A.	-	N.A.	-	N.A.	RE: 14, 15/S1.2
2345	HD2	MST37	(2) 2X4	(2) 2X6	(22) 16d	N.A.	N.A.	-	N.A.	-	N.A.	
3640	HD3	MST48	(2) 2X4	(2) 2X6	(34) 16d	N.A.	N.A.	-	N.A.	-	N.A.	
4830	HD4	MST60	(2) 2X4	(2) 2X6	(48) 16d	N.A.	N.A.	-	N.A.	-	N.A.	
2.9W/2.2EQ	HD5	LSDTHD8 LSDTHD8RJ	(2) 2X4	(2) 2X6	(16) 12d	STRAP	N.A.	-	8"	-	8"	
5.3W/3.8EQ	HD6	STHD14 STHD14RJ	(2) 2X4	(2) 2X6	(24) 12d	STRAP	N.A.	-	14"	-	8"	
3580	HD7	HTT22	(2) 2X4	(2) 2X6	(32) 12d	5/8"	N.A.	-	9"	-	8"	
2215	HD8	HDU2-SDS2.5	(2) 2X4	(2) 2X6	(6) SDS 1/4X2 1/2"	5/8"	ROD & NUT/WASHER NUT PER 13/S1.2		11"	RE: 13/S1.2	6"	RE: 13/S1.2
3285	HD9	HDU4-SDS2.5	(2) 2X4	(2) 2X6	(10) SDS 1/4X2 1/2"	5/8"			11"		6"	
4065	HD10	HDU5-SDS2.5	(2) 2X4	(2) 2X6	(14) SDS 1/4X2 1/2"	5/8"			11"		6"	
4305/6970	HD11	HDU8-SDS2.5	(2) 2X4	(2) 2X6	(20) SDS 1/4X2 1/2"	7/8"			11"		8"	
9535	HD12	HDU11-SDS2.5	4X6	6X6	(30) SDS 1/4X2 1/2"	1"			16"		8"	
1492	HD13	HD19	--	6X6	(5) 1"DIA. M.B.	1 1/4"			16"		8"	
	HD14	HDU14-SDS2.5	4X6	6X6	(36) SDS 1/4X2 1/2"	1"			16"		8"	
	HD15	MSTC48B3	(2) 2X4	(2) 2X6	(12) 10d FACE, (4) 10d BOTTOM, (38) 10d STUDS/POST							

HOLDOWN AND FASTENER SCHEDULE NOTES;

1. HOLDDOWNS SHALL BE AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY.
2. 16D = 0.162" DIA. X 3 1/2" LONG.
3. USE HALF THE REQUIRED NAILS IN EACH MEMBER BEING CONNECTED.
4. SCREWS SHALL BE SDS 1/4" DIA. X 2 1/2" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY.
5. HOLDDOWN ANCHORS SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE.
6. ANCHOR BOLT NUT SHALL BE FINGER-TIGHT PLUS 1/3 - 1/2" TURN WITH HAND WRENCH. CARE SHALL BE TAKEN TO NOT OVER-TORQUE THE NUT. IMPACT WRENCHES SHALL NOT BE USED.
7. HDU HOLDDOWNS SHALL BE INSTALLED CENTERED ALONG THE WIDTH OF THE ATTACHED POST.
8. RE: NOTES SECTION 06100 "ROUGH FRAMING" FOR THE REQUIRED POST SPECIES AND GRADE.
9. BUNDLED STUDS PER DETAIL 18/S1.2.
10. STRAP TIE HOLDOWNS. NAIL STRAPS FROM BOTTOM UP. INSTALL WITH STRAP MATE "NO WET STCKING".
11. ANCHOR BOLT HOLDOWNS SHALL BE ASTM A307 OR A36 STEEL. ANCHOR HEAD REQUIRES NUT/WASHER NUT PER 2/S1.2.

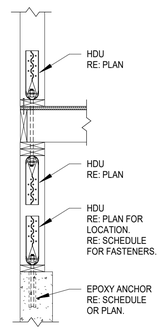
SCALE: 3/4" = 1'-0"

10 SHEARWALL SCHEDULE

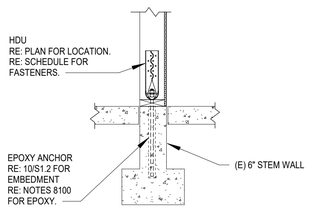


(E) JOIST BEARING ON (E) STEM

(E) JOIST HANG FROM (E) STEM



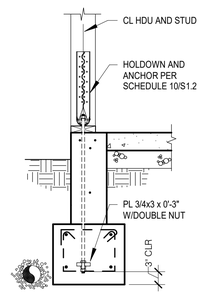
(E) JOIST AT PONY WALL



(E) STEM WALL

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

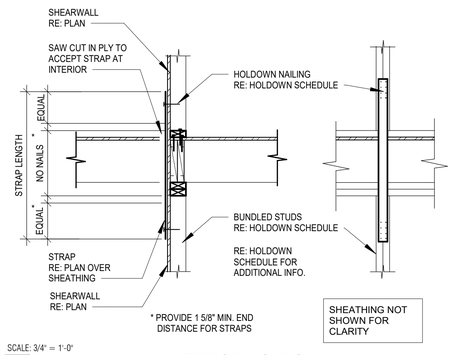
11 EPOXY ANCHORAGE OF HDU TYPE HARDWARE



GRADEBEAM

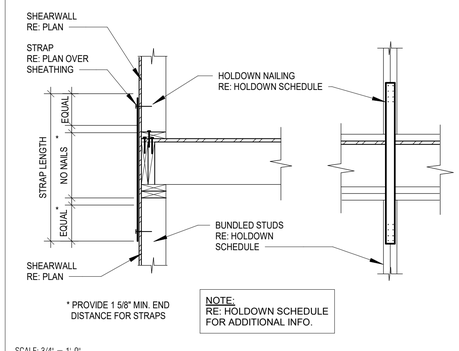
SCALE: 3/4" = 1'-0"

13 EXTERIOR HOLDOWN - SECTION



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

14 INTERIOR HOLDOWN



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

15 EXTERIOR HOLDOWN

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Holddown Schedule and Details

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FOUNDATION LEGEND

F1	SEE FOOTING TYPE THIS SHEET
(-3'-0")	TOP OF FOOTING ELEVATION
2'-0"	TOP OF CONCRETE ELEVATION
S.J.	SHRINKAGE CONTROL JOINT PER DETAIL 2/S6.0
C.J.	CONSTRUCTION JOINT PER DETAIL 3/S6.0
S	STEPPED FOOTING PER DETAIL 4&5/S6.0
SLOPE	SLOPE SLAB 1/4" PER FOOT U.N.O. PER PLAN
HDU2	HOLDOWNS INDICATED ON THE FOUNDATION PLAN ARE SHOWN HALFTONE FOR REFERENCE ONLY. REFER TO THE S2.1 SHEET FOR SPECIFICS OF EMBEDDED ITEMS RELATED TO HOLDOWNS.

Note:
ALL SECTION CUTS ARE TYPICAL

DARK SOLID LINES ARE NEW WALLS ABOVE THE BASEMENT LEVEL.

LIGHT SOLID LINES ARE EXISTING WALLS ABOVE THE BASEMENT LEVEL.

FOUNDATION SCHEDULE

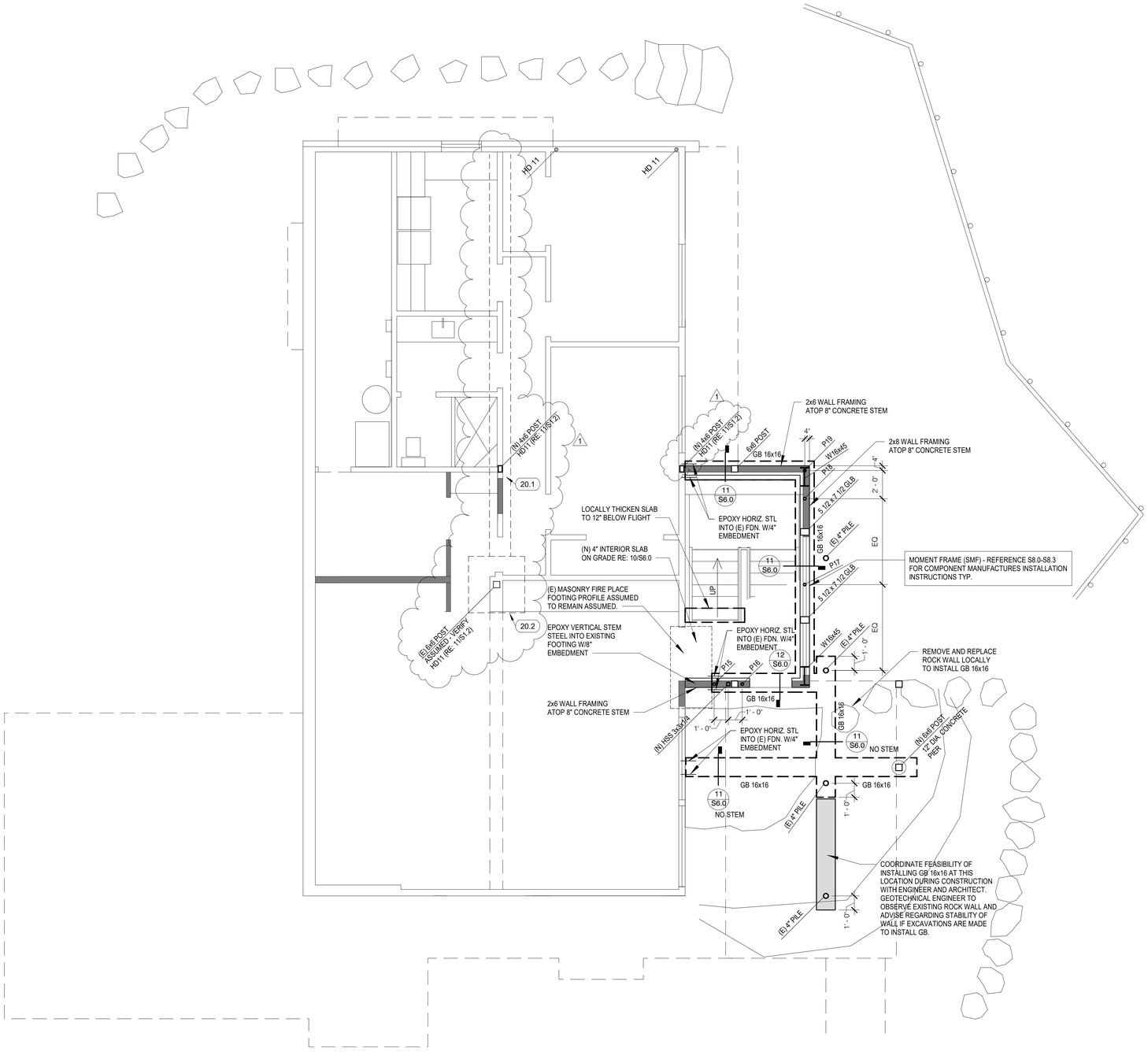
MARK	DEPTH	WIDTH	LENGTH	REINFORCING	DETAILS
F1	8"	1'-4"	CONT.	(2) #4 CONT.	FTG. W/ STEM WALL: 6&7/S6.0
FS	12"	1'-6"	CONT.	(2) #4 CONT.	TYP. THICKENED SLAB FOOTING
F24	12"	24"	24"	(2) #4 EA. WAY	POST FTG.: 9/S6.0 16&17/S6.0
F30	12"	30"	30"	(3) #4 EA. WAY	POST FTG.: 9/S6.0 16&17/S6.0
F36	12"	36"	36"	(3) #4 EA. WAY	POST FTG.: 9/S6.0 16&17/S6.0
F1	8"	1'-4"	CONT.	(2) #4 CONT.	TURNED DOWN SLAB EDGE 6,7,8/S6.0

FOUNDATION NOTES

1. ALL SOIL BEARING SURFACES ARE SUBJECT TO INSPECTION AND APPROVAL BY THE GEOTECHNICAL ENGINEER PRIOR TO REINFORCING AND CONCRETE PLACEMENT.
2. CENTER INTERIOR FOOTINGS ON WALLS OR COLUMNS TYPICAL U.N.O.
3. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
4. SEE ARCHITECTURAL PLANS FOR WALL LOCATIONS.
5. CONCRETE WALLS ARE 8" THICK TYPICAL U.N.O.
6. SEE SHEET S2.1 FOR WOOD FRAMING LEGEND, NOTES, AND SCHEDULES.
7. PROVIDE 4" DIAMETER PERFERATED FOOTING DRAINS AT PERIMETER OF FOUNDATIONS TYPICAL. PROVIDE 4" DIAMETER TIGHTLINES FOR DOWNSPOUTS, EXTEND TO DAYLIGHT.

FOUNDATION KEY NOTES

1	20.1	ASSUMED EXISTING STRIP FOOTING. CONTRACTOR TO VERIFY AND INFORM ENGINEER OF EXISTING CONDITIONS DURING CONSTRUCTION.
	20.2	ASSUMED EXISTING PAD FOOTING. CONTRACTOR TO VERIFY AND INFORM ENGINEER OF EXISTING CONDITIONS DURING CONSTRUCTION.



1 ALL PIN PILE ARE 2" DIAMETER U.N.O..

NOTE:

PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 02/28/2022.

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

0

Foundation Plan

GRAPHIC SCALE

-4' 0' 2' 4' 8'

(1 inch = 4 foot)

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03/25/22

No.	REVISION	DATE
1	Response to Comments	06-10-2022

JOB #:	2162	KEY ISSUE DATES:	
ENG:	BJM		
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		CD:	CD
		PERMIT:	03.25.2022
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Basement Level Walls Over Foundation

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S2.0

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FRAMING LEGEND

- FB — FLUSH BEAM
- DB — DROPPED BEAM
- HR — HEADER - SEE 6/S9.0
- GLB — GLUED-LAMINATED BEAM
- GT — GIRDER TRUSS
- (3) — INDICATES NO. OF BUNDLED STUDS PROVIDE (2) TYP. U.N.O.
- 4X4 — POST TYPE PER PLAN CONTINUE TO FOUNDATION OR BEAM BELOW
- COLUMN BELOW
- POINT LOAD ABOVE
- POINT LOAD ABOVE AT BEAM
- POINT LOAD ABOVE AT COLUMN BELOW
- BEAM/JOIST HANGER PER PLAN/SCHEDULE
- DARK SOLID LINES ARE NEW WALLS BELOW FRAMING
- LIGHT SOLID LINES ARE EXISTING WALLS BELOW FRAMING
- DARK SOLID LINES ARE NEW WALLS ABOVE FRAMING
- LIGHT SOLID LINES ARE EXISTING WALLS ABOVE FRAMING
- DEMO FRAMING WALLS
- DARK LINES ARE NEW FRAMING
- LIGHT LINES ARE EXISTING FRAMING
- P6 — WOOD PANEL SHEARWALL PER SCHEDULE: 14/S1.1
- P6 — SHEARWALL WITH FORCE TRANSFER DETAIL: 8/S1.2 NOTE: SHEATHING BELOW WINDOW NOT SHOWN ON PLAN FOR CLARITY
- HD 8 / HD 8 — HOLDOWN PER SCHEDULE: 10/S1.2 LOCATED AT BOTTOM OF WALL SHOWN
- ATTIC ACCESS AT CEILING
- ATTIC ACCESS AT WALLS
- EXTENTS OF FRAMING
- FRAMING DIRECTION
- BEARING WALL PER SCHEDULE
- NA — DEMO WALLS ARE NOT SHOWN IN STRUCTURAL DRAWINGS. RE: ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- TRANSFER DIAPHRAGM

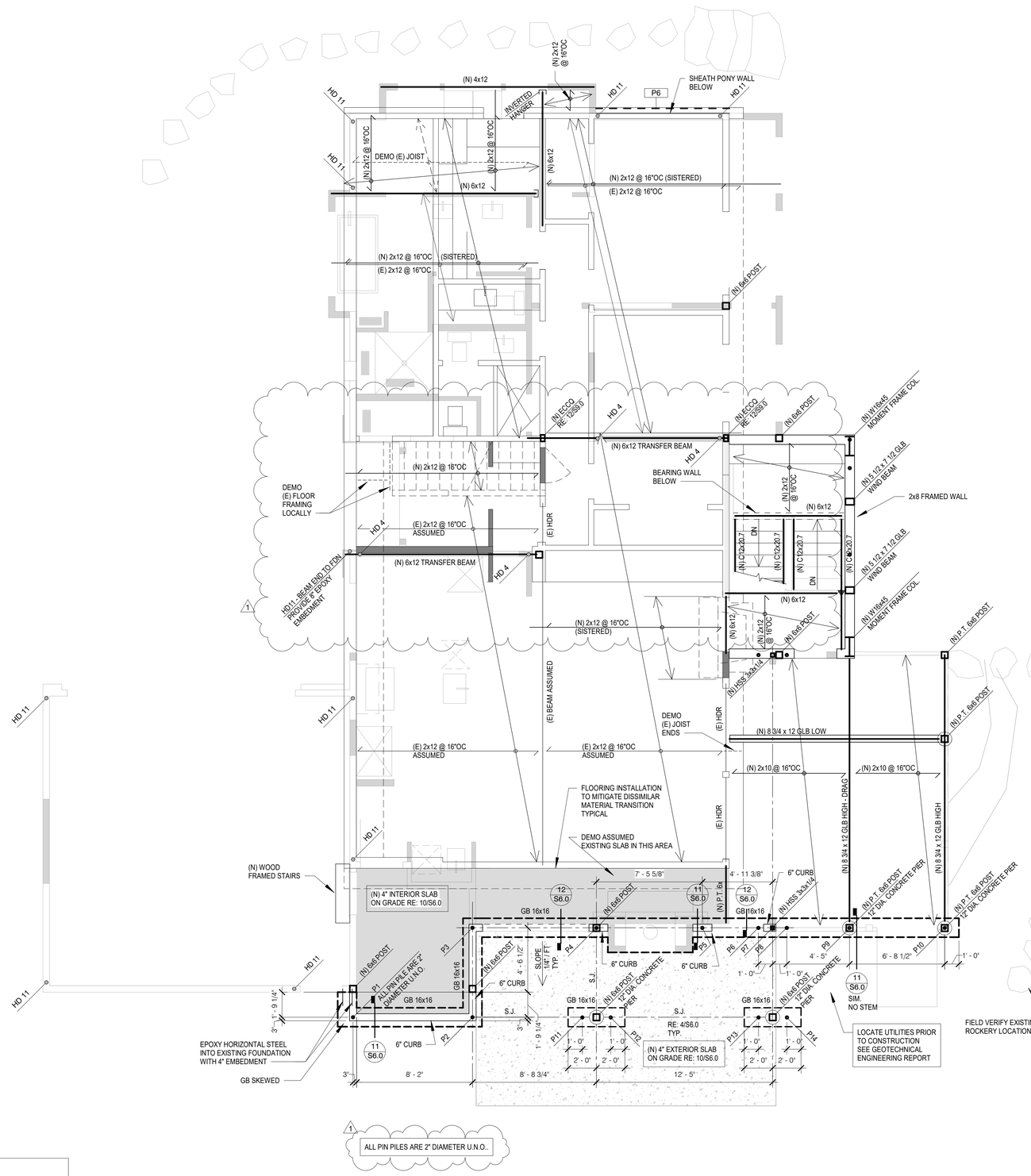
Note:
ALL SECTION CUTS ARE TYPICAL

FRAMING NOTES

1. PROVIDE 4X8 FOR ALL EXTERIOR HEADERS U.N.O. PER PLAN.
2. RE: 1/S9.0 FOR INTERIOR HEADERS U.N.O. PER PLAN.
3. RE: NOTES S1.0 FOR FRAMING SPECIES AND GRADE, HANGERS, SHEATHING, NAILS, GLB'S AND ENGINEERED LUMBER SPECIFICATIONS ETC..
4. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD EACH END (KING STUD) FOR BRACING.
5. ALL EXTERIOR WALLS ARE P6 SHEARWALLS U.N.O. PER PLAN.
6. SEE SHEET S6.0, S9.0 FOR TYPICAL FRAMING DETAILS.
7. ALL EXTERIOR WALLS ARE 2x6 AT 16"O.C. (MAX. HEIGHT = 10'-0") ALL INTERIOR WALLS ARE 2x4 AT 16"O.C. MINIMUM - PROVIDE 2x6 AT 16"O.C. WHERE ARCHITECT SPECIFIES 2x6 CONSTRUCTION.

FRAMING KEY NOTES

21.1 -
21.2 -
21.3 -
21.4 -
21.5 -



NOTE:

PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 02/28/2022.

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

1 Main Floor Framing Over Basement Level Shear Walls

GRAPHIC SCALE

-4' 0' 2' 4' 8'

(1 inch = 4 foot)

CT ENGINEERING INC.
Structural Engineers
160 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0818 (F)
www.ctengineering.com

03/25/22

No.	REVISION	DATE
1	Response to Comments	06-10-2022

JOB #: 2116.2
ENG: BJM
CAD: JMA
SCALE: As indicated

KEY ISSUE DATES:
SD: SD
DD: DD
CD: CD
PERMIT: 03.25.2022
OTHER: BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

Main Frmg Over Basement Lvl Shear Walls

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S2.1

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FRAMING LEGEND

- FB — FLUSH BEAM
- DB — DROPPED BEAM
- HR — HEADER - SEE 6/S9.0
- GLB — GLUED-LAMINATED BEAM
- GT — GIRDER TRUSS
- ③ 4X4 — INDICATES NO. OF BUNDLED STUDS PROVIDE (2) TYP. U.N.O.
- POST TYPE PER PLAN CONTINUE TO FOUNDATION OR BEAM BELOW
- COLUMN BELOW
- POINT LOAD ABOVE
- POINT LOAD ABOVE AT BEAM
- POINT LOAD ABOVE AT COLUMN BELOW
- BEAM/JOIST HANGER PER PLAN/SCHEDULE
- BEARING WALL PER SCHEDULE
- P6 — WOOD PANEL SHEARWALL PER SCHEDULE: 14/S1.1
- P6 — SHEARWALL WITH FORCE TRANSFER DETAIL: 8/S1.2 NOTE: SHEATHING BELOW WINDOW NOT SHOWN ON PLAN FOR CLARITY
- HD 8 / HD 8 — HOLDOWN PER SCHEDULE: 10/S1.2 LOCATED AT BOTTOM OF WALL SHOWN
- ATTIC ACCESS AT CEILING
- ATTIC ACCESS AT WALLS
- OVER FRAMING AT ROOF
- T.C.E. = TOP CHORD EXTENSION

Note:
ALL SECTION CUTS ARE TYPICAL

FRAMING NOTES

1. PROVIDE 5 1/2 x 9 GLB FOR ALL EXTERIOR HEADERS U.N.O. PER PLAN.
2. RE: 1/S9.0 FOR INTERIOR HEADERS U.N.O. PER PLAN.
3. RE: NOTES S1.0 FOR FRAMING SPECIES AND GRADE, HANGERS, SHEATHING, NAILS, GLB'S AND ENGINEERED LUMBER SPECIFICATIONS ETC..
4. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD EACH END (KING STUD) FOR BRACING.
5. ALL EXTERIOR WALLS ARE P6 SHEARWALLS U.N.O. PER PLAN.
6. SEE SHEET S6.0, S9.0 FOR TYPICAL FRAMING DETAILS.
7. ALL EXTERIOR WALLS ARE 2x6 AT 16"O.C. (MAX. HEIGHT = 10'-0") ALL INTERIOR WALLS ARE 2x4 AT 16"O.C. MINIMUM - PROVIDE 2x6 AT 16"O.C. WHERE ARCHITECT SPECIFIES 2x6 CONSTRUCTION.

FRAMING KEY NOTES

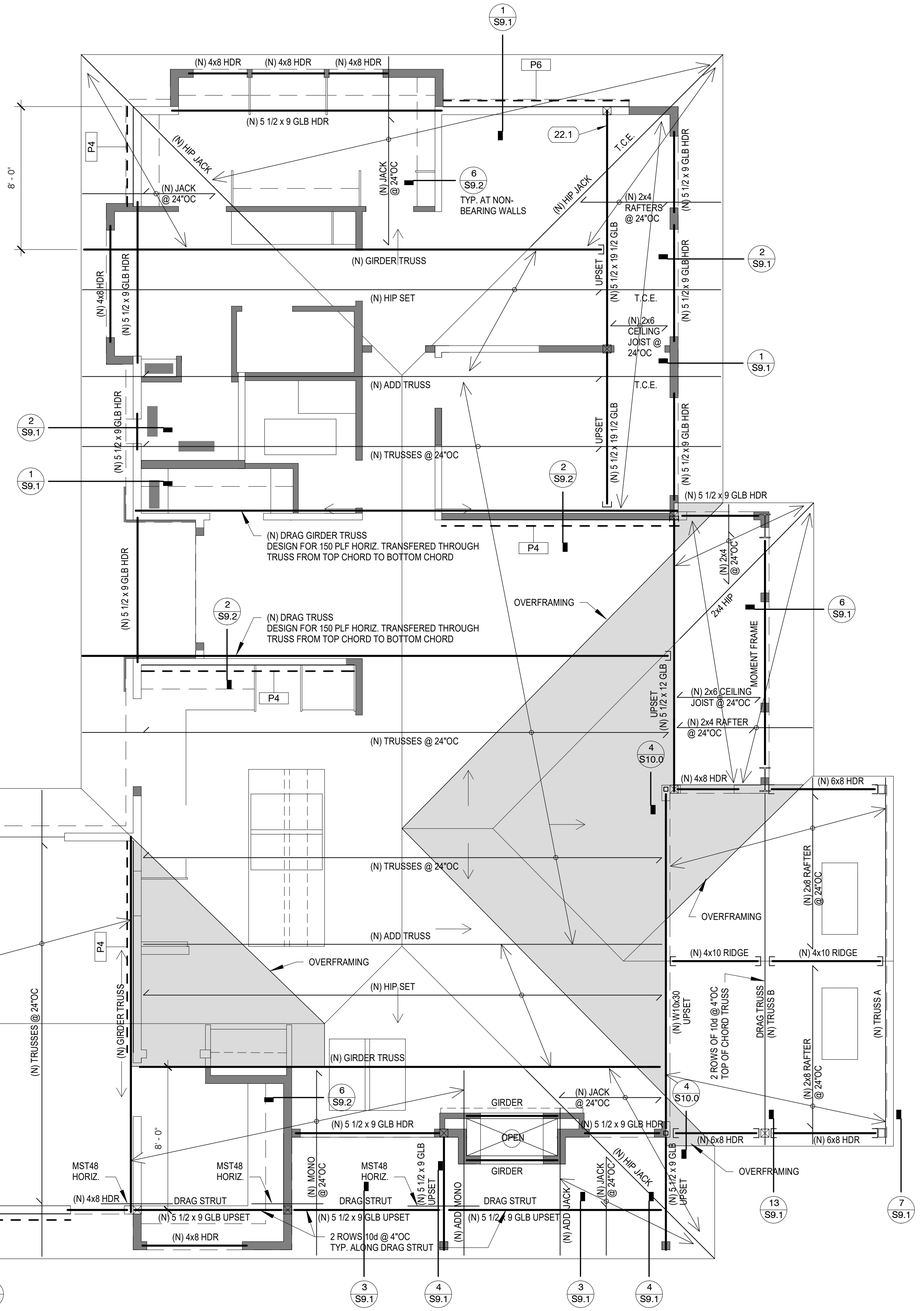
(22.1) RIP GLB TOP AT UNDER SIDE OF SHEATHING. 12" OF GLB REMAINING AT EXTERIOR FACE OF FRAMING.

(22.2) -

(22.3) -

(22.4) -

(22.5) -



NOTE:

PLANS PREPARED USING ARCHITECTURAL BACKGROUNDS RECEIVED 02/28/2022.

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

1 Roof Framing Over Main Level Shear Walls

GRAPHIC SCALE

-4' 0' 2' 4' 8'

(1 inch = 4 foot)

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Roof Framing Over Main Level Shear Walls
PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

S2.2

BAR SIZE	Ld	f'c=3000 PSI	
		OTHER BARS LAP SPLICE	TOP BARS LAP SPLICE
#3	16"	21"	28"
#4	22"	28"	37"
#5	27"	36"	46"
#6	33"	43"	56"

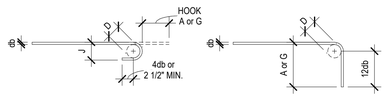
LAP SPLICE SCHEDULE NOTES:

1. TENSION LAP SPLICE SHOWN ABOVE FOR CONCRETE COVER GREATER THAN OR EQUAL TO BAR DIAMETER AND CENTER TO CENTER SPACING GREATER THAN OR EQUAL TO TWO BAR DIAMETERS (SPACING AND COVER CASE1). TENSION LAP SPLICE SHOWN ABOVE ARE CLASS B SPLICES.
2. "OTHER BARS" ARE ALL VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE CAST BELOW THE BAR.
3. "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.
4. COMPRESSION LAP SPLICES SHALL BE 30 BAR DIAMETERS MIN. U.N.O. ON THE DRAWINGS
5. DEVELOPMENT LENGTH (Ld) IS "OTHER BARS", CLASS A.

SCALE: NONE

1 TYPICAL LAP SPLICE SCHEDULE

BAR SIZE	D	STANDARD 180 DEGREE HOOK			STANDARD 90 DEGREE HOOK		
		D	A OR G	J	BAR SIZE	D	A OR G
#3	6db	2 1/4"	5"	3"	#3	2 1/4"	6"
#4	6db	3"	6"	4"	#4	3"	8"
#5	6db	3 3/4"	7"	5"	#5	3 3/4"	10"
#6	6db	4 1/2"	8"	6"	#6	4 1/2"	1'-0"



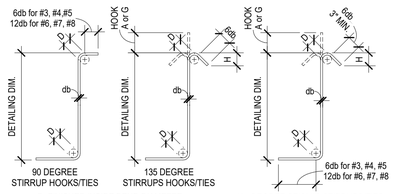
STANDARD 180 DEGREE HOOK — STANDARD 90 DEGREE HOOK

D=FINISHED INSIDE BEND DIAMETER

SCALE: NONE

2 STANDARD HOOK DETAILS

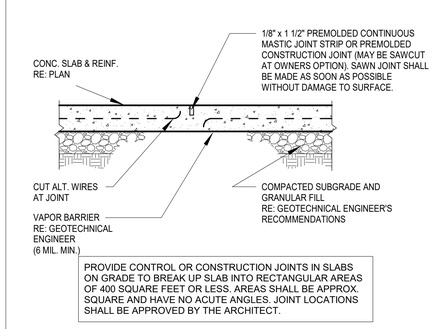
BAR SIZE	D	D	STIRRUP HOOKS/TIES			SEISMIC STIRRUP/TIE	
			90 DEGREE	135 DEGREE		135 DEGREE SEISMIC HOOK	
			A or G	A or G	APPROX. H	A or G	APPROX. H
#3	4db	1 1/2"	4"	4"	2 1/2"	4 1/4"	3"
#4	4db	2"	4 1/2"	4 1/2"	3"	4 1/2"	3"
#5	4db	2 1/2"	6"	5 1/2"	3 3/4"	5 1/2"	3 3/4"
#6	6db	4 1/2"	1'-0"	7 3/4"	4 1/2"	7 3/4"	4 1/2"



D=FINISHED INSIDE BEND DIAMETER

SCALE: NONE

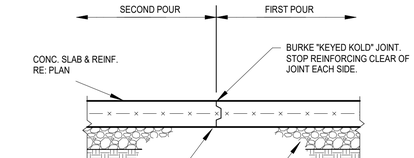
3 STIRRUP and TIE HOOK DETAILS



PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF 400 SQUARE FEET OR LESS. AREAS SHALL BE APPROX. SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT.

SCALE: NONE

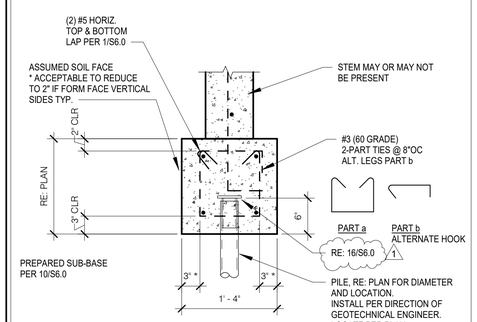
4 TYPICAL SHRINKAGE CONTROL JOINT (S.J.)



PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF 400 SQUARE FEET OR LESS. AREAS SHALL BE APPROX. SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT.

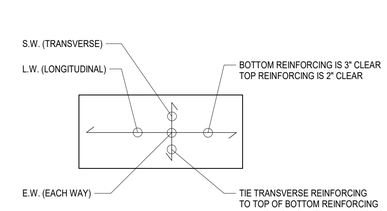
SCALE: NONE

5 TYPICAL CONSTRUCTION JOINT (C.J.)



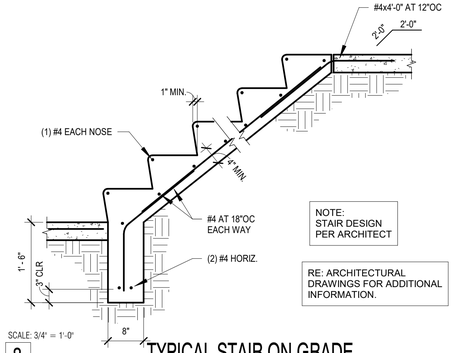
SCALE: 1" = 1'-0"

6 TYPICAL GRADEBEAM 16x16



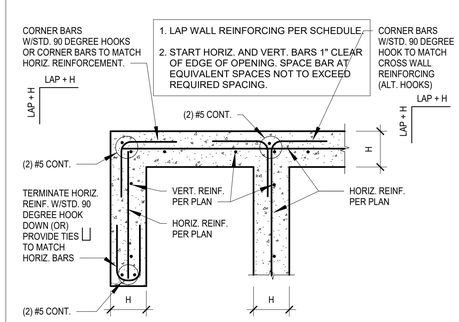
SCALE: 3/4" = 1'-0"

7 TYPICAL FOOTING REINFORCEMENT PLACEMENT



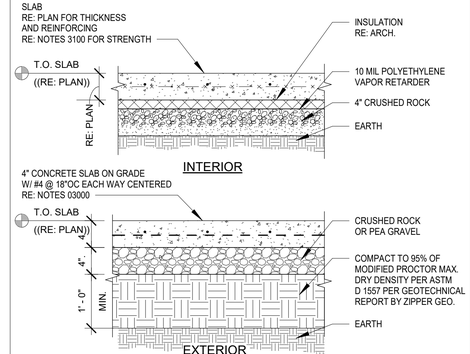
SCALE: 3/4" = 1'-0"

8 TYPICAL STAIR ON GRADE



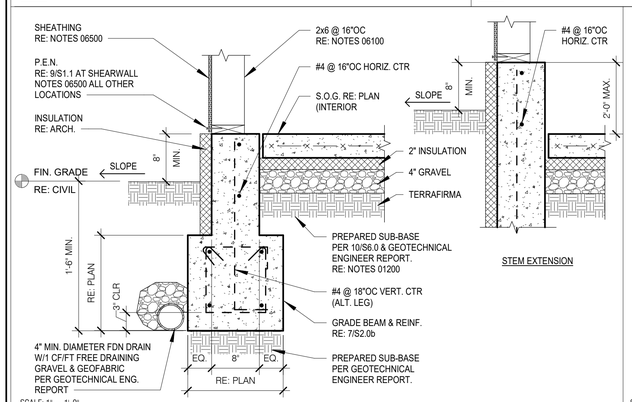
SCALE: 3/4" = 1'-0"

9 SINGLE CURTAIN WALL REINFORCEMENT PLACEMENT



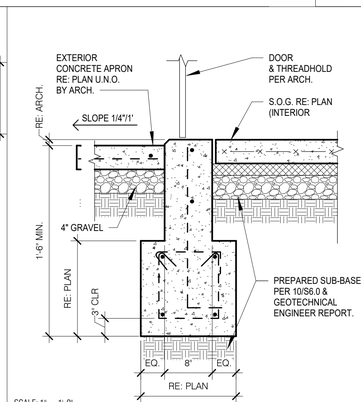
SCALE: 3/4" = 1'-0"

10 TYPICAL SLAB ON GRADE



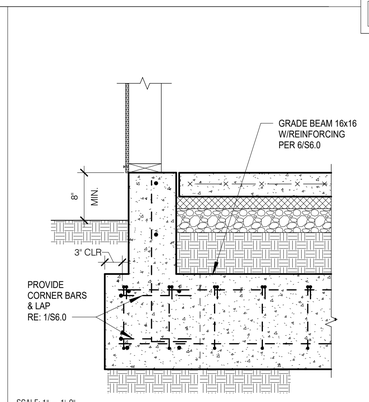
SCALE: 1" = 1'-0"

11 TYPICAL PERIMETER GRADEBEAM



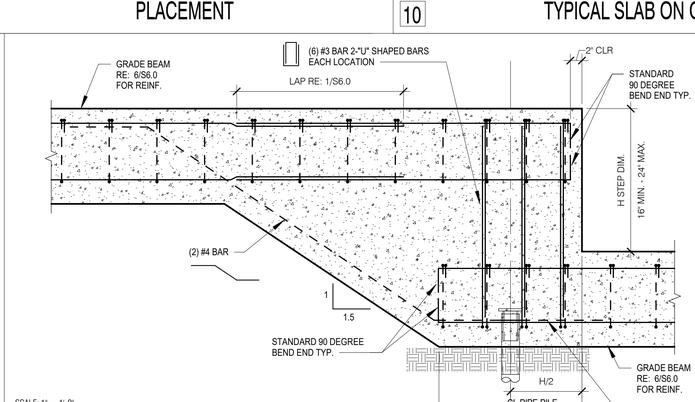
SCALE: 1" = 1'-0"

12 TYP. PERIMETER FTG AT OPENING



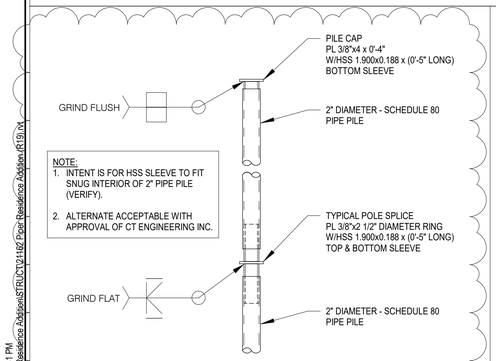
SCALE: 1" = 1'-0"

13 TYP. GRADE BEAM AT CORNER



SCALE: 1" = 1'-0"

14 TYPICAL STEPPED GRADE BEAM



SCALE: 1" = 1'-0"

16 TYPICAL 2" SCHEDULE 80 PILE ASSEMBLY

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03/25/22

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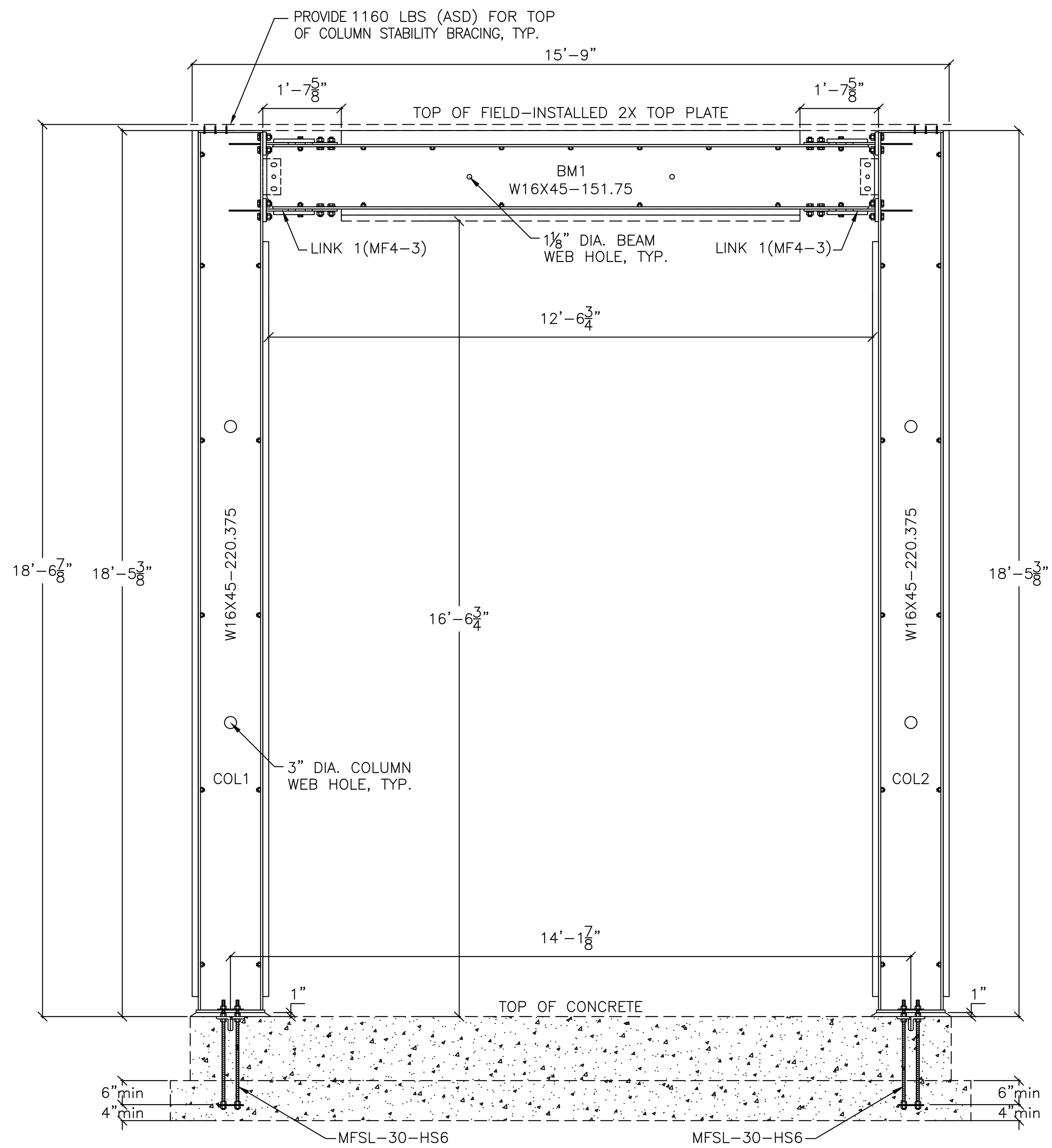
REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

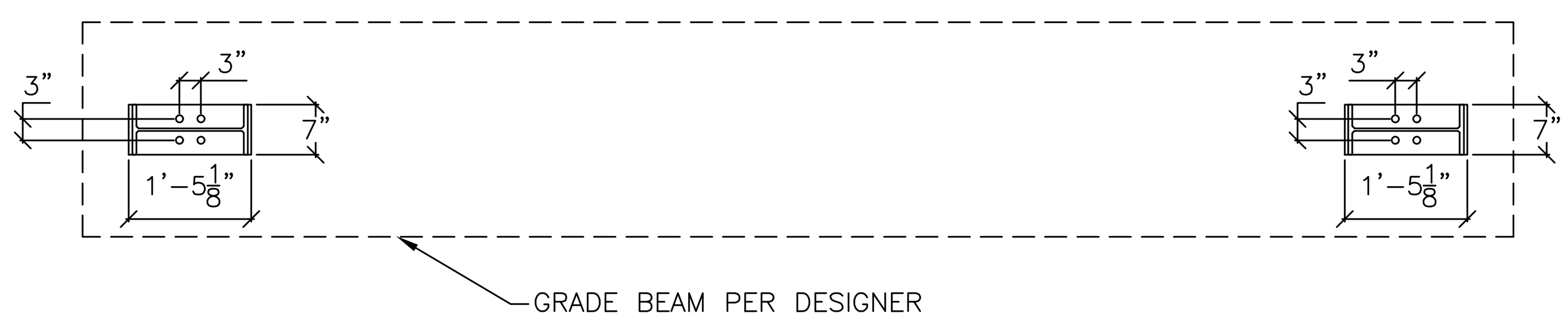
Typical Concrete Details

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S6.0



NOTE:
REFER TO GENERAL NOTES 9, 10, 11, AND 12 REGARDING MINIMUM ANCHORAGE LENGTHS, ANCHORAGE EMBEDMENT, AND FOOTING DIMENSIONS, REINFORCING, AND DESIGN.



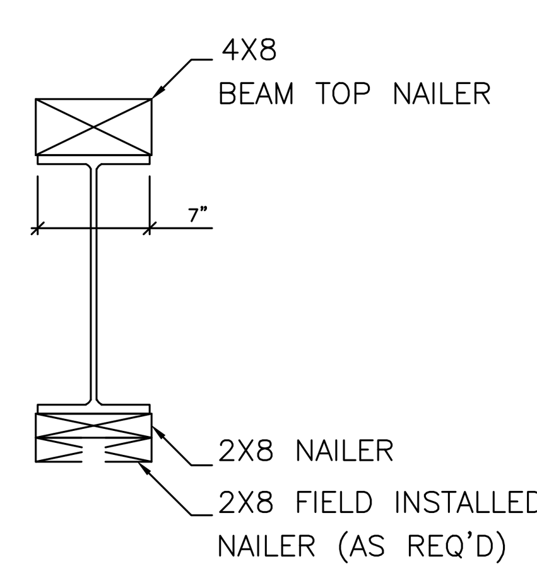
FRAME MODEL: SMFX16z16-151.75x220.375-(MF4-3)

FRAME ELEVATION

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

COLUMN SECTION

SCALE:1" = 1'-0"



BEAM SECTION

SCALE:1" = 1'-0"

3/4/2022 5:46:07 PM
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GENERAL NOTES:
1. SIMPSON STRONG-TIE® STRONG FRAME® AND THE YIELD-LINK™ STRUCTURAL FUSE ARE PROTECTED UNDER ONE OR MORE OF THE FOLLOWING US PATENTS AND APPLICATIONS: US PATENT NO. 8,001,734 B2, US PATENT NO. 8,375,652 B2, AND US PATENT PUBLICATION NO. 2015/0159362, AND MUST BE SUPPLIED OR LICENSED THROUGH SIMPSON STRONG-TIE.
2. STRONG FRAME® SPECIAL MOMENT FRAME IS MANUFACTURED AND TRADEMARKED BY "SIMPSON STRONG-TIE COMPANY INC." HOME OFFICE: 5956 W. LAS POSITAS BLVD. , PLEASANTON, CA 94588 TEL: (800) 999-5099, FAX: (925) 847-1597. "SIMPSON STRONG-TIE COMPANY INC." IS AN ISO 9001 REGISTERED COMPANY.
3. DESIGN FOR STRONG FRAME® MOMENT FRAMES ARE IN ACCORDANCE WITH THE FOLLOWING:
   - 2018, 2015 AND 2012 INTERNATIONAL BUILDING CODE
   - AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (ANSI/AISC 360-05, 360-10, 360-16)
   - AISC SEISMIC PROVISIONS (ANSI/AISC 341-05, 341-10, 341-16)
   - RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI318-11, ACI318-14)
4. USE OF THIS PRODUCT IS SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING DEPARTMENT.
5. THIS PRODUCT IS PART OF THE OVERALL LATERAL FORCE RESISTING SYSTEM OF THE STRUCTURE. DESIGN OF THE BUILDING'S LATERAL FORCE RESISTING SYSTEM, INCLUDING THE LOAD PATH TO TRANSFER LATERAL FORCES FROM THE STRUCTURE TO THE GROUND, IS THE RESPONSIBILITY OF THE DESIGNER.
6. THE DESIGNER MUST SPECIFY THE REQUIRED COMPONENTS OF THE COMPLETE LOAD TRANSFER PATH INCLUDING DIAPHRAGMS, SHEAR TRANSFER, CHORDS AND COLLECTORS AND FOUNDATIONS.
7. ALL CONNECTED MEMBERS AND RELATED ELEMENTS SHALL BE DESIGNED BY THE DESIGNER.
8. DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS. SEE LIMITATIONS NOTED ON SHEET SMF3.
9. ANCHORAGE LENGTHS PROVIDED ARE SHOWN FOR MINIMUM EMBEDMENT INTO FOOTING BASED ON TENSION ANCHORAGE DESIGN ONLY. ACTUAL LENGTH OF ANCHORAGE SHALL BE PER DESIGNER'S SPECIFICATIONS AND PROJECT SPECIFIC INSTALLATION REQUIREMENTS.
10. PRE-ASSEMBLED ANCHORAGE KITS PROVIDED BY SIMPSON (MFSL OR MFAB) SHALL BE SPECIFIED BY DESIGNER AND SHOULD INCLUDE ANCHORAGE TYPE, ROD GRADE, AND LENGTH OF ASSEMBLY. REFER TO DETAIL 2 FOR AVAILABLE LENGTHS OF FULLY ASSEMBLED ANCHORAGE ASSEMBLIES. EXTENSION KITS IN 36" LENGTHS ARE AVAILABLE FOR USE IN STEMWALLS OR APPLICATIONS WHERE DEEPER EMBEDMENT IS REQUIRED.
11. FOOTING DIMENSIONS SHOWN ARE THE MINIMUMS REQUIRED FOR CONCRETE ANCHORAGE REQUIREMENTS ONLY. THE DESIGNER MUST DETERMINE REQUIRED FOOTING SIZE AND REINFORCING FOR OTHER DESIGN LIMITS, SUCH AS FOUNDATION SHEAR AND BENDING, SOIL BEARING SHEAR TRANSFER, AND FRAME STABILITY / OVERTURNING.
12. DESIGNER MUST DETAIL ACTUAL FOOTING / GRADE BEAM SIZE AND REINFORCING.
13. HOLES IN BASE PLATES ARE OVER-SIZED FOR ERECTION TOLERANCE. DESIGNER MUST EVALUATE EFFECTS OF OVER-SIZED HOLES AND PROVIDE PLATE WASHER WITH STANDARD-SIZE HOLES WELDED TO BASE PLATE OR REQUEST BASE PLATES WITH STANDARD SIZE HOLES WHERE REQUIRED.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, ELEVATIONS, ETC. PRIOR TO INSTALLATION OF ANY COMPONENTS FOR THE STEEL STRONG FRAME SYSTEM. IF ANY DISCREPANCIES ARE FOUND, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
15. INSTALLATION OF PRODUCT SHALL BE DONE IN CONFORMANCE WITH THESE DRAWINGS AND ICC ESR-2802. THE PERFORMANCE OF MODIFIED PRODUCTS OR ALTERED INSTALLATION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE DESIGNER.
16. SIMPSON STRONG-TIE® COMPANY, INC. RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS, AND MODELS WITHOUT NOTICE OR LIABILITY FOR SUCH CHANGES.
17. ALL HARDWARE CALLED OUT IS SIMPSON STRONG-TIE®.
18. USE OF A SIMPSON STRONG-TIE PRODUCT DOES NOT IMPLY THAT SIMPSON STRONG-TIE ENDORSES ANY PROJECT, STRUCTURE OR USE. NO LICENSE IS GRANTED WITH RESPECT TO ANY SIMPSON STRONG-TIE TRADEMARK OR OTHER INTELLECTUAL PROPERTY RIGHTS. WRITTEN PERMISSION MUST BE OBTAINED PRIOR TO USING ANY SIMPSON STRONG-TIE TRADEMARKS OR PROPRIETARY DOCUMENTS AND MATERIALS.
19. SIMPSON STRONG-TIE IS NOT AFFILIATED WITH, AND DOES NOT SPONSOR OR ENDORSE, THE DESIGNER, INSTALLER OR USERS OF THIS DRAWING, NOR DOES SIMPSON STRONG-TIE HAVE ANY JOINT VENTURE, PARTNERSHIP, AGENCY, EMPLOYMENT OR FIDUCIARY RELATIONSHIP WITH SUCH PERSONS.

MATERIAL:
1. BARS/PLATES: ASTM 572 GR. 50, ASTM A529 GR. 50, OR ASTM A1011 HSLAS GR. 50
2. W-SECTIONS (HOT ROLLED SECTIONS): ASTM A992
3. LINK TO COLUMN FLANGE HIGH STRENGTH BOLTS: 7/8" DIA. ASTM A325, TYPE 1 (SNUG-TIGHT)
4. BRP TO BEAM FLANGE AND SHEAR PLATE TO BEAM WEB HIGH STRENGTH BOLTS: ASTM A325, TYPE 1 (SNUG-TIGHT)
5. LINK TO BEAM FLANGE HIGH STRENGTH BOLTS: ASTM F2280 TWIST OFF TYPE (A490 EQUIVALENT) (PRETENSIONED)
6. BEAM TOP FLANGE WOOD NAILER BOLT: ASTM A307 GR. A
7. CARRIAGE BOLTS: ASTM A307 GR. A
8. ANCHOR RODS: ASTM F1554 GR 36 OR A36 (MFAB, MFSL, AND MF-ATR6EXT-LS); ASTM A449 (MFAB-HS, MFSL-HS, AND MF-ATR6EXT-HS)
9. GROUT: ASTM C1107, MINIMUM 5,000 PSI COMPRESSIVE STRENGTH

INSTALLATION AND FIELD MODIFICATIONS:
THESE GENERAL INSTRUCTIONS FOR THE INSTALLER ARE PROVIDED TO ENSURE PROPER SELECTION AND INSTALLATION OF SIMPSON STRONG-TIE COMPANY INC. PRODUCTS AND MUST BE FOLLOWED CAREFULLY. THESE GENERAL INSTRUCTIONS ARE IN ADDITION TO THE SPECIFIC INSTALLATION INSTRUCTIONS AND NOTES PROVIDED FOR EACH PARTICULAR PRODUCT, ALL OF WHICH SHOULD BE CONSULTED PRIOR TO AND DURING INSTALLATION OF SIMPSON STRONG-TIE COMPANY INC. PRODUCTS.
1. PROPER PRODUCT INSTALLATION REQUIRES CAREFUL ATTENTION TO ALL NOTES AND INSTRUCTIONS. IN ADDITIONAL TO THE NOTES, WARNINGS, AND INSTRUCTIONS PROVIDED IN THE CATALOG, INSTALLERS, DESIGNERS, ENGINEERS AND CONSUMERS SHOULD CONSULT THE SIMPSON STRONG-TIE COMPANY INC. WEBSITE AT WWW.STRONGTIE.COM TO OBTAIN ADDITIONAL INFORMATION FOR INSTALLATION, SPECIFICATIONS, CODE REPORTS, TECHNICAL FLIERS AND BULLETINS, FAQS, AND OTHER PERTINENT INFORMATION.
2. PROVIDE TEMPORARY DIAGONAL BRACING OF STRONG FRAME® AS REQUIRED UNTIL FRAME IS TIED INTO THE FLOOR OR ROOF FRAMING ABOVE.
3. USE PROPER SAFETY AND INSTALLATION EQUIPMENT DURING INSTALLATION OF STRONG FRAME®.
4. ALL SPECIFIED FASTENERS MUST BE INSTALLED ACCORDING TO THE INSTRUCTIONS PROVIDED IN THE CATALOG, CODE REPORT, AND INSTALLATION DETAILS. INCORRECT FASTENER QUANTITY, SIZE, PLACEMENT, TYPE, MATERIAL, OR FINISH MAY CAUSE THE CONNECTION TO FAIL.
5. FILL ALL FASTENER HOLES AS SPECIFIED IN THE INSTALLATION INSTRUCTIONS FOR THE SPECIFIED PRODUCT. INSTALL ALL FASTENERS BEFORE LOADING THE FRAME. SOME PRE-INSTALLED ITEMS MAY NOT USE ALL HOLES.
6. NUTS SHALL BE INSTALLED SUCH THAT THE END OF THE THREADED ROD OR BOLT IS AT LEAST FLUSH WITH THE TOP OF THE NUT.
7. REFER TO DETAIL 12/SMF3 FOR ALLOWABLE HOLE OPENINGS IN BEAM AND COLUMNS.
8. REFER TO DETAIL 11/SMF3 FOR CONNECTION PROTECTED ZONE.
9. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 AND AWS D1.8 (AS APPLICABLE FOR SEISMIC). WELDS SHALL BE SPECIFIED BY THE DESIGNER. PROVIDE WELDING SPECIAL INSPECTION AS REQUIRED BY THE LOCAL BUILDING DEPARTMENT.

INSPECTIONS:
1. WELDING OF FRAME MEMBERS AND APPLICABLE WELDING SPECIAL INSPECTIONS REQUIRED BY IBC SECTION 1707 ARE PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED IN ACCORDANCE WITH THE REQUIREMENTS OF IBC SECTION 1704.2.5 FOR FABRICATOR APPROVAL.
2. PRE-INSTALLATION VERIFICATION TESTING IS PERFORMED ON HIGH-STRENGTH FASTENER ASSEMBLIES.
3. INSPECTION REQUIREMENTS OUTSIDE THE SHOP MANUFACTURING AND ASSEMBLY PROCESS SHALL BE IN ACCORDANCE WITH THE LOCAL CODE, BASED ON BUILDING OCCUPANCY, CONCRETE STRENGTH, REQUIREMENTS OF THE LOCAL BUILDING OFFICIAL, AND OTHER CONSIDERATIONS AND SHALL BE SPECIFIED BY THE DESIGNER.
4. GROUTING UNDER COLUMN BASE PLATE MAY REQUIRE SPECIAL INSPECTION, CONTACT THE LOCAL BUILDING DEPARTMENT FOR COMPLIANCE REQUIREMENTS.
5. CONTACT SIMPSON STRONG-TIE® AT 800-999-5099 TO REQUEST PRE-INSTALLATION TESTING, WELDING REPORTS, MILL CERTS, ETC. WHEN REQUIRED.

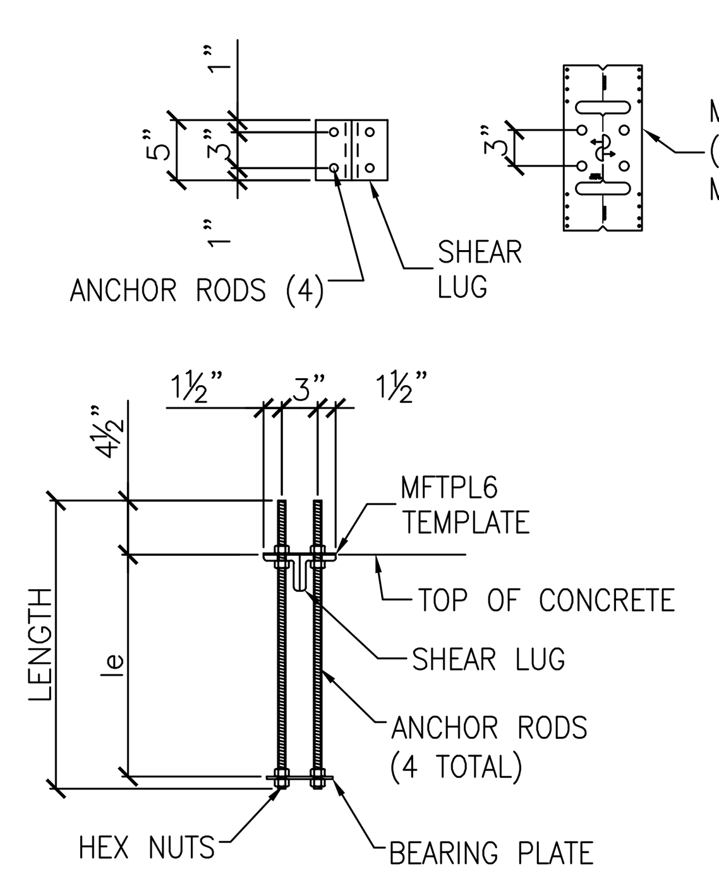
GENERAL NOTES 1

MODEL NO.	ROD SIZE & NUMBER	LENGTH (in)	l_e (in)	BEARING PLATE (in)
MFSL-14-6	4 - ¾	14	8½	⅜ x 7 x 7
MFSL-14-HS6	4 - ¾	14	8½	
MFSL-18-6	4 - ¾	18	12½	
MFSL-18-HS6	4 - ¾	18	12½	
MFSL-24-6	4 - ¾	24	18½	
MFSL-24-HS6	4 - ¾	24	18½	
MFSL-30-6	4 - ¾	30	24½	
MFSL-30-HS6	4 - ¾	30	24½	
MFSL-36-6	4 - ¾	36	30½	
MFSL-36-HS6	4 - ¾	36	30½	

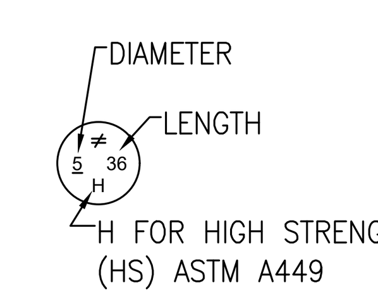
THE MFSL ANCHOR ASSEMBLIES HAVE BEEN ENGINEERED TO PROVIDE A COMPLETE ANCHORAGE SOLUTION MEETING THE 2012 AND 2015, 2018 INTERNATIONAL BUILDING CODE REQUIREMENTS FOR BOTH TENSION AND SHEAR.

ANCHOR RODS AND THE MFTPL TEMPLATE ARE INCLUDED PRE-ATTACHED WITH THE ASSEMBLY.

INSPECTION IS EASY; THE HEAD IS STAMPED WITH A "NO EQUAL" SYMBOL FOR IDENTIFICATION, BOLT LENGTH, BOLT DIAMETER, AND OPTIONAL "HS" FOR HIGH STRENGTH IF SPECIFIED.



MFSL



ANCHOR ROD STAMP

MFSL ANCHORAGE ASSEMBLIES 2

CT ENGINEERING INC.
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03/04/22

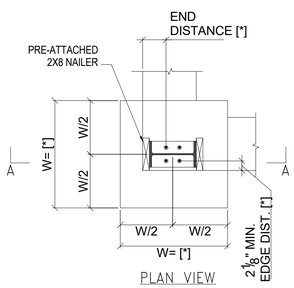
No.	REVISION	DATE

JOB #: 21162
ENG: Designer
CAD: Author
SCALE:
KEY ISSUE DATES:
SD: SD
DD: DD
CD: CD
PERMIT: 03.25.2022
OTHER: BD

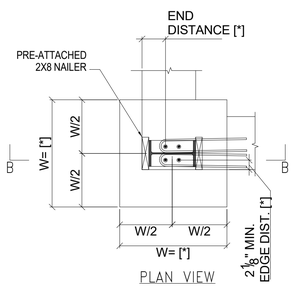
REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

Moment Frame Details
PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

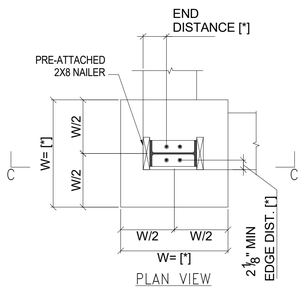
S8.0



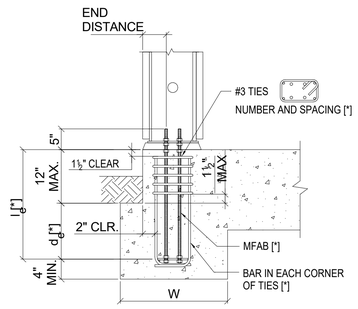
PLAN VIEW



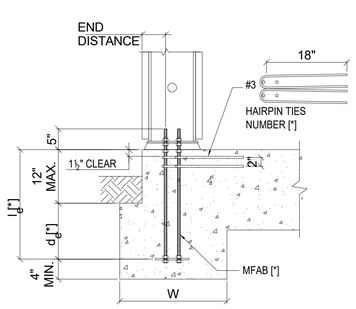
PLAN VIEW



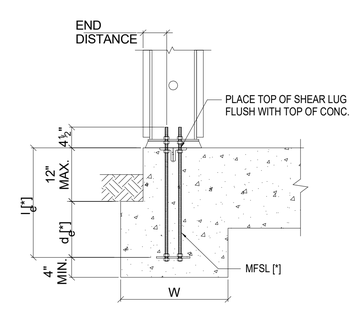
PLAN VIEW



A. SECTION VIEW AT SLAB
(TIED ANCHOR SOLUTION)



B. SECTION VIEW AT SLAB
(THREADED RODS & HAIRPINS SOLUTION)

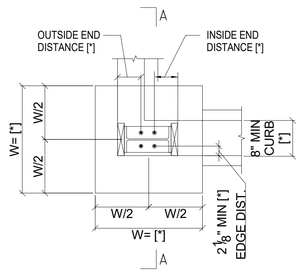


C. SECTION VIEW AT SLAB
(MFSL SOLUTION)

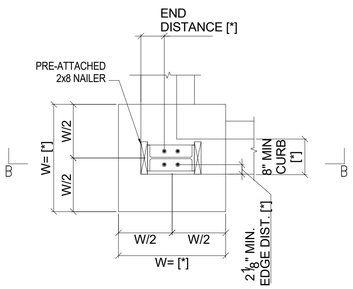
NOTES:

1. [*] DENOTES INFORMATION TO BE PROVIDED BY DESIGNER
2. FOOTING/GRADE BEAM SIZE AND REINFORCING SHALL BE SPECIFIED BY THE DESIGNER AS REQUIRED TO RESIST IMPOSED LOADS, SUCH AS FOUNDATION SHEAR AND BENDING, SOIL BEARING PRESSURE, SHEAR TRANSFER, AND FRAME STABILITY/OVERTURNING

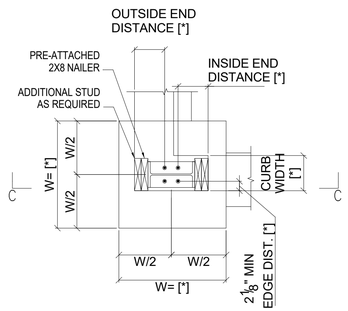
SLAB-ON-GRADE FOUNDATION ANCHORAGE DETAILS | 1



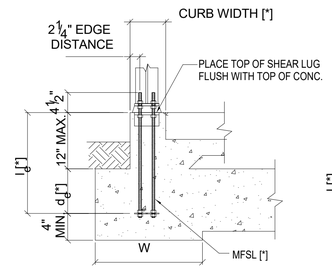
PLAN VIEW AT CORNER



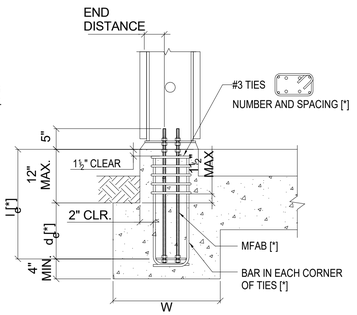
PLAN VIEW AT CORNER



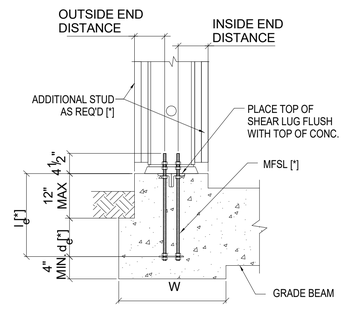
PLAN VIEW AT CORNER



A. SECTION VIEW AT CURB
(MFSL SOLUTION)



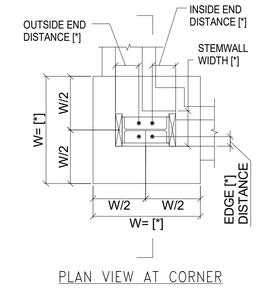
B. SECTION VIEW AT CURB
(TIED ANCHOR SOLUTION)



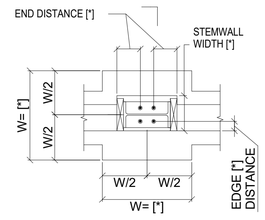
C. SECTION VIEW AT GARAGE FRONT
(MFSL SOLUTION)

NOTES:
SEE NOTES ON 1/SMF2

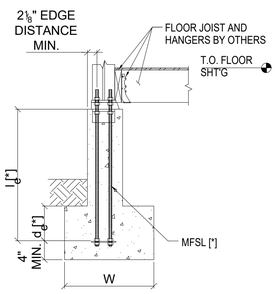
CONCRETE CURB FOUNDATION ANCHORAGE DETAILS | 2



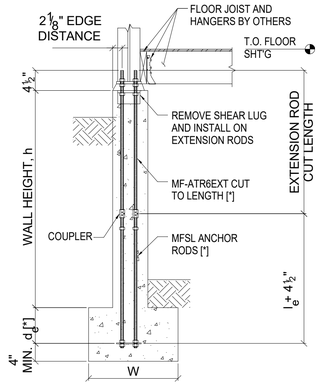
PLAN VIEW AT CORNER



PLAN VIEW AWAY FROM CORNER



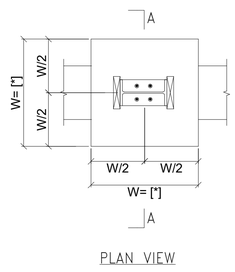
A. SECTION VIEW
(MFSL SOLUTION)



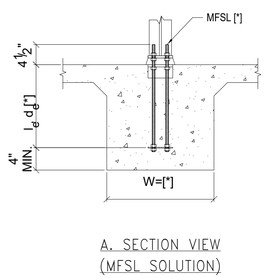
B. SECTION VIEW –
EXTENSION APPLICATION
(MFSL SOLUTION)

NOTES:
SEE NOTES ON 1/SMF2

STEMWALL FOUNDATION ANCHORAGE DETAILS | 3



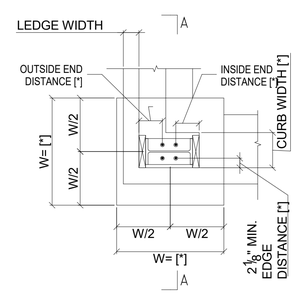
PLAN VIEW



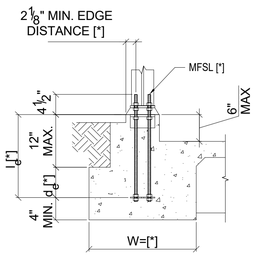
A. SECTION VIEW
(MFSL SOLUTION)

NOTES:
SEE NOTES ON 1/SMF2

INTERIOR FOUNDATION ANCHORAGE DETAILS | 4



PLAN VIEW AT CORNER



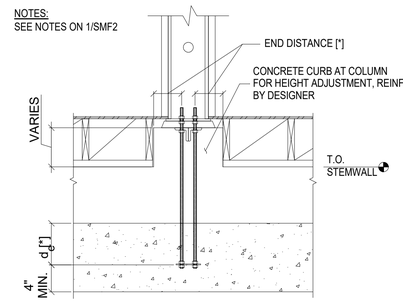
A. SECTION VIEW
(MFSL SOLUTION)

NOTES:
SEE NOTES ON 1/SMF2

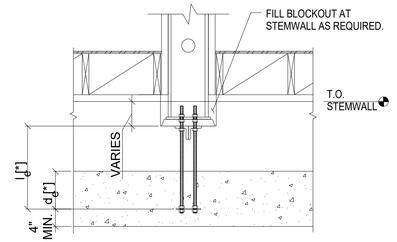
BRICK LEDGE FOUNDATION ANCHORAGE DETAILS | 5

NOTES:
SEE NOTES ON 1/SMF2

COL. HEIGHT ADJ. AT STEMWALL | 6

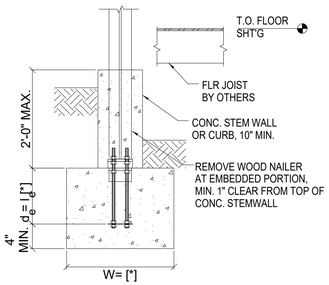


A. RAISED CURB AT STEMWALL



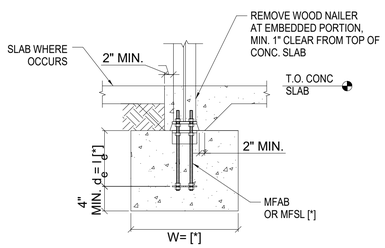
B. RECESSED COLUMN AT STEM WALL

DEPRESSED COL. AT STEMWALL | 7



NOTES:
SEE NOTES ON 1/SMF2

DEPRESSED COL. AT S.O.G. | 8



NOTES:
SEE NOTES ON 1/SMF2

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03/25/22

No.	REVISION	DATE

JOB #: 21162
ENG: B.M.
CAD: JMA
SCALE: 3/4" = 1'-0"

KEY ISSUE DATES:
SD: SD
DD: DD
CD: 03.25.2022
PERMIT: BD
OTHER:

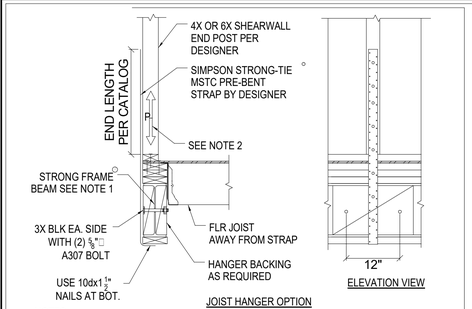
REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

Moment Frame Details

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

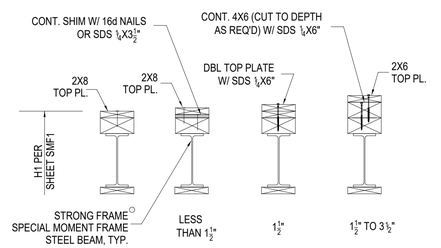
S8.1

6/14/2022 4:16:52 PM
N:\21162 Piper Residence Addition\STRUCT\21162 Piper Residence Addition (R19).rvt



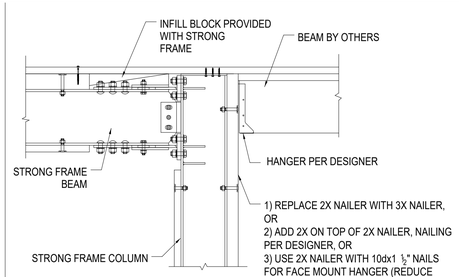
NOTES:
1. SEE 12/SMF3 FOR ALLOWABLE PENETRATION IN STEEL BEAM AND COLUMN
2. DESIGNER TO VERIFY TOTAL BEAM LOADING INCLUDING REACTION "P" DOES NOT EXCEED "Pmax" VALUE PER CATALOG

HOLDOWN POST TO SMF BEAM | 1

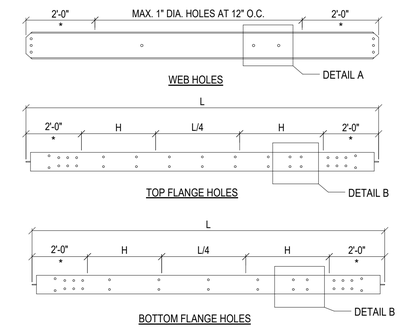


NOTES:
1. FASTENER SPACING BETWEEN STRONG FRAME SPECIAL MOMENT FRAME BEAM DOUBLE 2X NAILER AND PLATE/SHIM/4X PER DESIGNER.
2. TOP OF CONCRETE TO TOP OF FIELD INSTALLED TOP PLATE HEIGHT (H1) CAN ALSO BE ADJUSTED BY THE USE OF THICKER NON-SHRINK GROUT (2" MAX), OR USE NEXT NOMINAL HEIGHT MODEL AND LOWER THE STEM WALL OR FOOTING (SEE SMF2 FOR DETAILS)

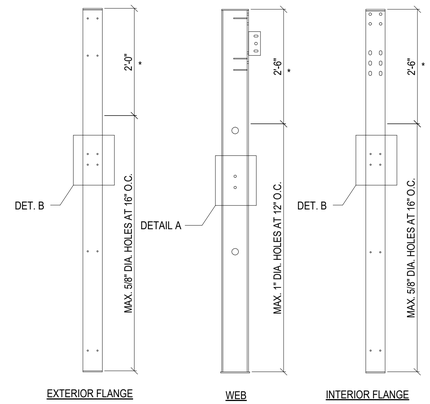
TOP OF FRAME ADJUSTMENT | 5



WOOD BM TO SMF COL. CONN. | 8



A: WEB PENETRATION



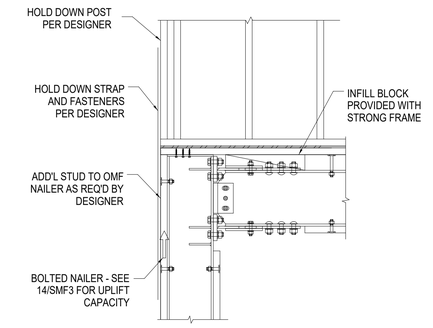
B: FLANGE PENETRATION

NOTES:
1. * DENOTES NO PENETRATIONS PERMITTED.
2. H DENOTES MAXIMUM 3/4" □ HOLES AT 16" O.C. ARE PERMITTED.
3. LOCATE NEW HOLES 6" CLEAR OF EXISTING HOLES
4. PENETRATION PERMITTED UNDER Pu (MAXIMUM FACTORED POINT LOAD) REGION ONLY IF ALLOWABLE GRAVITY LOAD "Pmax" IS REDUCED BY 15%.
5. SEE 9/SMF3 FOR MAXIMUM COLUMN REACTIONS.
6. HOLES MAY BE BORED THROUGH WOOD NAILERS AT LOCATIONS CORRESPONDING TO AN ACCESS HOLE IN THE FLANGE.

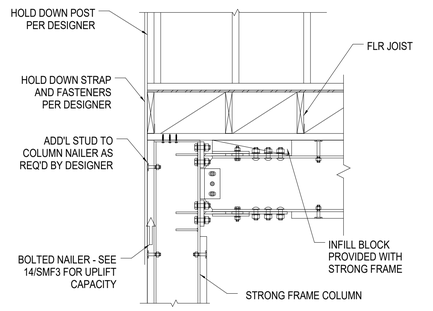
DENOTE REGIONS WHERE PENETRATIONS ARE PERMITTED

DENOTE BEAM WEB REGIONS WHERE PENETRATIONS ARE PERMITTED IF "Pmax" IS REDUCED PER NOTE 4.

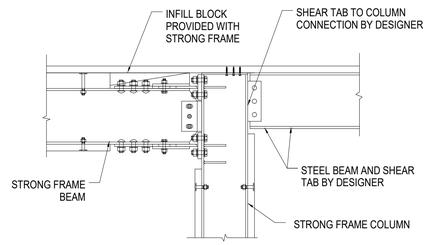
ALLOWABLE BEAM AND COLUMN PENETRATIONS | 12



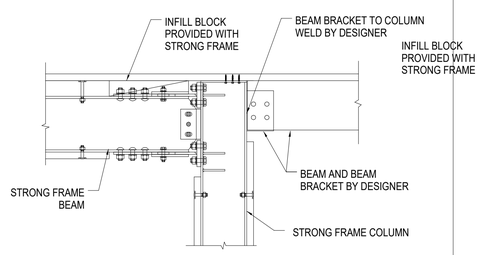
HOLDOWN POST TO SMF COL. | 3



HOLDOWN POST TO SMF COL. | 4

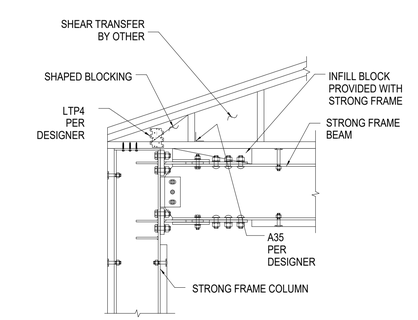


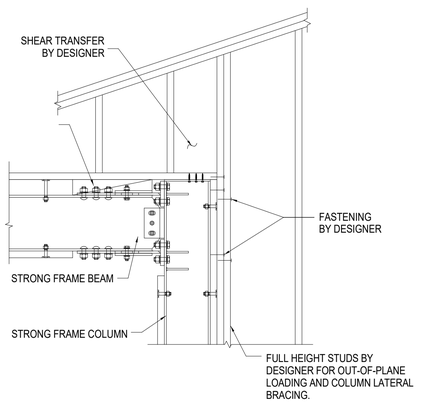
B: CONNECT STEEL BEAM TO STEEL COLUMN



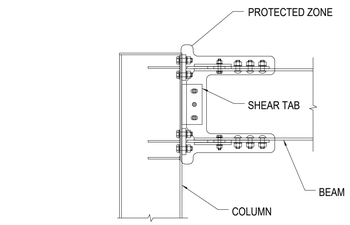
B: CONNECT WOOD BEAM TO STEEL COLUMN

COLLECTOR DETAILS | 7



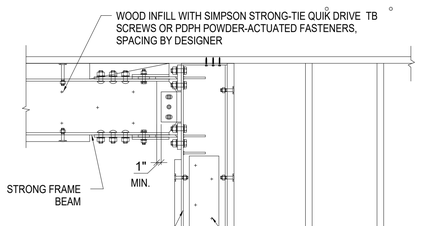


RAKE WALL DETAILS | 10



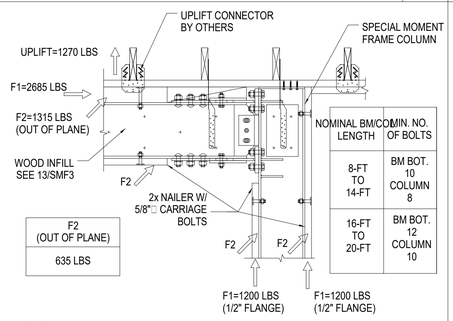
NOTE:
1. PROTECTED ZONE INCLUDED THE FOLLOWING ELEMENTS:
A. LINK FLANGE AND LINK STEM
B. BRP PLATES
C. BEAM FLANGE AREAS CONNECTED TO THE LINK STEM
D. COLUMN FLANGE AREAS CONNECTED TO THE LINK FLANGE
C. SHEAR TAB AND BEAM WEB AT SHEAR TAB
2. NO ATTACHMENT SHALL BE MADE TO THE PROTECTED ZONE.

PROTECTED ZONE | 11



NOTE:
1. SEE WOOD CONNECTOR CATALOG FOR TB SCREWS AND C-SAS-2012 FOR PDPH FASTENERS
2. SEE DETAIL 11 FOR PROTECTED ZONE REQUIREMENTS

WOOD INFILLS | 13

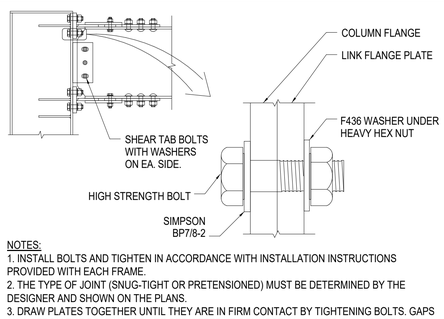


NOMINAL BM/COL LENGTH	MIN. NO. OF BOLTS
8-FT TO 14-FT	BM BOT. 10 COLUMN 8
16-FT TO 20-FT	BM BOT. 12 COLUMN 10

F2 (OUT OF PLANE)
635 LBS

NOTES:
1. WOOD NAILERS ARE DOUGLAS-FIR LARCH NO. 2 GRADE.
2. ALLOWABLE LOADS LISTED ARE FOR ONE BOLT.

NAILER BOLT ALLOWABLE LOADS | 14



NOTES:
1. INSTALL BOLTS AND TIGHTEN IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS PROVIDED WITH EACH FRAME.
2. THE TYPE OF JOINT (SNUG-TIGHT OR PRETENSIONED) MUST BE DETERMINED BY THE DESIGNER AND SHOWN ON THE PLANS.
3. DRAW PLATES TOGETHER UNTIL THEY ARE IN FIRM CONTACT BY TIGHTENING BOLTS. GAPS AWAY FROM THE BOLT HEADS ARE PERMITTED. IF CONNECTION PLATES CAN NOT BE DRAWN TOGETHER SUFFICIENTLY, SHIMS ARE REQUIRED. TOTAL THICKNESS OF SHIMS UNDER A BOLT HEAD MUST NOT EXCEED 1/4".

BEAM-TO-COLUMN CONNECTION | 15

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03/25/22

No.	REVISION	DATE

		KEY ISSUE DATES:	
JOB #:	21162	SD:	SD
ENG:	Designer	DD:	DD
CAD:	Author	CD:	CD
SCALE:	As indicated	PERMIT:	03.25.2022
		OTHER:	BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
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CITY OF MERCER ISLAND

Moment Frame Details

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S8.2

6/14/2022 4:16:57 PM
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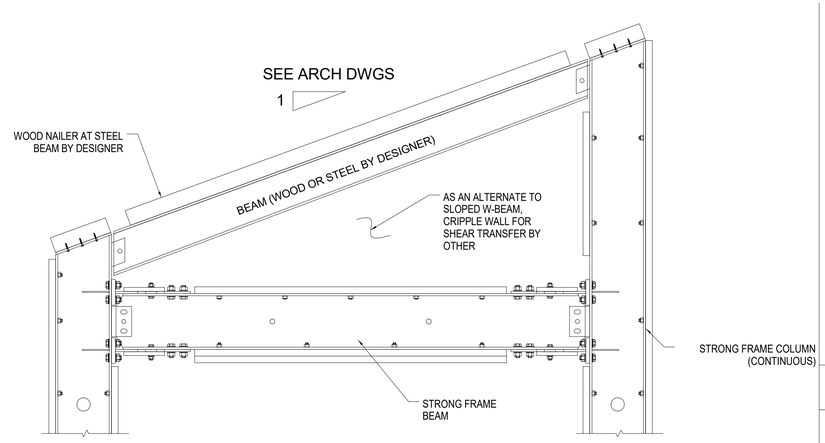
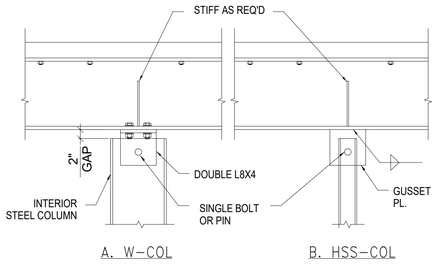
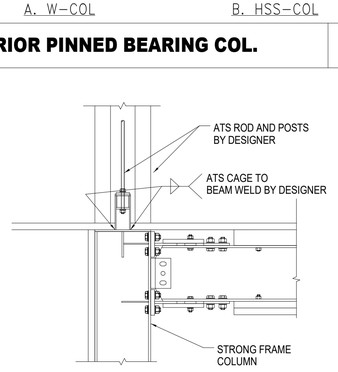


SST SMF WITH SLOPED ROOF BEAM | 1

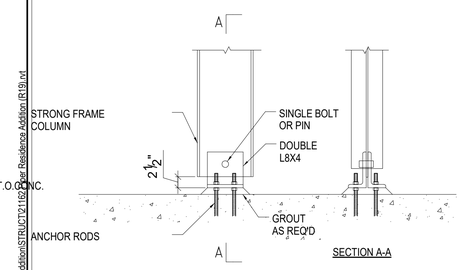


INTERIOR PINNED BEARING COL. | 2



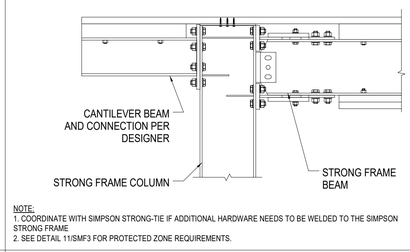
NOTE:
1. COORDINATE WITH SIMPSON STRONG-TIE IF ADDITIONAL HARDWARE NEEDS TO BE WELDED TO THE SIMPSON STRONG FRAME.
2. SEE DETAIL 11/SMF3 FOR PROTECTED ZONE REQUIREMENTS.

ATS ROD//HD ON STEEL COLUMN | 3



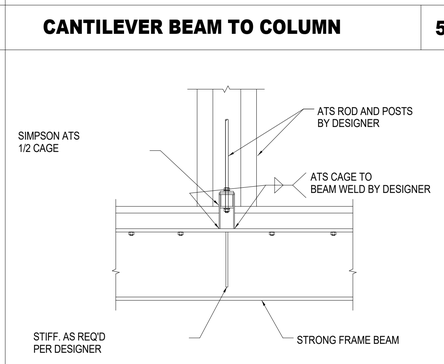
NOTES:
1. CONTACT SIMPSON STRONG-TIE FOR AVAILABILITY OF SINGLE BOLT PINNED BASE CONNECTION.

SINGLE BOLT PINNED BASE DETAIL | 4



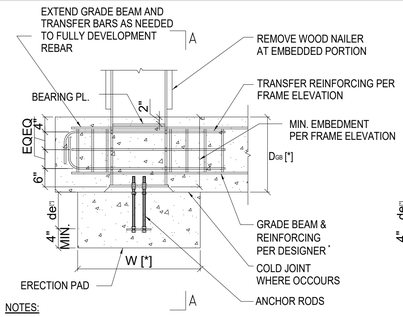
NOTE:
1. COORDINATE WITH SIMPSON STRONG-TIE IF ADDITIONAL HARDWARE NEEDS TO BE WELDED TO THE SIMPSON STRONG FRAME
2. SEE DETAIL 11/SMF3 FOR PROTECTED ZONE REQUIREMENTS.

CANTILEVER BEAM TO COLUMN | 5



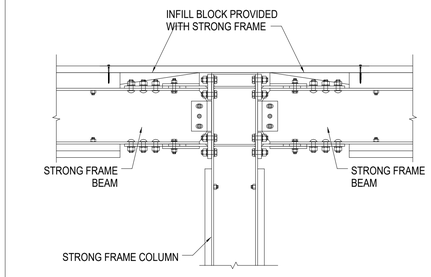
NOTE:
1. COORDINATE WITH SIMPSON STRONG-TIE IF ADDITIONAL HARDWARE NEEDS TO BE WELDED TO THE SIMPSON STRONG FRAME

ATS ROD ON STEEL BEAM | 6



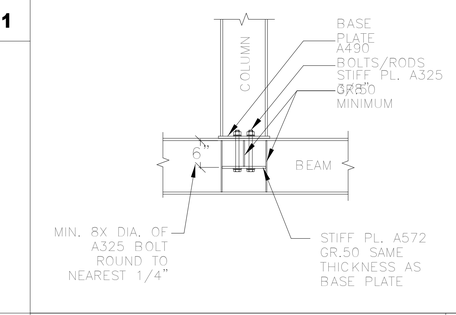
NOTES:
1. [*] DENOTES INFORMATION TO BE PROVIDED BY DESIGNER
2. FOOTING/GRADE BEAM SIZE AND REINFORCING SHALL BE SPECIFIED BY THE DESIGNER AS REQUIRED TO RESIST IMPOSED LOADS, SUCH AS FOUNDATION SHEAR AND BENDING, SOIL BEARING PRESSURE, SHEAR TRANSFER, AND FRAME STABILITY/OVERTURNING

FIXED BASE CONNECTION | 11

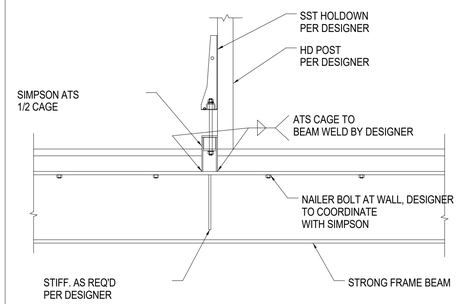


NOTE:
1. FOR FLOOR JOIST TO BEAM CONNECTION, SEE 1/SMF3 OR 4/SMF3

INT. COL WITH BEAMS ON EA. SIDE | 8

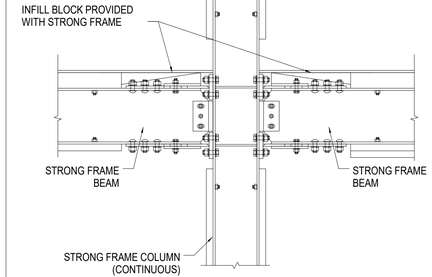


SMF COLUMN ON STEEL BEAM | 9



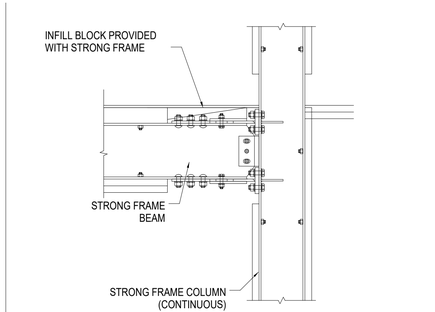
NOTE:
1. COORDINATE WITH SIMPSON STRONG-TIE IF ADDITIONAL HARDWARE NEEDS TO BE WELDED TO THE SIMPSON STRONG FRAME

SHEAR WALL HD ON STEEL BEAM | 10



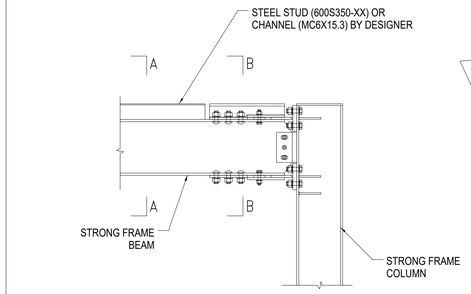
NOTE:
1. FOR FLOOR JOIST TO BEAM CONNECTION, SEE 1/SMF3 OR 4/SMF3

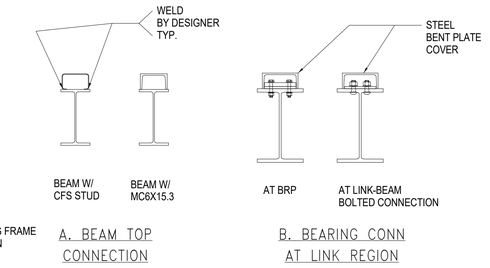
MULTI-STORY COLUMNS (2 BEAMS) | 12



NOTE:
1. FOR FLOOR JOIST TO BEAM CONNECTION, SEE 1/SMF3 OR 4/SMF3

MULTI-STORY COLUMNS (1-BEAM) | 15

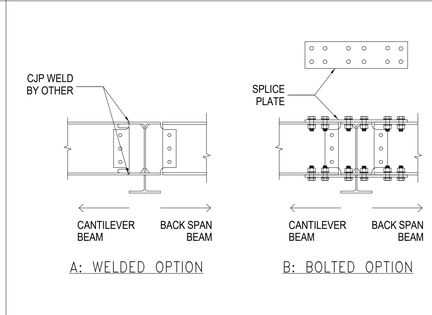




A. BEAM TOP CONNECTION

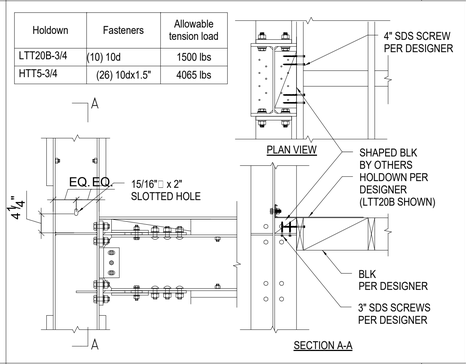
B. BEARING CONN AT LINK REGION

SMF BEAM ATTACHEMENT FOR COLD-FORMED STEEL CONSTRUCTION | 16

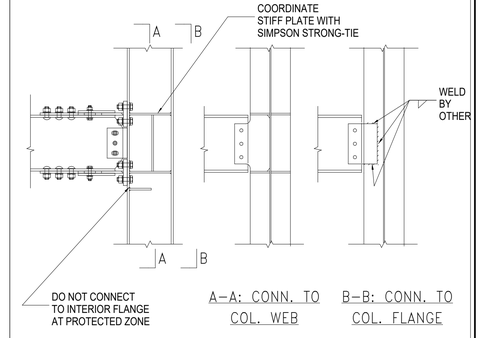


CANTILEVER STEEL BEAM CON. | 13

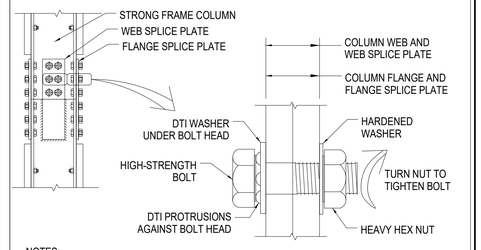
Holdown	Fasteners	Allowable tension load
LTT20B-3/4	(10) 10d	1500 lbs
HTT5-3/4	(26) 10dx1.5"	4065 lbs



COL.BRACING AT FLOOR LEVEL | 14



BEAM CONNECTION TO COLUMN | 17



NOTES:
1. INSTALL BOLTS AND TIGHTEN IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS PROVIDED WITH EACH FRAME.
2. HOLD HEAD OF BOLT AND TURN NUT TO TIGHTEN.
3. THE TYPE OF JOINT IS PRETENSIONED FOR THIS CONNECTION.
4. NUMBER OF FLANGE AND WEB CONNECTION BOLTS PER DESIGN DRAWINGS.
5. DRAW PLATES TOGETHER UNTIL THEY ARE IN FIRM CONTACT BY TIGHTENING BOLTS. GAPS AWAY FROM THE BOLT HEADS ARE PERMITTED.

BOLTED COLUMN SPLICE | 18

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03/25/22

No.	REVISION	DATE

JOB #: 2116.2
ENG: Designer
CAD: Author
SCALE: 3/4" = 1'-0"

KEY ISSUE DATES:
SD: SD
DD: DD
CD: 03.25.2022
PERMIT:
OTHER: BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

Moment Frame Details

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S8.3

6/14/2022 4:16:53 PM
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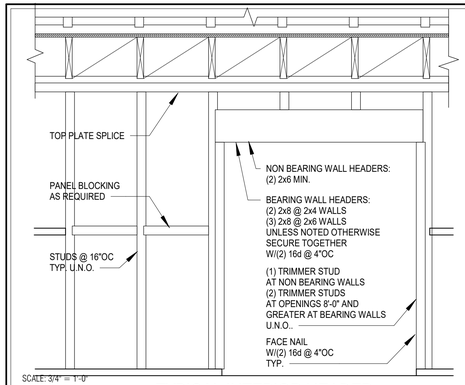
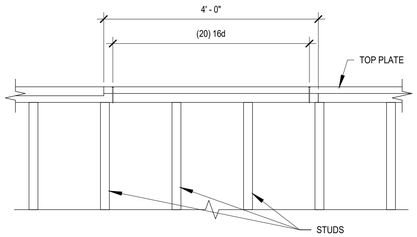


SCALE: 3/4" = 1'-0"

1 TYPICAL INTERIOR HEADER

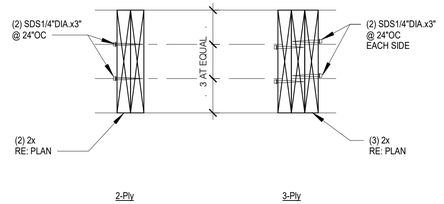


TOP PLATE SPLICE NOTES:
1. SPLICE AND NAIL TOP PLATES SHAOWN AT ALL EXTERIOR, PLUMBING, PARTY AND SHEAR WALLS AT EACH FLOOR LEVEL AND AT ROOF.

2. PROVIDE (2) LSTA 36 STRAP W/(26) 10d NAILS ONE EACH SIDE WHERE DRILLED HOLES EXCEED THE FOLLOWING:
   1" FOR 2x4
   3" FOR 2x6 WALL PLATES, CENTER ALL HOLES MIN. EDGE DISTANCE = 1 1/4".

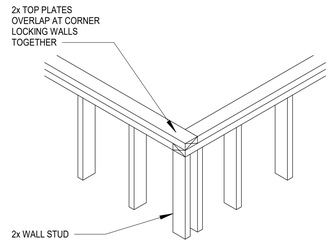
SCALE: 3/4" = 1'-0"

2 TYPICAL TOP PLATE SPLICE



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

3 TYPICAL 2 or 3 PLY RAFTER or JOIST ATTACHMENT



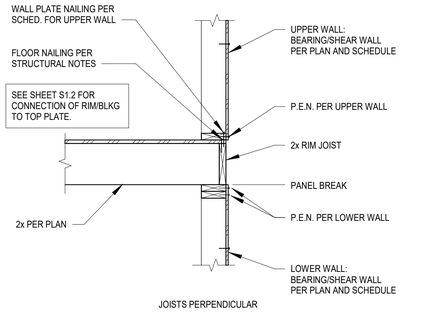
SCALE: 3/4" = 1'-0"

4 TYPICAL TOP PLATE FRAMING DETAIL

IBC 2015 TABLE 2304.10.1 FASTENING SCHEDULE

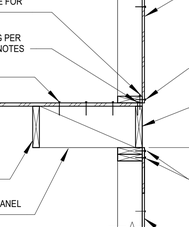
	CONNECTION	FASTENING (a)	LOCATION
ROOF			
1.	BLOCKING BETWEEN CEILING JOISTS,RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	(3) 8d COMMON (2 1/2" X 0.131"); OR (3) 3" X 0.131" NAILS	EACH END, TOENAIL
	BLOCKING BETWEEN RAFTERS OR TRUSSES NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	(2) 8d COMMON (2 1/2" X 0.131") (2) 3" X 0.131" NAILS	EACH END, TOENAIL
	BLOCKING BETWEEN RAFTERS OR TRUSSES NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	(2) 16d COMMON (3 1/2" X 0.162") (3) 3" X 0.131" NAILS	EACH END
	FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON (3 1/2" X 0.161") AT 6"OC...	FACE NAIL
2.	CEILING JOISTS TO TOP PLATE	(3) 8d COMMON (3 1/2" X 0.131"); OR (3) 3" X 0.131" NAILS	EACH JOIST, TOENAIL
3.	CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	(3) 16d COMMON (3 1/2" X 0.162"); OR (4) 3" X 0.131" NAILS	FACE NAIL
4.	CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	PER TABLE 2308.7.3.1	FACE NAIL
5.	COLLAR TIE TO RAFTER	(3) 10d COMMON (3" X 0.148"); OR (4) 3" X 0.131" NAILS	FACE NAIL
6.	RAFTER OR ROOF TRUSS TO TOP PLATE (SEE SECTION 2308.7.5, TABLE...	(3) 10d COMMON (3" X 0.148");OR (4) 3" X 0.131" NAILS	TOENAIL
7.	ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2-INCH RIDGE BEAM	(2) 16d COMMON (3 1/2" X 0.162");OR (3) 3" X 0.131" NAILS	END NAIL
WALL			
8.	STUD TO STUD (NOT AT BRACED WALL PANELS)	16d COMMON (3 1/2" X 0.162"); 3" X 0.131" NAILS	24"OC FACE NAIL 16"OC FACE NAIL
9.	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d COMMON (3 1/2" X 0.162");OR 3" X 0.131" NAILS	16"OC FACE NAIL 12"OC FACE NAIL
10.	BUILT-UP HEADER (2" TO 2" HEADER)	16d COMMON (3 1/2" X 0.162")	16"OC EACH EDGE, FACE NAIL
11.	CONTINUOUS HEADER TO STUD	(4) 8d COMMON (2 1/2" X 0.131")	TOENAIL
12.	TOP PLATE TO TOP PLATE	16d COMMON (3 1/2" X 0.162") OR 3" X 0.131" NAILS	16"OC FACE NAIL 12"OC FACE NAIL
13.	TOP PLATE TO TOP PLATE, AT END JOINTS	(8) 16d COMMON (3 1/2" X 0.162") OR (12) 3" X 0.131" NAILS	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
14.	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON (3 1/2" X 0.162"); OR 3" X 0.131" NAILS	16"OC FACE NAIL 12"OC FACE NAIL
15.	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALLO PANELS	(2) 16d COMMON (3 1/2" X 0.162"); OR (4) 3" X 0.131" NAILS	16"OC FACE NAIL
16.	STUD TO TOP OR BOTTOM PLATE	(4) 8d COMMON (2 1/2" X 0.131"); OR (3) 3" X 0.131" NAILS	TOENAIL
	STUD TO TOP OR BOTTOM PLATE	(2) 16d COMMON (3 1/2" X 0.162"); OR...	END NAIL
17.	TOP OT BOTTOM PLATE TO STUD	(2) 16d COMMON (3 1/2" X 0.162"); OR (3) 3" X 0.131" NAILS	END NAIL
18.	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	(2) 16d COMMON (3 1/2" X 0.162"); OR (3) 3" X 0.131" NAILS	FACE NAIL
19.	1" BRACE TO EACH STUD AND PLATE	(2) 8d COMMON (2 1/2" X 0.131"); OR (2) 3" X 0.131" NAILS	FACE NAIL
20.	1" X 6" SHEATHING TO EACH BEARING	(2) 8d COMMON (2 1/2" X 0.131")	FACE NAIL
21.	1" X 8" AND WIDER SHEATHING TO EACH BEARING	(3) 8d COMMON (2 1/2" X 0.131")	FACE NAIL
FLOOR			
22.	JOIST TO SILL, TOP PLATE, OR GIRDER	(3) 8d COMMON (2 1/2" X 0.131"); OR 3" X 0.131" NAILS	TOENAIL
23.	RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER...	8d COMMON (2 1/2" X 0.131"); OR 3" X 0.131" NAILS	6"OC, TOENAIL
24.	1" X 6" SUBFLOOR OR LESS TO EACH...	(2) 8d COMMON (2 1/2" X 0.131")	FACE NAIL
25.	2" SUBFLOOR TO JOIST OR GIRDER	(2) 16d COMMON (3 1/2" X 0.162")	FACE NAIL
26.	2" PLANKS (PLANK NAD BEAM-FLOOR AND ROOF)	(2) 16d COMMON (3 1/2" X 0.162")	EACH BEARING, FACE NAIL
27.	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4" X 0.192")	32"OC, FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
		3" X 0.131" NAILS	24"OC, FACE NAIL AT TOP AND BOTTOM STAGGERED ON...
		(2) 20d COMMON (4" X 0.192"); OR (3) 3" X 0.131" NAILS	END JOIST OR RAFTER, FACE NAIL
28.	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	(3) 16d COMMON (3 1/2" X 0.162"); OR (4) 3" X 0.131" NAILS	FACE NAIL
		(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL
29.	JOIST TO BAND JOIST OR RIM JOIST	(3) 16d COMMON (3 1/2" X 0.162"); OR (4) 3" X 0.131" NAILS	END NAIL
30.	BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS	(2) 8d COMMON (2 1/2" X 0.131"); OR (2) 3" X 0.131" NAILS	EACH END, TOENAIL
31.	WOOD STRUCTURAL PANELS TO FRAMING SUBFLOOR TO FRAMING	SEE SHEARWALL SCHEDULE SEE STRUCTURAL NOTES	SECTION06160

a. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE NOTED OTHERWISE.
b. FASTENING SCHEDULE BASED ON IBC TABLE 2304.10.1 AND PROVIDES THE MINIMUM NAILING REQUIRED. WHEN SPECIFIED ELSEWHERE IN THESE PLANS PROVIDE NAILING AS SPECIFIED. SEE IBC FOR COMPLETE NAILING SCHEDULE.



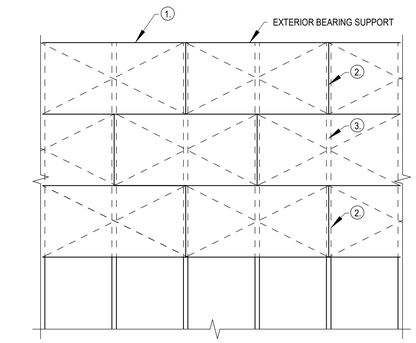
SCALE: 3/4" = 1'-0"

6 PLAN VIEW



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

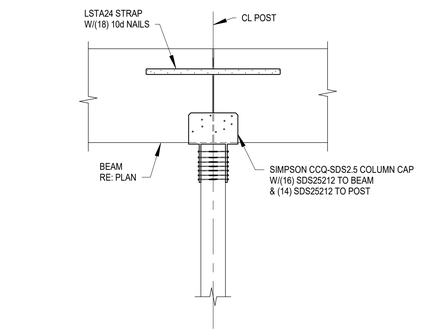
7 TYPICAL LEDGER AT EXTERIOR WALL



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

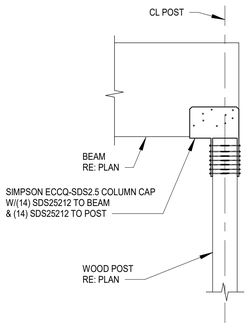
8 ROOF/FLOOR SHEATHING LAYOUT

ROOF/FLOOR SHEATHING NOTES:
1. BOUNDARY NAILING (B.N.) AT ROOF/FLOOR PERIMETER, AT ALL CONTINUOUS PANEL EDGES.
2. EDGE NAILING (P.E.N.) AT ALL EDGES OF ALL PLYWOOD SHEETS AT SUPPORTS AND AT INTERIOR SHEARWALLS.
3. INTERIOR FIELD NAILING (F.N.) 12"O.C. AT ALL BEARING SUPPORTS.
4. SEE PLANS FOR PLYWOOD THICKNESS AND NAILING SCHEDULE.
5. LONG DIMESION OF PLYWOOD SHALL RUN PERPENDICULAR TO TRUSS SYSTEM FRAMING AND FLOOR FRAMING.
6. MINIMUM EDGE DISTANCE FOR NAILS SHALL BE 3/8".
7. MINIMUM PLYWOOD SHEET SIZE SHALL BE 2'-0" X 4'-0".
8. NAILS SHALL NOT BE OVER DRIVEN.



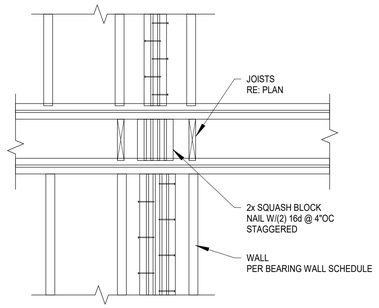
SCALE: 3/4" = 1'-0"

11 TYPICAL BEAM TO POST CONNECTION



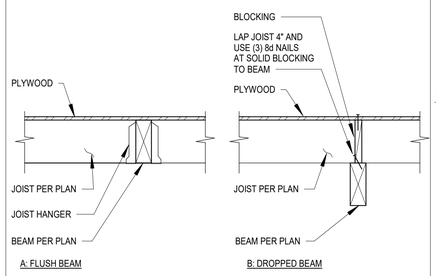
SCALE: 3/4" = 1'-0"

12 TYPICAL BEAM TO POST CONNECTION



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

13 TYPICAL BLOCKING AT BUNDLED STUD



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

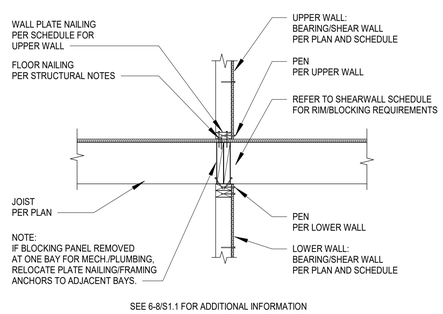
14 TYPICAL CONNECTION TO WOOD BEAM

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

16 TYPICAL EXTERIOR WALL AT FRAMING

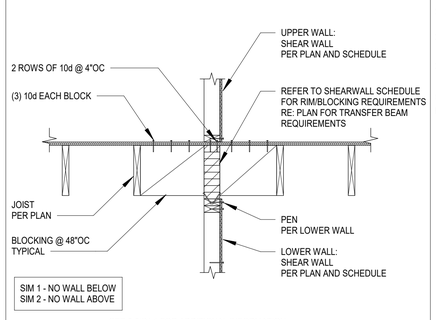
SCALE: 3/4" = 1'-0"

17 TYPICAL EXTERIOR WALL TO FRAMING



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

18 TYPICAL INTERIOR WALL TO FRAMING



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

19 TYPICAL INTERIOR WALL TO FRAMING

CT ENGINEERING INC.
Structural Engineers
160 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0818 (F)
www.ctengineering.com

03/25/22

No.	REVISION	DATE

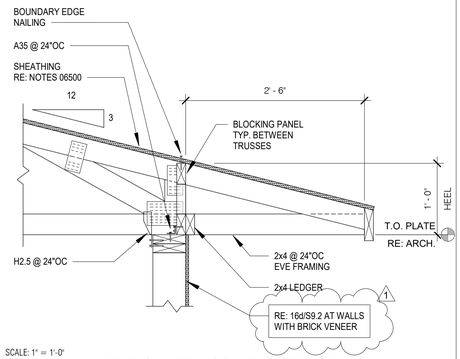
JOB #: 21162
ENG: BJM
CAD: JMA
SCALE: 3/4" = 1'-0"
KEY ISSUE DATES:
SD: SD
DD: DD
CD: CD
PERMIT: 03.25.2022
OTHER: BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

Typical Wood Framing Details

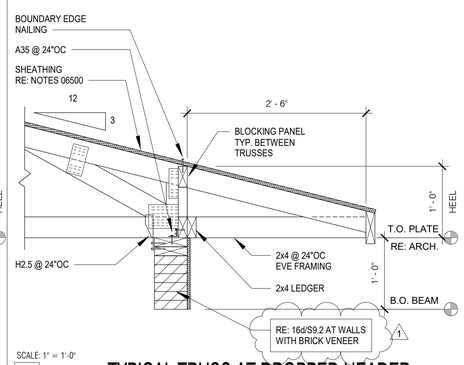
PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S9.0



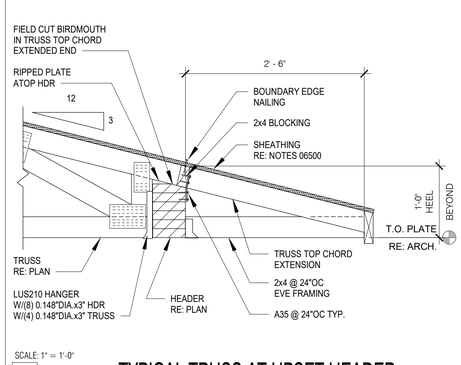
SCALE: 1" = 1'-0"

1 TYPICAL TRUSS AT EXTERIOR WALL



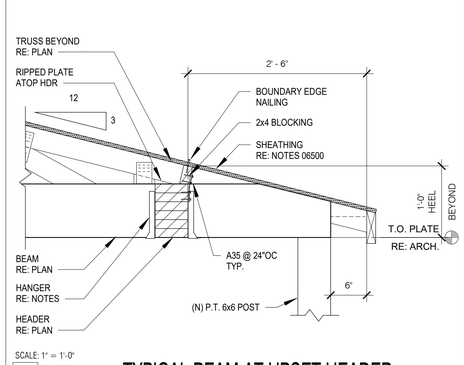
SCALE: 1" = 1'-0"

2 TYPICAL TRUSS AT DROPPED HEADER



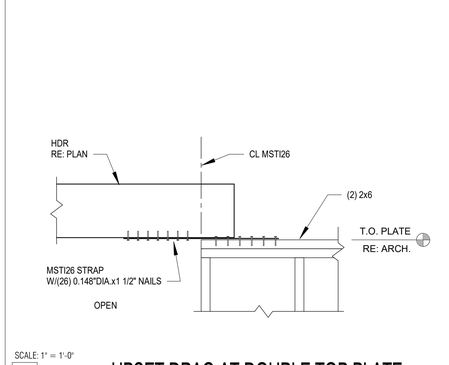
SCALE: 1" = 1'-0"

3 TYPICAL TRUSS AT UPSET HEADER



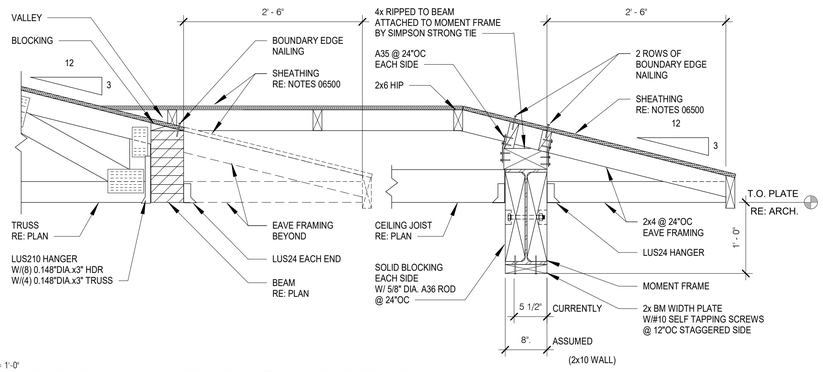
SCALE: 1" = 1'-0"

4 TYPICAL BEAM AT UPSET HEADER



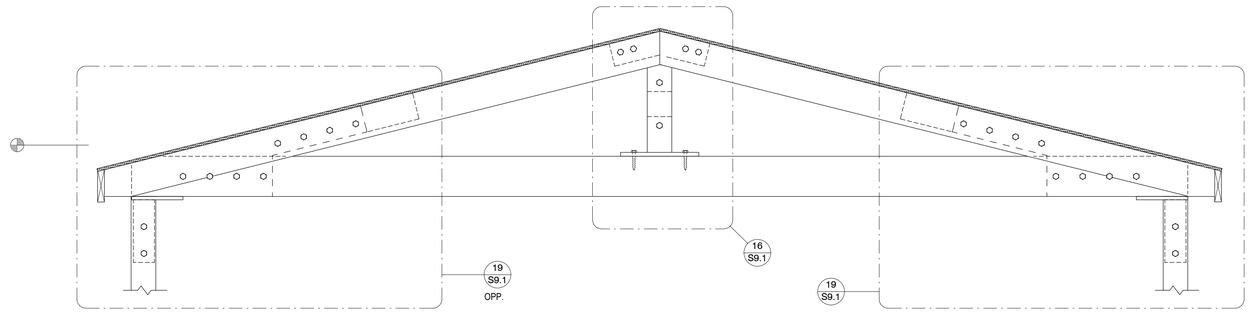
SCALE: 1" = 1'-0"

5 UPSET DRAG AT DOUBLE TOP PLATE



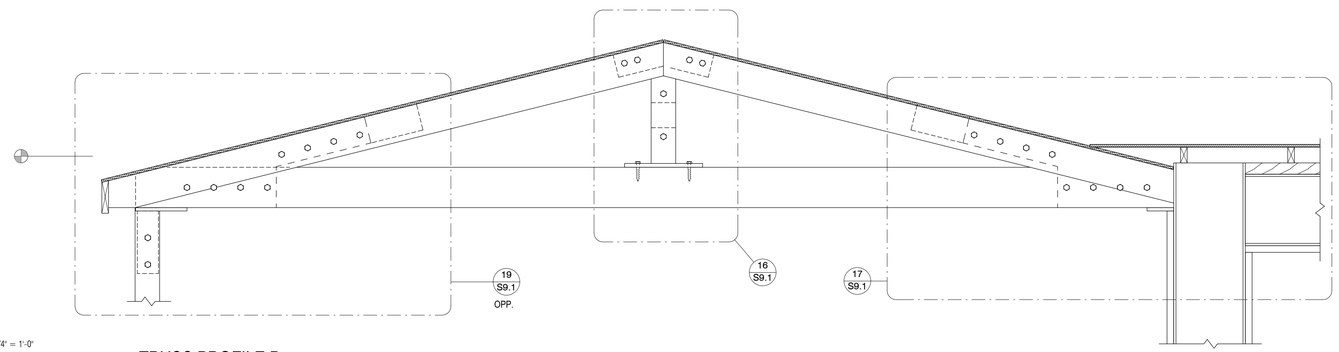
SCALE: 1" = 1'-0"

6 ROOF SECTION AT UPSET GLB AND MOMENT FRAME



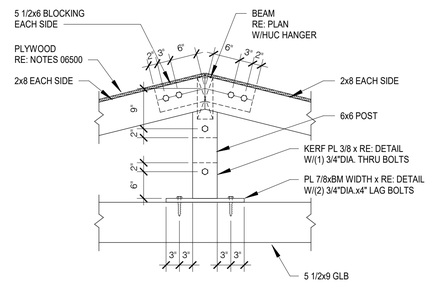
SCALE: 3/4" = 1'-0"

7 TRUSS PROFILE A



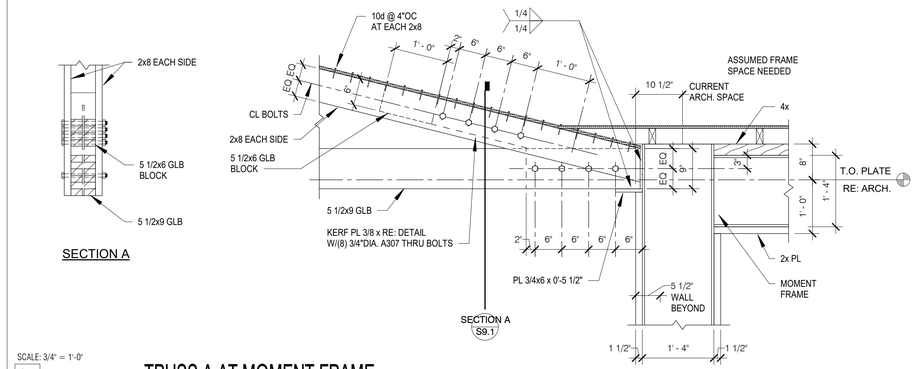
SCALE: 3/4" = 1'-0"

13 TRUSS PROFILE B



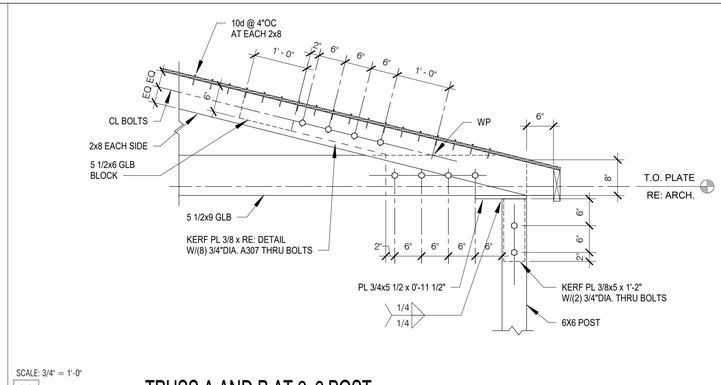
SCALE: 3/4" = 1'-0"

16 TRUSS A AND B AT KING POST



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

17 TRUSS A AT MOMENT FRAME



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

19 TRUSS A AND B AT 6x6 POST

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180 Nickerson Street Suite 302 Seattle, WA 98109
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www.ctengineering.com

03/25/22

No.	REVISION	DATE
1	Response to Comments	06-10-2022

JOB #: 2162
ENG: BJM
CAD: JMA
SCALE: As indicated

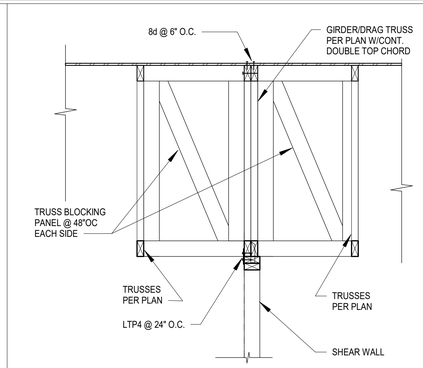
KEY ISSUE DATES:
SD: SD
DD: DD
CD: CD
PERMIT: 03.25.2022
OTHER: BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

Typical Wood Framing Details

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

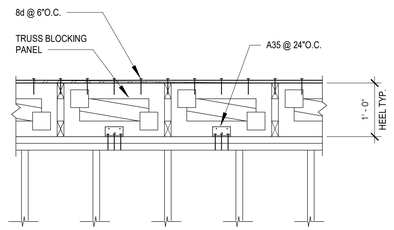
S9.1



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

2

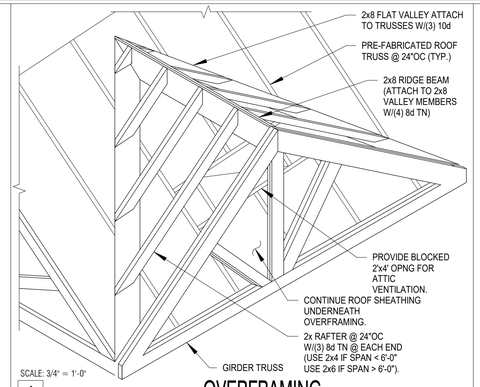
DRAG TRUSS TO WALL



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

3

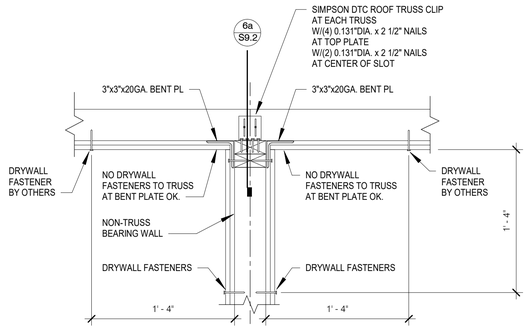
TYPICAL EXTERIOR WALL TO TRUSS



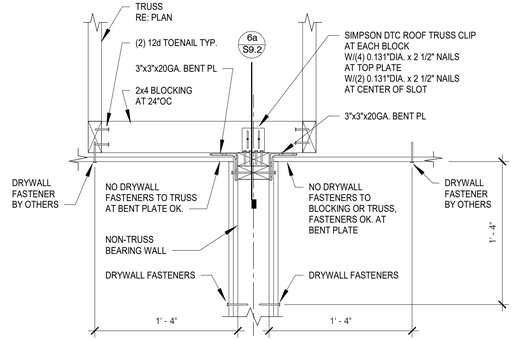
SCALE: 3/4" = 1'-0"

4

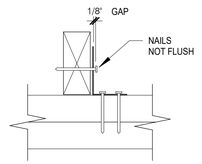
OVERFRAMING



WALL TRANSVERSE TO TRUSSES



WALL PARALLEL WITH TRUSSES

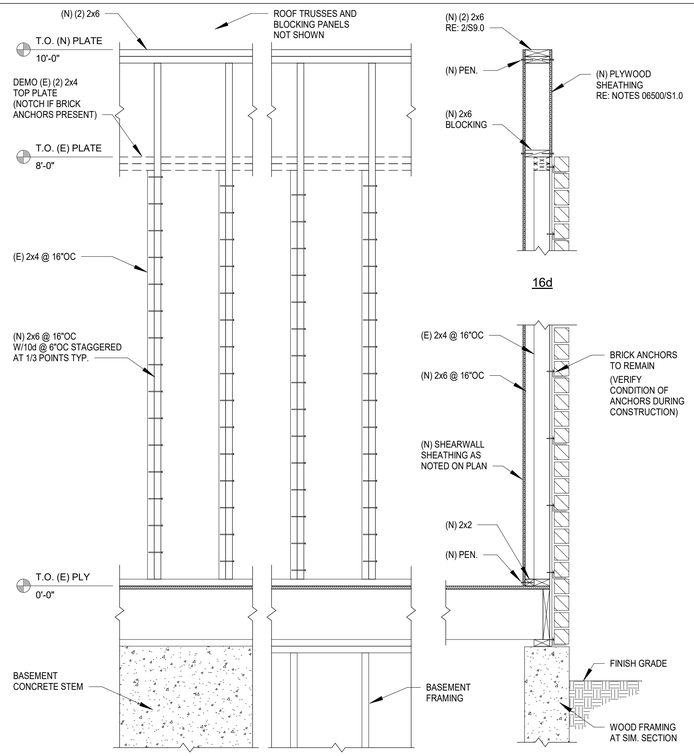


SECTION 6a

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

6

TYPICAL NON-BEARING WALL TO TRUSS



16a 16b

16d 16c

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

16

TYPICAL SISTERING OF (E) 2x4 EXTERIOR WALLS

6/14/2022 4:16:57 PM
N:\21162 Piper Residence Addition\STRUCT\21162 Piper Residence Addition (R19).rvt

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Structural Engineers
160 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0818 (F)
www.ctengineering.com

03/25/22

No.	REVISION	DATE

JOB #: 21162
ENG: Designer
CAD: Author
SCALE: As indicated

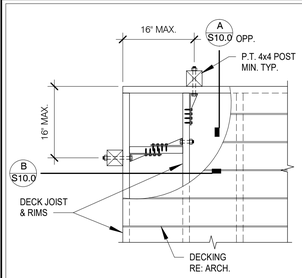
KEY ISSUE DATES:
SD: SD
DD: DD
CD: CD
PERMIT: 03.25.2022
OTHER: BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

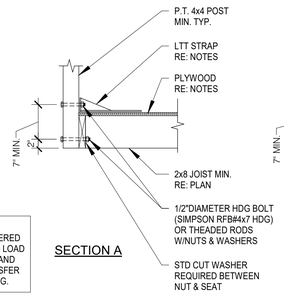
Typical Wood Framing Details

PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

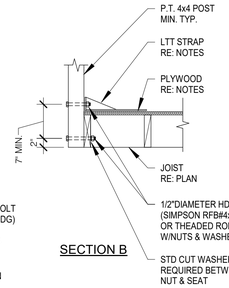
S9.2



INSULATION, 2" CONCRETE PAVERS, AND OTHER ARCHITECTURAL COMPONENTS NOT SHOWN.



SECTION A

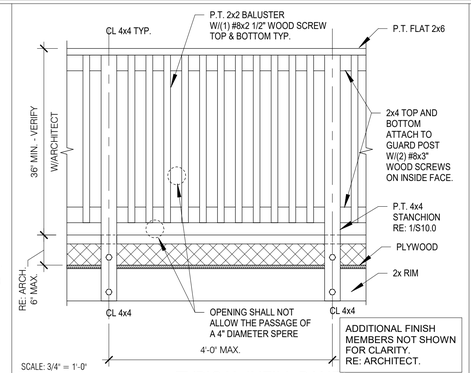


SECTION B

NOTE:
USE ABOVE DETAILS FOR GUARD CONNECTIONS OR PROVIDE ENGINEERED DESIGN THAT SHOWS GUARDS CAN RESIST A SINGLE CONCENTRATED LOAD OF 200 IBS APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP AND HAVE ATTACHMENT DEVISES AND SUPPORTING STRUCTURE TO TRANSFER THIS LOAD TO APPROPRIATE STRUCTURAL ELEMENTS OF THE BUILDING.

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

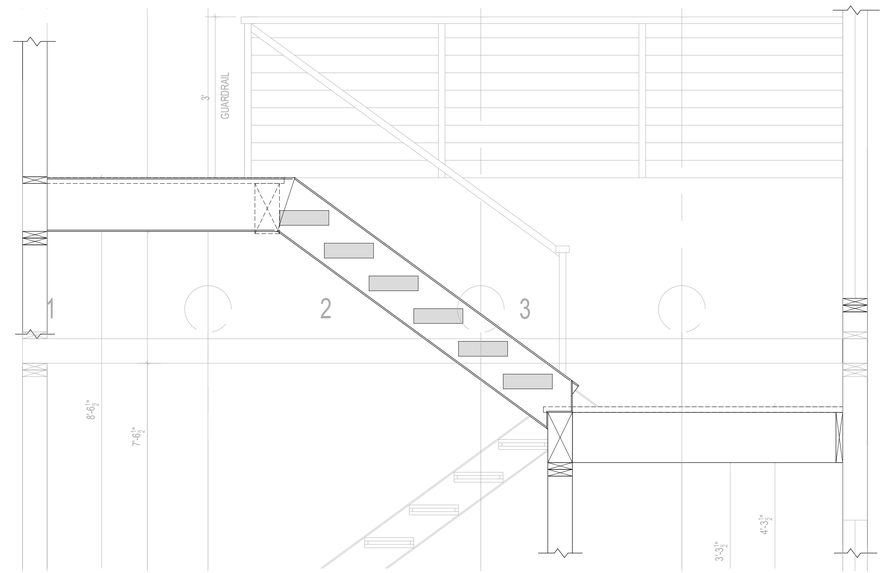
1 TYPICAL GUARDRAIL CONNECTION



ADDITIONAL FINISH MEMBERS NOT SHOWN FOR CLARITY. RE: ARCHITECT.

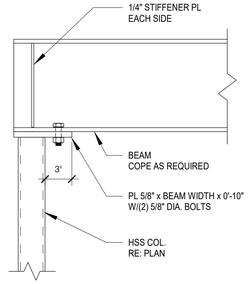
SCALE: 3/4" = 1'-0"

3 TYPICAL INFILL PANEL



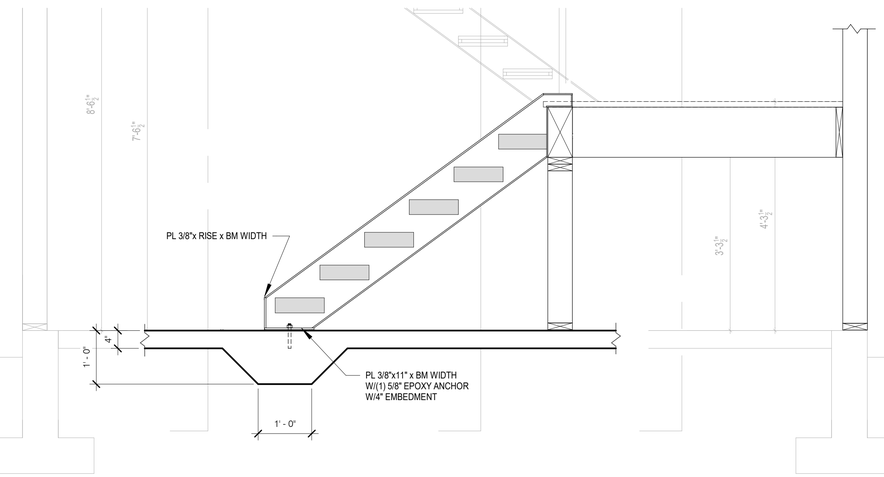
SCALE: 3/4" = 1'-0"

9 TYPICAL STAIR FRAMING



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

4 TYPICAL COLUMN TO END BEAM



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

19 TYPICAL STAIE FRAMING

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Structural Engineers
160 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0818 (F)
www.ctengineering.com

03/25/22

No.	REVISION	DATE

JOB #:	21162	KEY ISSUE DATES:	
ENG:	BJM	SD:	SD
CAD:	JMA	DD:	DD
SCALE:	As indicated	CD:	CD
		PERMIT:	03.25.2022
		OTHER:	BD

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY
MERCER ISLAND, WASHINGTON

Typical Components

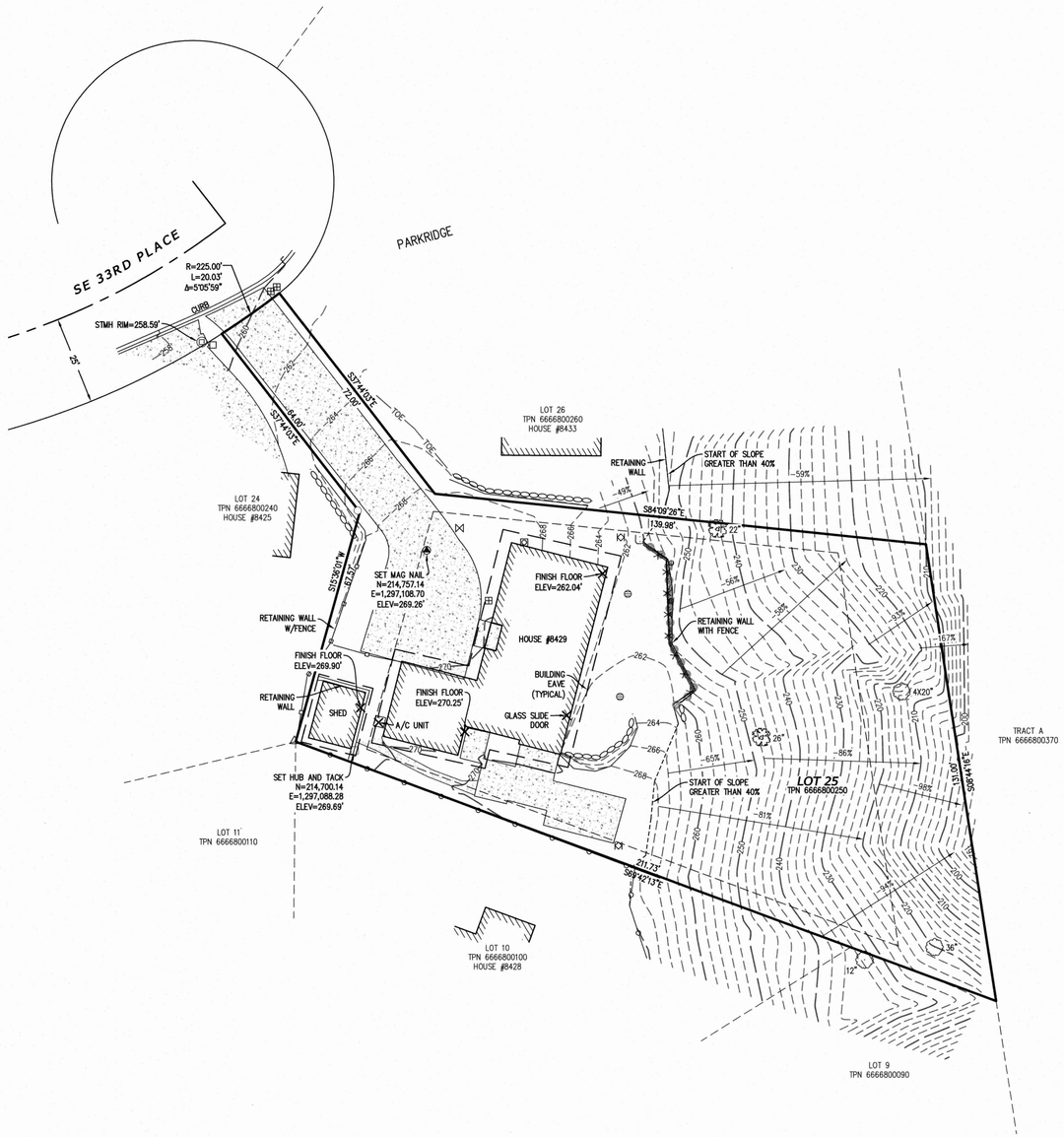
PIPER REMODEL
8429 SE 33RD PLACE
MERCER ISLAND, WA 98040

S10.0

6/14/2022 4:16:58 PM
N:\21162 Piper Residence Addition\STRUCT\21162 Piper Residence Addition (R19).rvt

TOPOGRAPHIC MAP

THE NW 1/4 OF THE SW 1/4 OF SECTION 7, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.
KING COUNTY, WASHINGTON



LEGAL DESCRIPTION

PER WARRANTY DEED, KING COUNTY RECORDING NO. 20200410000015

LOT 25 OF PARKRIDGE, AS PER PLAT RECORDED IN VOLUME 78 OF PLATS, PAGES 29 AND 30, RECORDS OF KING COUNTY.

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

HORIZONTAL DATUM

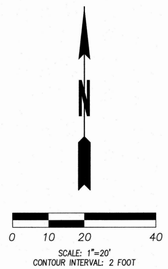
WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD 83/2011) BASED ON RTK GPS MEASUREMENTS CONSTRAINED TO THE WASHINGTON STATE REFERENCE NETWORK.

VERTICAL DATUM

NAVD 88 BASED ON RTK GPS MEASUREMENTS CONSTRAINED TO THE WASHINGTON STATE REFERENCE NETWORK.

SURVEY NOTES

1. DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION, AND MEETS OR EXCEEDS ACCURACY REQUIREMENTS CONTAINED IN W.A.C. 332-130-090. ALL MEASURING INSTRUMENTS EMPLOYED IN THIS SURVEY HAVE BEEN MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THIS MAP GRAPHICALLY REPRESENTS CONDITIONS AND FEATURES EXISTING AT THE TIME OF THIS SURVEY ONLY, WHICH WAS PERFORMED DURING DECEMBER OF 2021.
3. THE CERTIFICATION OF THIS SURVEY AND MAP IS EXCLUSIVE TO THE NAMED CLIENT WHO REQUESTED THIS SURVEY. IT WAS SPECIFICALLY DESIGNED TO MEET THEIR STATED NEED(S). THAT CERTIFICATION DOES NOT EXTEND TO ANY OTHER PARTIES OR FOR ANY ALTERNATIVE USE OF THIS MAP WITHOUT THE EXPRESS RECERTIFICATION BY THE SURVEYOR NAMING THOSE PARTIES.
4. THE PURPOSE OF THIS SURVEY IS TO PROVIDE A TOPOGRAPHIC MAP OF THE EXISTING CONDITIONS WITHIN KING COUNTY PARCEL #6666800250 FOR PLANNING, DESIGN AND CONSTRUCTION.
5. UTILITIES OTHER THAN SHOWN MAY EXIST ON THE SITE. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY. THE SURVEYOR DOES CERTIFY THAT THEY ARE SHOWN AS ACCURATELY AS POSSIBLE FROM FIELD SURVEY INFORMATION.
6. PARCEL AREA: 19,304 ± SQ.FT. (0.44 ACRES)
7. ALL DISTANCES AND DIMENSIONS SHOWN ARE U.S. SURVEY FEET GROUND MEASUREMENTS.
8. CONTOUR INTERVALS ARE 2-FOOT AND ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHERED FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION.
9. THE PROPERTY AND RIGHT-OF-WAY LINES SHOWN HEREON ARE BASED ON FIELD TIES TO SEVERAL OF THE ORIGINAL PLAT MONUMENTS, FROM WHICH WE CONDUCTED A MATHEMATICAL CALCULATION OF THE PARCEL BASED ON THE GEOMETRY OF THE RECORDED PLAT MAP. NO PROPERTY CORNERS WERE ESTABLISHED DURING THIS SURVEY.
10. WE HAVE USED GRAPHIC SYMBOLS TO REPRESENT SOME FEATURES ON THIS MAP, SUCH AS UTILITIES, TREES AND FENCES. THE DEFAULT SIZE OF THOSE SYMBOLS MAY NOT REFLECT THE TRUE SIZE OF THE FEATURE THAT WAS MAPPED.



LEGEND

- TPN — TAX PARCEL NUMBER
- FOUND REBAR & CAP, LS #38992
- FOUND SURVEY NAIL, LS #53135
- SET MAG NAIL – AS NOTED
- SET HUB AND TACK – AS NOTED
- BOUNDARY LINE
- ADJOINER PROPERTY BOUNDARY
- RIGHT OF WAY LINE
- ROAD CENTERLINE
- BUILDING SET BACK LINE
- DECIDUOUS TREE (DIAMETER AS NOTED)
- MAPLE TREE (DIAMETER AS NOTED)
- PILING
- WOOD FENCE
- CHAIN LINK FENCE
- SPLIT RAIL FENCE
- STORM MANHOLE
- STORM YARD DRAIN
- 4" PVC STORM ROOF DRAIN
- TELEPHONE RISER
- GAS METER
- WATER VALVE
- WATER METER
- IRRIGATION CONTROL VALVE
- ROCKERY
- CONCRETE SURFACE
- GRAVEL SURFACE

REVIEWED FOR CODE COMPLIANCE
July 29, 2022
SITE COPY

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS MAP CORRECTLY REPRESENTS A TOPOGRAPHIC SURVEY MADE BY ME OR UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE REPRESENTS THE TOPOGRAPHIC FEATURES AS THEY EXIST ON THE GROUND AS OF 12/3/2021.

KURT A. PARCHER P.L.S. NO. 49286 — DATE 12/20/2021

REV NO	REVISION DESCRIPTION	DATE	BY
1	ADDED STEEP SLOPE INFORMATION	12/17/21	BPM

Apex Engineering PLLC
2601 South 35th Street, Suite 200
Tacoma, Washington 98409-7479
(253) 473-4494 FAX: (253) 473-0599

TITLE: TOPOGRAPHIC SURVEY

CLIENT: KEVIN AND SUZETTE PIPER
8429 SE 33RD PLACE
MERCER ISLAND, WASHINGTON 98040

DATE SEALED 12/20/2021

STATE OF WASHINGTON — KURT A. PARCHER — 49286 — REGISTERED PROFESSIONAL LAND SURVEYOR

PROJECT MANAGER KAP
DESIGN
DRAWN BPM
CHECKED KAP
SEC 7 T 24 N R 5 E
FILE NO 35970
DATE 12/20/2021
SCALE 1" = 20'

SHEET 1 OF 1
FILE NO 35970

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