PROJECT INFORMATION

OWNER/APPLICANT:	TRAVIS TORGERSON TORGERSONT@GMAIL.COM 206-650-5315
PROJECT/ DESCRIPTION:	UPPER FLOOR REMODEL AND ADDITION
DESIGNER:	ANNE CEVRERO UPSTATE ENGINEERING anne@upst8.com
STRUCTURAL ENGINEER:	ANDREW GAHAN,PE UPSTATE ENGINEERING PHONE (425) 354 - 4105 andy@upst8.com
CONTRACTOR:	TBD
JURISDICTION:	MERCER ISLAND
BUILDING CODES:	2021 IRC, 2021 IBC, 2021 WSEC

DESIGN CRITERA

PARCEL #:	8732300210
ADDRESS:	6879 83RD AVE SE MERCER ISLAND WA 98040
LOT SIZE:	11327 SF
ZONING:	R9.6
LEGAL DESCRIPTION:	TWIN VEW #2

SETBACKS:

MIN FRONT:	20'
MIN SIDE:	Lots with a width of more than 90 feet, the side yard setbacks must sum to 17% of the lot width; provided that no side yard shall be less than 33% of the required side yard width.
MIN REAR:	25'
MAX HEIGHT	30'
MAX GROSS FLOOR AREA:	40%
MAX IMPERVIOUS:	40%
MAX HARDSCAPE	9%
	LOT IS FLAT (LOT SLOPE <15%)

LOT COVERAGE CALCULATIONS

LOT SIZE =	11327 SF
HOUSE WITH OVERHANG =	2878 SF
DRIVEWAY =	503 SF
TOTAL =	3381 SF

% LOT COVERED BY BUILDING = **29.8%**

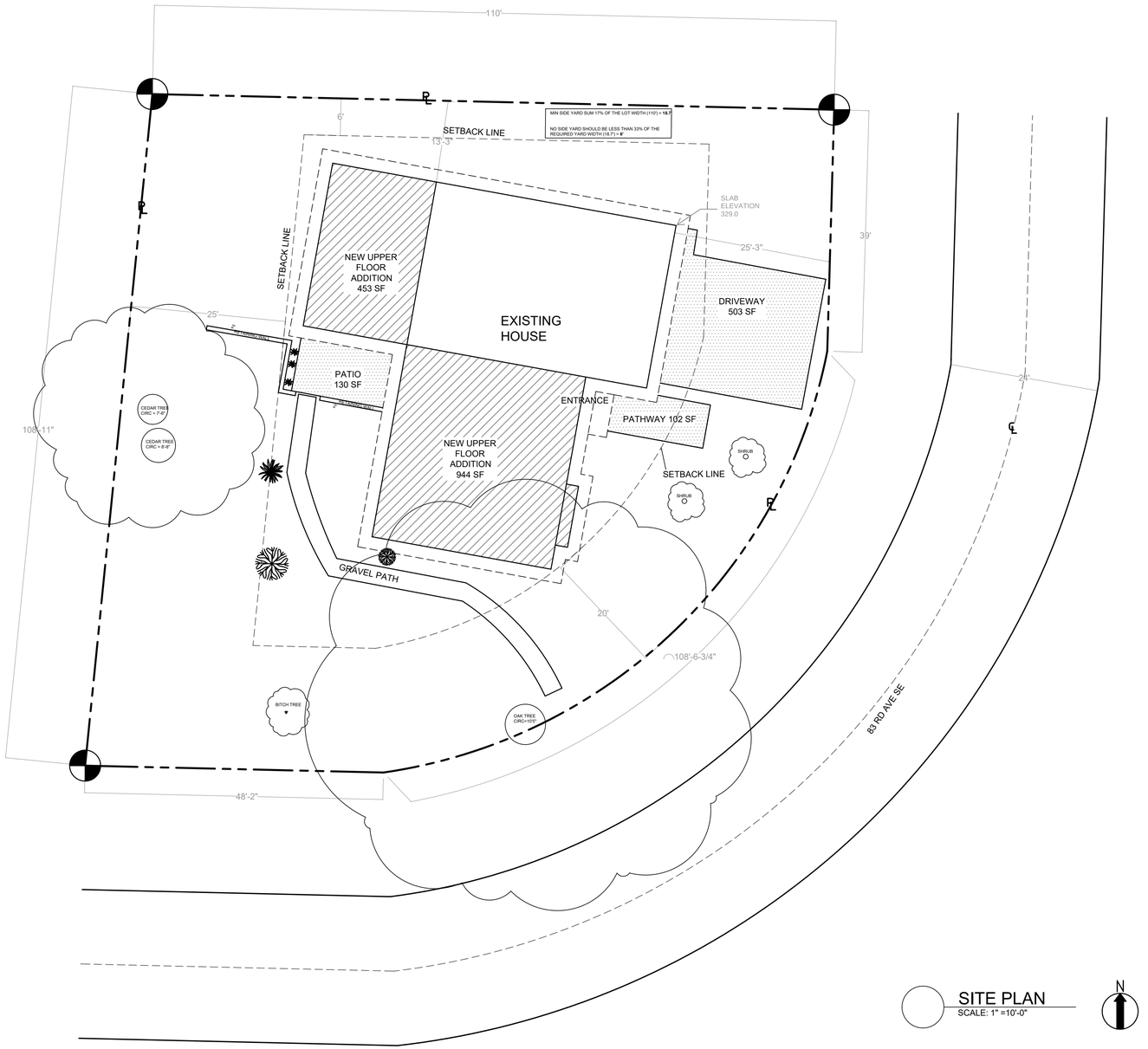
PARKING INFORMATION	
COVERED	2
UNCOVERED	2

GROSS FLOOR AREA	
LOT SIZE	11,327 SF
MAX %	40%
MAX SF	4,531 SF
EXISTING MAIN FLOOR	1,046 SF
EXISTING UPPER FLOOR	1,194 SF
GARAGE	500 SF
ADDED UPPER FLOOR	1,397 SF
TOTAL	**4,137 SF = 36.5%**

NEW ADDED SQUARE FOOTAGE	
UPPER PRIMARY	453 SF
UPPER LEVEL	944 SF
TOTAL	1397 SF
ENERGY CREDIT NEEDED	5

HARDSCAPE	
LOT SIZE	11,327 SF
MAX %	9%
MAX SF	1,019 SF
PATIO	130 SF
PATHWAY	102 SF
TOTAL	**232 SF = 2.0%**

IMPERVIOUS SURFACE	
DESCRIPTION	APPROX. AREA (SQ.FT)
HOUSE	2878 SF
DRIVEWAY	503 SF
PATIO	130 SF
PATHWAY	102 SF
TOTAL	**3613 SF = 31.9%**



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

N

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TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

SITE PLAN
PARCEL# 873230 0210

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG

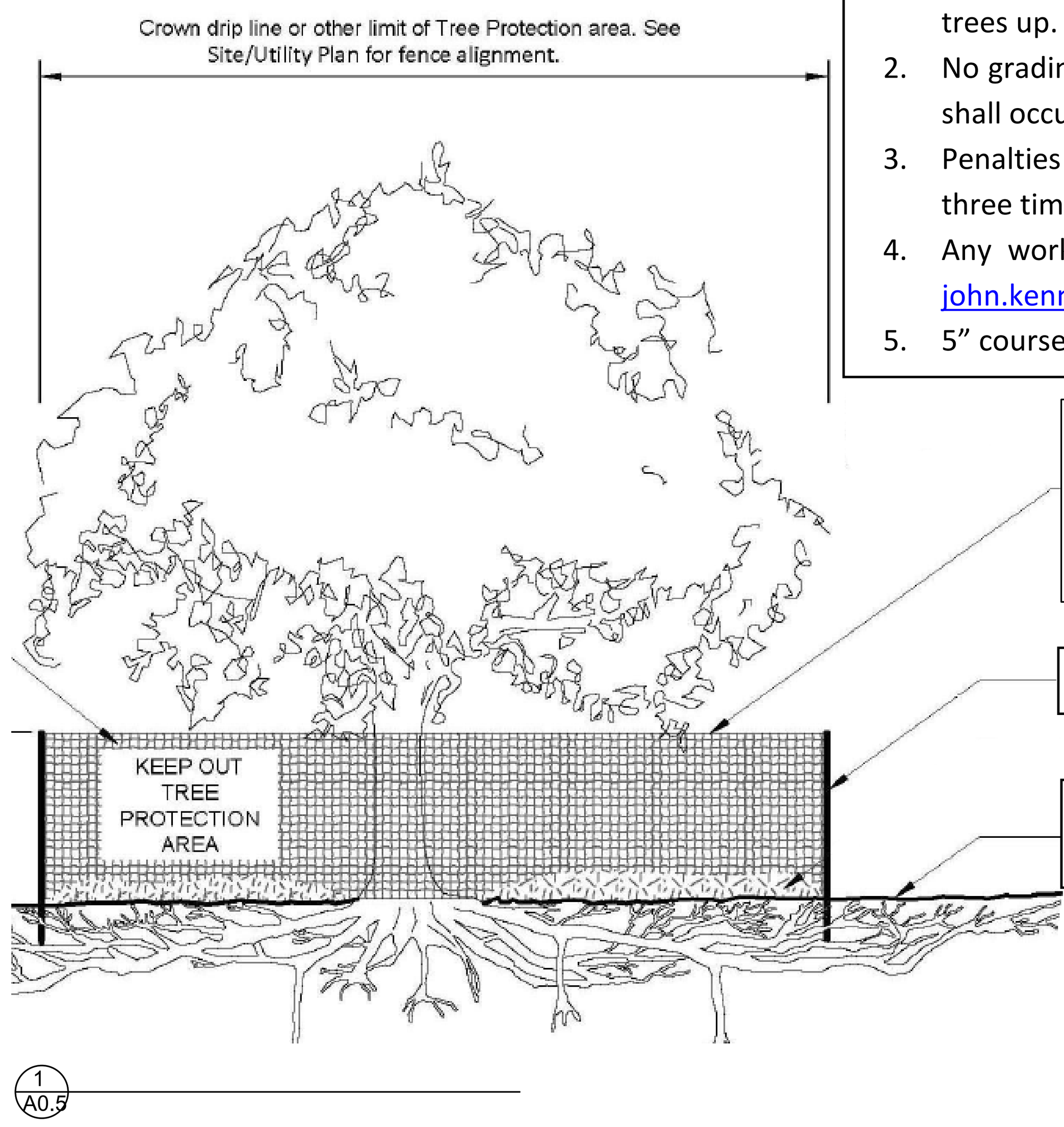
REVISION DATE:	DESCRIPTION:
04/18/2024	VER 1

APPROVALS

A0.0 - SITE PLAN

Notes

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



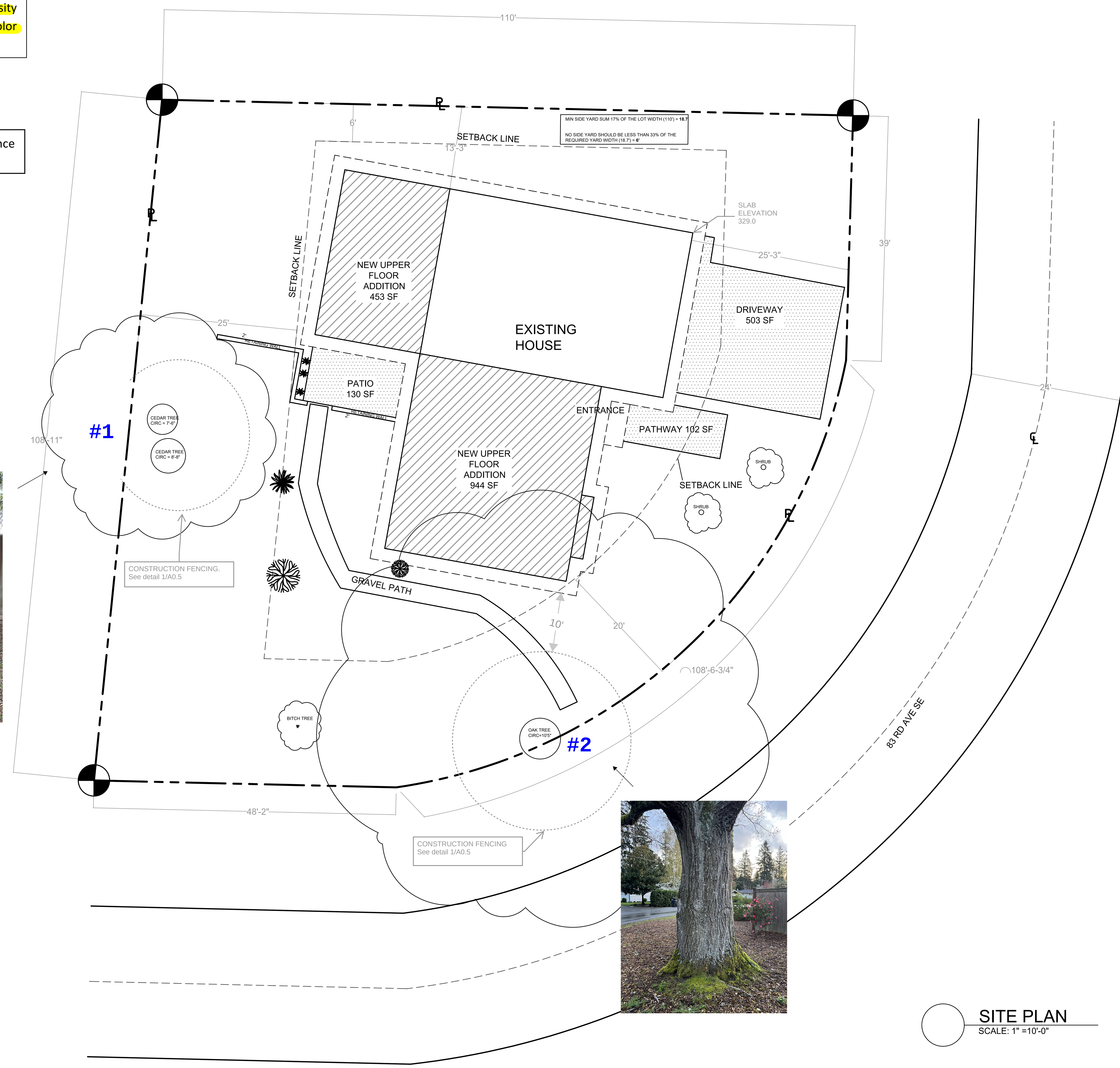
Tree protection fence: 6' **chain link** fence, solidly anchored into the ground, or if authorized High-density polyethylene fencing with 3.5" x 1.5" openings; color orange. Steel posts installed at 8' o.c.

2" x 6" steel posts or approved equal

Maintain existing grade with the tree protection fence unless otherwise indication on the plans

TREE INVENTORY REPORT

Tree Reference No.	Tree Species	Trunk Size	Status	Exceptional	Health	Protection	Notes
1	Red Cedar	16'-2"	Retain	Yes	Good	Orange polyethylene fencing with steel posts	Split Trunk. See picture on sheet A0.5
2	Red Oak	10'-5	Retain	Yes	Good	Orange polyethylene fencing with steel posts	



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

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SITE PLAN
PARCEL# 873230 0210

TRAVIS TORGERSON
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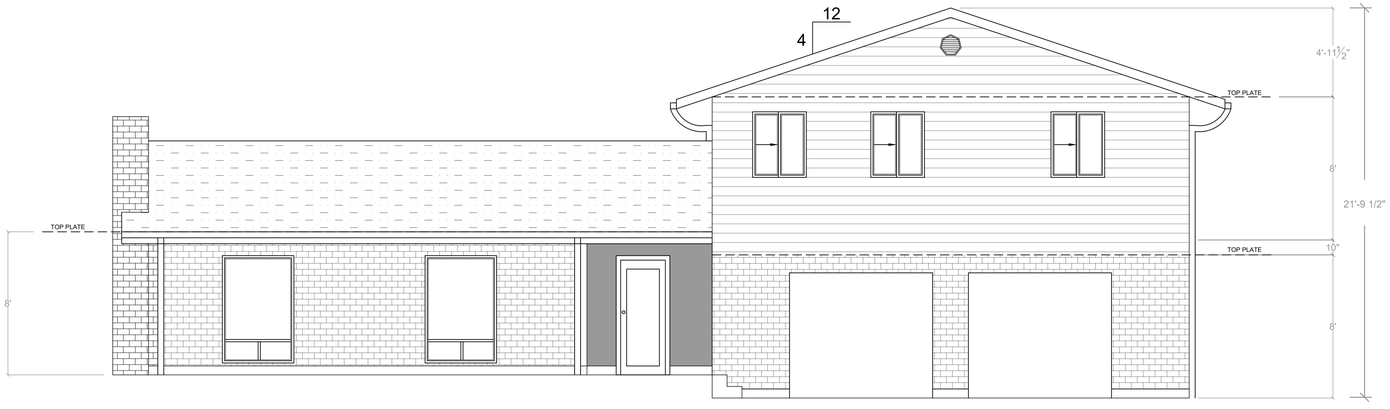
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG
REVISION DATE: 04/18/2024	DESCRIPTION: VER 1

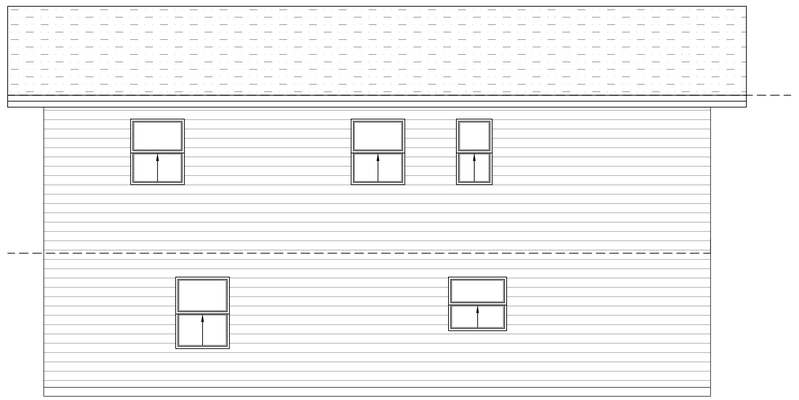
APPROVALS

A0.5 - TREE INVENTORY PLAN

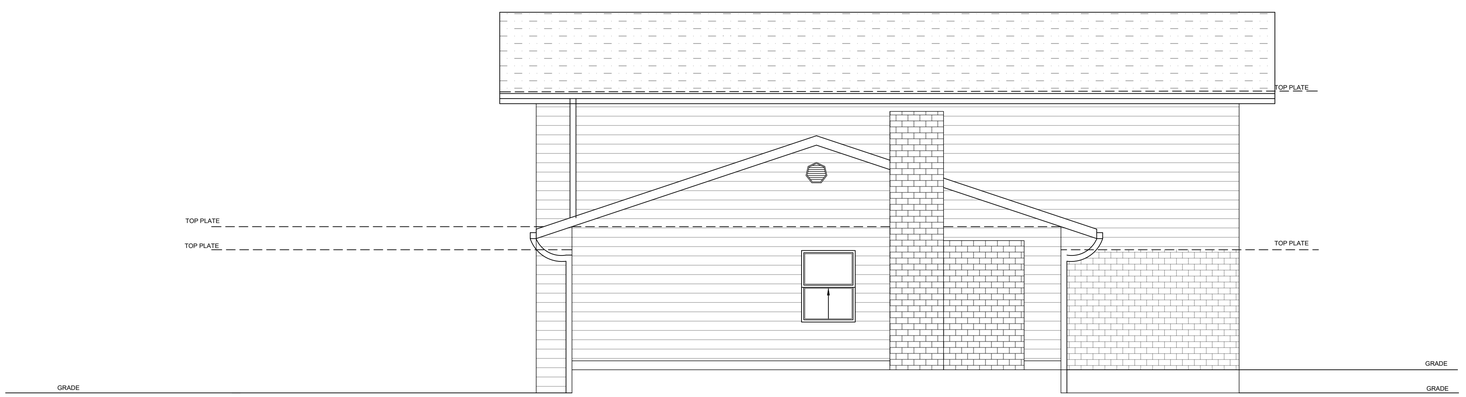


EXISTING EAST ELEVATION
SCALE: 1/4" = 1'-0"

EXISTING WEST ELEVATION
SCALE: 1/4" = 1'-0"



EXISTING NORTH ELEVATION
SCALE: 1/4" = 1'-0"



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

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UPSTATE STAMP

EXISTING ELEVATIONS

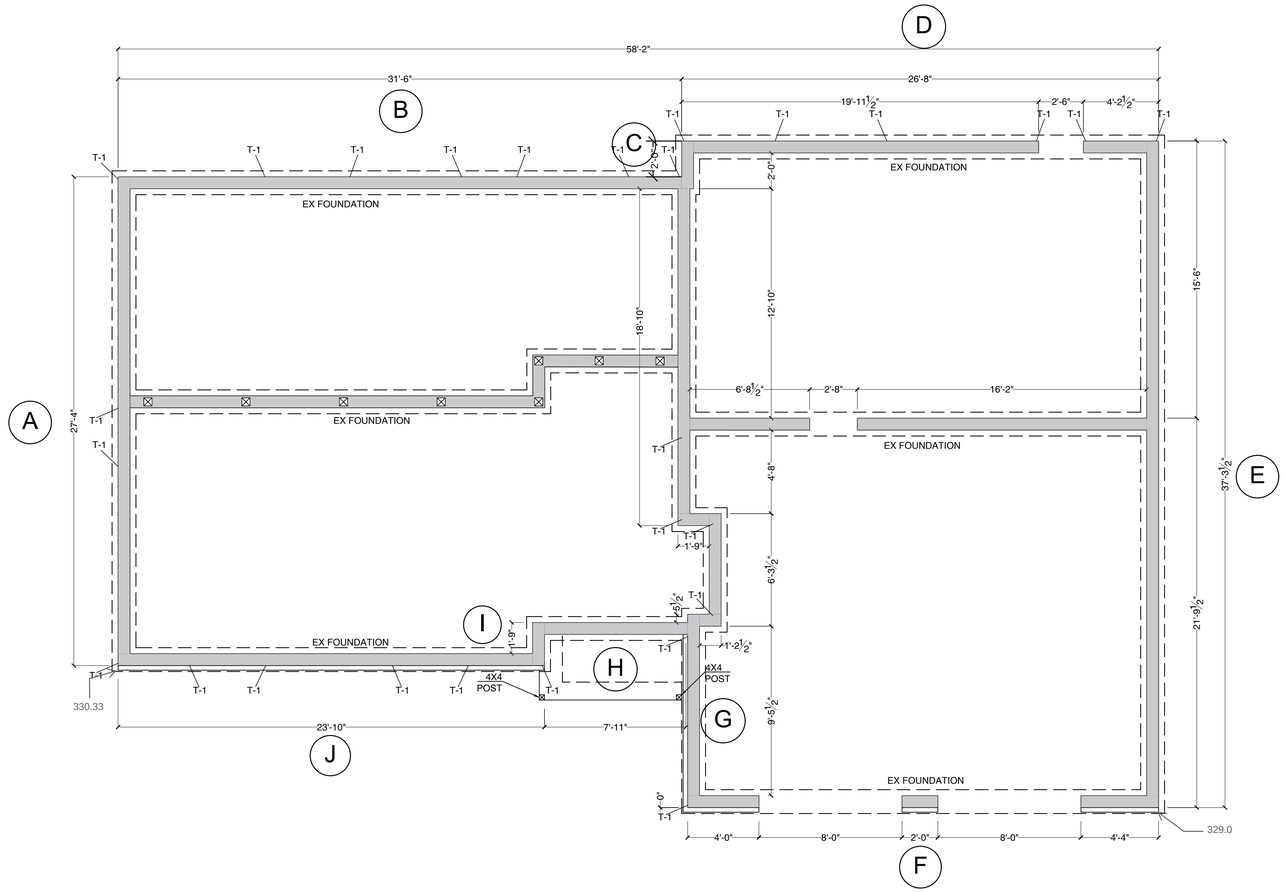
TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
04/19/2024	VER 1

APPROVALS

A1.0 - EXISTING ELEVATIONS



MIDPOINT ELEVATION	WALL SEGMENT LENGTH
A = 330.33 feet	a = 31.5 feet
B = 329.00 feet	b = 2.00 feet
C = 329.00 feet	c = 26.66 feet
D = 329.00 feet	d = 37.29 feet
E = 329.00 feet	e = 26.66 feet
F = 330.33 feet	f = 9.46 feet
G = 330.33 feet	g = 7.92 feet
H = 330.33 feet	h = 1.75 feet
I = 330.33 feet	i = 23.83 feet
J = 330.33 feet	j = 27.33 feet

ABE CALCULATION:

$$\frac{(330.33)(31.5)+(329)(2)+(329)(26.66)+(329)(37.29)+(329)(26.66)+(330.33)(9.46)+(330.33)(7.92)+(330.33)(1.75)+(330.33)(23.83)+(330.33)(27.33)}{31.5 + 2 + 26.66 + 37.29 + 26.66 + 9.46 + 7.92 + 1.75 + 23.83 + 27.33}$$

$$\frac{64092.98'}{194.4'} = 329.69' \text{ AVERAGE BUILDING ELEVATION (ABE)}$$

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TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STATE OF WASHINGTON
ANDREW M. GRIFFITH
4428
REGISTERED PROFESSIONAL ENGINEER
1/16/2025

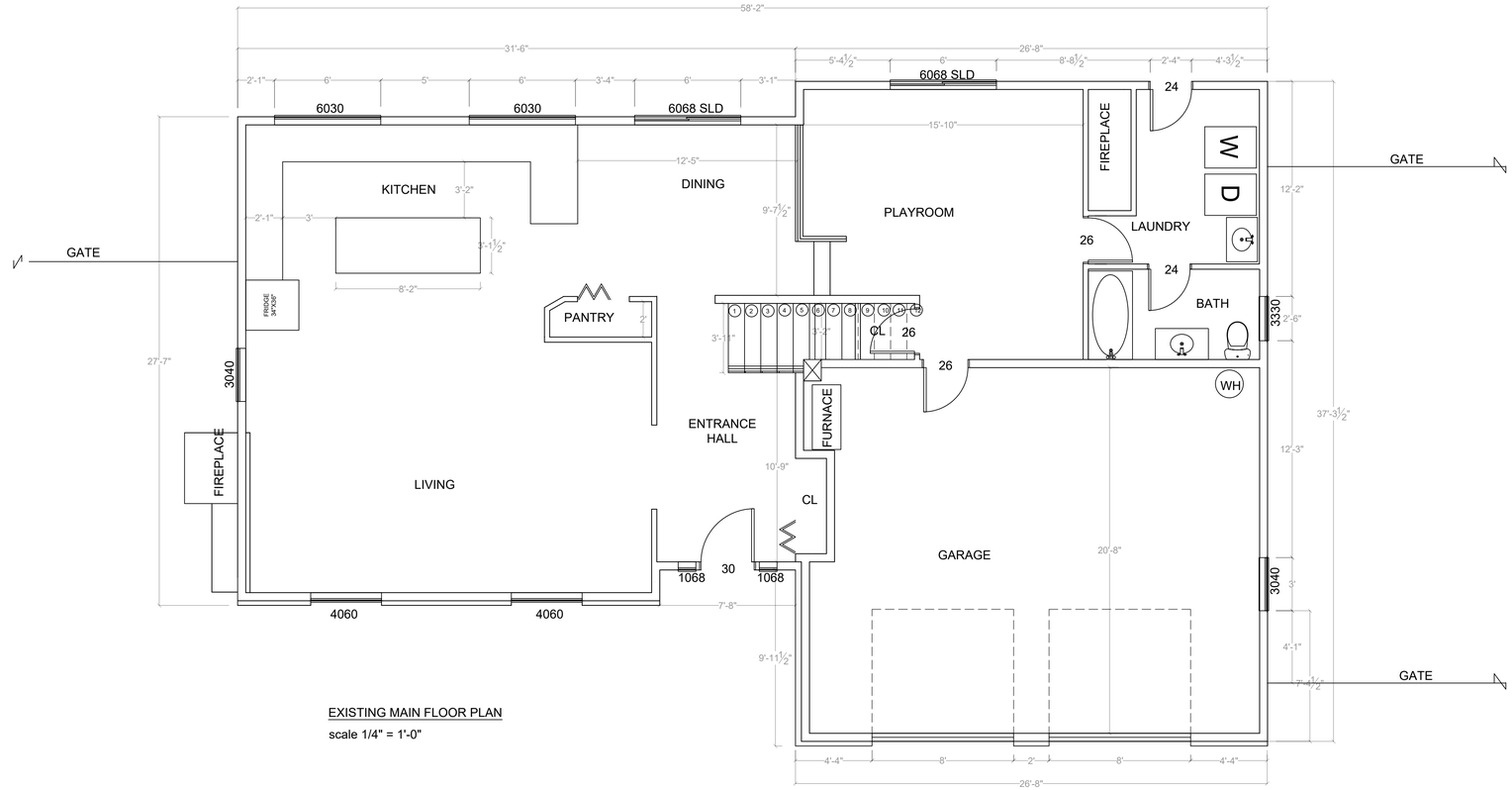
AVERAGE BUILDING ELEVATION CALCULATIONS

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: JBG	CHECKED BY: AMG
REVISION DATE:	DESCRIPTION:
01/09/2025	VERSION 1

APPROVALS

A1.5 - AVERAGE BUILDING ELEVATION CALCULATIONS



EXISTING MAIN FLOOR PLAN

scale 1/4" = 1'-0"

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TEL: (425)354-4105 SERVICES@UPST8.COM

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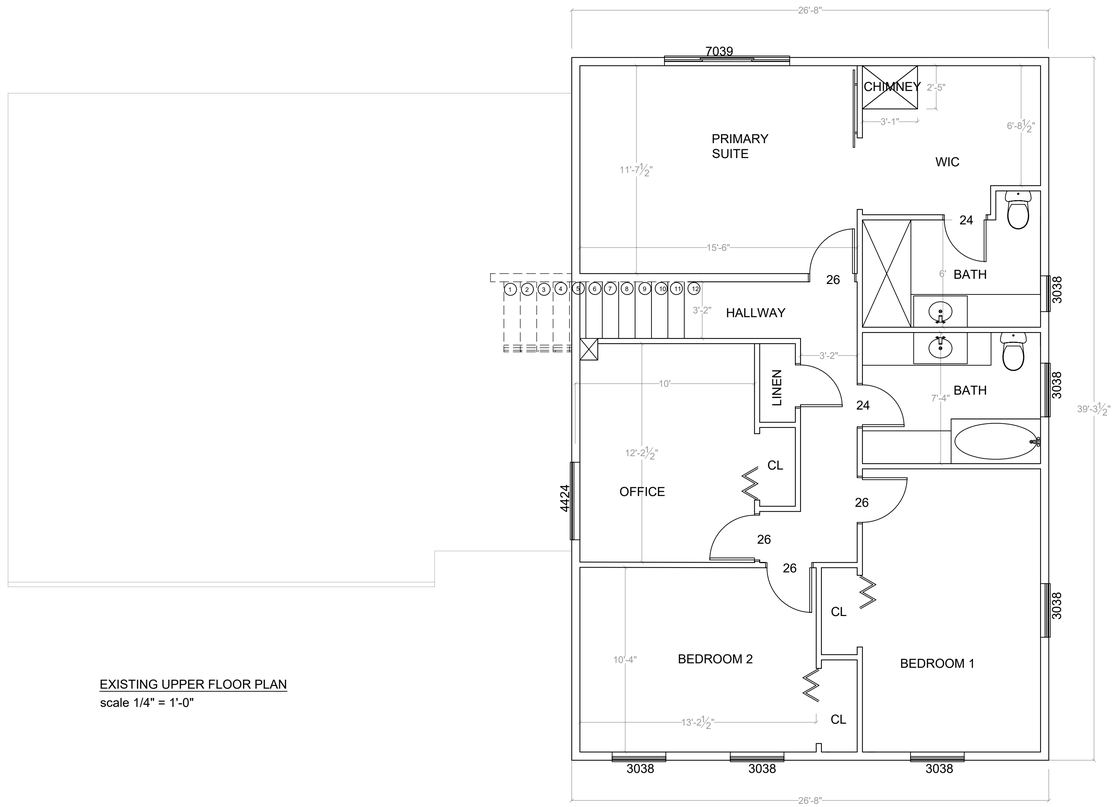
EXISTING MAIN FLOOR

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG
REVISION DATE:	DESCRIPTION:
04/02/2024	VER 1

APPROVALS

A2.0 - EXISTING MAIN FLOOR



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

N

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TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

EXISTING UPPER FLOOR PLAN

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

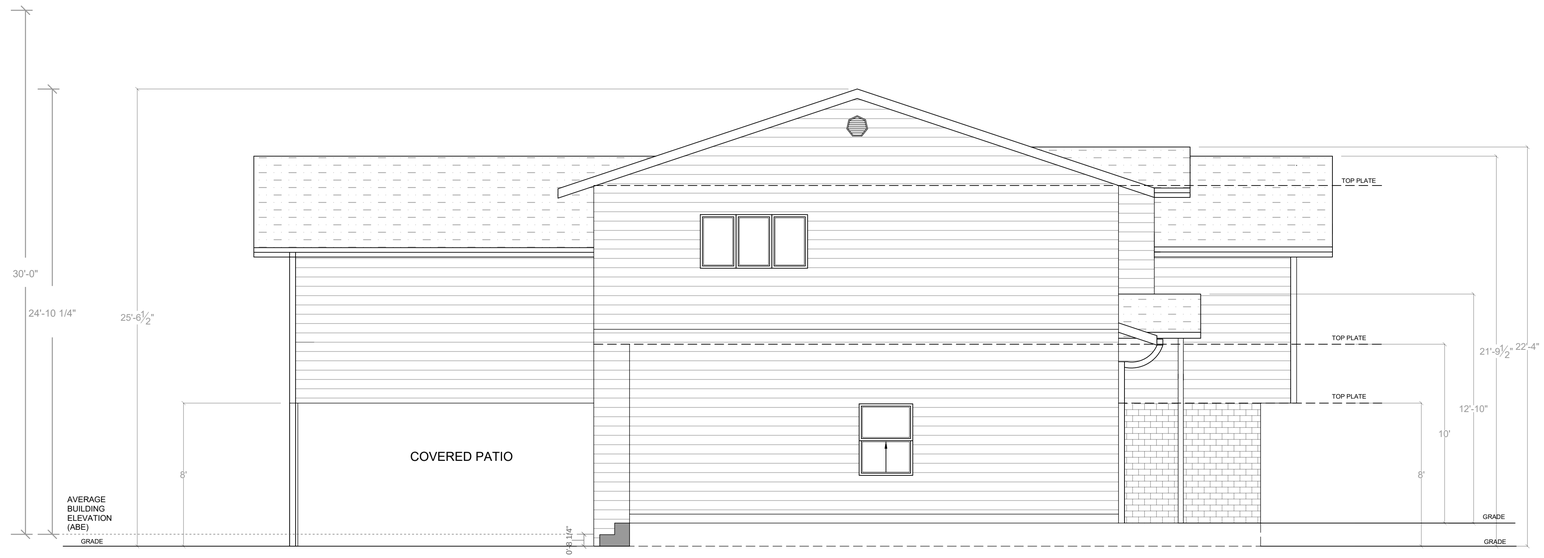
UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
04/02/2024	VER 1

APPROVALS

A3.0 - EXISTING UPPER FLOOR PLAN

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



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

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UPSTATE STAMP

PROPOSED EAST ELEVATION
PROPOSED SOUTH ELEVATION

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

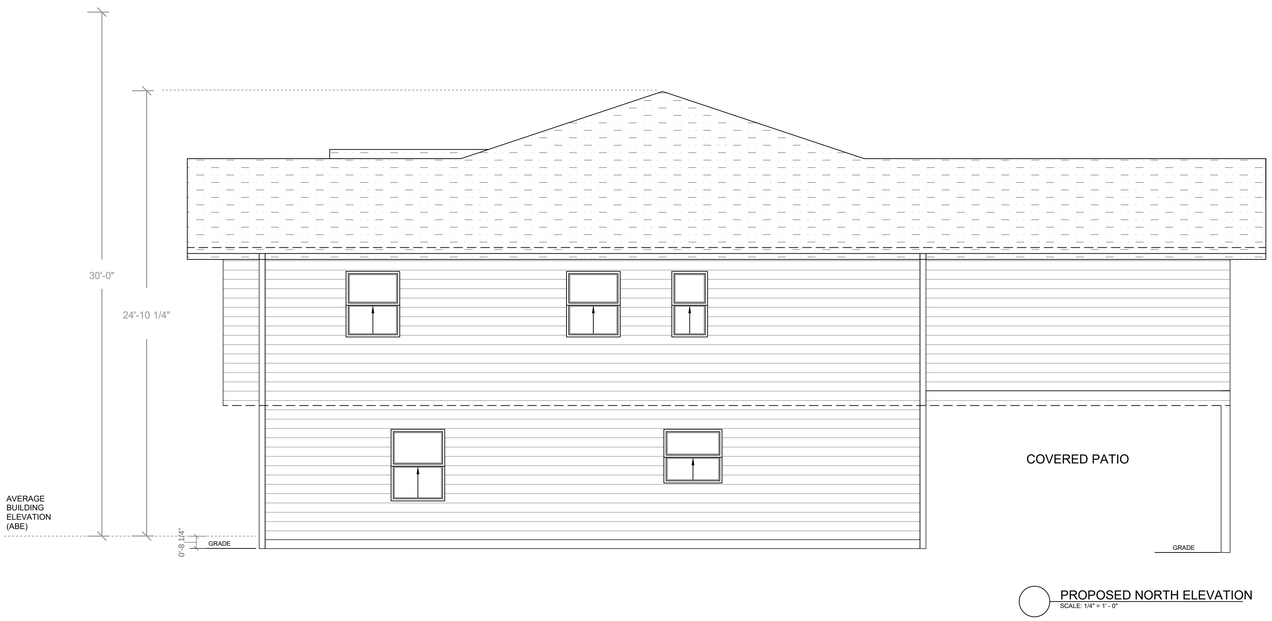
UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
04/18/2024	VER 1
11/27/2024	REVISION 1

APPROVALS

A4.0 - NEW
EAST & SOUTH
ELEVATIONS

PROPOSED WEST ELEVATION
SCALE: 1/4" = 1' - 0"



PROPOSED NORTH ELEVATION
SCALE: 1/4" = 1' - 0"

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engineering, inc.
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PROPOSED WEST ELEVATION
PROPOSED NORTH ELEVATION

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
04/18/2024	VER 1
11/27/2024	REVISION 1

APPROVALS

A5.0 - NEW WEST & NORTH ELEVATIONS

A

ATTIC VENTILATION PER IRC R 806.1

1 FT² VENTILATION REQUIRED PER 300 FT² OF ATTIC AREA

UPPER ROOF

1FT²/300 FT² = 1145/300 FT²
AREQ'D = 3.8 FT² = 549.6 IN²

INTAKE = EXHAUST = 549.6/2 = 274.8 IN²

INTAKE:
REQUIRED VENT BLOCK @ 12 IN²/BLOCK= 274.8/12 = 22.9
23 VENTED BLOCKS REQUIRED-EQUALLY DISTRIBUTED W/ (4) 2" DIAM VENT HOLES EA

VENT BLOCKS PROVIDED = 29 > 23

EXHAUST:
REQUIRED LENGHT OF RIDGE VENT
REQUIRED @20 IN² PER FOOT = 274.8/20 = 13.74

31' OF RIDGE VENTS PROVIDES = 31 > 14

B

ATTIC VENTILATION PER IRC R 806.1

1 FT² VENTILATION REQUIRED PER 300 FT² OF ATTIC AREA

UPPER ROOF

1FT²/300 FT² = 597/300 FT²
AREQ'D = 1.99 FT² = 286.56 IN²

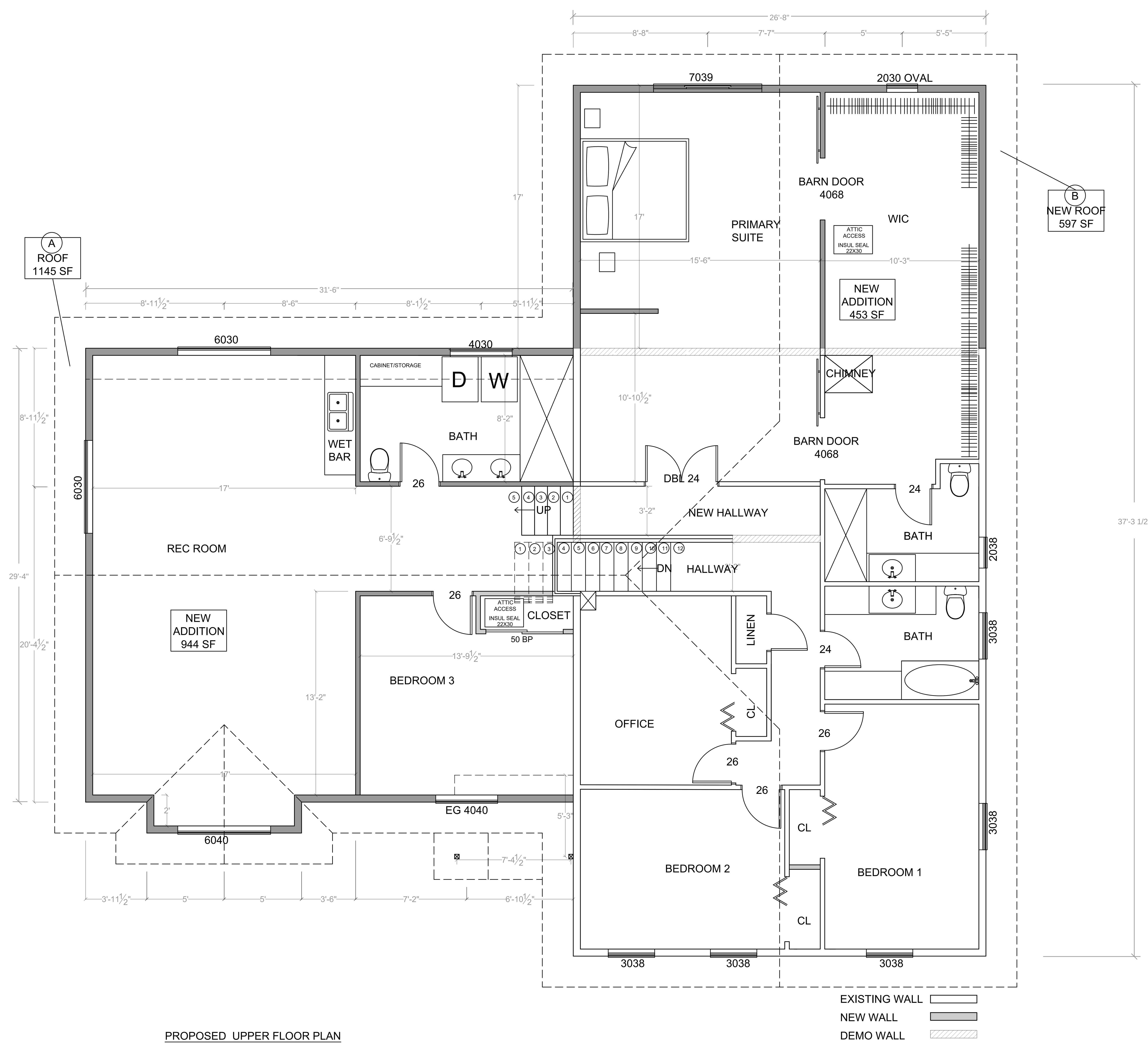
INTAKE = EXHAUST = 286.56/2 = 143.28 IN²

INTAKE:
REQUIRED VENT BLOCK @ 12 IN²/BLOCK= 143.28/12 = 11.9
12 VENTED BLOCKS REQUIRED-EQUALLY DISTRIBUTED W/ (4) 2" DIAM VENT HOLES EA

VENT BLOCKS PROVIDED = 15 > 12

EXHAUST:
REQUIRED LENGHT OF RIDGE VENT
REQUIRED @20 IN² PER FOOT = 143.28/20 = 7.2

17' OF RIDGE VENTS PROVIDES = 17 > 7.2



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

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1/10/2025

PROPOSED UPPER FLOOR PLAN

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB # 1660

DRAWN BY:	CHECKED BY:
A.C	AMG
REVISION DATE:	DESCRIPTION:
04/18/2024	VER 1
11/27/2024	REVISION 1

APPROVALS

A6.0 - NEW UPPER FLOOR PLAN

WASHINGTON STATE UNIVERSITY
Energy Program

Permit#			
Address or Lot & Block			
TRAVIS TORGERSON			
HOUSE REMODEL/ADDITION			
6879 83RD AVE SE			
City	MERCER ISLAND	Zip	98040

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

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

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

Authorized Representative Signature	ANNE CEVRERO (Digitally signed by ANNE CEVRERO DN: C=US, E=ANNE@UPST8.COM, O=UPST8 ENGINEERING, CN=ANNE CEVRERO Date: 2024.09.10 10:57:12-07'00')	Date	09/10/2024

All Climate Zones Table 402.1.3		
	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b, j]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Ceiling [e]	60	n/a
Wood Frame Wall [g,i]	20+5 or 13+10	n/a
Floor	30	n/a
Below Grade Wall [c,h]	10/15/21 int + 5TB	n/a
Slab [d,f] R-Value & Depth	10, 4 ft	n/a

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

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

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

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

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

Table R406.2 ENERGY EQUALIZATION CREDITS			
System Type	Description of Primary Heating Source	Credits - select ONE system type	
1	For combustion heating equipment meeting minimum federal efficiency standards for the equipment listed in Table C403.3.2(5) or C403.3.2(6)	0	☐
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) and supplemental heating provided by electric resistance or a combustion furnace meeting minimum standards listed in Table C403.3.2(5)b found in the 2021 WSEC- COMMERCIAL ENERGY CODE	1.5	☒
3	For heating system based on electric resistance only (either forced air or Zonal)	0.5	☐
4[c]	For heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) or C403.3.2(9) or Air to water heat pump units that are configured to provide both heating and cooling and are rated in accordance with AHRI 550/590	3.0	☐
5	For heating system based on electric resistance with: 1. Inverter-driven ductless mini-split heat pump system installed in the largest zone in the dwelling, or 2. With 2kW or less total installed heating capacity per dwelling	2.0	☐

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

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

Summary of Table R406.3				
Options	*Energy Credit Option Descriptions*	*Credits – limited to one energy option from each category [d]*		*Comments:*
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	1.5	☒	U=0.18/FLOOOR R38
1.4	Efficient Building Envelope	2.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.3	Air Leakage Control and Efficient Ventilation	2.0	☐	
3.1[a]	High Efficiency HVAC	1.0	☐	
3.2[a]	High Efficiency HVAC	0.5	☒	
3.3[a,c,d]	High Efficiency HVAC	0.5	☐	
3.4[a,d]	High Efficiency HVAC	1.5	☐	
3.5[d]	High Efficiency HVAC	1.5	☐	
3.6[a]	High Efficiency HVAC	1.0	☐	
3.7[a,d,e]	High Efficiency HVAC	2.0	☐	
3.8[a,d]	High Efficiency HVAC	1.0	☐	
3.9[c]	High Efficiency HVAC	1.5	☐	
3.10	High Efficiency HVAC	2.5	☐	
3.11	High Efficiency HVAC	0.5	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
5.1[d]	Efficient Water Heating	0.5	☑	DRAIN HEAT RECOVERY
5.2	Efficient Water Heating	0.5	☐	
5.3	Efficient Water Heating	0.5	☐	
5.4	Efficient Water Heating	1.0	☒	ENERGY STAR WATER HEATER
5.5	Efficient Water Heating	1.5	☐	
5.6	Efficient Water Heating	2.0	☐	
5.7	Efficient Water Heating	2.5	☐	
5.8	Efficient Water Heating	2.5	☐	
6.1[e]	Renewable Electric Energy (4.5 credits max)	0.5-4.5	0.0	
7.1	Appliance Package	0.5	☐	
	Total Credits	5.0		Calculate Total

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

TABLE M1505.4.3(1)

CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (square feet)	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

For SI: 1 square foot = 0.0929 m^2, 1 cubic foot per minute = 0.0004719 m^3/s.

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.

TABLE R402.1.2INSULATION AND FENESTRATION REQUIREMENTS BYCOMPONENT[a]

CLIMATE ZONE 5 AND MARINE 4	
Fenestration *U*-Factor[b]	0.30
Skylight *U*-Factor	0.50
Ceiling *U*-Factor	0.024
Above-Grade Wall *U*-Factor	0.056
Floor *U*-Factor	0.029
Slab on Grade *F*-Factor	0.54
Below Grade 2' Depth	
Wall *U*-Factor	0.042
Slab *F*-Factor	0.59
Below Grade 3.5' Depth	
Wall *U*-Factor	0.040
Slab *F*-Factor	0.56
Below Grade 7' Depth	
Wall *U*-Factor	0.035
Slab *F*-Factor	0.50

For SI: 1 foot = 304.8 mm, ci = continuous insulation, int = intermediateframing.
a. *U*-factors or *F*-factors shall be obtained from measurement, calculation or an approved source, or as specified in Section R402.1.5.
b. A maximum *U*-factor of 0.32 shall apply to vertical fenestration products installed in buildings located above 4000 feet in elevation above sea level, or in windborne debris regions where protection of openings is required under Section R301.2.1.2 of the *International Residential Code*.

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UPSTATE STAMP

1/10/2025

ENERGY ANALYSIS

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: A.C	CHECKED BY: AMG
REVISION DATE: 09/10/2024	DESCRIPTION: VER 1

APPROVALS

A7.0 - ENERGY ANALYSIS

GENERAL STRUCTURAL NOTES

GENERAL

ALL CONSTRUCTION SHALL CONFORM TO THE 2021 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY WASHINGTON STATE (WSBC), THE 2021 INTERNATIONAL RESIDENTIAL CODE (IRC) AS AMENDED BY WASHINGTON STATE AND/OR OTHER GOVERNING CODE, AS REQUIRED BY LOCAL JURISDICTION.

STRUCTURAL DRAWINGS INDICATE TYPICAL AND GENERAL CONSTRUCTION DETAILS. WHERE DETAILS ARE NOT REFERENCED AT LOCATIONS OF SIMILAR CONFIGURATION TO DETAILS PROVIDED, SIMILAR DETAILS SHALL BE EMPLOYED. NOTES ON THE FOLLOWING INDIVIDUAL STRUCTURAL SHEETS SHALL TAKE PRECEDENCE OVER THESE GENERAL STRUCTURAL NOTES. ANY SPECIFICATION CONFLICTS THAT MAY OCCUR WITHIN THIS PLAN SET, THE CONTRACTOR SHALL DEFAULT TO THE MORE STRINGENT/ CONSERVATIVE SPECIFICATION.

THE CONTRACTOR SHALL REVIEW THE CONSTRUCTION DOCUMENTS IN FULL FOR ACCURACY AND ADEQUACY AS RELATED TO SITE CONDITIONS. ANY DISCREPENCIES SHALL BE SUBMITTED TO THE EOR BEFORE PROCEEDING.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DESIGN, PERMITTING AND CONSTRUCTION OF ALL UTILITIES INCLUDING PLUMBING, ELECTRICAL AND HVAC. ANY STRUCTURAL MODIFICATIONS SHALL BE SUBMITTED TO THE EOR BEFORE PROCEEDING.

DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SUPERCEDE. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS (INCLUDING ROUGH OPENINGS) AND SHALL REVIEW ALL DIMENSIONS AND THEIR ACCURACY IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION.

THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE, INCLUDING SOIL CONDITIONS (UNLESS SOILS REPORT EXISTS), AND CONDITIONS RELATED TO EXISTING UTILITIES, EASEMENTS, AND/OR RIGHTS OF WAY.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION, WORKMANSHIP AND JOBSITE SAFETY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS AND STIFFENINGS HAVE BEEN INSTALLED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS WITH THE BUILDING DEPARTMENT.

ANY AND ALL DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER JOB-RELATED DRAWINGS, INCLUDING ARCHITECTURAL, CIVIL OR ANY OTHER CONSULTANT DRAWINGS SHALL BE PROVIDED TO THE EOR BEFORE PROCEEDING.

SOILS

SEE DESIGN CRITERIA FOR SOILS REPORT INFORMATION, IF APPLICABLE.

WHERE SOILS REPORT NOT PROVIDED, 2000 PSF SOIL BEARING ASSUMED. ASSUMED ALLOWABLE SOIL BEARING AND LATERAL PRESSURES SHALL BE FIELD-VERIFIED. BEARING SOIL SHALL BE FREE OF ORGANIC MATERIAL. EOR SHALL BE NOTIFIED OF ANY SOILS FOUND TO BE INADEQUATE TO REVIEW FOUNDATION ADEQUACY. SEE ADDITIONAL SOILS NOTES ON RETAINING WALL DETAILS, IF APPLICABLE.

FOUNDATION CONDITIONS

FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL (OR CONTROLLED, COMPACTED STRUCTURAL FILL) AT LEAST 18" BELOW EXISTING GRADE. ACTUAL ELEVATIONS OF FOOTINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. OVEREXCAVATION SHALL BE BACKFILLED USING LEAN CONCRETE (f'_c = 2000 PSI) OR STRUCTURAL BACKFILL.

STRUCTURAL FILL

STRUCTURAL FILL SHOULD CONSIST OF PREDOMINATELY WELL-GRADED, GRANULAR SOIL, FREE OF ORGANIC MATERIAL AND DEBRIS. FILL SHOULD BE PLACED IN MAXIMUM 8" LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED BY ASTM D-1557 TEST PROCEDURES. INFORMATION FOUND WITHIN SOILS REPORT AND/OR PROVIDED BY A GEOTECHNICAL ENGINEER OR OTHER SOILS PROFESSIONAL, SHALL TAKE PRECEDENCE. ANY SIGNIFICANT CONSTRUCTION FOUNDED ON STRUCTURAL FILL SHALL BE REVIEWED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF WASHINGTON.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED AS REQUIRED BY THE BUILDING DEPARTMENT AND IBC SECTION 1704. THE OWNER SHALL BE RESPONSIBLE FOR RETAINING ANY SPECIAL INSPECTORS REQUIRED. ALL SPECIAL INSPECTION REPORTS SHALL BE PROVIDED TO THE EOR AS APPLICABLE. SEE CONCRETE SECTION FOR MORE ON SPECIAL INSPECTIONS.

SPECIAL INSPECTIONS AND TESTS OF SOILS (IBC 1705.6)

VERIFICATION AND INSPECTION	FREQUENCY		REFERENCES
	CONTINUOUS	PERIODIC	
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHEIVE THE DESIGN BEARING CAPACITY		X	
VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X	
VERIFY USE OF PROPER MATERIALS AND MATERIALS PER GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X		
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X	

WOOD FRAMING NOTES

GENERAL REQUIREMENTS

PROVIDE MINIMUM NAILING PER 2021 IBC TABLE 2304.10.2 (PROVIDED BELOW), UNLESS NOTED OTHERWISE. ALL WOOD IN CONTACT WITH CONCRETE AND/OR EXPOSED TO WEATHER SHALL BE PRESERVATIVE-TREATED BY AN APPROVED METHOD. ALL CUTS, NOTCHES AND EXPOSED ENDS TO BE RE-TREATED. DO NOT NOTCH, BEVEL OR DRILL STRUCTURAL MEMBERS, EXCEPT AS ALLOWED BY SECTIONS 2308.4.2.4 AND 2308.7.4, OR AS ALLOWED ELSEWHERE WITHIN THIS PLAN SET.

FRAMING LUMBER

STRUCTURAL LUMBER SHALL ADHERE TO THE FOLLOWING TABLE:

MEMBER	GRADING	f'_b (PSI)	f'_V (PSI)	$f'_{C\parallel}$ (PSI)	$f'_{C\perp}$ (PSI)
STUDS, SAWN FLOOR JOISTS, SAWN RAFTERS (2x LUMBER)	HF#2 OR BETTER (HEM FIR #2)	850	150	1300	405
POSTS, BEAMS, HEADERS (4x LUMBER AND GREATER)	DF#2 OR BETTER (DOUG FIR #2)	900	180	1350	625
LVL- LAMINATED VENEER LUMBER (FLUSH BEAMS, COLLECTORS, RAFTERS)	1.9E	2600	285	2510	750
GLB - GLUED-LAMINATED BEAMS (DROPPED, EXPOSED, EXTERIOR, HEADERS)	24F-V4 - TYPICAL 24F-V8 - CANTILEVERED	2400/ 1850(-) 2400/ 2400(-)	265	1650	650
PSL - PARALLEL STRAND LUMBER (FLUSH BEAMS, HEADERS)	2.0E	2900	290	2900	750
LSL - LAMINATED STRAND LUMBER (FLUSH BEAMS, COLLECTORS, RIMS)	1.55E	2325	310	2050	800

2x_ TIMBER SHALL BE KILN DRIED. GRADES SHALL CONFORM TO "WWPA GRADING RULES FOR WESTERN LUMBER", LATEST EDITION.

ROOF DIAPHRAGMS

INSTALL MINIMUM 1/2" CDX PLYWOOD (32/16) OR 7/16" OSB SHEATHING. NAIL ALL SUPPORTED EDGES AND BOUNDARIES WITH 8d AT 6" O.C, AND INTERIOR SUPPORTS WITH 8d AT 12" O.C.; BLOCKING NOT REQUIRED, UNO. SEE ROOF FRAMING PLAN(S) FOR ADDITIONAL INFORMATION.

FLOOR DIAPHRAGMS

INSTALL MINIMUM 23/32" T&G STURD-I-FLOOR SHEATHING. GLUE AND NAIL ALL SUPPORTED EDGES AND BOUNDARIES WITH 10d AT 6" O.C., AND INTERIOR SUPPORTS WITH 10d AT 12" O.C.; BLOCKING NOT REQUIRED, UNO. SEE FLOOR FRAMING PLAN(S) FOR ADDITIONAL INFORMATION.

WOOD TRUSSES (IBC 2303.4)

PRE-FABRICATED WOOD TRUSSES TO BE DESIGNED PER IBC 2303.4.1.1 TO CARRY LOADS LISTED IN THE DESIGN CRITERIA SECTION AND ANY ADDITIONAL POINT LOADS, UNIFORM LOADS OR DRAG STRUT FORCES PROVIDED ON THE ROOF FRAMING PLAN(S).

TRUSS DESIGN DRAWINGS AND DOCUMENT SUBMITTAL SHALL INCLUDE STRESS ANALYSIS AND DEPICTION OF EACH TRUSS TYPE, AND SHALL INCLUDE A TRUSS LAYOUT. TRUSS ANALYSIS, LAYOUT AND INSTALLATION DOCUMENTS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER LICENSED IN THE STATE OF WASHINGTON. APPROVED TRUSS DOCUMENTS SHALL REMAIN ON THE JOB SITE THROUGHOUT CONSTRUCTION.

PRE-FABRICATED TRUSSES SHALL NOT BE NOTCHED, DRILLED, CUT, SPLICED OR OTHERWISE ALTERED WITHOUT WRITTEN APPROVAL FROM THE TRUSS DESIGN ENGINEER. ALTERATIONS RESULTING IN THE ADDITION OF LOADS TO ANY MEMBER (E.G. HVAC EQUIPMENT, PIPING, ETC.) SHALL NOT BE PROHIBITED WITHOUT WRITTEN APPROVAL FROM THE TRUSS DESIGN ENGINEER.

UNLESS NOTED OTHERWISE, ALL TRUSSES SHALL BE SPACED AT 24" O.C. AND HAVE SIMPSON H1 CLIPS AT EXTERIOR WALLS. GABLE TRUSSES SHALL HAVE A35 CLIPS @ 24" O.C., UNO.

THE GENERAL CONTRACTOR SHALL PROVIDE THE EOR WITH A COPY OF THE APPROVED TRUSS DOCUMENTS FOR REVIEW. IF THE TRUSS DOCUMENTS WERE DEVELOPED SUBSEQUENT TO THE ISSUANCE OF THIS PLAN SET, THE TRUSS ANALYSES MAY RESULT IN REVISIONS TO THE BEAM CALCULATIONS ASSOCIATED WITH THIS PLAN SET.

FASTENERS

THE LATEST SIMPSON STRONG-TIE COMPANY, INC. PRODUCTS WERE USED AS A BASIS FOR THIS PROJECT. CONNECTORS BY ALTERNATE MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC-ESR/IAPMO-ER APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES. ALL FASTENERS AND CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.

NAILS AND STAPLES TO CONFORM TO IBC 2303.6 "NAILS AND STAPLES." ALL NAILING TO BE PROVIDED PER TABLE 2304.10.2 (PROVIDED BELOW). ALL NAILS SPECIFIED SHALL BE COMMON, UNO.

COMMON NAILS

SIZE	LENGTH	DIAMETER
8d	$2^1/_2$"	0.131"
10d	3"	0.148"
16d	$3^1/_2$"	0.162"
16d SINKER	$3^1/_4$"	0.148"

CONCRETE NOTES

CONCRETE SHALL CONSIST OF PORTLAND CEMENT ASTM C-150 TYPE II OR TYPE I AND SHALL BE READY-MIXED PER ASTM C-94, MAXIMUM SLUMP 5". MINIMUM $5^1/_2$ SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. SEGREGATION OF MATERIALS TO BE PREVENTED.

MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'C AT 28 DAYS) ACI 318-14

LOCATION/USE	f'_C (PSI)	SPECIAL INSPECTION & TESTING REQUIRED
FOOTING PADS & FOUNDATIONS NOT EXPOSED TO WEATHER	2500	NOT REQUIRED
PORCHES, PATIOS, DRIVEWAYS GARAGE SLABS	3000	NOT REQUIRED
FOUNDATION STEM WALLS AND INTERIOR SLABS ON GRADE	2500	NOT REQUIRED

REINFORCEMENT STEEL

REINFORCING STEEL #5 BARS AND LARGER SHALL BE GRADE 60 DEFORMED BARS, AND #3 AND #4 BARS SHALL BE GRADE 40, IN ACCORDANCE WITH ASTM A-615. LAP SPLICES 32 BAR DIAMETERS OR 18" MIN. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND SHALL BE 6X6 – W1.4 X W1.4. LAP ONE FULL MESH AT SPLICES. SEE CONCRETE DETAILS FOR MORE INFORMATION.

CONCRETE COVER REQUIREMENTS

REINFORCING BAR LOCATION	MIN CONCRETE COVER
UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS AND LARGER)	2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS AND SMALLER)	11/2"
COLUMNS AND BEAMS WITH BARS ENCLOSED IN STIRRUPS, TIES OR SPIRAL REINFORCEMENT	11/2"
SLABS, JOISTS AND INTERIOR FACES OF WALLS (#5 BARS AND SMALLER)	3/4"

SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (IBC 1705.3)

VERIFICATION AND INSPECTION	FREQUENCY		REFERENCES
	CONTINUOUS	PERIODIC	
INSPECT REINFORCEMENT AND VERIFY PLACEMENT		X	ACI 318: CH. 20, 25.2-3, 26.6.1-3
INSPECT ANCHORS CAST IN CONCRETE		X	ACI 318: 17.8.2
VERIFY REQUIRED DESIGN MIX		X	IBC 1904.1-2, ACI 318: CH. 19, 26.4.3-4
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE TEMPERATURE OF CONCRETE	X		ASTM C172, C31 ACI 318: 26.5, 26.12
INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		ACI 318: 26.5
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X	ACI 318: 26.5.3-5
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE BEING POURED		X	ACI 318: 26.11.1.2(b)

DESIGN CRITERIA

WIND:
NOMINAL WIND SPEED – 85 MPH RISK CATEGORY II
ULTIMATE WIND SPEED – 110 MPH IMPORTANCE, I = 1.0
WIND EXPOSURE, B K_{ZT} = 1.00

SEISIMIC:
EQUIVALENT LATERAL FORCE PROCEDURE
IMPORTANCE, Ie = 1.0 S_S = 1.31
SITE CLASS, D S_1 = 0.45
SEISMIC DESIGN CAT., D S_{DS} = 1.05
SEIS. FORCE RES. SYS, A.15. S_{D1} = NA
DESIGN BASE SHEAR = 13516 lbs C_S = 0.16
RISK CATEGORY II R = 6.5

LIVE LOADS:
ROOF 25 (SNOW)
FLOOR 40 PSF
DECKS 60 PSF

INSPECTIONS NO SPECIAL INSPECTIONS ARE REQUIRED. VERIFY INSPECTIONS REQUIRED WITH AUTHORITY HAVING JURISDICTION.

SOILS

GEOTECH EOR: **NA**
REPORT #: **NA**
WHERE SOILS REPORT NOT PROVIDED, 2000 PSF SOIL BEARING ASSUMED.

SCOPE OF STRUCTURAL WORK

- SEISMIC AND WIND ANALYSIS (LATERAL DESIGN)
- VERTICAL LOAD ANALYSIS (GRAVITY DESIGN)
- FOUNDATION DESIGN/VERIFICATION
- STRUCTURAL DRAFTING
- STRUCTURAL DETAILING

MINIMUM FASTENING SCHEDULE (UNO) (PER 2021 IBC TABLE 2304.10.2)

NO.	CONNECTION	NAILING, LOCATION (UNO)
1	BLOCKING BETWEEN JOIST/RAFTER OR TRUSSES TO TOP PLATE OR OTHER FRAMING ABOVE	(3) 8d, TOENAIL EACH END
2	BLOCKING BETWEEN JOIST/RAFTER OR TRUSSES NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	(2) 8d, TOENAIL EACH END
3	FLAT BLOCKING TO TRUSS AND WEB FILLER	16d FACE NAIL
4	JOISTS TO TOP PLATE OR GIRDER	(3) 8d, TOENAIL
5	CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST)	(3) 16d
6	COLLAR TIE TO JOIST/RAFTER	(3) 10d
7	ROOF TRUSS TO TOP PLATE	(3) 10d, TOENAIL
8	ROOF JOIST/RAFTER TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2" RIDGE BEAM	(2) 16d, END NAIL
9	STUD TO STUD (NOT AT SHEAR WALLS)	16d @ 24" O.C., FACE NAIL
10	CONTINUOUS HEADER TO STUD	(4) 8d, TOENAIL
11	TOP PLATE TO TOP PLATE, AT END JOINTS	(8) 16d, EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
12	SILL PLATE TO JOIST, RIM JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d @ 16" O.C., FACE NAIL
13	SILL PLATE TO JOIST, RIM JOIST OR BLOCKING AT BRACED WALL PANELS	(3) 16d @ 16" O.C., FACE NAIL
14	STUD TO SILL PLATE	(4) 8d, TOENAIL OR (2) 16d, END NAIL*
15	TOP PLATE TO STUD	(2) 16d, END NAIL
16	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	(2) 16d, FACE NAIL
17	1" BRACE TO EACH STUD AND PLATE	(2) 8d, FACE NAIL
18	1" x 6" SHEATHING OR LESS TO EACH BEARING	(2) 8d, FACE NAIL
19	1" x 8" AND WIDER SHEATHING TO EACH BEARING	(3) 8d, FACE NAIL
20	JOIST TO SILL, TOP PLATE OR GIRDER	(3) 8d, TOENAIL
21	RIM JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW	8d @ 6" O.C., TOENAIL
22	1" x 6" SUBFLOOR OR LESS TO EACH JOIST	(2) 8d, FACE NAIL
23	2" SUBFLOOR TO JOIST OR GIRDER	(2) 16d, BLIND AND FACE NAIL
24	2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	(2) 16d, EACH BEARING, FACE NAIL
25	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d @ 32" O.C., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES AND (2) 20d AT ENDS OF EACH SPLICE
26	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	(3) 16d, EACH JOIST OR RAFTER, FACE NAIL
27	JOIST TO RIM JOIST	(3) 16d, END NAIL
28	BRIDGING OR BLOCKING TO JOIST	(2) 8d, EACH END, TOENAIL
	*USE (4) 16d END NAIL STUDS TO TOP AND SILL PLATES AT 2x10 STUDS	

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UPSTATE STAMP

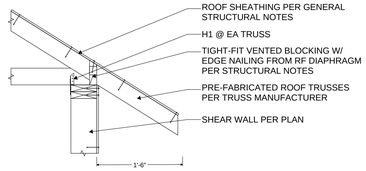
STRUCTURAL DESIGN
TYPICAL DETAILS
STRUCTURAL NOTES
MIN CONNECTIONS

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

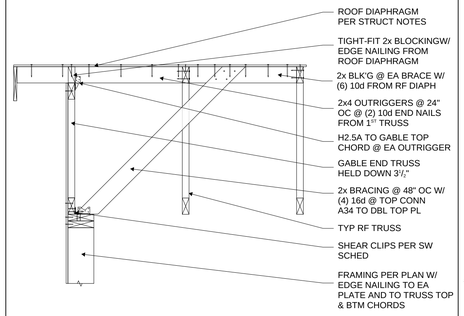
UPSTATE JOB #	1660		
DRAWN BY: JBG		CHECKED BY: amg	
REVISION DATE:	9/16/2024	DESCRIPTION:	VERSION 1

APPROVALS

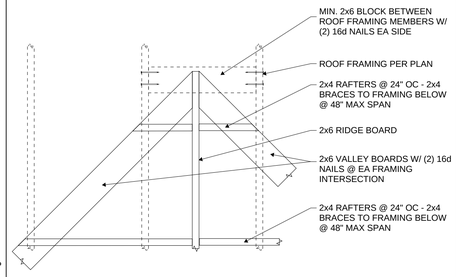
S0.0 - STRUCTURAL GENERAL NOTES



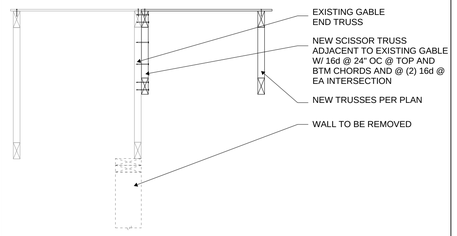
1 S1 TYPICAL SHEAR FLOW TRUSS PERP TO SW NTS



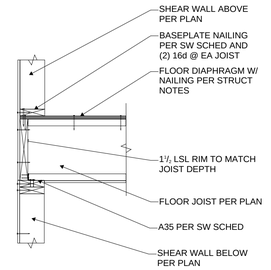
2 S1 TYPICAL SHEAR FLOW GABLE TO SW NTS



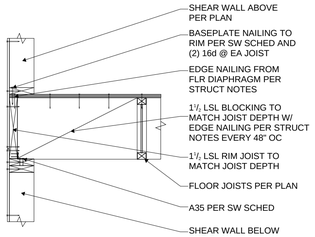
3 S1 FRAMNIG TYPICAL OVERBUILD NTS



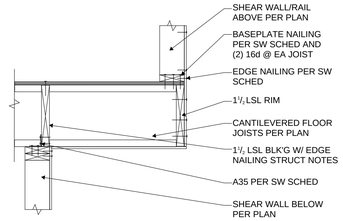
4 S1 SHEAR FLOW PRLL CHORD TRUSS TO SW - HIGH NTS



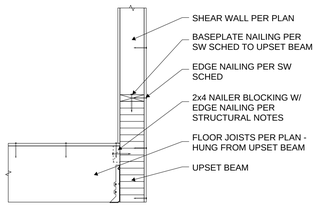
5 S1 TYPICAL SHEAR FLOW SW TO SW @ TJI PERP NTS



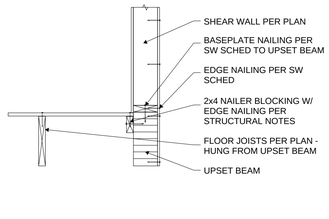
6 S1 TYPICAL SHEAR FLOW SW TO SW @ TJI PRLL NTS



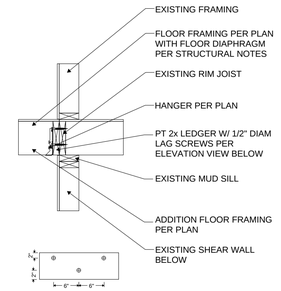
7 S1 SHEAR FLOW SW TO SW @ CANT'D TJI NTS



8 S1 SHEAR FLOW SW TO UPSET COLLECTOR BM NTS

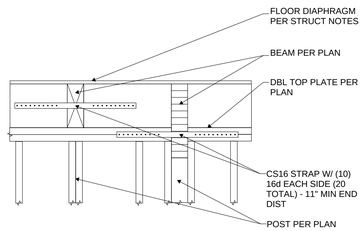


9 S1 SHEAR FLOW SW TO FLUSH COLLECTOR NTS

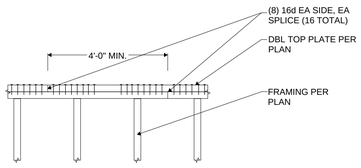


10 S1 FRAMING NEW FRAMING/EXIST FRAMING NTS

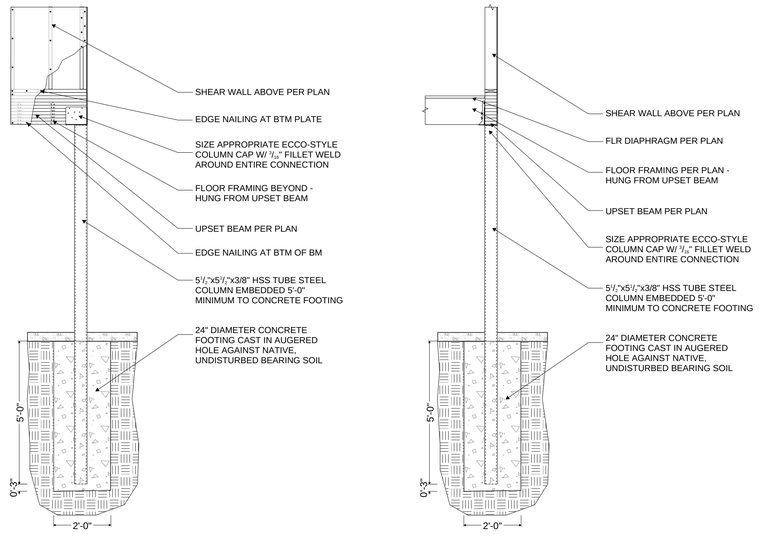
TYPICAL DETAILS 12-15 ARE NOT REFERENCED WITHIN THE PLAN SET BUT SHALL BE UTILIZED WHEREVER APPLICABLE, UNLESS NOTED OTHERWISE



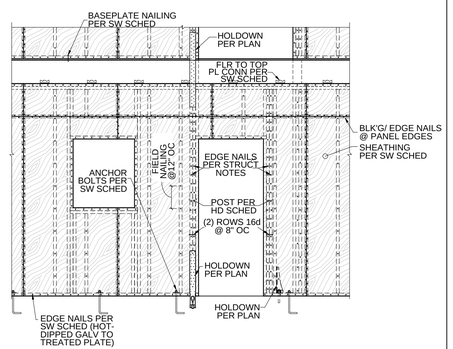
12 S1 SHEAR FLOW RF TRUSS PRLL TO INT SW NTS



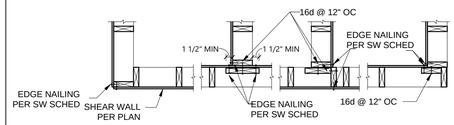
13 S1 SHEAR FLOW RAFTER/TRUSS PRLL TO SW NTS



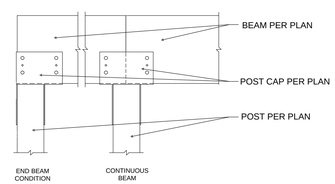
11 S1 SHEAR FLOW EMBEDDED STL POST SECTIONS NTS



14 S1 TYPICAL FRAMING SHEAR WALL NTS



15 S1 TYPICAL FRAMING SW INTERSECTIONS NTS



16 S1 TYPICAL FRAMING POST & BEAM @ ISO POST NTS

UPSTATE engineering, inc.
22002 64TH AVE W. - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STATE OF WASHINGTON 44226 REGISTERED PROFESSIONAL ENGINEER
1/07/2025

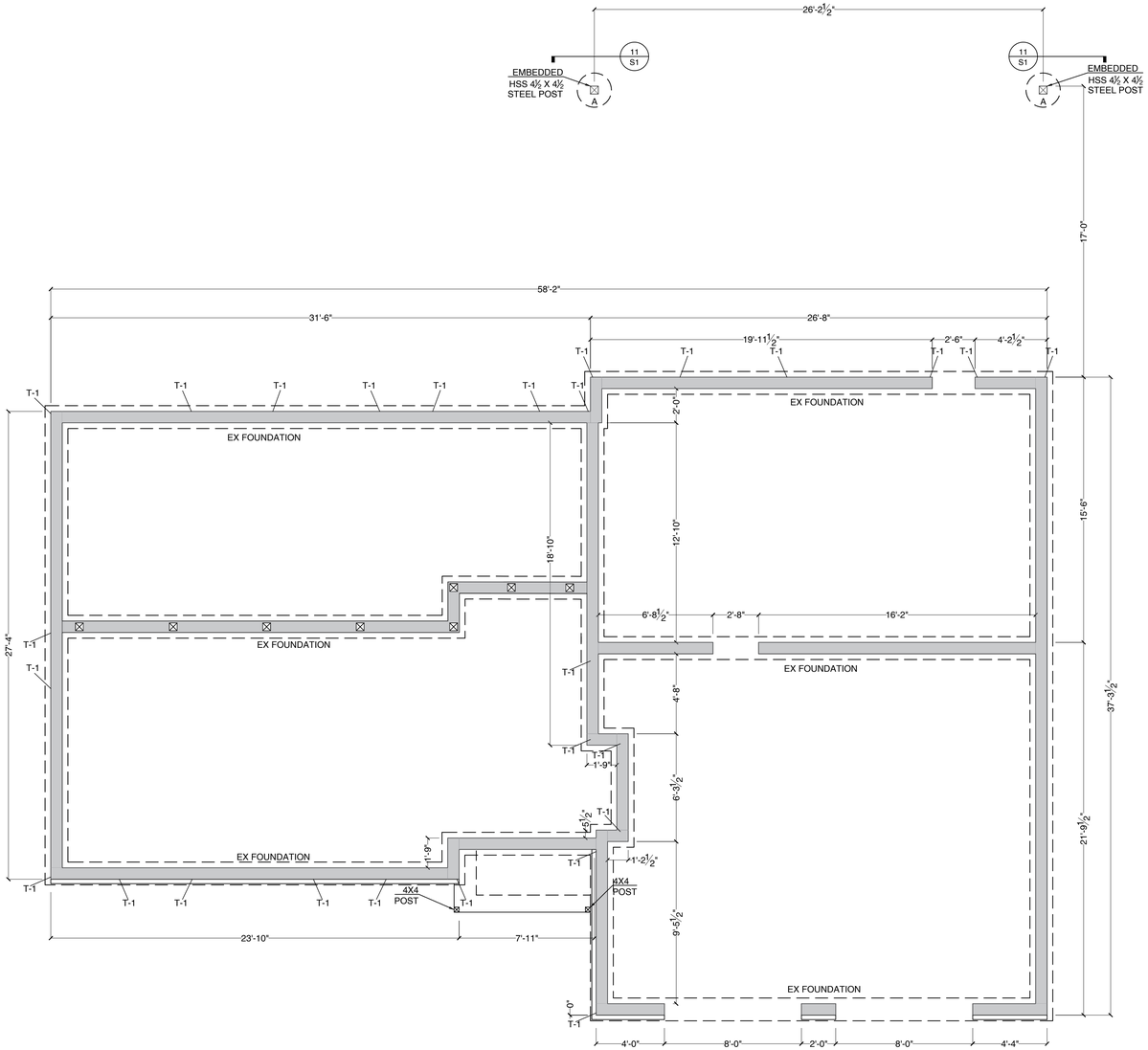
FRAMING DETAILS
SHEAR FLOW DETAILS

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83rd AVE SE
MERCER ISLAND WA 98040

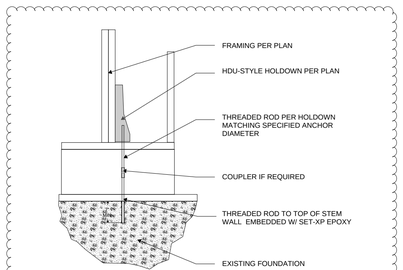
UPSTATE JOB #	1660
DRAWN BY: JBG	CHECKED BY: amg
REVISION DATE:	DESCRIPTION:
9/16/2024	VERSION 1

APPROVALS

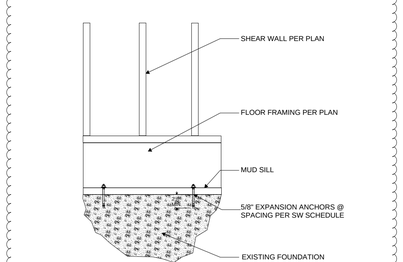
S1.0 - STRUCTURAL DETAILS



FOUNDATION
¼" = 1'-0"



1/S2 RETROFIT HOLDOWN HDU-STYLE NTS



2/S2 RETROFIT ANCHORAGE EXPANSION ANCHORS NTS

FOUNDATION NOTES

- LUMBER IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER TO BE PRESSURE - TREATED
- HARDWARE AND FASTENERS IN CONTACT WITH CONCRETE, IN USE WITH PRESSURE-TREATED LUMBER, AND/OR EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED OR OTHER APPROVED MATERIAL
- EMBEDDED HOLD DOWNS TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS

FOOTING SCHEDULE

FOOTING 'A':
24" DIAM AUGERED FOOTING
W/ (4)#4 VERTICAL BARS- SEE DETAIL 11/S1

HOLDOWNS

T-1 HOLDOWNS TO BE VERIFIED TO EXISTS OR RETROFIT USING DETAIL 1/S2. IF EXISTING HOLDOWNS, VERIFY TO BE STHD10/10RJ, HDU4-SDS2.5 OR EQUIVALENT/BETTER. OTHER MOD3ELS TO BE VERIFIED BY UPSTATE ENGINEERING, INC.

ANCHORAGE

ANCHOR BOLTS TO BE VERIFIED TO EXIST OR RETROFIT USING DETAIL 2/S2. EXISTING ANCHORAGE, VERIFY TO MEET THE REQUIREMENTS SHOWN ON SW SCHED.

HOLDOWN SCHEDULE

Date: 1/9/2025
Job #: 1660

MARK	HOLDOWN/STRAP *(1)	FASTENERS TO MIN DBL 2x STUDS, UNLESS NOTED OTHERWISE	FOUNDATION ANCHOR *(1)(4)	INSTALLATION NOTES
T-1	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	5/8" DIAM THRD ROD W/ SET-3G EPOXY	MIN. 6.5" EMBEDMENT

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STRUCTURAL DESIGN
FOUNDATION

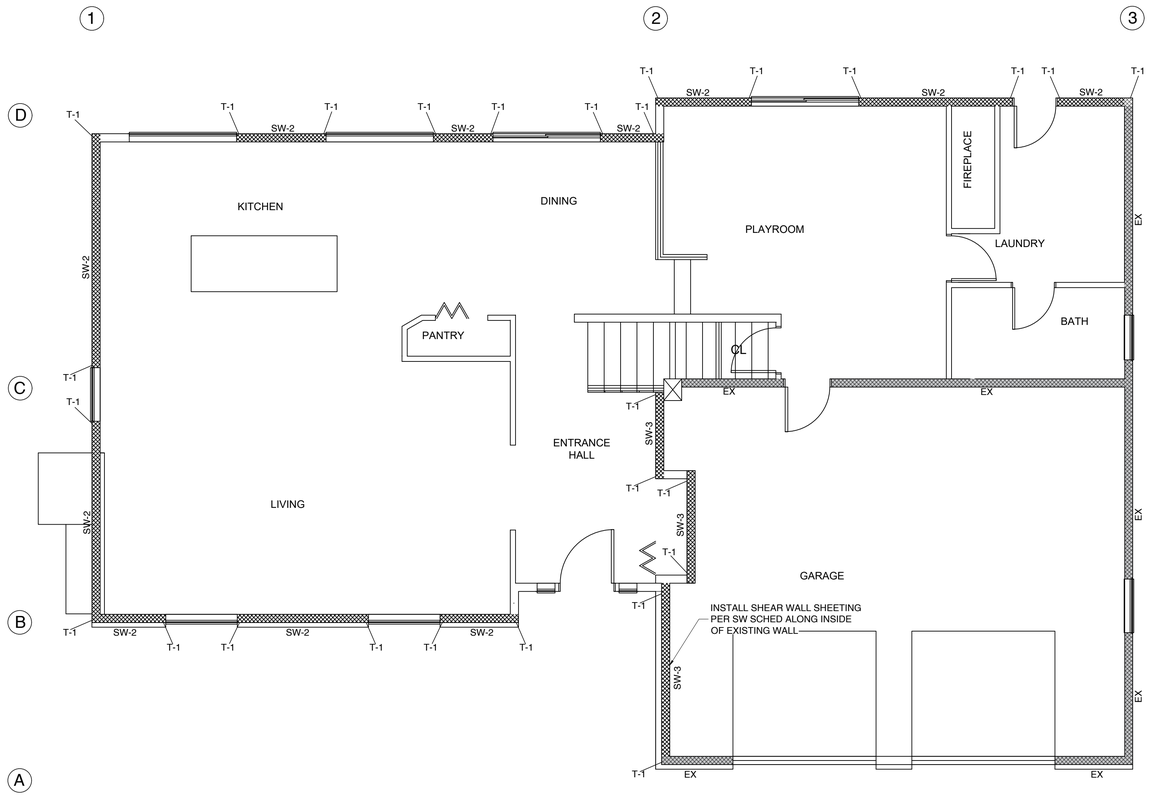
TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: JBG	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
01/09/2025	VERSION 1

APPROVALS

S2.0 - STRUCTURAL FOUNDATION



MAIN FLOOR LATERAL

1/4" = 1'-0"

LATERAL NOTES

SW-X — SHEAR WALL TO BE BUILT PER OR VERIFIED TO COMPLY WITH SHEAR WALL SCHEDULE

T-X — HOLDOWN TO BE INSTALLED PER HOLDOWN SCHEDULE

- CONSTRUCTION OF EACH DIAPHRAGM TO BE PER THE STRUCTURAL NOTES ON SHEET S0
- ALL SHEAR WALL CONNECTIONS TO BE PER THE SHEAR WALL SCHEDULE
- PLEASE NOTIFY UPSTATE ENGINEERING OF ANY STRUCTURAL PLAN REVISIONS, INCLUDING WINDOW /DOOR LOCATIONS, PRIOR TO INSPECTION

SW-X — EXISTING STRUCTURE. NO CHANGE TO LOAD.

SHEAR WALL AND HOLDOWN NOTES

(1) HOLDOWNS TO BE SIMPSON OR EQUIVALENT WHERE EQUIVALENT IS PERMITTED. LOCATE HOLDOWNS AT ENDS OF SHEARWALLS, UNO. INSTALL PER MANUFACTURER RECOMMENDATIONS FOR FOUNDATION MINIMUM END DISTANCE AND EMBEDMENT. EXTEND, THICKEN, DEEPEN, ETC. FOUNDATION TO MEET THE MANUFACTURER'S SPECIFICATIONS.

(2) CONSTRUCT CRIPPLE WALLS AND PONY WALLS TO MATCH SPECIFICATIONS OF THE SHEAR WALL ABOVE. CONSTRUCT GABLE END WALLS TO MATCH SPECIFICATIONS OF THE SHEAR WALL BELOW. CONSTRUCT CLERESTORY WALLS PER SW-1, UNO. ALL EXTERIOR WALLS TO BE CONSTRUCTED PER SW-1, UNO.

(3) 3X OR DBL 2X SILL PLATE REQUIRED.

(4) USE THREADED ROD AND COUPLER AS REQUIRED.

(5) COMMON NAILS, UNO: 8d = 0.131" x 21/2"
10d = 0.148" x 3"
12d = 0.148" x 31/4"
16d = 0.148" x 31/2"

(6) INSTALL H1 CLIPS AT EACH TRUSS/RAFTER END. INSTALL A35 @ 24" OC AT EACH GABLE END AND RIM JOIST (OR SOLID BLOCKING) TO TOP PLATE AND MUDSILL CONNECTION, UNO. WHERE SPACING TIGHTER THAN 24" OC IS SPECIFIED, INSTALL A35 CLIPS FROM SOLID BLOCKING TO DBL TOP PLATE, AND INSTALL H1 OR H2.5 CLIPS TO EACH TRUSS/RAFTER END. LTP4, LTP5 OR LS50 CAN BE SUBSTITUTED FOR A35 CLIPS PER SIMPSON.

(7) MINIMUM 3X OR DBL 2X STUDS REQUIRED AT ABUTTING PANEL EDGES. DBL STUDS TO BE LAMINATED W/ (2) 16d @ 6" OC.

(8) ANCHOR BOLTS SHALL BE EMBEDDED 7" MINIMUM INTO CONCRETE. MIN (2) BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 2" OR LESS THAN (7) BOLT DIAMETERS FROM EACH END OF THE PIECE. MUD SILL TO BE 2X MINIMUM AND PRESSURE-TREATED.

(9) ALL SHEATHING TO BE APA RATED. SEE GENERAL STRUCTURAL NOTES.

HOLDOWN SCHEDULE — Date: 1/9/2025, Job #: 1660

MARK	HOLDOWN/STRAP *(1)	FASTENERS TO MIN DBL 2x STUDS, UNLESS NOTED OTHERWISE	FOUNDATION ANCHOR *(1)(4)	INSTALLATION NOTES
T-1	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	5/8" DIAM THRD ROD W/ SET-3G EPOXY	MIN. 6.5" EMBEDMENT

SHEARWALL SCHEDULE — Date: 1/9/2025, Job #: 1660

MARK *(2)	SHEATHING - APPLY TO 2x HF STUDS @ 16"o/c U.N.O. BELOW *(9)	SHEATHING EDGE NAILS *(5) ALL EDGES BLOCKED (do not penetrate past flush)	BASE PLATE NAILS *(5)	ROOF TO TOP PLATE, FLOOR TO TOP PLATE & SILL PLATE *(6)	SILL PLATE ANCHORS w/ 3" x 3" x 1/4" WASHERS *(8)
SW-1	7/16" OSB	8d @ 6" o/c (12" o/c field)	16d @ 10 " o/c	H1 @ 24 " o/c or A35 @ 24 " o/c	5/8"Øx10" AB's @ 60 " o/c
SW-2	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 4 " o/c	A35 @ 20 " o/c	5/8"Øx10" AB's @ 48 " o/c
SW-3	7/16" OSB *(7)	8d @ 3" o/c (12" o/c field)	16d @ 3 " o/c	A35 @ 12 " o/c	5/8"Øx10" AB's @ 36 " o/c
ANCHOR BOLTS CAN BE RETROFIT AS REQUIRED AT EXISTING WALLS USING 5/8" EXPANSION ANCHORS EMBEDDED 2 1/2" MIN AT THE SPACING SHOWN ABOVE.					

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STATE OF WASHINGTON — 44228 — REGISTERED PROFESSIONAL ENGINEER — 1/16/2025

STRUCTURAL DESIGN
MAIN FLOOR LATERAL

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

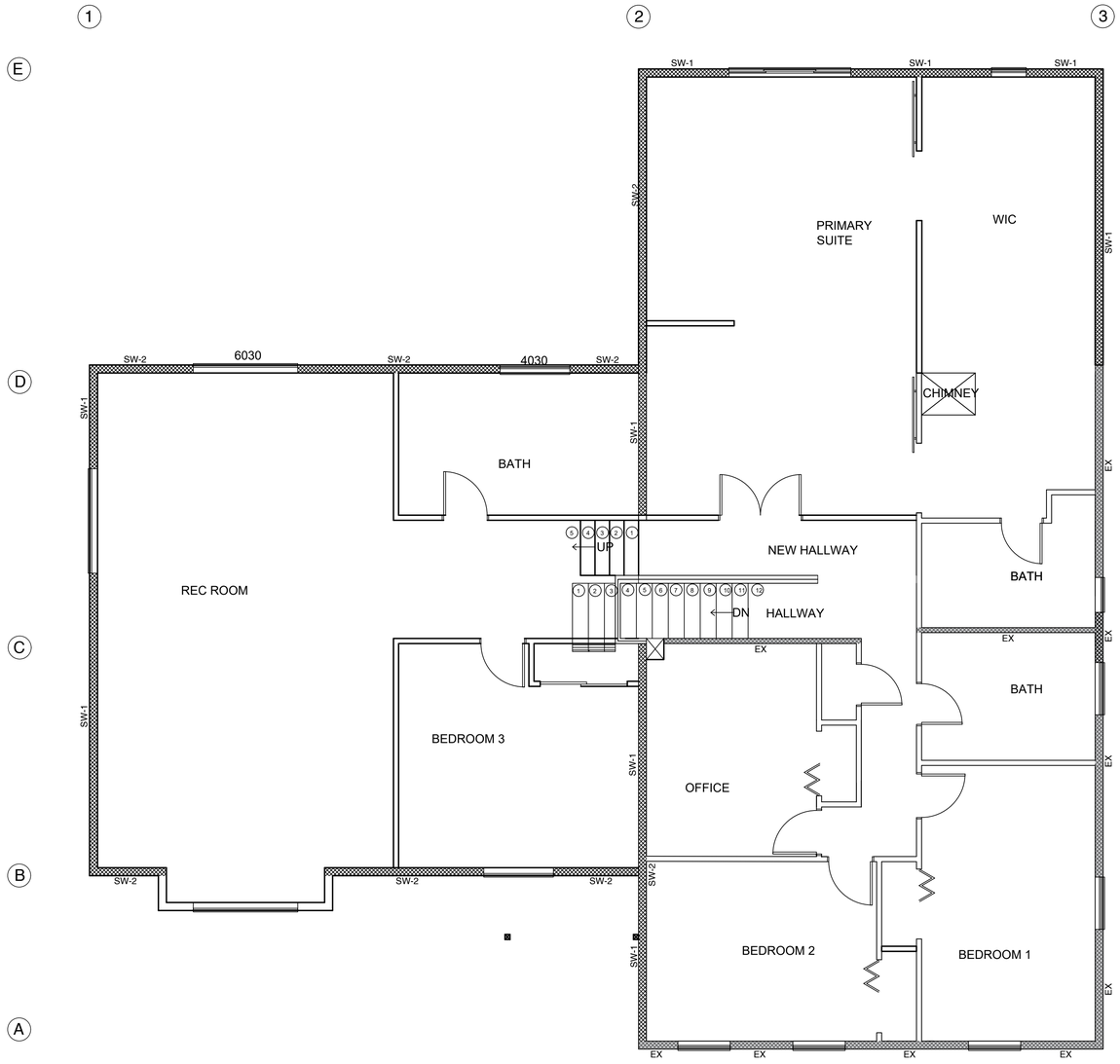
UPSTATE JOB # 1660

DRAWN BY:	CHECKED BY:
JBG	AMG

REVISION DATE:	DESCRIPTION:
01/09/2025	VERSION 1

APPROVALS

S3.0 - STRUCTURAL MAIN FLOOR



UPPER FLOOR LATERAL

1/4" = 1'-0"

LATERAL NOTES

SW-X SHEAR WALL TO BE BUILT PER OR VERIFIED TO COMPLY WITH SHEAR WALL SCHEDULE

T-X HOLDOWN TO BE INSTALLED PER HOLDOWN SCHEDULE

- CONSTRUCTION OF EACH DIAPHRAGM TO BE PER THE STRUCTURAL NOTES ON SHEET S0
- ALL SHEAR WALL CONNECTIONS TO BE PER THE SHEAR WALL SCHEDULE
- PLEASE NOTIFY UPSTATE ENGINEERING OF ANY STRUCTURAL PLAN REVISIONS, INCLUDING WINDOW /DOOR LOCATIONS, PRIOR TO INSPECTION

EXISTING STRUCTURE. NO CHANGE TO LOAD.

SHEAR WALL AND HOLDOWN NOTES

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(3) 3X OR DBL 2X SILL PLATE REQUIRED.

(4) USE THREADED ROD AND COUPLER AS REQUIRED.

(5) COMMON NAILS, UNO: 8d = 0.131" x 21/2"
10d = 0.148" x 3"
12d = 0.148" x 31/2"
16d = 0.148" x 31/2"

(6) INSTALL H1 CLIPS AT EACH TRUSS/RAFTER END. INSTALL A35 @ 24" OC AT EACH GABLE END AND RIM JOIST (OR SOLID BLOCKING) TO TOP PLATE AND MUDSILL CONNECTION, UNO. WHERE SPACING TIGHTER THAN 24" OC IS SPECIFIED, INSTALL A35 CLIPS FROM SOLID BLOCKING TO DBL TOP PLATE, AND INSTALL H1 OR H2.5 CLIPS TO EACH TRUSS/RAFTER END. LTP4, LTP5 OR LS50 CAN BE SUBSTITUTED FOR A35 CLIPS PER SIMPSON.

(7) MINIMUM 3X OR DBL 2X STUDS REQUIRED AT ABUTTING PANEL EDGES. DBL STUDS TO BE LAMINATED W/ (2) 16d @ 6" OC.

(8) ANCHOR BOLTS SHALL BE EMBEDDED 7" MINIMUM INTO CONCRETE. MIN (2) BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 2" OR LESS THAN (7) BOLT DIAMETERS FROM EACH END OF THE PIECE. MUD SILL TO BE 2X MINIMUM AND PRESSURE-TREATED.

(9) ALL SHEATHING TO BE APA RATED. SEE GENERAL STRUCTURAL NOTES.

HOLDOWN SCHEDULE — Date: 1/9/2025, Job #: 1660

MARK	HOLDOWN/STRAP *(1)	FASTENERS TO MIN DBL 2x STUDS, UNLESS NOTED OTHERWISE	FOUNDATION ANCHOR *(1)(4)	INSTALLATION NOTES
T-1	HDU4-SDS2.5	(10) - SDS 0.25x2.5 WOOD SCREWS	5/8" DIAM THRD ROD W/ SET-3G EPOXY	MIN. 6.5" EMBEDMENT

SHEARWALL SCHEDULE — Date: 1/9/2025, Job #: 1660

MARK *(2)	SHEATHING - APPLY TO 2x HF STUDS @ 16"o/c U.N.O. BELOW *(9)	SHEATHING EDGE NAILS *(5) ALL EDGES BLOCKED (do not penetrate past flush)	BASE PLATE NAILS *(5)	ROOF TO TOP PLATE, FLOOR TO TOP PLATE & SILL PLATE *(6)	SILL PLATE ANCHORS w/ 3" x 3" x 1/4" WASHERS *(8)
SW-1	7/16" OSB	8d @ 6" o/c (12" o/c field)	16d @ 10 " o/c	H1 @ 24 " o/c or A35 @ 24 " o/c	5/8"Øx10" AB's @ 60 " o/c
SW-2	7/16" OSB	8d @ 4" o/c (12" o/c field)	16d @ 4 " o/c	A35 @ 20 " o/c	5/8"Øx10" AB's @ 48 " o/c
SW-3	7/16" OSB *(7)	8d @ 3" o/c (12" o/c field)	16d @ 3 " o/c	A35 @ 12 " o/c	5/8"Øx10" AB's @ 36 " o/c
ANCHOR BOLTS CAN BE RETROFIT AS REQUIRED AT EXISTING WALLS USING 5/8" EXPANSION ANCHORS EMBEDDED 2 1/2" MIN AT THE SPACING SHOWN ABOVE.					

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STATE OF WASHINGTON — ANDREW M. GRIFFITH — 44228 — REGISTERED PROFESSIONAL ENGINEER — 1/16/2025

STRUCTURAL DESIGN
UPPER FLOOR LATERAL

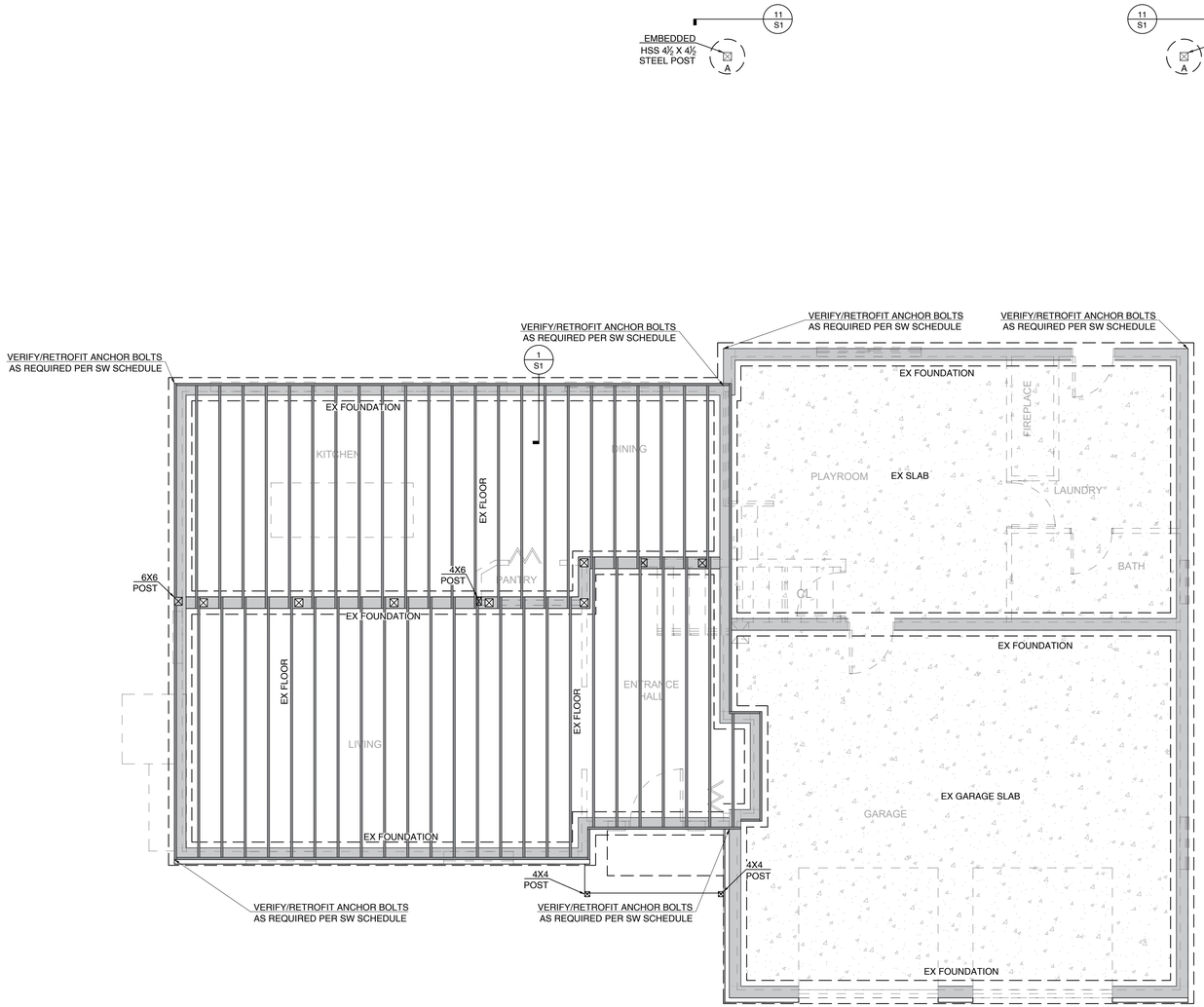
TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: JBG	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
01/09/2025	VERSION 1

APPROVALS

S4.0 - STRUCTURAL UPPER FLOOR



LOWER FLOOR FRAMING

1/4" = 1'-0"

LOWER FLOOR FRAMING NOTES

- INTERIOR BEARING WALL

X - BEAM NUMBER

- ALL CRAWLSPACE POSTS TO BE 4X4 (4X6 @ SPLICES), UNO
- LUMBER IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER TO BE PRESSURE-TREATED
- HARDWARE AND FASTENERS IN CONTACT WITH CONCRETE, IN USE WITH PRESSURE-TREATED LUMBER AND/OR EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED OR OTHER APPROVED MATERIAL
- SEE FOUNDATION PLAN FOR HOLD DOWN LOCATIONS AND ADDITIONAL INFORMATION
- FLOOR FRAMING:
  - EXISTING FLOORS

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STATE OF WASHINGTON
ANDREW M. GRAY
22426
REGISTERED
PROFESSIONAL ENGINEER
1/16/2025

STRUCTURAL DESIGN
LOWER FLOOR FRAMING

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: JBG	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
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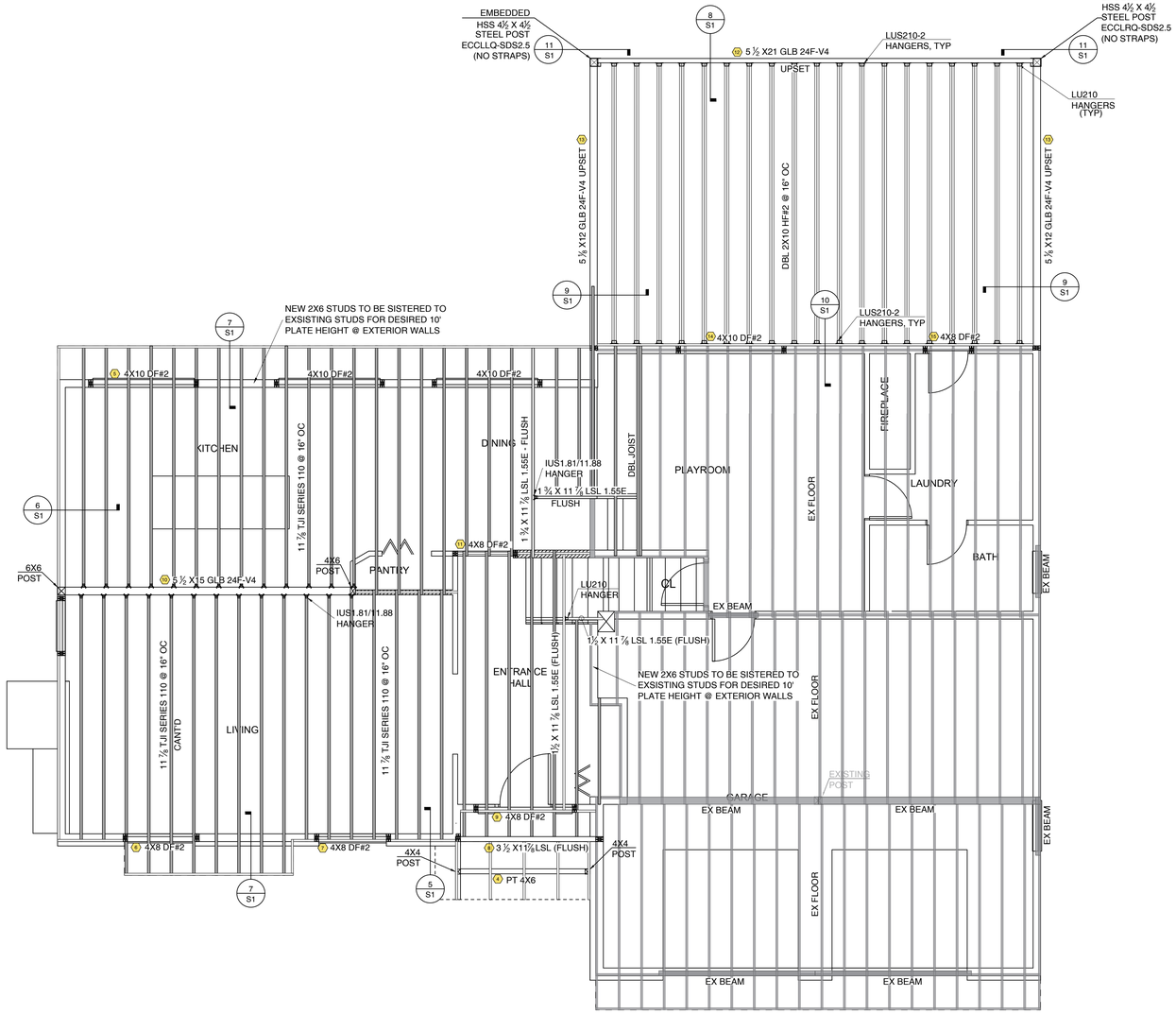
APPROVALS

S5.0 - STRUCTURAL MAIN FLOOR FRAMING



UPPER FLOOR FRAMING

¼" = 1'-0"

UPPER FLOOR FRAMING NOTES

▨ - INTERIOR BEARING WALL

(X) - BEAM NUMBER

- ALL BEAMS/HEADERS TO BE 4X8 DF#2 MINIMUM, UNO
- ALL BEAMS/HEADERS TO BE SUPPORTED WITH DBL 2X POST EA END, UNO
- LUMBER IN CONTACT WITH OR EXPOSED TO WEATHER TO BE PRESSURE-TREATED
- HARDWARE AND FASTENERS IN CONTACT WITH CONCRETE, IN USE WITH PRESSURE - TREATED LUMBER, AND/OR EXPOSED TO THE WEATHER SHALL BE HOT DIPPED GALVANIZED OR OTHER APPROVED MATERIAL
- ALL FLOOR JOISTS TO BE 11⅞" TJI @ 16"OC, UNO

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STRUCTURAL DESIGN
UPPER FLOOR FRAMING

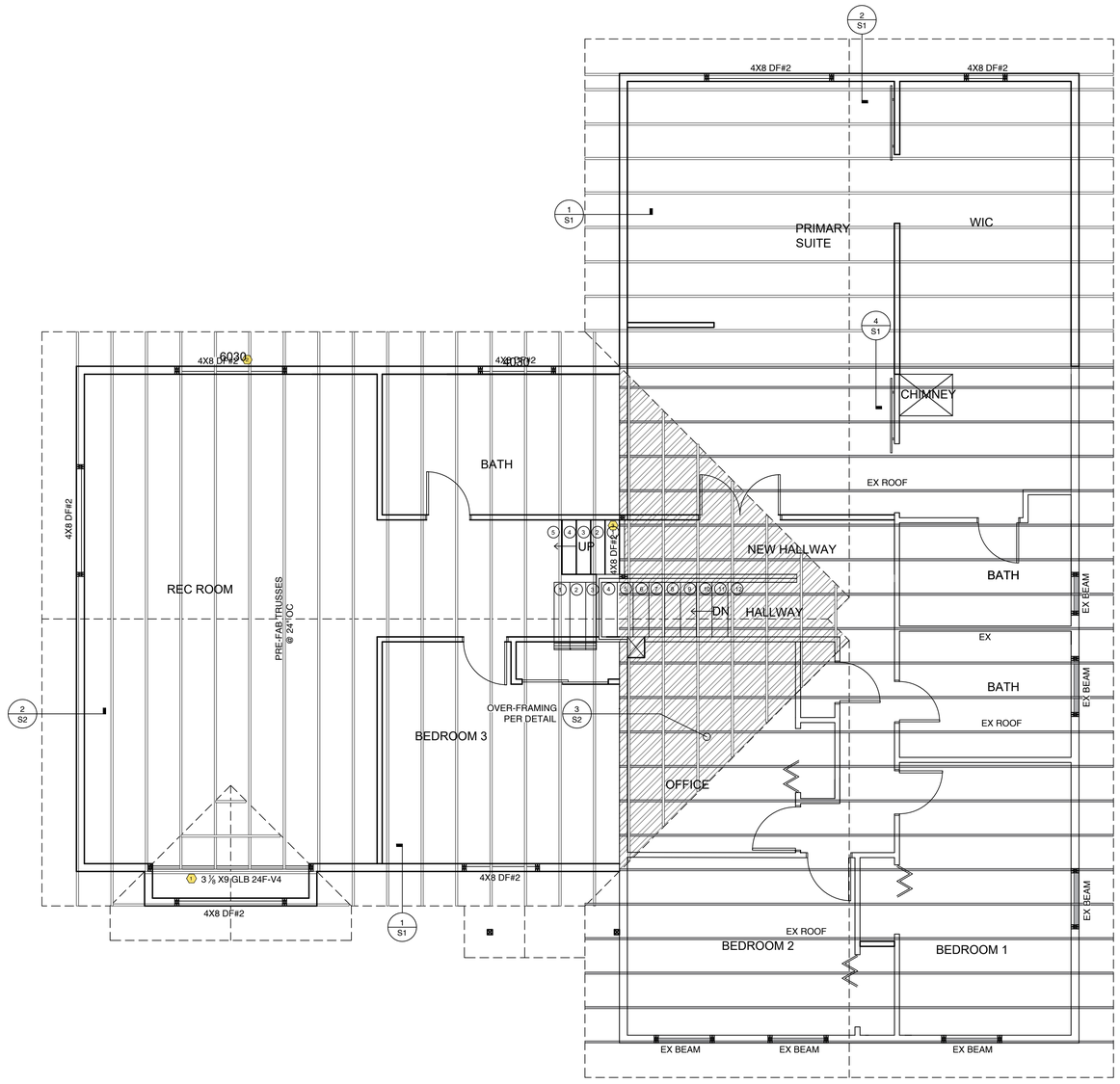
TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

UPSTATE JOB #	1660
DRAWN BY: JBG	CHECKED BY: AMG

REVISION DATE:	DESCRIPTION:
01/09/2025	VERSION 1

APPROVALS

S6.0 - STRUCTURAL UPPER FLOOR FRAMING



ROOF FRAMING

¼" = 1'-0"

ROOF FRAMING NOTES

X - BEAM NUMBERS (SEE CALCULATIONS)

- ALL BEAMS/HEADERS TO BE 4X8 DF#2 MINIMUM, UNO
- ALL BEAMS/HEADERS TO BE SUPPORTED WITH DBL 2X POST EA END, UNO
- ALL POSTS TO BE SUPPORTED WITH LIKE POSTS TO FOUNDATION, UNO
- ENGINEERED TRUSS LAYOUT TO BE APPROVED BY MANUFACTURER. ANY CHANGES RESULTING FROM THAT LAYOUT, TO BE PROVIDED TO UPSTATE ENGINEERING, INC BEFORE PROCEEDING.
- ROOF FRAMING:
  - PRE-MANUFACTURED PER MANUFACTURERS SPECIFICATIONS
  - ROOF SHEATHING PER STRUCTURAL NOTES

UPSTATE engineering, inc.
22002 64TH AVE W - SUITE 2C, MOUNTLAKE TERRACE WA 98043
TEL: (425)354-4105 SERVICES@UPST8.COM

UPSTATE STAMP

STATE OF WASHINGTON
ANDREW M. GRIFFITH
22422
REGISTERED PROFESSIONAL ENGINEER
1/16/2025

STRUCTURAL DESIGN
ROOF FRAMING

TRAVIS TORGERSON
2ND STORY ADDITION/REMODEL
6879 83RD AVE SE
MERCER ISLAND WA 98040

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APPROVALS

S7.0 - STRUCTURAL ROOF FRAMING