CITY OF MERCER ISLAND
COMMUNITY PLANNING & DEVELOPMENT
RESIDENTIAL CODE COVERSHEET

(206) 275-7605 WWW.MERCERISLAND.GOV/CPD
EPERMIT.TECH@MERCERISLAND.GOV
DOCUMENTS ARE SUBJECT TO PUBLIC DISCLOSURE AS REQUIRED BY RCW 42.56

INSPECTION REQUESTS
CONSTRUCTION (206) 275-7730
FIRE INSPECTION eastsidefire-rescue.org

SF1 BUILDING PERMIT NUMBER

PROJECT NAME:

PROJECT ADDRESS:

PROJECT DESCRIPTION
This scope should match the Building Permit Application Form

Two story single family residence with basement and attached three car garage. 4,995 s.f. of heated floor area, 656 s.f. garage, and 286 s.f. of covered porch and patios. Site to be developed with walkway and driveway, and two area wells for the basement.

PROJECT CONTACT INFORMATION
The Applicant shall provide the following information for each type of contact (Engineer and Geotech dependent on scope)

Permitting Contact: TRACY BRINK	Email: tracy@mccullougharchitects.com	Phone: 206.443.1181
Construction Contact: WES GIESBRECHT	Email: wes.atlin@outlook.com	Phone: 206.749.9600
Engineer: MULHERN + KULP	Email: nmartignetti@mulhernkulp..com	Phone: 619.650.0010
Geotech: Terra Associaters	Email: info@terra-associates.com	Phone: 425-821-7777

DEFERRED SUBMITTALS
The Applicant is required to indicate all deferred submittals / shop drawings for submittal to the City for review and approval prior to item fabrication / construction. All deferred submittals require pre-approval from the City during the permit review process.

☒ No Deferred Submittals - all design included in these construction documents

☐ Connector plate wood roof trusses
☐ Metal joist / metal trusses
☐ Premanufactured structures (stairs, etc.)
☐ Exterior cladding
☐ Window wall / curtain wall construction
☐ Other:

ENERGY CODE AND WHOLE HOUSE VENTILATION INFORMATION
Indicate where the following information is located within the drawing set and select one box per line below.

Building Envelope- Define all components of the thermal envelope. Include U-factors, insulation and moisture control *WSEC Table 402.1.2* Sheet: A0.2

Energy Credit Information- Include complete information on plan for options selected and equipment specified *WSEC Tables 406.2 and 406.3* Sheet: A0.2

☐ No Credits Required ☐ Small Dwelling Unit ☒ Medium Dwelling Unit ☐ Large Dwelling Unit ☐ < 500 sf addition

New Construction Tests- The following are mandatory testing and reporting requirements of WSEC Ch 4 for new construction

● Certificate of Energy Efficiency *WSEC R401.3* ● Duct Leakage Testing *WSEC R403.3.5* ● Air Leakage Testing *WSEC R402.4.1.2*

☒ Air Leakage test report not to exceed 5 changes per hour *WSRC 1505.4.1.2* ☐ Air Leakage per selected energy credits

Whole House Ventilation- Specify system type below and include all system requirements on sheet noted *WSRC Section M1505.4* Sheet: A0.1

☒ Exhaust fans *WSRC 1505.4.1.2* ☐ Supply fans *WSRC 1505.4.1.3* ☐ Balanced system *WSRC 1505.4.1.4* ☐ Other permitted system

REQUIRED SPECIAL INSPECTIONS
The Applicant shall complete the following section. One of the options below must be selected prior to permit intake. Chapter 17 of the International Building Code (IBC) requires Special Inspection to evaluate components of construction that are critical to the safety of the structure. The project owner shall be responsible for contracting with and hiring the Special Inspection agents. Structural Special Inspectors are required to be certified by the Washington Association of Building Officials (WABO). Geotechnical Special Inspectors shall be a licensed Washington State Professional Engineer. Where Special Inspection is required, all reports shall be emailed to InspectionReports@mercergov.org **and** provided to the City Building Inspector at time of the City inspection.

Inspections by the City Building Inspector are required in addition to the Special Inspection.
Do not cover or conceal any work prior to the City inspection.

PRESCRIPTIVE DESIGN
☐ This project is entirely non-structural, or is designed following the prescriptive gravity and lateral provisions of the International Residential Code (IRC) only. There are no engineered components that have been designed to the IBC or its referenced standards, e.g. American Concrete Institute (ACI), National Design Specifications (NDS), etc. No Special Inspections are required by IRC.

MINOR STRUCTURAL WORK
☐ This project has limited engineered design as permitted by IRC Section R301.1.3 and the construction is of a minor nature as excepted by IBC Section 1704.2. This option must be reviewed and accepted by the building official prior to permit issuance and shall be reevaluated for project revisions and deferred submittals.

ENGINEERED DESIGN
☒ This project is engineered to the provisions of the IBC and its referenced standards. Per IBC Chapter 17, a *Statement of Special Inspection* shall be completed by the Registered Design Professional (RDP) in responsible charge. The *Statement of Special Inspections* on coversheet SF2 has been reviewed and completed by the RDP.

REQUIRED STRUCTURAL OBSERVATION
Structural Observation may be required by the Registered Design Professional (RDP) in responsible charge or by the building official per IBC Section 1704.6.1. The RDP shall submit written statements to the building official prior to the commencement of observations (identifying frequency and extent of observations) and at the conclusion of work included in the permit (describing the site visit(s) performed and identifying any deficiencies that have not been resolved). Submit all statements to inspectionreports@mercerisland.gov

Structural Observation for this project is required by the:
☒ Registered Design Professional ☐ Building Official *(City use only)*

GEOTECHNICAL INFORMATION
Per Mercer Island City Code, designated geologic hazard areas require a geotechnical report and a statement of risk from a geotechnical professional be included with the project submittal. Refer to MICC 19.07.160 (B)(3) for statement of risk, and City GIS at https://www.mercerisland.gov/igs for hazard mapping. Some proposals may require a site restoration bond.

NO GEOTECHNICAL REPORT REQUIRED
☐ No geotechnical report is required due to either: 1. The absence of geologic hazards on site or 2. Scope of project does not include foundation construction, excavation, or alterations to a hazard (if a report is available or referenced it should be provided)

GEOTECHNICAL REPORT IS REQUIRED AND INCLUDED WITH SUBMITTAL
☒ A geotechnical report is required and has been provided. All construction must comply with the recommendations of the geotechnical report, and a copy of the report and any other geotechnical information must be kept on site at all times.

Geotechnical Engineer: Terra Associates	Phone: 425-821-7777	Project or report #: T8832

SEASONAL DEVELOPMENT LIMITATION - MICC 19.07.160(F)(2) limits certain development between Oct 1 and Apr 1
☐ An application for Seasonal Development Limitation Waiver will be submitted and approved prior to any such activity.
☐ No grading or excavation will occur between October 1st and April 1st. SDL waiver not applicable.

The City requires an applicant paid peer review when the Building Official determines any of the following are present:
- Advanced excavation or foundation systems, i.e. soil nail walls, tieback shoring systems, etc.
- Foundation systems not supported on competent soils, i.e. over-excavation, soil preloading, etc.
- Projects that require slope stability analysis or those which could pose a significant risk to adjacent properties or structures.
- Where liquifaction presents significant risk (at waterfront or other high water table with seismic mapping)

TO BE COMPLETED BY APPLICANT
TO BE COMPLETED BY CITY

GENERAL REQUIREMENTS FOR ☐ NEW SINGLE FAMILY BUILD ☐ DEMOLITION/REBUILD ☐ ADDITION ☐ REMODEL ☐ REPAIR ☐ DOCK ☐ SITE IMPROVEMENTS ☐ SEISMIC RETRO
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.

☑ 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
- Access Road Requirements
- ROW restrictions
- Drainage Requirements
- Sewer Requirements
- Water Service Requirements
- Additional Fire Code Requirements
- Planning Requirements
- Noise Abatement Certification
- Tree Requirements

☐ PRECONSTRUCTION MEETING REQUIRED. Refer to the "Preconstruction Meeting Checklist" notes for additional requirements.
☑ Temporary site address with minimum 6" high numbers visible from the street must be installed.
☑ 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 work.
☑ A City of Mercer Island Business License is required for all subcontractors. Call (206) 275-7602 for more information.
☑ Additional rockeries, patios, gravel or concrete paths, and other hardscape revisions to the project shall be submitted to the City for review and approval prior to installation.

LEGAL NONCONFORMANCE/STORMWATER THRESHOLD
Certain thresholds in the Land Use Code (MICC 19) or Stormwater Code (MICC 15.09) can have a significant impact on the requirements to conform with current code. Take special care to conform to the construction documents as-issued to avoid additional improvements.

☐ This project includes modification of legally nonconforming structures - MICC 19.01.050
☐ This project retains existing construction to limit calculation of *New Plus Replaced Hard Surface* - MICC 15.09

TREE REQUIREMENTS
TREE REMOVAL NOT SHOWN ON APPROVED PLAN MAY REQUIRE A SEPARATE TREE PERMIT - REFER TO MICC 19.10
☐ 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. Tree damage due to failure to follow approved plans shall result in fines per MICC 19.19.160.
☐ Replacement conifer trees must be a minimum of six feet tall at installation. Deciduous trees must have a minimum caliper of 1-1/2 inches. They must be planted and approved prior to final inspection.
For this project, _____ trees are authorized to be removed and replaced with _____ trees.
This project may be within a protected eagle nest area. Contact Federal Fish and Wildlife at (360) 534-9304 or visit their website at www.fws.gov/pacific/eagle.

FIRE PROTECTION REQUIREMENTS
Separate Permits are required for ***ALL*** fire protection systems. Fire Inspections can be requested at eastsidefire-rescue.org using the QR above, and require 48 hour advanced notice. Do not request fire inspections via MBP or on the general inspection line.

☐ Fire Sprinkler
☐ NFPA 13D
☐ Full Coverage
☐ NFPA 13R
☐ NFPA 13
☐ Approved Fire Code Alternatives (FCA):
☐ FCA1 _____
☐ FCA2 _____
☐ Monitored Household Fire Alarm per NFPA 72
☐ Monitored Sprinkler Water Flow Alarm
☐ Other: _____
☐ FCA3 _____
☐ FCA4 _____

WATER SERVICE REQUIREMENTS
☐ New or upsized water supply system required.
☐ Water service pre-con meeting and parts inspection are required prior to scheduling the water tap with the City. Schedule these inspections under the water service permit
☐ Applicant Installation.
☐ Minimum Service Line Size (main to meter): _____
☐ Minimum Supply Line Size (meter to house): _____
☐ Minimum Required Meter Size: _____
☐ Abandonment of existing service and meter required at main.
☐ City Inspector must verify water supply line (water meter to the house) sizing prior to final inspection. Upsizing may be required.

Additional water supply requirements:
- Contractor shall provide water supply that meets the required fire sprinkler system fire flow. Fire calculations or fire flow testing outcome may require a larger water service/meter or water supply line.
- Pressure reducing valve required if water pressure exceeds 80 psi.
- Reduced pressure backflow assembly (RPBA) required for all waterfront lots and for lots with potential connection to non-city water supply. See mercerisland.gov/backflow

For additional information about Water Service Inspection process: https://www.mercerisland.gov/cpd/page/water-service

STORMWATER MANAGEMENT
The storm drainage system shown on the approved plans shall be constructed and approved by the City Inspector prior to the construction of the roof, driveway, and other impervious surface that generate runoff from the project.

☐ Dispersion / Infiltration system _____
☐ On-site detention system (MR #5) _____
☐ Direct discharge to lake _____
☐ Rain Garden / Bioretention / Permeable Pavement _____
☐ Flow control system (MR #7) _____
☐ Run-off treatment (MR #8) _____
☐ Connect / Extend public drainage system _____
☐ Full size storm drainage as-builts _____
☐ Drainage review not required _____
☐ Other: _____

SIDE SEWER REQUIREMENTS
☐ Side sewer requires a backflow preventer due to: a connection to the lake line, or elevation of the lowest plumbing fixture is lower than the elevation of the upstream manhole rim, or 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: _____

APPROVED CODE ALTERNATIVES
Code alternatives must be approved by the Building Official prior to permit issuance. All code alternatives must be inspected. Refer to the adjacent Required Construction Inspections checklist.

☐ CA1: _____
☐ CA2: _____

PROJECT ALERTS AND NOTES TO INSPECTORS

WILDLAND/URBAN INTERFACE
-RESERVED FOR FUTURE USE-

TO BE COMPLETED BY APPLICANT
TO BE COMPLETED BY CITY

REQUIRED CONSTRUCTION INSPECTIONS
It is the applicant's responsibility to contact CPD to schedule ALL inspections applicable to the project. Request inspections online at www.MyBuildingPermit.com or by calling the Inspection Hotline at (206) 275-7730. Each MBP inspection type is in [square brackets]. Refer to FIRE PROTECTION REQUIREMENTS for information on scheduling a fire inspection.

Inspections marked with "*" are not building permit inspections, and should be requested under the appropriate permit number. Refer to the packet provided at permit issuance or search by address at mybuildingpermit.com for other issued permit numbers.

INSPECTIONS: (Listed in order of typical sequencing)

Inspector	Date	Approved	N/A	Inspection Description	MBP.com Inspection Name	PARTIAL 1	PARTIAL 2	PARTIAL 3
		☐	☐	Pre-construction Meeting to Review Conditions of Permit Approval	[PRE-CON MTG GENERAL]	☐	☐	☐
		☐	☐	Tree protection	[TREE PROTECTION]	☐	☐	☐
		☐	☐	Erosion control	[EROSION CNTROL]	☐	☐	☐
		☐	☐	Sewer disconnect and cap	[SIDE SEWER DISCONNEC]	☐	☐	☐
		☐	☐	Right-of-way use or work / easement, material delivery, etc. If applicable, separate ROW permit required	[ROW OR UTILITY IMPRO]	☐	☐	☐
		☐	☐	Land clearing, grading and demolition	[FINAL DEMO]	☐	☐	☐
		☐	☐	Pilings / Shoring / Shotcrete. If applicable, provide survey letter (property line); Geotechnical Engineer / Special Inspector reports of inspections (pile and shoring installation, etc.)	[FOUNDATION WALLS/CON]	☐	☐	☐
		☐	☐	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.)	[FOOTINGS, SETBACKS, U]	☐	☐	☐
		☐	☐	Foundation walls / concrete columns	[FOUNDATION WALLS/CON]	☐	☐	☐
		☐	☐	Roof and footing drains	[CONVEYANCE FACILITIE]	☐	☐	☐
		☐	☐	Foundation dampproofing	[FOUND DAMP PROOFING]	☐	☐	☐
		☐	☐	Storm drainage, including (but not limited to) ◦ Connections to storm main in ROW ◦ Det systems / Conveyance / Flow control ◦ Infiltration systems / L.I.D. systems ◦ Catch basins ◦ Area drains ◦ Storm drain in ROW ◦ Pump systems ◦ Retaining wall drainage	[CONVEYANCE FACILITIE]	☐	☐	☐
		☐	☐	Water Service	[3. WATER SERVICE TAP]	☐	☐	☐
		☐	☐	Water Supply	[WATER SUPPLY LINE]	☐	☐	☐
		☐	☐	Side sewer installation, including (but not limited to) ◦ Connections to side sewer main ◦ Connections to existing side sewer ◦ Back-flow valves ◦ Grinder pump systems	[SIDE SEWER INSTALLAT]	☐	☐	☐
		☐	☐	Driveway / Access road	[ROW OR UTILITY IMPRO]	☐	☐	☐
		☐	☐	Underslab electrical / mechanical / plumbing	[UNDER-SLAB ELECT/MEC]	☐	☐	☐
		☐	☐	Underslab insulation / vapor barrier / reinforcing	[UNDER-SLAB INSULATIO]	☐	☐	☐
		☐	☐	Underfloor framing	[UNDER-FLOOR FRAMING]	☐	☐	☐
		☐	☐	Nailing-Roof sheathing (See SF2 for Required Agency Inspection)	[NAILING-ROOF SHEATHING]	☐	☐	☐
		☐	☐	Shear wall construction (See SF2 for Required Agency Inspection)	[NAILING-EXTERIOR WALL]	☐	☐	☐
		☐	☐	Rough hydronic installation	[ROUGH HYDRONIC PIPIN]	☐	☐	☐
		☐	☐	Rough electric installation	[ROUGH ELECTRIC]	☐	☐	☐
		☐	☐	Rough fire alarm (wiring inspection)	[ROUGH-IN LOW VOLTAGE]	☐	☐	☐
		☐	☐	Rough plumbing installation (DWV, water)	[ROUGH PLUMBING]	☐	☐	☐
		☐	☐	Rough mechanical	[ROUGH MECHANICAL/HVA]	☐	☐	☐
		☐	☐	Electrical service	[ELECTRICAL SERVICE]	☐	☐	☐
		☐	☐	Gas Piping & Test	[GAS PIPING/TEST]	☐	☐	☐
		☐	☐	Rough fire sprinkler / hydrostatic and flow (bucket) test	[ROUGH SPRINKLER RES/STATUS]	☐	☐	☐
		☐	☐	Framing and glazing. (See SF2 for Required Agency Inspection)	[FRAMING (& GLAZING)]	☐	☐	☐
		☐	☐	Masonry construction (fireplace / walls / veneer / etc.)	[MASONRY]	☐	☐	☐
		☐	☐	Insulation installation	[INSULATION]	☐	☐	☐
		☐	☐	Stucco (paper and lath)	[STUCCO]	☐	☐	☐
		☐	☐	Shower pan (or tub)	[SHOWER PAN (OR TUB)]	☐	☐	☐
		☐	☐	Weather exposed balcony and walking surface waterproofing	[ROOF DECK WATERPROOFING]	☐	☐	☐
		☐	☐	Code Alternative CA1	[CODE ALT 1]	☐	☐	☐
		☐	☐	Code Alternative CA2	[CODE ALT 2]	☐	☐	☐

FINAL INSPECTIONS

Inspector	Date		
		☐	**Final Tree Inspection:** Tree Restoration [FINAL_TREE]
		☐	**Final Fire Inspection:** Fire protection [FINAL FIRE_ALL SYSTEMS/ACCESS] ◦ Sprinkler ◦ Access Road ◦ Fire Code Alternatives (see below) ☐ FCA1 ☐ FCA2 ◦ Fuel Tank Installation ◦ Fire Extinguishing System ◦ Fire Alarm System ☐ FCA3: ☐ FCA4:
		☐	**Final Civil Inspection:** Site and utility, landscape, utilities, ROW, and Site [FINAL_CIVIL] Water supply protection/Backflow devices for: ◦ Waterfront property ◦ Fire / lawn sprinkler ◦ Well water on property ◦ Boiler
		☐	**Final Building Inspection:** [FINAL_BUILDING] provide closeout (summary) letters from Engineer, Special Inspectors, Geotechnical Engineer, and EIFS inspectors. **Final MEP Inspections:** ☐ Mech ☐ Electrical ☐ Plumbing
		☐	**Impact Fees Paid** (If applicable)

TCO APPROVALS

Inspector	Date	
		☐ [TCO_TREE]
		☐ [TCO_FIRE]
		☐ [TCO_CIVIL]
		☐ [TCO_BLDG]

90 DAY TEMPORARY CERTIFICATE OF OCCUPANCY (TCO)
Applicant option. Additional fees required. All TCO Approvals above must be complete.

Approved _____ *Start Date* _____ *End Date* _____

ADDITIONAL REQUIRED CITY INSPECTIONS
Use the contact information below to arrange these additional inspections.

Required Inspection(s):	Contact:	Contact email:

IMPACT FEES
If required for the project but deferred beyond permit issuance.

☐ Impact fees apply and are due ***prior*** to Final Inspection or on _____ *Date*, whichever occurs first.

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

Building	*Planning*	*Engineering*	*Tree*	*Fire*
_____	_____	_____	_____	_____
Date	*Date*	*Date*	*Date*	*Date*

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

Approved *Date*

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

REVIEWED FOR CODE COMPLIANCE
Approved *Date*

FILE NAME: *CPD CVR PG1 2023v1a.dwg Code Revision: 2021 WSRC*

CITY OF MERCER ISLAND
COMMUNITY PLANNING & DEVELOPMENT
THIRD PARTY INSPECTIONS

(206) 275-7605 WWW.MERCERISLAND.GOV/CPD
EPERMIT.TECH@MERCERISLAND.GOV
DOCUMENTS ARE SUBJECT TO PUBLIC DISCLOSURE AS REQUIRED BY RCW 42.56

INSPECTION REQUESTS
Request inspections online via QR code or voicemail
FIRE INSPECTION
(206) 275-7979
ALL OTHER INSPECTION
(206) 275-7730

REQUIRED SPECIAL INSPECTIONS

Indicate on the form below the required Special Inspections for this project. Special Inspections are regulated by IBC Section 1705. If the method of construction is included in project scope, the inspections are required.

REGISTERED DESIGN PROFESSIONAL

IBC Section 1704.2.3 requires the Registered Design Professional (RDP) in Responsible Charge to complete a *Statement of Special Inspections*. For City of Mercer Island permitting purposes, submitting this document is confirmation that the RDP has completed and reviewed the Special Inspections requirements and acknowledges this information complies with IBC Section 1705.

Name: Nicholas Martignetti (see attached letter for M+K's Role) | License Number: 56478 | License Type: Registered PE | License Expiration: 10/06/2026

SPECIAL INSPECTION DESCRIPTION		APPROVALS: Special Inspector sign-off	APPROVALS: City Inspector sign-off
ALTERNATIVE MATERIALS AND SYSTEMS (IBC 1705.1)			
Construction materials and systems that are alternatives to materials and systems prescribed by the IBC.	Notes:		
Unusual design applications of materials described in the code.	Notes:		
Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in the IBC or in standards referenced by the IBC.	Notes:		

SPECIAL INSPECTION DESCRIPTION	REFERENCES	SPECIAL INSP REQUIRED	FREQUENCY	APPROVALS: Special Inspector sign-off	APPROVALS: City Inspector sign-off
STEEL CONSTRUCTION (IBC 1705.2)					
Structural Steel: Special Inspections for structural steel shall be in accordance with the inspection requirements of AISC 360 Chapter N.	AISC 360 Chapter N	☐	Per Standard		
Quality Control: Procedures specified by the fabricator and erector to ensure that work is performed in accordance with AISC specification and the construction documents	AISC 360 Section N5 (1)	☐	Per Standard		
Quality Assurance: Review and inspection performed by an agency hired by the owner to ensure work is performed in accordance with the construction documents	AISC 360 Section N5 (2)	☐	Per Standard		
Cold Formed Steel Deck: Special Inspections and qualifications or welding special inspectors for cold form set floor and roof deck shall be in accordance with Steel Deck Institute QA/QC.	Steel Deck Institute QA/QC	☐	Per Standard		
Open-Web Steel Joists and Joist Girders:	SJI Specification per IBC 2207.1	☐	Periodic		
End connections: welding or bolting.	SJI Specification per IBC 2207.1	☐	Periodic		
Bridging: horizontal or diagonal.	SJI Specification per IBC 2207.1	☐	Periodic		
Standard Bridging.	SJI Specification per IBC 2207.1	☐	Periodic		
Bridging that differs from SJI Specifications listed in Section 2207.1.	IBC 1705.2.4	☐	Periodic		
Temporary and permanent restraint / bracing of cold-formed trusses over 60 feet.					
CONCRETE CONSTRUCTION (IBC 1705.3) [a.]					
Inspect reinforcement, including prestressing tendons, and verify placement	ACI 318 Ch 20, 25.2, 25.3, 26.5.1-26.5.3	☒	Periodic		
Reinforcing bar welding: *Verify weldability of reinforcing bars other than ASTM A706.*	AWS D1.4 ACI 318 Ch 26.6.4	☐	Periodic		
Inspect single-pass fillet welds, maximum 5/16 inches.	AWS D1.4 ACI 318 Ch 26.6.4	☐	Periodic		
Inspect all other welds.	AWS D1.4 ACI 318 Ch 26.6.4	☐	Continuous		
Inspect anchors cast in concrete.	ACI 318 Ch 17.8.2	☐	Periodic		
Anchors post-installed in hardened concrete members: *Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.*	ACI 318 Ch 17.8.2.4	☐	Continuous		
All other post-installed mechanical and adhesive anchors.	ACI 318 Ch 17.8.2	☐	Periodic		
Verify use of required design mix.	ACI 318 Ch 19, 26.4.3, 26.4.4; IBC 1904.1, 1904.2, 1908.2, 1908.3	☐	Periodic		
Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	ASTM C 172, ASTM C31 ACI 318 Ch 26.5, 26.12	☐	Continuous		
Inspect concrete and shotcrete placement for proper application techniques.	ACI 318 Ch 26.5	☐	Continuous		
Verify maintenance of specified curing temperature and techniques.	ACI 318 Ch 26.5-26.5.5	☐	Periodic		
Prestressed concrete: *Application of prestressing forces.*	ACI 318 Ch. 26.10	☐	Continuous		
Grouting of bonded prestressing tendons.	ACI 318 Ch. 26.10	☐	Continuous		
Inspect erection of precast concrete members.	ACI 318 Ch. 26.9	☐	Periodic		
Precast concrete diaphragm connections	ACI 318 Ch. 26.13.1.3	☐	Periodic		
Precast diaphragm installation tolerances	ACI 550.5	☐	Continuous		
Verify in-situ concrete strength prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	ACI 318 Ch. 26.11.2	☐	Periodic		
Inspect formwork for shape, location and dimensions of the concrete member being formed	ACI 318 Ch. 26.11.2(b)	☐	Periodic		
MASONRY CONSTRUCTION (IBC 1705.4) [b.]					
Empirically designed masonry, glass unit masonry, or masonry veneer as part of a Risk Category IV structure requiring Level B Quality Assurance per ACI 530	ACI 530 Chapter 3 IBC 1705.4	☐	Per Standard		
Vertical masonry foundation elements requiring Quality Assurance per ACI 530	ACI 530 Chapter 3 IBC 1705.4	☐	Per Standard		
WOOD CONSTRUCTION (IBC 1705.5)					
High-Load diaphragms: *Panel thickness, framing member sizes, and nail or staple diameters and patterns (includes any diaphragms utilizing more than one row of fasteners at edges designed per IBC Section 2306.2/SDPWS 4.2.7.1.2);*	IBC 1705.5.1	☐	Periodic		
Metal-plate-connected wood trusses spanning 60 feet or greater: *Verify temporary and permanent individual truss member restraint / bracing are installed in accordance with approved truss submittal package.*	IBC 1705.5.2	☐	Periodic		
Mass timber construction per IBC Table 1705.5.3	IBC 1705.5.3	☐	Periodic		
Mass timber (upwardly inclined adhesive anchors)	IBC 1705.5.3	☐	Continuous		

a. Concrete special inspection not required where work meets the exceptions listed in IBC Section 1705.3
b. Masonry special inspection not required where work meets the exceptions listed in IBC Section 1705.4

SPECIAL INSPECTION DESCRIPTION	REFERENCES	SPECIAL INSP REQUIRED	FREQUENCY	APPROVALS: Special Inspector sign-off	APPROVALS: City Inspector sign-off
SOILS (IBC 1705.6)					
Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Geotechnical Report	☐	Periodic		
Verify excavations are extended to proper depth and have reached proper material.	Geotechnical Report	☐	Periodic		
Perform classification and testing of compacted fill materials.	Geotechnical Report	☐	Periodic		
Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Geotechnical Report	☐	Continuous		
Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	Geotechnical Report	☐	Periodic		
DRIVEN DEEP FOUNDATIONS (IBC 1705.7)					
Verify element materials, sizes and lengths comply with the requirements noted in the drawings and geotechnical report.	Geotechnical Report, Construction Documents	☐	Continuous		
Determine capacities of test elements and conduct additional load tests, as required.	Geotechnical Report, Construction Documents	☐	Continuous		
Inspect driving operations and maintain complete and accurate records for each element.	Geotechnical Report, Construction Documents	☐	Continuous		
Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	Geotechnical Report, Construction Documents	☐	Continuous		
For steel elements, perform additional Special Inspections in accordance with Section 1705.2.	Geotechnical Report, Construction Documents	☐			
For concrete elements and concrete-filled elements, perform additional Special Inspections in accordance with Section 1705.3.	Geotechnical Report, Construction Documents	☐			
For specialty elements, perform additional Special Inspections as determined by the Registered Design Professional in responsible charge.	Geotechnical Report, Construction Documents	☐			
CAST-IN-PLACE DEEP DRIVEN FOUNDATIONS (IBC 1705.8)					
Inspect drilling operations and maintain complete and accurate records for each element	Geotechnical Report, Construction Documents	☐	Continuous		
Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable), and adequate end-bearing strata capacity. Record concrete or grout volumes.	Geotechnical Report, Construction Documents	☐	Continuous		
For concrete elements, perform additional Special Inspections in accordance with Section 1705.3.	Geotechnical Report, Construction Documents	☐			
HELICAL PILE FOUNDATIONS (IBC 1705.9)					
Record installation equipment used, pile dimension, tip elevations, final depth, final installation torque and other pertinent installation information as determined by the Registered Design Professional in responsible charge.	Geotechnical Report, Construction Documents	☐	Continuous		
SPECIAL INSPECTION FOR WIND RESISTANCE (IBC 1705.11) [c.]					
Structural wood wind resistance elements: *Field gluing of wood elements of the windforce-resisting system.*	IBC 1705.11.1, Construction Documents	☐	Continuous		
Nailing, bolting, anchoring and other fastening of wood elements of the main windforce-resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs. [d.]	IBC 1705.11.1, Construction Documents	☐	Periodic		
Cold-formed steel light-frame wind resistance elements: *Welding operations of cold-formed steel light-frame elements of the main windforce-resisting system.*	IBC 1705.11.2, Construction Documents	☐	Periodic		
Screw attachment, bolting, anchoring, and other fastening of elements of cold-formed steel light-frame elements of the main windforce-resisting system, including shear walls, braces, diaphragms, drag struts and hold-downs. [d.]	IBC 1705.11.2, Construction Documents	☐	Periodic		
Fastening of the following systems and components: *Roof covering, roof deck and roof framing connections.*	IBC 1705.11.3 (1), Construction Documents	☐	Periodic		
Exterior wall covering and wall connections to roof and floor diaphragms and framing.	IBC 1705.11.3 (2), Construction Documents	☐	Periodic		

c. Special inspection required in wind Exposure Category C or D per IBC Section 1705.11 (2).
d. Special inspection not required where wood or steel structural panels are on only one side of the shear wall and the fastener spacing for the sheathing is greater than 4 inches on center.

SPECIAL INSPECTION DESCRIPTION	REFERENCES	SPECIAL INSP REQUIRED	FREQUENCY	APPROVALS: Special Inspector sign-off	APPROVALS: City Inspector sign-off
SPECIAL INSPECTION FOR SEISMIC RESISTANCE (IBC 1705.12) [e.]					
Structural steel seismic force-resisting systems: *Special Inspections of MLFRS shall be in accordance with AISC 341 Chapter J. Submit all documents referenced in Section J3 "Quality Assurance Agency Documents" to the city for review.*	IBC 1705.12.1.1, AISC 341 *Seismic Provisions for Structural Steel Buildings*	☐	Per Standard		
Special inspection of structural steel elements shall be in accordance with AISC 341 Chapter J. Submit all documents referenced in Section J3 "Quality Assurance Agency Documents" to the city for review.	IBC 1705.12.1.2, AISC 341 *Seismic Provisions for Structural Steel Buildings*	☐	Per Standard		
Structural wood seismic force-resisting systems: *Special inspection during field gluing operations for elements of the seismic force-resisting system.*	IBC 1705.12.2 (1)	☐	Continuous		
Special inspection required for nailing, bolting, anchoring, and other fastening of elements of the seismic force-resisting system including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs. [f.]	IBC 1705.12.2 (2)	☒	Periodic		
Cold-formed steel light-frame seismic force-resisting systems: *Special inspection during welding operations for elements of the seismic force-resisting system.*	IBC 1705.12.3 (1)	☐	Periodic		
Special inspection required for screw attachment, bolting, anchoring, and other fastening of elements of the seismic force-resisting system including shear walls, drag struts, braces, diaphragms and hold-downs.	IBC 1705.12.3 (2)	☐	Periodic		

e. Required where any of the following conditions exist (refer ASCE 7 Section 12.3): *Torsional or extreme torsional irregularity* *Nonparallel systems irregularity* *Stiffness (soft story) or extreme stiffness (extreme soft story) irregularity* *Discontinuity in lateral strength (weak story irregularity)*
f. Special inspection not required where wood or steel structural panels are on only one side of the shear wall and the fastener spacing for the sheathing is greater than 4 inches on center.

SPRAYED FIRE-RESISTANT MATERIALS (IBC 1705.14)					
Special inspection and testing shall be per IBC Sections 1705.14.1 through 1705.14.6 as applicable.	IBC 1705.14	☐			
MASTIC AND INTUMESCENT FIRE RESISTANT COATINGS (IBC 1705.15)					
Special inspection is required for fire-resistant coatings applied to structural elements and decks.	AWCI 12-B, Construction Documents	☐			
EXTERIOR INSULATION AND FINISH SYSTEMS (IBC 1705.16)					
Special inspection and testing shall be provided for all EIFS applications. [g. h.]		☐			
Special inspection is required for water-resistive barrier complying with ASTM E 2570 when installed over a sheathing substrate.	ASTM E 570	☐			

g. Special inspection not required for EIFS applications where installed over water-resistive barrier with a means of draining moisture to the exterior.
h. Special inspection is not required for EIFS applications installed over masonry or concrete walls.

TO BE COMPLETED BY RDP
TO BE COMPLETED BY CITY

MERCER ISLAND REQUIRED AGENCY INSPECTIONS:

Reports documenting the quality of these types of construction are required by the Building Official as authorized by IRC Section R104.4x. The reports must be prepared by a WABO certified inspector for the specific type of construction, as indicated in the description, or as otherwise authorized by the Building Official.

AGENCY INSPECTION DESCRIPTION	REFERENCES	AGENCY INSPECTION REQUIRED	FREQUENCY	APPROVALS: Agency Inspector sign-off	APPROVALS: City Inspector sign-off
EXTERIOR PLASTER (IRC 703.7) [i.]					
Installation: *Lath and lath attachment.*	ASTM C 926, ASTM C 1063 IRC R703.7.1				
Portland Cement plaster mix, number of coats, thickness of coats.	IRC Tables R702.1(1), 702.1(3) IRC R703.7.2	☐	Periodic		
Weep screed material, attachment and location.	ASTM C 926, IRC R703.7.2.1				
Water resistive barrier installation, flashing installation, and drainage.	IRC R703.2, IRC R703.4, IRC R703.7.3				
Application of each coat and minimum curing.	ASTM C 926, IRC R703.7.4, IRC R703.7.5				
EXTERIOR INSULATION AND FINISH SYSTEM (IRC 703.7) [j.]					
Installation: *Installed in accordance with EIFS manufacturer's instructions.*	ASTM E 2568 IRC R703.9				
Drainage provided over all wall assemblies except substrates of masonry or concrete. Drainage shall have a 90 percent efficiency. EIFS and EIFS drainage shall terminate not less than 6 inches above finish grade.	ASTM 2273, ASTM E 2570, IRC R703.2	☐	Periodic		
Flashing shall be shall be provided per IRC R703.8. Decorative trim shall not be face-nailed through the EIFS.	IRC R703.8, IRC R703.4, IRC R703.7.3				
LATERAL RESISTING SYSTEM					
Installation: *Shearwall and diaphragm sheathing, panel edge and field nailing.*	Construction Documents				
Lateral load path continuity, i.e. roof and floor diaphragm to shearwall top plate below, shearwall to foundation.	Construction Documents	☐	Periodic		
Collector / drag strut nailing and connections. Holdown installation and location.	Construction Documents				
RESIDENTIAL WASHINGTON STATE ENERGY CODE					
Air Leakage Control: *Tested and verified as having an air leakage rate not exceeding 5 air changes per hour.*	WSEC R402.4.1.2	☐			
Tested and verified as having an air leakage rate not exceeding 3 air changes per hour as required by Energy Credit 2a.	WSEC R402.4.1.2, WSEC Table 406.3	☐			
Tested and verified as having an air leakage rate not exceeding 2 air changes per hour as required by Energy Credit 2b.	WSEC R402.4.1.2, WSEC Table 406.3	☐			
Tested and verified as having an air leakage rate not exceeding 1.5 air changes per hour as required by Energy Credit 2c.	WSEC R402.4.1.2, WSEC Table 406.3	☐			
Duct testing shall be provided in accordance with WSU RS-33 using the maximum duct leakage rates specified in WSEC R403.3.4. Written results shall be signed by the tester and provided to the code official.	WSEC R403.3.3, WSEC R403.3.4	☐			

i. Includes stucco installation.
j. Not required for EIFS applications installed over a water-resistive barrier draining moisture to the exterior or where installed over masonry of concrete.

TO BE COMPLETED BY RDP
TO BE COMPLETED BY CITY

MERCER ISLAND ADDITIONAL CIVIL ENGINEERING REQUIREMENTS:

The following civil engineering inspections and documentation shall be performed by the indicated Design Professional. Associated inspection reports and documentation shall be provided to the code official prior to final inspection.

CIVIL ENGINEERING INSPECTIONS				APPROVALS: Agency Inspector sign-off	APPROVALS: City Inspector sign-off
Project Civil Engineer or Geotechnical Engineer shall inspect and certify that the lawn and landscape areas meet the specified post-construction soil quality and depth requirements.	Construction Documents BMP T5.13 (2017 DOE manual)	☐	Periodic		
Project Civil Engineer shall inspect and certify the construction of the infiltration system, dispersion system, rain garden, bioretention, permeable pavement system and all LID systems for conformance to approved plans.	Construction Documents, Infiltration Report, Geotechnical Report	☐	Periodic		
Project Geotechnical Engineer shall observe and certify the infiltration system, dispersion system, rain garden, bioretention, permeable pavement system, and all LID systems to verify suitablity of existing soil conditions.	Construction Documents, Infiltration Report, Geotechnical Report	☐	Periodic		
CIVIL ENGINEERING DOCUMENTATION					
The Declaration of Covenant for the inspection and maintenance of private stormwater facilities must be signed, recorded and received by the City prior to final inspection.		☐			
A Right-of-Way Encroachment Agreement must be recorded for all private improvements in the right-of-way prior to final inspection.		☐			
Other as Specified:		☐			

SURVEY REQUIREMENTS (The following survey information must be submitted to planner 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 a lot coverage and hardscape area survey at any time prior to issuance of Certificate of Occupancy.

Land Use Planning Contact: _____ email: _____

☐ Building height survey _____ ☐ Hardscape survey _____
☐ Building setback survey _____ ☐ Gross floor area survey _____
☐ Lot coverage survey _____

☐ **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.

TO BE COMPLETED BY RDP
FIELD USE ONLY

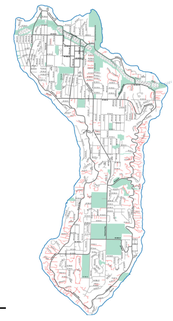
SPECIAL INSPECTOR AND AGENCY INSPECTOR CONTACTS:

Each inspector designated in the field to perform any of the above Special Inspections or City initiated Agency Inspections shall provide the following information:

INSPECTOR NAME	INITIALS	COMPANY NAME	PHONE NUMBER	EMAIL ADDRESS

SF2
BUILDING PERMIT NUMBER

PROJECT NAME:
PROJECT ADDRESS:



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

REVIEWED FOR CODE COMPLIANCE
Date
Approved

7414 - 78th AVENUE SE • MERCER ISLAND • WASHINGTON • 98040

GENERAL NOTES
1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2021 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODES, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
2. ENGINEERED DESIGN IN ACCORDANCE WITH THE IBC IS PERMITTED.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORK.
4. DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS, DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
5. THE PROJECT SHALL BE SCHEDULED AND INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TRADES TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
6. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION,
7. THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS,
8. PLUMBING, ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THIS PROJECT AND COMPLY WITH ALL LOCAL CODES, SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
9. SHOWN ONLY ONCE, TYPICAL DETAILS ARE NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
10. ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
11. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
12. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
13. INSPECTIONS ARE TO BE PER IRC SECTION R109.
14. ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE PER IRC SEC R319: BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
15. ANY DEVIATION IN CONSTRUCTION FROM APPROVED PLANS REQUIRES PRIOR REVIEW AND APPROVAL FROM THE CITY OF MERCER ISLAND, PLANNING AND BUILDING DEPARTMENT.

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

ROOF SNOW LOAD:	25 PSF
WIND SPEED:	98 MPH
SEISMIC DESIGN CATEGORY:	D2
WEATHERING:	MODERATE
FROST LINE DEPTH:	12 INCHES
TERMITE:	SLIGHT TO MODERATE
DECAY:	SLIGHT TO MODERATE
WINTER DESIGN TEMP:	24 DEGREES FAHRENHEIT
ICE SHIELD UNDERLAYMENT REQUIRED:	NO
FLOOD HAZARDS:	NA
AIR FREEZING INDEX:	113
MEAN ANNUAL TEMP:	53 DEGREES FAHRENHEIT
ASSUMED SOIL BEARING:	3000 PSF STATIC (PER SOILS REPORT DATED 4/17/24)

AUTOMATIC FIRE SPRINKLER SYSTEMS
FIRE SPRINKLERS ☒ ARE ☐ ARE NOT REQUIRED FOR THIS PROJECT, AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13D AND COMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED.
PERMIT APPROVAL IS CONTINGENT UPON PRIVATE HYDRANT (2409-158) SUPPLYING A MINIMUM DERATED FIRE FLOW OF 1,000 GPM AT 20 PSI RESIDUAL PRESSURE (MODELED). IF MINIMUM FIRE FLOW IS NOT AVAILABLE, ADDITIONAL FIRE REVIEW AND FIRE-CODE MITIGATIONS WILL BE REQUIRED. PRIVATE HYDRANT (2409-158) SHALL BE OPERATIONAL AND HAVE FINAL APPROVAL PRIOR TO COMBUSTIBLE CONSTRUCTION.

SECTION M1501 EXHAUST SYSTEMS
M1501.1 OUTDOOR DISCHARGE
THE AIR REMOVED BY EVERY MECHANICAL EXHAUST SYSTEM SHALL BE DISCHARGED TO THE OUTDOORS IN ACCORDANCE WITH SECTION M1504.3. AIR SHALL NOT BE EXHAUSTED INTO AN ATTIC, SOFFIT, RIDGE VENT OR CRAWL SPACE..

M1502 CLOTHES DRYER EXHAUST
M1502.1 GENERAL
CLOTHES DRYERS SHALL BE EXHAUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

M1502.2 INDEPENDENT EXHAUST SYSTEMS
DRYER EXHAUST SYSTEMS SHALL BE INDEPENDENT OF ALL OTHER SYSTEMS AND SHALL CONVEY THE MOISTURE TO THE OUTDOORS.
EXCEPTION; THIS SECTION SHALL NOT APPLY TO LISTED AND LABELED CONDENSING (DUCTLESS) CLOTHES DRYERS.

M1502.3 DUCT TERMINATION
EXHAUST DUCTS SHALL TERMINATE ON THE OUTSIDE OF THE BUILDING. EXHAUST DUCT TERMINATIONS SHALL BE IN ACCORDANCE WITH THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THE MANUFACTURER'S INSTRUCTIONS DO NOT SPECIFY A TERMINATION LOCATION, THE EXHAUST DUCT SHALL TERMINATE NOT LESS THAN 3 FEET IN ANY DIRECTION FROM OPENINGS INTO BUILDINGS, INCLUDING OPENINGS IN VENTILATED SOFFITS. EXHAUST DUCT TERMINATIONS SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION.

M1502.4 DRYER EXHAUST DUCTS
DRYER EXHAUST DUCTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS M1502.4.1 THROUGH M1502.4.8.

M1502.4.1 MATERIAL AND SIZE
EXHAUST DUCTS SHALL HAVE A SMOOTH INTERIOR FINISH AND SHALL BE CONSTRUCTED OF METAL NOT LESS THAN 0.0157 INCH IN THICKNESS (NO. 28 GAGE). THE DUCT SHALL BE 4 INCHES NOMINAL IN DIAMETER.

M1502.4.2 DUCT INSTALLATION
EXHAUST DUCTS SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 12 FEET AND SHALL BE SECURED IN PLACE. THE INSERT END OF THE DUCT SHALL EXTEND INTO THE ADJOINING DUCT OR FITTING IN THE DIRECTION OF AIRFLOW. EXHAUST DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SECTION M1601.4.1 AND SHALL BE MECHANICALLY FASTENED. DUCTS SHALL NOT BE JOINED WITH SCREWS OR SIMILAR FASTENERS THAT PROTRUDE MORE THAN 1/8 INCH INTO THE INSIDE OF THE DUCT. WHERE DRYER EXHAUST DUCTS ARE ENCLOSED IN WALL OR CEILING CAVITIES, SUCH CAVITIES SHALL ALLOW THE INSTALLATION OF THE DUCT WITHOUT DEFORMATION.

M1502.4.3 TRANSITION DUCT
TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SYSTEM SHALL BE A SINGLE LENGTH THAT IS LISTED AND LABELED IN ACCORDANCE WITH UL 2158A. TRANSITION DUCTS SHALL BE NOT GREATER THAN 8 FEET IN LENGTH. TRANSITION DUCTS SHALL NOT BE CONCEALED WITHIN CONSTRUCTION.

M1502.4.4 DRYER EXHAUST DUCT POWER VENTILATORS
DOMESTIC DRYER EXHAUST DUCT POWER VENTILATORS SHALL CONFORM TO UL 705 FOR USE IN DRYER EXHAUST DUCT SYSTEMS. THE DRYER EXHAUST DUCT POWER VENTILATOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

M1502.4.6 DUCT LENGTH
THE MAXIMUM ALLOWABLE EXHAUST DUCT LENGTH SHALL BE DETERMINED BY ONE OF THE METHODS SPECIFIED IN SECTIONS M1502.4.6.1 THROUGH M1502.4.6.3.

M1502.4.6.1 SPECIFIED LENGTH
THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE 35 FEET FROM THE CONNECTION TO THE TRANSITION DUCT FROM THE DRYER TO THE OUTLET TERMINAL. WHERE FITTINGS ARE USED, THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE REDUCED IN ACCORDANCE WITH TABLE M1502.4.6.1. THE MAXIMUM LENGTH OF THE EXHAUST DUCT DOES NOT INCLUDE THE TRANSITION DUCT.

TABLE M1502.4.6.1 DRYER EXHAUST DUCT FITTING TYPE EQUIVALENT LENGTH

DRYER EXHAUST DUCT FITTING TYPE	EQUIVALENT LENGHTH
4-INCH RADIUS MITERED 45-DEGREE ELBOW	2 FEET 6 INCHES
4-INCH RADIUS MITERED 90-DEGREE ELBOW	5 FEET
6-INCH RADIUS MITERED 45-DEGREE ELBOW	1 FOOT
6-INCH RADIUS MITERED 90-DEGREE ELBOW	1 FOOT 9 INCHES
8-INCH RADIUS MITERED 45-DEGREE ELBOW	1 FOOT
8-INCH RADIUS MITERED 90-DEGREE ELBOW	1 FOOT 7 INCHES
10-INCH RADIUS MITERED 45-DEGREE ELBOW	9 INCHES
10-INCH RADIUS MITERED 90-DEGREE ELBOW	1 FOOT 6 INCHES

M1503 DOMESTIC COOKING EXHAUST EQUIPMENT
M1503.2 DOMESTIC COOKING EXHAUST
WHERE DOMESTIC COOKING EXHAUST EQUIPMENT IS PROVIDED, IT SHALL COMPLY WITH ONE OF THE FOLLOWING:
1. THE FAN FOR OVERHEAD RANGE HOODS AND DOWNDRAFT EXHAUST EQUIPMENT NOT INTEGRAL WITH THE COOKING APPLIANCE SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 507.
2. OVERHEAD RANGE HOODS AND DOWNDRAFT EXHAUST EQUIPMENT WITH INTEGRAL FANS SHALL COMPLY WITH UL 507.
3. DOMESTIC COOKING APPLIANCES WITH INTEGRAL DOWNDRAFT EXHAUST EQUIPMENT SHALL BE LISTED AND LABELED IN ACCORDANCE WITH ANSI Z21.1 OR UL 858.
4. MICROWAVE OVENS WITH INTEGRAL EXHAUST FOR INSTALLATION OVER THE COOKING SURFACE SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 923.

M1503.6 MAKEUP AIR REQUIRED
WHERE ONE OR MORE GAS, LIQUID OR SOLID FUEL-BURNING APPLIANCE THAT IS NEITHER DIRECT-VENT NOR USES A MECHANICAL DRAFT VENTING SYSTEM IS LOCATED WITHIN A DWELLING UNIT'S AIR BARRIER, EACH EXHAUST SYSTEM CAPABLE OF EXHAUSTING IN EXCESS OF 400 CUBIC FEET PER MINUTE SHALL BE MECHANICALLY OR PASSIVELY PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH NOT FEWER THAN ONE DAMPER COMPLYING WITH SECTION M1503.6.2.
EXCEPTION: MAKEUP AIR IS NOT REQUIRED FOR EXHAUST SYSTEMS INSTALLED FOR THE EXCLUSIVE PURPOSE OF SPACE COOLING AND INTENDED TO BE OPERATED ONLY WHEN WINDOWS OR OTHER AIR INLETS ARE OPEN.
M1503.6.1 LOCATION
KITCHEN EXHAUST MAKEUP AIR SHALL BE DISCHARGED INTO THE SAME ROOM IN WHICH THE EXHAUST SYSTEM IS LOCATED OR INTO ROOMS OR DUCT SYSTEMS THAT COMMUNICATE THROUGH ONE OR MORE PERMANENT OPENINGS WITH THE ROOM IN WHICH SUCH EXHAUST SYSTEM IS LOCATED. SUCH PERMANENT OPENINGS SHALL HAVE A NET CROSS-SECTIONAL AREA NOT LESS THAN THE REQUIRED AREA OF THE MAKEUP AIR SUPPLY OPENINGS.
M1503.6.2 MAKEUP AIR DAMPERS
WHERE MAKEUP AIR IS REQUIRED BY SECTION M1503.6, MAKEUP AIR DAMPERS SHALL COMPLY WITH THIS SECTION. EACH DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE LOCATED TO ALLOW ACCESS FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER DUCTS NOT CONNECTED TO THE DAMPER BEING INSPECTED, SERVICED, REPAIRED OR REPLACED. GRAVITY OR BAROMETRIC DAMPERS SHALL NOT BE USED IN PASSIVE MAKEUP AIR SYSTEMS EXCEPT WHERE THE DAMPERS ARE RATED TO PROVIDE THE DESIGN MAKEUP AIRFLOW AT A PRESSURE DIFFERENTIAL OF 0.01 IN. W.C. OR LESS.

M1504 EXHAUST DUCTS AND EXHAUST OPENINGS
TABLE M1505.4.4(1) MINIMUM LOCAL EXHAUST RATES

AREA TO BE EXHAUSTED	EXHAUST RATES	
	INTERMITTENT	CONTINUOUS
KITCHENS	100 CFM	30 CFM
1 BATHROOMS-TOILET ROOMS	50 CFM	20 CFM

M1504.2 DUCT LENGTH
THE LENGTH OF EXHAUST AND SUPPLY DUCTS USED WITH VENTILATING EQUIPMENT SHALL NOT EXCEED THE LENGTHS DETERMINED IN ACCORDANCE WITH TABLE M1504.2.
EXCEPTION: DUCT LENGTH SHALL NOT BE LIMITED WHERE THE DUCT SYSTEM COMPLIES WITH THE MANUFACTURER'S DESIGN CRITERIA OR WHERE THE FLOW RATE OF THE INSTALLED VENTILATING EQUIPMENT IS VERIFIED BY THE INSTALLER OR APPROVED THIRD PARTY USING A FLOW HOOD, FLOW GRID OR OTHER AIRFLOW MEASURING DEVICE.

TABLE M1504.2 DUCT LENGTH

DUCT TYPE	FLEX DUCT								SMOOTH-WALL DUCT							
FAN AIRFLOW RATING	50	80	100	125	150	200	250	300	50	80	100	125	150	200	250	300
DIAMETER[a] (INCHES)	MAXIMUM LENGTH[b,c,d,e] (FEET)															
3	X	X	X	X	X	X	X	X	5	X	X	X	X	X	X	X
4	56	4	X	X	X	X	X	X	114	31	10	X	X	X	X	X
5	NL	81	42	16	2	X	X	X	NL	152	91	51	28	4	X	X
6	NL	NL	158	91	55	18	1	X	NL	NL	NL	168	112	53	25	9
7	NL	NL	NL	NL	161	78	40	19	NL	NL	NL	NL	NL	148	88	54
8 AND ABOVE	NL	NL	NL	NL	NL	189	111	69	NL	NL	NL	NL	NL	NL	198	133

A. FAN AIRFLOW RATING SHALL BE IN ACCORDANCE WITH ANSI/AMCA 210-ANSI/ASHRAE 51.
B. FOR NONCIRCULAR DUCTS, CALCULATE THE DIAMETER AS FOUR TIMES THE CROSS-SECTIONAL AREA DIVIDED BY THE PERIMETER.
C. THIS TABLE ASSUMES THAT ELBOWS ARE NOT USED. FIFTEEN FEET OF ALLOWABLE DUCT LENGTH SHALL BE DEDUCTED FOR EACH ELBOW INSTALLED IN THE DUCT RUN.
D. NL = NO LIMIT ON DUCT LENGTH OF THIS SIZE.
E. X = NOT ALLOWED. ANY LENGTH OF DUCT OF THIS SIZE WITH ASSUMED TURNS AND FITTINGS WILL EXCEED THE RATED PRESSURE DROP.

M1504.3 EXHAUST OPENINGS
AIR EXHAUST OPENINGS SHALL TERMINATE AS FOLLOWS:
1. NOT LESS THAN 3 FEET FROM PROPERTY LINES,
2. NOT LESS THAN 3 FEET FROM GRAVITY AIR INTAKE OPENINGS, OPERABLE WINDOWS AND DOORS.
3. NOT LESS THAN 10 FEET FROM MECHANICAL AIR INTAKE OPENINGS EXCEPT WHERE EITHER OF THE FOLLOWING APPLY:
3.1 THE EXHAUST OPENING IS LOCATED NOT LESS THAN 3 FEET ABOVE THE AIR INTAKE OPENING.
3.2 THE EXHAUST OPENING IS PART OF A FACTORY-BUILT INTAKE/ EXHAUST COMBINATION TERMINATION FITTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND THE EXHAUST AIR IS DRAWN FROM A LIVING SPACE.
4. OPENINGS SHALL COMPLY WITH SECTIONS R303.5.2 AND R303.6.

M1505 MECHANICAL VENTILATION
M1505.4 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM
M1505.4.1 SYSTEM DESIGN
THE WHOLE-HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS AND CONTROLS. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM WITH SUPPLY AND EXHAUST FANS PER SECTIONS M1505.4.1.2, M1505.4.1.3, M1505.4.1.4, AND M1505.4.1.5. LOCAL EXHAUST FANS ARE PERMITTED TO SERVE AS PART OF THE WHOLE-HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS PER SECTION M1505.4.2. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO EXHAUST AND/OR SUPPLY THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS MODIFIED BY THE WHOLE-HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1504.5.3.1 WHERE APPLICABLE. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.
M1505.4.1.1 WHOLE-HOUSE SYSTEM COMPONENT REQUIREMENTS
WHOLE-HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WASHINGTON STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS. WHOLE-HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.3.1. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN. W.C. (25 PA) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M1505.4.1.3.
EXCEPTION: HVAC AIR HANDLERS. ERV/HRV UNITS, AND REMOTE-MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS, TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE-MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FEET (1219 MM) OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.
THE WHOLE-HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.
EXCEPTION: INTERIOR JOINING SPACES PROVIDED WITH A 30 CFM (0.0141 M3/S) WHOLE-HOUSE TRANSFER FAN OR A PERMANENT OPENING WITH AN AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE INTERIOR ADJOINING SPACE BUT NOT LESS THAN 25 SQUARE FEET (2.3 M2) DO NOT REQUIRE DUCTED OUTDOOR VENTILATION AIR TO BE SUPPLIED DIRECTLY TO THE SPACE. WHOLE-HOUSE TRANSFER FANS SHALL MEET THE SONE RATING OF SECTION M1505.4.1.1 AND SHALL HAVE WHOLE-HOUSE VENTILATION CONTROLS THAT COMPLY WITH SECTION M1505.4.2.
M1505.4.1.2 EXHAUST FANS
EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRAFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE; HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE R1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST FANS SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.
M1505.4.1.3 SUPPLY FANS
SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE OPENINGS IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE; HVI 916, HVI AIRFLOW TEST PROCEDURE; AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PROVIDED TO EACH HABITABLE DWELLING UNIT OR SLEEPING UNIT BY SUPPLY FAN SYSTEMS, THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERV) OF AT LEAST 8.
M1505.4.1.4 BALANCED WHOLE-HOUSE VENTILATION SYSTEM
A BALANCED WHOLE-HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10% OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10% OR 5 CFM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST FANS IN A PACKAGED PRODUCT, SUCH AS AN ERV/HRV, SHALL MEET THE REQUIREMENTS OF HVI 920, AS APPLICABLE. INTERMITTENT DRYER EXHAUST, INTERMITTENT RANGE HOOD EXHAUST, AND INTERMITTENT TOILET ROOM EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.
M1505.4.1.5 FURNACE INTEGRATED SUPPLY
SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED.
EXCEPTION: AIR HANDLER FANS SHALL HAVE MULTI-SPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25% OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.5 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE-HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10% OF THE WHOLE-HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.
M1505.4.1.6 TESTING
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS, OUTLET TERMINALS OR GRILLES OR IN THE CONNECTED VENTILATION DUCTS, WHERE REQUIRED BY THE BUILDING OFFICIAL. TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.
M1505.4.1.7 CERTIFICATE
A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLEHOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE-HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.
M1505.4.2 SYSTEM CONTROLS
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:
THE WHOLE-HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT;
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT;
WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED PER SECTION M1505.4.3.2.

TABLE M1505.4.3(1) CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA	NUMBER OF BEDROOMS				
	0 — 1	2-3	4-5	6-7	>7
	AIRFLOW IN CFM				
< 1,500	30	45	60	75	90
1,501 — 3,000	45	60	75	90	105
3,001 — 4,500	60	75	90	105	120
4,501 — 6,000	75	90	105	120	135
6,001 — 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

TABLE M1505.4.3(2) INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS[a,b]

RUN-TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
FACTOR (a)	4	3	2	1.5	1.3	1.0

a. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
b. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

WHOLE HOUSE VENTILATION OPTIONS (CHOOSE ONE):
☒ 1. WHOLE HOUSE VENTILATION USING EXHAUST FANS
☐ 2. WHOLE HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM
☐ 3. WHOLE HOUSE VENTILATION USING A SUPPLY FAN
☐ 4. WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM.

VICINITY MAP

N.T.S.


PROJECT SITE (LOT 2)
CANYON PARK
SE 78TH ST
SE 76TH ST
SE 75TH PL
SE 74TH PL
SE 73RD PL
SE 72ND PL
SE 71ST PL
SE 70TH PL
SE 69TH PL
SE 68TH PL
SE 67TH PL
SE 66TH PL
SE 65TH PL
SE 64TH PL
SE 63RD PL
SE 62ND PL
SE 61ST PL
SE 60TH PL
SE 59TH PL

BUILDING THERMAL ENVELOPE

R401 COMPLIANCE & CERTIFICATE POSTED
THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R402 OF THE WSEC.

R401.3 CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER *APPROVED* PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN *APPROVED* LOCATION INSIDE THE *BUILDING*. WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL INDICATE THE FOLLOWING:

1. THE PREDOMINANT *R*-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, *BELOW-GRADE WALL*, AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES.
2. *U*-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL INDICATE THE AREA WEIGHTED AVERAGE VALUE.
3. THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING.
4. THE RESULTS FROM THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST.
5. THE TYPES, SIZES AND EFFICIENCIES OF HEATING, COOLING, WHOLE-HOUSE MECHANICAL VENTILATION, AND SERVICE WATER HEATING APPLIANCES. WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE *LISTED* FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.
6. WHERE *ON-SITE PHOTOVOLTAIC PANEL* SYSTEMS HAVE BEEN INSTALLED, THE ARRAY CAPACITY, INVERTER EFFICIENCY, PANEL TILT, ORIENTATION AND ESTIMATED ANNUAL ELECTRICAL GENERATION SHALL BE NOTED ON THE CERTIFICATE.

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

R406.1 SCOPE. THIS SECTION ESTABLISHES ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS FOR ALL NEW CONSTRUCTION COVERED BY THIS CODE, INCLUDING ADDITIONS SUBJECT TO SECTION R502 AND CHANGE OF OCCUPANCY OR USE SUBJECT TO SECTION R505 UNLESS SPECIFICALLY EXEMPTED IN SECTION R406. CREDIT FROM BOTH SECTIONS R406.2 AND R406.3 ARE REQUIRED.

R406.2 CARBON EMISSION EQUALIZATION. THIS SECTION ESTABLISHES A BASE EQUALIZATION BETWEEN FUELS USED TO DEFINE THE EQUIVALENT CARBON EMISSIONS OF THE OPTIONS SPECIFIED. THE PERMIT SHALL DEFINE THE BASE FUEL SELECTION TO BE USED AND THE POINTS SPECIFIED IN TABLE R406.2 SHALL BE USED TO MODIFY THE REQUIREMENTS IN SECTION R406.3. THE SUM OF CREDITS FROM TABLES R406.2 AND R406.3 SHALL MEET THE REQUIREMENTS OF SECTION R406.3.

R406.3 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS. EACH DWELLING UNIT IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 AND TABLE 406.3 TO ACHIEVE THE FOLLOWING MINIMUM NUMBER OF CREDITS. TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION SELECTED AND THE MAXIMUM TESTED BUILDING AIR LEAKAGE, AND SHOW THE QUALIFYING VENTILATION SYSTEM AND ITS CONTROL SEQUENCE OF OPERATION.

1. SMALL DWELLING UNIT: 5.0 CREDITS
   DWELLING UNITS LESS THAN 1500 SQUARE FEET IN CONDITIONED FLOOR AREA WITH LESS THAN 300 SQUARE FEET OF FENESTRATION AREA. ADDITIONS TO EXISTING BUILDING GREATER THAN 500 SQUARE FEET OF HEATED FLOOR AREA BUT LESS THAN 1500 SQUARE FEET.
2. MEDIUM DWELLING UNIT: 8.0 CREDITS
   ALL DWELLING UNITS THAT ARE NOT INCLUDED IN #1, #3 OR #4.
3. LARGE DWELLING UNIT: 9.0 CREDITS
   DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDITIONED FLOOR AREA.
4. R-2 OCCUPANCIES: 6.5 CREDITS
   SECTION R401.1 AND RESIDENTIAL BUILDING SECTION R202 FOR GROUP R-2.
5. ADDITIONS: 2.0 CREDITS
   150 SQUARE FEET TO 500 SQUARE FEET.

THE DRAWINGS INCLUDED WITH THE PERMIT APPLICATION SHALL IDENTIFY WHICH OPTIONS HAVE BEEN SELECTED AND THE POINT VALUE OF EACH OPTION, REGARDLESS OF WHETHER SEPARATE MECHANICAL, PLUMBING, ELECTRICAL, OR OTHER PERMITS ARE UTILIZED FOR THE PROJECT.

ENERGY EQUALIZATION CREDITS, SYSTEM 2 (1.5 CREDITS)
FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3.2(2) AND SUPPLEMENTAL HEATING PROVIDED BY ELECTRIC RESISTANCE OR A COMBUSTION FURNACE MEETING MINIMUM STANDARDS LISTED IN TABLE C403.3.2(5)B

⚠1 EFFICIENT WATER HEATING OPTION 5.6 (2.0 CREDITS)
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

RENEWABLE ELECTRIC ENERGY OPTION 6.1 (4.5 CREDITS)
FOR EACH 600 KWH OF ELECTRICAL GENERATION PER HOUSING UNIT PROVIDED ANNUALLY BY ON-SITE WIND OR SOLAR EQUIPMENT A 0.5 CREDIT SHALL BE ALLOWED, UP TO 4.5 CREDITS. GENERATION SHALL BE CALCULATED AS FOLLOWS: FOR SOLAR ELECTRIC SYSTEMS, THE DESIGN SHALL BE DEMONSTRATED TO MEET THIS REQUIREMENT USING THE NATIONAL RENEWABLE ENERGY LABORATORY CALCULATOR PVWATTS OR ALTERNATIVE APPROVED BY THE CODE OFFICIAL. DOCUMENTATION NOTING SOLAR ACCESS SHALL BE INCLUDED ON THE PLANS.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SHOW THE PHOTOVOLTAIC EQUIPMENT TYPE, PROVIDE DOCUMENTATION OF SOLAR ACCESS, AND INCLUDE A CALCULATION OF THE MINIMUM ANNUAL ENERGY POWER PRODUCTION.

MINIMUM ANNUAL POWER PRODUCTION OF THE RENEWABLE ELECTRIC ENERGY:

SYSTEM SIZE (kWDC)=	5kW
FIRST YEAR POWER OUTPUT (kWh)=	5270 kWh
SPECIFIC PRODUCTION (kWh/m²/DAY)=	3.77 kWh/m²/DAY
SYSTEM LOSES=	14.08%
SYSTEM SPECIFICATIONS=	STANDARD MODULE AND FIXED ARRAY TYPE
ARRAY TILT=	20 DEGREES
ARRAY AZIMUTH=	180 DEGREES

MOISTURE CONTROL

R405.2.2 FOUNDATION VAPOR RETARDERS

A 10 MIL-THICK POLYETHYLENE VAPOR RETARDER SHALL BE APPLIED OVER THE POROUS LAYER WITH THE BASEMENT FLOOR CONSTRUCTED OVER THE POLYETHYLENE.

R702.7 WALL VAPOR RETARDERS

A VAPOR RETARDER SHALL BE PROVIDED ON THE INTERIOR SIDE OF FRAME WALLS OF THE CLASS INDICATED IN TABLE R702.7(2), INCLUDING COMPLIANCE WITH TABLE R702.7(3) OR R702.7(4) WHERE APPLICABLE.
EXCEPTIONS:
1. BASEMENT WALLS.
2. BELOW-GRADE PORTION OF ANY WALL.
3. CONTSTRUCTION WHERE ACCUMULATION, CONDENSATION OR FREEZING OF MOISTURE WILL NOT DAMAGE THE MATERIALS.
4. A VAPOR RETARDER SHALL NOT BE REQUIRED IN CLIMATE ZONES 1,2 AND 3.

TABLE R702.7(1) VAPOR RETARDER MATERIALS AND CLASSES

CLASS	ACCEPTABLE MATERIALS
I	SHEET POLYETHELENE, NONPERFORATED ALUMINUM FOIL OR OTHER APPROVED MATERIALS WITH A PERM RATING LESS THAN OR EQUAL TO 0.1.
II	KRAFT-FACED FIBERGLASS BATTS, VAPOR RETARDER PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MAUNUFACTURER'S INSTALLATION INSTRUCTIONS FOR A PERM RATING GREATER THAN 0.1 AND LESS THAN OR EQUAL TO 1.0.
III	LATEX PAINT, ENAMEL PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR AS PERM RATING GREATER THAN 1.0 AND LESS THAN OR EQUAL TO 10.0.

TABLE R702.7(2) VAPOR RETARDER OPTIONS

CLIMATE ZONE	CLASS I[A]	CLASS II[A]	CLASS III
1, 2	NOT PERMITTED	NOT PERMITTED	PERMITTED
3, 4 9EXCEPT MARINE 4)	NOT PERMITTED	PERMITTED[C]	PERMITTED
MARINE 4, 5, 6, 7, 8	PERMITTED[B]	PERMITTED[C]	SEE TABLE R702.7(3)

a. CLASS I AND II VAPOR RETARDERS WITH VAPOR PERMEANCE GREATER THAN 1 PERM WHEN MEASURED BY ASTM E96 WATER METHOD (PROCEDURE B) SHALL BE ALLOWED ON THE INTERIOR SIDE OF ANY FRAME WALL IN ALL CLIMATE ZONES.
b. USE OF A CLASS I VAPOR RETARDER IN FRAME WALLS WITH A CLASS I VAPOR RETARDER ON THE EXTERIOR SIDE SHALL REQUIRE AN APPROVED DESIGN.
c. WHERE A CLASS II VAPOR RETARDER IS USED IN COMBINATION WITH FOAM PLASTIC INSULATING SHEATHING INSTALLED AS CONTINUOUS INSULATION ON THE EXRERIOR SIDE OF FRAME WALLS, THE CONTINUOUS INSULATION SHALL COMPLY WITH TABLE R702.7(4) AND THE CLASS II VAPOR RETARDER SHALL HAVE A PERMEANCE GREATER THAN 1 PERM WHEN MEASURED BY ASTM E96 WATER METHOD (PROCEDURE B).

R805.1 CEILING INSTALLATION

CEILINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIERMENTS FOR INTERIOR WALL FINIUSHES AS PROVIDED IN SECTIONS R702.1 THROUGH R702.6.

MAXIMUM HEAT EQUIPMENT OUTPUT

WASHINGTON STATE SIMPLE HEATING SYSTEM SIZING= 87,140 BTU/HR

2021 WSEC TABLE R402.1.1

* MODIFIED BY U-FACTOR COMPLIANCE

CLIMATE ZONE 5 AND MARINE 4	R VALUE	EQUIVALENT U-FACTORS
FENESTRATION U-FACTOR (b)	N/A	0.30
SKYLIGHT(b) U-FACTOR	N/A	0.50
CEILING ATTIC R-VALUE (e)	60	0.024
CEILING VAULT R-VALUE (e)	49*	0.021*
WOOD FRAMED WALL (g,i) R-VALUE	21 int. + 0 c.i.*	0.054*
FLOOR R-VALUE	30	0.029
BELOW GRADE (c,h) WALL R-VALUE	21 int. + t.b.	0.035
SLAB (d,f) 7' DEPTH & R-VALUE	10, ENTIRE SLAB	0.50

FOR SI: 1 FOOT = 304.8 MM, CI = CONTINUOUS INSULATION, INT = INTERMEDIATE FRAMING.
a. *R*-VALUES ARE MINIMUMS. *U*-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE COMPRESSED *R*-VALUE OF THE INSULATION FROM APPENDIX TABLE A101.4 SHALL NOT BE LESS THAN THE *R*-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION *U*-FACTOR COLUMN EXCLUDES SKYLIGHTS.
c. "10/15/21 +5TB" MEANS R-10 CONTINUOUS INSULATION ON THE EXTERIOR OF THE WALL, OR R-15 CONTINUOUS INSULATION ON THE INTERIOR OF THE WALL, OR R-21 CAVITY INSULATION PLUS A THERMAL BREAK BETWEEN THE SLAB AND THE BASEMENT WALL AT THE INTERIOR OF THE BASEMENT WALL. "10/15/21 +5TB" SHALL BE PERMITTED TO BE MET WITH R-13 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL PLUS R-5 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE WALL. "5TB" MEANS R-5 THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL.
d. R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE SECTION R402.2.9.1.
e. FOR SINGLE RAFTER- OR JOIST-VAULTED CEILINGS, THE INSULATION MAY BE REDUCED TO R-38 IF THE FULL INSULATION DEPTH EXTENDS OVER THE TOP PLATE OF THE EXTERIOR WALL.
f. R-7.5 CONTINUOUS INSULATION INSTALLED OVER AN EXISTING SLAB IS DEEMED TO BE EQUIVALENT TO THE REQUIRED PERIMETER SLAB INSULATION WHEN APPLIED TO EXISTING SLABS COMPLYING WITH SECTION R503,1,1. IF FOAM PLASTIC IS USED, IT SHALL MEET THE REQUIREMENTS FOR THERMAL BARRIERS PROTECTING FOAM PLASTICS.
g. FOR LOG STRUCTURES DEVELOPED IN COMPLIANCE WITH STANDARD ICC 400, LOG WALLS SHALL MEET THE REQUIREMENTS FOR *CLIMATE ZONE* 5 OF ICC 400.
h. INT. (INTERMEDIATE FRAMING) DENOTES FRAMING AND INSULATION AS DESCRIBED IN SECTION A103.2.2 INCLUDING STANDARD FRAMING 16 INCHES ON CENTER, 78 PERCENT OF THE WALL CAVITY INSULATED AND HEADERS INSULATED WITH A MINIMUM OF R-10 INSULATION.
i. THE FIRST VALUE IS CAVITY INSULATION; THE SECOND VALUE IS CONTINUOUS INSULATION. THEREFORE, AS AN EXAMPLE, "R-13+10" MEANS R-13 CAVITY INSULATION PLUS R-10 CONTINUOUS INSULATION.
j. A MAXIMUM U-VALUE OF 0.32 SHALL APPLY TO VERTICAL FENESTRATION PRODUCTS INSTALLED IN BUILDINGS LOCATED ABOVE 4000 FEET IN ELEVATION ABOVE SEA LEVEL, OR IN WINDBORNE DEBRIS REGIONS WHERE PROTECTION OF OPENINGS IS REQUIRED UNDER SECTION R301.2.1.2 OF THE INTERNATIONAL RESIDENTIAL CODE.

2021 WSEC TABLE R406.3 ⚠

ADDITIONAL ENERGY REQUIREMENTS FOR MEDIUM DWELLING = 8.0 CREDITS REQUIRED

ENERGY EQUALIZATION CREDIT	SYSTEM 2.0	1.5 CREDITS
ENERGY EFFICIENCY CREDIT	OPTION	CREDITS EARNED
OPTION 1 BUILDING ENVELOPE	NA	NA
OPTION 2 AIR LEAKAGE CONTROL	NA	NA
OPTION 3 HVAC EQUIPMENT	NA	NA
OPTION 4 HVAC DISTRIBUTION	NA	NA
OPTION 5 WATER HEATING	OPTION 5.6	2.0
OPTION 6 RENEWABLE ENERGY	OPTION 6.1	4.5 CREDITS
OPTION 7 APPLIANCE OPTION	NA	NA
TOTAL CREDITS EARNED		8.0 CREDITS

PVWATTS CALCULATOR RESULTS

RESULTS

5,269 kWh/Year*

System output may range from 5,029 to 5,447 kWh per year near this location.

Month	Solar Radiation (kWh / m² / day)	AC Energy (kWh)
January	1.43	178
February	2.32	263
March	3.19	392
April	4.77	554
May	5.13	609
June	5.66	631
July	6.22	709
August	5.90	680
September	4.61	522
October	2.80	340
November	1.71	208
December	1.45	184
Annual	3.77	5,270

Location and Station Identification

Requested Location	7414 78th avenue se, mercer island
Weather Data Source	Lat, Lng: 47.53, -122.22 0.8 mi
Latitude	47.53° N
Longitude	122.22° W

PV System Specifications

DC System Size	5 kW
Module Type	Standard
Array Type	Fixed (open rack)
System Losses	14.08%
Array Tilt	20°
Array Azimuth	180°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4

Simple Heating System Size: Washington State

Project Information
SEARS PLAT - LOT 2
97414 - 78th Avenue SE
Mercer Island, WA 98040

Contact Information
McCullough Architects
5601 - 6th Ave S, #317
Seattle, WA 98108

Heating System Type: ○ All Other Systems ◉ Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature — Instructions: Mercer Island — Deisgn Temperature 25 — Design Temperature Difference (ΔT) 45 (ΔT = Indoor (70 degrees) - Outdoor Design Temp)

Area of Building — Instructions: Conditioned Floor Area (sq ft) 4,995 — Average Ceiling Height (ft) 10.0 — Conditioned Volume 49,950

Glazing and Doors — Instructions: U-0.30 — U-Factor 0.300 × Area 1,588 = UA 476.40

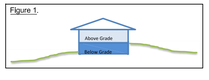
Skylights — Instructions — U-Factor 0.50 × Area 0 = UA 0.00

Insulation

		U-Factor	Area	UA
Attic — Instructions: R-60		0.024	2,282	54.77
Single Rafter or Joist Vaulted Ceilings — Instructions: R-49		0.020	177	3.54
Above Grade Walls (see Figure 1) — Instructions: R-21 Intermediate		0.056	3,042	170.35
Floors — Instructions: R-30		0.029	1,444	41.88
Below Grade Walls and Slabs (see Figure 1) — Instructions	Wall & Slab Depth: R21 Batt w/TB, 7' depth	Wall U-FactorX 0.035	1,305	45.68
		Slab F-FactorX 0.500	Length 153	76.25
Slab on Grade (see Figure 1) — Instructions: None		F-Factor	Length	

Location of Ducts — Instructions: Unconditioned Space — Duct Leakage Coefficient 1.100

Figure 1.



Sum of UA	868.86
Envelope Heat Load (Sum of UA x ΔT)	39,099Btu / Hour
Air Leakage Heat Load (Volume x 0.6 x ΔT x 0.018)	24,276Btu / Hour
Building Design Heat Load (Air leakage + envelope heat loss)	63,374Btu / Hour
Building and Duct Heat Load (Ducts in unconditioned space: sum of building heat loss x 1.10; Ducts in conditioned space: sum of building heat loss x 1)	69,712Btu / Hour
Maximum Heat Equipment Output (Building and duct heat loss x 1.40 for forced air furnace; Building and duct heat loss x 1.25 for heat pump)	87,140Btu / Hour

Window, Skylight and Door Schedule

Project Information
SEARS PLAT - LOT 2
97414 - 78th Avenue NE
Mercer Island, Wa 98040

Contact Information
McCullough Architects
5601 - 6th Ave S, #317
Seattle, Wa 98108

	Ref.	U-factor	Width Qt.	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)								
Exempt Glazed Fenestration (15 sq. ft. max.)								

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Width Qt.	Width Inch	Height Feet	Height Inch	Area	UA
Upper Floor								
3/0 x 3/0 FIX & AWN		0.30	5	3	3	0	45.0	13.50
3/0 x 5/0 FIX		0.30	1	3	5	0	15.0	4.50
3/0 x 8/0 FIX o/ FIX & CSMT o/ FIX		0.30	15	3	8	0	360.0	108.00
5/0 x 5/0 FIX		0.30	1	5	5	0	25.0	7.50
6/0 x 8/0 FIX o/ FIX		0.30	5	6	8	0	240.0	72.00
6/0 x 8/0 TRAP HEAD		0.30	1	6	6	9	40.5	12.15
7/0 x 8/0 FIX o/ FIX		0.30	1	7	8	0	56.0	16.80
Main Floor								
3/0 x 4/0 FIX		0.30	2	3	4		24.0	7.20
3/0 x 7/0 FIX		0.30	2	3	7		42.0	12.60
3/0 x 10/0 FIX o/ FIX & CSMT o/ FIX		0.30	7	3	10		210.0	63.00
3/6 x 9/0 FIX o/ FIX o/ FIX		0.30	1	3	9		31.5	9.45
4/0 x 2/6 FIX		0.30	2	4	2	6	20.0	6.00
5/0 x 10/0 FIX o/ FIX		0.30	1	5	10		50.0	15.00
6/0 x 4/0 FIX		0.30	1	6	4		24.0	7.20
7/9 x 9/0 FIX o/ FIX		0.30	1	7	9		69.8	20.93
8/0 x 10/0 FIX o/ FIX		0.30	1	8	10		80.0	24.00
10/ x 10/0 2 PANEL SLIDER		0.30	1	10	10		100.0	30.00
2/8 x 8/0 SWING		0.30	1	2	8		21.3	6.40
3/6 x 9/0 SWING		0.25	1	3	9		31.5	7.88
Lower Floor								
5/0 x 2/6 FIX		0.30	1	5	2	6	12.5	3.75
6/0 x 2/6 FIX		0.30	3	6	2	6	45.0	13.50
9/0 x 5/0 CSMT-FIX-CSMT		0.30	1	9	5		45.0	13.50
Sum of Vertical Fenestration Area and UA							1588.1	474.85
Vertical Fenestration Area Weighted U = UA/Area								0.30

MCCULLOUGH ARCHITECTS
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Seattle, WA. 98108
206.443.1181
mccullougharchitects.com

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Revisions 09/26/25 -
Comment PLAN REVIEW -

Date: 2025.07.03
Job No: 24-008
Project No:
Drawn:
Approved:

Owner SAINTFIELD2 LLC

REGISTERED 7806 ARCHITECT STATE OF WASHINGTON PHILIP MCCULLOUGH

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

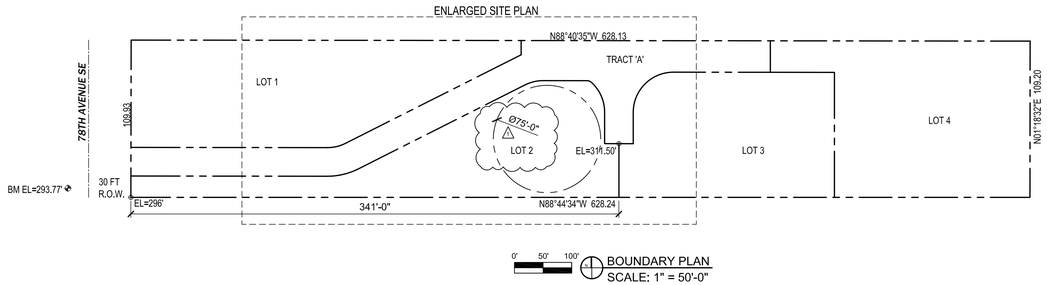
PLAN REVIEW 1

WSEC - Building Thermal Envelope

A0.2

SITE PLAN KEY

- PROPERTY LINE
- SETBACK / BUFFER
- EXISTING TOPO. (MJR.) 990
- EXISTING TOPO. (MNR.) 992
- PROPOSED TOPO. 990
- SILT FENCE
- TREE PROTECTION
- STRUCTURE (DEMO)
- EDGE OF PAVING
- LINE OF STRUCTURE
- LINE OF ROOF O.H.
- CRITICAL AREA
- CONCRETE PAVING
- CONCRETE PAVERS



DRAINAGE STRUCTURES
(PER CIVIL PLANS)

AD	AREA DRAIN
CB	CATCHBASIN
CO	CLEANOUT
DS	DOWNSPOUT
YD	YARD DRAIN

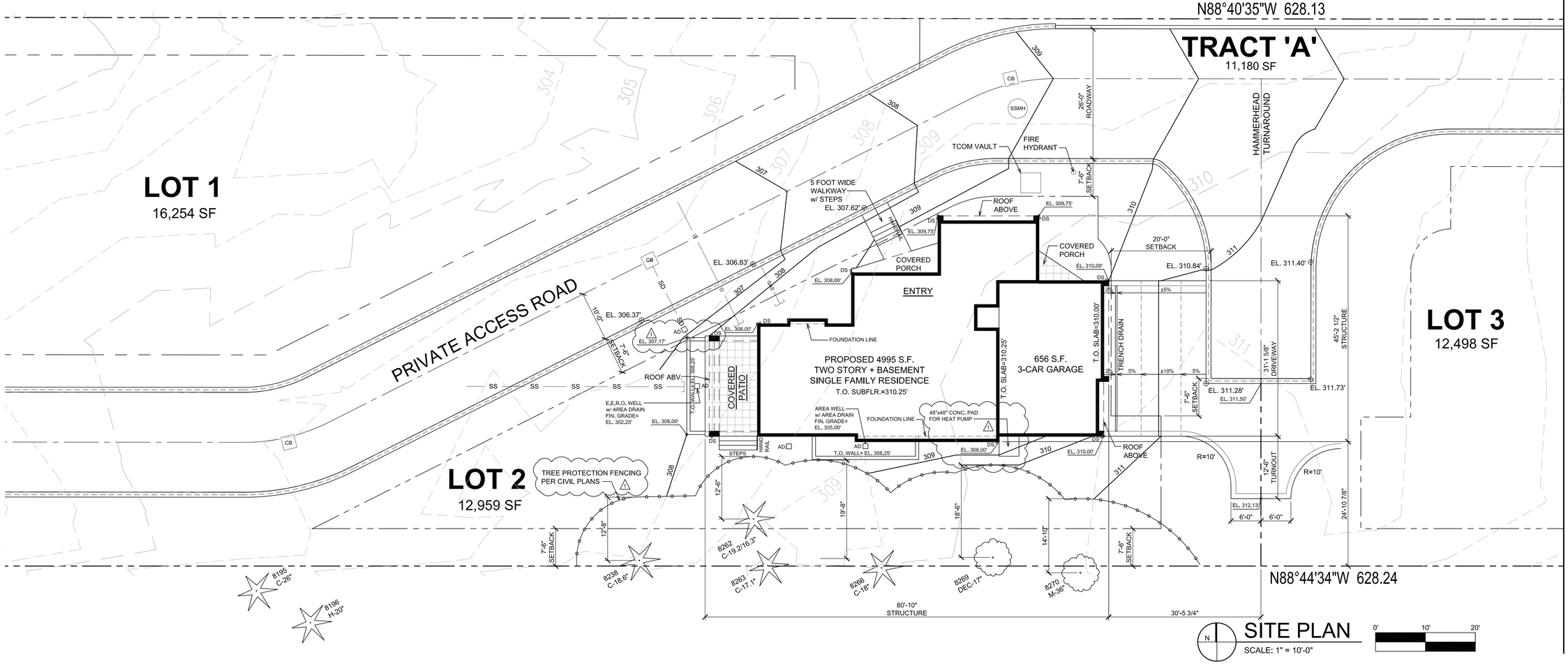
⚠ MICC 19.02.020(F)(3)(d) DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION.

	SITE DATA : 7414 - 78th AVE. SE , MERCER ISLAND WA 98040	
	TPN	252404-9075
	QSTR	SE-25-24N-4E
	ZONING	R-9.6
19.02.020.A.	LOT AREA - MIN. 9,600 S.F.	12,959± sq.ft.
19.02.020.B.	STREET FRONTAGE	PER STREET STANDARDS
19.02.020.C.	FRONT SETBACK	20'
	SIDE SETBACK	7.5' (15' TOTAL)
	REAR SETBACK	25' (N.A.)
19.02.020.D.	GROSS FLOOR AREA ALLOWED	5,184 S.F. (40%)
	CALCULATED G.F.A.	4,935 S.F. (38.1%) ⚠
19.02.020.E.	MAX. BUILDING HEIGHT	30 ft. above A.B.E.
	CALCULATED A.B.E.=	EL. 309.26'
	MAX. ALLOWED BLDG. HT.=	EL. 339.26'
	MAX. PROPOSED BLDG. HT.=	EL. 339.17'
19.02.020.F.	LOT SLOPE = 4.54% < 15%	
	LOT COVERAGE ALLOWED (40%)	5,184 S.F.
	LOT COVERAGE PROPOSED (26.7%)	3,454 S.F.
	MAX. HARDSCAPE ALLOWED (9%)	1,166 S.F.
	MAX. HARDSCAPE PROPOSED (2%)	270 S.F. ⚠
	MIN. LANDSCAPE COVERAGE (60%)	7,775 S.F.
	LANDSCAPE COVERAGE PROPOSED (72%)	9,319 S.F.
19.02.020.G.	PARKING - SFR +3000 S.F.	3 SPACES

LEGAL DESCRIPTION:
LOT 2
E 1/2 OF NW 1/4 OF SE 1/4 LESS N 769.98 FT & LESS S 450 FT LESS CO RD

GEODETIC DATUM

MAX. PROPOSED ROOF HEIGHT= EL. 339.17'
UPPER UPR. SUBFLOOR LEVEL= EL. 323.31'
MAIN FLR. SUBFLOOR LEVEL= EL. 310.25'
GARAGE SLAB (FRONT)= EL. 310.00'
LOWER FLR. TOP OF SLAB= EL. 300.08'



N SITE PLAN
SCALE: 1" = 10'-0"
0' 10' 20'

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Seattle, WA 98108
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SAINTFIELD2 LLC

7806 REGISTERED ARCHITECT PHILIP McCULLOUGH STATE OF WASHINGTON

7414 - 78th Ave. SE
Mercer Island
Washington
98040

PLAN REVIEW 1

Site Plan

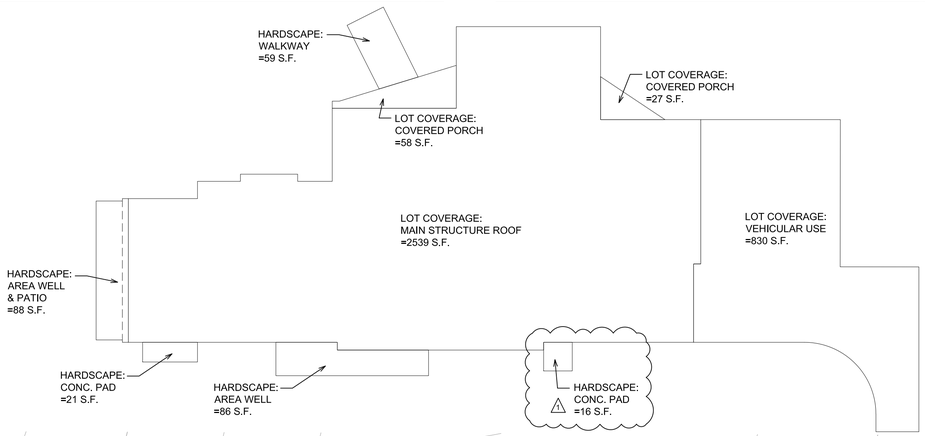
A1.0

GROSS FLOOR AREA

BASEMENT LEVEL:	114 SF ⚠
MAIN LEVEL:	1,904 SF
UPPER LEVEL:	2,261 SF
GARAGE:	656 SF
TOTAL PROPOSED:	4,935 SF ⚠
TOTAL ALLOWED:	5,184 SF

LOT COVERAGE

MAIN STRUCTURE ROOF AREA=	2,539 S.F.
ACCESSORY STRUCTURE ROOF AREA=	0 S.F.
VEHICULAR USE=	830 S.F.
COVERED PATIOS AND DECKS=	85 S.F.
TOTAL NEW LOT COVERAGE AREA	3,454 S.F.
⚠ ALLOWED= 12,959 S.F. (0.40)=	5,184 S.F.



Sears Lot 2 Average Building Elevation Calculation						
Point	Length	Height	LxH			
A	9.67	307.42	2972.7514			
B	18.83	308.25	5804.3475			
C	17.33	309.17	5357.9161			
D	20.17	309.67	6246.0439			
E	14	310.25	4343.5			
F	13	310	4030			
G	20.25	310.67	6291.0675			
H	10.83	310.92	3367.2636			
I	1.08	310.33	335.1564			
J	1	310.75	310.75			
K	21	310.67	6524.07			
L	28.83	309.67	8927.7861			
M	19.5	308.17	6009.315			
N	9.67	307.33	2971.8811			
O	1.08	308.75	333.45			
P	20.08	307.67	6178.0136			
Q	2.42	307.67	744.5614			
R	11.25	308.67	3472.5375			
S	10.42	309.33	3223.2186			
T			0			
U			0			
totals	250.41		77443.6297			

ABE:	309.2673204
Max Ht:	339.2673204

⚠ **Basement GFA Calculation**
9.23.2025 **Sears Plat 2**

	Wall Segment Length	Exist or Finish Grade (which ever is lower)	Floor Elevation	Grade Height above floor	Total Wall Height	Wall Segment Coverage	Result= Coverage % x Wall Segment
A	18.67	307.75	300.08	7.67	9.08	84.47%	15.77080396
B	8.67	307.50	300.08	7.42	9.08	81.72%	7.084955947
C	2.42	307.75	300.08	7.67	9.08	84.47%	2.044207048
D	18.83	308.33	300.08	8.25	9.08	90.86%	2.198788546
E	10.92	308.83	300.08	8.75	9.08	96.37%	18.14564978
F	16.58	309.17	300.08	9.09	9.08	100.11%	16.59825991
G	32.00	309.83	300.08	9.75	9.08	107.38%	34.36123348
H	44.08	308.33	300.08	8.25	9.08	90.86%	40.05066079

152.17 = sum of wall segment lengths
136.2545595 = sum of all results

0.89541013 = percentage of bsement wall which is below grade. (x100)

BASEMENT AREA	1089	SF
EXCLUDED AREA	**975.102**	SF
GFA AREA	**113.898**	SF

LOT SLOPE:

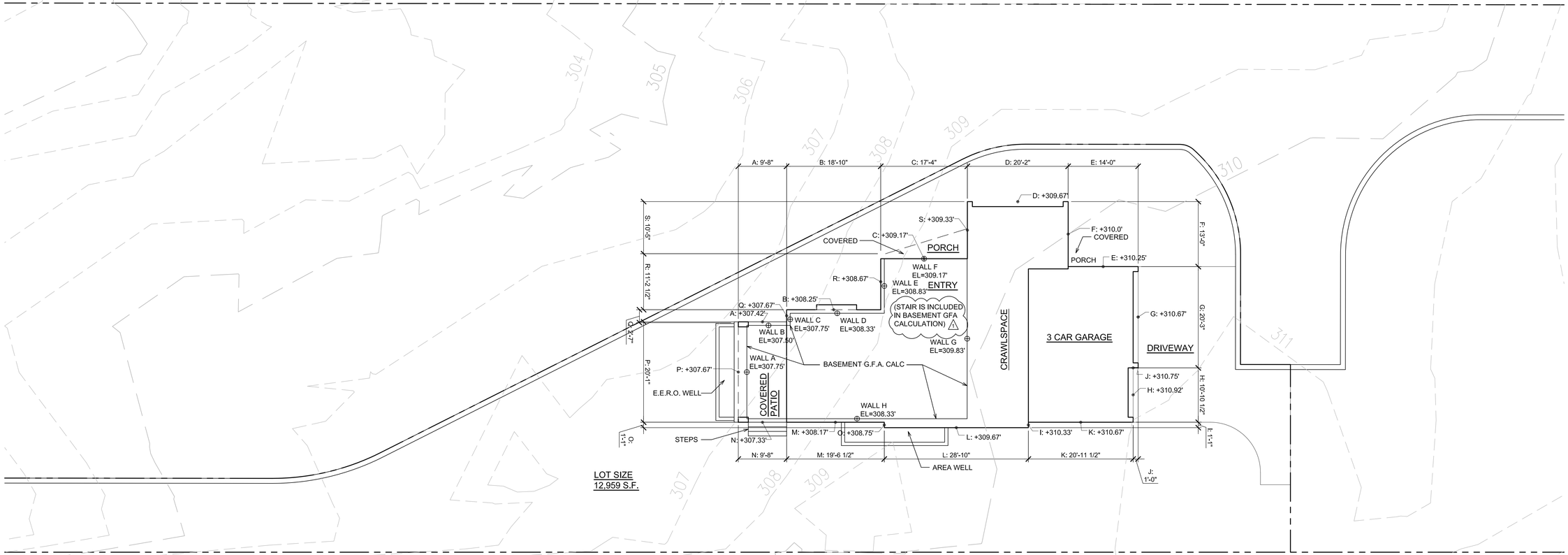
HIGHEST ELEVATION POINT:	311.50'
LOWEST ELEVATION POINT:	296.00'
ELEVATION DIFFERENCE:	15.50'
HORIZONTAL DISTANCE:	341.00'
LOT SLOPE=	4.54%

(SEE BOUNDARY PLAN ON SHT A1.0 FOR DATA POINTS)

PROPOSED HARDSCAPE:

WALKWAY=	59 S.F.
CONC. PAD=	21 S.F.
CONC. PAD=	16 S.F. ⚠
AREA WELL=	88 S.F.
AREA WELL=	86 S.F.
TOTAL=	270 S.F. ⚠

⚠ MICC 19.02.020(C)(3)(B): HARDSCAPE AND DRIVEWAYS NOT MORE THAN 30 INCHES ABOVE EXISTING GRADE OR FINISHED GRADE, WHICHEVER IS LOWER, MAY BE LOCATED IN ANY REQUIRED YARD; PROVIDED, THAT DRIVEWAYS MAY EXCEED THE 30-INCH LIMIT WHEN A PERMIT APPLICANT DEMONSTRATES THE PROPOSED HEIGHT IS THE MINIMUM FEASIBLE TO MEET THE STANDARDS IN MICC 19.09.040.



NORTH

A.B.E. / G.F.A. / LOT COVERAGE

SCALE: 1" = 10'-0"

0' 10' 20'

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Revisions Comment
9/26/2025 **PLAN REVIEW**
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Date: **2025.07.03**
Job No: **24-008**
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT
PHILIP MCCULLOUGH
STATE OF WASHINGTON
7806

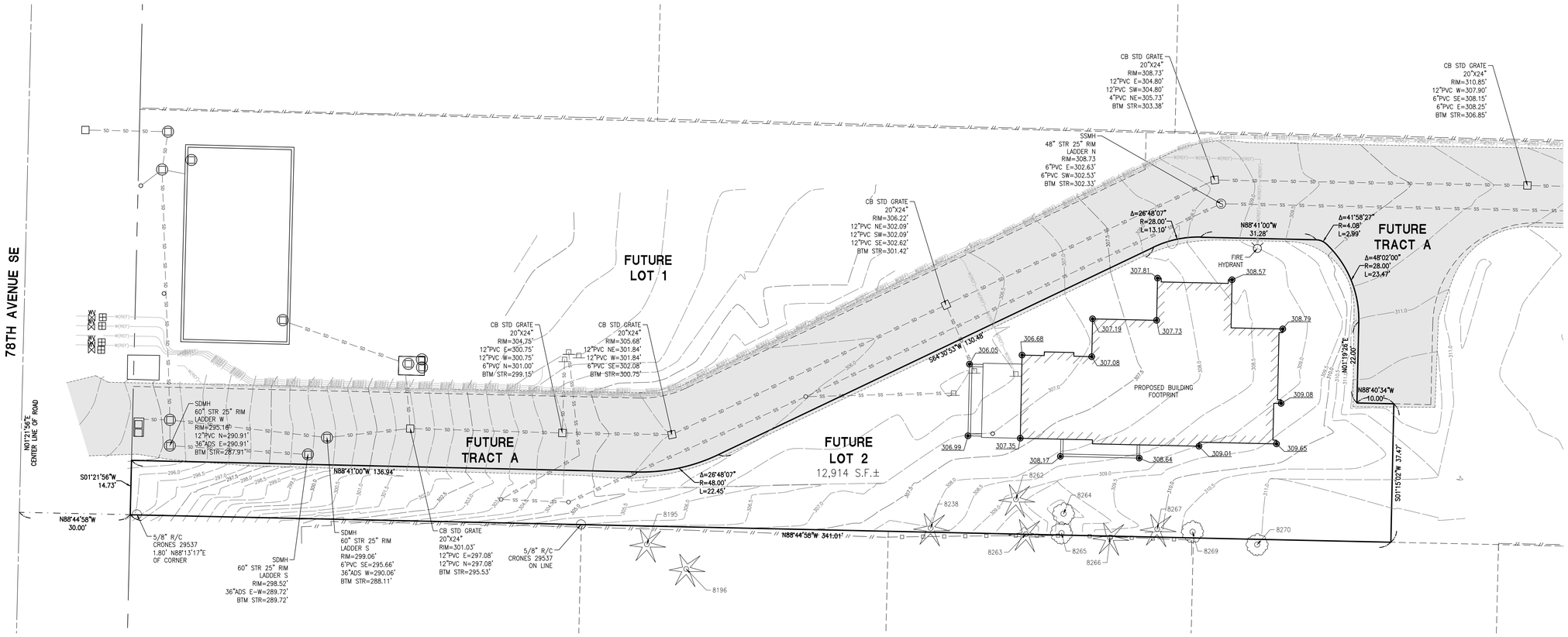
7414 - 78th Ave. SE
Mercer Island
Washington
98040

PLAN REVIEW 1

Site Calculations

A1.1

BOUNDARY AND TOPOGRAPHIC SURVEY



LEGAL DESCRIPTION:

FUTURE LOT 2 SAINTFIELD2 SHORT PLAT:

THAT PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 24 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON;
EXCEPT THE NORTH 769.98 FEET THEREOF;
AND EXCEPT THE SOUTH 450 FEET THEREOF;
AND EXCEPT THE WEST 30 FEET THEREOF;
BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

BEGINNING AT THE SOUTHWEST CORNER OF SAID SUBDIVISION;

THENCE NORTH 01°21'56" EAST, 14.73 FEET ALONG THE EASTERLY MARGIN OF 78TH AVENUE SOUTHEAST;
THENCE SOUTH 88°41'00" EAST, 136.94 FEET TO A POINT OF TANGENCY;
THENCE EASTERLY ALONG THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 48.00 FEET, THROUGH A CENTRAL ANGLE OF 26°48'07", AND AN ARC LENGTH OF 22.45 FEET;
THENCE NORTH 64°30'53" EAST, 130.48 FEET TO A POINT OF TANGENCY;
THENCE EASTERLY ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 28.00 FEET, THROUGH A CENTRAL ANGLE OF 26°48'07", AND AN ARC LENGTH OF 13.10 FEET;
THENCE SOUTH 88°41'00" EAST, 31.28 FEET TO A POINT OF TANGENCY;
THENCE EASTERLY ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 4.08 FEET, THROUGH A CENTRAL ANGLE OF 41°58'27", AND AN ARC LENGTH OF 2.99 FEET TO A POINT OF COMPOUND CURVATURE;
THENCE SOUTHEASTERLY ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 28.00 FEET, THROUGH A CENTRAL ANGLE OF 48°02'00", AND AN ARC LENGTH OF 23.47 FEET;
THENCE SOUTH 01°19'26" WEST, 22.00 FEET;
THENCE SOUTH 88°40'34" EAST, 10.00 FEET;
THENCE SOUTH 01°15'02" WEST, 37.47 FEET TO THE SOUTH LINE OF SAID SUBDIVISION;
THENCE NORTH 88°44'58" WEST, 341.01 FEET TO SAID EASTERLY MARGIN AND THE POINT OF BEGINNING.

SPECIAL EXCEPTIONS:

1. EASEMENT(S) FOR THE PURPOSE(S) RIGHT OF WAY AT ALL TIMES AND PURPOSES AND FOR UTILITY PURPOSES, SEWER MAINS, WATER MAINS AND ELECTRIC CONDUITS OF ALL FORMS RECORDING NO.: 4038080, 4038079, 4225140, 4244487, 4244488 (SHOWN HEREON)

2. COVENANTS, CONDITIONS, RESTRICTIONS, AS SET FORTH ON SURVEY: RECORDING NO: 20030522900008

3. COVENANTS, CONDITIONS, RESTRICTIONS, AS SET FORTH ON SURVEY: RECORDING NO: 20040308900011

4. RECOGNITION OF LEGAL BOUNDARIES, AND THE TERMS AND CONDITIONS THEREOF: RECORDING NO.: 20040819002565

5. PSE EASEMENT RECORDING NO.: 20250320000484 (EASEMENT 1 SHOWN HEREON, EASEMENT 2 AND 3 ARE BLANKET IN NATURE)

6.-9. (GENERAL AND FINANCIAL IN NATURE)

BASIS NAD83(2011) DATUM PER WASHINGTON STATE REFERENCE NETWORK(WSRN)

BASIS NAD83(2011) DATUM WAS ESTABLISHED BY HOLDING WSRN OBSERVATIONS ON MONUMENTS, SAID DIMENSIONS AS SHOWN HEREON.

PROJECT BASE POINT
LATITUDE: N47.53762272'
LONGITUDE: W122.23375587'
HEIGHT: 215.24'
PROJECT COMBINED SCALE: 1.0000170886

BASIS OF BEARINGS

N01°21'56"E BETWEEN THE TWO FOUND MONUMENTS IN THE CENTERLINE OF 78TH AVENUE SE

VERTICAL DATUM NAVD88

BASED ON PROJECT CONTROL PROVIDED BY CORE DESIGN FOR THE DESIGN SURVEY FOR THE SEARS SHORT PLAT NO. SUB23-001

REFERENCE SURVEYS

R1) PLAT OF CAYSON FIELDS VOL. 295, PG. 64-71
R2) PLAT OF MERCER TERRACE NO. 2 VOL. 77, PG. 79
R3) RECORD OF SURVEY RECORDING NUMBER 20040308900011

NOTES

1. ALL DISTANCES SHOWN ON THIS SURVEY ARE IN US SURVEY FOOT.

2. UTILITIES ARE SHOWN PER SURFACE OBSERVATIONS AND OTHER REFERENCE INFORMATION. NO UTILITY LOCATE SERVICES WERE ENLISTED AS PART OF THIS SURVEY.

3. FIELD SURVEY WAS COMPLETED IN AUGUST 2025 AND ALL MONUMENTS SHOWN AS FOUND WERE VISITED AT THIS TIME OR AS NOTED.

4. THIS SURVEY IS A RETRACEMENT OF THE DEEDED DESCRIPTION STATED ABOVE AND DOES NOT PURPORT TO SHOW ANY UNRECORDED OWNERSHIP RIGHTS.

5. CONTOUR INTERVAL IS ACCURATE WITHIN 0.5'

FIELD TRAVERSE AND RELATIVE ACCURACY

A FIELD TRAVERSE USING A TRIMBLE S7 & SX10 ROBOTIC TOTAL STATION AND DATA COLLECTOR SUPPLEMENTED WITH FIELD NOTES AND TRIMBLE R12i NETWORK RTK GPS ROVER, WAS PERFORMED, ESTABLISHING THE ANGULAR, DISTANCE, AND VERTICAL RELATIONSHIPS BETWEEN THE MONUMENTS, PROPERTY LINES AND IMPROVEMENTS. THE RESULTING DATA MEETS OR EXCEEDS THE STANDARDS FOR LAND BOUNDARY SURVEYS AS SET FORTH IN WAC 332-130-090.

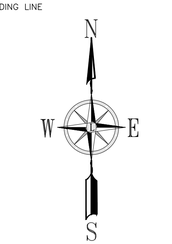
DURING THE ABOVE FIELD TRAVERSE MULTIPLE OBSERVATIONS WERE TAKEN ON MONUMENTS AND SURVEY FIELD CONTROL POINTS. SAID MULTIPLE OBSERVATIONS WERE THEN COLLECTED INTO TRIMBLE BUSINESS CENTER OFFICE SOFTWARE AND A LEAST SQUARES NETWORK ADJUSTMENT WAS PERFORMED WHERE RELATIVE ACCURACY PRINCIPLES AS SET FORTH IN WAC 332-130-080 WERE ADHERED TO AND RELATIVE ACCURACY STANDARDS AS SET FORTH IN WAC 332-130-085 WERE ACHIEVED

LEGEND

(NOTE: NOT ALL SYMBOLS MAY APPEAR ON THE MAP)

- SURVEY MONUMENT (AS NOTED)
- SECTION CORNER (AS NOTED)
- SET REBAR/CAP (LS#45789)
- FOUND REBAR/CAP (AS NOTED)
- SET 2"X2" HUB/TACK LINE STAKE
- MAG/WASHER OR LEAD/TACK (AS NOTED)
- BENCHMARK
- LUMINAIRE (LUM.)
- YARD LIGHT
- ORNAMENTAL LIGHT
- TRAFFIC SIGNAL LIGHTS
- PEDESTRIAN SIGNAL
- POWER METER (PM)
- POWER POLE (PP)
- TELEPHONE POLE (TP)
- JUNCTION BOX (AS NOTED)
- TELEPHONE MANHOLE (TM)
- TELEPHONE RISER (TR)
- CATCH BASIN (CB)
- STORM MANHOLE (SDMH)
- STORM CLEANOUT (SDCO)
- ROOF DRAIN (RD)
- SANITARY SEWER MANHOLE (SSMH)
- SANITARY CLEANOUT (SSCO)
- GAS METER (GM)
- GAS VALVE (GV)
- WATER VALVE (WV)
- FAUCET
- FIRE HYDRANT(FH) / CONNECTION(FDC)
- POST INDICATOR VALVE (PIV)
- WATER MANHOLE
- WATER METER (WM)
- BLOW-OFF / AIRVAC
- WELL
- SIGN
- IRRIGATION VALVE (IV)
- DIRECTIONAL ARROW
- HANDICAP
- MAILBOX (MB)

- BARBED WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- HOGWIRE FENCE
- SILT FENCE
- METAL/IRON FENCE
- GUARD RAIL/CABLE FENCE
- WATER LINE
- GAS LINE
- STEAM LINE
- TELEPHONE LINE (OH) OR (UG)
- POWER LINE (OH) OR (UG)
- STORM LINE
- SEWER LINE
- ROCKERY
- KEYSTONE WALL
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE DRIPLINE
- CONCRETE
- GRAVEL/SAND (AS NOTED)
- ASPHALT
- SOIL
- BRICK PAVERS
- STONE PAVERS
- BUILDING LINE



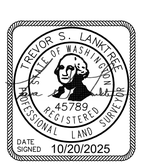
SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY UPON WHICH IT IS BASED WERE MADE BY ME OR UNDER MY DIRECTION AND CORRECTLY REFLECTS THE CONDITIONS OF THIS SITE AS OF THE DATE OF THE FIELD SURVEY.

I HEREBY ATTEST THAT THE CONTOURS SHOWN HERE ON ARE ACCURATE TO WITHIN 6-INCHES (0.5') VERTICALLY AND HORIZONTALLY FROM THE ACTUAL ELEVATIONS OF THIS SITE ON THE DATE OF FIELD SURVEY.

10/20/2025
DATE

TREVOR S. LANKTREE P.L.S.
WASHINGTON REGISTRATION NO. 45789



No.	Date	By	Ckd.	Appr.	Revision

Title:
BOUNDARY AND TOPOGRAPHIC SURVEY
PTN OF THE NW1/4, OF THE SE1/4 OF SEC. 25,
TWP. 24 N., RGE 04 EAST, W. M.
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON

For:
SAINTFIELD2, LLC

Scale: Horizontal 1"=15' Vertical

Drawn TSL
Checked TSL
Approved TSL
Date 10/20/25

LANKTREE
LAND SURVEYING, INC.
25510 74TH AVENUE SOUTH KENT, WA 98032
PHONE: (253) 653-6423
FAX: (253) 793-1616
WWW.LANKTREELANDSURVEYING.COM

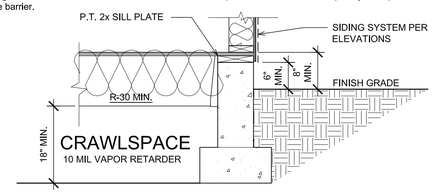
Job Number 6497

Sheet 1 of 1

SECTION R317 PROTECTION OF WOOD AND WOOD-BASED PRODUCTS AGAINST DECAY

Protection of wood and wood-based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1.

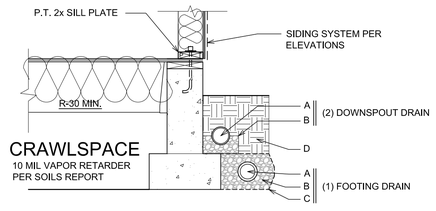
1. Wood joists or the bottom of a wood structural floor where closer than 18 inches or wood girders where closer than 12 inches to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation.
2. Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from the exposed ground.
3. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.
4. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch on tops, sides and ends.
5. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches from the ground or less than 2 inches measured vertically from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather.
6. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
7. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members.
8. Portions of wood structural members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where those members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering that would prevent moisture or water accumulation on the surface or at joints between members.
9. Wood columns in contact with basement floor slabs unless supported by concrete piers or metal pedestals projecting not less than 1 inch above the concrete floor and separated from the concrete pier by an impervious moisture barrier.



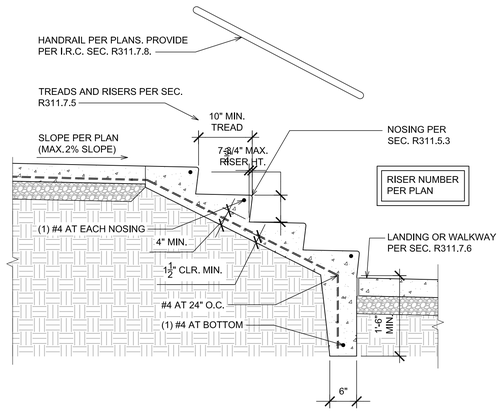
FOUNDATION - PROTECTION OF WOOD
SCALE: 3/4" = 1'-0" — SLAB ON GRADE — 9 A2.1

(1) FOOTING DRAINS:

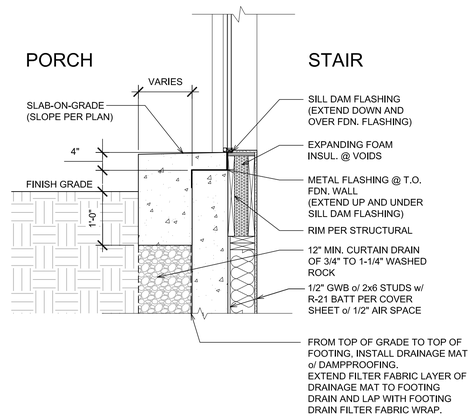
A. PIPE: SMOOTH WALL PERF PIPE, MIN. 4" DIAMETER (PERFS. DOWN.) INSTALL CLEANOUTS AT MAXIMUM 50 FOOT SPACING. INVERT AT LEAST 6" BELOW SLAB OR CRAWLSPACE. SLOPE TO DRAIN TO APPROPRIATE OUTFALL. 4" DIAMETER TIGHTLINE ROOF DRAIN, SMOOTH WALL, DO NOT CONNECT TO FOOTING DRAIN.
B. BEDDING: CLEAN, WASHED, ROUNDED GRAVEL W/ UNIFORM DIA. BETWEEN 3/4" & 1-1/4". PROVIDE AT LEAST 6-INCHES OF BEDDING ABOVE AND BESIDE FOOTING DRAIN PIPE.
C. FILTER FABRIC: NON-WOVEN GEOTEXTILE EQUIVALENT TO MIRAFI 140N. INSTALLED TO FULLY ENCAPSULATE CLEAN, WASHED ROUNDED GRAVEL (7/8" MIN.)
D. BACKFILL: IMPORTED OR NATIVE SOIL w/ MAX. PARTICLE SIZE OF 4".



DRAINAGE NOTES
SCALE: 3/4" = 1'-0" — SLAB ON GRADE — 8 A2.1



CONC. STEPS ON GRADE
SCALE: 3/4" = 1'-0" — 7 A2.1



RAISED STEM WALL @ PORCH / STAIR
SCALE: 3/4" = 1'-0" — 6 A2.1

FOUNDATION - PARTIAL HEIGHT WALL
SCALE: 3/4" = 1'-0" — SLAB ON GRADE — 3 A2.1

FOUNDATION - CRAWLSPACE
SCALE: 3/4" = 1'-0" — CRAWLSPACE — 5 A2.1

FDN - RAISED WALL @ CRAWLSPACE
SCALE: 3/4" = 1'-0" — SLAB ON GRADE / CRAWLSPACE — 2 A2.1

FOUNDATION - THICKENED SLAB
SCALE: 3/4" = 1'-0" — SLAB ON GRADE — 4 A2.1

FOUNDATION - CRAWLSPACE
SCALE: 3/4" = 1'-0" — CRAWLSPACE — 1 A2.1

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206.443.1181
mccullougharchitects.com

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Revisions
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Comment
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Job No: 24-008
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT
PHILIP J. McCULLOUGH
STATE OF WASHINGTON
7805

PERMIT APPLICATION

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

Foundation Details

A2.1

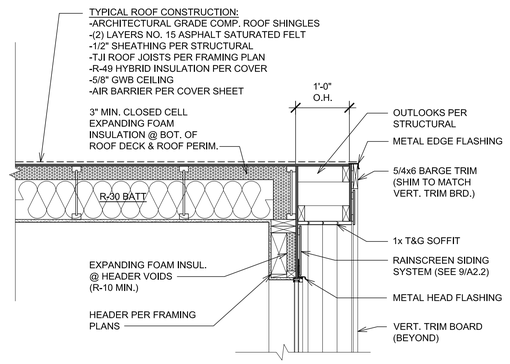
WINDOW INSTALLATION SEQUENCE
1. STRUCTURAL SHEATHING INSTALLED OVER FRAME WALL
2. INSTALL FLASHING AT SILL
3. INSTALL WINDOW PLUMB, LEVEL AND SQUARE
4. INSTALL FLASHING AT JAMBS
5. INSTALL FLASHING AT HEAD
6. AIR SEAL INT. OF WINDOW AROUND ENTIRE PERIMETER w/ SEALANT AND BACK ROD

TYPICAL ASSEMBLY INSULATION VALUES:

ATTIC INSULATION	R-60 BLOWN-IN
VAULTED CL'G INSULATION	R-49 (R-30 BATT+3"SPF)
FLOOR INSULATION	R-30 BATT
ABV. GRADE EXT. WALL INSUL.	R-21 BATT
BELOW GRADE EXT. WALL INSUL.	R-21 BATT+R-5 C.I.

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

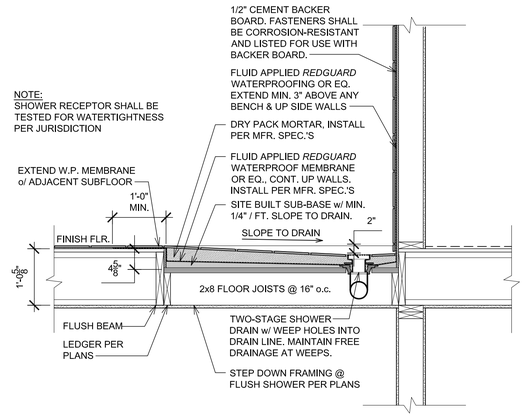
12 A2.2



VAULT ROOF AT ENTRY

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

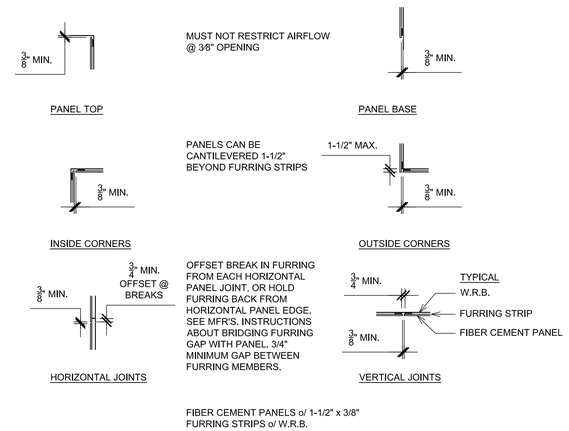
11 A2.2



RECESSED MUD SET SHOWER

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

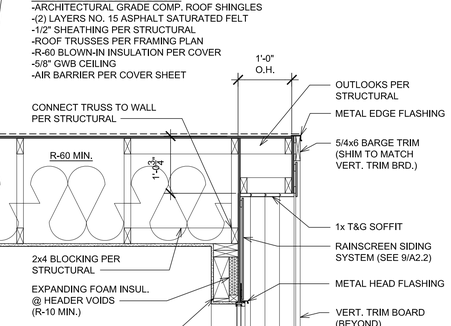
10 A2.2



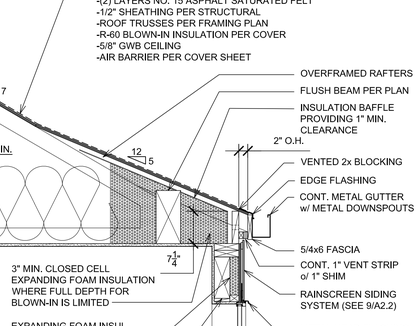
TYPICAL - RAINSCREEN SIDING DETAILS

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

9 A2.2



PLAN CORNER w/o WINDOW



PLAN CORNER w/ WINDOW

SIDING DETAIL @ GABLE ELEVATION

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

7 A2.2

PORCH PARAPET ROOF

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

6 A2.2

TYPICAL RAKE 0" O.H.

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

5 A2.2

TYPICAL RAKE O.H.

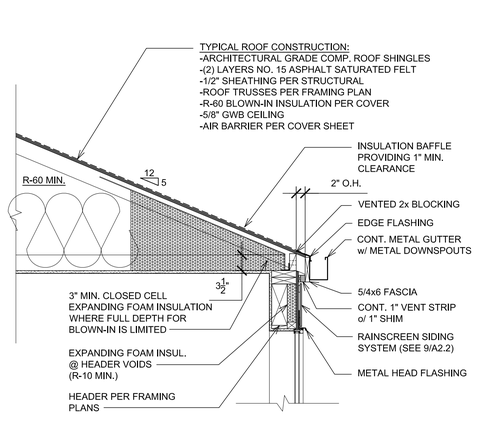
SCALE: 3/4" = 1'-0" VENTED

4 A2.2

5:12 ROOF OVERFRAME EAVE O.H.

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

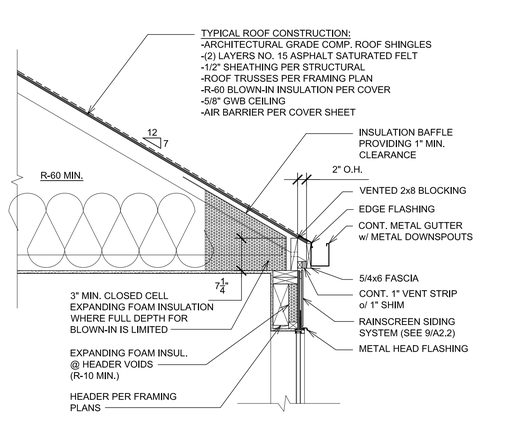
3 A2.2



TYPICAL - 5:12 ROOF EAVE O.H.

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

2 A2.2



TYPICAL - 7:12 ROOF EAVE O.H.

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

1 A2.2

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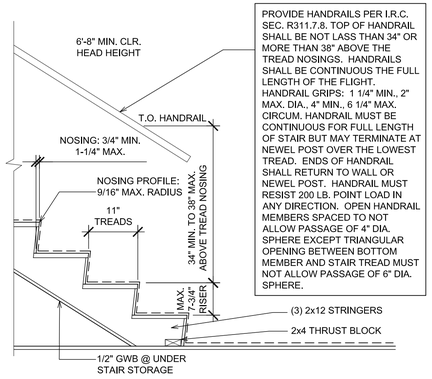
REGISTERED ARCHITECT 7805 PHILIP A. MCCULLOUGH STATE OF WASHINGTON

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

PERMIT APPLICATION

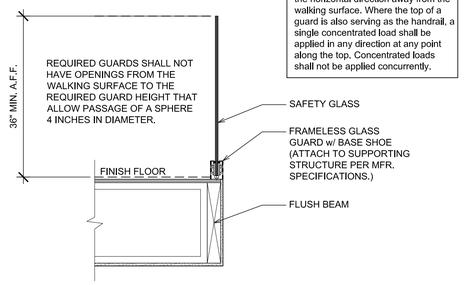
Wall Sections & Roof Details

A2.2



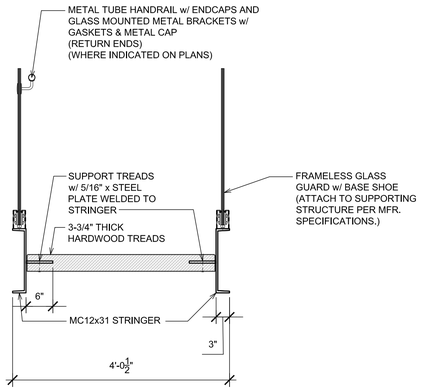
PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT. HANDRAIL GRIPS: 1 1/4" MIN., 2" MAX. DIA., 4" MIN., 6 1/4" MAX. CIRCUM. HANDRAIL MUST BE CONTINUOUS FOR FULL LENGTH OF STAIR BUT MAY TERMINATE AT NEWEL POST OVER THE LOWEST TREAD. ENDS OF HANDRAIL SHALL RETURN TO WALL OR NEWEL POST. HANDRAIL MUST RESIST 200 LB. POINT LOAD IN ANY DIRECTION. OPEN HANDRAIL MEMBERS SPACED TO NOT ALLOW PASSAGE OF 4" DIA. SPHERE EXCEPT TRIANGULAR OPENING BETWEEN BOTTOM MEMBER AND STAIR TREAD MUST NOT ALLOW PASSAGE OF 6" DIA. SPHERE.

CLOSED RISER STAIR
SCALE: 3/4" = 1'-0" — 7 / A2.3

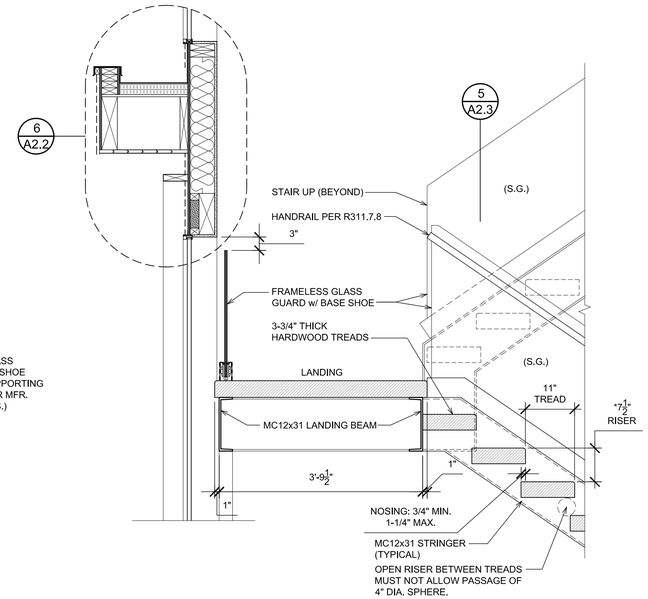


GUARDS
R301.5 LIVE LOADS
CONCENTRATED LOAD=200 LBS
Glazing used in handrail assemblies and guards shall be designed with a load adjustment factor of 4. The load adjustment factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load. Where the top of a guard system is not required to serve as a handrail, the single concentrated load shall be applied at any point along the top, in the vertical downward direction and in the horizontal direction away from the walking surface. Where the top of a guard is also serving as the handrail, a single concentrated load shall be applied in any direction at any point along the top. Concentrated loads shall not be applied concurrently.

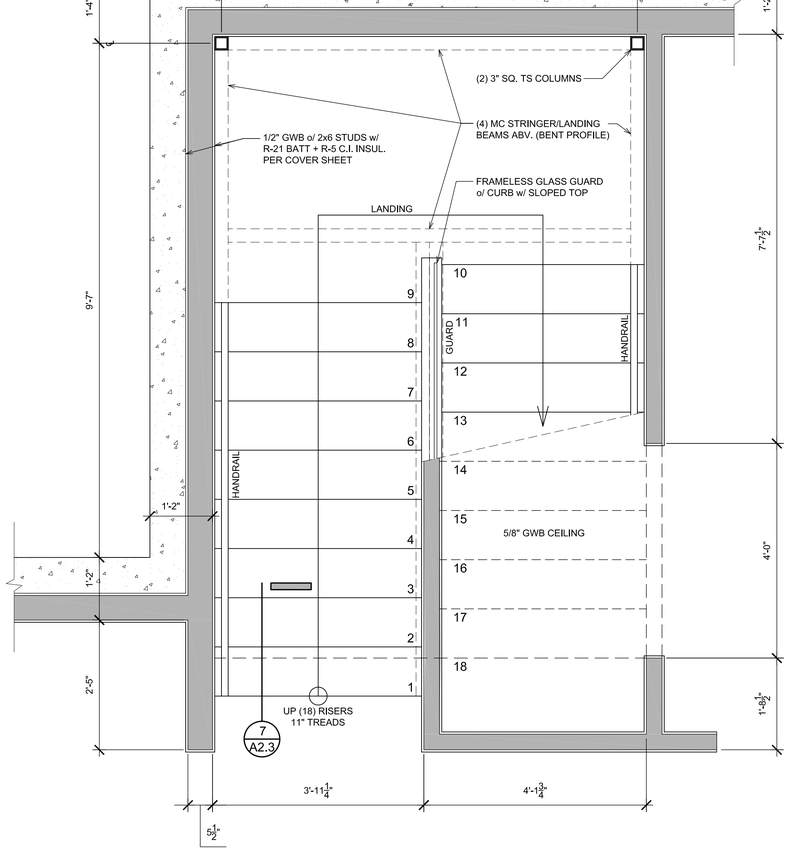
GLASS GUARD SECTION
SCALE: 3/4" = 1'-0" — 6 / A2.3



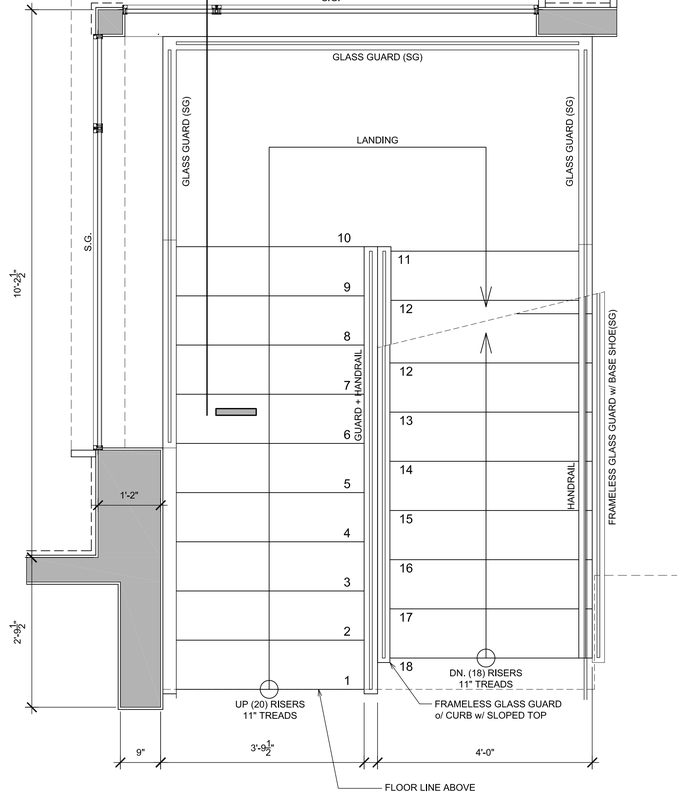
STAIR STRINGER SECTION
SCALE: 3/4" = 1'-0" — 5 / A2.3



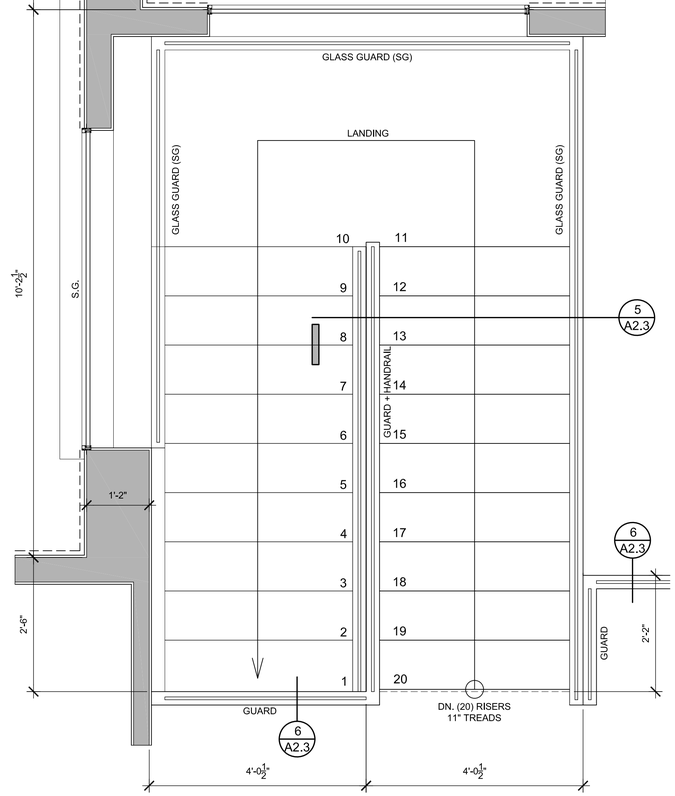
STAIR LANDING SECTION
SCALE: 1-1/2" = 1'-0" — 4 / A2.3



STAIR - LOWER FLOOR PLAN
SCALE: 3/4" = 1'-0" — 3 / A2.3



STAIR - MAIN FLOOR PLAN
SCALE: 3/4" = 1'-0" — 2 / A2.3



STAIR - UPPER FLOOR PLAN
SCALE: 3/4" = 1'-0" — 2 / A2.3

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Approved:

Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT
7806
PHILIP A. McCULLOUGH
STATE OF WASHINGTON

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

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Stair Details

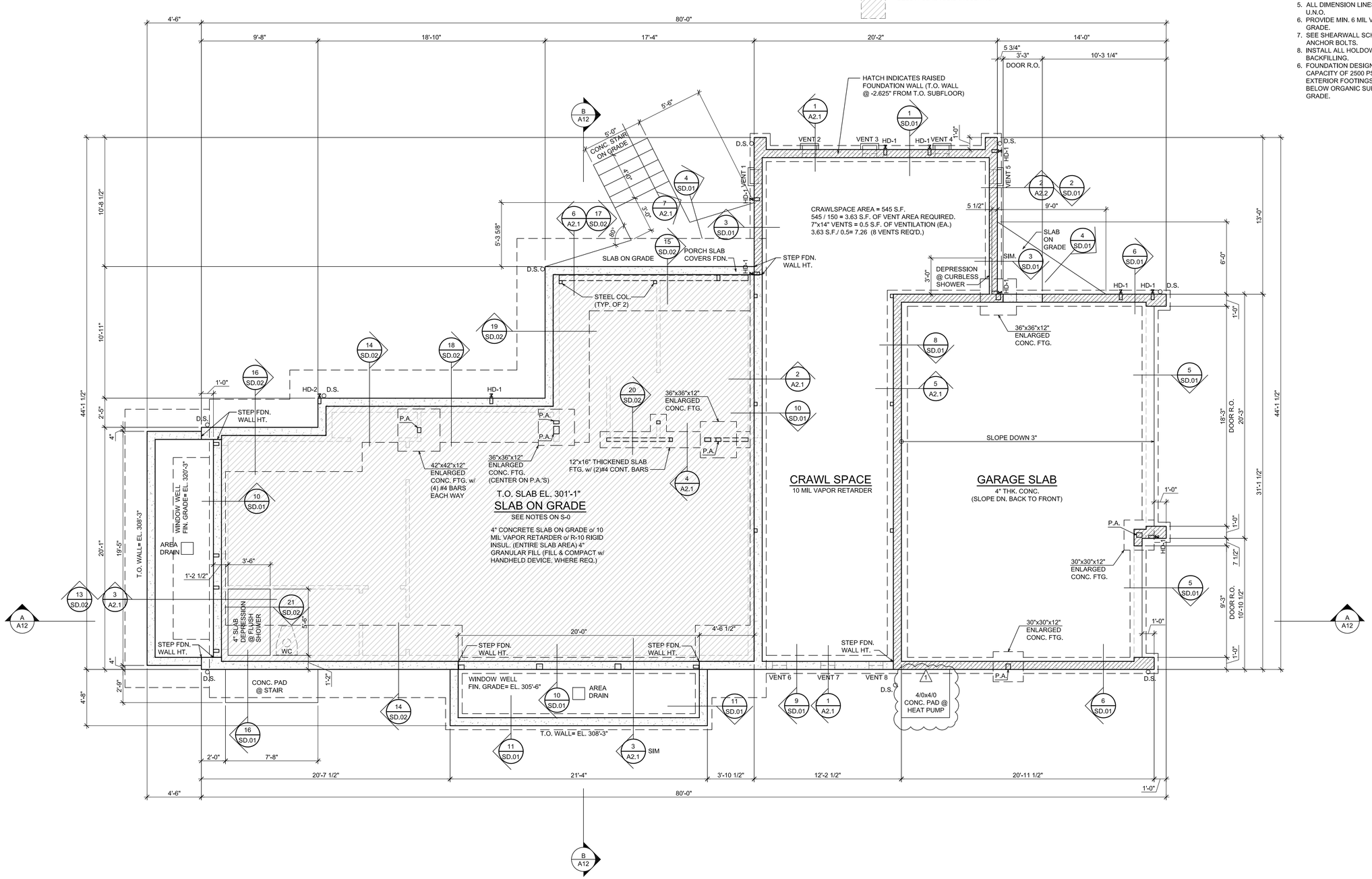
A2.3

PLAN KEY:

- INDICATES LOC. OF 14"x7" FOUNDATION VENT w/ AREA WELL (PROVIDE MIN. 0.5 S.F. OF VENTILATION PER VENT)
- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- DS — INDICATES LOC. OF DOWNSPOUT
- TYPICAL CONC. FDN. WALL
- RAISED STEM CONC. FDN. WALL
- BELOW SLAB RIGID INSULATION

GENERAL NOTES:

1. 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
2. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
3. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18" OR WOOD GIRDERS WHEN CLOSER THAN 12" TO THE EXPOSED GROUND IN CRAWL SPACES SHALL BE PROTECTED AGAINST DECAY WITH A PRESERVATIVE-TREATMENT IN ACCORDANCE WITH AWPA U1 AND THE IRC R317.1.
4. THE UNDER-FLOOR GRADE SHALL BE CLEANED OF ALL ORGANIC MATERIAL, AND CONSTRUCTION MATERIAL BEFORE THE BUILDING IS OCCUPIED.
5. ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
6. PROVIDE MIN. 6 MIL VAPOR BARRIER @ CRAWLSPACE & SLAB ON GRADE.
7. SEE SHEARWALL SCHEDULE FOR LOCATION & SPACING OF ANCHOR BOLTS.
8. INSTALL ALL HOLDOWNS AND HARDWARE PRIOR TO BACKFILLING.
6. FOUNDATION DESIGN IS BASED ON AN AVERAGE BEARING CAPACITY OF 2500 PSF PER SOILS REPORT DATED 5/30/23. EXTERIOR FOOTINGS TO BEAR ON FIRM UNDISTURBED SOIL BELOW ORGANIC SURFACE SOIL, A MINIMUM 1'-6" BELOW FINISH GRADE.



0 4 8

FOUNDATION PLAN

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

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PHILIP MCCULLOUGH
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Washington
98040

PLAN REVIEW 1

Foundation Plan

A3

PLAN KEY:

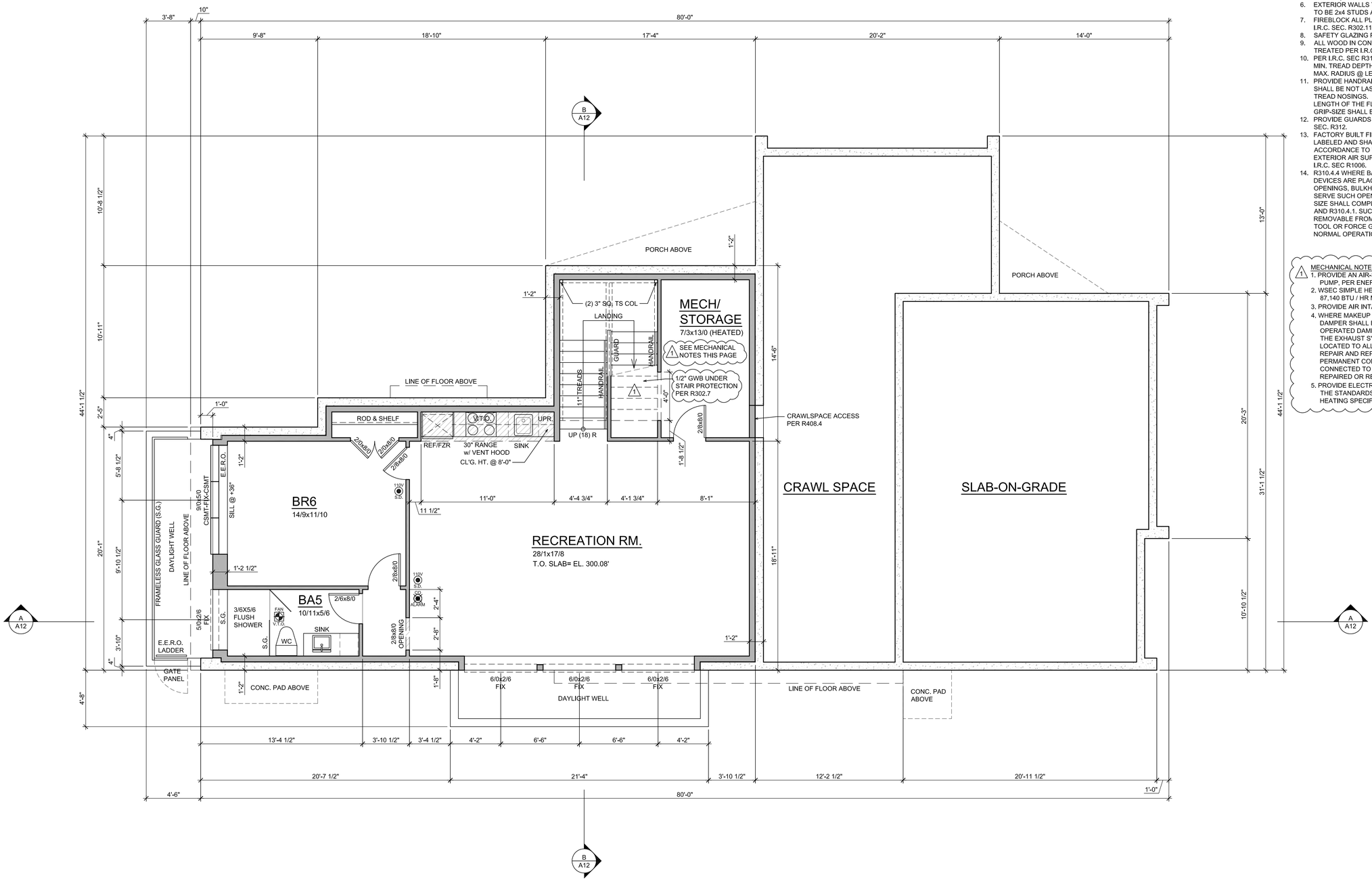
110V S.D.	INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED W/ EMERGENCY BATTERY BACKUP
CO	INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
1 FAN V.T.O.	INDICATES EXHAUST VENTILATION FAN PER COVER SHEET A0.1.
S.G.	INDICATES SAFETY GLAZING REQUIRED PER IRC SEC. R308.4
FIX	INDICATES FIXED FRAME WINDOW
CSMT	INDICATES CASEMENT WINDOW
V.T.O.	INDICATES "VENT TO OUTSIDE"

GENERAL NOTES:

1. PLATE HEIGHT @ LOWER FLOOR IS 9'-1", U.N.O.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT LOWER FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2/8-2/8= 2'-8"W x 2'-8"H)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" o.c., INTERIOR WALLS TO BE 2x4 STUDS AT 16" o.c., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER I.R.C. SEC. R302.11.
8. SAFETY GLAZING PER I.R.C. SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER I.R.C. SEC. R317.1.
10. PER I.R.C. SEC R311.7.5, MAX. RISER HEIGHT SHALL BE 7-3/4", MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
11. PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
12. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER I.R.C. SEC. R312.
13. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER I.R.C. SEC R1006.
14. R310.4.4 WHERE BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PLACED OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, BULKHEAD ENCLOSURES OR AREA WELLS THAT SERVE SUCH OPENINGS, THE MINIMUM NET CLEAR OPENING SIZE SHALL COMPLY WITH SECTIONS R310.2 THROUGH R310.2.2 AND R310.4.1. SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL OR FORCE GREATER THAN THAT REQUIRED FOR THE NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING.

1 MECHANICAL NOTES:

1. PROVIDE AN AIR-SOURCED, CENTRALLY DUCTED GAS HEAT PUMP, PER ENERGY EQUALIZATION CREDITS, SYSTEM 2.
2. WSEC SIMPLE HEATING SYSTEM SIZE: 87,140 BTU / HR MAX. HEAT EQUIPMENT OUTPUT.
3. PROVIDE AIR INTAKE AT MECHANICAL ROOM CEILING.
4. WHERE MAKEUP AIR IS REQUIRED BY SECTION M1503.6 THE DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE LOCATED TO ALLOW ACCESS FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER DUCTS NOT CONNECTED TO THE DAMPER BEING INSPECTED, SERVICED, REPAIRED OR REPLACED.
5. PROVIDE ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.



BASEMENT FLOOR PLAN

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

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Revisions
9/26/25 PLAN REVIEW
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Job No: 24-008
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

REGISTERED ARCHITECT 7806 PHILIP M. MCCULLOUGH STATE OF WASHINGTON

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

PLAN REVIEW 1

Lower Floor Plan

A4

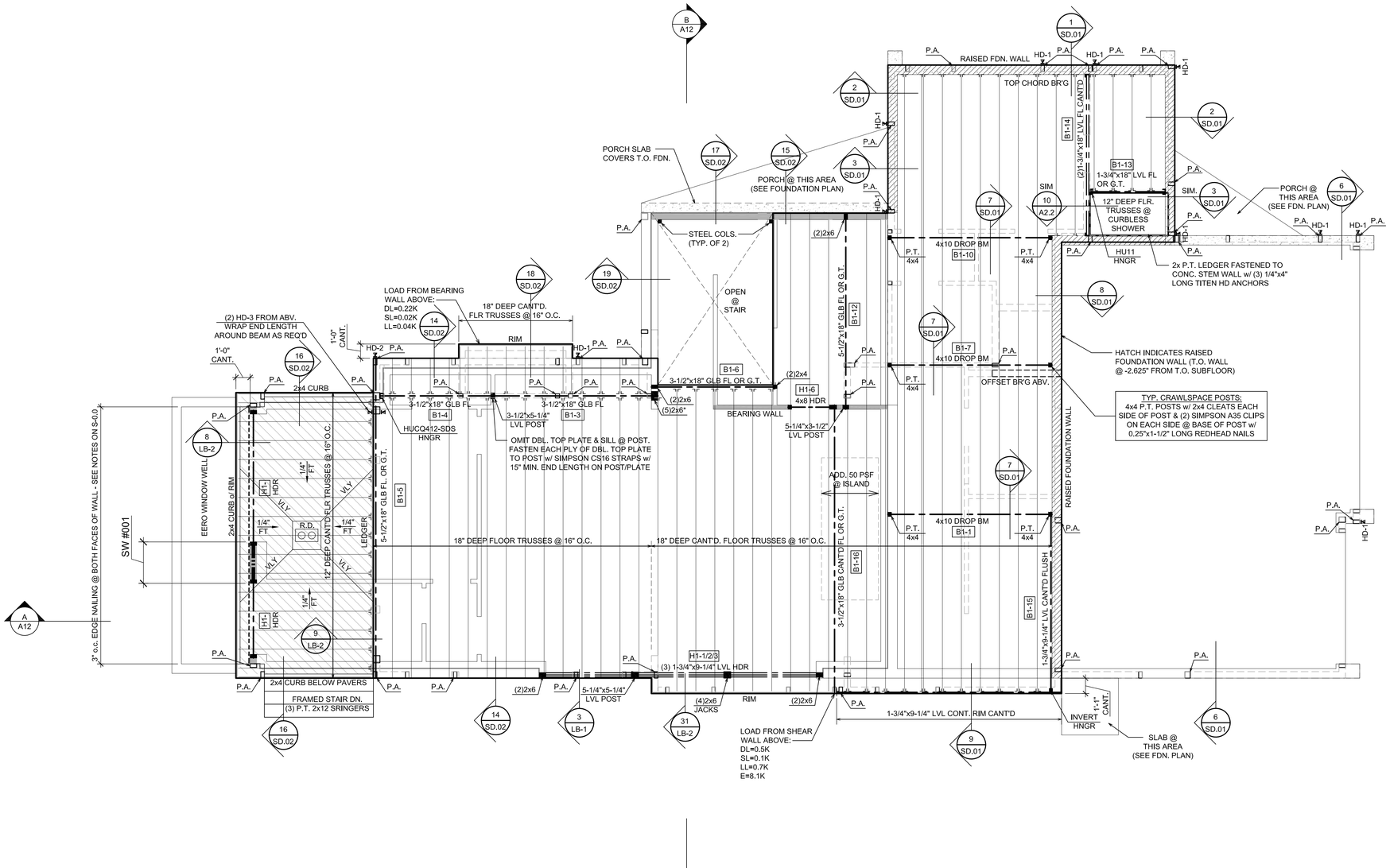
CREATE DECK SLOPE WITH RIDGID INSULATION PANELS

PLAN KEY:

- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 16d @ 16" O.C., (2) 16d EA. END TYP. UNLESS NOTED OTHERWISE
- P.A. POST ABOVE
- TYPICAL FLOOR TRUSS HANGER
- TYPICAL BEAM HANGER
- TYPICAL WALL ABOVE
- TYPICAL BR'G WALL ABOVE
- TYPICAL WALL BELOW
- TYPICAL BR'G WALL BELOW
- TYPICAL SHEAR WALL BELOW
- SHEAR WALL w/ 3" EDGE NAILING
- INDICATES LOC. OF HOLD-DOWN

GENERAL NOTES:

1. TYPICAL FLOOR FRAMING CONSISTS OF 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 18" FLOOR TRUSSES AT 16" o.c., U.N.O. PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH.
2. GLUE AND NAIL FLOOR SHEATHING w/ 8d AT 6"o.c. AT FRAMED PANEL EDGES AND AT 12" o.c. IN THE FIELD, UNO.
3. REFER TO SHEET SD-4 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
4. REFER TO GENERAL STRUCTURAL NOTES SHEET S-0 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT SCALE DRAWINGS. REFER TO LISTED DIMENSIONS.



MAIN FLOOR FRAMING PLAN

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

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SEARS PLAT - LOT 2
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PLAN REVIEW 1

Main Floor Plan

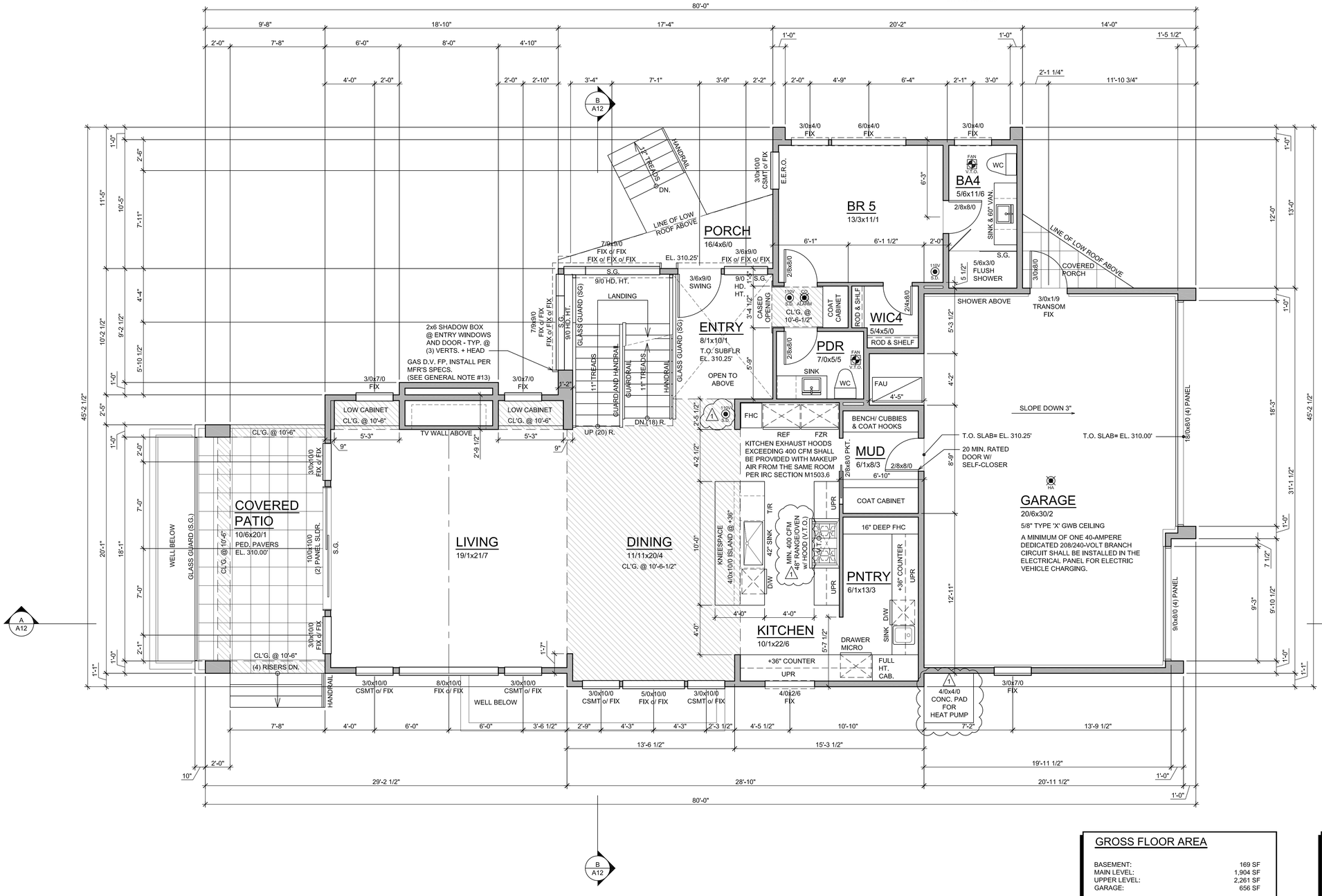
A5

PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED W/ EMERGENCY BATTERY BACKUP
- CO — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- 1 FAN V.T.O. — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET A0.1.
- HA — INDICATES HEAT ALARM ALARM PER IRC R314.2.3
- S.G. — INDICATES SAFETY GLAZING REQUIRED PER IRC SEC. R308.4
- FIX — INDICATES FIXED FRAME WINDOW
- CSMT — INDICATES CASEMENT WINDOW
- AWN — INDICATES AWNING WINDOW
- V.T.O. — INDICATES "VENT TO OUTSIDE"

GENERAL NOTES:

1. PLATE HEIGHT @ MAIN FLOOR IS 11'-0", U.N.O.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT MAIN FLOOR IS 10'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2/8-2/8= 2'-8"W x 2'-8"H)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" o.c., INTERIOR WALLS TO BE 2x4 STUDS AT 16" o.c., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER I.R.C. SEC. R302.11.
8. SAFETY GLAZING PER I.R.C. SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER I.R.C. SEC. R317.1.
10. PER I.R.C. SEC R311.7.5, MAX. RISER HEIGHT SHALL BE 7-3/4", MIN. TREAD DEPTH SHALL BE 10", STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
11. PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
12. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER I.R.C. SEC. R312.
13. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER I.R.C. SEC R1006.
13. PROVIDE (1) LAYER OF 1/2" G.W.B. AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE 'X' G.W.B. TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
14. HEAT ALARMS SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS. HEAT ALARMS SHALL BE CONNECTED TO AN ALARM OR A SMOKE ALARM THAT IS INSTALLED IN THE DWELLING PER 2018 WASHINGTON STATE ADMENDMENTS IRC R314.2.3
15. CONTROLS SHALL INDICATE WHEN SUPPLEMENTAL HEATING IS BEING USED THROUGH VISUAL MEANS. HEAT PUMPS EQUIPPED WITH SUPPLEMENTAL HEATERS SHALL BE INSTALLED WITH CONTROLS THAT PREVENT SUPPLEMENTAL HEATER OPERATION ABOVE 40°F. AT FINAL INSPECTION THE AUX. HEAT LOCK OUT CONTROL SHALL BE SET TO 35°F OR LESS. (WSEC R403.1.2.)



GROSS FLOOR AREA

BASEMENT:	169 SF
MAIN LEVEL:	1,904 SF
UPPER LEVEL:	2,261 SF
GARAGE:	656 SF
TOTAL ALLOWED:	5,184 SF
TOTAL PROPOSED:	4,990 SF

BUILDING AREA SUMMARY

HEATED BASEMENT:	1,105 SF
HEATED MAIN LEVEL:	1,629 SF
HEATED UPPER LEVEL:	2,261 SF
TOTAL HEATED FLOOR AREA:	4,995 SF
GARAGE AREA:	656 S.F.
COVERED PORCH/PATIO:	296 S.F.

0 4 8

MAIN FLOOR PLAN

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

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SAINTFIELD2 LLC

REGISTERED ARCHITECT
7805
T. PHILIP MCCULLOUGH
STATE OF WASHINGTON

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

PLAN REVIEW 1

Main Floor Plan

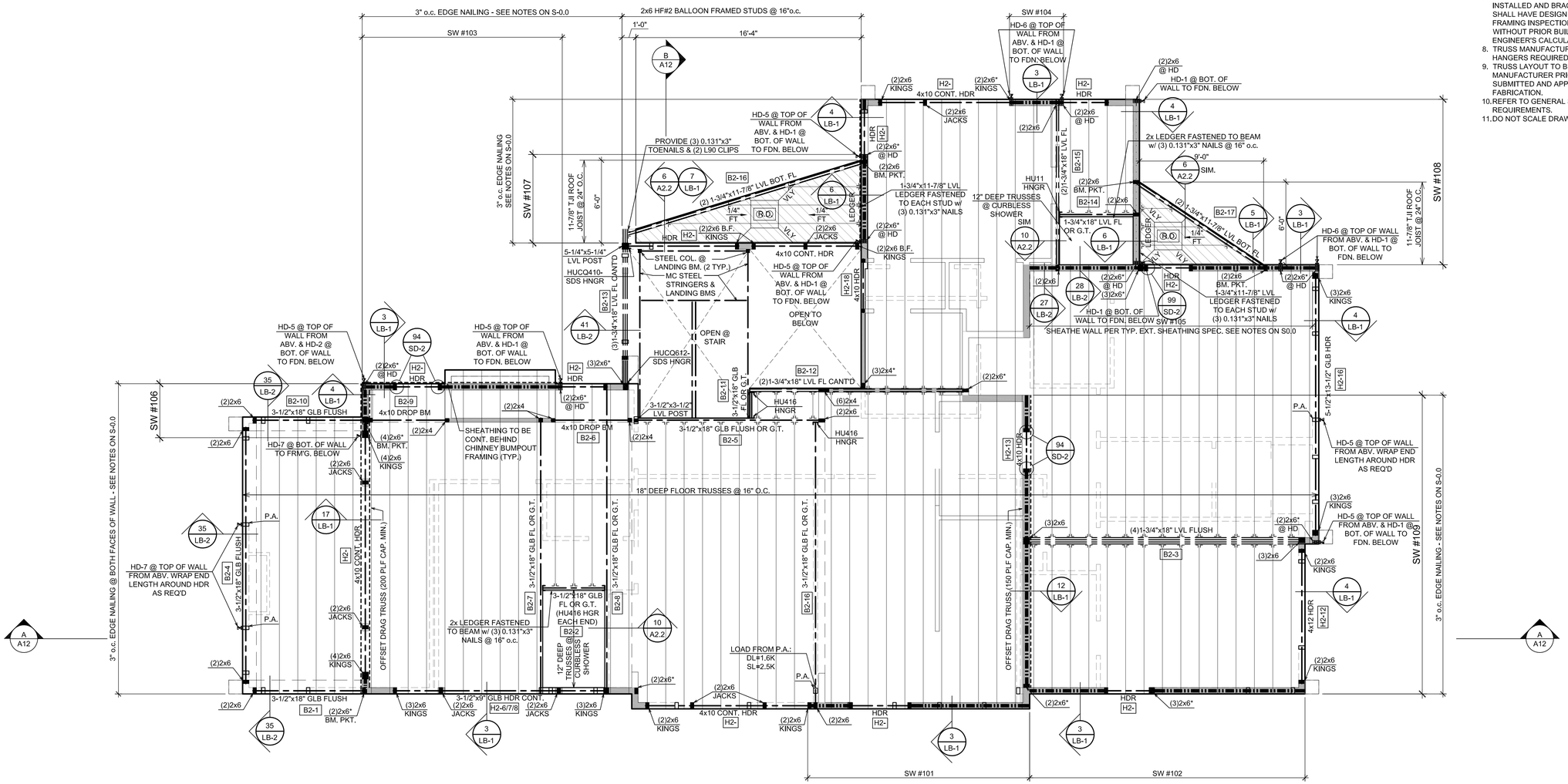
A6

PLAN KEY:

- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 10d @ 16" O.C., (2) 10d EA. END TYP. UNLESS NOTED OTHERWISE
- P.A. POST ABOVE, PROVIDE SOLID BLK'G (TYP.)
- TYPICAL JOIST HANGER (SIMPSON)
- TYPICAL BEAM HANGER (SIMPSON)
- TYPICAL WALL ABOVE
- TYPICAL BR'G WALL ABOVE
- TYPICAL WALL BELOW
- TYPICAL BR'G WALL BELOW
- TYPICAL SHEAR WALL
- SHEAR WALL w/ 3" EDGE NAILING
- INDICATES LOC. OF HOLD-DOWN

GENERAL NOTES

1. MAIN FLOOR FRAMING TO BE 18" DEEP FLOOR TRUSSES @ 16" O.C. WITH 3/4" OSB SUBFLOOR, GLUED AND NAILED, U.N.O. ADHESIVES SHALL CONFORM TO APA SPEC. AFG 01. PROVIDE T&G EDGES AT LONG PANEL EDGES. STAGGER SUBFLOOR END JOINTS.
2. EXTERIOR HEADERS SHALL BE FL. BOT. 4x10 DF#2, OR FLOOR GIRDER TRUSS U.N.O. PROVIDE (1) 2x TRIMMER @ ALL HEADERS U.N.O. FILL HEADER CAVITY WITH R-10 INSULATION.
3. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF HEADERS, BEAMS AND GIRDER TRUSSES 6'-0" IN LENGTH AND OVER, U.N.O.
4. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING THRU FLOOR TO MATCHING SUPPORTS BELOW, U.N.O. ALL MARKED POSTS ARE BELOW THE FRAMING SHOWN ON THIS PLAN.
5. PROVIDE SOLID BLOCKING IN FLOOR AT ALL WALLS AND POINT LOADS FROM ABOVE.
6. BEARING WALLS ARE SHADED.
7. ALL TRUSSES SHALL CARRY MANUFACTURER'S STAMP, SHALL BE INSTALLED AND BRACED TO MANUFACTURER'S SPECIFICATIONS, SHALL HAVE DESIGN DETAILS AND DRAWINGS ON SITE FOR FRAMING INSPECTION, AND WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEER'S CALCULATIONS.
8. TRUSS MANUFACTURER TO SUPPLY ALL BLOCKING AND HANGERS REQUIRED AT MANUFACTURED TRUSSES.
9. TRUSS LAYOUT TO BE REVIEWED AND APPROVED BY TRUSS MANUFACTURER PRIOR TO CONSTRUCTION. ALL CHANGES TO BE SUBMITTED AND APPROVED BY ARCHITECT PRIOR TO FABRICATION.
10. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
11. DO NOT SCALE DRAWINGS. REFER TO LISTED DIMENSIONS.



UPPER FLOOR FRAMING PLAN

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

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REGISTERED PROFESSIONAL ENGINEER
7805
J. PHILIP MCCULLOUGH
STATE OF WASHINGTON

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

PLAN REVIEW 1

Upper Floor Plan

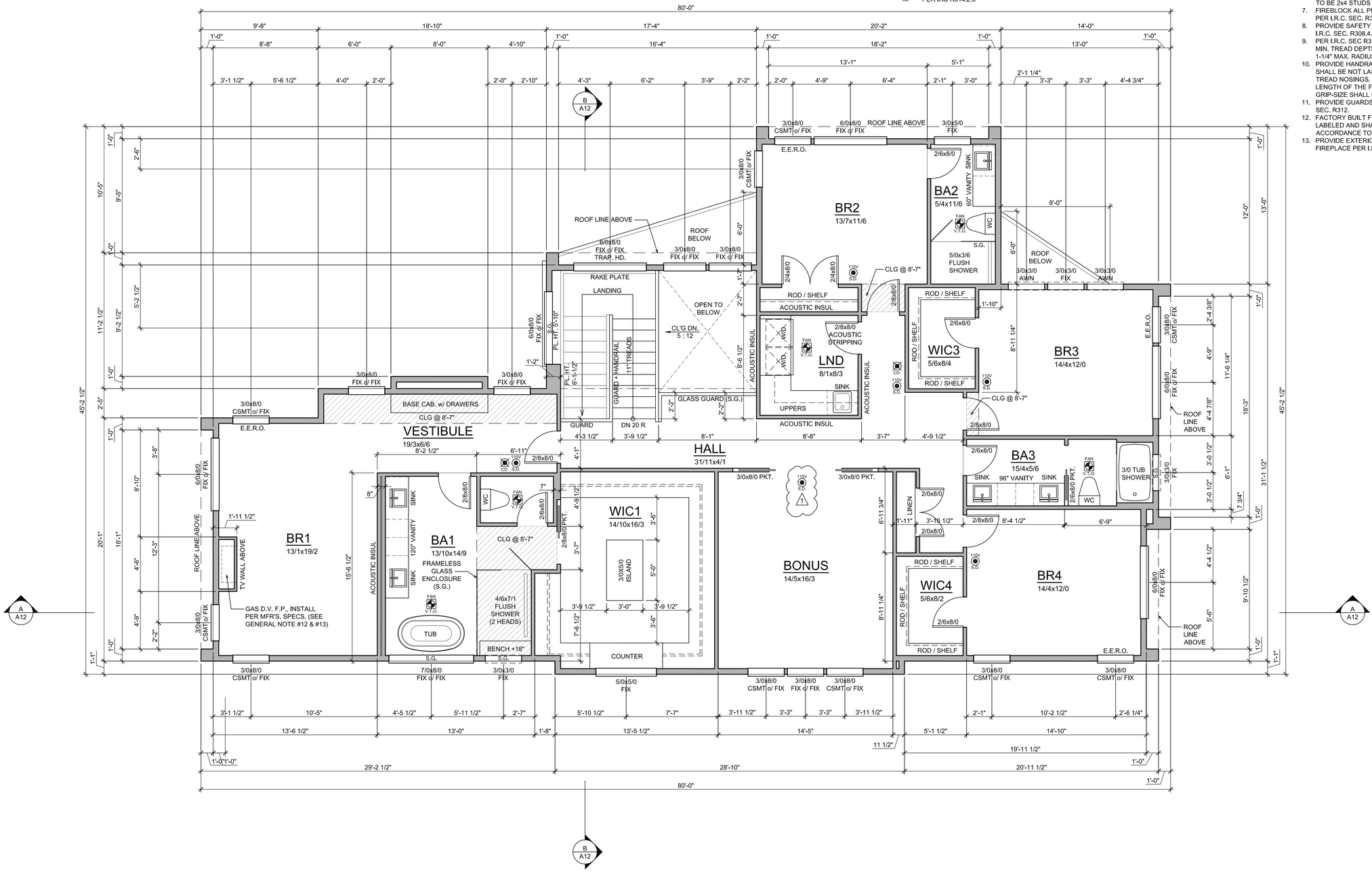
A7

PLAN KEY:

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- CO — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
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- S.G. — INDICATES SAFETY GLAZING REQUIRED PER IRC SEC. R308.4
- FIX — INDICATES FIXED FRAME WINDOW
- CSMT — INDICATES CASEMENT WINDOW
- AWN — INDICATES AWNING WINDOW
- V.T.O. — INDICATES "VENT TO OUTSIDE"

GENERAL NOTES:

1. PLATE HEIGHT @ UPPER FLOOR IS 9'-1", U.N.O.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. WINDOW HEAD HEIGHT AT UPPER FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2/8-2/8= 2'-8"W x 2'-8"H)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" o.c., INTERIOR WALLS TO BE 2x4 STUDS AT 16" o.c., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER I.R.C. SEC. R302.11.
8. PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER I.R.C. SEC. R308.4.
9. PER I.R.C. SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10", STAIR NOSINGS; 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
10. PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
11. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER I.R.C. SEC. R312.
12. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS.
13. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER I.R.C. SEC R1006.



0 4 8

UPPER FLOOR PLAN

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

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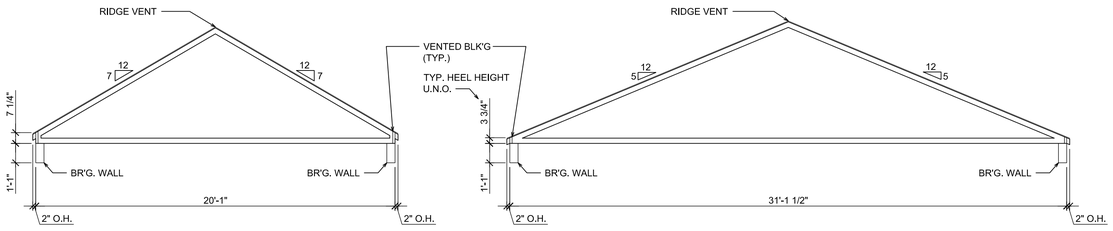
REGISTERED ARCHITECT PHILIP MCCULLOUGH 7805 STATE OF WASHINGTON

SEARS PLAT - LOT 2
Mercer Island
Washington
98040

PLAN REVIEW 1

Upper Floor Plan

A8



COMMON TRUSS PROFILE "A1"

COMMON TRUSS PROFILE "B1"

TRUSS PROFILES INDICATE "TYPICAL" CONDITIONS AND DO NOT INDICATE MODIFICATIONS REQUIRED FOR SPECIFIC TRUSSES. TRUSS DIMENSIONS TO BE FIELD VERIFIED BY CONTRACTOR. REFER TO APPROVED TRUSS SHOP DRAWINGS FOR EXACT SIZE AND DIMENSION OF EACH TRUSS AND CONDITION.

PLAN KEY:

- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 10d @ 16" O.C., (2) 10d EA. END TYP. UNLESS NOTED OTHERWISE
- TYPICAL RAFTER HANGER (SIMPSON)
- TYPICAL BEAM HANGER (SIMPSON)
- D.S.O DOWNSPOUT
- TYPICAL WALL BELOW
- TYPICAL EXT. / INT. BR'G. WALL
- TYPICAL SHEAR WALL
- 3 INCH o.c. SHEAR WALL
- INDICATES LOC. OF HOLD-DOWN
- HATCHED AREA INDICATES OVERFRAMING

GENERAL NOTES:

1. BEARING WALLS ARE SHADED.
2. 5/12 ROOF PITCH, U.N.O.
3. EAVE OVERHANG TO BE 2", RAKE OVERHANG TO BE 0" U.N.O.
4. APPLY ROOF UNDERLAYMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. ICE BARRIER IS REQUIRED FOR LOW SLOPE ROOFS.
5. APPLY SINGLE PLY ROOFING MEMBRANE IN ACCORDANCE WITH I.R.C. SEC. 905.12.
6. ROOF FRAMING TO BE MANUFACTURED TRUSSES @ 24" O.C., U.N.O.
7. H3- 4x10 AT ALL EXT. OPENINGS U.N.O. PROVIDE (1) 2x TRIMMER @ ALL HEADERS U.N.O. FILL HEADER CAVITY WITH R-10 INSULATION.
8. COLUMNS @ HEADERS, BEAMS, & GIRDERS TO BE (2) 2x STUDS (U.N.O.)
9. ALL MARKED POSTS ARE LOCATED BELOW THE FRAMING SHOWN ON THIS PLAN.
10. PROVIDE A SOLAR PANEL ELECTRICAL SYSTEM, PER THE PVWATTS CALCULATOR SPECIFICATIONS FOUND ON SHEET A0.2. REFER TO THIS ROOF PLAN FOR SYSTEM LOCATION AND LAYOUT. (1)

IRC SECTION R806 - ROOF VENTILATION
THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1 / 150 OF THE AREA OF SPACE TO BE VENTILATED, EXCEPT THAT THE AREA MAY BE 1 / 300, PROVIDED AT LEAST 40% (50% MAX.) OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE VENTS. THE OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT METAL MESH WITH MESH OPENINGS OF 1/16" MIN. & 1/4" MAX. IN DIMENSION. PROVIDE CROSS VENTILATION FOR EACH SEPARATE SPACE OF ENCLOSED ATTIC OR RAFTER SPACE. PROVIDE MIN. 1" CLEARANCE BETWEEN INSULATION AND ROOF SHEATHING.

ROOF ATTIC AREA= 2460 S.F. / 300 = 8.2 S.F. (1180 S.I.) REQ'D, VENT AREA
= 590 S.I. REQ'D. LOWER VENT AREA
= 590 S.I. REQ'D RIDGE VENT AREA

VENTED EAVE BLOCKING PROVIDES 16 S.I. OF VENTING PER EAVE BLOCK. PROVIDE (37) VENTED EAVE BLOCKS W/ (3) 1-1/2" DIA. SCREENED HOLES PER EAVE BLOCK. PROVIDE CONT. VENT STRIPS ALONG THE BUILDING PERIMETER @ ALL CLOSED SOFFITS.

ROOF FRAMING PLAN

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

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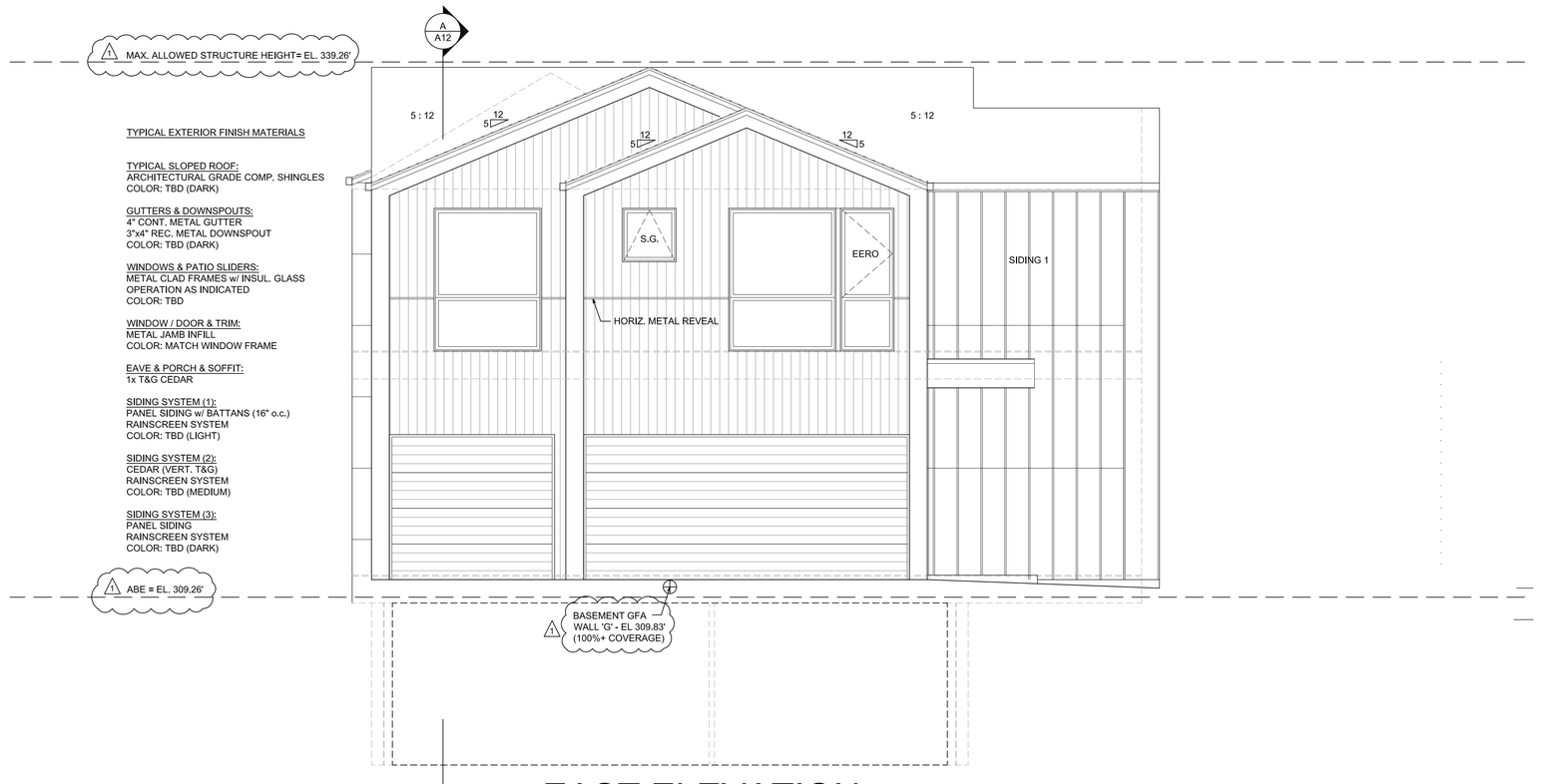
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SEARS PLAT - LOT 2
Mercer Island
Washington
98040

PLAN REVIEW 1

Roof Framing Plan

A9



TYPICAL EXTERIOR FINISH MATERIALS

TYPICAL SLOPED ROOF:
ARCHITECTURAL GRADE COMP. SHINGLES
COLOR: TBD (DARK)

GUTTERS & DOWNSPOUTS:
4" CONT. METAL GUTTER
3"x4" REC. METAL DOWNSPOUT
COLOR: TBD (DARK)

WINDOWS & PATIO SLIDERS:
METAL CLAD FRAMES w/ INSUL. GLASS
OPERATION AS INDICATED
COLOR: TBD

WINDOW / DOOR & TRIM:
METAL JAMB INFILL
COLOR: MATCH WINDOW FRAME

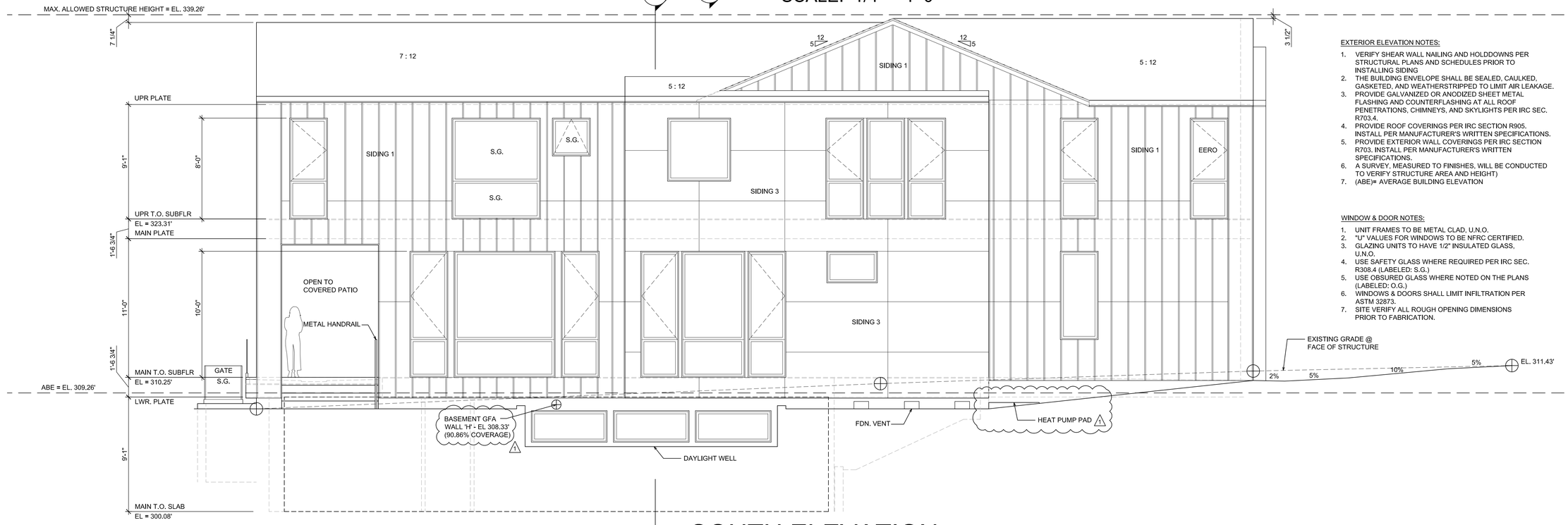
EAVE & PORCH & SOFFIT:
1x T&G CEDAR

SIDING SYSTEM (1):
PANEL SIDING w/ BATTANS (16" o.c.)
RAINSCREEN SYSTEM
COLOR: TBD (LIGHT)

SIDING SYSTEM (2):
CEDAR (VERT, T&G)
RAINSCREEN SYSTEM
COLOR: TBD (MEDIUM)

SIDING SYSTEM (3):
PANEL SIDING
RAINSCREEN SYSTEM
COLOR: TBD (DARK)

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



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

EXTERIOR ELEVATION NOTES:

1. VERIFY SHEAR WALL NAILING AND HOLDDOWNS PER STRUCTURAL PLANS AND SCHEDULES PRIOR TO INSTALLING SIDING
2. THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, AND WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
3. PROVIDE GALVANIZED OR ANODIZED SHEET METAL FLASHING AND COUNTERFLASHING AT ALL ROOF PENETRATIONS, CHIMNEYS, AND SKYLIGHTS PER IRC SEC. R703.4.
4. PROVIDE ROOF COVERINGS PER IRC SECTION R905. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
5. PROVIDE EXTERIOR WALL COVERINGS PER IRC SECTION R703. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
6. A SURVEY, MEASURED TO FINISHES, WILL BE CONDUCTED TO VERIFY STRUCTURE AREA AND HEIGHT)
7. (ABE)= AVERAGE BUILDING ELEVATION

WINDOW & DOOR NOTES:

1. UNIT FRAMES TO BE METAL CLAD, U.N.O.
2. "U" VALUES FOR WINDOWS TO BE NFRC CERTIFIED.
3. GLAZING UNITS TO HAVE 1/2" INSULATED GLASS, U.N.O.
4. USE SAFETY GLASS WHERE REQUIRED PER IRC SEC. R308.4 (LABELED: S.G.)
5. USE OBSURED GLASS WHERE NOTED ON THE PLANS (LABELED: O.G.)
6. WINDOWS & DOORS SHALL LIMIT INFILTRATION PER ASTM 32873.
7. SITE VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO FABRICATION.

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Revisions	Comment
9/26/25	**PLAN REVIEW**
-	-

Date: **2025.07.03**
Job No: **24-008**
Project No:
Drawn:
Approved:

Owner
SAINTFIELD2 LLC

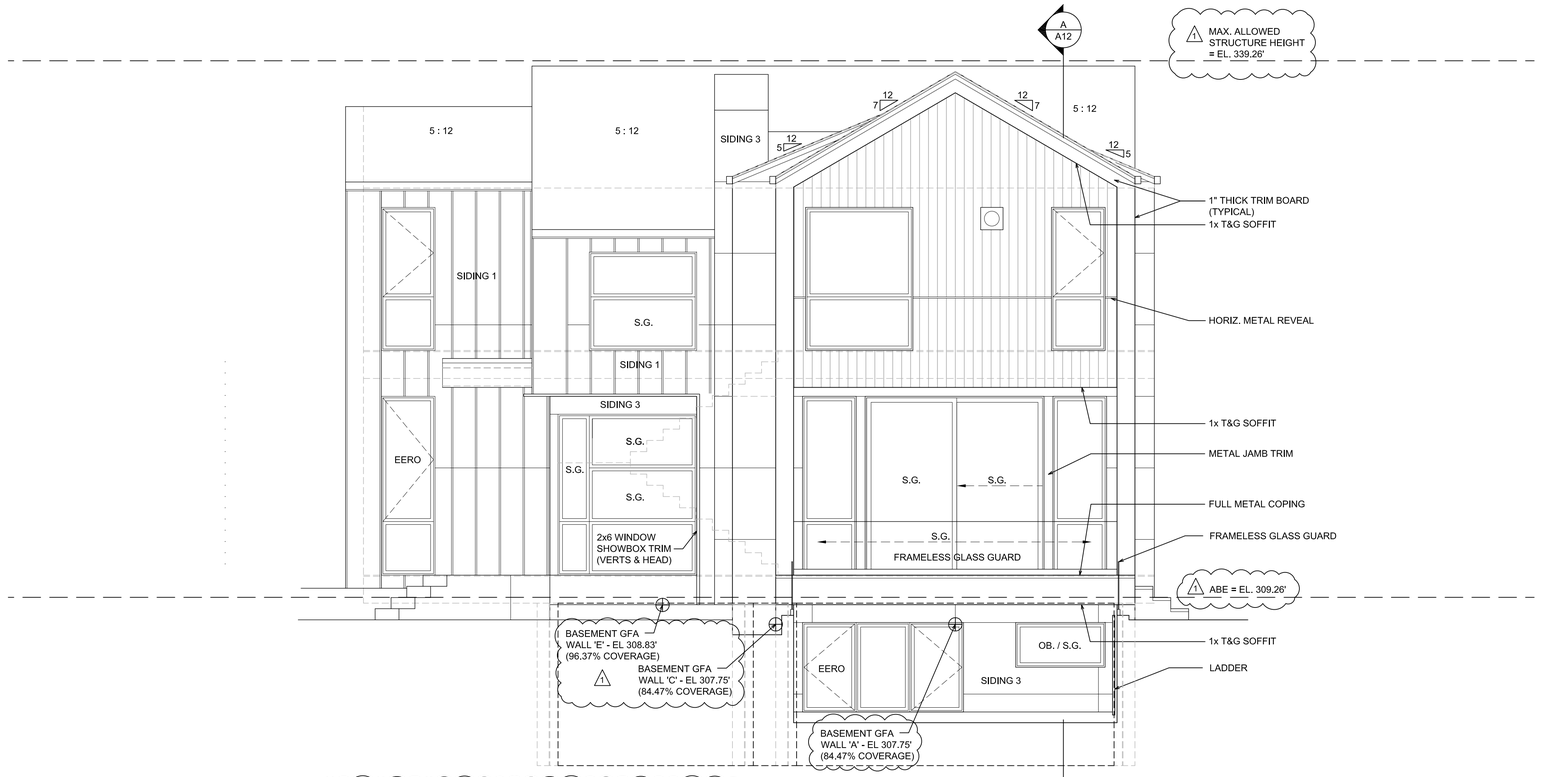
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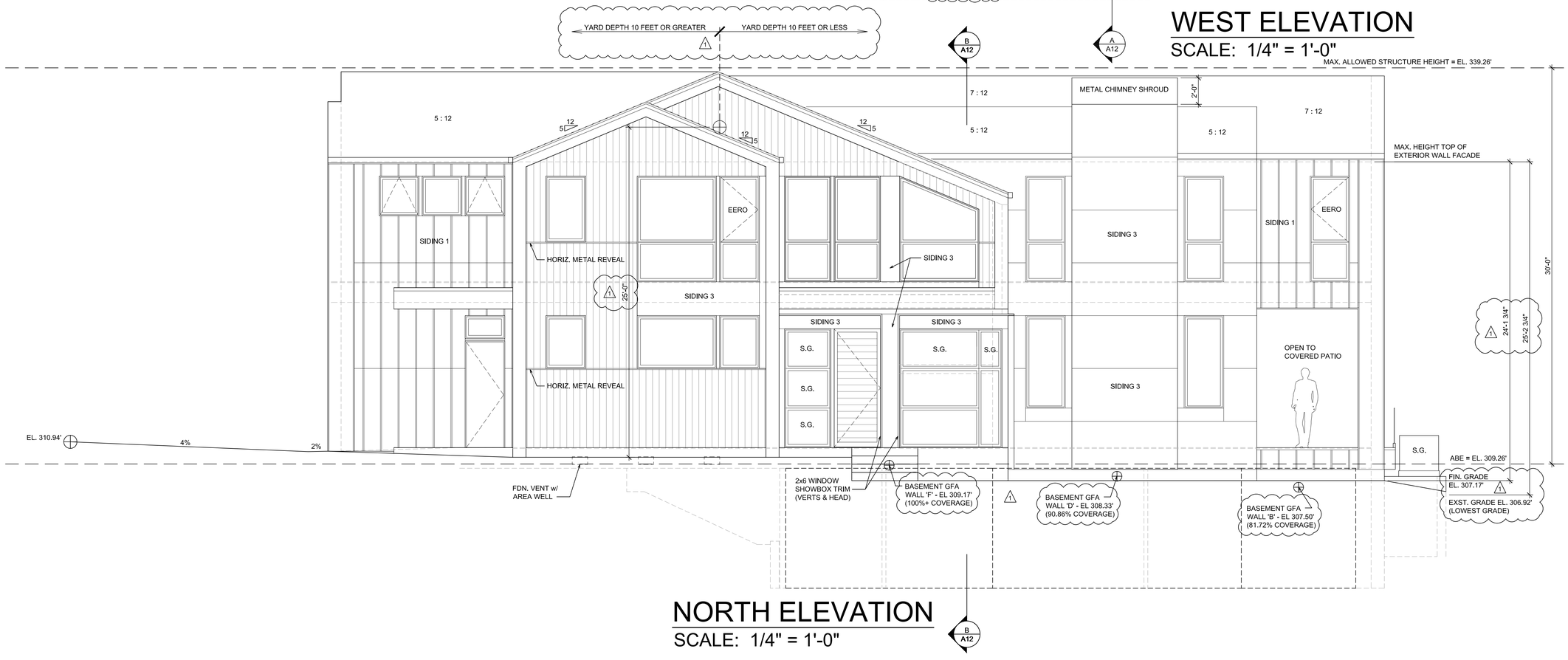
Elevations

A10



WEST ELEVATION

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



NORTH ELEVATION

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

B
A12

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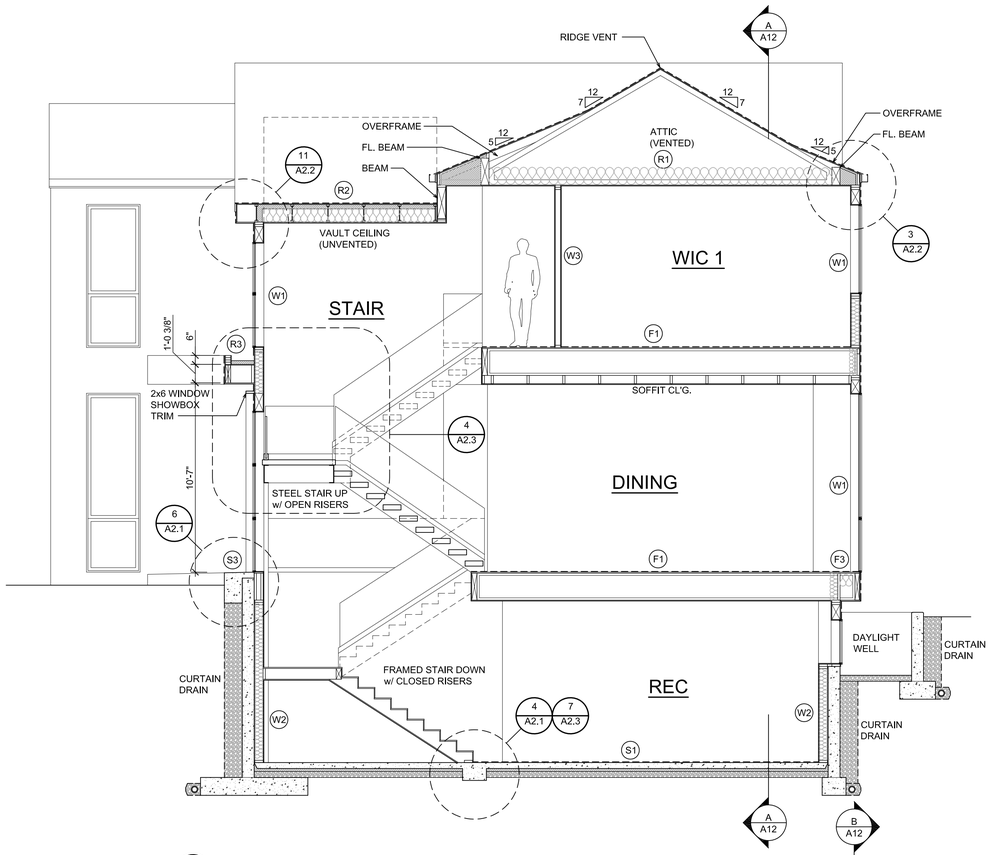
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PLAN REVIEW 1

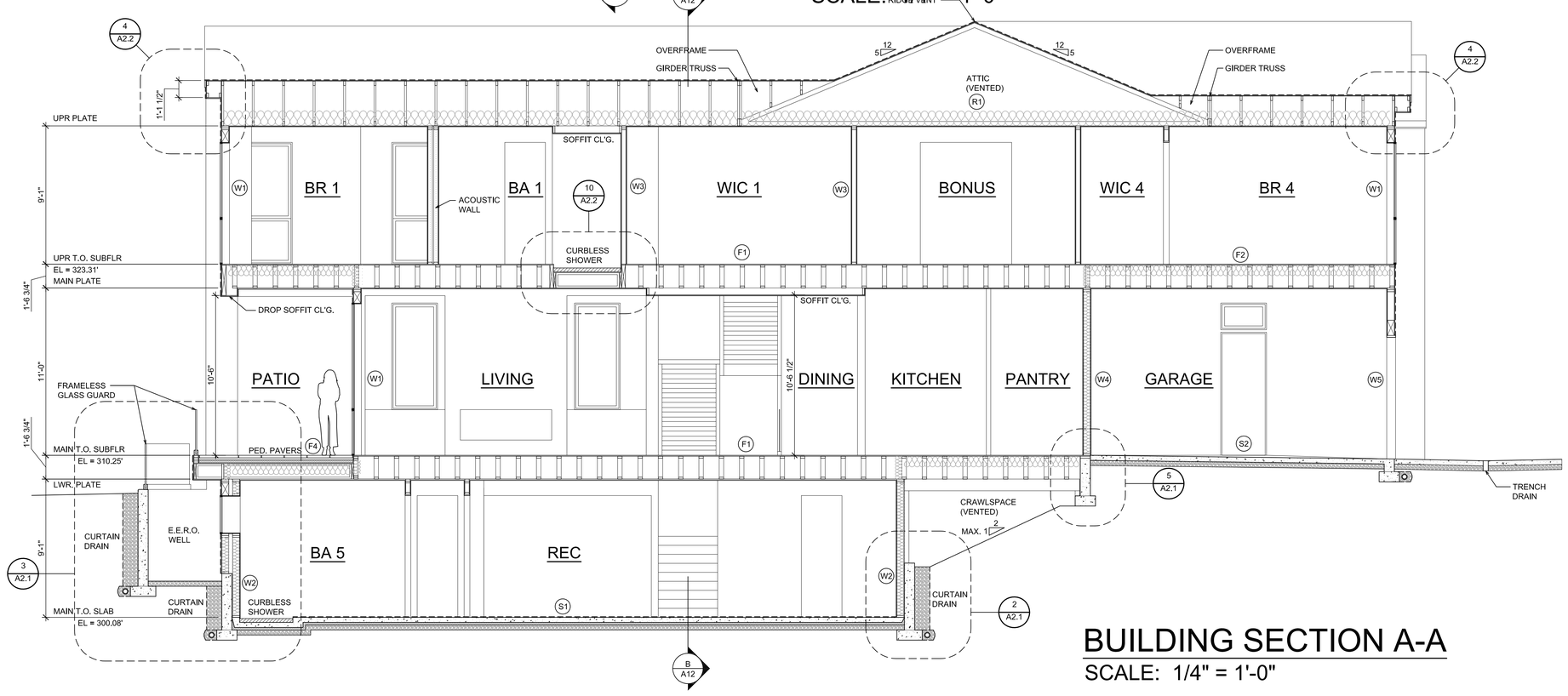
Elevations

A11



BUILDING SECTION B-B

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



BUILDING SECTION A-A

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

W1 TYPICAL ABOVE GRADE EXTERIOR WALL:
-SIDING SYSTEM PER ELEVATIONS
-NO. 15 ASPHALT SATURATED FELT (WRB)
-1/2" SHEATHING PER STRUCTURAL
-2x6 STUDS PER STRUCTURAL
-R-21 BATT INSULATION PER COVER SHEET
-1/2" G.W.B. INTERIOR FINISH
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

W2 TYPICAL BELOW GRADE EXTERIOR WALL:
-CURTAIN DRAIN SYSTEM
-CONCRETE WALL PER PLANS
-1/2" AIR SPACE
-2x6 STUDS PER STRUCTURAL
-R-21 BATT INSULATION PER COVER SHEET
-1/2" G.W.B. INTERIOR FINISH
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

W3 TYPICAL INTERIOR WALL:
-1/2" G.W.B. INTERIOR FINISH
-2x4 STUDS PER STRUCTURAL (2x6 WHERE NOTED ON PLANS)
-1/2" G.W.B. INTERIOR FINISH

W4 TYPICAL HOUSE/GARAGE WALL:
-1/2" G.W.B. INTERIOR FINISH
-2x6 STUDS PER STRUCTURAL
-R-21 BATT INSULATION PER COVER SHEET
-1/2" SHEATHING PER STRUCTURAL
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

W5 TYPICAL GARAGE EXTERIOR WALL:
-SIDING SYSTEM PER ELEVATIONS
-NO. 15 ASPHALT SATURATED FELT (WRB)
-2x6 STUDS PER STRUCTURAL
-1/2" G.W.B. INTERIOR FINISH
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

F1 TYPICAL FLOOR o/ HEATED SPACE:
-FINISH FLOOR PER PLAN
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN
-5/8" G.W.B. CEILING

F2 TYPICAL FLOOR o/ GARAGE:
-FINISH FLOOR PER PLAN
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN
-R-30 BATT INSULATION PER COVER
-5/8" G.W.B. CEILING (TYPE 'X' WHERE INDICATED)
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

F3 TYPICAL FLOOR o/ EXTERIOR SPACE:
-FINISH FLOOR PER PLAN
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN
-R-30 BATT INSULATION PER COVER
-VENTED SOFFIT PANEL
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

F4 FLOOR @ DECK PAVERS o/ INTERIOR SPACE (UNVENTED):
-PEDESTAL PAVER SYSTEM
-PROTECTION BOARD
-SINGLE PLY WATER PROOF MEMBRANE
-TAPERED INSULATION PANELS
-1/2 SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)
-FLOOR JOISTS PER FRAMING PLAN
-FILL CAVITY w/ EXPANDING FOAM INSULATION
-5/8" GWB CEILING
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

R1 TYPICAL ROOF CONSTRUCTION o/ HEATED (VENTED):
-ARCHITECTURAL GRADE COMPOSITION ROOF SHINGLES
-(SLOPE TO GUTTER)
-1/2" SHEATHING PER STRUCTURAL
-ROOF TRUSSES PER FRAMING PLAN
-R-60 BATT INSULATION PER COVER
-5/8" GWB CEILING
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

R2 VAULT ROOF CONSTRUCTION o/ HEATED (VENTED):
-ARCHITECTURAL GRADE COMPOSITION ROOF SHINGLES
-(SLOPE TO GUTTER)
-1/2" SHEATHING PER STRUCTURAL
-ROOF TRUSSES PER FRAMING PLAN
-R-49 HYBRID (R-30 BATT + 3" SPF) INSULATION PER COVER
-5/8" GWB CEILING
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL

R3 FLAT ROOF CONSTRUCTION o/ EXTERIOR SPACE (VENTED):
-SINGLE PLY ROOF MEMBRANE SYSTEM
-TAPERED INSULATION PANELS (SLOPE TO EDGE)
-1/2" SHEATHING PER STRUCTURAL
-ROOF RAFTERS (FLAT, NO SLOPE) PER FRAMING PLAN
-1x T&G SOFFIT CEILING

S1 TYPICAL SLAB-ON-GRADE (INTERIOR):
-FINISH FLOOR PER PLAN
-4" CAST-IN-PLACE CONCRETE
-10 MIL VAPOR RETARDER
-R-10 RIGID INSULATION PER COVER SHEET
-4" GRANULAR FILL

S2 GARAGE SLAB-ON-GRADE (GARAGE):
-4" CAST-IN-PLACE CONCRETE (SLOPE PER PLAN)
-10 MIL VAPOR RETARDER
-4" GRANULAR FILL

S3 PATIO SLAB-ON-GRADE:
-4" CAST-IN-PLACE CONCRETE (SLOPE ER PLAN)
-4" GRANULAR FILL

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PLAN REVIEW 1

Building Sections

A12

BASEMENT SLAB

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

GARAGE SLAB

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

PORCH SLAB

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

GENERAL STRUCTURAL NOTES

FOUNDATION

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

  * ALL CONCRETE HAS BEEN DESIGNED FOR 2500 PSI, ANYTHING GREATER THAN THIS SPECIFICATION IS FOR WEATHERING ONLY.
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL PRESSURE OF 55 PCF AT-REST, 35 PCF ACTIVE & 7H SEISMIC SURCHARGE.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN. BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH ⅜" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x ¼" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN ½" OF EXTERIOR EDGE OF SILL PLATE) PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.J) HOLD-DOWN
HD-2	SIMPSON HDU8-SDS2.5 HOLD-DOWN
HD-3	SIMPSON MTS31 STRAP TIE (CENETER STRAP ON FLOOR SYSTEM U.N.O.)
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

MEANS & METHODS NOTES

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

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

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

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

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

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

LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):	
ROOF TRUSS TOP CHORD :	10
ROOF TRUSS BOTTOM CHORD :	7
ROOF RAFTERS :	10
FLOOR (TRUSSES) :	15
TILE FLOORS :	10
PEDESTAL PAVERS :	10
LIVE LOAD (PSF):	
ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
RESIDENTIAL WOOD DECKS :	60
GARAGE :	50
SNOW LOAD:	
GROUND SNOW LOAD (P_g) (PSF) :	25
FLAT ROOF SNOW LOAD (P_f) (PSF) :	25
SNOW EXPOSURE FACTOR (C_e) :	1.2
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C_t) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD. (IBC 1609)	
SPEED (V_{ult}) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I_w) :	1.0
EXPOSURE CATEGORY :	B
INTERNAL PRESSURE COEFF. (GC_{pi}) :	±0.18
TOPOGRAPHIC FACTOR (K_{zt}) :	1.0
SEISMIC LOAD. (IBC 1613)	
SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I_e) :	1.0
MAPPED SPECTRAL RESPONSE :	
S_{DS}: 1.471	S_1: 0.508
SITE CLASS :	D (DEFAULT)
SPECTRAL RESPONSE COEFF. :	
S_{DS}: 1.177	S_{D1}:0.807
SEISMIC DESIGN CATEGORY:	D
BASIC SEISMIC-FORCE-RESISTING SYS :	LIGHT FRAMED WALLS w/ WOOD STRUCTURAL PANELS
ULTIMATE BASE SHEAR:	TRANS: 18k LONG: 18k
SEISMIC RESPONSE COEFF. (C_s) :	TRANS: 0.181 LONG: 0.181
RESPONSE MODIFICATION FACTOR (R) :	TRANS: 6.5 LONG: 6.5
ANALYSIS PROCEDURE USED:	EQUIVALENT LATERAL FORCE

LATERAL BRACING NOTES

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

100 MPH WIND IN 2021 IRC MAP

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

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

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

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

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

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

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

NOTES:

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

LEGEND

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

GENERAL STRUCTURAL NOTES

DESIGN PARAMETERS

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

GENERAL FRAMING

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

FLOOR FRAMING

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

ROOF FRAMING

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

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M&K project number: 244-25011

project mgr: NJM
drawn by: RSC
issue date: 06-23-25

REVISIONS:

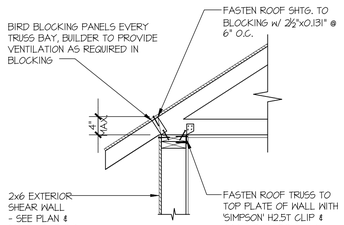
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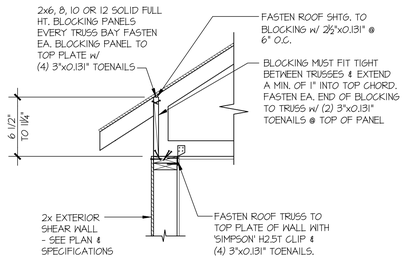
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SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

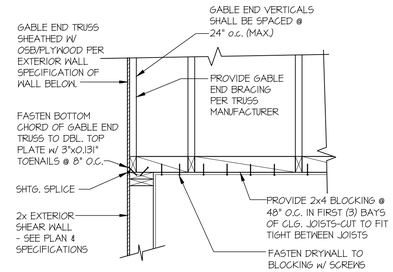
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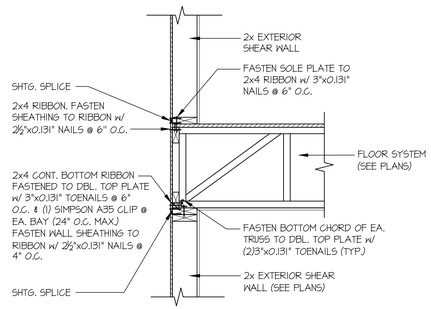
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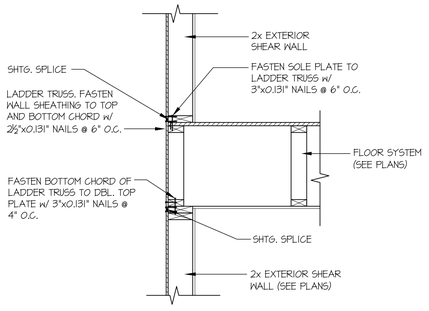
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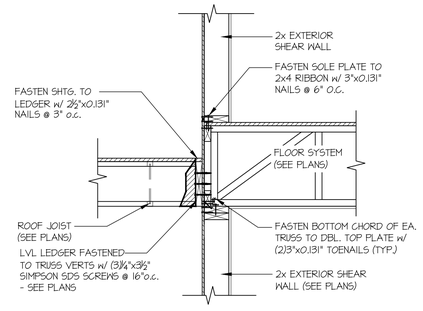
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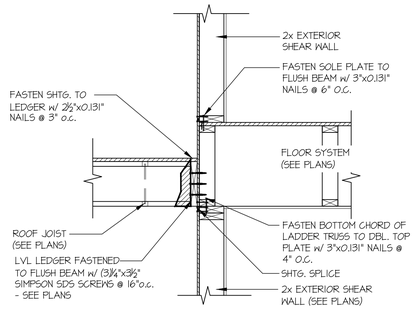
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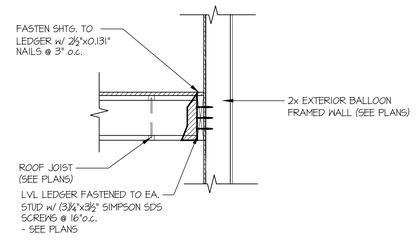
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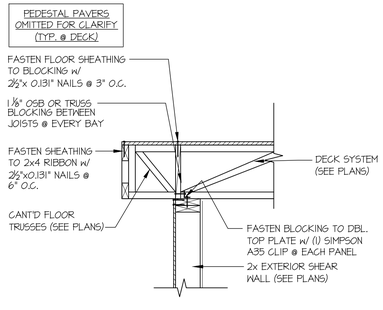
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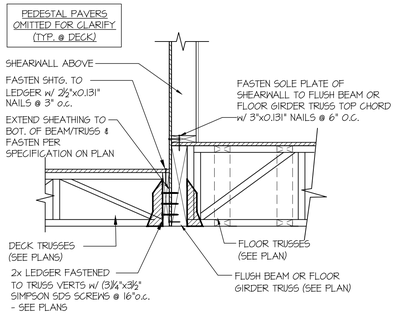
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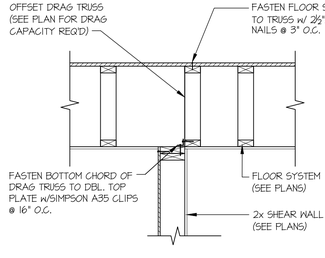
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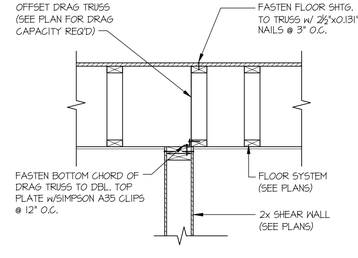
8 SECTION
SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



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



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



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

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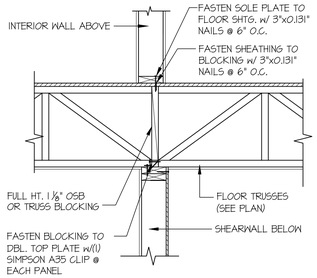
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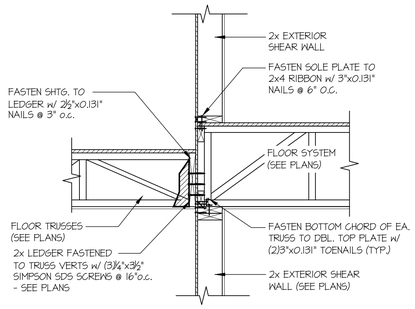
STRUCTURAL DETAILS

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

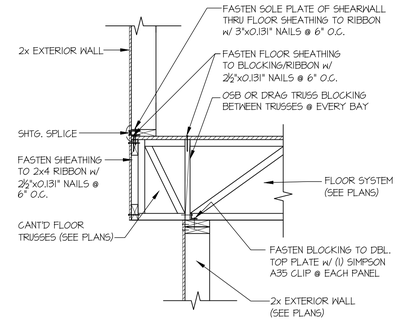
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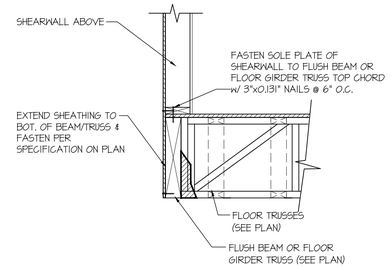
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28 SECTION
SCALE: 3/4"=1'-0"



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



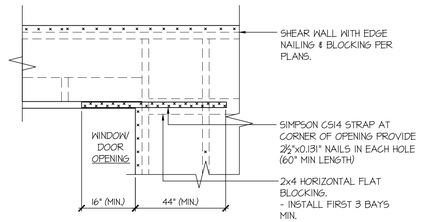
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41 SECTION
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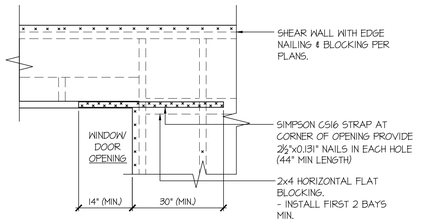


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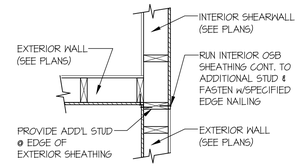
- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

93 SECTION
SCALE: NTS

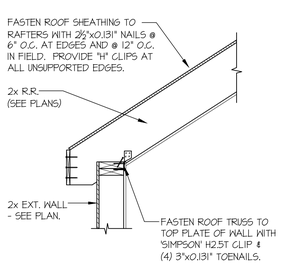


- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

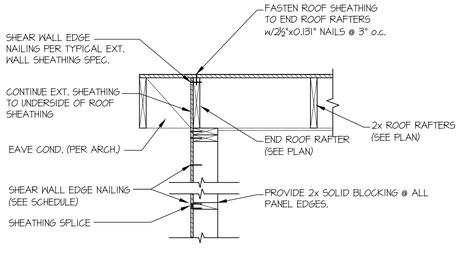
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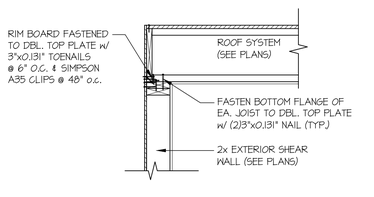
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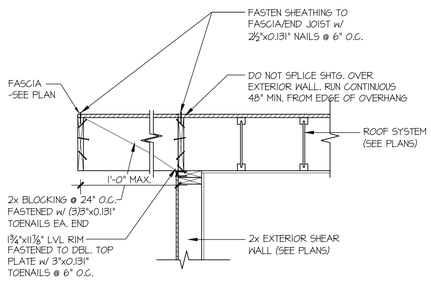
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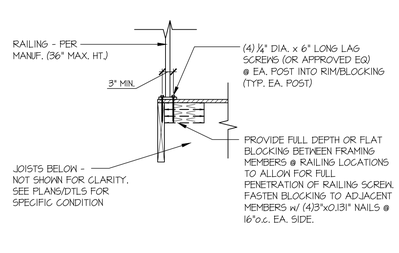
112 SECTION
SCALE: 3/4"=1'-0"



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



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



A TYP. RAILING CONNECTION
SCALE: 3/4"=1'-0" WOOD FRMS BELOW

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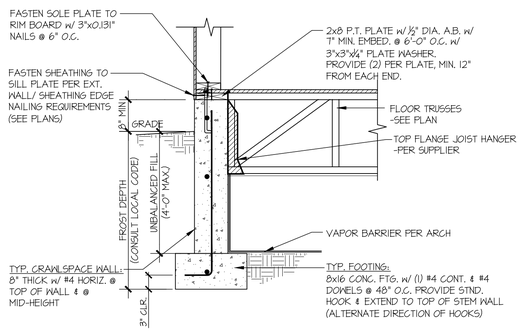
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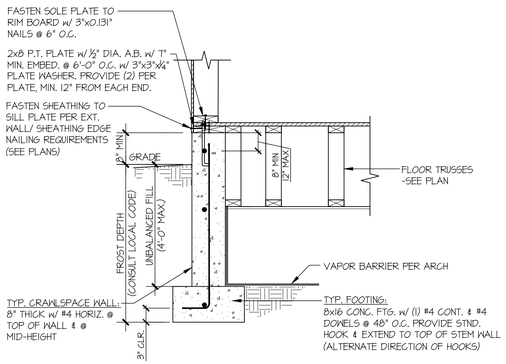
STRUCTURAL DETAILS

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

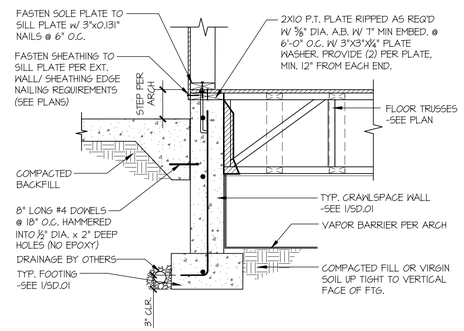
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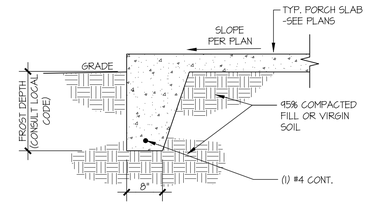
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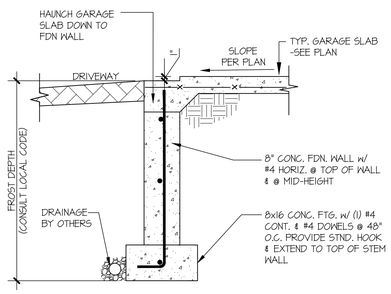
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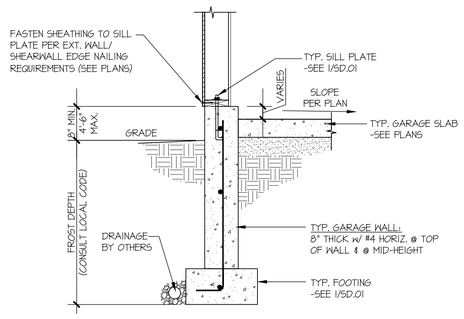
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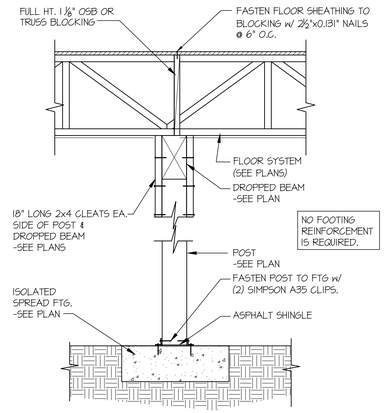
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@ PORCH SLAB



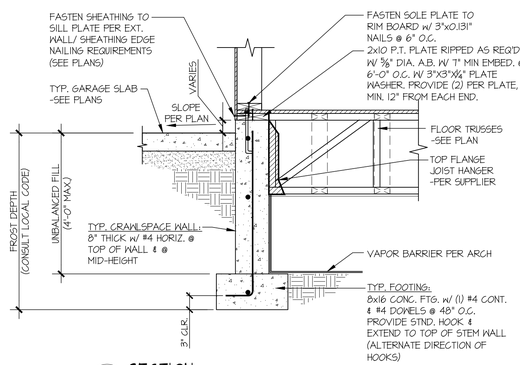
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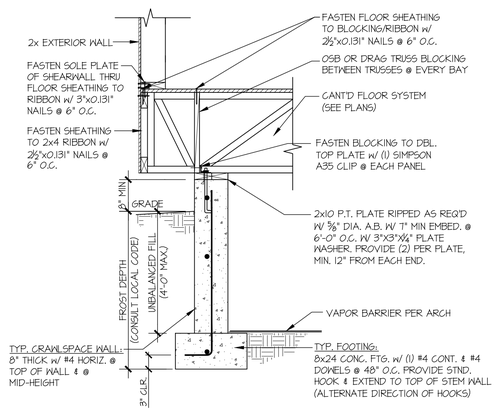
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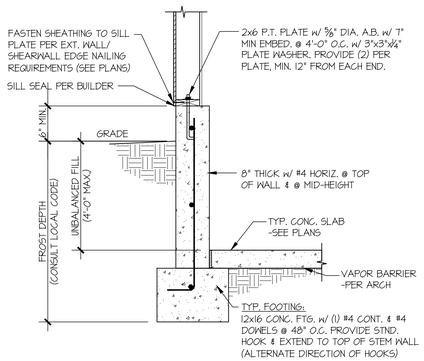
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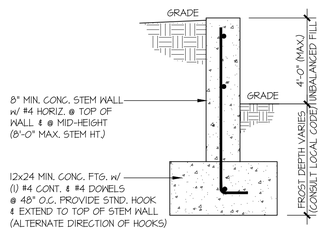
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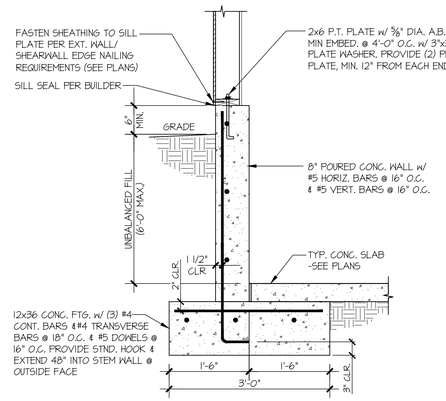
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SCALE: 3/4"=1'-0"



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



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



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

seal:



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MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 255, San Diego, CA 92121
p 619-650-0010 ▸ mulhernkulp.com

M&K project number: 244-25011

project mgr: NJM
drawn by: RSC
issue date: 06-23-25

REVISIONS:

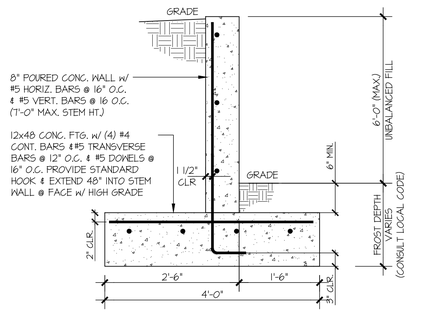
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McCULLOUGH ARCHITECTS

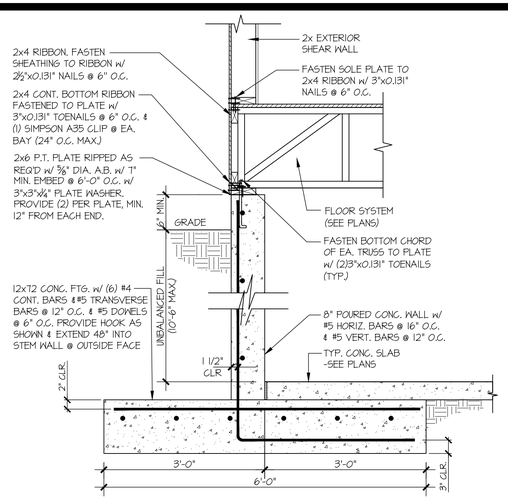
FOUNDATION DETAILS

SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

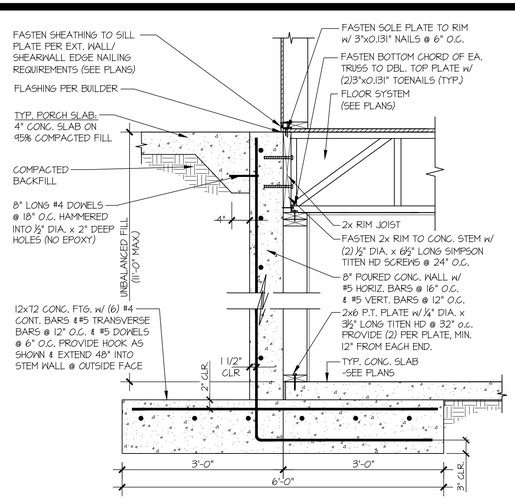
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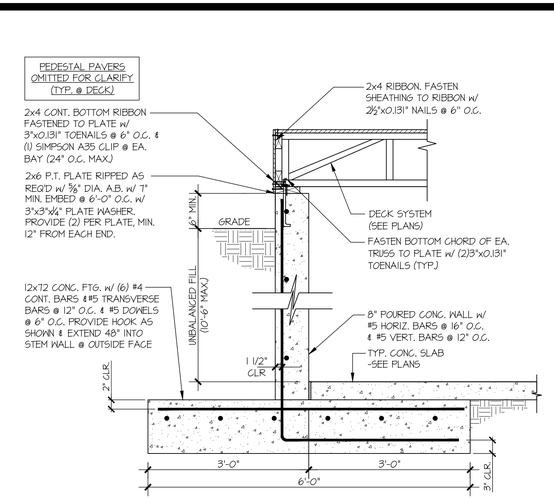
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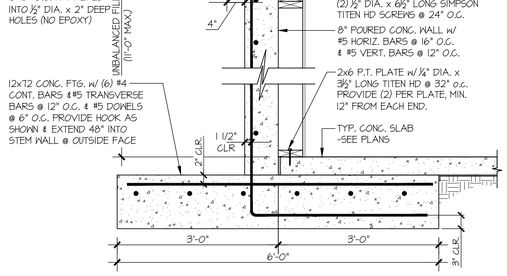
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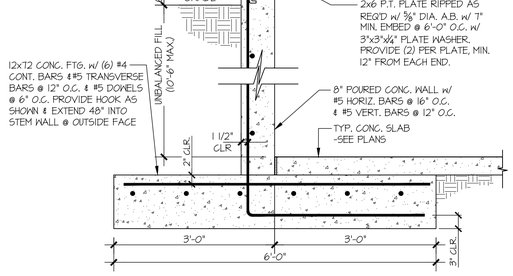
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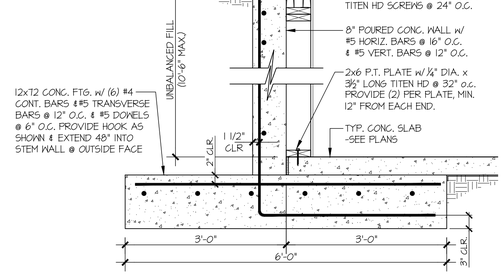
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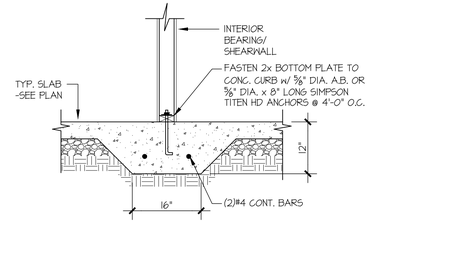
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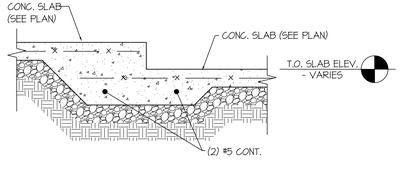
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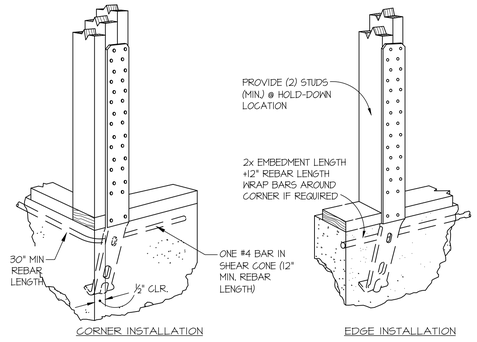
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SCALE: 3/4"=1'-0"



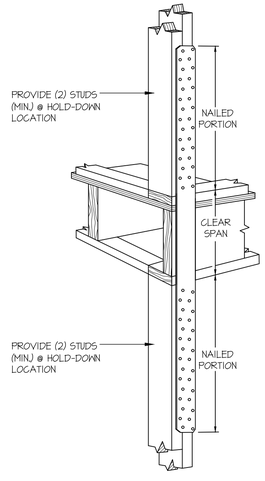
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SCALE: 3/4"=1'-0"



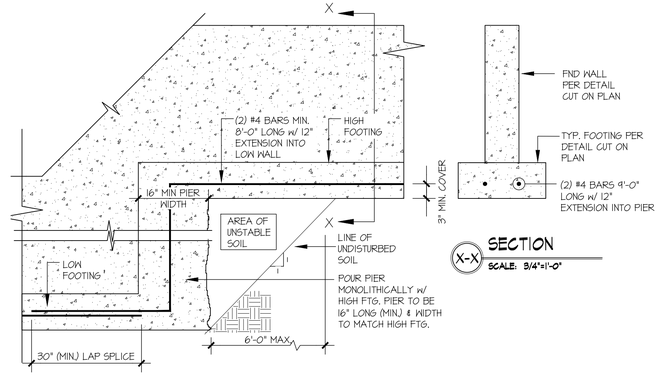
21 SECTION
SCALE: 3/4"=1'-0" LOCATE AS REQ'D



A TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE
SIMPSON STHD HD @ FOUNDATION



C TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE
SIMPSON STRAP HD @ FLOOR FRAMING



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

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

seal:
NICHOLAS J. MARTINOTTI
STATE OF WASHINGTON
56478
REGISTERED
PROFESSIONAL ENGINEER
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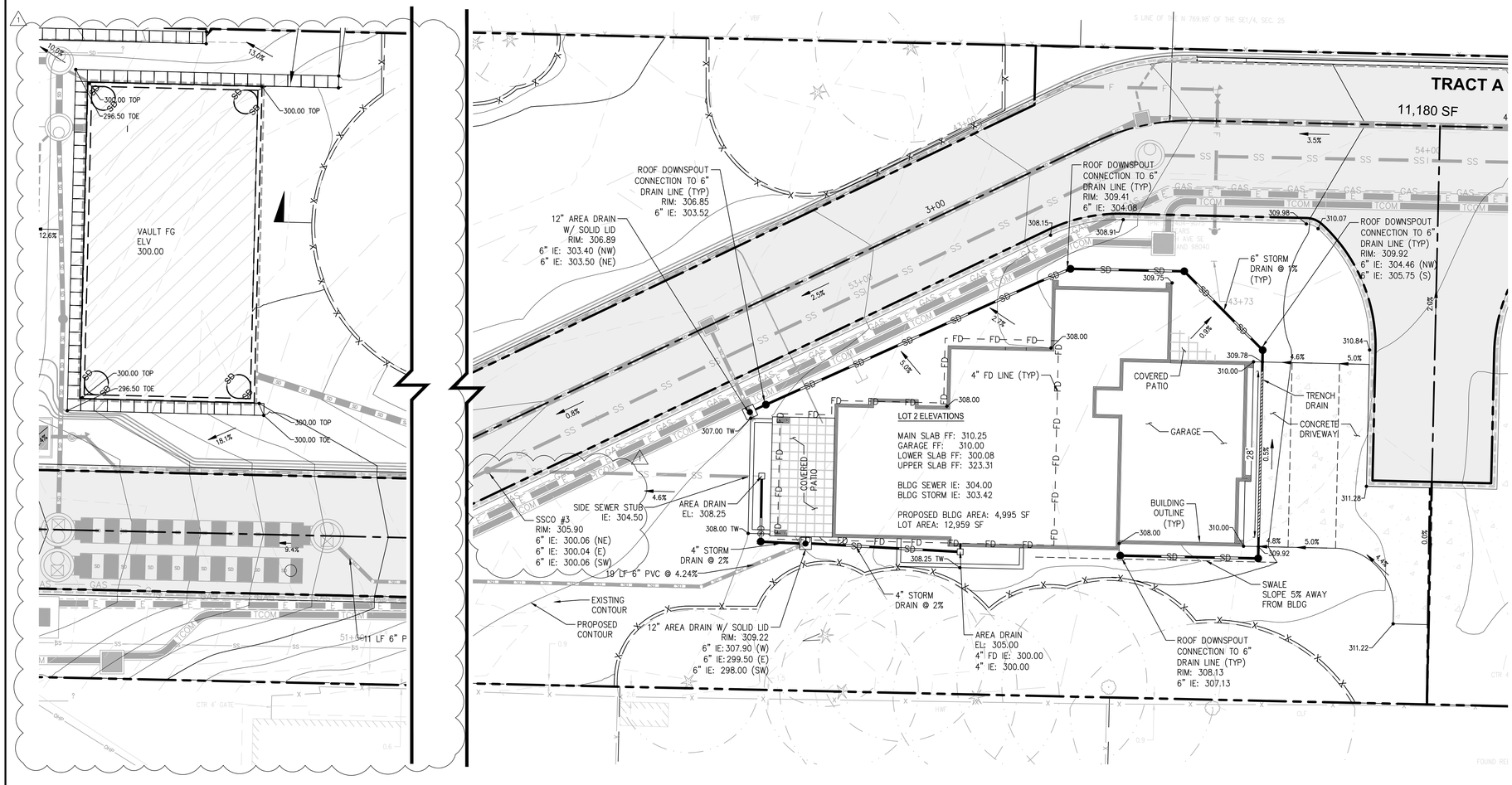
M&K project number: 244-25011
project mgr: NJM
drawn by: RSC
issue date: 06-23-25

REVISIONS:
date: initial:

McCULLOUGH ARCHITECTS

FOUNDATION DETAILS
SEARS PLAT
LOT 2
MERCER ISLAND, WASHINGTON

sheet: SD.02



0 5 10 20

SCALE: 1 inch = 10 ft.

LEGEND

- PROPERTY LINE
- BUILDING LINE
- 401 MINOR CONTOUR
- 400 MAJOR CONTOUR
- RIDGE RIDGE LINE
- XXX.XX SPOT ELEVATION
- 1.3% SLOPE ARROWS
- ROCKERY
- CIP CONCRETE WALL
- ASPHALT
- CONCRETE DRIVEWAY
- LANDSCAPE
- FD 4" PERF PVC FOUNDATION DRAIN LINE
- 6" PVC ROOF STORM DRAIN LINE
- FD FOUNDATION DRAIN
- STORM CLEANOUT
- NYOPLAST DRAIN PER DETAIL 1 THIS SHEET

LOT INFORMATION

		LOT COVERAGE CALCULATIONS			
LOT#	LOT AREA (SF)	GROSS MAX LOT COVERAGE ALLOWED (% / SF)		GROSS MAX LOT COVERAGE PROVIDED (% / SF)	
2	12,498	40%	4,999	40%	4,995

GEOTECHNICAL SPECIAL INSPECTIONS

1. MONITORING OF EROSION CONTROL.
2. OBSERVATION AND MONITORING OF EXCAVATION.
3. SUBSURFACE DRAINAGE INSTALLATION.

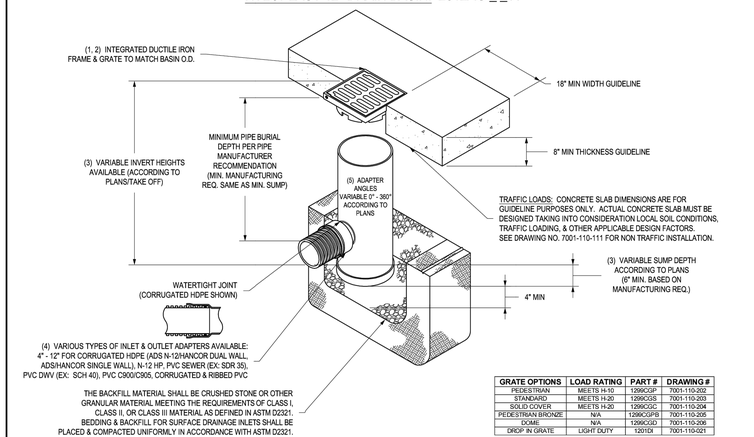
GRADING NOTES (NAVIX)

1. THE SPOT ELEVATIONS INDICATED ON THIS PLAN REPRESENT THE DESIGN TOP OF PAVEMENT OR SURFACE, UNLESS OTHERWISE NOTED.
2. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY.
3. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH LOCAL SPECIFICATION.
4. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
5. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOR ALL NATURAL AND PAVED AREAS AND SHALL GRADE ALL AREAS TO PRECLUDE PONDING OF WATER.
6. ALL POLLUTANTS OTHER THAN SEDIMENT ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
7. PROPERTIES AND WATERWAYS DOWNSTREAM OF THE SITE SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FROM PROJECT SITE.
8. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
9. CONTRACTOR TO REMOVE UNSUITABLE SOILS LOCATED WITHIN THE BUILDINGS FOOTING AREA.
10. FOR BOUNDARY AND TOPOGRAPHIC INFORMATION REFER TO PROJECT SURVEY AND FINAL ENGINEERING PLANS.
11. ALL GRADING, SITE PREPARATION, AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEERING REPORT, PREPARED BY TERRA ASSOCIATES, INC, DATE SEPTEMBER 5, 2024.
12. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT AND COMPACTION.
13. IF NEW FILL IS PLACED OVER EXISTING SLOPES OF 20% OR GREATER, THE STRUCTURAL FILL SHOULD BE KEYED AND BENCHED INTO COMPETENT NATIVE SLOPE SOILS. SEE FIGURE 4 ON SHEET C-2.6.
14. ALL EXISTING TREES THAT CAN FEASIBLY BE RETAINED WILL BE PRESERVED. CONTRACTOR WILL WORK WITH CITY ARBORIST AND OTHER STAFF TO MAXIMIZE TREE RETENTION.
15. THE TOTAL IMPERVIOUS SURFACE ON LOT WILL NOT EXCEED THE NET MAXIMUM LOT COVERAGE AREA.

POST CONSTRUCTION SOIL MANAGEMENT (NAVIX)

1. THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.
2. POST CONSTRUCTION SOIL AMENDMENT IS REQUIRED ON ALL AREAS NOT COVERED BY HARD SURFACE WHERE SOIL IS DISTURBED DURING CONSTRUCTION.
3. SOIL AMENDMENT MUST PASS A 12 INCH MINIMUM PROBE TEST.
4. IMPORT TOPSOIL, IF USED, MUST MEET THE REQUIREMENTS OF THE 2012 DEPARTMENT OF ECOLOGY STORMWATER, VOLUME 5.
5. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
6. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL.
7. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BMP T7.30: BIORETENTION, WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1.

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1296CGP	7001-110-202
STANDARD	MEETS H-20	1296CGS	7001-110-203
SOLID COVER	MEETS H-20	1296CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1296CGPB	7001-110-205
DOME	N/A	1296CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-00-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E

NYLOPLAST DRAIN BASIN
N.T.S.

1

NAVIX
SITE | CIVIL
11235 s.e. 6th street | suite 150 bellevue, wa 98004
t: 425.453.9501 | f: 425-453-8208
www.navixeng.com

CLIENT/OWNER

SAINTFIELD2 LLC

PROJECT NAME

SEARS

NAVIX PROJECT NUMBER: 50-215-004

PROJECT ADDRESS

7414 78TH AVE SE
MERCER ISLAND, WA 98040

STAMP

JAMES WILLIAM TAFLIN — STATE OF WASHINGTON — 41871 — REGISTERED PROFESSIONAL ENGINEER
09/29/2025

REVISIONS

REV	ISSUED FOR:	DATE
	LOT 2 BP SUBMITTAL	06/30/25
1	LOT 2 BP RESUBMITTAL	09/29/25

811

SECTION, TOWNSHIP, RANGE:

SECTION 25, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

PROJECT TEAM

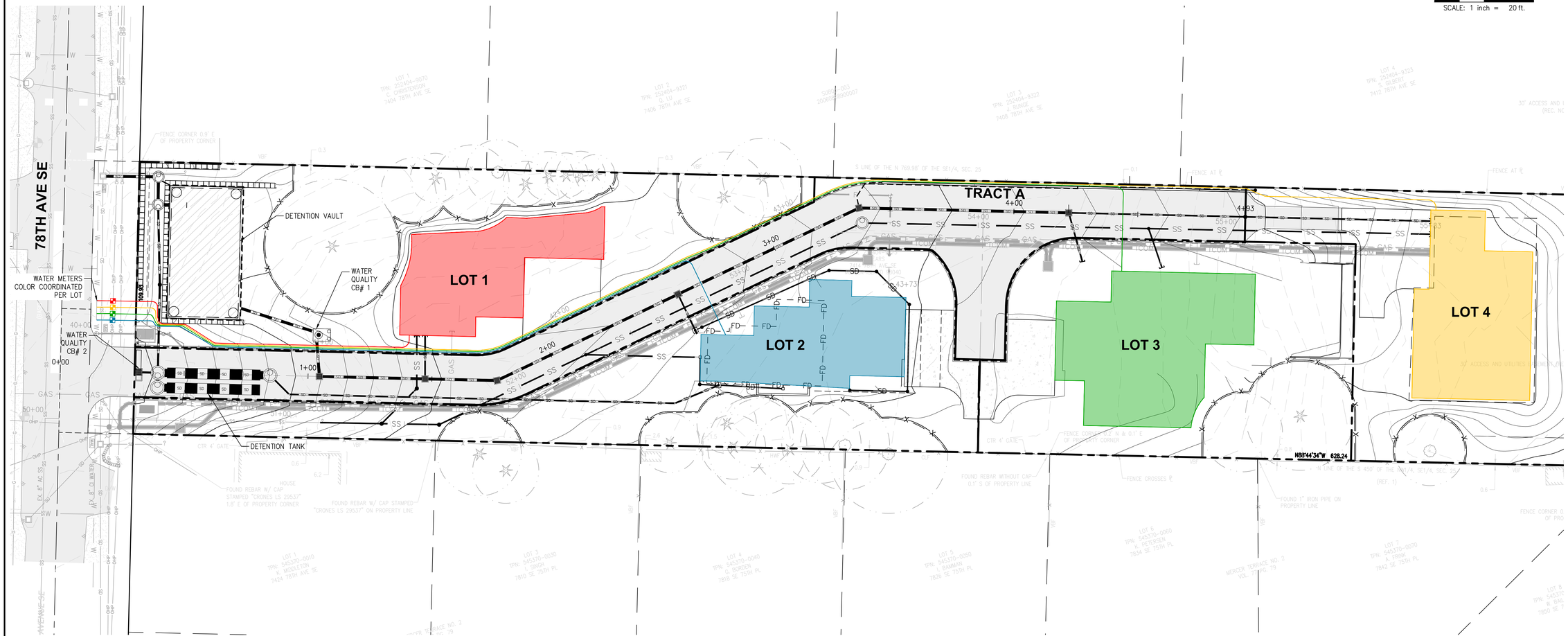
REVIEWED BY: J. TAFLIN
DESIGNED BY: B. MCMURTRY

SHEET NAME

LOT 2 GRADING AND DRAINAGE PLAN

SHEET NUMBER

C4.01



LEGEND:

- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- SANITARY PIPE
- 6" PVC SANITARY LOT STUB
- STORM DRAIN PIPE
- 6" PVC STORM LOT STUB
- ZURN Z886 TRENCH DRAIN OR APPROVED EQUAL, WITH SLOTTED HEEL–PROOF GRATE
- 4" FOUNDATION DRAINAGE
- CLEANOUT
- CATCH BASIN, TYPE 1
- MH/CATCH BASIN, TYPE 2
- WATER QUALITY VAULT
- WATER QUALITY CATCH BASIN
- STORM DRAINAGE VAULT

NAVIX
SITE | CIVIL

11235 s.e. 6th street | suite 150 bellevue, wa 98004

t: 425.453.9501 | f: 425-453-8208
www.navixeng.com

CLIENT/OWNER

SAINTFIELD2 LLC

PROJECT NAME

SEARS

NAVIX PROJECT NUMBER: 50-215-004

PROJECT ADDRESS

7414 78TH AVE SE
MERCER ISLAND, WA 98040

STAMP

JOSEPH WILLIAM TAFLIN — STATE OF WASHINGTON — 41871 — REGISTERED PROFESSIONAL ENGINEER

09/29/2025

REVISIONS

REV	ISSUED FOR:	DATE
	LOT 2 BP SUBMITTAL	06/30/25
1	LOT 2 BP RESUBMITTAL	09/29/25

811

SECTION, TOWNSHIP, RANGE:

SECTION 25, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

PROJECT TEAM

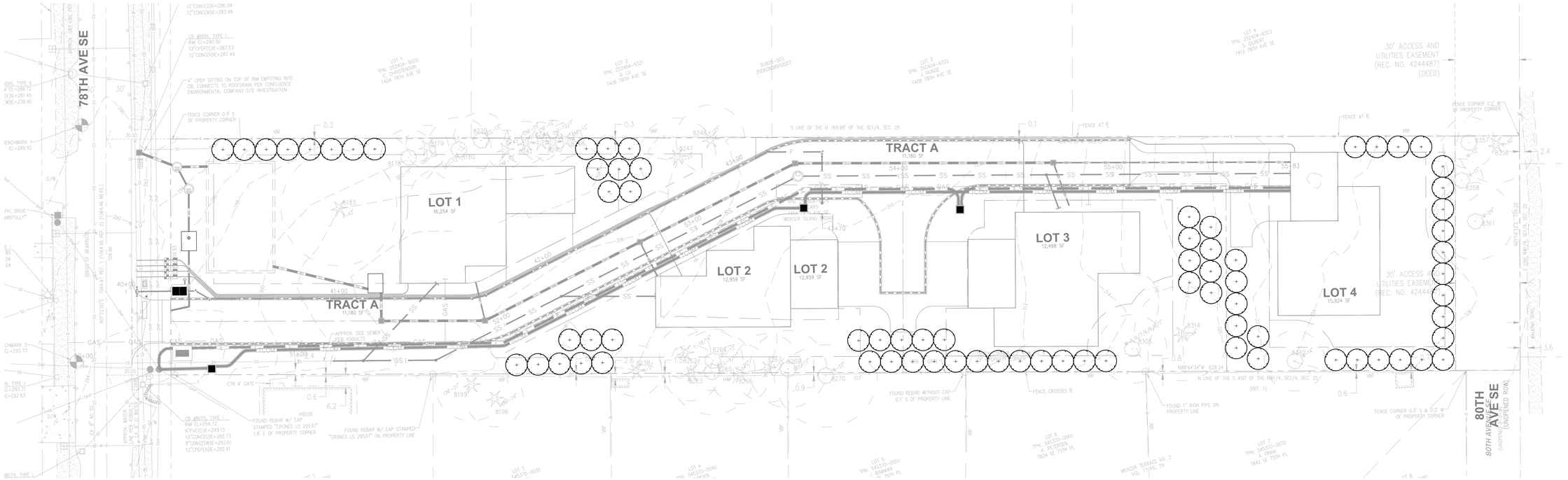
REVIEWED BY: J. TAFLIN
DESIGNED BY: B. MCMURTRY

SHEET NAME

LOT 2 OVERALL PLAN

SHEET NUMBER

C8.0



TREES - EVERGREEN



HINOKI CYPRESS



MOONGLOW JUNIPER



DOUGLAS FIR



WESTERN RED CEDAR



LEYLAND CYPRESS

TREES – DECIDUOUS



ARMSTRONG MAPLE



DAWYCK PURPLE BEECH



AMANAWAGA CHERRY



GOLDSPIRE GINKGO TREE

TREE REPLACEMENT NOTES

Tree spacing from Utilities and Structures	10' from center of tree
Tree spacing from Fence	5' from center of tree (if viable)
Replacement Trees Required	122
Proposed Trees Replaced	75
Proposed Tree Deficit	47
Fee in Lieu of per Tree	$1,037
Total Fee in Lieu of Cost	$48,739 ($1,037 x 47 trees)

* Tree species to be selected once acceptable locations have been approved by Owner

TREE REPLACEMENT OPTIONS

BOTANICAL NAME	COMMON NAME	HEIGHT x SPREAD
TREES - EVERGREEN		
Chamaecyparis obtusa	Hinoki Cypress	20' x 10'
Cupressus × leylandii	Leyland Cypress	35' x 15'
Juniperus scopulorum 'Moonglow'	Moonglow Juniper	20' x 8'
Pseudotsuga menziesii	Douglas Fir	40' x 15'
Thuja plicata	Western Red Cedar	35' x 15'
TREES - DECIDUOUS		
Acer x freemanii 'Armstrong'	Armstrong Maple	40' x 15'
Fagus sylvatica 'Dawyck Purple'	Dawyck Purple Beech	35' x 10'
Ginko Biloba 'Goldspire'	Goldspire Ginko	16' x 6'
Prunus 'Amanagawa'	Amanagawa Cherry	20' x 6'

0 10' 20' 40' 80'
Graphic Scale: 1" = 20'-0"

LYON Landscape Architects, LLC
2111 South C Street, Tacoma, WA 98402
253-209-4053 | Moghan@LyonLA.com

REVIEW SET
NOT FOR CONSTRUCTION
MOGHAN LYON
LICENSE NO. 1444

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

DRAWING SET:
OWNER REVIEW

REVISIONS:
REV 1:
REV 2:
REV 3:

PROJECT ADDRESS:

SEARS Short Plat - MI
7414 78th Ave SE
Mercer Island, WA 98040

DESIGN: MJL
DRAWN: ZA
CHECKED: MJL

DATE: March 14, 2024
PROJECT: SEARS SP
NUMBER: LLA0419.23
SCALE: 1" = 20'-0"
TITLE:

TREE REPLACEMENT PLAN

SHEET:
L1.00

WHEN RECORDED, RETURN TO:

City of Mercer Island
Attn: Community Planning & Development
9611 S.E. 36th Street
Mercer Island, WA 98040

AFFIDAVIT IN SUPPORT OF SINGLE-FAMILY BUILDING PERMIT

Grantor: Saintfield2 LLC

Grantee: City of Mercer Island, a municipal corporation

Legal Description: To be determined once plat is recorded

(If not enough space, attach separate sheet labeled Exhibit A)

Assessor's Tax Parcel ID Number: To be determined once plat is recorded

Affidavit In Support Of Single-Family Building Permit # 2507-041

I, Wes Giesbrecht , am over the age of 21 years, and make the statements herein of actual knowledge.

1. The address of my property is Address to be assigned once plat is recorded, Mercer Island, WA 98040, and there is **not** an accessory dwelling unit or a duplex at this address.
2. This shall remain a single family unit, unless approved otherwise by the City of Mercer Island.
3. I will notify my prospective purchasers of the limitations of Mercer Island's Accessory Dwelling Unit regulations.
4. I understand that the City may require the removal of any accessory dwelling unit, duplex, or other multi-family unit if any of the requirements for single-family housing are violated.
5. I agree to have this document recorded with the King County Department of Records at my expense, and supply a copy to the City of Mercer Island.

I declare under penalty of perjury that the foregoing is true and correct.

SIGNED: _____ DATE: _____
Property Owner(s)

SIGNED: _____ DATE: _____
Property Owner(s)

STATE OF WASHINGTON)
) ss
COUNTY OF KING)

On this ____ day of _____, 20___, before me the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared before me _____ and to me know to be the individual described in and who executed the foregoing instrument, and acknowledged that they signed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this ____ day of _____, 20__

_____
NOTARY PUBLIC in and for the State of Washington

Printed Name _____

My Appointment Expires _____